

# TEST EQUIPMENT

## MAGNETO TIMING LIGHT - MODEL E50



Designed specifically for internal timing of aircraft magnetos and for synchronizing magnetos to aircraft engines. Eliminates all guesswork and provides a greater safety factor by creating perfect timing quickly and easily. Simply attach three clips to the magnetos and adjust until both bright lights flash in sync and the buzzer changes pitch. Fail-safe circuitry, variable pitch buzzer. Heavy-duty 3"x 5"x 2-1/8" unbreakable case. Wt. 1.5 lbs. Complete with 18 gauge lead wires 36" long and instructions.

P/N 12-01013 ..... **\$118.95**  
U.S. Industrial Equivalent.....P/N 12-01279 ..... **\$78.85**

## AIRCRAFT TIMING INDICATOR MODEL E25



The Aircraft Timing Indicator Model E25 is a unique device that locates the relative relationships between the crankshaft, magneto point openings, camshaft and valve timing. Easily attached to the propeller spinner with mounting bands that are included with the unit, the E25 quickly and accurately (within 1/2 degree!) locates top dead center. The result: the all-aluminum Model E25 speeds up and improves the process of timing magnetos to the engine. With its easy-

to-read dial and 18mm, hardened aluminum piston stop, the E25 is a snap to use. Note: Piston Stop is included.

E25 Timing Indicator.....P/N 12-01014 ..... **\$65.75**  
Replacement Piston Stop.....P/N 12-18100 ..... **\$19.50**  
U.S. Industrial Equivalent TP102.....P/N 12-01167 ..... **\$72.75**

## MAGNETO TIMING LIGHT



Measures the change in inductance in the magneto coil when the points open and close. Simply shorting the clip leads together will not indicate a point closing, therefore eliminating any false reading caused by loss of contact to the magneto grounding terminal. Adjust magneto timing accordingly. 100% solid state, compact 3/4" x 3" x 5" size, long battery life. Color coordinated leads are 4 ft. long. Comes in strong anodized aluminum case.

Dual Magneto Synchronizer w/Tweeter.....P/N 12-16901 ..... **\$69.95**  
Single Magneto Timing Light w/Tweeter.....P/N 12-16903 ..... **\$67.85**

## PROPELLER BLADE MOUNTED MAGNETO TIMING DEVICE



The propeller blade mounted timing device is a self-contained unit that incorporates the blade mount, digital inclinometer, and adjustable cinch strap. More accurate, quicker, and easier to use than competitive products. The blade slots are graduated and spaced so as to allow installation on many different blade model designs.....P/N 12-04969 ..... **\$209.95**

## WINDOW INSPECTION PRISM KIT



This tool kit provides a proven method to inspect for cracks on the hidden edges and bolt holes of aircraft windows. Kit contains the prism, hard-coated with AWR 8000, 1 oz. bottle of coupling fluid, flashlight and an instruction guide, all in a durable carrying case.

P/N 09-05588 ..... **\$815.00**

## ENGINE TEST TOOL KIT



This small test kit is designed to allow the aircraft mechanic a convenient and economical way to purchase the basic small engine test equipment. This kit contains: 1 - TP104 Cylinder Pressure Tester, 1 - TP105 Magneto Timing Light, 1 - TP102 Timing Indicator, 1 - TP103 High Voltage Cable Tester, 1 - TP216 Tool Box

P/N 12-02349 ..... **\$319.00**

## ENGINE TEST KIT



**EK5EM** - The Engine Test Kit EK5EM has all of the test equipment needed to check engine compression, synchronize magnetos, time aircraft engines, and test ignition leads all in one tool box. The kit contains: the 2EM Differential Pressure Tester with master Orifice, LED52 Electronic

Magneto Synchronizer, Eastern E25 Aircraft Timing Indicator, Eastern E5 High Voltage Cable Tester, the Compression Tester Extension & Hip Roof Tool Box.....P/N 12-02449 ..... **\$407.00**

**EK5** - ATS Engine Test Kit has all of the test equipment needed to check engine compression, synchronize magnetos, time aircraft engines, and test ignition leads all in one tool box. Contains: 2E, LED52, Eastern E25, Eastern E5, & 19000 tool box. Now includes the 18mm-XT Compression Tester Extension.....P/N 12-02943 ..... **\$345.00**

## HIGH VOLTAGE CABLE TESTER MODEL E5



Gives a fast, accurate test of high voltage aircraft ignition cables. Simply connect 3 wires, push test button and test is completed. The E5 will instantly indicate in its test window both good and defective cables - no waiting for indication to appear. Fail-safe circuitry. Heavy-duty lead wires. Compact 3" x 5" x 2-5/8" case. Wt. 1-1/2 lbs.....P/N 12-01016 ..... **\$122.75**

## DIFFERENTIAL CYLINDER PRESSURE MODEL E2A



Eliminates guesswork by allowing you to locate the exact location and cause of your engine's loss of efficiency. Field tester for 2 years by Teledyne Continental Motors, and approved for use on Teledyne Continental Engines by their Engineering and Field Services Group. Complete instructions and an 18mm adapter with each unit. "M" models have built-in master orifice.\* **Not approved by TCM.**

E2A - for cylinders < 5" bore.....P/N 12-01012 ..... **\$96.50**  
E2A-1000 - for cyl. > 5" bore.....P/N 12-01017 ..... **\$92.50**  
E2A-1000 with 12mm.....P/N 15-05209 ..... **\$105.95**  
E2M - for cylinders < 5" bore.....P/N 12-01015 ..... **\$126.85**  
E2M-1000 - for cyl. > 5" bore\*.....P/N 12-00692 ..... **\$126.85**  
E2A-12mm (Rotax) for cyl. < 5" bore.....P/N 12-00693 ..... **\$92.75**  
12 mm Adapter.....P/N 12-01018 ..... **\$17.50**  
18 mm Adapter.....P/N 12-18202 ..... **\$17.50**  
E2 Industrial Equiv.....P/N TP104..... **\$104.50**  
14MM Adapter.....P/N TP171 ..... **\$13.50**  
18MM Adapter.....P/N TP104-9A ..... **\$16.50**  
Compression Tester Extension Hose 24".....P/N 12-04601 ..... **\$17.50**

## ATS DIFFERENTIAL CYLINDER PRESSURE TESTERS



Comes complete with on-off safety valve to eliminate pressure when disconnecting from the cylinder. Can be used to check intake or exhaust valves, cracked or worn rings, defective cylinders, worn bushings, etc.

**LESS THAN 5" BORE** - Specifications: Orifice size is .040". precision gauges matched to within +/-2%. 18MM plug adapter. 24" pressure hose. Includes hose and spark plug adapter. Factory calibrated. Letter of certification available upon request. Note: For an engine cylinder having less than a 5.00-inch bore; 0.040-inch orifice diameter; .250 inch long; and a 60-degree approach angle.....P/N 12-02344 ..... **\$108.95**

**GREATER THAN 5" BORE** - Specifications: Orifice size is .060". precision gauges matched to within +/-2%. 18MM plug adapter. Includes hose and spark plug adapter. Factory calibrated. Letter of certification available upon request. Note: For an engine cylinder with 5.00 inch bore and over: 0.060 inch orifice diameter, .250 inch long, and a 60 degree approach angle.....P/N 12-02345 ..... **\$109.99**

**18MM CYLINDER PLUG** - 18MM adapter plug used with the ATS 2E and 2EM Differential Pressure Testers. For engines with massive electrode plugs.....P/N 12-05064 ..... **\$10.50**

## DIFFERENTIAL PRESSURE TESTER WITH MASTER ORIFICE



Now you can conveniently check the calibration of your pressure tester before each use without disconnecting the tester. Comes with complete instructions. Includes hose and spark plug adapter.

5" Bore Diameter or smaller.....P/N 12-02346 ..... **\$133.75**  
Bore Diameters greater than 5".....P/N 12-02347 ..... **\$135.95**

## ATS PRO DIFFERENTIAL PRESSURE TESTER KIT



ATS 2EM Differential Pressure Tester (with Master Orifice) and the Spark Plug Port Extension Tool together, to make your life a whole lot easier. **NOTE:** The ATS 2EM Differential Pressure Tester has a .040" orifice as required by Teledyne Continental SB03-

3 Service Bulletin, and is the proper type of instrument to test ALL Teledyne Continental engines in accordance with the aforementioned bulletin. The ATS 2EM also complies Textron Lycoming SI-1191A Service Instruction and is appropriate for ALL Textron Lycoming engines as indicated in the Service Instruction. ....P/N 12-03330 ..... **\$159.99**

## COMPRESSION TESTER EXTENSION



This tool makes compression testing easy. Wrench free way to test that allows for exhaust system and baffling clearance. Tester is manufactured with quality-welded construction and offers a spark plug thread with O-Ring seal. It has a standard air fitting.

.....P/N 12-01060 ..... **\$33.85**  
2mm Extension.....P/N 05-06883 ..... **\$34.95**

## ATS COMPRESSION TESTER EXTENSION



A replacement plug adapter with an 8-1/2" reach to work around manifolds, baffling, harnesses, support structures, and anything else that gets in your way. Note: For use with ATS models 2E and 2EM Compression Testers. 1 lbs (0.5Kg) weight. 18MM aviation engine plug threads 8-1/2" long to clear obstacles. Standard.....P/N 12-02380 ..... **\$33.99**

TO

# TEST EQUIPMENT – VIDEOSCOPIES



## ATS TIME-RITE® COMPLETE KIT - 14MM ENGINES

Time-Rite has been the number one choice of aviation mechanics for over 40 years when it comes to precisely timing engines. Time-Rite is an instrument designed for precision timing of aircraft engines by direct measurement of piston travel. The complete kit includes the basic unit plus the complete set of Arms and Scales required to service 14mm engines.....P/N 12-05510 .....\$489.95



## ATS TIME-RITE® PRO BASIC KIT - 18MM ENGINES

The classic tool for timing aircraft engines. Timing is accomplished by means of pivot arm actuated by the piston's motion, a slide pointer, automatically referenced by the pivot arm and an adjustable calibrated scale. 18mm basic unit.

P/N 12-05511 .....\$345.95



## ATS TIME-RITE® PRO COMPLETE KIT - 18MM ENGINES

Time-Rite has been the number one choice of aviation mechanics for over 40 years when it comes to precisely timing engines. Time-Rite is an instrument designed for precision timing of aircraft engines by direct measurement of piston travel. The complete kit includes the basic unit plus the complete set of Arms and Scales required to service 18mm engines.....P/N 12-05512 .....\$549.95



## ATS TIME-RITE® DELUXE COMBO KIT

Deluxe combo kit contains everything needed to handle every engine listed in the timerite manual. Time-Rite is an instrument designed for precision timing of aircraft engines by direct measurement of piston travel. Kit Includes: (1) 18mm Time-Rite unit, (1) 14mm Cone, A complete set of .....P/N 12-02872 .....\$579.95



## COMPRESSION TEST KIT

Includes everything you need to check valves and rings, perform carbon buildup inspection and test for late timing on a wide range of vehicles. Comes with an extension hose, straight and angled fittings and a rubberized gauge protector. **Features:** Adapters for a wide number of vehicles, Gauge has dual color scale with 0-300 PSI, 0-20 kPa, Test from your own garage.

P/N 15-08314 .....\$47.50



## FAULTCHASER CABLE TESTER

FaultChaser & TP-200 Tone Probe come as a kit in a protective case. Easily test cables and determine cable length quickly and accurately with the FaultChaser Handheld. This simple device allows users to find cable length and determine impediments as well as the overall condition of cables up to 3,000 feet long. Using advanced spread spectrum TDR technology, The FaultChaser provides accuracy of 1% or better while remaining immune to voltage, current, or data stream disruptions.

P/N 12-03282 .....\$595.00



## ENGINE OIL PRESSURE TEST KIT

Test and diagnose problems with engine oil pressure in diesel or gasoline engines with this easy-to-use kit. The oil pressure test kit contains a wide assortment of durable brass adapters designed to fit most engines. The kit includes a rugged 66 in. high pressure rubber hose and a tough steel gauge that withstand even harsh work conditions.

P/N 12-05093 .....\$42.95



## PORTABLE VIDEOSCOPE KIT 4MM X 1300MM

4 mm diameter 1300mm working length (available in other lengths and diameters). Steel braid insertion probe, water and oil proof, temp to 90 C. Inward view, 2 ways of articulation 120/120 up down. Comfort grip with adjustable LCD screen. Video output easily connects to capture device. KIT includes: Flexible Portable Videoscope Battery Charger Standard Storage / carrying case

Portable VideoScope 4MMX1300MM .....P/N 12-02583 .....\$6,989.00

Portable VideoScope Carry Case .....P/N 12-02584 .....\$289.00



## RUGGED VGA RECORDING VIDEO BORESCOPE SYSTEM

Super High-Performance Rugged VGA Recording Video Borescope System with 7 inch LCD. Ideal for professional close-up inspections of hard-to-see and hard-to-reach areas. General's best super high-performance video borescope system • 7 in. Screen • Rugged • VGA Recording • VGA Resolution Probe. LCD can show side-by-side front and side views using optional probe tip attachment. Ideal for identifying safety problems on aircraft engines and heavy equipment. Saves time and money on automotive maintenance and repair.

P/N 12-03704 .....\$1,745.00



## HAWKEYE® V2 VIDEO BORESCOPE

The Hawkeye® V2 Videoscopes contain a brighter, higher resolution, more durable camera, delivering sharp, clear photos and videos in a wide range of demanding inspection applications. The larger 5" LCD screen provides detailed close-up views, and has a 2X zoom function, mirror image capability, and easy-to-use intuitive controls. Has an articulation mechanism, and has increased the range to +/-150 deg. The insertion tube has rugged, 4-layer construction, with a crush resistant stainless steel inner layer. Available in diameters of 4 and 6 mm, lengths of 1.5m, 3.0m, and 6.0m.

Visit [www.aircraftspruce.com](http://www.aircraftspruce.com) for part numbers and pricing.



## THE SEEKER 100 USB VIDEO INSPECTION 12MM PROBE

Features wireless transmission of video and images to your computer up to 30 feet away and a Skype® enabled streaming video for remote viewing over the internet. Built-in radio transmitter wirelessly transmits (up to 10 feet) live video signal to the RCV100 USB video receiver, this enables the video to be viewed on a Windows PC and streamlined live over the internet. Works with Windows 7, Vista and XP. 12mm (0.47 in.) diameter, 1m (3.28 ft.) long, flexible-obedient, far focus camera-tipped probe is water, oil and dust proof to IP67 standards. Optional probe extensions of 1m, 2m, and 3m (3.28 ft., 6.56 ft., 9.84 ft.) are available for the 12mm probe. In addition to the 12mm (0.47 in.) diameter probe, this unit can also accept optional 9.0mm (.35 in.) and 5.5mm (.22 in.) camera tipped probes. Adjustable light intensity from built-in LEDs. Flexible-obedient probes retain configured shape to suit various applications. Includes: Custom Hard Case, Transmitter Handle with 12mm Diameter x 1m Long, Flexible-Obedient Probe 3 Accessory Tools: (45° Mirror, Magnetic Pick-Up, Pick-Up Hook), RCV100 Wireless USB Video Receiver, Interface Cable, Software on Mini-CD Instructional Manual, 3 Year Limited Warranty.

P/N 12-02656 .....\$171.95



## DESICCATOR KIT FOR HAWKER CABIN WINDOWS

The installed canister helps prevent a cabin window from fogging due to in-flight altitude and temperature differentials. The desiccant changing color indicates when replacement of canisters is recommended. Improved design. For aircraft: British Aerospace/ Hawker HS 125-700A/800A.

P/N 09-05589 ..\$1,358.00

6 Replacement Canisters..P/N 09-05590 .....\$429.00



## VGA RESOLUTION PROBE

Ideal for capturing high-quality (640 x 480 pixel) video and images of hard-to-reach or hard-to-see areas and equipment. Light boost, anti-reflection and image rotation functions extract clear images from even the darkest spaces. Compatible with General's DCS1600, DCS1600ART and DCS1800 high-performance video borescope inspection systems, H16 handheld recording console and DCS1800-TR wireless probe handle/controller .....P/N 12-03374 .....\$548.95

TO



# INSPECTION SCOPES

## SEEKER 300 VIDEO BORESCOPE SYSTEMS



The Seeker 300 Video Borescope System offers a large 3.5-inch LCD color monitor and a 5.5mm flexible, configurable camera probe with adjustable LED lighting. Ideal for use in the visual inspection of otherwise inaccessible areas. This Video Borescope Kit also includes a mirror, magnet and pick-up hook that can be attached to the end of the probe. 3.5" (88.9mm) Color LCD Screen for crystal clear image, superb clarity and viewing effect. 5.5mm or 12mm diameter Camera-tipped Probe is flexible and strong with built-in adjustable LED lighting, and is slim enough to perform automotive engine check-up. Flexible Probe retains configured shape to suit different inspection needs. Probe Length: Standard: 3.28ft. (1m), Optional: up to 16ft (5m). View findings instantaneously. 12mm Probe  
P/N 12-02297 .....\$176.90

## VOYAGER ARTICULATING VIDEO BORESCOPE



The state-of-the-art ATS Voyager videoscope features an articulating tip that swings 240 degrees to reach every inspection point of an airplane. With a simple turn of the control knob, you can move its Tungsten-sheathed tip from side to side to look left, right, and even backwards! The ATS Voyager gives you unprecedented access to areas that simply cannot be reached with a straight probe. Included with the ATS Voyager is a 70 degree tip mirror to look at right angles to the normal line of sight. And on that score, the ATS Voyager features a remarkable innovation that places an extra set of LED lights to the side of the probe, which when activated, successfully eliminates the glare and spots that are sometimes present when looking through a mirror. ....P/N 12-04561 .....\$1,286.00

## HIGH RESOLUTION DIGITAL INSPECTION CAMERA WITH RECORDER



With vivid 640 x 480 images and a tempered glass lens, this high-resolution digital inspection camera allows you to inspect engine parts, home appliances and other tight spaces with precise clarity. The inspection camera also features a recorder that enables you to hook up the camera to your computer for review. And then, save those images on internal flash memory or SD card (cable, SD card not included).  
P/N 15-08342 .....\$429.00

## USA 6MM ARTICULATING VIDEOSCOPE



MCVS-2-6-1000 - 6mm Articulating Videoscope With Side View. 6MM diameter - 1 Meter working length - 2 Way Articulation. Interchangeable Straight view and side view mirror tip. 3.5" TFT LCD. 3.5" Extra-wide view angle and clear TFT, protected by oil and scratch resistant tempered glass. LED brightness adjustment. Simply push +/- button to increase/decrease brightness. Snap shot and video recording. Records VGA resolution (640x480 pixel) video clips and still images with instant playback review. AV out. Allows for TV monitor and computer interfaces. Zoom in and Mirror. Larger images (3X, 5X) and horizontal/vertical mirror for code identification. IP 55 dust and water protection. Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact.  
P/N 12-04964 .....\$1,999.00

## HIGH PERFORMANCE VIDEO SYSTEM DCS1600



Portable, hand-held, complete borescope system with monitor, camera and video.  
**Kit Includes:** • Charger • Lens module cable 39.4" (1 M) • SD memory card • 30.45 and 60° mirrors • USB to 5-pin mini-B cable • Video cable • Cleaning cloth • Cotton swabs • Instructions • Heavy duty water proof blow mold case .....P/N 12-02299 .....\$941.00

## VIVIDIA D3160 USB DIGITAL BORESCOPE



Vividia D3160 USB Digital One-Way Articulating Borescope has 6mm diameter camera probe and 1 meter long insertion tube. D3160 can only be bended in one direction, and the maximum bending angle is ~180 degree. The insertion tube has metal braided outside layers and the bending part is also made with stainless steel, which offers good abrasion resistance. With USB connection, one can connect Vividia D3160 Digital Borescope to a Windows PC (Windows XP, 7, 8 and 10), MacBook, android devices. Vividia D3160 Articulating Borescope is an ideal tool for automotive, airplane, aviation, manufacturing, and instrument inspections. The small diameter probe of D3160 borescope makes it good for diesel engine inspection..P/N 12-05428 .....\$600.00



## USA 4 WAY ARTICULATING PORTABLE RECORDING VIDEOSCOPE

An articulating videoscope with its own internal light-source, video recording, picture taking, and SD card storage. This unit features tungsten sheathing as found in many other higher end videoscope systems. The image quality provides an improvement over flexible fiberscopes which typically will feature between 9,000-15,000 pixels. This unit is a basic system to allow for a low cost inspection option.....P/N 12-04966 .....\$4,995.00



## USA 2 WAY ARTICULATING PORTABLE RECORDING VIDEOSCOPE

The USAVS2-2.8-1000 has been added to USA Borescopes economy videoscope line up because it offers end users the opportunity to upgrade from a lower cost fiberscope to an articulating videoscope with its own internal lightsource, video recording, picture taking, and SD card storage. This unit features tungsten sheathing as found in many other higher end videoscope systems. The image quality provides an improvement over flexible fiberscopes which typically will feature between 9,000-15,000 pixels. This unit is a basic system to allow for a low cost inspection option.....P/N 12-04963 .....\$6,995.00



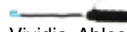
## VIVIDIA ABLESCOPE VA-400

Articulation bendable angle: 0° to 180° continuously adjustable. You can inspect the back side of a closed dark compartment. Very easy to operate: just push down the release button by bending the thumb to adjust the articulation angle. The articulation angle can be locked/unlocked at any degree by opening/closing the locker. Very small bending radius: 30mm. Illumination: 6 white LED lights built-in. High resolution image with CMOS sensor. Focal Distance: 4cm - 40cm, fixed focus. Power supply: by USB port of PC or 7 inch tablet with Android system (sold separately) ..... P/N 12-04891 .....\$250.00



## VIVIDIA ABLESCOPE VA-800

Articulation bendable angle: 0° to 180° continuously adjustable and can be locked at any angle. Very easy operation: just push down the release button with the thumb to adjust the articulation angle. The articulation angle can be locked/unlocked at any degree by open/close the locker. Very small bending radius: 30mm. Illumination: 6 white LED lights built-in. Focal Distance: 3cm - 40cm, fixed focus. Can be used on PC, Mac, and Android micro USB port by using an OTG cable (OTG cable is included in the package). Power supply: by USB port of PC or 7 inch tablet (sold separately, click for details...), or Android smart phones via OTG cable.  
P/N 12-04892 .....\$350.00



## VIVIDIA ABLESCOPE VA-920

Vividia Ablescope VA-920 is a handy borescope inspection tool. It is short and the semi-flexible cable can be formed to shapes you want. The image is clear, and can be connected to PC, Mac, Android devices.  
P/N 12-04893 .....\$350.00



## VIVIDIA ABLESCOPE VA-980

Vividia Ablescope VA-980 Semi-Flexible Digital Inspection Camera Borescope has long semi-rigid cable, which can be molded with hand to different shape and keep it. VA-980 has bright LED lights, 8.5mm cable camera and it can be used to look into dark places. VA-980 can be connected to PC, Mac, Android devices.  
P/N 12-04894 .....\$400.00



## VIVIDIA ABLESCOPE VA-B2 WIFI AIRBOX

Vividia Ablescope VA-B2 WiFi AirBox USB-to-WiFi. Converter Adapter for iPhones/iPads and Android devices for Digital Borescopes and Microscopes is designed to convert the USB output from USB borescopes and/or microscopes into a WiFi hotspot. It works with UVC (USB Video Camera) that has MJPEG or YUY2 format outputs. This VA-B2 WiFi AirBox is suitable to your USB digital microscopes, borescopes, cameras, inspection cameras etc... With this device, you can use your iPhone, iPad, Android phones and tablets to access your USB microscopes, borescopes and inspection cameras through WiFi connection. The free APP, AirBox from Ablescope, can be downloaded from Apple's APP Store. The free Android APP, AirBox.apk, can be downloaded from this website below. ....P/N 12-05079 .....\$99.00








## VIVIDIA D3145 USB DIGITAL BORESCOPE

Vividia D3145 USB Digital One-Way Articulating Borescope has 4.5mm diameter camera probe and 1 meter long insertion tube. D3145 can only be bended in one direction, and the maximum bending angle is ~180 degree. The insertion tube has metal braided outside layers and the bending part is also made with stainless steel, which offers good abrasion resistance. With USB connection, one can connect Vividia D3145 Digital Borescope to a Windows PC (Windows XP, 7, 8 and 10), MacBook, android devices. With VA-B2 AirBox wifi wireless converter and our "AirBox" app from Google Play Store or Apple App Store, one can use own iPhone/iPad or Android device with Vividia D3145 USB articulating borescope. ....P/N 12-05430 .....\$950.00

TO

# PENETRANT INSPECTION KITS

## MAGNAFLUX NDT (NON-DESTRUCTIVE TESTING) KIT

				
<b>1</b> Pre-clean inspection area. Spray on Cleaner, wipe off with cloth.	<b>2</b> Apply penetrant. Allow short penetration period.	<b>3</b> Wipe to remove Penetrant from surface. Use Cleaner, moistened towel if surface is rough.	<b>4</b> Shake can and spray on a thin film of Developer.	<b>5</b> Inspect. Defects will show as bright red lines in white Developer background.

A quick, easy way to make shop and in-field inspections of landing gear, airframe and components. Highly sensitive Spotcheck dye penetrants which give clear, bright red indications. Locates very fine cracks on the surface of ferrous and non-ferrous components, equipment and structures. Reveals cracks on materials with surface temperatures as high as 350°F. Perfect for testing welds before thorough cooling. Convenient spray cans make application easy and contain no fluorocarbon propellants. Non-flammable. Materials meet applicable specifications for dye penetrant inspections (ASME, ASTM and MIL specs). Considered flammable and hazardous by UPS.



### 4-CAN SPOT CHECK® TEST KIT

The lowest priced way to check for cracks, leaks and other defects on any metal parts. Kit includes 1 spray can of developer, 2 cans of cleaner & 1 can of dye penetrant in cardboard case.

### 4-CAN SPOT CHECK® TEST KIT

SK-416 - Includes: • SKC-S, 2 aerosol cans • SKL-SP2, 1 aerosol can • SKD-S2, 1 aerosol can • SCRUBS® hand cleaner towels, 3 towels • DYKEM® Brite-Mark yellow paint marker, 1 pen • Shop Cloth, 1 towel  
Magnaflux 4-can kit - SK-416.....P/N 09-00391 .....**\$139.75**  
Developer .....P/N SKD-S2 .....**\$27.50**  
Cleaner/Remover (12oz. Aerosols).....P/N SKC-S .....**\$24.50**

### SK-816 KIT

**8-CAN SPOT CHECK® TEST KIT** - SK-816 - Includes: • SKC-S, 4 aerosol cans • SKL-SP2, 2 aerosol cans • SKD-S2, 2 aerosol cans • SCRUBS® hand cleaner towels, 3 towels • DYKEM® Brite-Mark yellow paint marker, 1 pen • Shop Cloth, 1 towel.  
.....P/N 09-01192 .....**\$243.85**

### SKC-S CLEANER

This clear, fast-drying solvent can be used for pre-cleaning, post-cleaning and penetrant removal.  
16 oz.....P/N 09-01188 .....**\$24.50**  
Gallon.....P/N 09-04508 .....**\$73.75**  
Case (4 Gallons) .....P/N 09-04509 .....**\$287.95**

### SKL-SP2

Because of its vivid red color, this solvent removable dye penetrant provides excellent color contrast performance to locate surface cracks in virtually any metal or non-porous ceramic material.  
P/N 09-04661 .....**\$31.75**

### SKD-S2 DEVELOPER

Made especially for use with SKL-SP penetrant, this developer contains suspended white particles that provide an ideal background for red Spotcheck penetrant indications.  
16 oz.....P/N 09-01190 .....**\$27.50**  
Gallon.....P/N 09-04510 .....**\$126.95**  
Case (4 Gallons) .....P/N 09-04511 .....**\$495.00**

## AERO-BRITE UNIVERSAL FLUORESCENT LEAK DETECTION



Locates all leaks in petroleum- and synthetic-based aviation fluid systems! Checks an entire system in just minutes! Ideal for use as part of a diagnostic/preventive maintenance program for commercial and military aircraft fuel and fluid systems! Features: **FAST**— The quickest way to inspect for leaks in aviation fuel, lubrication and hydraulic systems. **SAFE**— Specially formulated to accommodate the host fluid. Will not damage the fluid's properties or any of the system's components. **VERSATILE**— Allows inspection of the entire system under virtually all operating conditions. Ideal for both in-flight and static testing. **COST EFFECTIVE**— Super-concentrated. Use less per dose! Glows a bright green under UV light. See our website for suggested dilution ratios.

8 oz.....P/N 13-07350 .....**\$119.75**  
Marksman II Ultrasonic Diagnostic Tool Kit.....P/N 13-11730 .....**\$797.00**

**PLEASE VISIT OUR WEBSITE FOR ALL KIT DETAILS LISTED ABOVE.**

## MET-L-CHEK PENETRANT INSPECTION KITS



**FLAMMABLE** Met-L-Chek kits provide a completely portable, job-proven method used throughout the industry to locate cracks, flaws and other defects. These economical & effective kits provide everything needed to make inspections in the shop or field. The penetrant materials are packaged in easy-to-use aerosol spray cans and a can of cleaner included for cleaning parts before inspection. The inspection procedure is easy to learn, accurate and inexpensive. Met-L-Chek can be used on ferrous and non-ferrous materials to find surface defects and 'thru leaks'. Supplied in a rugged metal case with complete instructions. The 4-Can Kit has one aerosol spray of cleaner, penetrant, developer and remover. The 8-Can Kit has 2 cans of each material. Individual replacement cans available.

4-Can Kit (16 Ounces) .....P/N 09-03040 .....**\$83.95**  
8-Can Kit (16 Ounces) .....P/N 09-03052 .....**\$107.85**

### MET-L-CHEK PENETRANT VP-30

VP-30 is a visible (Type 2), water washable (Method A) and solvent removable (Method C) inspection penetrant. It is designed for use in general metalworking, welding, nuclear and automotive applications for surface flaw and through leak detection. VP-30 has found wide use in the inspection of food and dairy processing equipment such as heat exchangers. Visible penetrants are not rated by sensitivity levels per AMS-2644 but are considered approximate to level 1 fluorescent penetrants. 50µ discontinuities are readily detected and under controlled conditions 30µ size defects may be high lighted by visible penetrants. ISO-3452-2005 does rate visible penetrants by sensitivity level with #2 being the most sensitive. VP-30 is a level 2 per this specifications requirements.....P/N 09-04320 .....**\$9.95**



### MET-L-CHEK CLEANER/ REMOVER E-59A

E-59A is a class 2 (non-halogenated), Method C inspection penetrant remover. It is designed for use in the solvent wipe technique for penetrant inspection in general metalworking, welding, nuclear and automotive applications. It is a moderate dry rate material and is ideal for penetrant wipe removal and pre-inspection surface cleaning. As a pre-cleaner it is sprayed directly on the test surface. As a penetrant remover it is sprayed onto wiping media and then the penetrant wiped from the surface. The remover should not be sprayed directly on to the test surface to remove the excess penetrant as the sensitivity will be impaired.. P/N 09-04307 .....**\$9.95**



TO



### MET-L-CHEK DEVELOPER D-70

D-70 has been used by automotive manufacturers to assist in locating oil and gas leaks in engine components and hydraulic lines. The area of interest is cleaned and the developer applied. The engine is run and the oil leak will appear as a dark spot on the white coating. Reminiscent of the old oil and whitening inspection used by railroads before the advent of modern penetrant inspection materials.

P/N 09-04303 .....**\$9.95**



# TUBE BENDERS – CUTTERS – FLARING TOOLS

## LEVER TYPE BENDERS



Each tool bends one size. Open side type slips over tube at any point. Makes smooth short-radius bends up to 180° with minimum effort. No marking, scraping or flattening of tubing. Calibrated to show angle of bend. Wide hook grips tube securely. Suitable for bending annealed copper, aluminum, steel, stainless steel and hard copper tubing of bending temper.

Tubing O. D.	Bender Model No.	Part No.	Bending Radius	Price
1/8"	364-FH-02	12-20002	3/8"	\$78.90
3/16"	364-FH-03	12-20003	7/16"	\$86.95
1/4"	364-FHA-04	12-20004	9/16"	\$83.75
5/16"	364-FHA-05	12-20005	11/16"	\$128.75
3/8"	364-FHA-06	12-20006	15/16"	\$118.75
1/2"	364-FHA-08	12-20008	1-1/2"	\$128.75
3/4"	364-FHA-12	12-20012	3"	\$235.95

## WIDE RANGE LEVER TYPE BENDERS



Tool quickly adapts to all sizes in its range by changing forming wheel and block. Long handles re-position during bend for best leverage. Calibrations show precise bend angle. Benders for 3/8" through 3/4" O.D. tubes are as illustrated. Benders for 1/4" and 5/16" O.D. tube in #350-FHA kit are one piece type. Kits furnished in steel tool box.

Model 360-FHA Kit- For 3/8", 1/2", 5/8" & 3/4" Tube  
P/N 12-20200 .....\$673.00

## TRIPLE HEADER TUBE BENDER



For triple annealed copper, aluminum, brass, steel and stainless steel tubing. Multi-tube design does the work of three conventional lever type benders. Calibrated markings for making accurate left-hand, right-hand and offset bends. (for 1/8", 3/16", 1/4" O.D.).....P/N 12-01577 .....\$37.65

## IMP® TRIPLE HEADER TUBE BENDER



Calibrated markings for making accurate left-handed, right-handed and offset bends. 90° start requires less effort-making bending fast and easy. For 1/4", 5/16", & 3/8" (6 & 8 mm) O.D. tubing. 15/16" radius to center of tube.(for 1/4", 5/16", 3/8" OD).....P/N 12-01578 .....\$53.75

## BRAIDED STAINLESS STEEL HOSE CUTTER



The AN braided stainless steel hose cutter makes quick work of cutting hoses to length. It features long handles for better leverage and a rubber non-slip grip. It can cut any braided stainless steel line up to size 12 AN.  
P/N 12-02574 .....\$67.95

## PLASTIC TUBE SHEAR



Lightweight tubing shear only 3" overall in length, easily cuts all thermoplastic tubing and other types of non-wire reinforced hose.....P/N 12-02580 .....\$12.50  
Pkg of 5 blades .....P/N 12-02579 .....\$21.55

## EZ-BEADER TUBING BEADERS



Compact design. Capable of tubing wall thickness from .035 to .065 thick

Size	Description	Part No.	Price
3/8"	EZ-BEADER TP885A	12-00354	\$67.75
3/4"	EZ-BEADER TP885D	12-00357	\$77.75
1-1/4"	EZ-BEADER TP885G	12-00359	\$89.95
1-1/2"	EZ-BEADER TP885H	12-00360	\$121.75
1-3/4"	EZ-BEADER TP885I	12-00361	\$129.75
2"	EZ-BEADER TP885J	12-00362	\$136.75

## HI-DUTY TUBE CUTTER



For 1/8" to 1" O.D. metal tubing. Makes clean, right-angle cuts with no burrs or chips to clog tubing. Roller type with flare cut-off groove, fold-away reamer and spare cutting wheel. Wt. 6-1/2 oz.

Hi-Duty Tube Cutter .....P/N 12-00382 .....\$42.50  
Replacement Cutter Wheel.....P/N 75015 .....\$8.75  
Replacement Reamer Blade..P/N 79318-01 .....\$13.50

## "IMP" TUBE CUTTER



Designed for use in tight quarters where other cutters won't fit. For 1/8" to 5/8" O.D. tubing. Requires only 13/16" swing radius. Perfect for instrument panels, control cabinets, machine tools, etc. Size: 111/16"x 1-5/16" x 7/8". Wt. 2-1/2 oz. P/N 12-01277.....\$33.50

## JUNIOR TUBE CUTTER



Exceptionally handy in close quarters - only 3-1/2" overall length. Makes clean, right-angle cuts without flattening tube. Cuts 1/8" to 3/4" O.D. tubing. Enclosed feed mechanism. Wt. 5 oz.

Junior Cutter.....P/N 12-01576.....\$26.50  
Replacement Cutter Wheel..P/N 32633 .....\$7.85

## MINI TUBING CUTTER



The mini tube cutter's compact design is ideal for tight spots under sinks and behind appliances. It cuts copper, brass and aluminum tubing from 1/8" to 1 1/8".

P/N 15-07093.....\$10.95

## MINI TUBING CUTTER



Performs where conventional tubing cutters simply cannot fit. With a 1-1/2" swing radius, the Mini Cutter is ideal for limited-space applications. Accepts tubing sizes from 1/8" to 7/8" in diameter and up to 1/8" in wall thickness. Capable of cutting through copper, aluminum, brass and thin-wall stainless steel.

P/N 12-03348.....\$11.50

## TUBING CUTTER



Tubing sizes from 1/8" to 1-1/8", and up to 3/16" in thickness. The cutter easily slices through copper, aluminum, brass, stainless steel and other tin-wall tubing. Uses the RW122 cutting wheel. Includes a retractable reamer with dual cutting edges.

P/N 12-03347.....\$14.50

## COMPOUND TUBING BENDER



Allows you to make precise left, right and offset bends with a simple, hand-held mechanism. The calibrated angle markings indicate 15 degree increments from 0 to 45 degrees for accurate results. Handles 4 popular tubing sizes and comes in a convenient vinyl storage pouch. ....P/N 12-03353.....\$34.50

## HI-DUTY FLARING TOOL 37°



For: 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing. 437-FB For use with soft copper, aluminum and brass tubing. New slip-on yoke permits use in tight quarters, allows flaring where there is little space between nut and tube end. Wt. 1.75 lbs...P/N 12-01581.....\$116.75

## ROL-AIR FLARING TOOL 37°



Faceted, hard chrome finished cone rolls out perfect flares above die block, then automatically burnishes flare face. Slip-on yoke permits use in tight quarters. Heat treated dies grip tubing without scoring. Flares and burnishes: 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing. Wt. 1-1/2 lbs. Works on some Stainless Steel Tubing but not warranted for Stainless. ....P/N 12-01582.....\$125.75

## ROLO-FLAIR FLARING TOOL 37°



Operates on same principle as Imperial #507-FA but flares 1/8" (primer line) and 3/4" tubing as well. Size: 4"W x 4"D x 8"H. Wt. 2-1/2 lbs. Excellent tool for bench - not for close-quarter work. Not for use on Stainless Steel Tubing. ....P/N 12-01575.....\$129.95

## DELUXE 37° FLARING TOOL



Forms 37° flare to AN standards in steel, stainless steel (including MIL-T 6845), titanium, an other metal tubing. Three rollers in flaring cone roll out 37° flare above die block. Extension on yoke for clamping in vise. Furnished in plastic kit. Wt. 2-1/2 lb.

P/N 12-01579.....\$489.00

TO

# FLARING TOOLS - BENDERS - RIVET SQUEEZERS



## 37° FLARING BLOCK FOR 1/8" TUBING

This tool is designed to flare 1/8" tubing for primer lines. Leaves no ridges or marks on tubing, complying with aircraft requirements. Furnished with 37° flaring punch. The slip-on yokes of most flaring tools also fit this block.

P/N 17010 ..... \$29.80



## 37° DOUBLE & SINGLE LAP FLARING TOOL

Makes flares to AN standards in soft copper and aluminum tubing for 3/16" 1/2" O.D. Also makes single 37° S.A.E. standard and oversize flares. Double Lap Flare: 1/4", 5/16", 3/8". Single Lap Flare: 3/16", 1/2". Wt. 4 lbs. .... P/N 12-00205 ..... \$595.00



## 37° DOUBLE & SINGLE LAP FLARING TOOL KIT

Forms 37° double lap flares to AN10078 in soft copper and aluminum tubing (wall thickness to .040"). Also includes a tubing cutter, an inner-outer reamer, and a plastic carrying case. Double Lap Flare: 1/4", 5/16", 3/8". Single Lap Flare: 3/16", 1/2". A quality tool kit which is made in the U.S.A.

P/N 12-00210 ..... \$689.00



## FLARING TOOL KIT 402FA

Forms 37° flares aircraft grade stainless steel (MIL-T-6845), titanium, and other metal tubing, both soft and hard. Positive stop gauge assures correct size of flare. The three rollers in the flaring cone roll out 37° flares above the die block while burnishing the flare face to a smooth finish. A built in extension on the yoke can be clamped in a vise for extra support. Satin chrome and black nickel finish. Complete kit includes flaring tool and reaming yoke ..... P/N 12-02423 ..... \$469.00

## BRAKE LINING & GENERAL RIVET SETS



**Standard Model (403)**- Designed especially to economically reline brakes, this riveting set is a handy tool for many other jobs where rivets are used to fasten leather, canvas, plastic and metal parts.

P/N 824 ..... \$28.50

Brake lining Rivets ..... P/N 06-02300 ..... \$0.03ea

**Deluxe Model (404)** - Our deluxe model brake relining tool makes it virtually impossible to botch a brake relining job. The threaded screw action of the rivet insertion tool insures a perfect roll on brake rivets every time without damaging the liner.

Standard Model (Not Threaded) ..... P/N 824 ..... \$28.50

Deluxe Model (Threaded) ..... P/N 12-20810 ..... \$27.85

Punch Non-Threaded / Brake Relining for model 403 ..... P/N 12-01171 ..... \$5.80

Anvil Punch/Brake Relining for model 404 ..... P/N 12-01170 ..... \$4.75

Brake Lining Rivet 4X6 ..... P/N 06-02300 ..... \$0.03

BR1007 Rivet Set for Reline ..... P/N 12-01173 ..... \$8.85



## PARKER TYPE AIRCRAFT TUBE BEADING TOOL

The Parker Beading Tool has been the number one choice of aircraft mechanics for making clamping beads in metal tubes. To this day, no other tool even comes close to matching its quality. So by special arrangement, the manufacturer tooled up to recreate this classic tool in every detail. In the process they have

added a few enhancements of their own, such as ground, hardened, and polished surfaces for mar-free beads in aluminum, copper, brass, and mild steel tubes ranging from 1/4" to 1" diameter. Meets MILSPEC MS33660D and SAE AS5131 standards .... P/N 12-01049 ..... \$502.00



## PROFESSIONAL RIVETING KIT

This Professional Riveting Kit has all the tools you need to drive rivets like a pro... It contains the best-selling ATS Pro Series 3X Rivet Gun, a selection 4 of our most popular Bucking Bars (141, 142, 148, and 149), plus a complete assortment of Rivet Sets to install Universal Head (AN470) or Flush (AN426) rivets in sizes 3/32" to 3/16"..... P/N 12-01698 ..... \$286.95



## IMPERIAL 470-FH TRIPLE HEAD 180° TUBING BENDER

The 470-FH Triple Head 180° Tube Bender bends 4 diameters of tubing with just one tool! It handles soft copper, aluminum and thin-walled steel tubing in 3/16", 1/4", 5/16" & 3/8" diameters. Like the heavy duty 464-FH, it features the patented ROTO-LOK™ two-stage handle that allows east fabrication of bends up to 180°. It also features optimized bending grooves that allow the user to bend the tubing in the smallest radius possible to enable tighter turns and minimize the space taken by the bends. Soft copper - .030-.032" wall. 304 stainless steel - .030-.032" wall..... P/N 12-01042 ..... \$57.75



## ATS HAND RIVET SQUEEZER

Has a very solid feel, and professional look that will complement anyone's toolbox. Squeezes up to 5/32" aluminum (1/8" seal) rivets. Works with any rivet sets, or diple dies having a 3/16" (.187") shank. Adjustable ram does not need shims. Lifetime warranty. Features: •1.5" Yoke •Drop forged from Stainless Steel for unmatched strength and durability •Clasic bushed stainless steel finish. •Adjustable ram does not need shims •Squeezes aluminum rivets up to 5/32" and steel rivets up to 1/8" •Comfort grip rubber handles •4lbs shipping weight..... P/N 12-01620 ..... \$135.75

## PRO HEAVY DUTY RIVET SQUEEZER



1-1/2" Reach. 1-1/4" gap height. 3/16" aluminum rivet capacity. 360 degree swivel head locks yoke locks in any position for greater versatility 5/8" adjustable ram eliminates the need for shims. Longer handles for better leverage. 3/16" aluminum (5/32" steel) rivet capacity. 21" overall length. Does not come with squeezer sets.

P/N 12-04961 ..... \$147.95



## RIVET SQUEEZER BENCH UPGRADE KIT

Upgrade kit converts 5011-1 (12-04961) Rivet Squeezers to new bench model. Easy to install. Does not work with older model rivet squeezers.

P/N 12-04962 ..... \$67.75



## PNEUMATIC "C" SQUEEZER KIT

Lightweight and has the same power as the Chicago Pneumatic 214C squeezer on which it is based. It accepts the same yokes and attachments as the 214C squeezer, and is powerful enough to squeeze up to 1/8" solid aluminum, or 3/32" solid steel rivets. Complete kit includes ATS-114C Squeezer with a 1-1/2" yoke (p/n 14-3), a Longeron yoke (14-10), and a 17 piece assortment of squeezer and dimpler snaps. Features: • Compatible with Chicago Pneumatic 214C squeezers • Squeezes up to 1/8" aluminum or steel rivets • Compact only 10" long • Accepts all squeezer and dimpling sets with a .187" shank..... P/N 12-03504 ..... \$708.00

Description	Part No.	Price
Squeezer Yoke 1-1/16"	12-03663	\$72.95
Yoke, Longeron	12-03664	\$109.75
Squeezer Yoke 1-3/16"	12-03665	\$73.95
Squeezer Yoke 1-1/2"	12-03666	\$69.95
Squeezer Yoke 1-3/4"	12-03667	\$105.95
Squeezer Yoke 2-1/2"	12-03668	\$125.95
Squeezer Yoke 2-3/4"	12-03669	\$125.95
Squeezer Yoke 3"	12-03670	\$135.95
Squeezer Yoke 3-7/8"	12-03671	\$145.95
Squeezer Yoke 5-5/8"	12-03672	\$155.95
Squeezer Set Assortment, 17pc	12-03673	\$129.95

## ATS DELUXE HAND/BENCH RIVET SQUEEZER KIT



The Rivet Squeezer Kit is designed to take on any riveting task. It contains the new ATS Heavy Duty Rivet Squeezer, a Bench Mount Kit, plus and extra 1-1/2" yoke head to reach into tight areas. You'll also get a complete set of squeezers and dimple dies in a convenient holder. Ats Pro Lifetime warranty. 14 lbs (6.5Kg) shipping weight .... P/N 12-02406 ..... \$360.00

TO



# RIVET SQUEEZERS – RIVET SETS



## HANDI-CLAMPS

Handi-Clamps are a specially designed tool for clamping various types of surfaces, shapes and thicknesses. Ideal for holding light plastics, wood, sheet metal and other materials temporarily. The clamping cap is 0-5/16" TP640HC - 1" Jaw Depth ..... P/N 12-02305 ..... **\$1.95**  
TP641HC - 1-1/2" Jaw Depth ..... P/N 12-02306 ..... **\$1.95**

## SIDE GRIP CLAMPS



Side-Grip clamps are designed to clamp at the edge of the work area. Ideal for holding work pieces of all types, particularly during bonding, sealing or gluing operations. Plier-operated. Spring loaded. Constant clamping force. Color-coded for easy identification. Use TP74 or US902 installation tool. Made in the USA

Part No.	Clamping CAP (GAP)	EFF. Body Depth (Reach)	Body Length	Price
12-01161	0-1/2"	1/2"	2-3/16"	<b>\$1.95</b>
12-01162	0-3/4"	1/2"	2-7/16"	<b>\$3.40</b>
12-01143	0-1/2"	1"	2-3/16"	<b>\$2.25</b>
12-02643	0-3/4"	1"	2-7/16"	<b>\$3.70</b>

## AT-114C3 QUICK-CHANGE RETAINER SPRING



Makes possible the changing of rivet sets without removal of retainer spring. For .402" shank dia. rivet sets..... P/N 12-01079 ..... **\$4.65/ea.**

## AT 107A FLUSH RIVET SETS

Large radii at critical points to prevent breakage. Slightly crowned, highly polished face designed for rapid flush riveting where a smooth skin surface is essential. Shank dia. .401".

Part No.	Face Dia.	Length	Price
AT-107A-1	1"	2-3/4"	<b>\$28.90</b>
AT-107A-3	1-1/4"	3-3/4"	<b>\$32.50</b>

## AT 100A STRAIGHT RIVET SETS

Cup surfaces are highly polished and guaranteed to conform with rivet heads. Carried in stock in AN470 (MS20470) universal-head cup shape. Overall length, 3-1/2", .401" dia. centerless-ground shank.

AT-100A-3-3/32	3/32"	<b>\$8.50</b>
AT-100A-3-1/8	1/8"	<b>\$7.80</b>
AT-100A-3-5/32	5/32"	<b>\$8.75</b>
AT-100A-3-3/16	3/16"	<b>\$11.85</b>

## AT 101A OFFSET RIVET SETS

Same tool as AT100A but has 10° bend 1" back from the cup to allow added clearance. Permits easier riveting where obstructions are encountered.

AT-101A-3-3/32	3/32"	<b>\$9.50</b>
AT-101A-3-1/8	1/8"	<b>\$9.50</b>
AT-101A-3-5/32	5/32"	<b>\$8.35</b>
AT-101A-3-3/16	3/16"	<b>\$14.50</b>

## TATCO HAND RIVET SQUEEZER

This tool was designed and built as a portable low cost solution for both small and large aerospace applications. It is made of aerospace grade stainless steel and heat treated on all wear and deflecting components to 38/42 on the Rockwell Hardness Scale. A

large variety of interchangeable yokes are available with ranges from as small as 1.00" to 6.00" reach. It has proven itself over the years as a portable rugged solution, for light to medium duty, rivet squeezing applications.

Model	Dimensions	Part No.	Price
THS-10	1-1/4" Gap x 1" Reach	12-03674	<b>\$194.75</b>
THS-15	1-1/4" Gap x 1-1/2" Reach	12-00300	<b>\$186.90</b>
THS-20	1-1/4" Gap x 2" Reach	12-03675	<b>\$219.95</b>
THS-22	2" Gap x 2" Reach	12-03676	<b>\$249.95</b>
THS-25	1-1/4" Gap x 2-1/2" Reach	12-03677	<b>\$244.95</b>
THS-30	1-1/4" Gap x 3" Reach	12-03678	<b>\$249.95</b>
THS-35	1-1/4" Gap x 3-1/2" Reach	12-03679	<b>\$279.95</b>
THS-40	1-1/4" Gap x 4" Reach	12-03680	<b>\$310.00</b>
THS-50	1-1/4" Gap x 5" Reach	12-03681	<b>\$369.00</b>
THS-60	1-1/4" Gap x 6" Reach	12-03682	<b>\$375.00</b>
THS-100	1" Gap x 2" Reach	12-03683	<b>\$242.95</b>
THS-101	1-1/4" Gap x 1-1/2" Reach	12-03684	<b>\$242.95</b>

## TATCO SQUEEZER YOKES FOR RIVET SQUEEZER

Model	Description	Part No.	Price	Model	Description	Part No.	Price
THY-10	1" Yoke	12-00308	<b>\$70.95</b>	THY-40	4" Yoke	12-00322	<b>\$141.75</b>
THY-15	1.5" Yoke	12-00309	<b>\$71.75</b>	THY-50	5" Yoke	12-00323	<b>\$198.75</b>
THY-20	2" Yoke	12-00310	<b>\$87.75</b>	THY-60	6" Yoke	12-00324	<b>\$218.95</b>
THY-22	2" x 2" Yoke	12-00315	<b>\$105.95</b>	THY-100	1" x 2" Yoke	12-03688	<b>\$80.00</b>
THY-25	2.5" Yoke	12-00318	<b>\$95.85</b>	THY-101	No Set Hole	12-03689	<b>\$93.75</b>



## SWIVEL HAND RIVET SQUEEZER

This tool incorporates a 3/8" stroke and 5/8" ram adjustment. The full 360° yoke can be locked in any position in relation to the handles. Uses standard squeezer sets with 3/16" shank diameter. Yoke depth: 1-1/2".

Model AT502AH-D ..... P/N 12-00400 ..... **\$361.00**

## INSTRUCTIONS FOR SELECTING RIVET SETS

To develop maximum power, the riveter must drive the rivet near the end of the riveter's stroke. For maximum power the combined length of the two rivet sets must be of the correct length. Determine the correct length as follows:

**WHEN TWO CUPPED RIVET SETS ARE USED** – The sum of the two rivet sets "L" dimension should equal the closed height dimension of the yoke minus the total thickness of the material being used.

**WHEN TWO FLUSH SETS ARE USED** – The sum of the two rivet sets "L" dimension should equal the closed height dimension of the yoke minus the overall length of the rivet after it is driven.

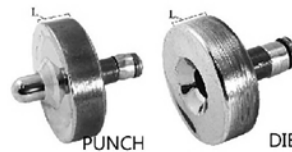
**WHEN ONE CUPPED SET & ONE FLUSH SET ARE USED** – The sum of the two rivet sets "L" dimension should equal the closed height dimension of the yoke minus the total thickness of the material being riveted and the height of the finished rivet head driven by the flush set. If necessary, select rivet sets a little short and shim to proper length with hardened shims listed in the table. The closed height dimension of the yoke referred to above is the opening available when jaws of plunger are in extreme closed or forward position with both rivet sets in place.

## RIVET SETS FOR SQUEEZER



Assorted Squeezer Set. 5-piece, consisting of rivet sets for 3/32, 1/8 and 5/32" AN470 rivets, and one flat set. Shank dia. 3/16"..... P/N 26-5 ..... **\$31.75**

## DIMPLING SETS FOR SQUEEZER



PUNCH

DIE

FASTENER AN 426 RIVET

SIZE	3/32	1/8	5/32	3/16
DASH NO.	-3	-4	-5	-6
BODY LENGTH	1/4	3/8	1/2	
AFTER DASH NO.	-P	-R	-S	

When ordering, specify: Basic Part No. - Rivet Size No. - Body Length, Letter. P/N PER SET 1 PUNCH 1 DIE

Part No.	Price
207/206-3-P	<b>\$39.95</b>
207/206-3-R	<b>\$39.95</b>
207/206-3-S	<b>\$39.95</b>
207/206-4-P	<b>\$39.95</b>
207/206-4-R	<b>\$39.95</b>
207/206-4-S	<b>\$39.95</b>
207/206-5-P	<b>\$39.95</b>
207/206-5-R	<b>\$39.95</b>
207/206-5-S	<b>\$30.80</b>
207/206-6-P	<b>\$17.85</b>
207/206-6-R	<b>\$39.95</b>
207/206-6-S	<b>\$31.85</b>



## INDIVIDUAL CUPPED SQUEEZER SETS

Rivet Diameter	Body Length ("L" Dim.)	Part Number	Price
3/32"	3/8	AT108AR-3/32	<b>\$11.50</b>
3/32"	1/4	12-01661	<b>\$11.50</b>
3/32"	1/8	AT108AN-3/32	<b>\$9.50</b>
3/32"	1/2	AT108S-3/32	<b>\$11.85</b>
1/8"	1/8	AT108AN-1/8	<b>\$9.50</b>
1/8"	1/4	12-01660	<b>\$11.50</b>
1/8"	1/2	AT108S-1/8	<b>\$11.50</b>
1/8"	3/8	AT108AR-1/8	<b>\$10.90</b>
3/16"	1/4	12-02680	<b>\$10.50</b>
3/16"	1/2	AT108S-3/16	<b>\$10.50</b>
3/16"	3/8	AT108AR-3/16	<b>\$10.50</b>
3/16"	1/8	AT108AN-3/16	<b>\$7.70</b>
5/32"	1/4	12-01662	<b>\$10.95</b>
5/32"	3/8	AT108AR-5/32	<b>\$10.85</b>
5/32"	1/8	AT108AN-5/32	<b>\$10.50</b>
5/32"	1/2	AT108S-5/32	<b>\$10.50</b>



## FLUSH RIVET SETS

Body Length ("L" Dim.)	Part No.	Price
1/8"	AT109AN	<b>\$7.95</b>
1/4"	AT109AP	<b>\$6.50</b>
3/8"	AT109AR	<b>\$8.80</b>
1/2"	AT109AS	<b>\$9.50</b>

TO

# COUNTERSINK CUTTERS



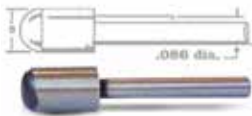
**ATS ADJUSTABLE SQUEEZER RAM**  
Adjustable ram eliminates the need for shims. Simply rotate the set holder until the desired clearance is reached and begin riveting. Made of hardened high strength steel and polished to minimize surface wear.  
P/N 12-04968.....\$59.75



**MICROSTOP COUNTERSINK CUTTER KIT AT590CSK**  
This kit provides countersinking versatility with nine different 1/2" diameter cutters, six of the most commonly used foot pieces, and a high-speed bearing-constructed microstop. The microstop controls cutting depth in .001 increments, from 0 to 5/16". Cutters-ground on-centers to ensure concentricity-are 100°, with pilot diameters #40, #30, #21, 3/32", 1/8", 3/16", and 1/4" ... P/N 12-00824 .....\$284.95



**100° AT455 COUNTERSINK CUTTER**  
Designed for operating in angle drills with 1/4-28 threads and in the AT441SLS Micro Stop Countersink. Has 1/4-28 threaded shank. Cutter angle 100°. AT455D-4 has 7/16" dia. cutter head. Use with AT484 pilots.  
P/N AT455D-4....\$23.50



**AT484 PILOTS**  
AT484 replaceable pilots have a .086" dia. shank with a flat to accommodate the set screw of the AT455 cutter. An undercut permits the head to seat on the cutter angle. Order by P/N .....\$12.85 ea.

Part No.	Head Dia. "D"	Part No.	Head Dia. "D"
AT484-2	#40	AT484-56	3/32
AT484-12	#30	AT484-57	1/8
AT484-21	#21	AT484-59	5/32
AT484-31	#11	AT484-61	3/16
AT484-32	#10	AT484-63	7/32



**AT441 HSS MICROSTOP COUNTERSINK**  
AT441 HS Micro Stop Countersink, similar to the AT442SLS unit, except with 1/4-28 female threaded nose to accommodate AT455 cutter.  
P/N 12-01591 .....\$27.90



**FLUSH RIVET SET WITH RUBBER RING**  
Features a rubber ring around the face to reduce slippage and to prevent damage to aircraft skin. Face Diameter: 1 1/4". Shank: 0.401".  
Rivet Set ..... P/N 12-03361...\$15.75  
Replacement Rubber Ring... P/N 12-03362.....\$4.35



**MICRO-STOP COUNTERSINK CAGES AND NYLONFOOT PIECE**  
2 Models available-one with NEEDLE bearing and one with BRONZE bushings. .001" increment depth adjustment. Positive adjustment lock. 1/4" dia. shank. 9/32" shaft travel. 9/16" cutter capacity. For 1/4-28 threaded cutters. Comes with "NO-MAR" foot piece. Rated at 3,000 RPM. Made in USA.  
With Bronze Bushings..P/N 12-01412 .....\$36.50  
With Needle Bearings...P/N 12-00940 .....\$44.90

## AT 409 SERIES STRAIGHT SHANK COUNTERSINK WITH INTERCHANGEABLE CUTTERS AND PILOTS



Assembly, consists of AT418E (1/2") cutter, AT416 pilot and AT409-1, 1/4" straight-shank. Has a collet-type shaft to securely hold the replaceable pilot.  
**When ordering specify: Part number of cutter and pilot dia.**  
**Assembly Example:** AT409 with 100° cutter A418E & 1/8 pilot. (AT416-57) Adapter only  
P/N AT409-1.....\$19.50

## AT418 STOP COUNTERSINK CUTTERS



Three-straight flute replaceable pilot cutters with female thread. These cutters are designed with extra deep flute to permit numerous resharpenings and radial clearance to assure fast smooth cutting. For Replaceable Pilots Refer to AT416 Series.Used With AT418

Part No.	Cutter Dia.	Thread Size	Pilot Hole	Price
AT418A-4	1/4"	1/4 - 28	.086	\$31.75
AT418D-4	7/16"	1/4 - 28	.086	\$38.50
AT418E-4	1/2"	1/4 - 28	.086	\$27.70

## 120° AT418 COUNTERSINK CUTTER



Same type cutter as described above except with 120° Cutter Angle.  
7/16" Cutter Diameter.  
P/N AT418D-7 .....\$43.80

## AT416 PILOTS

Fit AT418 cutters. Undercut permits head to seat on cutter angle. Order by Part No. in table below.  
Order by part Number. ....\$13.55 Ea.

Part No.	Head Dia. "D"	Part No.	Head Dia. "D"
AT416-2	#40	AT416-56	3/32
AT416-12	#30	AT416-57	1/8
AT416-21	#21	AT416-59	5/32
AT416-31	#11	AT416-61	3/16
AT416-32	#10	AT416-63	7/32
		AT416-65	1/4



## COUNTERSINK SETS

Countersinks made of high-speed steel, 3-fluted and 14" - 28 threaded. Set includes #40, #30, #21, #10, and 1/4".

Countersink 82 degree 5 pc. set.....P/N 12-02883 .....\$42.95  
Countersink 120 degree 5 pc. set.....P/N 12-02884 .....\$42.95



## SNAP SOC RIVET SET CAPS

Insert these caps onto the ends of your rivet sets to provide a protective zone between the rivet set and the rivet. Helps to prevent against damage to the rivet or adjoining aircraft skin. Color coded for easy use. Each cap lasts for approximately 50-70 rivets. **Note: Rivet Set pictured is not included.**

Color	Size	Part No.	Price
White	3/32"	12-03363	\$17.50
Orange	1/8"	12-03364	\$16.85
Green	5/32"	12-03365	\$17.50
Yellow	3/16"	12-03366	\$18.50
Blue	1/4"	12-03367	\$17.50



## DIE GRINDER MANDREL

Die Grinder Arbor (Mandrel). Holds your cutoff wheels. It has a 1/4" shank for use in most drills and die grinders. Can accommodate either 1/4" or 3/8" cut-off wheel through hole sizes.  
P/N 12-02924 .....\$4.95





# PLIERS – PUNCHES – BRAKES



## HAND SEAMER

Handy tools for comparatively light work. Wide, deep jaws machined for smooth parallel fit. Form precise folds and seams. Strong, lasting drop-forged steel construction. No. 44 has plain 3 1/2" wide blades. No. 44r is similar with a radius to prevent tearing of aluminum and other light metals. No. 793 has a 3 1/2" wide blade with adjustable depth gauge.

P/N 12-00620 .....\$68.75



## HAND SEAMER

Makes permanent, tight fitting seams. Strong, lasting construction. Jaw Size: 1" D x 3-1/2" W. Overall Length: 8" (203 mm). Weight: 1.1 lbs (0.5 kgs) .....P/N 12-03751 .....\$21.75



## ROPER-WHITNEY NOTCHER

Designed for fast, accurate 32° notch in sheet metal. Hook design of jaws permits notching to exact desired depth without slippage. Spring-return jaws. Capacity 20 ga. Wt. 1 lb.

P/N 141 .....\$96.75



## FLUTING PLIERS

These aircraft-type fluting pliers are a drop-forged quality tool. Non-marring working surfaces of jaws specifically designed for use on aircraft components. Comfort grip handles.

P/N 12-00500 .....\$15.75



## HOLE FLANGING TOOL

A real time saver for flanging lightening holes. Non-marring. Easy to use. Nylon rollers and ball bearings assure long life...P/N 12-00600 .....\$47.75

## PRO PNEUMATIC C DOUBLE FORCE SQUEEZER



The ATS Tandem C-Squeezer incorporates two pistons to deliver twice the force of a standard squeezer at the same air pressure. Its light-weight, compact, and efficient design is modeled after the industry standard

Chicago Pneumatic 0214-C squeezer. The parts are completely interchangeable, and it will accept any jaws and accessories compatible with the 0214-C. With enough force to squeeze up to 3/16" solid aluminum, or 5/32" mild steel rivets, this riveter will easily fit most of your riveting needs without breaking your budget .....P/N 12-04980 .....\$649.00

## ATS DUAL SUPER DUTY RIVET SQUEEZER



The Dual Squeezer Kit features a whole 3" squeezer! Included in the kit is a Stainless Steel Rivet Squeezer with a 1 1/2" yoke, as well as 3" yoke. ATS also includes a 17 piece dimple die set, and rivet gauges to get the job done right. Finally, all of this comes in a custom foam lined case.

P/N 12-05451 .....\$374.95

## ATS FIELD RIVETING KIT (2X)



The ATS Pro Field Kit features the line tools. In it you get the best-selling Palm Drill (featuring a true variable speed trigger from 0 to 2600 RPM), plus an assortment of cobalt drill bits in the 4 most commonly use sizes (#40, #30, #21, and #12). For perfect riveting jobs, ATS gives you the top of the line Pro Rivet Gun with feather trigger

(including springs), two of the most popular Tungsten bucking bars, and a full set of riveting snaps. ATS has even thrown in a set of rivet gauges to make sure you get things right, and a bottle of oil to keep those tools running at peak performance. It all comes to you in a quality shadow-foamed hard tool case, making this the kit you will want to show off!  
Black.....P/N 12-05448 .....\$579.95  
Red.....P/N 12-05448-1 .....\$589.95

## ROPER-WHITNEY METAL PUNCH



### #5 JR. HAND PUNCH

with one ton punching power. Punches 1/4" hole through 16 Ga. mild steel. Throat clearance 1-3/4". Complete set in metal box with 3/32, 1/8, 5/32, 3/16, 7/32, 1/4 and 9/32" punches & dies. Wt. 4-1/4 lbs.....P/N 12-01600 .....\$96.75



### BENCH MOUNT BASE

For stationary use. Base swivels to any position. Punch is held by L-shaped clamp rod through a 7/16" or larger hole in bench.....P/N 12-01700 .....\$40.50

## STRAIGHT PUNCH & DIE SETS

for No. 5 Jr. punch in the seven sizes shown below.

Size	Part No.	Price
3/32"	12-01800	\$21.95
1/8"	12-01900	\$27.50
5/32"	12-02000	\$19.50
3/16"	12-02100	\$27.50
7/32"	12-02200	\$26.55
1/4"	12-02300	\$21.95
9/32"	12-02400	\$20.85



## ORIGINAL LANCASTER PORTO-METAL FORMER



The Porto-Metal Former makes the specialty angle needed in minutes. Can be used on the work bench or in a vise to make inside angles, outside angles, straight bends - even circles, to a radius as small as 3". Jaws are made of hardened alloy steel. Works 18 gauge soft steel, 20 gauge stainless, 16 gauge aluminum up to 2" in width. 45 to 1 leverage

for powerful press. Special malleable iron body will not break as we have found with cheaper imitations. Order #LSH-71 metal shrinker for inside angles. Order #LST-82 stretcher for outside angles. Wt. 12 lbs. each.  
#LSH-71 Shrinker.....P/N 12-19800 .....\$232.95  
#LST-82 Stretcher.....P/N 12-19900 .....\$210.95  
Combination Shrinker/Stretcher Tool.....P/N 12-02950 .....\$276.95

Either unit can be converted into its opposite by ordering complete conversion kit, includes jaws, blocks & wire.

## HAND PADS



Faster, cleaner, and more durable than wire brushes, scrapers and sandpaper. Non-woven nylon pads are pre-cut. They provide conformable, consistent finishes. General Purpose and Ultra Fine Pads may be used with lubricants and solvents. **General Purpose** • Clean up dirty parts in solvent tank • Light corrosion removal on steel and aluminum parts **Commercial** • An aggressive hand pad for waterbased products only • Not to be used with solvents. • Heavy duty rust removal and general cleanup • **Ultra Fine** • For scuffing in new rod and main bearings. Light corrosion removal on steel and aluminum parts.

Description	Size	Grain	Color	Qty.	Part No.	Price
General Purpose	6" x 9"	A/O	Maroon	1 each	12-00861-1	\$1.02
Ultra Fine	6" x 9"	S/C	Gray	1 each	12-00862	\$1.15
Heavy Duty	6" x 9"	A/O	Tan	40 pack	12-00864	\$87.75
Hand Pad Holder	-	-	Orange	1 Hand Pad Holder, 4 Sanding Pads	12-00865	\$21.50

TO

# CHERRY RIVET TOOLS

## HYDRO-SHIFT CHERRYLOCK® RIVETER



Specifically for the installation of all CherryLOCK® Rivets. Recommended primarily for 1/4" diameter CherryLOCK® rivets. It can be used to install all diameters and lengths as indicated on the tool capacity charts. Low recoil, low noise and a comfortable fit in the operator's hand. It can be operated in any position with one hand. The H681 Series pulling heads fit directly on this tool to install both bulbed and standard NAS type 2000 Series CherryLOCK® Rivets. With the proper adapters and pulling heads, this tool can install other types of rivets.....P/N 12-02983 .....\$11,549.00



## LOCKBOLT POWER RIVETER G84

For high speed, reliable installation of the most popular sizes of aircraft Lockbolts. Incorporates a bayonet attachment for quick change of pulling heads. This tool can also be used to install blind bolts and blind rivets. A comfortable grip for one handed operation in any position. Compatible with Huck 352 & 230 riveter pulling heads.....P/N 12-03011 .....\$1,756.00

## LOCKBOLT POWER RIVETER TOOL KIT G84LBK

**Installs:** 5/32", 3/16" & 1/4" NAS Style. LockBolt **Includes:** G84 LockBolt Power Riveter - Stroke: 9/16", Pulling Force: 5, 750 lbs (2,608 kgs), Weight: 7.7 lbs (3.5 kgs). H513-08-35 Pulling Head. H513S-05-20 Pulling Head Cherry 5/32" D LockBolt. H513S-06-20 Pulling Head MaxiBolt 3/16" LockBolt. P1395 Molded Carrying Case. 269C5 Grip Gauge LockBolt. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle. All Necessary Manuals. P/N 12-03013 .....\$4,279.00



## CHERRY RIVETER SERVICE KIT G84KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G84. P/N 12-03012 .....\$164.75



## LIGHTWEIGHT LOCKBOLT RIVETER TOOL KIT G83AKT

**Installs:** 5/32" & 3/16" MS Blind Bolt & LockBOLT, 1/8", 5/32" & 3/16" Cherry MAX **Includes:** G83 Lightweight LockBolt Hand Riveter - Stroke: 7/16", Pulling Force: 3, 750 lbs (1, 701 kgs), Weight: 4.95 lbs (2.3 kgs). H513S-05-20 Pulling Head Cherry 5/32" D LockBolt. H513S-06-20 Pulling Head 3/16" LockBolt. H701B-456 Pulling Head Straight 3/4" x 1 3/4". H753A-4562 CherryMAX Pulling Heads RT Angle 2 1/4" x 5 7/16" x 3/8". H781-456 Cherry Pulling Head Offet 1/8"-5/32"-3/16". H83B-5MB Pulling Head MaxiBolt 5/32"D. H83B-6MB Pulling Head MaxiBolt 3/16" D G83/G84. P1393 Plastic Box. 269B12 MaxiBolt Gauge. 269C3 CherryMAX Grip Gauge. 269C5 Grip Gauge LockBolt. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle. 744-300 Adapter. All Necessary Manuals P/N 12-03008 .....\$5,278.00

## LIGHTWEIGHT LOCKBOLT RIVETER TOOL KIT G83BKT

**Installs:** 5/32" & 3/16" MS Blind Bolt & NAS Style LockBolt **Includes:** G83 Lightweight LockBolt Hand Riveter - Stroke: 7/16", Pulling Force: 3, 750 lbs (1, 701 kgs), Weight: 4.95 lbs (2.3 kgs). H513S-05-20 Pulling Head Cherry 5/32" D LockBolt. H513S-06-20 Pulling Head 3/16" LockBolt. H83B-5MB Pulling Head MaxiBolt 5/32"D. H83B-6MB Pulling Head MaxiBolt 3/16" D G83/G84. P1393 Plastic Box. 269B12 MaxiBolt Gauge. 269C5 Grip Gauge LockBolt. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle. All Necessary Manuals.....P/N 12-03009 .....\$5,396.00



## CHERRY RIVETER SERVICE KIT G83KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G83. P/N 12-03010 .....\$211.95

## LIGHTWEIGHT LOCKBOLT RIVETER G83



Designed for high speed, reliable installation of the most popular sizes of aircraft Lockbolts. By bending the rubber pin deflector sideways, 1-1/2" additional clearance can be obtained. This tool can also be used to install blind bolts and blind rivets. A comfortable grip for one handed operation in any position. Compatible with Huck 352 & 230 riveter pulling heads. Stroke: 7/16". Pulling Force: 3, 750 lbs (1, 701 kgs). Weight: 4.95 lbs (2.3 kgs).....P/N 12-03007 .....\$1,384.00

## CHERRY RIVETER SERVICE KIT G800KS



All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G800. P/N 12-03006 .....\$149.75



## CHERRYMAX HYDRAULIC HAND RIVETER G800

The G800 is an ergonomic, lightweight hand powered riveter capable of installing a wide variety of blind fasteners. The all metal design makes this compact and robust tool ideal for use in rugged shop environments or field repair. Exceptional power with low hand effort for increased productivity. Mounting system (same as G704B) compatible with popular pulling heads including H782, H781-456& H753A-456. Leak-proof design with advanced seals & built-in redundancies. Ergo design with internal shock absorber & cushioned handle. Adjustable lever easily accommodates different hand sizes. Stroke: 3/4". Pulling Force: Up to 6000 lbs. Weight: 1.7 lbs (0.8 kgs) .....P/N 12-03004 .....\$919.00



## CHERRYMAX HYDRAULIC HAND RIVETER KIT G800CRM

G800CRM CherryMAX Hydraulic Hand Riveter Kit **Includes:** G800 CherryMAX Hydraulic Hand Riveter - Stroke 3/4", Pulling Force up to 6000 lbs, Weight 1.7 lbs. H781-456 Pulling Heads. H753A-456 Pulling Heads. 269C5 Grip Selector Gauge. 269B12 Grip Selector Gauge. Molded Plastic Case. All Necessary Manuals (except -6 all aluminum) P/N 12-03005 .....\$2,430.00



## CHERRY RIVETER SERVICE KIT G784KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G784. P/N 12-03002 .....\$346.00



## NUT-PLATE RIVETER G702A

The G702A is a pneumatic-hydraulic tool designed specifically for installation of nut plate rivets. Its durable, all metal housing makes this tool ideal for use in rugged shop environments. The H702-3NPR pulling head fits directly on the tool to install -3, -4, 2.5 mm & 3mm nut plate rivets. 10° angled head allows user to work using a natural hand position. A comfortable grip for one handed operation in any position. Air Pressure: 90 PSI (6.2 bar) min./110 PSI (7.6 bar) max. Cycle Time: approximately one second. Noise Level: 71 dB (A). Vibration: less than 2.5 m/s<sup>2</sup>. Air Consumption: .09 SCF / cycle (2.55 L / cycle). Stroke: 3/4". Pulling Force: 1,100 lbs (499 kgs). Weight: 3.5 lbs. ....P/N 12-02985 .....\$1,349.00



## CHERRYLOCK POWER RIVETER KIT G784CLRB

**Includes:** G784 Cherry Universal Power Riveter 12" High, 8 lbs., 15/16" Stroke. P1395 Molded Carrying Case. TLC852 CherryLock Selector Card. TLC864 CherryLock Process Manual. 269C3 CherryMAX Grip Gauge. 700A77 Bleeder Bottle. **Note:** No Pulling Heads Included. P/N 12-03001 .....\$3,669.00

## CHERRYLOCK POWER RIVETER G784



Installation of CherryLOCK rivets. Will install nearly all diameters of CherryLOCK rivets up to a half-inch grip, 'A' group only. With proper adapters & pulling heads this tool can be used to install other types of rivets. A comfortable grip for one handed operation in any position. Pulling heads not included with riveter. Air Pressure: 90 PSI (6.2 bar) min./110 PSI (7.6 bar) max. Noise Level: 69.7 dB (A). Vibration: less than 2.5 m/s<sup>2</sup>. Air Consumption: .27 SCF / cycle (7.65 L / cycle). Stroke: 7/8". Pulling Force: 2,600 lbs (1, 179 kgs). Weight: 8 lbs (3.6 kgs) .....P/N 12-02998 .....\$2,995.00



## POWER RIVETER G747

Installation of CherryMAX and nut plate rivets. This tool utilizes straight, offset and right angle pulling heads, all of which can install -4, -5 and -6 diameter CherryMAX bulb type rivets in all head styles, materials and grip lengths. Extensions are available for extending the pulling heads to reach limited access areas. 10° angled head allows user to work using a natural hand position. A comfortable grip for one handed operation in any position. Same weight as the G702A, with the power of much larger tools .....P/N 12-02995 .....\$895.00

TO



# CHERRY RIVET TOOLS



## CHERRYLOCK POWER RIVETER KIT G784CLRA

**Installs:** 1/8" to 3/16", NAS 1398/9. Type & Cherry Lock. **Includes:** G784 Cherry Universal Power Riveter 12" High, 8 lbs., 15/16" Stroke. H681-4C CherryLock H681 Pulling Heads Dia. 1/8" Dim. A=208 B=341. H681-5C CherryLock Pulling Head 5/32" D. H681-6C CherryLock H681 Pulling Heads Dia. 3/16" Dim. A=335 B=386. P1395 Molded Carrying Case. TLC852 CherryLock Selector Card. TLC864 CherryLock Process Manual. 269C3 CherryMAX Grip Gauge. 700A77 Bleeder Bottle.

P/N 12-02999 .....\$4,159.00



## CHERRY RIVETER SERVICE KIT G747KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G747.

P/N 12-02996 .....\$167.75



## CHERRY RIVETER SERVICE KIT G746KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G746A.

P/N 12-02994 .....\$227.95



## CHERRY RIVETER SERVICE KIT G704KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G704B.

P/N 12-02990 .....\$192.75



## CHERRY RIVETER SERVICE KIT G689KS

All the seals, 'O'-rings, gaskets and hardware required for routine maintenance of your Cherry blind riveters. A must for any in-house repair facility. For Tool G689.

P/N 12-02984 .....\$333.00



## BLIND BOLT RIVETER TOOL KIT G84-MBK

**Installs:** 5/32", 3/16" & 1/4" MS Blind Bolt

**Includes:** • G84 Power Riveter Cherry- Stroke: 9/16", Pulling Force: 5, 750 lbs (2,608 kgs), Weight: 7.7 lbs (3.5 kgs) • H83B-5MB Pulling Head MaxiBolt 5/32" D • H83B-6MB Pulling Head MaxiBolt 3/16" D G83/G84 • H84A-8MB Pulling Head MaxiBolt 1/4" D G84

• P1395 Molded Carrying Case • TLC872 Cherry Maxibolt Card • 269B12 Maxibolt Gauge • 670A20 Stem Catcher Bag • 700A77 Bleeder Bottle.

P/N 12-03015 .....\$3,340.00

## CHERRYMAX POWER RIVETER KIT G747CMR

**Installs:** NAS 9301 to 9312 (1/8" to 3/16"). MS90353/4. MS21140/1. TAF "S" TYPE (1/8" & 5/32"). MS20604/5 (3/32"). **Includes:** G747 Cherry Lightweight - Installs CherryMAX Rivets. H701B-456 Pulling Head Straight 3/4" x 1-3/4". H747-3NPR Pulling Head. H753A-456 CherryMAX Pulling Heads RT Angle 2-1/4"x5-7/16"x3/8". H781-456 Cherry Pulling Head Offset 1/8"-5/32"-3/16". P1393 Plastic Box. 269C3 CherryMAX Grip Gauge. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle. All Necessary Manuals.....P/N 12-02997 .....\$2,312.00

## CHERRY POWER RIVETER KIT G746ACMRB

**Installs:** -4, -5, -6 CherryMAX. **Includes:** G746A Power Riveter Cherry 1/8", 5/32", 3/16" "A" Rivets. H701B-456 Pulling Head Straight 3/4" x 1-3/4". H753A-456 CherryMAX Pulling Heads RT Angle 2-1/4"x5-7/16"x3/8". H781-456 Cherry Pulling Head Offset 1/8"-5/32"-3/16". P1393 Plastic Box. 269C3 CherryMAX Grip Gauge. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle. All Necessary Manuals.....P/N 12-02992 .....\$2,349.00

## CHERRYLOCK POWER RIVETER KIT G746ACMRW

**Installs:** SST & -3, -4, -5, -6. CherryLock 'A'. **Includes:** G746A Power Riveter Cherry 1/8", 5/32", 3/16" "A" Rivets. H955-3 Pulling Head. H955-4 Pulling Head H955-5 Pulling Head. H955-6 Pulling Head. P1393 Plastic Box. 269C3 CherryMAX Grip Gauge. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle. All Necessary Manuals.....P/N 12-02993 .....\$2,529.00

## CHERRY POWER RIVETER KIT G704BCMR

**Installs:** -4, -5, -6 CherryMax. **Includes:** 6704B Power Riveter - Cap = 1/8-3/16" Wt. = 4 1/2 lbs. H701B-456 Pulling Head Straight 3/4" x 1-3/4". H753A-456 CherryMAX Pulling Heads RT Angle 2-1/4"x5-7/16"x3/8". H781-456 Cherry Pulling Head Offset 1/8"-5/32"-3/16". P1393 Plastic Box. TLC816 CherryMAX Process Manual. TLC865 CherryMAX Selector Guard. 269C3 CherryMAX Grip Gauge. 670A20 Stem Catcher Bag. 700A77 Bleeder Bottle.....P/N 12-02988 .....\$3,285.00



## CHERRY HAND NIPPER

Used for flush trimming Cherry rivets.

P/N 12-02977 .....\$44.55



## GRIP GAUGE LOCKBOLT

Cherry Grip Gauge Lockbolt. Material thickness & grip.... P/N 12-02979 .....\$25.50



## MAXIBOLT GRIP GAUGE 269B12

Cherry Maxibolt Grip Gauge 269B12. P/N 12-02978 .....\$12.50



## CHERRYMAX GRIP GAUGE

Rivet Grip & Diameter Gauge.

P/N 12-00217 .....\$8.65



## POWER RIVETER G746A

Pneumatic-hydraulic tool designed specifically for installation of CherryMAX Bulb, CherryMAX 'AB' wiredraw and CherryLOCK 'A' wiredraw rivets. Ideal for use in rugged shop environments. This tool utilizes straight, offset and right angle pulling heads. A comfortable grip for one handed operation in any position. Stroke: .875". Pulling Force: 1,850 lbs (839 kgs). Weight: 4.25 lbs (1.9 kgs) ..... P/N 12-02991 .....\$864.00



## G84-LS SPLIT POWER RIVETER

Designed for high-speed, reliable installation of the most popular sizes of blind rivets, lockbolts and blind bolts. Fastener installation in many limited access areas and also reduces operator fatigue. This tool installs all Lockbolt, blind bolts and blind rivets to 1/4" diameter, as well as Cherry rivetless nut plate in all sizes. Stroke: 0.53". Pulling Force: 5700 lbs (2608 kgs). Weight: 11.8 lbs (5.4 kgs). P/N 12-03014 .....\$4,158.00

## LOCKBOLT HEAVY-DUTY POWER RIVETER G87D

Heavy-duty production tool designed for high speed, reliable installation of the most popular sizes of aircraft Lockbolts. Ideal for use in rugged shop environments. By bending the rubber pin deflector sideways, 1-1/2" additional clearance can be obtained. This tool can also be used to install blind bolts and blind rivets. Stroke: 9/16". Pulling Force: 9,500 lbs (4,309 kgs). Weight: 10.75 lbs (4.9 kgs) ..... P/N 12-03016 .....\$3,878.00



## SPLIT POWER RIVETER G704B-40SH

Installation of CherryMAX rivets in applications with extremely limited access. Equipped with an 8 foot hose. Pulling heads not included with riveter. Hose Length: 8'. Stroke: .518". Pulling Force: 3136 lbs (1423 kgs). Weight: 4.5 lbs (2.0 kgs) (power unit only).....P/N 12-02987 .....\$1,995.00



## SPLIT POWER RIVETER G704B-SR

Designed specifically for the installation of CherryMAX rivets in applications with extremely limited access. Equipped with an 3 foot hose. Pulling heads not included with riveter. Hose Length: 3'. Stroke: .518". Pulling Force: 3136 lbs (1423 kgs). Weight: 4.5 lbs (power unit only).....P/N 12-02989 .....\$1,699.00

## NUT-PLATE RIVETER G902 (FEED THROUGH)

All-pneumatic tool designed specifically for installation of nut plate rivets. This tool utilizes straight pulling heads which can install 3/32" and 1/8" pull-through type nut plate rivets and 3/32" CherryLOCK 'A' rivets. Stroke: 3/4". Pulling Force: 550 lbs (250 kgs). Weight: 2 lbs (0.9 kgs) ..... P/N 12-03017 .....\$696.00

## NUT-PLATE RIVETER G902-15 (SIDE EJECT)

The G902-15 (side eject) is an all-pneumatic tool designed specifically for installation of nut plate rivets. This tool utilizes straight pulling heads which can install 3/32" and 1/8" pull-through type nut plate rivets and 3/32" CherryLOCK 'A' rivets. Stroke: 3/4". Pulling Force: 550 lbs (250 kgs). Weight: 2 lbs (0.9 kgs).....P/N 12-03018 .....\$890.00



## CHERRY HAND RIVETER G30

Pulling head is integral part of tool. Great in areas with limited access or power limitations. The G30 is an efficient, compact and lightweight tool for installing Cherry LOCK 'A' rivets. Overall length: 9 1/4" (23.5cm). Weight 0.8 lbs.....P/N 12-02982 .....\$254.00

## CHERRYLOCK POWER RIVETER

### TOOL KIT G784KT

**Includes:** • G784 CherryLock Power Riveter - Stroke: 7/8", Pulling Force: 2,600 lbs (1,179 kgs), Weight: 8 lbs (3.6 kgs) • B36B740 Valve Spring Installation Tool • B37B740 Valve Sleeve Removal Tool • 74DA43 Shift Piston Tool • 680A114 Seal Guide • 680A114 1 1/2" End Cap Socket Wrench • 680A48/49 Clamp Wrench • 700B65 Packing Plug Wrench • 740A43 Power Cylinder Tool • 700A61 Piston Rod Wrench • P1178 Valve Plug Extractor • 700A60 Seal Guide ..P/N 12-03003 .....\$2,449.00

TO

# CHERRY PULLING HEADS

## PULLING HEAD FOR CHERRYLOCK® A-RIVETS H9055

STEM SIDE EJECTION: H9055 series pulling heads are available for installation of 3/32", 1/8", 5/32" and 3/16" diameter locked spindle CherryLOCK® 'A' code rivets in all materials, head styles and grip lengths. Stems are ejected from the side of the pulling head.

H9055-3: 3/32" .....	P/N 12-03132 .....	<b>\$694.00</b>
H9055-4: 1/8" .....	P/N 12-03133 .....	<b>\$694.00</b>
H9055-5: 5/32" .....	P/N 12-03134 .....	<b>\$729.00</b>
H9055-6: 3/16" .....	P/N 12-03135 .....	<b>\$694.00</b>

## CHERRY® MS STRAIGHT PULLING HEADS H9040

Cherry MS Straight Pulling Heads - H9040 Series.

H9040-4C .....	P/N 12-03127 .....	<b>\$1,079.00</b>
H9040-5C .....	P/N 12-03128 .....	<b>\$1,079.00</b>
H9040-6C .....	P/N 12-03129 .....	<b>\$1,079.00</b>
H9044-8C .....	P/N 12-03130 .....	<b>\$1,079.00</b>

## OFFSET MAXIBOLT PULLING HEAD H856-6MB

Maxibolt Pulling Head. Offset head style. Maxibolt Diameters: 3/16". P/N 12-03112 ..... **\$1,285.00**

## CHERRY® NUT PLATE PULLING HEADS H902

These pulling heads fit directly onto Cherry G902 and G746A Power Riveters.

Cherry P/N	Rivet Dia. Inches	Part No.	Price
H902-3NPR	-3 (3/32")	12-03125	<b>\$322.00</b>
H902-4NPR	-4 (1/8")	12-03126	<b>\$398.00</b>

## CHERRY® FLUSH STYLE PULLING HEADS H9015

Flush style pulling heads will install both universal and countersunk rivets. These pulling heads fit directly onto Cherry G902-15 riveters.

H9015-3C .....	P/N 12-03121 .....	<b>\$559.00</b>
H9015-4C .....	P/N 04-01515 .....	<b>\$586.00</b>
H9015-5C .....	P/N 12-03123 .....	<b>\$559.00</b>
H9015-6C .....	P/N 12-03124 .....	<b>\$559.00</b>

## PULLING HEADS FOR CHERRYLOCK A-RIVETS H955

The H955 Series pulling heads fit directly on the G701A, G704B, G746A and G747 riveters. The heads in this series are capable of installing 3/32", 1/8", 5/32" and 3/16" diameter rivets in all materials and head styles and grip lengths. Stems feed through the pulling head and are ejected out the back of the tool.

H955-3: 3/32" .....	P/N 12-03136 .....	<b>\$439.00</b>
H955-4: 1/8" .....	P/N 12-03137 .....	<b>\$427.00</b>
H955-5: 5/32" .....	P/N 12-03138 .....	<b>\$428.00</b>
H955-6: 3/16" .....	P/N 12-03139 .....	<b>\$428.00</b>

## COMPACT UNIVERSAL HEAVY DUTY PULLING HEAD HD800

Description	Part No.	Price
HD800-6MB Installs Maxibolt -6 "S" type Cherry	12-03140	<b>\$517.00</b>
HD800-6MBU Installs Maxibolt -6 "U" type / "S" type AFS	12-03141	<b>\$577.00</b>
HD800-8MB Installs Maxibolt -8 "S" type	12-03144	<b>\$644.00</b>
HD800-8MBU Installs Maxibolt -8 "U" type	12-03145	<b>\$711.00</b>
HD800 Installs CherryMAX "AB" -8 (all materials) 8 Dia. MB Plus	12-03142	<b>\$544.00</b>
HD800-8A Installs Cherrylock "A" code	12-03143	<b>\$549.00</b>

## CHERRY OFFSET PULLING HEAD H782

The Cherry® brand H782 is a new universal, off-set pulling head capable of installing a broad variety of pull-type fasteners. Its strength, light weight and compact dimensions make it ideal for a diverse range of applications including restricted spaces. The H782 is capable of installing CherryMAX rivets, CherryLOCK 'A' code rivets, MaxiBolt 'S' type blind bolts, MBC rivets, SPR rivets, NAS1398 A & AB code products, MS90353/4, MS21140/1, 4, 5, NAS1719, 1720 & 1721 and pull-through type nut plate rivets. **Note:** Uses CherryMAX mounting system (G704B, G746A, G747). P/N 12-03091 ..... **\$637.00**

## MAXIBOLT STRAIGHT PULLING HEADS

For use with G83 & G84 tools. For use with Cherry shift washer type only.

H83B-6MB .....	P/N 12-03101 .....	<b>\$418.00</b>
H84A-8MB .....	P/N 12-03107 .....	<b>\$568.00</b>
H84C-8MB .....	P/N 12-03110 .....	<b>\$595.00</b>

## MAXIBOLT PULLING HEAD H84B-568

Maxibolt Pulling Head. Straight head style. Maxibolt Diameters: 5/32", 3/16". P/N 12-03109 ..... **\$799.00**

## MAXIBOLT PULLING HEAD (S TYPE) H744

Cherry P/N	Head Style	MaxiBolt Dia.	Part No.	Price
H744-5MB	Straight	5/32"	12-03085	<b>\$576.00</b>
H744-6MB	Straight	3/16"	12-03086	<b>\$634.00</b>

## MAXIBOLT U-TYPE PULLING HEAD

Pulling heads to install "U" type Maxibolts®. Will fit G83 or G84-LS (w/744-700 adaptor).

H83B-5MBU .....	P/N 12-03099 .....	<b>\$443.00</b>
H83B-6MBU .....	P/N 12-03102 .....	<b>\$457.00</b>
H84A-8MBU .....	P/N 12-03108 .....	<b>\$567.00</b>
H84C-8MBU .....	P/N 12-03111 .....	<b>\$814.00</b>

## MAXIBOLT® PULLING HEAD (S TYPE) H652-8MB

Cherry MaxiBolt Pulling Head (S Type): Head Style - Straight, MaxiBolt Diameter - 1/4" P/N 12-03067 ..... **\$822.00**

## MAXIBOLT RIGHT ANGLE PULLING HEAD H828

This pulling head aids installation of MAXIBOLTS in limited access applications. For use with G744 tool. For use with Cherry shift washer type only. Use 744-200 adapter for G83/G84.

Cherry P/N	Head style	Rivet Dia. Inches	Part No.	Price
H828-5MB	Right Angle	5/32"	12-03094	<b>\$1,942.00</b>
H828-6MB	Right Angle	3/16"	12-03095	<b>\$2,085.00</b>
H828-8MB	Right Angle	1/4"	12-03097	<b>\$2,298.00</b>

## RIGHT ANGLE PULLING HEAD H690-4C

H690-4C pulling head. 1/8" rivet diameter. Countersunk Head. P/N 12-03082 ..... **\$1,032.00**

## PULLING HEAD FOR CHERRYLOCK® "A" CODE RIVETS H9044-8

These heads fit directly on the G55, G86, both obsolete and G740 Cherry® power riveters. Will fit on the G784 and G689 hydro-shift Cherry® riveters with the 680B57 adapter. For the 1/4" Cherrylock "A" rivets. 8 Diameter. P/N 12-03131 ..... **\$1,890.00**

## CHERRYMAX STRAIGHT PULLING HEAD H846A-456

This pulling head installs 1/8", 5/32" & 3/16" Nominal & Oversize CherryMAX Rivets (G744 only) P/N 12-03103 ..... **\$439.00**

## CHERRYMAX RIGHT ANGLE PULLING HEAD H828-8

CherryMAX Right Angle Pulling Head installs 1/4" Nominal & Oversize CherryMAX Rivets (G744 only) P/N 12-03096 ..... **\$1,873.00**

## CHERRYMAX OFFSET PULLING HEAD H827-8

CherryMAX Offset Pulling Head installs 1/4" Nominal & Oversize CherryMAX Rivets (G744 only) P/N 12-03093 ..... **\$1,459.00**

## CHERRYLOCK® RIGHT ANGLE PULLING HEADS H886

The H886 series right angle s fit directly on the G701A, G704B, G746A and G747 power riveters to install CherryLOCK® 'A' brand rivets in 3/32", 1/8", 5/32" and 3/16" diameters in all materials, head styles and up to -04 grip length.

H886-3 .....	P/N 12-03113 .....	<b>\$1,011.00</b>
H886-4 .....	P/N 12-03114 .....	<b>\$1,075.00</b>
H886-5 .....	P/N 12-03115 .....	<b>\$936.00</b>
H886-6 .....	P/N 12-03116 .....	<b>\$1,063.00</b>

## OFFSET LOCKBOLT PULLING HEADS H562-6B/8B

The H562 series pulling heads. Requires adaptor (744-100) when used on the Cherry G84 tool.

-6 Diameter 3/16" .....	P/N 12-03059 .....	<b>\$1,364.00</b>
-8 Diameter 1/4" .....	P/N 12-03060 .....	<b>\$1,350.00</b>

TO



# CHERRY PULLING HEADS

## CHERRY PULLING HEAD H1900-456

The H1900-456 is designed to reliably install all sizes of the single action NAS1919/1921 product assembled with or without a drive washer. To install the product without a drive washer use the appropriate nose piece. Total weight without riveter: .27 lbs (0.1222 kg). Use with G83 or G84 Cherry Riveter or any riveter equipped with a 352 Style Mounting System.....P/N 12-03019 .....\$519.00

## COMPACT UNIVERSAL STRAIGHT PULLING HEAD H800

Compact Universal Straight Pulling Head for G800 riveter. Weight - 0.15 lbs.....P/N 12-03092 .....\$185.75

## SHORT PINTAIL BASIC PULLING HEAD H513

Cherry Short Pintail Basic Pulling Head H513 - See Tool Specifications below to determine which pulling head is needed.

Cherry P/N	LockBolt Dia.	Installed Length	Part No.	Price
H513-04-20	1/8"	2" (51 mm)	12-03020	\$784.00
H513-04-35	1/8"	3-1/2" (89 mm)	12-03021	\$616.00
H513-05-35	5/32"	3-1/2" (89 mm)	12-03022	\$760.00
H513-06-20	3/16"	2" (51 mm)	12-03023	\$728.00
H513-06-60	3/16"	6" (152 mm)	12-03024	\$1,085.00
H513-08-35	1/4"	3-1/2" (89 mm)	12-03025	\$1,037.00

## SWIVEL NOSE PULLING HEAD H513S

Cherry Swivel Nose Pulling Head H513S - See Tool Specifications below to determine which pulling head is needed.

Cherry P/N	LockBolt Dia.	Installed Length	Part No.	Price
H513S-05-20	2" (51 mm)	5/32"	12-03026	\$725.00
H513S-05-35	3-1/2" (89 mm)	5/32"	12-03027	\$659.00
H513S-06-20	2" (51 mm)	3/16"	12-03028	\$997.00
H513S-06-24	2-3/8" (60 mm)	3/16"	12-03029	\$805.00
H513S-06-35	3-1/2" (89 mm)	3/16"	12-03030	\$1,012.00
H513S-06-48	4-13/16" (122 mm)	3/16"	12-03031	\$705.00
H513S-08-24	2-3/8" (60 mm)	1/4"	12-03032	\$940.00
H513S-08-35	3-1/2" (89 mm)	1/4"	12-03033	\$860.00
H513S-08-48	4-13/16" (122 mm)	1/4"	12-03034	\$1,016.00
H513S-10-27	2-11/16" (68 mm)	5/16"	12-03035	\$1,016.00
H513S-10-42	4-3/16" (106 mm)	5/16"	12-03036	\$1,019.00
H513S-12-27	2-11/16" (68 mm)	3/8"	12-03037	\$900.00
H513S-12-42	4-3/16" (106 mm)	3/8"	12-03038	\$977.00

## SELF RELEASING SWIVEL NOSE PULLING HEAD H513SR

Cherry Self Releasing Swivel Nose Pulling Head H513SR - See Tool Specifications below to determine which pulling head is needed.

Cherry P/N	LockBolt Dia.	Installed Length	Part No.	Price
H513SR-05-20	2" (51 mm)	5/32"	12-03039	\$725.00
H513SR-05-35	3-1/2" (89 mm)	5/32"	12-03040	\$976.00
H513SR-06-20	2" (51 mm)	3/16"	12-03044	\$929.00
H513SR-06-24	2-3/8" (60 mm)	3/16"	12-03045	\$878.00
H513SR-06-35	3-1/2" (89 mm)	3/16"	12-03046	\$1,018.00
H513SR-06-48	4-13/16" (122 mm)	3/16"	12-03047	\$956.00
H513SR-08-24	2-3/8" (60 mm)	1/4"	12-03048	\$770.00
H513SR-08-48	4-13/16" (122 mm)	1/4"	12-03049	\$667.00
H513SR-10-27	2-11/16" (68 mm)	5/16"	12-03050	\$828.00
H513SR-10-42	4-3/16" (106 mm)	5/16"	12-03051	\$704.00
H513SR-12-27	2-11/16" (68 mm)	3/8"	12-03052	\$912.00
H513SR-12-42	4-3/16" (106 mm)	3/8"	12-03053	\$979.00

## SELF RELEASING SWIVEL NOSE/ CHISEL SHAPE PULLING HEAD H513SRC

Cherry Self Releasing Swivel Nose/Chisel Shape Pulling Head H513SRC - See Tool Specifications below to determine which pulling head is needed.

Cherry P/N	LockBolt Dia.	Installed Length	Part No.	Price
H513SRC-05-20	2" (51 mm)	5/32"	12-03054	\$884.00
H513SRC-05-35	3-1/2" (89 mm)	5/32"	12-03055	\$913.00
H513SRC-06-20	2" (51 mm)	3/16"	12-03056	\$862.00
H513SRC-06-35	3-1/2" (89 mm)	3/16"	12-03057	\$1,083.00
H513SRC-08-48	4-13/16" (122 mm)	1/4"	12-03058	\$1,270.00

## CHERRYLOCK "A" CODE PULLING HEAD H84-8CLA

Cherrylock "A" Code Pulling Head for use with G84 riveters. Tool weight (without riveter): .3 lbs (0.14 kg). .....P/N 12-03104 .....\$827.00



## OFFSET LOCKBOLT/ SHORT PINTAIL PULLING HEAD H563SP

See Tool Specifications below to determine which pulling head is needed.

Cherry P/N	Type	LockBolt Dia.	Part No.	Price
H563SP-4B	Basic Pulling/Short Pintail	1/8"	12-03064	\$1,322.00
H563SP-5B	Basic Pulling/Short Pintail	5/32"	12-03065	\$1,322.00
H563SP-6B	Basic Pulling/Short Pintail	3/16"	12-03066	\$1,322.00

## CHERRYLOCK® STRAIGHT PULLING HEAD H681



Fits directly on all Cherry hydroshift riveters, 2-9/16" installed. Separate pulling head is required for each style & diameter rivet.

Description	Rivet Dia.	A/B Dims.	Part No.	Price
H681-3C Universal C-sunk Head	3/32"	.163"/.332"	12-03070	\$399.00
H681-4C Universal C-sunk Head	1/8"	.208"/.341"	12-03071	\$352.00
H681-4F Countersunk Head 156	1/8"	.430"/.358"	12-03072	\$835.00
H681-4S Countersunk Head NAS 1097	1/8"	.174"/.341"	12-03073	\$898.00
H681-5C Universal C-sunk Head	5/32"	.269"/.352"	12-03074	\$397.00
H681-6C Universal C-sunk Head	3/16"	.335"/.386"	12-03075	\$374.00
H681-6F Countersunk Head 156	3/16"	.625"/.367"	12-03076	\$860.00
H681-6S Countersunk Head NAS 1097	3/16"	.281"/.386"	12-03077	\$902.00
H681-8C Universal C-sunk Head	1/4"	.458"/.398"	12-03078	\$455.00

## CHERRYLOCK® STRAIGHT PULLING HEAD H681B



Fits directly on all Cherry hydroshift riveters, 2-9/16" installed. Separate pulling head is required for each style & diameter rivet.

Description	Rivet Dia.	A/B Dims.	Part No.	Price
H681B166-4 Uni-Sink Head	1/8"	.250" / .359"	12-03079	\$890.00
H681B166-5 Uni-Sink Head	5/32"	.313" / .377"	12-03080	\$890.00
H681B166-6 Uni-Sink Head	3/16"	.375" / .419"	12-03081	\$890.00

## CHERRYMAX® STRAIGHT PULLING HEAD H701B-456



CherryMAX Straight Pulling Head H701B-456 - Installs 1/8", 5/32" & 3/16" Nominal & Oversize CherryMAX Rivets. P/N 12-03083 .....\$156.85

## NUT PLATE PULLING HEAD WITH NOSEPIECES H702-3NPR



Cherry® Nut Plate Pulling Head. Includes nose-pieces: 728A9-3 (3/32") & 728A9-104 (1/8"). For G702A Riveter. Installs 3/32" & 1/8", 2.5 mm & 3 mm Nut Plate. P/N 12-03084 .....\$263.95

## CHERRYMAX STRAIGHT PULLING HEAD H744A-8



CherryMAX Straight Pulling Head installs 1/4" Nominal & Oversize CherryMAX Rivets (G744 Only) .....P/N 12-03087 .....\$569.00

## CHERRYMAX RIGHT ANGLE PULLING HEAD H753A-456



CherryMAX Right Angle Pulling Head H753A-456 installs 1/8", 5/32" & 3/16" Nominal & Oversize CherryMAX Rivets P/N 12-03089 .....\$599.00

## CHERRYMAX OFFSET PULLING HEAD H781-456



CherryMAX Offset Pulling Head installs 1/8", 5/32" & 3/16" Nominal & Oversize CherryMAX Rivets .....P/N 12-03090 .....\$472.00

## OFFSET LOCKBOLT PULLING HEAD H563



See Tool Specifications below to determine which pulling head is needed.

Cherry P/N	Type	LockBolt Dia.	Part No.	Price
H563-4B	Basic Pulling	1/8"	12-03061	\$1,363.00
H563-5B	Basic Pulling	5/32"	12-03062	\$1,322.00
H563-6B	Basic Pulling	3/16"	12-03063	\$1,323.00

## STRAIGHT PULLING HEAD -8 CHERRYMAX® H84A-8

Straight pulling head H84A-8 for use with G84 Power Riveter and G84-LS Split Power Riveter (with adaptor 744-700). Pulling Head Weight: 0.2 lbs (0.09 kg).....P/N 12-03106 .....\$629.00

TO

# RIVET GUNS

## CHERRY G-28 HAND RIVETER GUN

The Cherry G-28 is a lightweight (13 oz.) ruggedly compact hand tool designed to efficiently set a broad range of Cherry commercial rivets. A unique torsion spring keeps the lever arm in place, ready to accept rivet after rivet. The G-28 comes with two popular size nosepieces, 728A9-4 (to set Cherry N Rivets - 1/8" dia. & Cherry Q Rivets - 1/8" dia.) and 728A9-6 (to set Cherry N Rivets - 5/32" & 3/16" dia. & Cherry Q Rivets - 5/32" & 3/16" dia.), one of which is stored securely out of the way in the riveter handle. P/N 12-03000 .....\$126.75

## CHERRY G-29 HAND RIVETER

The Cherry® G-29 Hand Riveter is an efficient, compact, lightweight tool for installing Cherry® NUT-PLATE rivets. It comes equipped with a 728A9-3 nosepiece to install 3/32" rivets and has a 728A9-104 nosepiece stored in the handle for installing 1/8" rivets. The G-29 Riveter is 9-1/4" long, weighs just 13 ounces and is intended for use when access or power limitations prevent the use of Cherry® power tools. P/N 12-00701 .....\$119.85

## CHERRY G-27 HAND RIVETER KIT

The Cherry G-27 Hand Riveter is designed specifically for the most efficient installation of 1/8" CherryMAX Rivets. The G-27 Riveter is intended for use where access or power limitation prevents the use of Cherry pneumatic power tools. Overall length of the G-27 is 9-1/4", the net weight is just 13 ounces and the pulling head is an integral part of the tool. P/N 12-03105 .....\$93.75

## RIVET KIT

This rivet kit includes 200 assorted Klik-Fast rivets in popular sizes. The molded plastic case houses and protects the tool and rivets. Weight 4 lbs. P/N 12-03100 .....\$97.85

## 120° FLUSH DIMPLING TOOL

This unique tool for 1/8" 120° countersunk "Pop" rivets attaches to the Cherry G-28 standard hand "Pop" rivet gun. Simple design makes dimpling foolproof, quick and easy, with no cracking of metal. For use on aluminum to .040" thickness. P/N 17014 .....\$15.75

## ADJUSTABLE RIVET SPACER

For uniform spacing of rivets, bolts, nails, etc. Unique fan design expands to 36". Equally spaces up to 20 holes between 2 given points. Made of 301 stainless steel. P/N 12-11700 .....\$43.95  
10 Hole spacer. P/N 12-00184 .....\$25.85

## RIVEDRILL™

Allows operators to set up to 14 rivets per minute - twice as many as can be set by standard hand tools. The RiveDrill is ergonomically friendly, requiring just 6.6 lbs. of pressure to operate, compared to 77.2 lbs. required for hand tool operation. Able to set any standard blind rivet up to 3/16" aluminum. (For cordless electric power drills, a minimum 12V battery is recommended.) Nosepieces for 1/8", 5/32", & 3/16" sizes are included. P/N 12-00253 .....\$104.75

## ULTRALIGHT NUTPLATE DRILL MOTOR

Ergonomic, lightweight design. Only one hand required to locate, drill & countersink both holes. Easily convert rivet spacings with interchangeable foot attachments. Accommodates all nutplate spindle spacings from 0.219" to 1.125". Fully adjustable feed rate. P/N 12-01376 .....\$5,198.00

## SWIVEL RIVETING TOOL

Rotates 360° and rivets in any position. High leverage handles for added power. Hardened steel construction for long life. Extended nose for hard to reach places. Will pull 3/32", 1/8", 5/32", and 3/16" rivets. Model TP844 ..... P/N 12-00365 .....\$56.85

## HOMEBUILDERS RIVET NUT TOOL

Enables the rivet nuts to be seated tighter than with conventional tools. The rivet nut possesses far greater load bearing capability than a regular sheet metal screw! Proudly made in U.S.A. For use with aluminum or steel rivet nuts. Kit includes Rivet Nut Tool, Stabilizing Rod, and Qty 1 each of 6-32, 8-32 and 10-32 rivet nuts. P/N 12-00968 .....\$22.95

## THREAD SELF-COILING AIR/VACUUM HOSE

This 25 ft. air vacuum hose snaps back to a compact 20" coil for easy storage. Includes non-corrosive brass male fittings. Excellent for air tools using a compressor. 100 PSI working pressure. Oil resistant polyurethane construction High visibility color. 1/4" NPT air inlet. P/N 12-00218 .....\$11.65



## ATS AIRCRAFT RIVET GUN #2602

So controllable you can easily buck rivets as small as 3/32" to as large as 3/16". P/N 12-18340 .....\$138.75

## RIVET SET MAX FOR 2602 RIVET GUN

3/32", 1/8", 5/32" and 3/16" rivets.  
3-1/2" (5 pcs. straight, includes flat) ..... P/N 12-18341 .....\$29.95  
3-1/2" (4 pcs. offset) ..... P/N 12-18342 .....\$29.95  
5-1/2" (4 pcs. straight) ..... P/N 12-18344 .....\$29.95

## PROFESSIONAL HAND PLIER RIVET TOOL

Professional Hand Plier Rivet Tool is 50% easier to use than other hand tools. A patented compound link designed does the work for you. A shorter grip opening ergonomically designed for one hand operation. Grips cover the length of the lever and body, and soft handles are contoured to fit the hand. The wrench and nosepieces (3/32", 1/8", 5/32", & 3/16") are stored in the handle of the tool. Excellent for use on Cherry and other standard pop rivets.

**Features:** • Robust aluminum casting and vanadium steel handle design • Setting capacity: aluminum rivets up to 3/16" (4.8 / 5.0mm) body diameter • Contoured handle grips for comfort • Rivet retaining handle design for one-handed riveting • Supplied with nosepieces for 3/32", 1/8", 5/32" & 3/16" (2.4mm, 3.2mm, 4.0mm & 4.8mm) rivets • Supplied nosepiece wrench • Length: 9.65" (245mm) • Weight: 1.3 lbs. (0.6 kg) P/N 12-00178 .....\$44.50

## HEAVY DUTY RIVETER

Includes four nosepieces to set rivet diameters from 3/32" up to 3/16". Convenient lock chain keeps handles closed when tool is not in use. Made in U.S. P/N 12-18352 .....\$38.95

## 3M™ RIVETERS TAPE

3M™ Riveters Tape 685 Transparent Film with Green Adhesive, 1.7 mils (.043 mm) Polyester film with a rubber-strip coated along edges of tape only and tack-free center Window P/N 12-18355 .....\$16.50

## COMBINATION RIVET NUT TOOL

Ideally suited to the needs of the aircraft homebuilder. Develops 3,500 lbs. of pulling force which permits the installation of all Cherry Commercial Blind Rivets or any other Pop type rivets through 1/4" diameter as well as all CherryMax rivets through 3/16" diameter. Will not pull Cherry Lock rivets. Quickly converts to a threaded blind nut setter. The kit includes the D100 hydraulic tool with adapters for blind rivet and blind nut installation, rivet nosepieces for 1/8", 5/32" and 3/16" diameter blind rivets, blind nut pull-up studs with nosepieces for 6-32, 8-32, 10-32 and 1/4-28 Rivnuts, operating instructions and a rugged Plastic storage case. Size: 12-1/2" x 8-1/4" x 3". Weight: 3 lbs. P/N 12-01136 Kit .....\$358.00

## PNEUMATIC-HYDRAULIC BLIND RIVETER

No larger than a compact drill motor, will install virtually any straight-pull blind rivet with installation loads of 3500 lbs. or less. All blind rivets from 3/32" dia. up to and including 1/4" dia. Can install CherryMax rivets. It utilizes a patented two-valve hydraulic pump actuated by 90 to 130 PSIG air pressure. Collect/jaw assembly remains stationary while the outer sleeve-nosepiece assembly is hydraulically moved, creating sufficient load to install the rivet. Furnished with three nosepieces for 1/4", 1/8", 3/16" & 3/32" rivets. Wt. 29 oz. P/N 09-01070 .....\$559.00

## RED BOX 737 RIVET GUN KIT

Includes: 1pc Rivet Gun (choose size 2X, 3X or 4X), 1pc Type A -Bucking Bar, 1pc Type B -Bucking Bar, 1pc Brass Regulator, 1pc Air Tool Fitting, 4pcs 3.5" Straight Rivet Set (3/32", 1/8" 5/32", 3/16"), 1pc Standard Flush Set (Surface: 1", Length: 2.5"), 1pc Beehive Spring, 1pc Retainer Spring, 1pc Marvel Air Tool Oil

Gun	Length	BPM	Cap.	Bore	Shank	Stroke	Weight	Part No.	Price
2X	6-11/16"	2580	1/8"	1/2"	.401"	2-1/4"	3. lbs	12-02682	\$248.95
3X	7-5/16"	2160	3/16"	1/2"	.401"	2-7/8"	3.2 lbs.	12-02686	\$248.95
4X	8-1/2"	1740	1/4"	1/2"	.401"	3-1/16"	3.4 lbs.	12-02687	\$248.95

## RED BOX 777 RIVET GUN KIT

Includes: • 1pc Rivet Gun (Choose Size 2X, 3X or 4X) • 1pc Type A -Bucking Bar • 1pc Type B -Bucking Bar • 1pc Type C -Bucking Bar • 1pc Type D -Bucking Bar • 1pc Brass Regulator • 1pc Air Tool Fitting • 4pcs 3.5" Straight Rivet Set(3/32",1/8",5/32",3/16") • 4pcs 3.5" Offset Rivet Set(3/32",1/8",5/32",3/16") • 1pc Standard Flush Set (Surface: 1", Length: 2 1/2") • 1pc Flush Set w/ Rubber (Surface:1 1/4",Length:2 3/8") • 1pc Beehive Spring • 1pc Retainer Spring • 1pc Marvel Air Tool Oil

2X Rivet Gun Kit ..... P/N 12-03726 .....\$332.00  
3X Rivet Gun Kit ..... P/N 12-03727 .....\$325.00  
4X Rivet Gun Kit ..... P/N 12-03728 .....\$332.00

TO



# RIVETERS

## BLUE PNEUMATIC RIVETING TOOL BP-3V

2100lbs. of force the tool has the best weight to power ratio in the industry, boasting 2100lbs of pulling force. It can set 1/8, 5/32 and 3/16 rivets in all Alloys. Super light weight and small, allowing the rivet gun to fit in the tightest of spaces. Convenient, thumb-operated on/off vacuum control switch to control compressor air consumption. Comes complete with nose tips for 1/8, 5/32 and 3/16. Also included are wrenches for service and oil applicator. Recommended operating air pressure is 80-95psi. Weight 3.2 lbs. ....P/N 12-03384 .....**\$388.00**

## BLUE PNEUMATIC RIVETING TOOL BP-4V

3500lbs of pulling force. Can set 1/8, 5/32, 3/16 and 1/4 rivets in all Alloys. Super light weight, allowing the rivet gun to be operated continually with great comfort. Convenient, thumb-operated on/off vacuum control switch to control compressor air consumption. Complete with nose tips for 1/8, 5/32, 3/16 and 1/4. Also included are wrenches for service and oil applicator. Recommended operating air pressure is 80-95psi. Weight 3.6 lbs. ....P/N 12-03385 .....**\$598.75**

## BLUE PNEUMATIC COMPACT HEAVY DUTY RIVETER BP-54

The power of the large "heavy duty" riveters in the body of a small one. Sets 3/32, 1/8, 5/32 and 3/16 rivets in all materials. Ideal for multi-grip rivets and pulls 3/16 Monobolt/Magna-lok structural rivets. Nose pieces and service wrenches are included. Recommended operating air pressure is 85-100 psi. Weight 4 lbs. Without Vacuum .....P/N 12-03386 .....**\$311.00**  
With Vacuum .....P/N 12-03429 .....**\$388.00**

## BLUE PNEUMATIC HEAVY DUTY AIR /HYDRAULIC RIVETER BP-50

3800lbs. of force. Sets rivets from 1/8 through 1/4 in all materials. Its 7/8 stroke allows this rivet tool to pull most structural rivets in one stroke. Great for high production applications. Comes with nose pieces including 1/8, 5/32, 3/16 and 1/4. Also included are wrenches for service and oil applicator. Recommended operating air pressure is 85-100 psi. Weight 5 lbs. ....P/N 12-03387 .....**\$572.58**

## BLUE PNEUMATIC POWER MICRO BLIND RIVET GUN BP-48V

Installs 3/32, 1/8 and 5/32 blind rivets in all materials. This rivet tool weighs in at 2.4 lbs and has 1760 lbs. of pulling force. The rivet gun comes with a vacuum powered mandrel collection system. Also included are wrenches for service and oil applicator. Recommended operation pressure 85-100 psi. Weight 2.4 lbs. ....P/N 12-03388 .....**\$349.00**

## BLUE PNEUMATIC AIR HYDRAULIC RIVETER WITH VACUUM BP-50V

3800lbs. of force. Sets rivets from 1/8 through 1/4 in all materials. Its 7/8 stroke allows this rivet tool to pull most structural rivets in one stroke. Great for high production applications. Rivet tool comes with nose pieces including 1/8, 5/32, 3/16 and 1/4. Also included are wrenches for service and oil applicator. Recommended operating air pressure is 85-100 psi. Weight 5 lbs. ....P/N 12-03430 .....**\$625.00**

## BLUE PNEUMATIC BIG SPIN RIVET NUT TOOL BP-200BC

Now with a swiveling air inlet and ergonomic composite handle. Operates at 200 rpm for installations of the large rivet nuts. Places 1/2-13 and M12. Recommended operating air pressure is 85-110 psi. Weight 2.8 lbs. Part includes nose assembly, make selection at time of order. Nose assembly sizes: 632, 832, 1024, 1/4-20, 5/16-18, 3/8-16. ....P/N 12-03431 .....**2.95**

## BLUE PNEUMATIC HEAVY DUTY LEVER RIVET NUT TOOLS

**HEAVY DUTY LEVER RIVET NUT TOOL BP-734:** • Heavy Duty Lever Rivet Nut Tool • Comfortable easy grip handle • Long handles for easy rivet nut and nutsert installations. • Includes M5, M6, M8 and M10 Nose Assemblies. ....P/N 12-03501 .....**\$83.75**

**HEAVY DUTY LEVER RIVET NUT TOOL BP-734S:** • Heavy Duty Lever Rivet Nut Tool • Comfortable easy grip handle • Long handles for easy rivet nut and nutsert installations. • Includes 10-24, 1/4-20, 5/16-18 and 3/8-16 Nose Assemblies. ....P/N 12-03502 .....**\$93.65**

**HEAVY DUTY LEVER RIVETER BP-764:** • Up to 1/4 steel • Heavy Duty Lever Rivet Tool • Comfortable easy grip handle • Rivet tool comes with nose pieces including 1/8, 5/32, 3/16 and 1/4. ....P/N 12-03503 .....**\$83.75**

## BLUE PNEUMATIC COMPACT HEAVY DUTY RIVETER BP-54

Sets 3/32, 1/8, 5/32 and 3/16 rivets in all materials. Ideal for multi-grip rivets and pulls 3/16 Monobolt/Magna-lok structural rivets. Nose pieces and service wrenches are included. Recommended operating air pressure is 85-100 psi. Weight 4 lbs. ....P/N 12-03432 .....**\$463.00**

## BLUE PNEUMATIC ACCU-SPIN RIVET NUT TOOL BP-600QC

Swiveling air inlet and ergonomic composite handle. Operates at 800 rpm for quick installations of smaller rivet nuts. Places 8-32, 10-24, 1/4-20 and M4, M5, and M6 rivet nuts. Recommended operating air pressure is 85-110 psi. Weight 2.8 lbs. Part includes nose assembly, make selection at time of order. Nose assembly sizes: 632, 832, 1024, 1/4-20, 5/16-18, 3/8-16. ....P/N 12-03433 .....**\$462.00**

## BLUE PNEUMATIC QUICK SPIN RIVET NUT TOOL BP-2000QC

Swiveling air inlet and ergonomic composite handle. Operates at 1600 rpm for quick installations of smaller rivet nuts. Places 6-32, 8-32, 10-24 and M3, M4, as well as Jacknuts. Recommended operating air pressure is 85-110 psi. Weight 2.8 lbs. Part includes nose assembly, make selection at time of order. Nose assembly sizes: 632, 832, 1024, 1/4-20, 5/16-18, 3/8-16 .....P/N 12-03434 .....**\$463.00**

## BLUE PNEUMATIC SPIN PULL SPIN ULTRA RIVET NUT TOOL BP-60

SPIN-PULL-SPIN setting sequence. In one touch the fastener quickly spins on, pulls the fastener, and with the release button, spins out of the fastener. Setting cycle is about 2 seconds. Fully adjustable stroke for accurate insert placements. Mandrels are included with tool. Comes complete with sizes 8-32 through 1/2-13 or M4 through M12. "More Power" means this tool uses its huge 6800 lbs. of pulling force to set up to 1/2 (M12) steel rivet nuts with ease. Recommended operating air pressure is 80-100psi. Weight 6 lbs. Standard .....P/N 12-03436 .....**\$1,399.00**  
Metric .....P/N 12-03505 .....**\$1,399.00**

## BLUE PNEUMATIC HAND TOOL BP-738

Rivet Nut Hand Tool BP-738. Standard .....P/N 12-03437 .....**\$46.95**  
Metric .....P/N 12-05433 .....**\$46.95**

## BLUE PNEUMATIC RIVET NUT TOOL WITH MANDRELS BP-738M

Hand tool with mandrels. Includes Mandrel sizes 6-32, 8-32, 10-24 and 1/4-20. ....P/N 12-03440 .....**\$49.65**

## BLUE PNEUMATIC R AND D HAND TOOL KIT BP-738K

BP-738 Hand Tool. Mandrels including 6-32, 8-32, 10-24, and 1/4-20. Also includes 40 total pcs of assorted rivet nuts that match included mandrels. Comes in molded plastic case (Private labeling available). ....P/N 12-03441 .....**\$56.85**

## BLUE PNEUMATIC NOSE ASSEMBLY FOR SPIN-SPIN RIVET NUT TOOLS

Quick change nose assembly. Available in 6-32 through 3/8-16. Spin-Spin tools use replaceable socket head cap screw. 3/8 air hose recommended for optimal performance.

Description	Part No.	Price
Blue Pneumatic BPQ-632 Nose Assembly	12-03442	<b>\$69.95</b>
Blue Pneumatic BPQ-832 Nose Assembly	12-03443	<b>\$68.90</b>
Blue Pneumatic BPQ-1024 Nose Assembly	12-03444	<b>\$74.95</b>
Blue Pneumatic BPQ-1/4-20 Nose Assembly	12-03445	<b>\$69.95</b>
Blue Pneumatic BPQ-5/16-18 Nose Assembly	12-03446	<b>\$62.85</b>
Blue Pneumatic BPQ-3/8-16 Nose Assembly	12-03447	<b>\$69.85</b>

TO

# RIVET NUT TOOLS – TAPE MEASURES

## L-6000 RIVET NUT SPEED DRIVER

This tool is designed for light production and features high speed push-pull, smooth, spiral action. Sized #4 through #10 adequate for brass, aluminum, and steel. Sized #4 through #8 adequate for stainless steel. Provides easy on-and-off threading of rivet nut with push-pull knob. Adjustable anvil for different length rivet nuts. Made in U.S.A. The C-6000 Speed Header is available for Rivet Nuts with the following thread sizes:

6-32 ..... P/N 12-12600 .. **\$136.95** 8-32 ..... P/N 12-12700 ..... **\$136.95**  
10-32 ..... P/N 12-12800 .. **\$136.95** 1/4-28 ..... P/N 12-12900 ..... **\$153.95**

**CONVERSION KIT** - For changing speed header to a different Rivet Nut thread size. Order by P/N .

6-32 Kit ... P/N 12-13000 ..... **\$36.75** 8-32 Kit ... P/N 12-13100 ..... **\$36.75**  
10-32 Kit... P/N 12-13200 ..... **\$36.75** 1/4-28 Kit P/N 12-13300 ..... **\$53.75**

## C-845 ECONOMY RIVET NUT TOOL

Model L-845 wrench type Rivet Nut tool is for field repair & experimental use. Adequate for aluminum, brass, steel, and stainless. Made in U.S.A. Order by part number.

Available in following thread sizes:

6-32 ..... P/N 12-13400 ..... **\$47.75** 8-32 ..... P/N 12-13500 ..... **\$47.75**  
10-24 ..... P/N 12-13600 ..... **\$47.75** 10-32 ..... P/N 12-13700 ..... **\$47.75**  
1/4-20 ..... P/N 12-13800 ..... **\$47.75** 1/4-28 ..... P/N 12-13900 ..... **\$47.75**

## L722 WRENCH TYPE RIVET NUT TOOL

L722 Wrench Type Rivet Nut installation tool for the larger size fasteners 5/16" up to 1/2", tool comes with long arm allen wrench with plastic handle for easy installation.

L722 wrench type header	Part No.	Price	L722 wrench type header	Part No.	Price
5/16-18	12-00920	<b>\$52.75</b>	5/16-24	12-00921	<b>\$49.75</b>
3/8-16	12-00922	<b>\$49.75</b>	3/8-24	12-00926	<b>\$49.75</b>
1/2-13	12-00927	<b>\$82.75</b>	1/2-20	12-00928	<b>\$82.50</b>
M10	12-00930	<b>\$84.75</b>			

## WRENCH TYPE RIVET NUT TOOL

Kit includes: TP726A, TP726B, TP726C, TP726N, and handy case. •Perfect for field repair and experimental use • Easy to use - inserts from one side of the work in seconds • Excellent for close quarters, overall height less mandrel 1-1/2" • Uses 3/4" open end or socket wrench • TP726N Notcher manually operated • Made in the U.S.A.



Model	Part No.	Price
TP726A / 6-32	12-00348	<b>\$57.75</b>
TP726B / 8-32	12-00349	<b>\$51.75</b>
TP726C / 10-32	12-00350	<b>\$51.75</b>
TP726N/Notcher	12-00351	<b>\$27.85</b>
TP726K / Kit	12-00352	<b>\$159.95</b>

## L-1000 ECONOMY HAND RIVET NUT TOOL

The L-1000 economy hand Rivet Nut tool is recommended for slotted rivet nut fasteners. Adequate for aluminum, brass, steel and stainless steel fasteners. Made in U.S.A.

Order by part number. L-1000M is same tool, except in metric sizes.

Model	Thread Size	Part No.	Price Ea.
L-1000	(60-32)	12-13645	<b>\$45.75</b>
L-1000	(8-32)	12-13650	<b>\$47.75</b>
L-1000	(10-32)	12-13655	<b>\$47.75</b>
L-1000	(1/4-28)	12-13660	<b>\$51.75</b>
L-1000M	(M6)	12-13675	<b>\$49.95</b>

## RIVET NUT TOOL WITH METRIC MANDRELS

Enables the rivet nuts to be seated tighter than with conventional tools. Far greater load bearing capability than a regular sheet metal screw. The rivet nut tool is proudly made in the USA. For use with aluminum rivet nuts or steel rivet nuts..... P/N 12-03708 ..... **\$22.95**

## BLIND RIVET REMOVAL TOOL

This rivet removal tool allows you to remove those stubborn Pop, Avdel, Cherry-Q, and other blind rivets. The serrated nosepiece fits over any button head, round head, or universal head rivet and locks in place to keep it from spinning as it's being drilled out. It will also remove solid rivets. Includes adapters to remove 3/32", 1/8", 5/32", and 3/16" rivets.

Red ..... P/N 12-03368 ..... **\$79.00**  
Blue ..... P/N 12-05534 ..... **\$76.75**

## HEAVY DUTY RIVET CUTTER

This high quality, durable rivet cutter features all steel construction and cuts 1/16" to 1/4" diameter rivets. It is adjustable for 1/4" to 3/4" long rivets.

P/N 12-16840 ..... **\$44.65**

## RIVET CUTTER

This handy rivet cutter, w/ 2 hardened blades, cuts rivets of any standard dia. from 3/32" to 3/16" without burring. The length of the cut rivet can be varied from 3/16" to 5/8" by means of 8 adjustable leaves attached to the cutting head. Plastic coated grips. Wt. 2 lbs.

P/N 12-00200 ..... **\$41.50**

## LUFKIN METRIC/INCH TAPE MEASURE

LUFKIN NO. W9210ME Has 1/2" blade, 3 meters long (equal to about 10 ft.). Markings are on one side only, with millimeters on upper edge and inches to 16ths on lower edge. White face ..... P/N 12-19700 ..... **\$16.50**

## STANLEY DECIMAL INCH TAPE MEASURE

This 12-ft. steel tape measure with 1/2" blade is graduated in tenths & hundredths of inches and also in fractions of inches (32nds). Very handy for all aircraft construction. A must for building composite aircraft..... P/N 33-272 ..... **\$25.50**

## SMART TOOL DIGITAL INCLINOMETER

Smart Tool is a unique digital inclinometer with up to 0.1° of repeatable accuracy. Measures and displays any angle through 360°, and readings can be relative to any angle. Smart level even calculates complicated slope measurements in either percent or inches per foot. It is sunlight viewable, features 3 sensitivity settings, and has 120-hour battery life with auto shut-off. Powered by any 9V battery.

Smart Tool in 24" rail..... P/N 12-21365 ..... **\$172.99**  
Smart Tool in 48" rail..... P/N 12-21370 ..... **\$185.75**

## INSTANT MAGNETIC ANGLE FINDER

DASCO PRO angle finders are molded of high impact plastic and allow the user to read any angle instantly and accurately from 0° to 90° in any quadrant. Accurate to within 1/2 of 1°. Not affected by magnetic fields, cold or heat. Angle and grade chart on back shows angles in degrees and converts them to pitch per inch and pitch per foot.

P/N 12-14800 ..... **\$26.50**

## DIGITAL PROTRACTOR/LEVEL ND-81

Full 360-degree measuring range with maximum resolution and accuracy of 0.1 degree. Simple 30 second calibration procedure using only the top flat edge of a table or desk. Alternate zero button to set zero starting point at any angle (commonly used for aileron, flap and elevator rigging). Display hold button to freeze reading when measuring in tight spaces. Readout stays upright even when protractor is upside down..... P/N 12-02651 ..... **\$113.75**

## PRO 360 DIGITAL PROTRACTOR

The Pro 360 Digital Protractor is a revolutionary measuring tool that provides an immediate, digital reading of all angles in a 360° circle. The machined aluminum frame is a rigid, light weight, ultra-precise platform that allows the state-of-the-art sensor and its microprocessor circuit to provide unsurpassed accuracy throughout the Protractor's 360° range. Typical used by aircraft builders, maintenance personnel and airport operators..... P/N 12-20125 ..... **\$323.00**

## PRO 3600 DIGITAL PROTRACTOR

The PRO-3600 is accurate to 0.01° and has an RS-232 compatible serial port for a computer interface and SPC records keeping. .... P/N 12-00759 ..... **\$416.00**

## ATS-360 DIGITAL PROTRACTOR

It provides absolute measurement as well as relative measurement. 2.75" wide by 1.50" high LCD screen. Can convert between angles and slopes; Accurate to within .05 degrees ..... P/N 12-04967 ..... **\$173.75**

## RIV-NUT PULLERS

The Riv-Nut Puller was designed for installation of steel and aluminum rivet-nuts. High speed, push-pull action. Available in sizes 6/32, 8/32, and 10/32.

Rivet Nut Puller 6-32 ..... P/N 12-02886 ..... **\$84.90**  
Rivet Nut Puller 8-32 ..... P/N 12-02887 ..... **\$99.75**  
Rivet Nut Puller 10-32 ..... P/N 12-02888 ..... **\$99.75**  
Rivet Nut Puller Conversion Kit 8-32 ..... P/N 12-02880 ..... **\$36.50**  
Rivet Nut Puller Conversion Kit 10-32 ..... P/N 12-02881 ..... **\$38.70**  
Rivet Nut Puller 6-32 w- 2 Conversion KitS. P/N 12-02885 ..... **\$157.75**  
Rivet Nut Stem Replacement 6-32 ..... P/N 12-02889 ..... **\$22.95**  
Rivet Nut Stem Replacement 8-32 ..... P/N 12-02890 ..... **\$22.95**  
Rivet Nut Stem Replacement 10-32 ..... P/N 12-02891 ..... **\$22.95**  
Rivet Nut Puller Conversion Kit 8-32 ..... P/N 12-02880 ..... **\$36.50**  
Rivet Nut Puller Conversion Kit 10-32 ..... P/N 12-02881 ..... **\$38.70**  
Rivet Nut Puller 6-32 w- 2 Conversion Kit ... P/N 12-02885 ..... **\$157.75**





# PLASTIC PRY TOOLS – SCRAPING TOOLS

## BOJO PLASTIC PRY TOOLS

Soft, yet strong, all Bojo tools are made tough enough to pry, but not hard enough to damage. These 4 tools are provided as a set.



**PLASTIC GENERAL WEDGE TOOL** - General narrow point for reaching in narrow spaces.

**PLASTIC STICKER/GASKET TOOL** - Wedge tip, for use where a wide area is desired with a "soft" touch.



**PLASTIC PRY BAR TOOL** - The forked tip. The original for removing door panels and plastic grommets.

**PLASTIC WEDGE PULLER TOOL** - The forked tip. The original for removing door panels and plastic grommets. Set of 4 listed above.



P/N 12-00748..... **\$14.95**



**MASTER INSTALLER KIT** - Soft, yet strong, all Bojo tools are made tough enough to scrape, but not hard enough to damage. Set of 7.

P/N 12-00976..... **\$19.95**

**AIRCRAFT ASSEMBLY SCRAPER KIT** - Soft, yet strong, all Bojo tools are made tough enough to scrape, but not hard enough to damage. Set of 4..... P/N 12-00977..... **\$17.50**



**DELUXE SCRAPER KIT** - This is an expansion of our original 4 Piece Scraper Kit (which you currently buy in the medium strength material NGL). The new tips were design from request in the aviation fuel bladder cleaning industry for the US Air Force and US Navy overhaul

programs. This new, stronger material is highly resistance to all forms of chemicals and sealants.....PN 12-01858 ..... **\$31.75**

Description	Part No.	Price
Pry Tool Large LFT-2-N	12-01859	<b>\$7.50</b>
Sheet Panel ADJ Tool Kit	12-01860	<b>\$18.25</b>
Wire Guide Tool ATH-30-GNL	12-01857	<b>\$3.75</b>

## MULTI WEDGE NON-MARRING TOOL SETS



Multi Wedge non-marring tool sets allow home-builders and avionics installers to remove panels, dash trim bezels, and other interior moldings, including door panels, without causing damage. Excellent for use in aviation, auto restoration, body work, electronics installation, upholstery etc. The Black Set (3500) P/N 12-

01672 is made of a more expensive high impact polycarbonate plastic for prying harder materials such as thin walled aluminum engine covers and sheet metal panels. **Product Benefits:** • Thin tip to fit into tiny gaps • Wide surface area to displace force, therefore reducing damage • Flexible • Slick surface for ease of prying • Built-in handle • Non-marring surface • Slim powerful angle • Curved tip for easy prying • Thing tip for tight gaps Multi Wedge Set Black (Hard) 3500 .....P/N 12-01672 ..... **\$11.75**

**Two Multi Wedge Sets** - Orange (Soft) / Black (Hard) 3400/3500 P/N 12-01673 ..... **\$16.75**



## SEALANT CUTTERS

Sealant cutter quickly and safely removes thick applications of seam sealant for aircraft maintenance and repair. Eliminates the need for harsh chemicals. Saves time and effort. 1/4" x 28 Threaded Shank.

.40" Diameter.....P/N 12-02879 ..... **\$6.75**  
.83" Diameter.....P/N 12-02878 ..... **\$6.50**

## CSR-10 COMPOSITE SEALANT REMOVER



CSR is made from durable Torlon® material that can remove sealant in many applications at a lower product cost with greater efficiency and productivity. For aerospace applications, CSR is safe to use on common protective coatings and structural materials. CSR series can be used with 1/4"-28 UNF, 1/4" collet, and drill chuck interfaces. Screw in or attach/lock into rotary tool. CSR cuts by rotating in the clockwise direction.

Operate the CSR at 200-400 RPM for better controllability while avoiding heat buildup. Heat will accelerate wear on the CSR and may generate undesirable odor from the sealant. For general applications, use the CSR-10 to engage an edge of the sealant and allow the rotating action to cut through at the bond line. **Specifications:** • Diameter: 1" • 1/4"-28 UNF .....P/N 13-23407 ..... **\$6.25**

## BOJO STRONG 90MM WIDE SCRAPERS



3" (90mm) Wide Edge Scraper Tool Extreme or CELCON Material ITH handle.  
Extreme .....P/N 12-04766 ..... **\$2.99**  
Celcon .....P/N 12-04768 ..... **\$3.35**

## BOJO EXTREME EDGE SCRAPERS



Composite Angle or Concentrated Extreme Edge Scraper Tools. Angle: for Sharp edges & corners. Concentrated: for scraping power into small regions.  
Angle .....P/N 12-04769 ..... **\$3.35**  
Concentrated.....P/N 12-04770 ..... **\$3.35**

## 2 PIECE LONG AND NARROW PRY TOOL KIT



Includes: 1 - For wedging & splitting deep into narrow locations. (Flat tip) 1 - For prying in narrow and deep locations. (Pry tip).....P/N 12-04771 ..... **\$6.50**

## BOJO COMPOSITE ANGLED PUSH/PULL EXTREME SCRAPERS



Includes: 1 - Composite Angled Push/Pull Extreme Scraper 1 - Composite Flat Push/Push Extreme Edge Scraper.....P/N 12-04772 ..... **\$6.50**

## BOJO SCRAPER EDGE



Narrow Edge Scraper Edge Scraper (1/4" Wide)  
P/N 12-04773 ..... **\$3.35**

## BOJO SCRAPER 3MM WIDE



Narrow Edge Scraper Edge Scraper (1/8" Wide).  
P/N 12-04774 ..... **\$3.35**

## BOJO 3 PIECE SMOOTHING KIT WITH POUCH



Sealant Smoothing Tool Kit "Extreme". Includes all three Bojo smoothing tools and vinyl pouch. Bojo Tools now offer a comprehensive range of sealant smoothing tools to complement the scraper systems supplied for aerospace, automotive and general industrial applications. Industry standard profiles and unique Bojo designed tips ensure economical, consistent and aesthetic application of all standard sealant types .....P/N 12-04775 ..... **\$10.50**

## SCRAPERITE BLADES



ScrapeRite razor blades come in a variety of colors and tensile strengths to meet your every need, they are the best in the world and offer many unique advantages over other scrapers and metal blades. You can use ScrapeRite blades anywhere you would use a steel blade with out the fear of damaging the underlying surface; they are perfect for glass, plastics, chrome, marble and painted surfaces.

Description	Part No.	Price
Polycarbonate Blades & Holder Wavy Surfaces - Blue	12-03313	<b>\$6.50</b>
Acrylic Blades & Holder Flat Surfaces - Yellow	12-03312	<b>\$6.50</b>
General Purpose Blades & Holder Delicate Surfaces - Orange	12-03314	<b>\$6.50</b>
Replacement Blue Blades	12-03309	<b>\$0.95</b>
Replacement Yellow Blades	12-03310	<b>\$0.95</b>
Replacement Orange Blades	12-03311	<b>\$0.95</b>
Big Gripper Long Handle	12-03308	<b>\$3.35</b>

## SEALANT REMOVAL TOOLS



These tools are full machined and/or laser cut, which helps them retain a sharp edge. The tools are used by many defense contractors and Naval air stations for sealant application, sealant removal, paint removal, acrylic canopy contact, and general use. They are made from cell cast acrylic or black nylon as noted. These tools can be resharpened on an abrasive belt or disc. Note: 15% Discount on 12 or more (Per P/N)

Model	Material	Part No.	Price
Model 1	Acrylic	12-02360	<b>\$1.65</b>
Model 2	Nylon	12-02361	<b>\$5.75</b>
Model 3	Acrylic	12-02362	<b>\$2.45</b>
Model 4	Acrylic	12-02363	<b>\$2.95</b>

TO

# TOOLS

## MULTI-PURPOSE SCRAPER



This Multi-purpose scraper has a 2 1/4" wide blade ideal for more coverage. This scraper is ideal for lighter duty jobs. It has a blade cover for safety and a hole in the handle to hang for convenience.

This scraper is disposable and does not have replacement blades available ..... P/N 12-02371 ..... **\$6.99**



## OLFA MULTI-GRIP SCRAPER

The PP resin provides enhanced durability and high acetone-resistance. Handle is kept as thin as possible; its thickest part is only 7mm-thick. 4-3/4" Stainless steel blade is perfect for use with dishwashing liquid or dish bleach. Blade exchange needs no special tools.

Scraper ..... P/N 12-04886 ..... **\$13.50**  
Replacement Blades (30 Pack) ..... P/N 12-04887 ..... **\$14.50**



## RECOIL KITS

The Recoil System is the simple way to repair stripped or damaged threads. It provides stronger and more efficient threads which have great holding power. The system is quick and easy to use and is ideal for alloys and other light materials. The recoil insert, which is larger in diameter than the tapped hole, is compressed during installation then allowed to spring back, permanently anchoring into place. The Recoil System consists of Recoil stainless steel helically wound precision inserts, high quality HSS taps and installation tools

\* UNF = Unified Fine Thread

\*\*UNC = United Coarse Thread

\*\*\* Metric = Metric & Spark Plug (ISO)

Kit PN	Size	Inserts per kit	Price
33004**	UNC Range Kit	50	<b>\$288.95</b>
34004*	UNF Range Kit	50	<b>\$334.00</b>
33058**	UNC Range Kit	15	<b>\$69.75</b>
34608*	UNF Range Kit	15	<b>\$77.90</b>
34048*	UNF Range Kit	15	<b>\$69.75</b>
34058*	UNF Range Kit	15	<b>\$77.90</b>
34068*	UNF Range Kit	15	<b>\$72.95</b>
34078*	UNF Range Kit	10	<b>\$101.75</b>
34088*	UNF Range Kit	10	<b>\$97.75</b>
35068***	M6X1	15	<b>\$69.75</b>
35088***	M8X1.25	15	<b>\$71.75</b>

## 1/4 INCH FEMALE QUICK COUPLER



Merlin™ air tool plugs deliver longer life and higher performance. This I/M Series Female Plug is constructed of durable steel and fits 1/4 in. couplers. The Industrial plug is rated at a maximum of 300 PSI of air pressure to power your pneumatic tools ..... P/N 12-05183 ..... **\$2.35**

## MASTER CHUCK



These versatile Master Key Chucks are available in two sizes (small & large) which open sizes 1/4" to 3/4". These tools allow you to open over 1200 different key chucks. Save wear on chucks by always having the proper key size available. The squared center of the keys opens acetylene tanks. Made of treated steel with black oxide finish.

Small ..... P/N 12-30165 ..... **\$18.50**  
Large ..... P/N 12-30170 ..... **\$19.00**

## ALL-SHARP DIAMOND SHARPENER



All Sharp is an innovative diamond sharpener that provides 4 different grit sizes on the same tool. All Sharp sharpens and fine sharpens tools and bits and cleans burrs on hard to reach parts and equipment. It's tough stainless body will not rust and All Sharp fits in any tool tray or pouch. Model ST-7 ..... P/N 12-21430 ..... **\$18.95**



## 6-IN-1 COMBINATION SCREWDRIVER

• Industrial rated bits for extra long life • Heat treated 1/4" & 5/16" nut drivers • Interchangeable bits fit both Phillips & Slotted screws • Bits: 3/16" Slotted; 9/32" Slotted; #1 Phillips, #2 Phillips.  
P/N 12-14000 ..... **\$9.95**



## HOBBY KNIFE SET

Ideal for professionals, DIYers and hobbyists. Applications include precision woodworking, graphic design, wallpapering and carpeting. 18 piece set ..... P/N 12-04746 ..... **\$19.50**

## STRIP AND CRIMP TOOL



5 Way all purpose wire 9" long made of hardened steel matte black permanent finish with bright clear markings. Makes it an attractive & easy to use product.

Features long comfortable plastic grip handles. A one piece tool that shapes & cuts wire 5 different ways. Specifications: Standard wire cutter crimps insulated terminals 22-14 12-10, Shears 5 bolt sizes 4-40 6-32 8-32 10-24 10-32, Crimps non-insulated terminals 10-12 14-16 18-22, Strips wire 10-22 awg ..... P/N 11-08077 ..... **\$10.95**

## COAX CABLE CRIMPING TOOL



This 12 point, full ratchet crimping tool terminates precision BNC connectors in size RG 55,58,59,62,141,142,223,303 and 400. This crimper is built to MS22520 specifications and die set is included with the crimper. Specifications: Cable Groups: RG 55/58/59/62/141/142/223/303/400  
P/N 12-02378 ..... **\$94.80**

## 3M™ CRIMPING TOOL TH-440



High carbon, heat-treated steel crimping tool that has a unique design that provides a high strength/weight ratio that crimps a broad range of 22-10 AWG terminals and connectors ..... P/N 12-01146 ..... **\$44.80**

## AT508K CANNON CONNECTOR PLIERS



The AT508K features serrated jaws for improved gripping and a slip joint for improved leverage. Ideal for all common cannon connector applications.  
P/N 12-01627 ..... **\$28.50**

Replacement Plier Pads ..... P/N 12-01425 ..... **\$2.50**

## WIRE MARKING TOOL



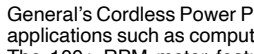
Ever been on your back looking up at a bunch of white wires or in a really tight space where only your arms and shoulders would fit and wonder, "how am I going to tell the difference between all of these wires?" this wire marking tool will allow you to do just that.

The wire marking tool works on wire from 24 ga to 8 ga. This tool is perfect for every mechanic and do it yourselfer. Mark just one wire or all of your wires before you start or while installing in just seconds. 4 and 12 pack of markers sold separately.  
Wire Marking Tool ..... P/N 12-02497 ..... **\$49.90**

4 pack colors:  
Black, Blue, Red, Green ..... P/N 12-02501 ..... **\$13.90**

12 pack colors:  
Black, Blue, Green, Red, Orange, Yellow, Purple, Brown, Turquoise, Lime, Berry, & Aqua ..... P/N 12-02503 ..... **\$26.50**

## POWER PRECISION SCREWDRIVER



General's Cordless Power Precision Screwdriver is ideal for ultra-delicate applications such as computer and electronics repair, hobbies and crafts. The 100+ RPM motor features forward and reverse controls, and the quick-change chuck allows for effortless swapping between 1/8" Slotted, Phillips and Torx bits. **Features:** • Cordless Precision Screwdriver (2 "AAA" alkaline batteries included) • 10+ hours of power • 100+ RPM motor with forward and reverse controls • Super-torque drive • Quick-change chuck • Ergonomic design allows for various comfortable grips • Precision bit assortment (1/8" drive) • Phillips: #00, #0 • Slotted: 1/16", 1/8" • Torx: T5, T6 ..... P/N 12-02308 ..... **\$25.90**

## AT 540M SCREW EXTRACTOR



This heavy duty screw extractor is designed with a .401 shank to fit most standard rivet guns and is held in place by a retainer spring. The square tip will accommodate 3/8" socket tool bit holders with inserts for removing hex, square, Phillips, or standard screws. Manufactured from high grade shock resistant tool steel ..... P/N 12-01632 ..... **\$16.50**

## SCREW REMOVAL TOOL



• Useful in removing screws that are corroded or have stripped heads • .401 Parker taper shank for use in rivet gun • 3/8" square drive with wrench. • Use standard Phillips or Slotted insert bits • Rivet gun required.

**NOTE: Does not include Tips.**  
..... P/N 12-00827 ..... **\$36.75**

TO



# LATHES – MILLS

## MICRO LATHE



This is the machine you don't have to "baby". The Micro Lathe is a rugged, precision instrument. Its machined, ground and stabilized steel bed has a lifetime ball bearing spindle, coupled with a 6-speed positive v-belt drive. Spindle speeds in geometric progression from 525 to 5200rpm provide the power to "HOG" 1/8-inch cuts in mild steel or the speed and accuracy to dust a few tenths. Other big lathe features include large .001 graduations on the cross slide dial, an all-angle tool post and a carriage depth stop. Adjustable gibs provide full compensation for carriage and cross slide wear. 2-yr. factory warranty. 15" bed. Comes factory assembled. The Unit pictured is a basic unit (P/N 12-00171) with an optional 3-Jaw Chuck, Boring bar(1097E), Tailstock (1150), Drill Chuck (1091), 1/4 HP 1725 RPM Motor (1021w), Motor Mount Bracket (1022), Mounting Board (1023), and Pulleys (1162 with 3M 500 belt). All accessories are sold separately and are not included in the base price. Note: Photo shows Lathe with all accessories which are not included (Available separately). P/N 12-00171 is basic lathe unit only.

P/N 12-00171 .....\$214.10

### General Specifications:

- Overall working accuracy: 0.0005"
- Max. bearing run out: 0.0004"
- Headstock normality to bed: .0004 in max error
- Max. taper bed dovetail over pins: 0.0001"
- All machine dovetails: 45°
- Bed width: 2 5/16"
- Cross slide dial graduation: 0.001
- Cross slide screw: 1/4"-20 adjustment for back-lash take-up provided (jam nut arrangement)
- Carriage travel: 0.600" 1 rev. of hand wheel
- Max. spindle speed recommend: 7000 rpm
- Motor requirement: 1/8 – 1/4 HP
- Pulley type: Std. 5/8" bore, multistep V-belt
- Length of headstock on ways: 2.875"
- Length of carriage on ways: 3.000"
- Width of cross slide on carriage: 2.000"
- Tool post: may be adjusted for angle cutting (chamfer, boring, etc.)

### Capacity:

- Swing over bed: 4.5" (max. turning dia.)
- Swing over cross slide: 2 3/8"
- Overall length of bed: 15.5"
- Overall length of lathe: 16.5"
- Tool bit size: 1/4"
- Drill chuck capacity: 0 to 1/2"
- Distance between centers: 9.75"
- Carriage travel: 9"
- Cross slide travel: 1.75"

### Spindle Specifications:

- Sealed precision ball: 1.5748 O.D. 0.6692 I.D.
- Spindle nose: 3/4" – 16 (3/4" SAE)
- Spindle hole: 0.343
- Spindle ID taper: 15° (30° included)
- Max. collet diameter: 9/32"
- Pulley size: 5/8" bore

Accessories	Part No.	Price
3-jaw chuck	12-01602	\$70.40
Boring bar	12-01603	\$6.25
Tailstock	12-01604	\$44.60
Drill chuck	12-01605	\$12.30
1/4 1725 RPM Motor	12-01606	\$123.10
Motor mount bracket	12-01607	\$5.95
Mounting board	12-01608	\$8.65
Pulleys 20" L	12-01609	\$27.75
Pulleys 12-1/2" L	12-01710	\$31.50

## MICRO MILL



The Micro Mill has effortless, chatterless table and mill head movement. This is due to the unique design of our oversized gibs, ground steel ways, massive carriage, steel bed and vertical mill head support which makes the Micro Mill ready for CNC upgrade if you desire. Our small mill is really a scaled down big mill with manual operation. Other big mill features include large 0.001 graduations on friction adjustable micrometer dials for X, Y, and Z controls. Adjustable gibs provide full compensation for X, Y, and Z mill-ways wear. It all adds up to the best value in small mills. 15.5" table, power switch & cord included. Comes factory assembled. 2-yr. warranty.....P/N 12-00170 .....\$785.00

### General Specifications:

- |   |               |            |   |
|---|---------------|------------|---|
|   | <b>Manual</b> | <b>CNC</b> | <b>Capacity:</b>  |
| • Height:   | 21-3/8"       | 26-3/8"    | • Working Axis Travel: X=9.5", Y=5.5", Z=6.0"                 |
| • Width:  | 17"           | 22"        | • Maximum Z-Distance to Table: 9.0"                           |
| • Depth:  | 16.75"        | 21"        | • Z-Axis Swivel: 90°  |
| • Weight:   | 65 lbs.       | 85 lbs.    | • Column Rotation: up to 180°                                 |
| • Max. bearing run out: 0.0004"   |               |            | • Spindle Head Rotation: 90°                                  |
| • Dovetails, X-axis: 45°; Y-axis: 90°   |               |            | • 6 Spindle Speeds: 525 to 5200 RPM                           |
| • Z-axis: Steel box-ways  |               |            | <b>Spindle Specifications:</b>                                |
| • Pulley type: Std. 5/8" bore, multi-step V-belt  |               |            | • Maximum Spindle Speed: 7000 RPM                             |
| • Construction: steel, hard anodized aluminum on all moving components adjustable brass gibs and precision ground steel-ways. |               |            | • Sealed Precision Ball Bearing: O.D. = 1.5748, I.D. = 0.6692 |

## AT429SXC MICRO MILLER



The AT429SXC Micro Miller features a .75 horsepower 20,000 RPM Sioux Tools motor. Cutter capacity is 3/4" and the unit will cut steel, aluminum and stainless steel. Spindle size is 1/4-28 and inlet pipe tap is 1/4" NPT. Air requirements: 90 PSI. Tease trigger allows slow start up & exhaust porting is through the bottom of the handle.....P/N AT429SXC .....\$559.00

Cutter Size	Cutter Dia.	Skirt Part No.	Skirt Price	Cutter Part No.	Cutter Price
-1	5/16	AT429A-1	\$30.70	AT429B-1	\$28.50
-2	3/8	AT429A-2	\$30.70	AT429B-2	\$25.50
-3	7/16	AT429A-3	\$30.70	AT429B-3	\$28.50
-4	1/2	AT429A-4	\$28.50	AT429B-4	\$29.65
-5	9/16	AT429A-5	\$28.90	AT429B-5	\$24.50
-6	5/8	AT429A-6	\$28.90	AT429B-6	\$31.75
-7	3/4	AT429A-7	\$28.90	AT429B-7	\$33.50

## SUPER NOTCHER THREE-IN-ONE ABRASIVE TUBING NOTCHER



The Super Notcher by Dixie Fried Fabrication is an abrasive belt tube notcher that doubles as a universal shop belt grinder, and includes a flat platen for surface grinding. Accessories are available for notching round and square tubing and pipe at extreme angles of up to 25 degrees.

With Motor .....P/N 12-05035 .....\$3,250.00  
Without Motor...P/N 12-05036 .....\$2,990.00

### ACCESSORIES

Description	Part No.	Price
Square Tubing Insert	12-05037	\$195.00
Thin Wall Tubing Insert	12-05038	\$65.00
Notcher Cart Crt100	12-05039	\$325.00
Roller 5/8" Rol058	12-05040	\$125.00
Roller 3/4" Rol034	12-05041	\$125.00
Roller 7/8" Rol078	12-05042	\$125.00
Roller 1" Rol100	12-05043	\$125.00
Roller 1 1/8" Rol118	12-05044	\$145.00
Roller 1 1/4" Rol114	12-05045	\$165.00
Roller 1 3/8" Rol138	12-05046	\$175.00
Roller 1 1/2" Rol112	12-05047	\$179.00
Roller 1 3/4" Rol134	12-05048	\$195.00
Roller 2" Rol200	12-05049	\$210.00
Roller 2.5" Rol250	12-05050	\$310.00
Roller 3" Rol300	12-05051	\$335.00

TO

# TOOL KITS

## RV BUILDER TOOL KIT



These RV builders tool kits are based on recommendations from the Van's Aircraft Builders Manual as well as on the tools that have been purchased from Aircraft Spruce by RV builders. It is an excellent tool kit for the construction of the RV4, 6, 7, 8, and 10 aircraft. They

include an air drill, hand rivet squeezer, rivet sets and other tools of the highest quality. If you are building a RV-9 order 100 extra 3/32" clecos and 50 extra 1/8" clecos. If you are building a RV-10 kit, order 175 extra 3/32" clecos and 125 extra 1/8" clecos as well as the RV-10 bucking bar. See Chart Below for Components  
 Kit with 2x Rivet Gun.....P/N 12-00890.....\$2,794.00  
 Kit with 3x Rivet Gun.....P/N 12-00899.....\$2,784.00  
 RV-10 Bucking bar.....P/N 12-00903.....\$34.50

## RV BUILDER KIT COMPONENTS

Part No.	Description	Price
12-02004	2x Rivet Gun	\$158.85
A1006-234X	Retainer Spring, Beehive Type	\$6.50
12-00869	Avery Pneumatic Air Tool Reg.	\$17.50
12-00816	Air Drill (Pistol Type)4500rpm	\$645.00
12-00872	Avery Air Tool Oil	\$7.95
12-00177	Hand Riveting & Dimpling Tool	\$233.95
12-00605	Avery Poly. Dimpling Mallet	\$42.50
12-00320	3" Yoke For Hand Rivet Squeezer	\$105.95
12-00882	Avery 6pc Squeezer Set	\$48.65
12-00868	Avery Deluxe Dimple Die Kit	\$164.75
12-00613	Avery Pop Rivet Dimpler 3/32"	\$23.50
12-00611	Avery Vise Grip Dimpler 3/32"	\$49.95
TP-670	Bucking Bar 1-3/4 Lb.	\$23.75
SM10-4704	Straight Rivet Set 1/8x 3-1/2	\$7.80
12-00873	Avery 1/8" Dbl Offset Rivet St	\$29.50
12-00741	Avery Flush Swivel Rivet Set	\$49.95
12-07100-3	Avery Back Rivet Set 4-1/8"L	\$34.95
12-00609	Avery Fluting Plier	\$49.95
12-00608	Avery Hand Seamer 3-1/2" Jaw	\$49.95
12-10105	Cleco Pliers	\$5.65
M-3/32	Sheet Holders M-3/32 Kwik-Lok	\$0.75
M-1/8	Sheet Holders M-1/8 Kwik-Lok	\$0.75
M-5/32	Sheet Holders M-5/32 Kwik-Lok	\$0.75
M-3/16	Sheet Holders M-3/16 Kwik-Lok	\$0.75
SC-1/2-1/2	1/2" X 1/2" Side Grip Clamp	\$1.95
SC-1/2-1	Side Grip Clamps P/N Sc-1/2-1	\$2.25
12-00632	Avery Edge Rolling Tool	\$22.50
12-00618	Avery Back Riveting Plate	\$68.75
12-00876	Avery Cut/Polish Wheel Kit	\$65.75
12-03900	Unibit Step Drill # 3	\$45.50
12-18355	3m™ Rivet Tape 3/4" Green	\$16.50
12-04214	#40 Super Cobalt Drill (4pack)	\$1.70
12-04217	Super Cobalt Drill #30 (3pack)	\$2.25
12-14221	Super Cobalt Drill #21 (3pack)	\$2.85
12-04219	Super Cobalt Drill #27 (3pack)	\$2.70
12-00886	Avery #19 Cobalt Drill Bit 2pk	\$2.25
12-00885	Avery #12 Cobalt Drill Bit 2pk	\$7.50
12-00884	Avery 1/4" Cobalt Drill Bit	\$3.45
12-05200	Drill Bits 12" Long 3/32"	\$6.65
12-05300	Drill Bits 12" Long 1/8"	\$6.95
12-00867	Avery 4pc Drill Stop Set	\$10.75
12-00883	Avery 90° Angle Drill Kit	\$192.90
12-01412	Avery Micro-Stop Csnk Cage	\$36.50
12-00879	Avery #40 X 3/8" Csnk Cutter	\$12.85
12-00880	Avery #30 X 3/8 Csnk Cutter	\$12.85
12-00881	Avery #20 X 1/2" Csnk Cutter	\$12.85
1216	Steel Rules #1216	\$9.95
12-00631	Avery Shop Hd Rivet Gauge Set	\$21.85
12-00633	Avery Rivet Length Gauge	\$12.75
M-1R	Wiss Snips # M-1r	\$24.55
M-2R	Wiss Snips # M-2r	\$24.90
12-00622	Avery Speed Deburr-Csink Tool	\$35.95
12-02547	Avery Royal Multi-Burr Tool	\$12.50
12-00629	Avery Double Edge Deburr Tool	\$20.90
12-00875	7a Deburring Wheel - Medium Grade	\$81.75
12-00870	Avery 3/32" Drive Pin Punch	\$10.50
12-00871	Avery 1/8" Drive Pin Punch	\$10.50
12-00889	Avery 360deg Swivel Pop Rvt TI	\$47.50
13-11400	Standard Aircraft Handbook	\$24.50

## KIT BUILDER AIRCRAFT TOOL KIT



Initially designed for the RV3, RV4 and RV6 builders, this kit has proven to be very popular with virtually all aircraft home builders. It contains our most popular rivet hammer and is an excellent tool kit for RV builders. Weight: 40 lbs.  
 P/N 12-01145 .....\$695.00

Part No.	Pcs.	Description	Part No.	Pcs.	Description
02-R18C-12	3	Jobber's Length Drill	07-20-4706	1	Offset Rivet Set, 3-1/2" O.A.L.
02-R18C-28	3		07-20-500	1	
02-306-21	1	Integral Pilot Cutter	07-91	1	Mushroom Rivet Set
02-306-30	1		08-112	1	
02-306-40	1		08-638	1	Bucking Bar
02-441	1	08-647	1		
04-M-1/8	175	M' Type Fastener	08-670	1	
04-M-3/32	325		09-RH-2	1	Handi Retainer Spring
04-1120	1	Fluting Plier	10-420-2A	1	Hand Rivet Squeezer, 2" Yoke
04-17	1	Rivet Cutter	17-3XSP	1	USATCO Rivet Gun
02-22022	1	Multi-Burr w/5 Blades	26-200-4703	1	Cupped Squeezer Set
04-62	1	Cleco Plier	26-200-4704	1	
07-10-4703	1	Rivet Set, 3-1/2" O.A.L.	26-200-4705	1	
07-10-4704	1		26-210	2	Flush Squeezer Set
07-10-4705	1		4263PDSB	1	Spring Back Punch & Die
07-10-4706	1	Flush Set, 3-1/2" O.A.L.	4264PDSB	1	
07-10-4706	1		62-54404	1	Plastic Kit Box
07-20-4703	1	Offset Rivet Set, 3-1/2" O.A.L.	JSM-705	1	3/8" Reversible Air Drill
07-20-4704	1		TP44	1	Hand Seamer
07-20-4705	1				

## RV BUILDERS STARTER KITS



This scaled down version of this RV Builder's Kit contains just the tools you need to get your feet wet with sheet metal construction. The kit closely follows the recommended tools list from Van's RV TRAINING PROJECT-1 and their TOOL BOX KIT projects. This kit is also the minimum recommended set of tools to build the empennage (tail) section of the RV3, RV4, RV7, RV8, RV9, and RV10 series of home built airplanes. Start out with this kit, and when you're ready to do more advanced work, get the upgrade package to take you all the way up to the full RV Builder's Tool Kit.

Description	Part No.	Price
Starter Kit W/ 3x Rivet Gun	12-04850	\$917.00
Starter Kit W/ Pro 2x Rivet Gun	12-04851	\$924.00
Starter Kit W/ Pro 3x Rivet Gun	12-04852	\$927.00
Starter Kit Upgrade Package	12-04853	\$977.00

## RV-12 QUICKBUILD TOOL KIT



This kit contains all the tools you need to build Van's exciting RV-12 Quickbuild Kit. The RV-12 has become an instant favorite of Light Sport Aviation (LSA) kitplanes because it's so remarkably easy to assemble. It requires virtually no sheet metal skills, and needs little more than a few hand tools. We've made your task even easier by bringing together all the tools you'll need into one complete kit, and priced it to be easy on your wallet. This kit is based on Van's recommended tool list, as well as recommendations from customers.....P/N 12-04849 .....\$1,599.00

## RV BUILDERS KITS



The RV Builder's Kit has been completely revised to conform to Van's recommended tool list for their very popular line of RV homebuilt airplanes. It contains all of the aviation tools and equipment needed to successfully assemble Van's Aircraft RV-3/3B, RV-4, RV-6/6A, RV-8/8A, RV-9/9A, and the newer RV-7/7A and RV-10 series homebuilt airplanes. It's also an excellent toolkit to assemble the Murphy family of kitplanes, including the Rebel, Elite, Maverick, and Super Rebel; The Precision Aero Mustang S-51D; The Skystar Kitfox; and any other metal airplane.

Description	Part No.	Price
RV Builders Kit W/ Econ 3x Rivet Gun	12-04854	\$1,911.00
RV Builders Kit W/ Pro 2x Rivet Gun	12-04855	\$1,897.00
RV Builders Kit W/ Pro 3x Rivet Gun	12-04856	\$1,920.00

TO



# TOOL KITS



## MASTER KIT BUILDERS KIT

The Master Kit Builders Kit (TP176MKB) contains all the tools supplied in the "RV" tool kit plus many more. It is designed to supply all the major, most commonly used tools for the building sheet metal aircraft. These items can be used on RV's, Zenair, Questair and Mustang Aeronautic Kits as well as many, many others. A huge savings can be realized by purchasing this kit over the individual tool price. Wt. 50 lbs.

P/N 12-00832 ..... \$949.00

Part No.	Pcs.	Description	Part No.	Pcs.	Description
02-R10C-1/4	1	Jobber's Length Drill	08-112	1	Bucking Bar
02-R18C-12	2				
02-R18C-30	4				
02-R18C-40	6				
02-306-21	1	Integral Pilot Cutter	09-RH-2	1	Handi Retainer Spring
02-306-30	1		10-37001	1	POP Swivel Hand Riveter
02-306-40	1	Countersink Cage	10-420-2A	1	Hand Rivet Squeezer, 2" Yoke
02-441	1		17-3XSP	1	USATCO Rivet Gun
04-M-1/8	175	'M' Type Fastener	18-DS-1/4	1	Drill Stop
04-M-3/32	325		18-DS-10	1	
04-1120	1	Fluting Plier	18-DS-30	1	
04-17	1	Rivet Cutter	18-DS-40	1	
02-22022	1	Multi-Burr w/5 Blades	26-200-4703	1	Cupped Squeezer Set
04-63	1	Cleco Plier w/Comfort Grips	26-200-4704	1	
07-10-4703	1	Rivet Set, 3-1/2" O.A.L.	26-200-4705	1	
07-10-4704	1		26-210	2	Flush Squeezer Set
07-10-4705	1		4263PDSB	1	Spring Back Punch! Die
07-10-4706	1		4264PDSB	1	POP Dimple Tool
07-170	1	Flush Mushroom Set w/Guard	53-120	1	3 Piece Aviation Snip Set
07-20-4703	1	Offset Rivet Set, 3-1/2" O.A.L.	53-70453	1	Hole Cutter
07-20-4704	1		61-13551	1	Plastic Kit Box
07-20-4705	1		JSM-705	1	3/8" Reversible Air Drill
07-20-4706	1		TP44	1	Hand Seamer
07-20-500	1		Mushroom Rivet Set		
07-90	1				



## MASTER AIRCRAFT TOOL KIT

This 121-piece complete Aircraft mechanics Kit is excellent for aircraft restoration, repair and manufacturing. It is ideal for the A & P mechanic, student and homebuilder. Kit comes with everything from sheet metal tools to riveting tools in a two-drawer tool chest. This kit includes the top quality riveting hammer manufactured in the U.S.A. Wt. 48 lbs.

P/N 12-01126 ..... \$779.00

Part No.	Pcs.	Description	Part No.	Pcs.	Description
02-2962-21	1	Threaded Shank Adapter Drill	07-20-4705	1	Offset Rivet Set, 3-1/2" O.A.L.
02-2962-30	1		07-20-4706	1	Offset Flush Set
02-2962-40	1		08-112	1	Bucking Bar
02-306-21	1	Integral Pilot Cutter	08-638	1	Drill Stop
02-306-30	1		08-647	1	
02-306-40	1	Countersink Cage	08-670	1	
02-441	1	Fluting Plier	10-420-2A	1	
04-1120	1	Chip Chaser	149-1	1	Wrench (for Cone Jaw Chuck)
04-200	1	Hand Metal Punch Kit	15-1580	1	Junior Air Vac
04-5S	1	Hand Heavy-Duty Rivet Cutter	17-3XSP	1	Rivet Gun
04-501	1	Nibbling Hand Tool	18-DS-10	1	Drill Stop
04-6	1	Cleco Plier	18-DS-21	1	
04-EL-1/2-1	3	Side Grip Fastener	18-DS-30	1	
04-EL-1/2-1/2	2	'M' Type Fastener	18-DS-40	1	
04-M-1/8	10		20-127-4S	1	90° Angle Drill Attachment
04-M-3/16	10	Wing Nut Fastener	20-M3	1	Cone Jaw Chuck
04-M-3/32	10		26-200-4703	1	Cupped Squeezer Set
04-M-5/32	10	Rivet Set, 3-1/2" O.A.L.	26-200-4704	1	Flush Squeezer Set
04-WNX-1/8	5		26-200-4705	1	
04-WNX-3/16	5	Strap Duplicator	26-210	1	Strap Duplicator
04-WNX-3/32	5		46-231-1	1	
04-WNX-5/32	5		46-231-2	1	3 Piece Aviation Snip Set
07-10-4703	1	46-231-3	1		
07-10-4704	1	46-231-5	1		
07-10-4705	1	53-70453	1		
07-10-4706	1	Flush Rivet Set	62-54405	1	Plastic Kit Box
07-170	1	Flush Mushroom Set w/ Guard	75HP575	1	Sheet Metal Handbook
07-20-4703	1	Offset Rivet Set,	JSM-705	1	3/8" Reversible Air Drill
07-20-4704	1			TP44	1



## TP83 & TP84 RIVET GUN KIT

Virtually all the tools you need for riveting in kit form. Intended for professional sheet metal mechanics, serious home builder/students. Packed in a sturdy molded plastic case. #1 selling kit.

Part No.	Description	Part No.	Description
07-10-4703	3/32" Rivet Set, 3-1/2" O.A.L.	07-20-4705	5/32" Offset Rivet Set, 3-1/2" O.A.L.
07-10-4704	1/8" Rivet Set, 3-1/2" O.A.L.	07-92	Flush Mushroom Rivet Set
07-10-4705	5/32" Rivet Set, 3-1/2" O.A.L.	08-111	Bucking Bar
07-10-4706	3/16" Rivet Set, 3-1/2" O.A.L.	08-112	Bucking Bar
07-11-4704	1/8" Rivet Set, 5-1/2" O.A.L.	08-669	Bucking Bar
07-11-4705	5/32" Rivet Set, 5-1/2" O.A.L.	08-670	Bucking Bar
07-11-4706	3/16" Rivet Set, 5-1/2" O.A.L.	09-140	Power Regulator
07-11-4703	Flat Rivet Set	09-RB-2	Beehive Retainer Spring
07-140	Offset Flush Mushroom Set	09-RH-2	Handi Retainer Spring
07-170	Flush Mushroom Rivet Set w/Guard	17-	Rivet Gun
07-20-4703	3/32" Offset Rivet Set, 3-1/2" O.A.L.	62-14	Molded Plastic Carrying Case
07-20-4704	1/8" Offset Rivet Set, 3-1/2" O.A.L.		

Kit with TP83(3x) Gun ..... P/N 12-00240 ..... \$299.00



## DELUXE STUDENT TOOL KIT

This kit meets most school requirements for basic sheet metal tools. These high quality tools will take the student through school and into the profession for years of outstanding service. It contains the most popular rivet hammer and is a great starter kit. Wt. 14 lbs.

P/N 12-01127 ..... \$369.00

Part No.	Pcs.	Description	Part No.	Pcs.	Description
0210A-3/32	3	Jobber's Length Drill	09H-2	1	Handi Retainer Spring
0210A-1/8	3		09B-2	1	Beehive Retainer Spring
0210A-5/32	3		09-140	1	Power Regulator
0210A-3/16	3		17-3	1	Rivet Gun
02-306-21	1	Integral Pilot Cutter	07-10-4703	1	Rivet Set, 3-1/2" O.A.L.
02-306-30	1		07-10-4704	1	
02-306-40	1	'M' Type Fastener	07-10-4705	1	
04-M-1/8	10	Countersink Cage	07-10-4706	1	
04-M-3/16	10		07-170	1	Mushroom Set w/ Guard
04-M-5/32	10		18-D-10	1	Drill Stop
04-M-5/32	10		18-D-21	1	
02-441	1	18-D-30	1		
04-501	1	18-D-40	1		
04-62	1	Rivet Cutter	62-297	1	Canvas Tool Bag
08-670	1	Cleco Plier	JSM-705	1	3/8" Reversible Air Drill
		Bucking Bar			

## GLASTAR TOOL KIT



This kit is designed for all new Glastar kit aircraft. The tools included are recommended by the manufacturer, specifically for the assembly of the sheet metal portion of the kit. Many of these tools are of top quality, and designed to last. They are all covered by a 30 day unconditional money back guarantee ..... P/N 12-00831 ..... \$1,027.00

Part No.	Pcs.	Description	Part No.	Pcs.	Description
02-2962-21	1	HREADED SHANK DRILL	04-M-1/8	150	'M' TYPE SHEET METAL FASTENER
02-2962-30	1		04-M-3/16	25	
02-2962-40	1		04-M-3/32	250	
02-306-21	1	PILOT CUTTERS COUNTERSINK	04-K380	1	DEBURRING TOOL
02-306-30	1		04-M-1/8	150	'M' TYPE SHEET METAL FASTENER
02-306-40	1	04-M-3/16	25		
02-306-30-120	1	PILOT COUNTERSINK 120°	04-M-3/32	250	
02-441	1	COUNTERSINK CAGE	07-10-4703	1	RIVET SET, 3-1/2" O.A.L.
02-501-12-40	3	12" AIRCRAFT EXTENSION DRILL	07-10-4706	1	
02-501-6-30	3	6" AIRCRAFT EXTENSION DRILL	07-170	1	MUSHROOM RIVET SET
02-501-6-40	3	DRILL SETS 60 (NUMBER SIZES)	08-638	1	BUCKING BAR
02-C1-H	1	CHIP CHASER	08-647	1	
02-R10B-1/16	3		08-721	1	
02-R10B-1/4	3	08-760B-1	1		
02-R10B-1/64	3	JOBBER'S LENGTH DRILL	09-140	1	POWER REGULATOR
04-200	1	OFFSET SNIPS LEFT HANDED	10-37001	1	360° POP RIVETER
04-20SL	1	OFFSET SNIPS RIGHT HANDED	1245	1	12" FLEX RULER
04-20SR	1	MULTI/BURR-5 5 BLADES INCLUDED	17-3XSP	1	RIVET GUN
04-22022	1	SPRING TENSION CLAMPS A-1/2" D-3-1/2"	20-127-4S	1	90° ANGLE DRILL ATTACHMENT
04-3090-1/2	2	CLECO PLIER FOR SHEET METAL FASTENERS	53-211-4263	2	RIVET SQUEEZER PUNCH & DIE SET
04-62	1	SIDE GRIP FASTENER CAPACITY-0-1/2" REACH 1"	53-211-4264	6	HAND SQUEEZER KIT
04-EL-1/2-1/2	10	DEBURR TOOL W/ 3/4" BLADE	53-RB-2	2	BEEHIVE & HANDI RETAINER SPRING
04-EL-3/4-1/2	10		61-860	1	CENTER PUNCH & SCRIBE
04-K380	1		62-54405	1	KIT BOX-PLASTIC & METAL
			CP-785	1	AIR DRILL, REVERSABLE 3/8" CHUCK

## MUSTANG KIT



This kit is designed especially for the assembly of the Mustang Kit aircraft. It is comprised of over 300 items, specifically required in the fabrication and assembly of this aircraft.

This 317 piece kit includes:

- 1 TP83(3x) or TP84(4x) Rivet Gun
- 1 TP91 Flush Rivet Set
- 1 SM10-4703 Rivet Set
- 1 SM10-4704 Rivet Set

- 1 SM10-4705 Rivet Set
- 1 A1007-234X QC Retainer Spring
- 1 TP346 Heavy Duty Rivet Cutter
- 1 TP61K Stop Countersink Kit
- 1 TP722 Fluting Pliers
- 130 TP75-1/8 Cleco Fasteners
- 25 TP75L-1/8 Cleco Fasteners
- 80 TP75-3/32 Cleco Fasteners
- 1 TP74 Cleco Pliers
- 1 TP44 Hand Seamer
- 1 TP227G Duckbill Pliers
- 1 TP266 Deburring Tool
- 1 TP888-3 Hand Rivet Squeezer
- 1 TP116A Squeezer Sets
- 1 TP751 Bucking Bar
- 1 TP670 Bucking Bar
- 1 SM181 Swivel Flush Rivet Set

- 5 TP641HC Handi-Clamp
- 25 TP75L-3/32 3/32 Cleco Fasteners
- 1 TP81 Hand Nibbler
- 4 TP49-30 Drill Bits
- 4 TP49-3/32 Drill Bits
- 4 TP49-40 Drill Bits
- 4 TP49-1/8 Drill Bits
- 2 TP49-12 Drill Bits
- 2 TP49-3/16 Drill Bits
- 1 TPA5611 Unibit Drill
- 1 TP294HD Auto Center Punch
- 1 TP735K Hand Pack Trial Kit
- 1 TPF56 Flat File
- 1 TP4263 Dimple and Die Set
- 1 TP4264 Dimple and Die Set
- 1 TP216 Tool Box

Kit w/ TP83 gun (3x) ..... P/N 12-00347 ..... \$1,058.00  
 Kit w/ TP84 gun (4x) ..... P/N 12-00498 ..... \$1,135.00

# TOOL KITS

## AIRFRAME MECHANICS KIT

This kit was designed at the request of several FBO's and repair stations who desire their new hires to have a standard set of airframe tools that would allow them to do their required tasks. It features a set of common hand tools such as screwdrivers, hammers, and wrenches; as well as the more aviation specific tools such as a rivet gun, angle drill and die grinders.

Description	Part No.	Price
Airframe Mechanics Kit W/ Econ 3x Rivet Gun	12-04829	<b>\$1,863.00</b>
Airframe Mechanics Kit W/ Pro 2x Rivet Gun	12-04830	<b>\$1,867.00</b>
Amk-3x Airframe Mechanics Kit W/ Pro 3x Rivet Gun	12-04831	<b>\$1,873.00</b>
Airframe Mechanics Kit W/ Pro 4x Rivet Gun	12-04832	<b>\$1,876.00</b>



## DELUXE RIVETING KITS

Deluxe Riveting Kit contains everything needed to build and maintain all metal aircraft. This kit is highly recommended for the professional mechanic or the experienced home builder.

Description	Part No.	Price
Deluxe Riveting Kit With Econ 3x Rivet Gun	12-04833	<b>\$970.00</b>
Deluxe Riveting Kit With Pro 2x Rivet Gun	12-04834	<b>\$1,189.00</b>
Deluxe Riveting Kit With Pro 3x Rivet Gun	12-04835	<b>\$1,113.00</b>
Deluxe Riveting Kit With Pro 4x Rivet Gun	12-04836	<b>\$1,006.00</b>

## MASTER BUILDERS KITS



The Master Builder's Kit is the most comprehensive riveting kit. It contains the tooling needed to build some of the most popular aluminum airplanes, including the RV series, the Thorp T-18, the Midget Mustang, and many others. This kit is also very popular with airframe mechanics needing an all-in-one riveting kit.

Description	Part No.	Price
Master Builders Kit W/ Econ 3x Rivet Gun	12-04837	<b>\$1,926.00</b>
Master Builders Kit W/ Pro 2x Rivet Gun	12-04838	<b>\$1,933.00</b>
Master Builders Kit W/ Pro 3x Rivet Gun	12-04839	<b>\$2,223.00</b>
Master Builders Kit W/ Pro 4x Rivet Gun	12-04841	<b>\$1,940.00</b>



## RANS S-19 BUILDERS KIT

The rans-19 kit is available as a quick build kit that requires considerably less tools than in the past. Redesigned kit complies with the tool requirements. This kit now contains only the essential tools you need to successfully construct this popular homebuilt ..... P/N 12-04842 ..... **\$1,197.00**



## SONEX BUILDERS KIT

Sonex Builder's Kit contains all the recommended and most useful tools that you will need to build a SONEX kit built aircraft. This kit is ideally suited for the professional mechanic or the experienced home builder ..... P/N 12-04843 ..... **\$991.00**



## ACU CENTER TOOL KIT

This Acu-Center tool is a precision measuring aid designed to provide fast, repeatable rod end service and replacement by providing its user with the most accurate rod end adjusted length measurement possible.

This is accomplished through the Acu-Center's precision fit, rod end / ball centering flange and absolute zero measuring point. So whether you're on the street, in the dirt, up in the air, on the job site or at play, the Acu-Center tool is guaranteed to make your rod end replacement faster, easier and 100% accurate.

AGM ACU-Center Kit 3/16 - 1"	P/N 12-05543	<b>\$240.63</b>
AGM ACU-Center Kit 3/16 - 7/8"	P/N 12-05544	<b>\$202.69</b>
AGM 1" ACU-Center only not a Kit.....	P/N 12-05545	<b>\$37.94</b>

## RV-12 QUICKBUILD TOOL KIT



This kit contains all the tools you need to build Van's exciting RV-12 Quickbuild Kit. The RV-12 has become an instant favorite of Light Sport Aviation (LSA) kit-planes because it's so remarkably easy to assemble. It requires virtually no sheet metal skills, and needs little more than a few hand tools. We've made your task even easier by bringing together all the tools you'll need into one complete kit, and priced it to be easy on your wallet. This kit is based on Van's recommended tool list, as well as recommendations from customers ..... P/N 12-04849 ..... **\$1,599.00**



## ZODIAC BUILDERS KIT

Zodiac Builder's Kit contains all the recommended and most useful tools that you will need to build a Zodiac aircraft. This kit is ideally suited for the professional mechanic or the experienced home builder.

P/N 12-04844 ..... **\$904.00**



## MUSTANG BUILDERS KITS

These kits contain the majority of the tools needed in every phase of constructing the popular Kit Mustang. Designed to provide only the tools you will need to get the job done quickly and professionally.

Description	Part No.	Price
Mustang Builders Kit w/ Econ 3x Rivet Gun	12-04845	<b>\$874.00</b>
Mustang Builders Kit w/ Pro 2x Rivet Gun	12-04846	<b>\$880.00</b>
Mustang Builders Kit	12-04847	<b>\$885.00</b>
Mustang Builders Kit w/ Pro 4x Rivet Gun	12-04848	<b>\$888.00</b>



## ENGINE SPECIALIST KIT

This kit is designed for the engine and powerplant specialist. It contains an array of tools and equipment to take apart, check, inspect, overhaul, and re-assemble just about any type of Aircraft Engine, including all models of Continental and Lycoming .... P/N 12-04824 ..... **\$1,885.00**



## JOURNEYMANS KIT

This Journeyman kit is for the aspiring A&P Mechanic or Homebuilder who needs a comprehensive professional kit, but is not yet ready for a Master Kit. It contains a broad selection of tools used frequently by the Airframe Mechanics at a price that's affordable to those Journey Mechanics starting out in the field.

Description	Part No.	Price
Jbk-2602a Journeyman Kit W/ 2602a Econ 3x Gun	12-04825	<b>\$1,019.00</b>
Jbk-2x Journeyman Kit W/ Ats Pro 2x Rivet Gun	12-04826	<b>\$1,023.00</b>
Journeyman Builders Kit W/ 3x Rivet Gun	12-04827	<b>\$1,028.00</b>
Journeyman Builders Kit W/ Pro 4x Rivet Gun	12-04828	<b>\$1,033.00</b>



## AVIONICS MAINTENANCE KIT

This Avionics Maintenance Kit has all of the essential tools to work on every aspect of aircraft electronics systems. Whether it's a simple electrical repair or a complete system rewire, you'll find this kit indispensable in getting the job done quickly and professionally.

P/N 12-04823 ..... **\$878.00**



## LOYD'S RIVET DRILL GUIDE

This set is designed one size under bore and hardened C1144 steel for long life. The drill lube is to ensure smooth minimal friction between the drill bit and the guide, cooling the bit, keeping it from galling, which aids in longer drill and guide life. Dip drill bit in lubricant at least once for every rivet. The guides are easy to use. First select the appropriate guide for the rivet being drilled. The guides allow you to drill straight and center every time. They are compact, easy to grip and easy to spot if dropped. They were designed to eliminate double drilled holes and drill bits "skating" off of rivets ..... P/N 12-03749 ..... **\$139.95**

TO



# TOOL KITS – RIVET TOOLS

## PRO X-SERIES RIVET GUNS



The standard tool used in aircraft manufacturing plants such as Boeing and Lockheed-Martin has just gotten better! The popular X-Rivet Guns have been retooled to make them smoother and more powerful, while still keeping them completely interchangeable with Chicago Pneumatic rivet guns. They are slow hitting with excellent finger tip control.

1/8" Aluminum (3/32" Steel) Rivet Capacity. Accepts all .401 shank rivet sets and attachments. Non-slip Powder Coat Finish. 1/4" NPT Inlet. Lifetime ATS-Pro Warranty.

Model No.	BPM	Capacity	Stroke	Part No.	Price
2X	2580	1/8"	2-1/4"	12-04857	\$167.80
3X	2160	3/16"	2-7/8"	12-04858	\$165.75
4X	1740	1/4"	3-1/16"	12-04859	\$173.75

## ATS FIELD RIVETING KITS



The ATS Pro Field Kit features top of the line tools. In it you get the best-selling Palm Drill (featuring a true variable speed trigger from 0 to 2600 RPM), plus an assortment of cobalt drill bits in the 4 most commonly use sizes (#40, #30, #21, and #11).

For perfect riveting jobs, ATS gives you the ATS Pro Rivet Gun with

feather trigger (including springs), two of ATS most popular Tungsten bucking bars, and a full set of riveting snaps. Included is a set of rivet gauges to make sure you get things right, and a bottle of oil to keep those tools running at peak performance.

It all comes to with a quality shadow-foamed hard tool case, making this the kit you will want to show off!

Black.....	P/N 12-05449	\$585.95
Red.....	P/N 12-05449-1	\$595.95
Black.....	P/N 12-05450	\$589.95
Red.....	P/N 12-05450-1	\$596.20

## AHRS SYSTEMS TOOL KIT



The fittings capture the tubing with stainless steel retainers. By suppressing the release ring (around the tubing entry port on the fitting), the tubing is easily removed. Within just a few minutes, you'll be able to disconnect and reconnect tubing. O-ring seals, and maintaining precise tubing diameter during the manufacturing process, ensures a reliable seal. For Experimental

Aircraft ONLY. Applicability and suitability of this kit is the responsibility of the builder. Kit Includes: • 2 x 102559-000, Static Port Alum 3/8" NPT • 2 x 102630-000, Fitting Tube Pneumatic Strt Female 1/4" OD PTC X 1/8" NPT • 6 x 102631-000, Fitting Tube Pneumatic Strt Male 1/4" OD PTC X 1/8" NPT • 2 x 102631-001, Fitting Tube Pneumatic Elbow Male 1/4" OD PTC X 1/8" NPT • 25' x 102632-000, Tube Pneumatic Polyethylene 0.17 ID X .25 OD BLU • 25' x 102632-001, Tube Pneumatic Polyethylene 0.17 ID X .25 OD GRN • 35' x 102632-002, Tube Pneumatic Polyethylene 0.17 ID X .25 OD Natural • 3 x 102639-000, Fitting Tube Pneumatic Y Union 1/4" OD • 1 x 102639-001, Fitting Tube Pneumatic T Union 1/4" OD • 1 x 102641-000, Tube Cutter • 30 x 102642-000, Snap Bushing • 2 x 102643-000, Sleeve Alum Coupling Tube 3/16" OD • 2 x 102644-000, Fitting Alum Flared Tube and Pipe Thread 3/16" OD  
P/N 12-03283 .....\$125.00

## PILOTS TOOL KIT



The fleet of general aviation aircraft is aging. Mandated maintenance promotes reliability, but experienced pilots know mechanical issues can still arise, sometimes far from an open FBO. This Pilot's Tool Kit provides the most common tools and other contents to help get you airborne, including a set of combination wrenches, 8" adjustable wrench,

tire pressure gauge, locking pliers, 6-in-1 screwdriver, hex wrenches, and diagonal cutters. A special aviation spark plug socket handles most spark plug makes, and a way-cool mini-ratchet and socket set provide additional utility. Finally, a telescopic mirror, cable ties, and 30 feet of aviation-grade safety wire are included. Everything is nicely organized into a tough roll-up pouch.....P/N 12-03772 .....\$89.95



## BLUE PNEUMATIC R AND D HAND TOOL KIT BP-738 METRIC

BP-738 Hand Tool. Mandrels including M3, M4, M5, and M6. Also includes 40 total pcs of assorted rivet nuts that match included mandrels. Comes in molded plastic case.....P/N 12-04871 .....\$54.95

## EFIS SYSTEMS TOOL KIT



The fittings capture the tubing with stainless steel retainers. By suppressing the release ring (around the tubing entry port on the fitting), the tubing is easily removed. Within just a few minutes, you'll be able to disconnect and reconnect tubing. O-ring seals, and maintaining precise tubing diameter during the manufacturing process, ensures a reliable seal. For Experimental Aircraft ONLY. Applicability and suitability of this kit is the responsibility of t • 1 - Union Tee • 2 - Union 90° • 2 - Synthetic Rubber Grommet • 30 - Snap Bushing • 2 - Female Connector • 2 - Static Port • 2 - AN Hardware Assembly • 1 - 25' 1/4" Green Tubing (Pitot) • 1 - 32' 1/4" White Tubing (Static) • 1 - 23' 1/4" Blue Tubing (AOA) .....P/N 12-03284 .....\$124.80

## ZENAIR HAND RIVETER



Hand Riveter with Custom Machined Heads. Riveter Heads (changeable Nose Bushing piece). ZENAIR blind (or pulled) rivets have been used to construct the all-metal Chris Heintz designs since the 1970s, and make riveting a quick and easy process! The ZENAIR riveting system forms the rivet head as the blind rivet is pulled, providing a low profile dome finish and high shear strength. Fast installation, simple tools and low cost make this a popular riveting system with homebuilders! **Note:** The riveter is supplied with the custom machined heads, required for the Zenair blind rivets ((for use with Zenair blind rivets, sold separately).....P/N 12-03713 .....\$66.85

## ZENAIR PNEUMATIC RIVETER



Pneumatic Riveter with Custom Machined Heads for use with Zenair blind rivets, sold separately ZENAIR blind (or pulled) rivets have been used to construct the all-metal Chris Heintz designs since the 1970s, and make riveting a quick and easy process! The ZENAIR riveting system forms the rivet head as the blind rivet is pulled, providing a low profile dome finish and high shear strength. Fast installation, simple tools and low cost make this a popular riveting system with homebuilders! **Note:** The riveter is supplied with the custom machined heads, required for the Zenair blind rivets, for use with Zenair blind rivets, sold separately.....P/N 12-03712 .....\$114.90

## ZENAIR BLIND RIVETS



These rivets are corrosion resistant, and the stem becomes locked in after being set. Also, not many different lengths are required for different diameters or thicknesses. In the Assembly Instructions, they are designated as A4 (1/8) and A5 (5/32). **Note: Sold in packages of 100.**

Description	Length	Grip	Drill	Min. Single Shear Length	Part No.	Price
A4 Blind Rivet	1/8" / 3.2mm	1/4" / 6.4mm	#30	110 lbf / 50kg	12-05538	\$0.14
A5 Blind Rivet	5/32" / 4mm	5/16" / 7.9mm	#20	180 lbf / 80kg	12-05539	\$0.20

## NUMATX HTS-C3K HYDRAULIC RIVET SQUEEZER



The Numatx HTS-C3K C-Squeezer System is a hydraulically operated hand held tool, designed to squeeze up to 1/8" diameter aircraft grade rivets (AD alloy). This unit is hydropneumatic operated (also known as pneumatic). The system is comprised of an

HTC-3 hand-held C-Squeezer unit and an HTI-10 Pressure Intensifier. The fully hydraulic C-Squeezer offers the advantages of decreased weight, smaller size, and constant force when compared to traditional pneumatic only squeezers. This reduces operator fatigue, allows for use in more confined areas, and improves control of the s2queezing action (feathering operation). The units are built from high-quality aircraft grade materials, with parts made on CNC machining centers and features held to close tolerances, for years of dependable operation.

Description	Part No.	Price
System Only - No Yoke	12-05135	\$758.00
System with 1.5 in Yoke	12-05136	\$817.00
System with 3 in Yoke	12-05137	\$823.00
System with 4 in Yoke	12-05138	\$982.00

TO

# TOOL KITS

## BAHCO FLIGHT AID METRIC GENERAL AVIATION TOOL KIT



An essential companion to pilots, this 45-piece GA Tool Kit is designed to assist in minor maintenance tasks. In keeping with the range of pre-designed tool kits, the Flight Aid Kit has adopted the tool control aspect. The high quality BAHCO aviation tools are individually embedded into Skydrol resistant foam. These foams have red material backing which highlights a missing tool immediately, whilst also ensuring that tools are kept organised and free from the risk of damage. Supplied in a high quality nylon bag with a comfortable grip handle, this kit is easily transportable and can be stowed in any orientation .....P/N 12-04983 .....\$415.00

## BAHCO FLIGHT AID IMPERIAL GENERAL AVIATION TOOL KIT



An essential maintenance companion to pilots, this 47-piece GA Tool Kit is designed to assist in minor maintenance tasks. In keeping with our range of pre-designed tool kits, the Flight Aid Kit has adopted the tool control aspect. The high quality BAHCO aviation tools are individually embedded into Skydrol resistant foam. These foams have red material backing which highlights a missing tool immediately, whilst also ensuring that tools are kept organised and free from the risk of damage. Supplied in a high quality nylon bag with a comfortable grip handle, this kit is easily transportable and can be stowed in any orientation .....P/N 12-04984 .....\$488.00

## BAHCO AVIATION IMPERIAL TOOL KIT RBI9200C



The high quality 8 drawer BAHCO tool cabinets are built to last. The kit includes 243 BACHO hand tools. The two different colours of the inlay indicate lost tools instantly, making tool control much faster, easier and safer. 8 Drawers Pro Tool Trolley PSP. P/N 12-04985 .....\$4,821.00

## BAHCO AVIATION METRIC HAND CARRY KIT RBA2



A selection of 146 BAHCO tools, with a lifetime guarantee, fitted into a steel tool case. The case has 3 draws, 1 lid tray, and a selection of lid clips. The top is covered with corrugated sheet metal to enable the case to be used as a step stool. The tools are embedded into two-colour foam, offering a heightened level of tool control. The foam is hydraulic fluid and oil resistant. P/N 12-04986 .....\$2,001.00

## BAHCO METRIC MECHANIC HAND TROLLEY CASE RBA3



A selection of 194 BAHCO tools, with a lifetime guarantee, fitted into a wheeled, synthetic resin, watertight, impact-resistant case with pressure equalizing valve. The tools are embedded into two-colour foam, offering a heightened level of tool control. The foam is hydraulic fluid and oil resistant. Synthetic resin tool case trolley in black .....P/N 12-04987 .....\$2,397.00

## BAHCO METRIC MECHANIC WORKSHOP CABINET WITH TOOLS RBA4



A selection of 114 BAHCO tools, with a lifetime guarantee, fitted into a 7 draw cabinet with 4 spare draws. The tools are embedded into two-colour foam, offering a heightened level of tool control. The foam is hydraulic fluid and oil resistant .....P/N 12-04988 .....\$1,528.00

## BAHCO METRIC MECHANIC WORKSHOP CABINET WITH TOOLS RBA5



A selection of 164 BAHCO tools, with a lifetime guarantee, fitted into a 7 draw cabinet with 3 spare draws. The tools are embedded into two-colour foam, offering a heightened level of tool control. The foam is hydraulic fluid and oil resistant .....P/N 12-04989 .....\$1,935.00

## METRIC MECHANIC WORKSHOP CABINET WITH TOOLS RBA6



A selection of 287 BAHCO tools, with a lifetime guarantee, fitted into a 7 draw cabinet with 2 spare draws. The tools are embedded into two-colour foam, offering a heightened level of tool control. The foam is hydraulic fluid and oil resistant .....P/N 12-04990 .....\$3,392.00

## METRIC MECHANIC WORKSHOP CABINET WITH TOOLS RBA6



The Kit PN RBI9300 contains 68 pieces of conventional and Avionic specific test and measurement equipment for use in the aviation service field. The sturdy black polypropylene case is ideal for the service environment as it is resilient to scratches, dents and is shock resistant. The case is also airtight, waterproof, dustproof and will remain afloat should it end up in water. The kit contents which includes a DMM designed for avionic testing, it may also be used for insulation measurement, are contained within the case whereby each component space is labelled. This "Tool Control" facility is a vital part of the kit. The special Aero leads are displayed in the lid of the case for initial visual inspection but thereafter can be stored in the respective colour coded tool rolls, which are supplied within the kit .....P/N 12-04991 .....\$6,415.00

## AVIONICS TOOLKIT RBI9600T



Tool case made out of synthetic resin, black, watertight, impact-resistant, with pressure equalizing valve, Inlays in two colours, red/antracite, Skydrol resistant. 84 piece set, BAHCO aviation handtools integrated in four different layers. The two different colours of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer .....P/N 12-04992 .....\$6,314.00

## BAHCO AVIATION TOOL KIT RBI8000T



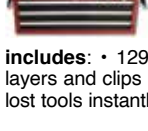
Tool case trolley made out of synthetic resin, black, watertight, impact-resistant, with pressure equalising valve, Inlays in two colours, red/ anthracite, Skydrol resistant. Kit includes: • 240 BAHCO aviation handtools inch/metric, specialised for Helicopters integrated in six different layers. • The two different colours of the inlay indicate lost tools on the spot and makes the tool control much faster and easier and safer. P/N 12-05068 .....\$3,708.00

## BAHCO AVIATION TOOL KIT RBI8100T



Tool case trolley made out of synthetic resin, black, watertight, impact-resistant, with pressure equalizing valve, Inlays in two colours, red/ anthracite, Skydrol resistant. Kit includes: • 189 BAHCO aviation hand tools inch/ metric, specialised for Boeing engineers, integrated in six different layers. • The two different colours of the inlay indicate lost tools on the spot and makes the tool control much faster and easier and safer .....P/N 12-05069 .....\$3,665.00

## BAHCO AVIATION TOOL KIT RBI9000TM



Top cap assembled with corrugated sheet metal to use the toolbox also as a step. Skydrol resistant. Kit includes: • 129 BAHCO aviation handtools integrated in four different layers and clips in the lid. • The two different colors of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer. P/N 12-05070 .....\$2,660.00

## BAHCO AVIATION TOOL KIT RBI9100TM



Steel tool case red powder coated. Three trays. Top cap assembled with corrugated sheet metal to use the toolbox also as a step. Skydrol resistant. Kit includes: • 148 BAHCO aviation handtools integrated in four different layers and clips in the lid. • The two different colors of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer .....P/N 12-05071 .....\$2,458.00

## BAHCO AVIATION TOOL KIT RBI9500T



Tool case made out of synthetic resin, black, watertight, impact-resistant, with pressure equalising valve, Inlays in two colours, red/antracite, Skydrol resistant. Kit includes: • 159 BAHCO aviation handtools integrated in four different layers. • The two different colours of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer. P/N 12-05072 .....\$2,459.00

## BAHCO AVIATION TOOL KIT RBI9400T



Tool case made out of synthetic resin, black, watertight, impact-resistant, with pressure equalizing valve, Inlays in two colours, red/antracite, Skydrol resistant. Kit includes: • 159 BAHCO aviation handtools integrated in four different layers • The two different colours of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer .....P/N 12-05073 .....\$2,566.00

TO



# TOOL KITS – SPECIALTY TOOLS



## BAHCO AVIATION TOOL KIT RBI9400T

Steel tool case red powder coated. Top cap assembled with corrugated sheet metal to use the toolbox also as a step. Skydrol resistant. Kit includes: • 148 BAHCO aviation handtools integrated in four different layers and clips in the lid. • The two different colours of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer. .... P/N 12-05074 .....**\$2,495.00**



## BAHCO AVIATION TOOL KIT RBI9900

Steel tool case red powder coated. Three trays Top cap assembled with corrugated sheet metal to use the toolbox also as a step. Skydrol resistant. Kit includes: • 193 BAHCO aviation handtools integrated in four different layers and clips in the lid. • The two different colours of the Inlay indicates lost tools instantly this makes tool control much faster, easier and safer. .... P/N 12-05075 .....**\$2,395.00**



## BAHCO AVIATION TOOL KIT RBI9650T

Tool case made out of synthetic resin, black, watertight, impact-resistant, with pressure equalizing valve, inlays in two colours, red/anthracite, Skydrol resistant. Kit includes: • 92 piece set, BAHCO aviation handtools. • Integrated in five different layers. • The two different colours of the inlay indicates lost tools instantly this makes tool control much faster, easier and safer. .... P/N 12-05076 .....**\$6,358.00**



## BAHCO AVIATION TOOL KIT RBI8300T

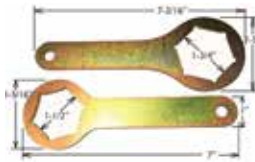
This kit includes 82 tools in HD rigid case. The case is designed to hold small tools in its drawers and medium tools in the upper tray. The toolkit lid is reinforced with an aluminum plate and internally with a metallic grid with clips for tools. Kit includes: • 82 BAHCO aviation hand tools inch/ metric. • The two different colours of the inlay indicate lost tools on the spot and makes the tool control much faster and easier and safer. ....P/N 12-05077 .....**\$2,579.00**



## BAHCO AVIATION TOOL KIT RBI8200T

Tool case trolley made out of synthetic resin, black, watertight, impact-resistant, with pressure equalizing valve, Inlays in two colours, red/ anthracite, Skydrol resistant. Kit includes: • 57 BAHCO aviation hand tools inch/ metric, specialised for use in maintaining UAV. • The two different colours of the inlay indicate lost tools on the spot and makes the tool control much faster and easier and safer. ....P/N 12-05078 .....**\$5,057.00**

## AXLE AND NOSE FORK NUT WRENCHES



These great little specialty tools are a must for all aircraft owners and mechanics as well. They are available in two sizes and will cover almost all GA aircraft. They are precision laser cut from 4130 chrome moly aircraft grade steel and heat treated to a 42 rockwell hardness so they are very strong. They then get zinc plated

to prevent corrosion and provide many years of service. These are .135" thick so you can rotate axle nuts and test fit the keepers or cotter pins in place. These tools weigh 4 oz. each.  
1-1/2 inch.....P/N 05-12377 .....**\$19.95**  
1-3/4 inch.....P/N 05-12475 .....**\$22.50**

## ULTIMATE PROPELLER WRENCHES



Unlike anything on the market at any price. This tool makes short work of R&R on your constant speed propeller. The one end ratchets without removal from the bolts and the other end is extremely strong fully reversible Crows Foot for torquing the propeller. Precision laser cut from 4340 Aircraft grade steel, heat treated to a 50 rockwell. Crows foot end is fully C&C machined for a perfect fit on the bolts. Utilizes both 1/2" & 3/8" ratchets, torque wrenches and extension tools. Crows foot end is offset 15° for double the versatility for difficult bolts behind prop blades. Black oxide plated for years of service and corrosion protection.  
5/8 inch.....P/N 05-12481 .....**\$72.65**  
3/4 inch.....P/N 05-12375 .....**\$72.85**



## TRIM TAB ADJUSTMENT TOOL

Adjusts trim tabs evenly with less chance of scratching paint.....P/N 13-19791 .....**\$9.90**

## SAFETY CABLE KIT



Safety Cable is a system used to secure hardware. Unlike traditional lock wire, Safety Cable is a much cleaner and faster way to secure hardware in critical areas of an aircraft. The system consists of a crimping tool and cables.

**Specifications:** • .032" Diam. x 18" Cable Length  
• Type 321 CRES • Includes 50 cables with a magazine with 50 ferrules  
P/N 12-04569 .....**\$89.95**

## SAFETY CABLE NOSE TOOLS



The unique tensioning/crimping Terminator Tool tensions the cable, crimps the ferrule on the cable, and cuts the cable flush with the ferrule. This tool utilizes the best principals of ergonomic design, user-friendly features, and improved operational durability. It is so user friendly that an entry level technician can learn the Safety Cable installation method in less than 30 minutes. The short length of this tool allows the user to get into tight places where access is restricted. The ergonomic design comfortably fits the operator's hand. The robust construction and the precise dimensional quality of the tool provide the reliability and repeatability that you are looking for. The tool nose can be rotated 360° for the optimum position of each Safety Cable™ installation while allowing the tool to stay in a comfortable ergonomic position.

5 inch nose tool .....P/N 12-04570 .....**\$499.00**  
7 inch nose tool .....P/N 12-04571 .....**\$499.00**



## WASHER WRENCH SET

Washer Wrench Set. This is a (4) piece washer wrench set. It's used to hold AN/aircraft washers to reach into hard to reach areas.  
P/N 12-04723 .....**\$39.95**

## SLICE PRECISION TWEEZERS POINTED TIPS



Perfectly aligned, hand-filed pointed tips plus a wide, comfortable patented non-slip grip for expert precision. Designed for Slice by famed architect Michael Graves. Measures approx. 86x20x9mm (20gm) - 3.5x0.75x0.35 in (0.7oz). Pointed Tip No Slip Grip  
P/N 12-04588 .....**\$19.99**

TO

FOR A LIST OF TOOL KIT CONTENTS VISIT OUR WEBSITE

# RIVETING HAMMERS

## RIVETING HAMMERS



US 3X

These high quality riveting hammers are excellent for all light aircraft metal riveting applications. They feature a convenient offset handle (except Model US3AA which is straight handle) and come complete with retainer spring and regulator. All models feature metered teasing trigger, made in U.S.A.

Part No.	Blows / Min.	Capacity		Stroke	Length	Weight (Lbs.)	Price
		Alum.	Bore				
US1X	3600	1/8"	9/16"	1-1/2"	5-11/16"	2	\$227.95
US2X	2580	1/8"	1/2"	2-1/4"	6-11/16"	2-1/4	\$259.00
US5X	1560	1/4"	3/4"	2-11/16"	6-11/16"	4-3/4	\$359.00
US7X	900	3/8"	3/4"	5-13/16"	8-5/16"	6	\$597.00

## "RECOILLESS" RIVETING HAMMERS



US 3R

In the early stages of developing a truly recoilless/fatigueless riveting hammer, it was determined that the tools must meet certain goals. The main goal being a reduction in low-frequency vibration in accordance with ISO Standard #5349-1986. In this standard are guidelines for the measurement and assessment of

human exposure to hand-transmitted vibration. As a result, the following has been achieved:

- Ergonomic design: To maximize user comfort by achieving a relaxing, comfortable, lightweight and balanced tool
- Compact tool size: Since aircraft riveting is never standard, a tool that will allow the best overall access
- Retain user touch: A metered trigger which provides single or multiple blows per minute while maintaining the ability to set rivets in seconds
- Further dampen noise output
- Least amount of parts: No similar tool is produced with fewer parts, thus enhancing reliability, but keeping it simple enough so that maintenance can be done by anyone.

Independent testing\* has shown these tools will greatly lessen job-related effects of prolonged exposure to vibration & boost user productivity.

## SPECIFICATIONS

Part No.	Capacity		Bore	Stroke	Blows per minute
	Alum.	Steel			
US3R	3/16"	5/32"	1/2"	3"	1900
US5R	1/4"	3/16"	1/2"	5"	1400

Part No.	Rivet Set dia	Overall Length	Weight	Air Inlet	Price
US3R	.401	7-7/8"	3 Lbs.	1/4 NPT	\$455.00
US5R	.401	9-7/8"	3.5 Lbs.	1/4 NPT	\$519.00



## PNEUMATIC RIVET SQUEEZER

Heavy duty industrial tools are manufactured to exacting standards to insure long service life. All critical parts, including the yoke, are fabricated from 4130 steel and heat treated to Rc 42-46. These rivet squeezers have earned a reputation for durability and reliability through years of service on the production lines of major airframe manufacturers such as Grumman, Piper, Beech and Cessna. Easily operated by one hand. All replacement parts and other yoke designs available. Features feathering throttle.

SPECIFICATION	MODEL	
	3000	6000
Max. Force	3000	6000
Rivet Capacity Dural	1/8"	3/16"
Steel	3/32"	5/32"
Standard Yoke Reach	2"	2"
Air Hose Size	1/4"	1/4"
Set Travel	9/16"	9/16"
Recommended Line Pressure	90PSI	90PSI
Weight	6 LBS.	6 LBS.

3000.....P/N 12-03400.....\$593.00  
6000.....P/N 12-03500.....\$752.00

## RIVET CONVERSION KITS



Converts your conventional hand pop riveter into an economical RivNut installer tool.

Size	Part No.	Price
6-32	12-13680	\$13.95
8-32	12-13681	\$11.95
10-32	12-13682	\$11.95

## AIRCRAFT RIVET GUNS



2X

The standard tool used in aircraft manufacturing plants such as Boeing, Rockwell, Lockheed etc., is completely interchangeable with Chicago Pneumatic. These tools are slow hitting with excellent finger tip control. Accepts all .401 shank rivet sets and attachments. All guns are brand new and carry a full 1 year warranty.

Part No.	Blows / Min.	Capacity Alum.	Bore	Stroke	Weight (Lbs.)	Price
2X	2580	1/8"	1/2"	2-1/4"	2.7	\$158.85
3X	2160	3/16"	1/2"	2-7/8"	3.4	\$139.95
4X	1740	1/4"	1/2"	3-1/16"	3.6	\$148.95

## TP82 AND TP84 RIVET GUNS



This "X" type feathering trigger riveter is the only rivet gun that allows you to slowly begin riveting without damage to the skin. This is critical in performing riveting operations. This gun is used by aircraft mechanics worldwide. It's also the perfect tool for kit builders. **Note:** Long term exposure to low frequency vibration caused by riveting may be harmful to your hands and arms. We suggest you take frequent breaks when riveting to reduce this exposure. **Features:**

- Takes .401 shank rivet sets
- Lightweight aluminum handle
- Price includes spring retainer & regulator (TP97)
- Precision machined hardened and ground valve
- "Sure Grip" powder coated finish
- Teasing trigger
- Precision machined and hardened cylinder for long life
- Made in the U.S.A.

2X Rivet Gun (1/8" Capacity).....P/N 12-02004.....\$158.85

## 3X RIVET GUN KIT



Virtually all the tools you need for riveting in kit form. Intended for professional sheet metal mechanics, serious home builder/students. Packed in a sturdy molded plastic case. #1 selling kit. Visit [www.aircraftspruce.com](http://www.aircraftspruce.com) for a complete list of kit contents.

P/N 12-00240.....\$299.00

## ATS ECONOMY RIVETING KIT (3X)



This cost-saving riveting kit features ATS's popular 2602A Rivet Gun, a selection of 4 Bucking Bars (141, 142, 148, and 149), plus a complete assortment of Rivet Sets to install Universal Head (AN470) or Flush (AN426) rivets in sizes 3/32" to 3/16". Comes to you in a stylish molded case to keep things neatly organized. This is the perfect "field" kit to take with you anywhere -- it has the riveting tools you need conveniently laid out in one handy ready-to-go package.....P/N 12-03195.....\$249.95

## SPECIAL DIMPLING & RIVET SET FOR RV4, RV6, RV8 AIRCRAFT



This 21-piece dimpling and riveting set was designed especially for use in the construction of the Vans RV aircraft series, however is ideal for a variety of other aircraft as well. All the riveting sets and dimple dies are made from heat treated stainless steel. Dimpling & Riveting Kit Contents: Set holder block, Cup sets, Flat sets, and Spring back dimple dies. Dimple Dies 3/32", 1/8" for rivets; 6-32, 8-32, 10-32 for screws. Cup Sets 3/32", 1/8", 5/32". Flat Sets 1/16", 1/8", 3/16", 1/4", 5/16", 3/8", 1/2". Polyethylene 4" X 4" storage block. 21-piece kit.....P/N 12-00450.....\$209.95

## 7-PC RIVET SET



Holder includes 3/32", 1/8", 5/32 and 3/16 cups for AN470 rivets, plus 3 flat sets for AN426 rivets. To be used with pneumatic or hand rivet squeezer.

P/N 12-00555.....\$55.75

## 6-PC DIMPLE DIE SET RIVET SIZE



Holder includes springback dimple dies for 3/32", 1/8" and 5/32" rivets. To be used with pneumatic or hand rivet squeezer.....P/N 12-00560.....\$103.85

## 6-PC DIMPLE DIE SET SCREW SIZE



Holder includes springback dimple dies for 6-32, 8-32 and 10-32 screw sizes. To be used with pneumatic or hand rivet squeezer.....P/N 12-00565.....\$103.85

TO



# RIVET SETS FOR RIVETING HAMMERS



## RIVET SETS STRAIGHT .401 SHANK (AN470)

Length "L"	Part Numbers					Price
	Rivet Size 3/32"	Rivet Size 1/8"	Rivet Size 5/32"	Rivet Size 3/16"	Rivet Size 1/4"	
3-1/2"	SM10-4703	SM10-4704	SM10-4705	SM10-4706	SM10-4708	\$8.50
5-1/2"	SM11-4703	SM11-4704	SM11-4705	SM11-4706	SM11-4708	\$24.85
7-1/2"	SM12-4703	SM12-4704	SM12-4705	SM12-4706	SM12-4708	\$26.50
10-1/2"	SM13-4703	SM13-4704	SM13-4705	SM13-4706	SM13-4708	\$36.60



## RIVET SETS STRAIGHT .498 SHANK (AN470)

Length "L"	Part Numbers					Price
	Rivet Size 3/32"	Rivet Size 1/8"	Rivet Size 5/32"	Rivet Size 3/16"	Rivet Size 1/4"	
3-1/2"	SM30-4703	SM30-4704	SM30-4705	SM30-4706	SM30-4708	\$19.50
5-1/2"	SM31-4703	SM31-4704	SM31-4705	SM31-4706	SM31-4708	\$29.85
7-1/2"	SM32-4703	SM32-4704	SM32-4705	SM32-4706	SM32-4708	\$25.90



## FLUSH SETS STRAIGHT .401 SHANK (AN426)

Dia.	Length	P/N	Price	Dia.	Length	P/N	Price
1"	2-1/2"	SM90	\$12.85	1-1/2"	5-1/2"	SM95	\$39.95
1"	3"	SM91	\$14.50	1-1/2"	3-1/8"	SM96	\$37.80
1"	5-1/2"	SM92	\$15.90	1-3/4"	3-1/4"	SM97	\$39.75
1-1/4"	3"	SM94	\$28.65				

NOTE: These flush sets are universal for any diameter rivet. Order by part number referencing the length and diameter of the flush set required.



## FLUSH SETS STRAIGHT .498 SHANK (AN426)

Dia.	Length	Part No.	Price	Dia.	Length	Part No.	Price
1"	3"	SM101	\$21.50	1"	5-1/2"	SM102	\$25.55

NOTE: These flush sets are universal for any diameter rivet. Order by part number referencing the length and diameter of the flush set required.

## SETS FOR HIGH SHEAR RIVETS .401 SHANK



Length on all is 3-1/2"

Rivet Size	Part No.	Price
5/32"	SMHS10-5	\$24.50
3/16"	SMHS10-6	\$25.50
1/4"	SMHS10-8	\$43.90



## RIVET SETS OFFSET .401 SHANK (AN470)

Length "L"	Part Numbers					Price
	Rivet Size 3/32"	Rivet Size 1/8"	Rivet Size 5/32"	Rivet Size 3/16"	Rivet Size 1/4"	
3-1/2"	SM20-4703	SM20-4704	SM20-4705	SM20-4706	SM20-4708	\$8.95
5-1/2"	SM21-4703	SM21-4704	SM21-4705	SM21-4706	SM21-4708	\$17.85
7-1/2"	SM22-4703	SM22-4704	SM22-4705	SM22-4706	SM22-4708	\$23.60
10-1/2"	SM23-4703	SM23-4704	SM23-4705	SM23-4706	SM23-4708	\$33.50

## FLUSH SETS OFFSET .401 SHANK (AN426)



Dia.	Length	Part No.	Price
1"	3-1/2"	SM140	\$10.50
1"	5-1/2"	SM141	\$23.85

NOTE: These flush sets are universal for any diameter rivet. Order by part number referencing the length and diameter of the flush set required.



## OFFSET FLUSH MUSHROOM SETS

Model #	Length	Description	Part No.	Price
07-140	3-1/2" (89 mm)	Offset Flush Set .401 Shank 1" Face	12-03738	\$12.85
07-141	5-1/2" (140 mm)	Offset Flush Set .401 Shank 1" Face	12-03739	\$23.50
07-142	7-1/2" (191 mm)	Offset Flush Set .401 Shank 1" Face	12-03741	\$25.75



## OFFSET FLUSH SET

Excellent for limited access areas.  
**Specifications:** • Shank: 0.401 • Surface Face: 1" x 1 1/2" .....P/N 12-02892 ..... \$34.95



## "T" FLUSH SET

T Flush Set.  
**Specifications:** • Surface: 1 1/2" x 1/2". Overall Length: 5 3/4". Weight: 0.50 lbs. Shank: 0.401  
 P/N 12-02894 ..... \$16.50



## BUCKING BLOCKS

Designed to be used with a riveting gun or by striking with a hammer. For aid with dimpling and/or riveting applications. Acts as a holding fixture for .187 shank dimple dies or rivet sets. Weight: 4 lbs .....P/N 12-00805 ..... \$36.50



## SWIVEL DIMPLING TOOL .401 SHANK

\*Can be used with TP93 Bucking Block

\*\*\*Example: To order L = 3-1/2 - 1/8" Rivet specify: SM10SP-4264

Model #	"L"	Type	Price
SM10SP***	3-1/2"	Punch	\$84.75
SM10SD	3-1/2"	Die	\$39.30

Cupings	3/32	1/8	5/32	3/16
For 100° Rivets (AN426)	4263	4264	4265	4266

## KNOCKOUT PUNCHES FOR HIGH SHEAR RIVETS



Knockout punches for high shear rivets .40 shank. Made in the U.S.A.

Description	Length	Rivet Size	Part No.	Price
SMHS401K-4	3-1/2"	1/8"	12-01116	\$9.65
SMHS401K-5	3-1/2"	5/32"	12-01117	\$20.95
SMHS401K-6	3-1/2"	3/16"	12-01118	\$20.95
SMHS401K-8	3-1/2"	1/4"	12-01119	\$9.85

## .401 SHANK RIVETING HAMMER ACCESSORIES



Description	Part No.	Price	Description	Part No.	Price
Twin Blade Cutter	12-05095	\$18.75	Chisel	12-05099	\$13.25
Moil Point	12-05096	\$14.95	Rivet Buster	12-05101	\$65.24
Body Ripper	12-05097	\$7.60	Spotweld Breaker	12-05102	\$13.75
Panel Cutter	1957	\$85.25	Scraper	12-05103	\$15.50
			Flush Set	12-01270	\$39.75



## RETAINER SPRINGS

Retainer springs comes in two styles: Quick Change Type: Designed to make possible speedy changing of rivet set in rivet gun. Beehive Type: Designed as a fixed type to securely hold rivet set in rivet gun.

Type	Rivet Hammer	ID	OD	Part No.	Price
Beehive	1X-2X-3X-4X; E3-E5; 3R-5R	1.09"	1.06"	12-01077	\$6.50
Beehive	5X-7X-9X	1.5"	1.2"	12-01078	\$7.50
Quick Change	AVC 10,11,12,13	1.40"	1.14"	12-01073	\$7.75
Quick Change	100B-200B,E3,E5	1.09"	1.06"	12-01079	\$4.65



## STUBBY MICROSTOP

Stubby Microstop 1/4"-28 Threaded Shank for use in angle motors. Adjustable in 0.001" increments. 1/4"-28 female threads. 1/2" cutter capacity. Rated for 3,000 RPM use.  
 P/N 12-02893 ..... \$26.50

## SPRING LOADED CENTER PUNCHES



Spring loaded center punch for 1/8" OR 3/32" and larger rivet heads. This spring loaded center punch works great with universal aluminum head rivets, oval head and round head rivets.  
 1/8" .....P/N 12-02464 ..... \$38.95  
 3/32" .....P/N 12-02934 ..... \$38.95

## BACK RIVETING RIVET SET

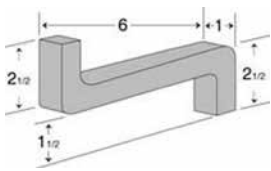


For back riveting flush rivets on RV control surfaces and other homebuilts. Has a plastic Delrin sleeve with spring to hold multiple sheets of aluminum together while riveting. 0.401 shank x 4-1/8 inches long.  
 Back Rivet Set 3-1/2" long  
 P/N 12-07100-3.. \$34.95 ea.

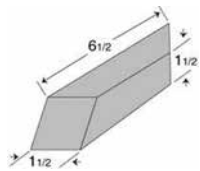
TO

# BUCKING BARS

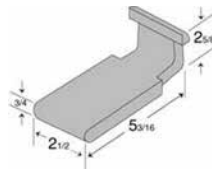
Our bucking bars are cast with ductile iron to insure non-porous finish which is very important in order to have a highly polished finished surface. They are heat treated to 38-42 RC and therefore can be repolished many times without changing hardness. This wide selection of sizes, shapes, and weights enables the aircraft builder to pick the proper bar for his job. Made in the U.S.A.



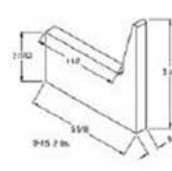
12-01302 2-3/4 Lbs.  
\$34.50



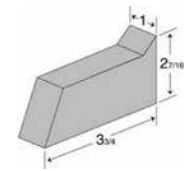
12-01303 3 Lbs.  
\$32.50



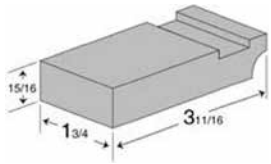
12-03768 3 Lbs.  
\$34.80



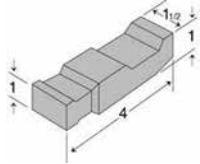
12-01306 2 Lbs.  
\$68.75



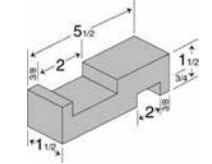
12-01307 1-3/4 Lbs.  
\$20.50



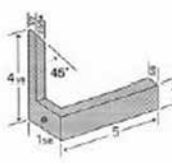
12-01308 1-1/2 Lbs.  
\$20.50



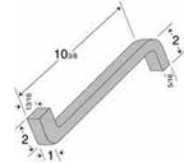
12-01309 1-1/4 Lbs.  
\$30.65



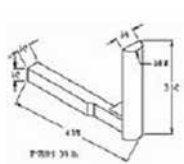
12-01310 2-3/8 Lbs.  
\$23.50



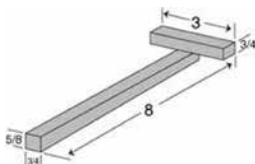
12-01311 1-1/4 Lbs.  
\$76.75



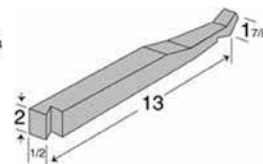
12-01312 3-5/16 Lbs.  
\$27.50



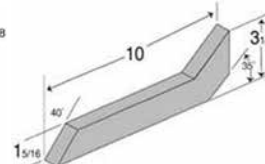
12-01313 1-1/4 Lbs.  
\$25.50



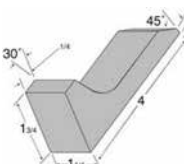
12-01315 1-1/2 Lbs.  
\$62.75



TP-683 3-1/4 Lbs.  
\$20.50



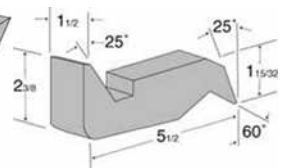
12-01319 1-3/4 Lbs.  
\$62.75



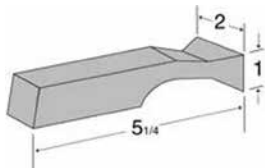
12-03736 1-1/4 Lbs.  
\$55.80



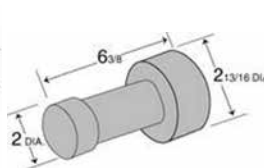
12-01280 1-3/8 Lbs.  
\$19.55



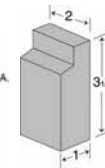
12-01281 3 Lbs.  
\$15.90



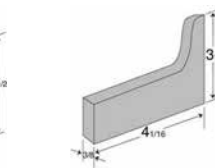
12-01282 1-3/8 Lbs.  
\$25.75



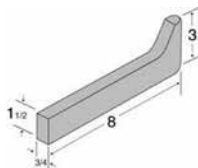
12-01284 6 Lbs.  
\$43.50



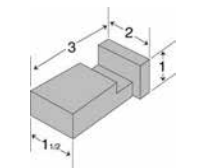
12-01285 1-1/2 Lbs.  
\$20.70



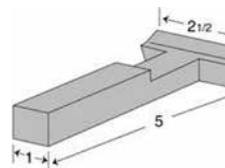
12-01286 3/4 Lb.  
\$52.80



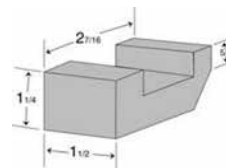
12-01287 2-3/4 Lbs.  
\$17.95



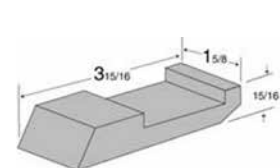
12-01288 1-1/4 Lbs.  
\$20.50



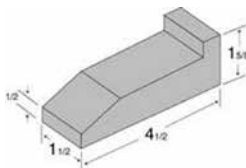
12-01289 1-1/4 Lbs.  
\$19.85



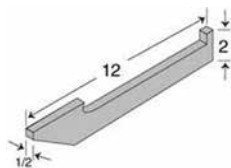
12-01290 1 Lb.  
\$20.50



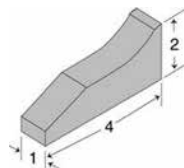
12-01291 1-1/4 Lbs.  
\$24.70



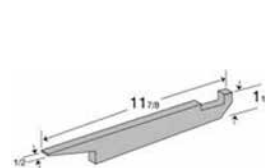
12-01292 2 Lbs.  
\$20.50



12-00828 2-1/4 Lbs.  
\$59.95



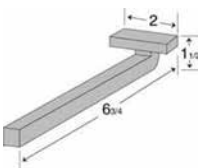
12-00841 1-1/2 Lbs.  
\$17.95



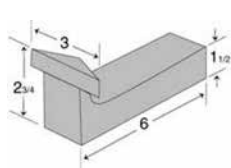
12-01294 2 Lbs.  
\$27.50



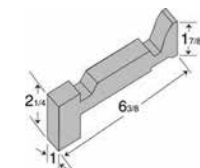
AT-618 2-1/4 Lbs.  
\$57.75



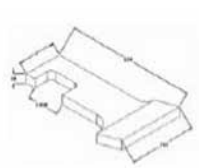
12-01295 1 Lb.  
\$20.70



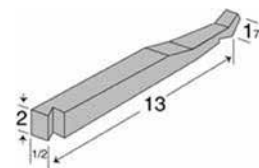
12-01296 4-1/4 Lbs.  
\$30.95



12-01298 1-3/4 Lbs.  
\$23.75



12-01299 2-1/4 Lbs.  
\$39.95



12-01301 3-1/4 Lbs.  
\$20.50

TO



# BUCKING BARS – V-DRILL – V-TAP GUIDES



## BUCKING BAR 601

5.25 lbs.....P/N 12-02907 .....\$19.95



## BUCKING BAR 638

1.25 lbs. Style B..P/N 12-02899 .....\$15.95



## BUCKING BAR 670

2 lbs. Style A.....P/N 12-02898 .....\$14.95



## BUCKING BAR 692

2.9 lbs.....P/N 12-02909 .....\$16.95



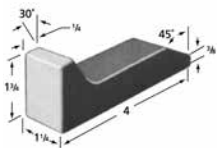
## BUCKING BAR 736

2.11 lbs.....P/N 12-02908 .....\$15.95



## BUCKING BAR 750U-1

1.65 lbs.....P/N 12-02906 .....\$11.95



## BUCKING BAR 763

1.25 lbs .....P/N 12-03736 .....\$55.80

## BUCKING BAR KIT



This starter kit contains the most commonly used bucking bars. Multi-finished surfaces for numerous applications. Heat treated for durability.  
 • 1 AT638 Bucking Bar • 1 AT681 Bucking Bar • 1 AT647 Bucking Bar  
 • 1 AT670 Bucking Bar.....P/N 12-00840 .....\$184.75

## ATS TUNGSTEN BUCKING BAR KIT - 4 PIECES

Tungsten bucking bar kit containing our most popular bucking bars. ATS6005, ATS6006, ATS6007, ATS6008, and comes in custom line foam case.....P/N 12-05453 .....\$490.00

## ATS TUNGSTEN BUCKING BAR SET - 7 PIECES

7 Piece Tungsten bucking bar kit containing the complete set of tungsten bucking bars. The bars come in a custom foam lined case.  
 P/N 12-05452 .....\$796.00

## V-DRILL PORTABLE GUIDES



The V-Drill Guide is like a portable drill press for precision alignment. V-groove along the bottom of the guide allows for perpendicular alignment with all drill sizes on round parts and corners. Bottom surface is precision ground to assure stability and accurate perpendicular alignment on flat surfaces. Drill guide is sized for drill bit sizes: 1/8" to 3/8", and made for 17 standard drill sizes (1/8 to 3/8 in 1/64 increments). Guides are made from special nickel alloyed steel that is heat treated for durability. Drill Straight - Every Time! Drill Guide comes with a handy plastic storage case and is 100% American Made Quality. **Features:** • Accurate - 90 degree V-groove along the bottom - automatically squares up the drill with the surface • Portable - Pocket size - Reusable plastic storage tube • Built to Last - Special nickel alloyed steel • High Quality - Natural steel finish - non-plated - Heat-treated for durability.

1/8" to 3/8".....P/N 12-02937 .....\$24.95  
 3/8" to 1/2".....P/N 12-03455 .....\$26.96

## V-TAP GUIDES



The V-Tap Guides are for regular ground taps for hand tapping threads into pre-drilled holes. Works great on flat surfaces, round parts, and angled edges. Tap Straight - Every Time!

**Standard:** Guide holes are sized for ANSI Standard Ground Taps (0-80, 1-64, 1-72, 2-56, 2-64, 3-48, 3-56, 4-36, 4-40, 4-48, 5-40, 5-44, 6-32, 6-36, 6-40, 8-32, 8-36, 8-40, 10-24, 10-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 5/8-18). A protective plastic storage tube is included.....P/N 12-02938 .....\$22.95

**Metric:** Guide holes are sized for ANSI Standard Ground Thread Metric Taps (1.6mm, 2mm, 2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm, 8mm, 10mm, 12mm, 14mm, 16mm). A protective plastic storage case is included.....P/N 12-02939 .....\$22.95

## STI V-TAP GUIDES (SCREW THREAD INSERTS)



The STI (Screw Thread Insert) V-Tap Guides are for Helicoil type taps to repair striped out threads.

**STI V-TAP Guide (Unified Course Threads):** Can handle standard ground STI hand tap sizes: 9/16-12, 1/2-13, 7/16-14, 3/8-16, 5/16-18, 1/4-20, 12-24, 10-24, 8-32, 6-32 .....P/N 12-02940 .....\$22.95

**STI V-TAP Guide (Unified Fine Threads):** Can handle standard ground STI hand tap sizes: 5/8-18, 9/16-18, 1/2-20, 7/16-20, 3/8-24, 5/16-24, 1/4-28, 10-32, 8-36.....P/N 12-02941 .....\$22.95

## TUNGSTEN BUCKING BARS



Dims: 4" long, 1" wide, 5/8" high  
 Weight: 1.6 lbs  
 P/N 12-04861 .....\$126.75



Dims: 5/8" long, 1.5" wide, 2" high  
 Weight: 1.2lbs  
 P/N 12-04862 .....\$119.85



Dims: 3/4" long, 1.5" wide, 2.5" high  
 Weight: 1.6 lbs  
 P/N 12-04863 .....\$165.75



Dims: 2" x 1-1/2" x 5/8"  
 Weight: 1.33 lbs  
 P/N 12-04864 .....\$124.75



Dims: 5/8" long, 1" wide, 1/4" high  
 Weight: 1.3 lbs  
 P/N 12-04865 .....\$138.85



Dims: 1" long, 1" wide, 2.25" high  
 Weight: 1.4 lbs high  
 P/N 12-04866 .....\$124.75

TO

# RIVET TOOLS



## RIVET REMOVAL TOOL

This quality tool enables the user to quickly and accurately remove rivets and blind fasteners. The tool comes complete with drill bits and guides, #40, #30, #21, and #10. Made in U.S.A. P/N 12-00817 ..... **\$48.85**

## REPLACEMENT BITS

P/N 12-01128 - #10 ..... **\$4.95** P/N 12-01130 - #30 ..... **\$2.85**  
 P/N 12-01129 - #21 ..... **\$3.85** P/N 12-01131 - #40 ..... **\$3.95**

## HAND RIVETING & DIMPLING TOOL



Used for hand dimpling of skins and small parts and for hand riveting of parts, assemblies, and spars. This tool maintains alignment of the dies to each other, and insures proper alignment to the work surface for superior dimpling results over either rivet gun or free-hand dimpling methods.

**Features include:** • 22" deep x 4" tall throat • Heavy wall 1" x 2" steel tube arm • Heavy wall aluminum channel base • Bronze 1/2" I.D. guide bushings for shafts • Heat treated

and centerless ground stainless steel driver shaft (2) - one shaft has flat end for riveting with rivet gun & one shaft accepts 0.187" shanks for dimple dies & sets. • 1.5" extension shaft for dies • Adjustable die holder block. Rivet Tool Return Spring Kit now included (Spring, collar and wrench). Great for one handed dimpling of skins and parts. Uses rivet, dimple and die sets with .187" shank. (Dies and sets sold separately). P/N 12-00177 ..... **\$233.95**



## DRDT-2 RIVET DIMPLER

DRDT-2 (AKA Dash 2) is a welded steel c-frame rivet dimpler. Replaces the common impact c-frame rivet dimplers of the past. With its ample mechanical advantage, dimpling is fast, easy, less fatiguing and safe on the skins. With a fully adjustable set holder you can achieve consistent and accurate dimples. The DRDT-2 incorporates a new low force spring return system that prevents skin damage from the accidental release of the handle without increasing the

force required to dimple. 22" throat depth allows dimpling of up to 44" wide sheets. The relief under the lower frame member provides dimpling access to spars, ribs, leading edge skins. Designed and analyzed using state of the art engineering tools the DRDT-2 can handle all your dimpling needs on your project. The DRDT-2 is painted with an industrial powder coat giving one of the toughest finishes available.

**Features:** • Weight: 60 lbs • Size: 28"X16"X3" • Capacity: Up to 22" depth • Gap: 4" • Skin thickness: Up to 0.040" Aluminum. Dimple Dies: 3/16" shank Diameter.

Rivet Dimpler ..... P/N 12-00907 ..... **\$498.00**  
 Dimple Die Rivet Set ..... P/N 12-00560 ..... **\$103.85**  
 Dimple Die Screw Set ..... P/N 12-00565 ..... **\$103.85**

## ATS POP DIMPLE DIES



This product is a clever way to set dimple in sheet metal using a pop riveter. Just place both halves on the sheet metal insert in your riveter and squeeze to form a perfect dimple. 3/32" ..... P/N 12-00169 ..... **\$13.50**  
 1/8" ..... P/N 12-01179 ..... **\$12.55**

## DRILL STOPS



Lock on drill with set screw. Regulate hole depth, cushion the breakthrough. Eliminate surface marks & reduce drill breakage.

#40 Drill ..... P/N 12-08800 ..... **\$1.15**  
 #30 Drill ..... P/N 12-08900 ..... **\$1.15**  
 #28 Drill ..... P/N 12-09000 ..... **\$3.35**  
 #21 Drill ..... P/N 12-09100 ..... **\$1.15**  
 #20 Drill ..... P/N 12-09200 ..... **\$1.15**  
 #12 Drill ..... P/N 12-09300 ..... **\$1.55**  
 #10 Drill ..... P/N 12-09400 ..... **\$1.15**  
 1/4" Drill ..... P/N 12-09500 ..... **\$1.55**

## OOPS HOLE SAVER RIVET KIT



"OOPS" Hole saver rivet kit. NAS 1097 rivets are 100° flush rivets with a smaller head. The 1/8" 1097 rivet head is the same size diameter as the normal 3/32" 426 Flush rivet. Easy fix on mistakes made on 3/32" flush rivets. The 3/32" NAS 1097 rivets are great for installing nutplates- you can deburr hole (instead of countersinking) and the reduced head on the NAS 1097 will fit.

3 sizes of 3/32": NAS1097AD-3-3, NAS1097AD-3-3.5, NAS1097AD-3-4  
 3 sizes of 1/8": NAS1097AD-4-3.5, NAS1097AD-4.4, NAS1097AD-4.5  
 And also includes: Plastic divided storage box. P/N 12-03781 ..... **\$25.50**

## HEAVY DUTY

## LOCKBOLT RIVETER



Powerful air-hydraulic riveter is designed specifically to install two-piece lockbolt fasteners of all types, including Avdel MaxLok, Huck Lockbolts, and Pop Lockbolts. Pulling Force 4,100 lbs (1,860 Kg). Stroke Length .9" (23 mm). Pulls 3/16" (4.8 mm) & 1/4" (6.4 mm) Lockbolts. Weight 6.38 lbs (2.9 kg). Requires 90 PSI at 3 CFM. Includes stem deflector ..... P/N 12-04812 ..... **\$1,095.00**

## ROUTER



This air-powered router is very light weight and features a straight handle and rear exhaust. Base is 1-1/2" and router guide is included. RPM: 20,000. Router shank: 1/4". Length: 6". Wt.: 1-1/2.12 Lbs. Made in U.S.A. P/N 12-01321 ..... **\$358.00**

## ANGLE DRILL



Affordable Close-Quarter drilling tools with Steel alloy cylinder & rotor for long tool life. Also precision machined for smooth & quiet operation. Milled motor housing - rear exhaust. Made in USA.

**Specifications:** • 90° Angle - 1/4" Capacity, 1/4"-28 Thread - 0.3 hp (0.22 kW) • 3200 RPM • 90PSI (MAX) • Overall Length 8-1/4" (210 mm) • Weight 1.25 lbs ..... P/N 12-00241 ..... **\$387.00**

## SMALL BODY RIGHT

## ANGLE DRILL



The ACAT 90 Degree Right Angle Drill is a high-precision, powerful, durable drill. 3200 RPM. Weight: 1.8 lbs. Length: 10 1/4". Accepts industry standard 1/4" - 28 threaded bits. P/N 12-02859 ..... **\$249.85**

## AIR DRILL PISTOL - TYPE 4500 RPM



Ergonomically designed, compact, quiet, and powerful are just a few of the benefits available with this air drill. The short body length is ideal for working in tight areas while the light weight and perfect balance makes it the mechanics favorite drill.

- Includes chuck guard
- 75 HP motor - High Torque Motor
- Variable speed teasing trigger standard - adjustable trigger optional
- Made in the USA
- Capacity: 1/4"
- Length: 6"
- Weight: 2 lbs ..... P/N 12-00816 ..... **\$645.00**

## RIVET BUSTER



Rivet Buster for shearing all types of rivets. Shank: 0.401. Size includes 5/8" ..... P/N 12-03779 ..... **\$15.95**

## LONG REACH PLIER KITS



(3) pieces for access into the most demanding applications. Each plier has a full 11" reach. Medium carbon steel, hardened, fully polished. Cushion PVC handles. Vinyl storage pouch. Model TP942 ..... P/N 12-00364 ..... **\$52.75**

## HOLE DUPLICATORS (BUSHING TYPE)



Provide an accurate means of drilling duplicate matching holes in over-lapping sheets. Hole to be duplicated is drilled though bushing when pilot is in place ..... **\$18.50 ea**

Part No.	Pilot & Drill Size	Part No.	Pilot & Drill Size
AT532-61 #40	(.098")	AT532-63 #21	(.159")
AT532-62 #30	(.129")	AT532-65 #10	(.194")

TO



# SHEET METAL TOOLS



## MARVEL AIR TOOL OIL

MARVEL brand oil - especially engineered for care of piston-type and rotary air tools. Prevents rust formation while providing lubrication for longer tool life and smoother operation. Keeps your air tools in top shape. A "must" for all air tools. 4 oz. bottle with spout.....P/N 12-00872 ..... **\$7.95**



## MICRO-STOP COUNTERSINK CAGES & NYLON FOOT PIECE

2 Models available-one with NEEDLE bearing and one with BRONZE bushings. .001" increment depth adjustment. Positive adjustment lock. 1/4" dia. shank. 9/32" shaft travel. 9/16" cutter capacity. For 1/4-28 threaded cutters. Comes with "NO-MAR" foot piece. Rated at 3,000 RPM. Made in USA. With Bronze Bushings..P/N 12-01412 ..... **\$36.50**  
With Needle Bearings..P/N 12-00940 ..... **\$44.90**



## SQUEEZER SET MIX

6 piece set of the most commonly used squeezer sets shown above: 3/32" & 1/8" cup sets; 1/8" modified cup set; 1/8" & 1/4" flush sets; & 1/16" by 3/8" dia. flush set; plus #4510 organizer block. P/N 12-00882 ..... **\$48.65**



## 90° ANGLE DRILL KIT

This angle drill kit includes a drill attachment with quality ball bearing construction for long life. Kit includes 12 threaded drills in assorted sizes and lengths, a mini 3-jaw chuck with 1/16" to 1/4" diameter capacity, and a molded storage case. Made in the U.S.A.

**Drill Sizes:** 1 ea. #2140 #40 stubby 1 ea. #2130 #30 stubby  
2 ea. #3140 #40 short 2 ea. #3130 #30 short  
1 ea. #3127 #27 short 1 ea. #3121 #21 short  
1 ea. #3112 #12 short 1 ea. #3114 #1/4" short  
1 ea. #4140 #40 long 1 ea. #4130 #30 long  
1 ea. #20379 Mini 3-jaw chuck  
P/N 12-00883 ..... **\$192.90**



## STOP COUNTERSINK CUTTERS - 100°

• Made in the U.S.A. • High Speed Steel • 1/4" -28 Threaded Shanks • 100° 3-Flute Precision Ground • For Use in Micro-Stop Countersink Units • 8 Sizes Available

Pilot Size	Decimal Equiv.	Body Dia.	Part No.	Price
#40 (3/32" rivet)	.0980"	3/8"	12-00879	<b>\$12.85</b>
#40 (3/32" rivet)	.0980"	1/2"	12-00942	<b>\$12.85</b>
#30 (1/8" rivet)	.1285"	3/8"	12-00880	<b>\$12.85</b>
#30 (1/8" rivet)	.1285"	1/2"	12-03331	<b>\$13.50</b>
#27 (#6 screw)	.1440"	1/2"	12-00943	<b>\$12.85</b>
#20 (#8 screw)	.1610"	1/2"	12-00881	<b>\$12.85</b>
#12 (#10 screw)	.1890"	1/2"	12-00944	<b>\$12.85</b>
5/32" (5/32" rivet)	.1560"	1/2"	12-00945	<b>\$12.85</b>
3/16" (3/16" rivet)	.1875"	1/2"	12-00946	<b>\$12.85</b>
1/4" (1/4" rivet)	.2500"	1/2"	12-00947	<b>\$12.95</b>



## ECONOMY COUNTERSINK CUTTERS 100°

Economy High Speed Steel 3/8" and 1/2" dia in 8 different sizes • High Speed Steel • 1/4" -28 Threaded Shanks • 100° 3-Flute Precision Ground • For Use in Micro-Stop Countersink Units • 8 Sizes Available

Size	Decimal Equiv.	Body Dia.	Part No.	Price
#40 (3/32" rivet)	.0980"	3/8"	12-03249	<b>\$7.95</b>
#40 (3/32" rivet)	.0980"	1/2"	12-03250	<b>\$7.75</b>
#30 (1/8" rivet)	.1285"	3/8"	12-03251	<b>\$7.95</b>
#30 (1/8" rivet)	.1285"	1/2"	12-03252	<b>\$7.90</b>
#27 (#6 screw)	.14440"	3/8"	12-03253	<b>\$9.95</b>
#20 (#8 screw)	.1610"	3/8"	12-03255	<b>\$10.50</b>
#12 (#10 screw)	.1890"	3/8"	12-03257	<b>\$10.50</b>
5/32" (5/32" rivet)	.1560"	3/8"	12-03259	<b>\$10.50</b>
3/16" (3/16" rivet)	.1875"	3/8"	12-03261	<b>\$10.50</b>

## 360° SWIVEL HAND POP RIVET TOOL

Stanley brand professional hand pop rivet tool. Unique head design swivels 360° for riveting in any position, at any angle. Extended nose for hard to reach places. Built in handle latch. Die-Cast aluminum & hardened steel construction. Molded grips. Includes (4) interchangeable steel nose-pieces for: 3/32", 1/8", 5/32", & 3/16"



P/N 12-00889 ..... **\$47.50**



## DELUXE SPRING BACK TYPE DIMPLE DIE KIT WITH BLOCK

This deluxe spring back type dimple die kit has all the most commonly used dimple dies in one package. This kit includes:

1- 3/32 Dimple Die Set 1- #14870 Female Die / 3/8" Dia.  
1- 1/8 Dimple Die Set 1- #14871 1/8" Female Die / 3/8" Dia.  
1- #6 Screw Dimple Die Set 1- #8 Screw Dimple Die Set  
1- #4520 Organizer Block for Dies

P/N 12-00868 ..... **\$164.75**



## DOUBLE OFFSET RIVET SET

Double offset rivet set for universal AN470 rivets, 5-1/2" long sets. Used for hard to reach rivets in corners. High alloy steel and heat treated. Shanks are precision ground. Cuppings are polished.

3/32" Double Offset Rivet Set ..... P/N 12-00936 ..... **\$29.95**  
1/8" Dbl. Offset Rivet Set ..... P/N 12-00873 ..... **\$29.50**  
5/32" Double Offset Rivet Set ..... P/N 12-00937 ..... **\$29.75**  
3/16" Double Offset Rivet Set ..... P/N 12-00938 ..... **\$29.90**  
4-PC Double Offset Rivet Set ..... P/N 12-00939 ..... **\$115.75**



## AVERY CUTTING & POLISHING WHEEL KIT

Cutting polishing wheels are a uniform blend of minerals and resins molded into wheel form with rugged, dense construction that provides aggressive polishing and blending action without removing excess base materials. These wheels generate uniform finishes and can remove minor surface imperfections.

Use these wheels with a die grinder for deburring holes and edges. Small wheels are more versatile than large (6") wheels. Can be used on handheld parts or parts in the jig. These wheels are the same density, grade, and mineral type as the 7A MED 6" wheel.

Kit Contents: (1) #936 Mandrel + (2) 1" x 1" x 3/16" Wheels (1) #932 Mandrel + (2) 2" x 3/4" x 1/4" Wheels ..... P/N 12-00876 ..... **\$65.75**  
1" x 1" x 3/16" Hole Wheel ..... P/N 12-01997 ..... **\$9.95**  
Mandrel for 3700 ..... P/N 12-01996 ..... **\$8.50**  
Mandrel for 3719 ..... P/N 12-01998 ..... **\$10.90**

## 3M™ SCOTCH-BRITE™ DEBURRING WHEEL



**Two Styles Available:** Cut & Polish/Unitized Wheel-7A Medium grade (harder) Use to radius and deburr edges of aluminum parts. These wheels give a uniform brushed satin finish to parts and deburr quicker and easier than hand finishing. These wheels are discs of Scotch-Brite web compressed and bonded to form a rugged, dense wheel. Wheel size: 6" dia. x 1" wide x

1/2" thru hole. .... P/N 12-00875 ..... **\$81.75**

**Light Deburring Wheel-7S Fine Grade (Softer)**

Light deburring 7S Fin 6 x 1 x 1. This wheel has a 1" thru hole. To fit 1/2" order P/N 12-01585..... P/N 12-00948 ..... **\$81.75**

**3M Flange Adapter 45035 1" to 1/2"** ..... P/N 12-01585 ..... **\$5.90**

**3M Flange Adapter 45034 1" to 5/8"** ..... P/N 12-05134 ..... **\$5.75**



## DRIVE PIN PUNCHES

Drive Pin Punch 1/16" ..... P/N 12-00949 ..... **\$10.50**

Drive Pin Punch 3/32" ..... P/N 12-00870 ..... **\$10.50**

Drive Pin Punch 1/8" ..... P/N 12-00871 ..... **\$10.50**



## 4-PIECE DRILL STOP SET

Use when drilling in sheet metal to help eliminate drill breakage & surface marks. Safely keeps drill from going too far through the work. Drill stops have a coiled spring to cushion the drill breakthrough & prevents the drill chuck from marring the work surface. Color coded for easy identification.

P/N 12-00867 ..... **\$10.75**

TO

# SHEET METAL TOOLS

## POLYETHYLENE DIMPLING Mallet



This custom made UHMW polyethylene plastic mallet is great for dimpling skins. Blows are more solid and much quieter than with steel hammers. Will outlast wood mallets. Hammer head measures 2.5" round x 4" long with 12" handle. Wt: 16oz.

P/N 12-00605 ..... **\$42.50**

## PLASTIC FORMING Mallet



This custom made UHMW polyethylene plastic forming mallet is great for metal forming. Smooth radiused surfaces will not mar surface. Long life, split resistant. Mallet head measures 2.5" round X 5" long w/ 11" handle; Wt: 14 oz. Great combo to the shot bag.

P/N 12-00607 ..... **\$39.65**

## METAL FORMING SHOT BAG



For those builders that want to try their hand at metal forming this leather shot bag is a must have item. Leather shot bag made from 3/4 oz. top grain cowhide. The bag is double stitched and fills through a 1" opening sealed with Velcro. The bag is 12" round and 1-1/2" thick. Use lead shot #8 - #7.5; or sand - mortar quality type (shot can be purchased at local sporting goods or gun stores).....P/N 12-00606 ..... **\$53.75**

## HAND SEAMER/3.5" JAW



Has VISE GRIP locking feature to aid clamping & holding work. Use for straightening and bending rib and bulkhead flanges. Made with 7" vise grip plier. Jaws are made from 3/16" X 1" X 3-1/2" stainless steel with machined radius. TIG welded & polished.

P/N 12-00608 ..... **\$49.95**

## FLUTING PLIER



Make narrow & precise flutes for straightening ribs and bulkheads easier & better than pliers with molded jaws. Made with 7" VISE GRIP pliers. Pins are 3/16" dia. stainless steel. TIG welded & polished.

P/N 12-00609 ..... **\$49.95**

## VISE GRIP DIMPLERS



Made for dimpling in restricted and hard to reach places where regular dimple dies won't fit. Made with 7" VISE GRIP plier. Machined tool steel dimple dies are T.I.G. welded to the VISE GRIP jaws then polished. 2 sizes available (3/32" and 1/8").

3/32" ..... P/N 12-00611 ..... **\$49.95**

1/8" ..... P/N 12-00612 ..... **\$49.95**

## LEVER SNIPS



Offset cutting tool, leaves 2 clean, finished edges. 8.5" length, .75 lb.

Model TP134 - (Left hand snip, cuts left & straight) ..... P/N 12-00367 ..... **\$39.60**

## TEMPIL MARKERS



Marks easily on metal, ceramic, glass, plastic, wood and paper. Markings are fast drying, permanent, weatherproof. Won't rub off, run, fade, chip, peel or blister. The surface can be wet, dry, rough, smooth or oily. Efficient on any horizontal, vertical or inclined surface. Long-lasting 6" ball point tube with non-clogging paint.

Black ..... P/N 12-11901 ..... **\$13.75**

Red ..... P/N 12-11907 ..... **\$10.50**

Yellow ..... P/N 12-11911 ..... **\$9.50**

## 3 INCH CUT OFF WHEELS



3" x .03" x 1/4" Cut-Off Wheels by Black Hawk Abrasives are thin but strong die grinder cutting discs built for fast slicing even on hard materials. Also, sometimes called whiz wheels, these 3-inch cutting wheels are made with reinforced fiberglass mesh and a heat-treated aluminum oxide grain bonding matrix for additional safety, lateral stability, and increased longevity. These cutoff discs have a 3-inch diameter making them perfect for cutting in hard to reach places. Additionally, the .03 inch thickness (1/32 inch thickness) allows for rapid cuts with minimal workpiece material loss. The Black Hawk 3-inch metal cut-off wheel can be used on stainless steel or steel and is ideal for applications such as flash removal, cutting pipes, cutting rods or removing gates to name a few.

3 x 1/32 x 1/4 Inches ..... P/N 09-05685 ..... **\$1.25**

3 x 1/16 x 3/8 Inches ..... P/N 09-01523 ..... **\$1.00**

## ADJUSTABLE SET HOLDER FOR PNEUMATIC SQUEEZERS



New improved design. Heat treated 4130 steel investment casting with rolled threads. This special set holder is made to replace the rigid (2-9/16") set holder standard to most

CP214 style pneumatic squeezers. This adjustable set holder will eliminate the need to shim the dies and sets with shim washers. Adjustments are faster & easier ..... P/N 12-00615 ..... **\$84.75**

**Note: Only for yokes with 1" thick base or less. Will not work in tandem units.**

## POP GRIP DIMPLERS AN-426 RIVETS



For dimpling in hard to reach places. Works with any hand pop rivet tool. Can be used over & over. Works for both 100 & 120 pop rivets. Extra nails included (Uses standard hardware store nails). 2 sizes available.

3/32" ..... P/N 12-00613 ..... **\$23.50**

1/8" ..... P/N 12-00614 ..... **\$24.50**

**Note: The pop rivet dimplers show above are made with 100° angles, same as regular dimple dies. They will work with either solid flush rivets (AN-426 - 100°) or with pull type rivets such as a AVEX rivets (120°), etc. The dimple formed with these pop rivet dies will not be as 'sharp' as dimples formed with regular dimple dies. This is because you get more pressure with a squeezer or a hammer than with a pop rivet puller; however, the dimples formed with pop rivet dimplers are adequate for occasional use in tight or hard-to-use places.**

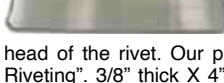
## FLUSH SWIVEL RIVET SET



U.S. MADE -- ATI Brand. New design flush rivet set with swivel action eliminates problem of rivet gun alignment with the work surface + rubber guard to reduce slippage while flush riveting. .401" shank X 1-1/4" dia. polished face. Built-in retaining spring.

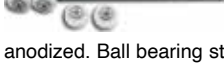
P/N 12-00741 ..... **\$49.95**

## BACK RIVETING PLATE



Back riveting requires a hard flat surface to act as a bucking bar while you set the shop head of the rivet. Our plate is a perfect hard & flat surface for "Back Riveting". 3/8" thick X 4" wide X 15" long. Low carbon steel plate with flat ground surface. Weight 10 lbs. .... P/N 12-00618 ..... **\$68.75**

## HOLE FLANGING TOOL



For forming flanges around lightening holes. Made from 2024 aluminum and hard black anodized. Ball bearing style rollers. Comes with spare set of rollers.

P/N 12-00619 ..... **\$19.75**

## SPARE ROLLER-SET OF 2



Replacement rollers for our edge rolling & hole flanging tools (above).

P/N 12-00621 ..... **\$2.95**

## WISS COMPOUND ACTION SNIPS



12-01155



12-01190



12-01189

Famous for cutting ease, keeping their edge and making clean, sharp cuts. Hardened molybdenum steel blades, serrated jaws and vinyl comfort grips. Capacity 18 gauge (.049") steel. Length 9-3/4". Wt. 14 oz.

P/N 12-01155 - Cuts left, from tight curves to straight..... **\$24.55**

P/N 12-01189 - Cuts right, from tight curves to straight..... **\$24.90**

P/N 12-01190 - Cuts straight (or wide curves left or right in light stock). **\$25.50**

## IRWIN OFFSET SNIPS



Irwin offset snips handle virtually every cutting job in sheet metal - linoleum, carpet, tile and other materials. They are easier to use than conventional metal snips, and cut in 3 directions. Irwin snips feature forged steel blades, a unique curved handle for comfortable fit in the hand, and an exclusive pinch-point wire cutter. They cut in three directions—straight, sharp angles in one direction, and 5" diameter circles in the opposite direction. Irwin offset snips make difficult cuts easy - they can make tight circular cuts, cut easily through corrugated metal, and cut solid and stranded wire. Available in right or left cutting models.

IRWIN (Right Cutting)..... P/N 12-00187 ..... **\$18.50**

IRWIN (Left Cutting) ..... P/N 12-00186 ..... **\$18.50**



# SHEET METAL TOOLS

## SPEED DEBURRING & C'SINKING TOOL



Swivel action - makes deburr & c'sink holes fast & easy. Molded handle with 2" long plated steel "Dog-leg" shaft with 1/4"-28 threaded holder. Includes (1) 3/8" X 100° 3-flute burring cutter (part #1050) + 8" extension shaft for deburring the inside of

flanges & other hard to reach holes. ....P/N 12-00622 .....**\$35.95**

**Handle and Extension Shaft sold separately**

Swivel handle only.....P/N 12-00623 .....**\$17.75**  
Extension Shaft only.....P/N 12-00624 .....**\$8.50**

## E-Z BURR - HSS SERIES



E-Z Burr High Speed Steel (HSS) tools are the industry standard for quick, effective and consistent front and rear burr removal. No other HSS deburring tool is this durable. By designing the blade to operate independent from springs and plungers, E-Z Burr has created a deburring tool with a flexible blade and a solid shank for optimum performance for deburring metal or plastic components. In addition, the patented E-Z Burr HSS deburring tool allows you to change chamfer settings, from extreme low to extreme high, and cutting blades without removing it from the holder. Once the desired

chamfer is set, it won't change, even from blade to blade. The result is less downtime, more production, and higher profits.

E-Z Burr Tool Specifications:

Series L1A and L1B tools have a working range of -0.0 + .006 inches and -.03 + .15mm.

Series L2A and L2B tools have a working range of -0.0 + .016 inches and -.10 + .40mm.

Series L3A and L3B tools have a working range of -0.004 + .015 inches and -.10 + .40mm.

**Note:** All tools (front and rear cutting blade with positive rake)

**\*\* METRIC SIZES NOT LISTED, MAY BE AVAILABLE UPON REQUEST AS SPECIAL ORDER ONLY - CALL FOR QUOTE ON SIZES NOT LISTED: 1-877-477-7823 \*\***

Hole Dia.	Shank Dia.	Blade Series	Part No.	Price
3/32 in. / 2.38mm	.236 in. / 6.00mm	L1A	12-02949	<b>\$82.75</b>
1/8 in. / 3.17mm	.236 in. / 6.00mm	L1B	12-02951	<b>\$82.75</b>
5/32 in. / 3.96mm	.250 in. / 6.35mm	L2A	12-02952	<b>\$76.75</b>
3/16 in. / 4.76mm	.250 in. / 6.35mm	L2B	12-02953	<b>\$76.75</b>
1/4 in. / 6.35mm	.359 in. / 9.10mm	L3A	12-02955	<b>\$77.75</b>
2.50mm	6.00mm	L1A	12-02959	<b>\$75.75</b>
3.00mm	6.00mm	L1A	12-02960	<b>\$82.75</b>
4.00mm	6.00mm	L2A	12-02961	<b>\$76.75</b>

## E-Z-BURR RIVET HOLE BUNDLE

The Rivet Hole Deburring Tool bundle by E-Z Burr includes 5 high performance HSS deburring tools for front and rear cutting. Sizes: 1/8, 5/32, 3/16, 7/32, & 1/4.

P/N 12-02956 .....**\$248.95**

## HSS THREE FLUTE BURRING CUTTER - 100°



US made. High speed steel, precision ground, three flute burring cutter. 3/8" diameter X 100° with 1/4-28 threaded shank. Same style as a countersink but without the pilot.

P/N 12-00625 .....**\$18.95**

## SNAP RING PLIER KIT



Install or remove retaining rings of the Waldes Tru-Arc type with ease. Quality pliers made of heat-treated steel with vinyl covered handles. Kit includes two pair of pliers and two sets of four replacement tips to handle the most common sizes of both internal and external rings. Furnished in plastic box.....P/N 4440R.....**\$33.75**

## STRAP WRENCH



Heavy malleable iron body with latex-treated nylon webbing. For gripping and turning of round, hex or square parts without marring the surface. Indispensable tool for use in close quarters where ordinary pliers cannot be used. Tool is 11-1/2" long with 18" strap. Capacity 3". Wt. 1-1/2 lbs. ....P/N 3004 .....**\$95.75**

## DOUBLE EDGE DEBURRING TOOL



Used to quickly deburr edges of sheets up to 1/8" thick. Save time and motion deburring edges of parts. Precision ground Carbide "V" shape blade with hex aluminum handle. Non-removable cutter style .....P/N 12-00629 .....**\$20.90**

## EDGE MARKER BLOCK



This handy device holds a marking pen and has an adjustable stop for running along the edge of a part. The adjustable stop allows variable edge distance for rivet layout, etc. One thumbscrew holds the pen (pen sold separately) and the other thumbscrew holds the adjustable stop. Made from delrin (plastic) material. Comes ready to use with (1) Pilot marking pen.....P/N 12-00630 .....**\$18.95**

## SHOP HEAD RIVET GAUGE SET



Set of four gauges for -3, -4, -5, & -6 rivets. Each gauge measures MINIMUM height and MINIMUM diameter of shop heads AFTER setting. Eliminates guessing if your rivets are properly set. Works for measuring both universal head and flush rivets. Precision machined to size from 2024 aluminum. Rivet size permanently stamped on each gauge. Color coded anodized finish. Instructions included .....P/N 12-00631 .....**\$21.85**

## EDGE ROLLING TOOL



For pre-bending skin edges on lap joints and butt joints before riveting. "Edge rolling" will prevent skin edges from curling up during riveting. Machined round body made from 2024 aluminum. Hard black anodized finish for wear resistance. Ball bearing style nylon rollers (non marking); + spare set of rollers and instructions included.....P/N 12-00632 .....**\$22.50**

## RIVET LENGTH GAUGE



One gauge measures -3, -4, -5, & -6 rivets. Used to check for proper length of rivets BEFORE setting. Eliminates measuring and guessing of rivet lengths. Works for both universal head and flush rivets. Precision machined to size from 2024 aluminum. Rivet sizes permanently stamped. Gold anodized finish. Instructions included. ....P/N 12-00633 .....**\$12.75**

## TEMPORARY ASSEMBLY PINS



Initial fitting of control surfaces require multiple installation and removals of the parts to fit, trim, and adjust everything. These temporary assembly pins make the task quicker and easier. Pins are 3/16" diameter with tapered points and angle bends for easy installation. The pins are threaded so the pin holder can be removed — this is necessary to prevent damage should you move the control surface too far during fitting. To remove pins just screw holder back on pin and remove pin. Packaged in sets: 6 pins / 2 holders.....P/N 12-00627 .....**\$18.85**

## INSTRUMENT HOLE PUNCH ATS-123C



Reversible cutter for both 2-1/4" and 3-1/8" instrument panel holes. Easy to use even with instrument panel installed in aircraft. Allows for close work with other instruments already installed. 4 lbs (2Kg) shipping weight. ....P/N 12-02743 .....**\$169.99**

## BOLT GRIP



This new tool lightly grips the heads of bolts and screws for easier insertion into tight or blind spots. No more dropped or lost parts. Tool has one end for -3 (3/16") fasteners and one for -4 (1/4") fasteners. 12" overall length. ....P/N 12-00628 .....**\$18.95**

## CHUCKING REAMERS

We stock straight shank and straight flute Chucking Reamers in a wide range of sizes.

**SEE WWW.AIRCRAFTSPRUCE.COM FOR A COMPLETE LISTING OF OUR CHUCKING REAMERS.**

## BRASS PLUMB BOB



Precision machined brass with clear lacquer finish and hardened replaceable tip. Top unscrews for centered string installation.  
**Model:** 6C235 **Size:** 8 oz, 4 7/8" L **Finish:** Clear Lacquer  
**Characteristics:** Replaceable Tip, Screw Top To Attach String (String Not Included).....P/N 12-01711 .....**\$17.90**

TO

# METAL WORKING TOOLS

## SHOT BAGS



These shot bags are made out of .070/.090 thick top grain cowhide for extended life and to produce a blemish-free metal surface. These bags have suede outer or forming surface and a tanned inner surface to resist abrasive wear from the media. Convenient media filter and reinforced flap with velcro seal is provided. All bags are approximately 1.5" to 2" thick when filled. Can be filled with buckshot or silica sand (not included) found at most sporting good stores.

media filter and reinforced flap with velcro seal is provided. All bags are approximately 1.5" to 2" thick when filled. Can be filled with buckshot or silica sand (not included) found at most sporting good stores.

Model No.	Size (inches)	Part No.	Price
SB8	8"	12-02310	\$72.75
SB12	12"	12-00996	\$41.75
SB18	18"	12-00997	\$49.95
SBR18 (rectangular)	18"x12"	12-02310	\$72.75

## PANEL BEATER HAMMER & DOLLY KIT



The most widely used selection of panel beaters and dollies for most metal shaping needs, professional grade in a molded plastic box. Each hammer is color-coded for either shrinking (blue) or stretching (red) forming tasks. The 3 panel beaters included are the dinging, shallow-domed face and pick hammer combo.

The dollies included are the thin toe, utility, curved and heel shapes, providing the user with the best combination kit on the market. See the individual sections on panel beaters and dollies for more specifications on each item.

8-piece kit includes: • DT2566, DT2560 & DDT2537 panel beaters • CP548, CP552, CP553, & CP554 dollies • All tools made from medium carbon steel, forged, heat treated and mechanically polished for years of continuous service. Weight: 16.5 lbs.; size: 16.5"L x 14"W x 4"H.

P/N 12-01011 .....\$165.75

## T-DOLLIES



Simple, but necessary forming tool allows you to create new flanges or straighten out damaged flanges. Can be used effectively by taking to an existing body panel or locked in bench vise and create an exact radius edge using any flat faced panel beater or wood slapper. T-dollies are fabricated out of carbon steel hardened and zinc plated to provide years of service life. Extra long flat handle. Heads have radius ends.

Model No.	Size (inches)	Part No.	Price
DCTD02	1"x 8"	12-01020	\$19.50
DCTD03	3/4"x 6"	12-01021	\$20.70
DCTD 3-pc. kit (8lbs.)	1"x 8"	12-01022	\$51.75

## ARC360 HOLE CUTTER



Panel knock put punches and hole saws work well for holes that are aren't too big but it gets harder and more expensive as the size of the hole increases.

You can cut holes with a router but cutting holes with a router is a cumbersome ordeal. The router is really just too big a tool to be swinging 360 degrees easily. You can set it to cut holes down to around 1.5 inches and up to around 10 inches. The tool's small size allows you to easily see your work as you are cutting. If you want an arc you can start and stop anywhere you want. It will cut any thickness of sheet aluminum.

The cutting speed in 032 thick 2024-T3 aluminum is around 40 inches per minute so you can cut a 4-inch diameter hole in less than 20 seconds.

P/N 12-01977 .....\$149.75

## MODEL SLP1 MODEL SLP2



## MODEL SLP3 MODEL SLP4



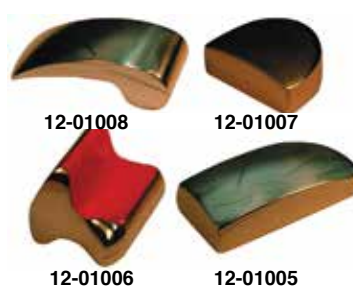
## HARDWOOD SLAPPER

These slappers are made from grade A select midwestern grown hard maple for toughness, stiffness and durability. With an ergonomically designed grip area, the hand and wrist are positioned in a neutral and natural condition. Finished with protective oil that resists staining and guards against moisture penetration. 4 different shapes: gentle, medium, flat, and radius face. The new thinner cross-section of 2-1/4" allows work-

ing a tighter radius in more confined areas. Each slapper comes with a leather face cover to eliminate marring of the metal.

Model No.	Shape Style	Overall Length	Surface Length	Face Width	Weight (Lbs.)	Part No.	Price	
SP1	Gentle	14"	8.5"	2.25"	1.3	12-02311	\$51.75	
SP2	Medium	14"	8.5"	2.25"	1.3	12-02314	\$54.75	
SP3	Flat	14"	8"	2.25"	1.3	12-02315	\$51.75	
SP4*	Radius	14"	8.5"	2.25"	1.3	12-01003	\$51.75	
SLP-001L Replacement leather cover & hardware							12-01004	\$10.70

## HAND FORMING DOLLIES



These professional series hand dollies are a complete selection of shapes and weights for most forming needs. These dollies can be used with panel beaters or wood slappers. Dollies weight and shape impacts the flow of the metal. Choose weights according to sheet metal thickness. Medium carbon steel, forged, ground, heat treated and mechanically polished for years of continuous use.

Model No.	Weight (lbs)	Part No.	Price
CP548	2.02	12-01005	\$27.50
CP552	2.85	12-01006	\$31.85
CP553	2.55	12-01007	\$34.50
CP554	1.97	12-01008	\$38.50



## PANEL BEATER HAMMERS

These professional series panel beater hammers are uniquely balanced acting as a natural extension to the users own hand. Creating excellent feel and feedback each an devery time you contact the metal. Each hamer style is color coded for easy recognition: **MODELS:** DT2537 & DT2566 are Stretching. **MODELS:** DT2560 & D2569 are Shrinking.

Model No.	Head Wt./lbs	Overall Length	"A"	"L"	"B"	Part No.	Price
DT2537	.67	13"	1.6"	5.5"	-	12-01027	\$34.75
DT2566	.57	13"	1.5"	5.4"	-	12-01029	\$34.50
DT2560		13"	1.6"	3.8"	1.5"	12-01028	\$34.65

## BOSSING MALLETS EXTENDED REACH



These extended depth plastic mallets allow deeper reach and a more aggressive and fuller finished shape. The UHMW polyethylene heads are lightweight, resistant to wear and non-marring. Hickory handles with full round shafts. When paired with shot bags, very creative, roughed out forms can be accomplished.

Model No.	Small radius dia.	Large radius dia.	Overall head length	Head dia.	Weight (lbs.)	Part No.	Price
DBM01D	5/8"	2-1/4"	7-1/2"	2"	2.8	12-01031	\$51.75
DBM02D	7/8"	1-3/8"	8-1/2"	2-1/2"	3.0	12-01032	\$51.75
DBM03D	1-1/4"	3"	7-1/2"	3"	3.8	12-01033	\$54.75

TO



# MITTLER BROTHERS SHEET METAL TOOLS



## POWER DRIVE BEAD ROLLER

The Industry Leading Power Drive Bead Roller Made In The U.S.A. Since 1984. Over 100 Bead Roll Profiles Available To Shape Or Strengthen Metal.

### Features Include:

- 0-9 FPM
- Variable Speed Foot Pedal Control
- Forward / Reverse Switch
- Both Shafts Driven
- Adjustable Depth Of Bead & 1-1/8" Throat Height.
- Used For Aircraft & Racecar, Construction & Repair.
- Includes Choice of 1 Set of 2-1/2" OD (\$65 value) Rolls

Description	Max Cap. Aluminum	Max Cap. Mild Steel	Max Cap. Stainless Steel	Part No.	Price
210-24 - 24" Power Drive Bead Roller	16 Ga (.050")	19 Ga (.040")	21 Ga (.035")	12-02744	\$975.00
200-36 - 36" Power Drive Bead Roller	16 Ga (.050")	19 Ga (.040")	24 Ga (.025")	12-02745	\$1,379.00

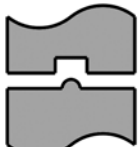

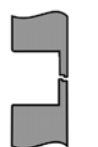
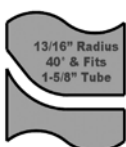
**Max Capacity**  
 16 Ga (.050") Aluminum • 19 Ga (.040") Mild Steel • 21 Ga (.035") Stainless Steel



## 24" MANUAL BEAD ROLLER

Bead Rolls Sets Sold Separately.  
 Max Capacity: 19 Ga(.040") Mild Steel. 16 Ga(.050") Aluminum. 21 Ga(.035") Stainless Model 210-24M  
 P/N 12-02746....\$675.00

### BEAD ROLL SETS

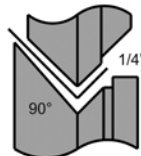
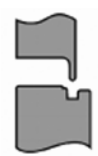

			
<b>Round Roll</b> 1/8"-1" P/N 12-02749	<b>Step Roll</b> .062"-.250" P/N 12-02758	<b>Art Pattern</b> P/N 12-02764	<b>Spoiler Roll</b> P/N 12-02766

13/16" Radius 40° & Fits 1-5/8" Tube

Nylatron (High Strength Plastic) Roll for Thin Aircraft Aluminum.

		
<b>Standard Tank</b> P/N 12-02765	<b>Full Radius Tank</b> P/N 12-02768	<b>Tipping Roll</b> P/N 12-02767

5/32" Radius      15/32" Radius

		
<b>Wire Bead Roll Step 1</b>	<b>Wire Bead Roll Step 2</b>	<b>Wire Bead Roll Step 3</b>

1/4"      90°

SEE [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR ROUND ROLL AND STEP ROLL PART NUMBERS.

Above Bead Rolls = \$75.75 Per Set  
 Model 201-125-WBS Wire Bead Roll (3pc. Set)  
 P/N 12-02769....\$257.95

See [www.aircraftspruce.com](http://www.aircraftspruce.com) for 100+ Bead Roll Selection

### UPPER RADIUS FINGER KITS

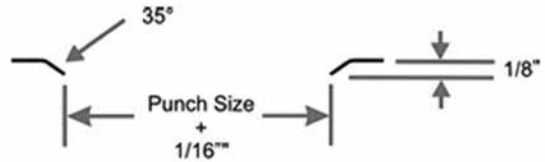
Mittler Bros. upper radius finger kits (radius measured inside of bend).

**Note:** 48" kits come with qty 7 of 6" and one each of 3", 2", and 1" fingers.

1/8 Inch.....	P/N 12-02804	\$895.00
3/16 Inch.....	P/N 12-02806	\$895.00
1/4 Inch.....	P/N 12-02808	\$895.00
5/16 Inch.....	P/N 12-02811	\$895.00

## AIRCRAFT PUNCH & FLARES 1"- 6" OD

Just drill a pilot hole for the 1/2" draw bolt, apply the tool and tighten the bolt for a smooth, flared hole in one easy step. Punch hole only by removing female flare ring and use punch and die. Easily mounts in our Bench Presses.

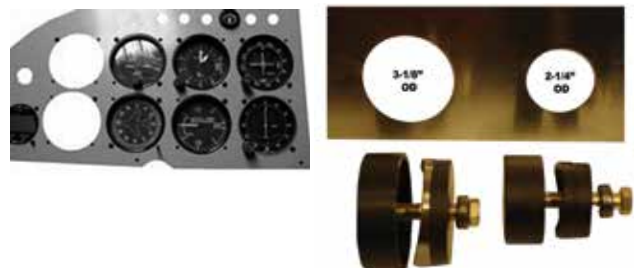


### Aircraft Punch / Flare

**Material Thickness Range**  
 Aluminum - .020" to .040"  
 Mild Steel - .020" to .040"

OD	Part Number	Price
1"	12-02778	\$139.75
1-1/4"	12-02779	\$130.00
1-1/2"	12-02780	\$149.75
1-3/4"	12-02781	\$145.00
2"	12-02782	\$155.00
2-1/4"	12-02783	\$155.00
2-1/2"	12-02784	\$155.80
2-3/4"	12-02785	\$170.00
3"	12-02786	\$170.00
3-1/8"	12-02787	\$231.95
3-1/4"	12-02788	\$230.95
3-1/2"	12-02789	\$230.95
3-3/4"	12-02790	\$246.95
4"	12-02791	\$246.95
5"	12-02792	\$300.95
6"	12-02793	\$355.00
7pc Set 1" - 3" (MINUS 2-1/4" & 2-3/4")	12-02794	\$930.00
9pc Set 1" - 3"	12-02796	\$2,050.00
13pc Set 1" - 4"	12-02795	\$1,123.00

## INSTRUMENT HOLE PUNCH



OD	Part Number	Price
2-1/4"	12-02797	\$120.00
3-1/8"	12-02798	\$130.85

TO

SEE [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR A COMPLETE SELECTION OF MITTLER BROTHERS TOOLS.

# MITTLER BROTHERS SHEET METAL TOOLS



## MANUAL BENCH PRESS

Economical & versatile. Bench press accepts tooling for punching round, square & oblong holes; punching louvers; creating radius corners; & shrinking or stretching metal. Punch/flare tooling & instrument hole punches. Easily mounted with included adapters. Can also be used as arbor press. Model 2200-M..P/N 12-02770 .....\$695.00

## LOUVER PUNCHES LOUVER PUNCH START UP KITS WITH MOUNTING HARDWARE



Size	Part No.	Price
1"	12-02771	\$815.00
2"	12-02772	\$815.00
3"	12-02773	\$815.00
4"	12-02774	\$835.00
5"	12-02775	\$835.00
3" Dome	12-02776	\$835.00
4" Dome	12-02777	\$835.00

## ULTIMATE BOX & PAN BRAKE



The ultimate Box and Pan Brake has a unique 3-finger design. Incorporating moveable segmented bed fingers and apron fingers as well as upper radius fingers. Radius fingers allow forming aircraft and racecar panels using 3003 to 2024 T3 aluminum, .062 inch mild steel and .0375 inch stainless steel. Bend combinations easily that were extremely difficult if not impossible before. Features include wrenchless upper set back adjustments, 3-1/2" depth of box, 2" down leg, 1" front to rear adjustment and 1/4" reverse bend capabilities. A complete set of upper radius fingers. • Wrenchless upper set back adjustments • 3-1/2 inch depth of box • 2 inch down leg • 1 inch front to rear adjustment • 1/4 inch reverse bend capabilities. Along with the box and pan brake, you will receive a complete set of upper radius fingers (your choice), bed fingers, apron angle fingers, and counterweight(s). The total width of the upper radius finger kit will be 48". You will receive the following fingers: qty 7 of 6" and one each of 3", 2", and 1" fingers totalling to 48".

Model 2800-48-16 .....P/N 12-02799 .....\$4,234.00  
Upper Radius Finger Kits (radius is measured inside of bend)



## WHEELING MACHINE (BENCH MODEL)

Clearly, this is the most popular of in-home English Wheels. Metal Ace offers extensive anvil configurations to meet your needs. Plus, with the new gusseted frame, it's the strongest benchtop wheel on the market. Trick out your custom-built bike or complete hobby projects without breaking the bank. These English wheeling machines provide outstanding performance on small jobs like motorcycle tanks, tank covers, seat cowls and aircraft filllets. Versatile use - mount on bench, clamp in vise or use with optional welded stand. Proudly made in the USA.

**Features:** • Thickness capacity for steel is 18 gage;16 gage with optional stiffener brace. • Features can be rolled into the center of a 44" panel. • Can be mounted to a bench, clamped in a vice or used with the optional welded floor stand. • Optional wheels and stand sold separately. • Anvil yoke is adjustable on both sides of the axle support with thumb screws so the anvil wheel can be trued with the upper wheel.  
**Specifications:** • 3.25" radius lower anvil • 8" upper wheel • 22" throat depth • Reinforced frame • 18 gauge mild steel capacity .080 AL capacity • Made in the USA.  
Wheeling Machine MA 22B.....P/N 12-00571 .....\$700.00

## ACCESSORIES

Radius Wheel 5" 22B-5.00 .....P/N 12-02026 .....\$98.00  
Radius Wheel 5" 22B-5.00 Narrow .....P/N 12-02027 .....\$98.00  
Radius Narrow Offset Wheel 5" 22B-5.00NO..P/N 12-02028 .....\$91.75  
Radius Wheel 5" Set of 3 22B-5.00SET .....P/N 12-02029 .....\$291.20  
Optional Stand for the 22B Wheeling Machine MA22B-STAND  
P/N 12-00575 .....\$200.00



## BENCH TOP ENGLISH WHEEL

A Rugged, Robust Machine for the occasional metalworking project to the professional craftsmen. All wheels (anvil & top) are heat treated, hard turned & ground for accurate precision metal forming. • 26-1/2" Deep Throat • 2-1/2" OD - 2" Wide Anvils • 7" OD - 2" Wide Top Wheel • Cam Action Release on Top wheel For Easy Anvil Change • Adjustable Anvil Wheel Angle • 3" x 4" x 1/4" Tube Construction For Minimum Deflection • Kick Wheel Manual Pressure Adjustment • Anvil Wheels In Radius Of 2-3/8",3-1/4",5", 8-1/2",12" & Flat

Model 2900.....P/N 12-02812 .....\$1,650.00



## PLANISHING HAMMER

Speed up fabrication time on complex multi form aluminum and steel panels for making those impossible to find replacement parts. • 4600 Hits Per Minute @ 90 PSI • Rear Adjuster Sets Load Force & simplifies Anvil Changes • Foot Pedal Control for Hands Free Operation • 9 Radius Anvil Heads Included: 3/4", 1-1/2", 2", 3", 4", 6", 8", 12" & Flat • 12"

Model 2700.....P/N 12-02813 .....\$1,244.00  
24" Model 2700-24 .....P/N 12-02814 .....\$1,052.00



## AIRCRAFT SCALE SET

- 15 x 15" Cast Aluminum Pads
- 1500 Lbs Per Pad Capacity Lbs. or Kg
- Reads to 1 Lb. / 1/10% Accurate
- Displays All Information at Once
- Zero All Pads at Once or Individually
- 40 Hr. Battery Life (rechargeable)

Certification Available At Optional Cost.

Deluxe Aircraft Scales include custom length cables with Deluxe Stainless Steel connectors and software to calculate center of gravity height.  
4500 lbs.  
Model 50297.....P/N 12-02816 .....\$1,151.00

## WHEELING MACHINE (U-WELD MODEL)



This English Wheel U-Weld Kit supplies the components to make your own English wheel, minus the steel tubing. A detailed assembly booklet is provided and the complete kit includes all the key components of the turn-key MetalAce 44F English Wheel. Other kits on the market come with smaller 2" wide x 2 1/2" diameter

anvil wheels, smaller diameter upper wheels, and require more assembly. The screwlift quick release cam unit is fully assembled. Components proudly made in the USA.

**Features:** • Set of 6 lower anvil wheels, 3" wide x 3" diameter • Upper wheel, 3" wide x 8" diameter • Upper wheel yoke assembly with axle and spanner • Anvil yoke assembly • Screwlift quick release cam assembly • Set of 4 caster wheels • Assembly instruction manual • Made in the USA.  
**Specifications:** • 8 x 3" upper wheel • 2.50 R, 3.75 R, 6.00 R, 12.00 R, 24.00 R and Flat lower anvil wheels.  
MA44F-KIT - Components and bill of materials to build a 44F English Wheel. ....P/N 12-00570 .....\$1,595.00  
MA44F - Fully assembled English Wheeling Machine  
P/N 12-02294 .....\$2,955.00

SEE [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR A COMPLETE SELECTION OF MITTLER BROTHERS TOOLS.

[WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM)

TO



# MILTON TOOLS



## MILTON 1/4" FNPT FEMALE M-STYLE KWIK-CHANGE® COUPLER

Milton 1/4" FNPT Female M-Style KWIK-CHANGE® Coupler. Milton Industries is proud to be the creator and leader of the pneumatic industry standard M-Style coupler. This 1/4" FNPT M style brass coupler has a 1/4" basic flow size, offering a maximum of 300 PSI. Comes with Buna-N seal and air flow of 40 SCFM.....P/N 12-05332 .....\$4.70

## MILTON DUAL HEAD CHUCK DIAL TIRE GAUGE 0-160 PSI

Milton (S-936) High Pressure Dial Tire Pressure Gauge - Dual Head Air Chuck and 12" Hose. No need to worry about batteries with this durable dual head chuck dial tire gauge with a working pressure range of 0-160 PSI has dial-type gauge with internal diaphragm construction for greater durability. Includes a 12" hose and 45 degree chuck head with deflator valve. Comes with a protective rubber boot for added durability.....P/N 12-05342 .....\$33.90

## MILTON TIRE VALVE EXTENSION

Replacement Extension Core. Features: • Replacement Part • Valve core extension • For Milton high pressure gages.....P/N 12-05381 .....\$8.55

## MILTON INFLATOR GAGE DUAL HEAD CHUCK - 15" HOSE

Milton Original Dual Head Chuck Tire Inflator Gauge - 15" Hose. Milton Industries specializes in tire inflator gauges and this original S-506 dual chuck inflator gauge was the first gauge of its kind ever built in the industry. Gauge and valve cartridges are both replaceable. This essential pneumatic tool is ideal for any vehicle trunk, home garage, or automotive shop. Dual head chuck inflator gauge is made of heavy duty construction which provides for long life, even under extreme use and conditions. Equipped with magnifying lens for full view of scale. 1/4" NPT air inlet. ....P/N 12-05331 .....\$39.95

## MILTON TIRE VALVE ADAPTER

Government - Tire Valve Adaptor. Features: Extension assembly with clip ring and chain. ....P/N 12-05380 .....\$49.75

## MILTON LOW PRESSURE TIRE GAGE 2-20 PSI

Low pressure tire gauge for 2-20 PSI provides accurate, long life with trouble free performance. Made of a durable plated brass with 4 side nylon indicator bar. Always check tire pressure when tires are cold.....P/N 12-05322 .....\$5.95

## MILTON COMPRESSOR ACCESSORY KIT

Milton (S-220) Air Compressor Accessory Starter Kit, (16-Piece) This inclusive variety of pneumatic compressor accessories make the perfect start kit for a new compressor or just updating a current compressor. Includes 16 popular Milton items to fit versatile needs and projects (such as: inflating/checking tire pressure, inflating sports equipment, blowing debris, mending/connecting hoses, connecting air tools quickly, etc.). Ideal for DIY projects, repair shop, mobile repair and maintenance.....P/N 12-05323 .....\$29.85

## MILTON MALE HEX 1/4 NPT X 1/4 NPS

1/4" MNPT hex nipples are brass hose fittings that are used to assemble new hoses or replace old fittings on hoses. 1/4" Male NPT x 1/4" NPS ball socket. ....P/N 12-05328 .....\$2.55

## MILTON 0-400 PSI DUAL HEAD CHUCK STEM PRESSURE ASSEMBLY

This dual chuck stem pressure gauge assembly kit includes a flexible hose whip and metal carrying case. Pressure range of 0 - 400 PSI.....P/N 12-05376 .....\$147.75

## MILTON GAUGE 1/4 NPT 0-160 PSI - BOTTOM MOUNT



Use this pressure gauge for reliable service with compressors, regulators, air lines, pneumatic tools and equipment. Made up of a brass mechanism, ABS case and a polycarbonate lens, this gauge is resistant to heat, corrosion, water, salt water and oil. Can also be used in steam applications if less than 120 degrees Fahrenheit. The 1/4" NPT pressure gauge has a bottom mount and offers a pressure range of 0 to 160 PSI. 2" face diameter... P/N 12-05336 .....\$11.90

## MILTON GOVERNMENT - HIGH PRESSURE SAFETY INFLATOR



Government - High Pressure Safety Inflator. Features: 0-600 psi • Adjustable pop-off valve • 10 ft. hose assembly for safe distance operation • NSN #: 6685-00-124-4336 • Milton CAGE #: 94894 • Complies with MIL-I-85352 (Part No. M85352/1) .....P/N 12-05371 .....\$825.00

## MILTON DIAL TIRE GAGE 0-60 PSI

45 degree dial type tire gauge has an internal diaphragm construction for greater durability. 45 degree chuck head comes with deflator valve and durable rubber boot. 0-60 PSI.....P/N 12-05329 .....\$20.50  
0-160 PSI.....P/N 12-05330 .....\$19.50

## MILTON 1/4 INCHES MNPT M-STYLE PLUG



1/4" M style MNPT plugs are the industry standard style plugs. These steel plugs have a 1/4" basic flow size, maximum air flow of 40 SCFM and a maximum inlet pressure of 300 PSI. P/N 12-05334 .....\$2.15

## MILTON SCREW-ON AIR CHUCK

Screw-On Air Chuck.....P/N 12-05363 .....\$53.75

## MILTON 4 BLOW GUN DELUXE TIP KIT

Milton S-194KIT KWIK-CHANGE® PRO Series Safety Tip Blow Gun Kit - 235 Max PSI, (4-Piece) Tackle multiple pneumatic projects confidently with Milton's inclusive 4-piece S-194KIT PRO Series Safety Tip Blow Gun Kit, which includes an OSHA-compliant Safety Tip Nozzle and KWIK-CHANGE® Universal Tip System. The 5" angled stainless steel safety nozzle is designed with a side safety vent, avoiding accidental damage or forced air in the event of the blow gun tip being obstructed. The slim nozzle is also ideal for reaching into tight or narrow spaces. The pistol grip type body of this blow gun offers a dual material, contoured grip for comfort and variable airflow trigger. Offers a pressure range of 50 to 235 PSI and 15.18 SCFM. ....P/N 12-05320 .....\$23.50

## MILTON ADJUSTABLE M STYLE POCKET BLOW GUN

M style adjustable pocket blow guns offer an easy grip, two finger control to adjust from full volume air flow to complete shut off. Knurled grip for secure handling even with oily or greasy fingers. Fits M style couplers, or any 1/4" body industrial style couplers. Maximum pressure of 150 PSI or 15.9 SCFM at 100 PSI. ....P/N 12-05321 .....\$5.70

## MILTON MNPT ID HOSE END FITTINGS

Features: • Assemble new hoses or replace old fittings • Secure with a crimped ferrule for best results  
1/4" MNPT 1/4" ID hose end fitting ...P/N 12-05324 .....\$1.95  
1/4" MNPT 3/8" ID hose end fitting ...P/N 12-05325 .....\$2.58

## MILTON 1/4 FNPT SAFETY COUPLER - M-STYLE



Milton S-99705 - 1/4" FNPT M style safety couplers are easy to use. Simply push once to stop airflow, twice to release plug. Safety couplers prevent possible injury or damage due to accidental disconnects. OSHA required in certain areas and applications. M style couplers have a 1/4" basic flow size and offer air flow of up to 36 SCFM. Maximum pressure of 300 PSI. Red button color for easy identification.....P/N 12-05326 .....\$11.65

## MILTON STANDARD BORE AIR CHUCK

The Milton Standard Bore Air Chuck - Open is a specially designed air chuck that locks onto the cap threads of a Standard Bore valve stem when the sliding sleeve is pushed to the forward position. The chuck releases when the sleeve is pulled back. Available for use with tire changers and auto tire inflators .....P/N 12-05352 .....\$31.55

TO

SEE OUR COMPLETE SELECTION OF MILTON TOOLS ON OUR WEBSITE.

# MILTON TOOLS – SCREW EXTRACTORS – PLANERS

## MILTON 1/4" MNPT MALE M-STYLE KWIK-CHANGE® COUPLER



Milton Industries is proud to be the creator and leader of the pneumatic industry standard M-Style coupler. This 1/4" MNPT M style brass coupler has a 1/4" basic flow size, offering a maximum of 300 PSI. Comes with Buna-N seal and air flow of 40 SCFM. Both the body and sleeve are made of brass.  
P/N 12-05333 ..... \$4.45

## MILTON 1/4 INCH FNPT M-STYLE PLUG



1/4" FNPT M style plugs have a 1/4" basic flow size and air flow of 40 SCFM. Made of case hardened steel and plated to resist rust, M style plugs have a maximum pressure of 300 PSI. .... P/N 12-05335 ..... \$2.20

## MILTON 1/4 NPT FILTER WITH POLYCARBONATE BOWL



This (EX25F40A-02P) 1/4" NPT Air Filter features a polycarbonate bowl with a capacity of 7.4 oz. Bowl can be automatically drained under pressure, or manually by rotating drain valve at bottom of filter with a push-to-connect drain tubing connection that channels water safely away. Max Air Flow of 140 CFM combined with a max operating pressure of 145 PSI. Always install filter 20' feet down line of air compressor to allow air to cool and lessen the amount of water carried through the supply line. FRL components feature directional arrows to indicate the flow of air. .... P/N 12-05338 ..... \$51.75

## MILTON REGULATOR 3/8 NPT 220 PSI WITH 5-120 PSI GAUGE



This 3/8" NPT Air Regulator maintains consistent pressure and prevents overdriving tools. The FRL Regulator features 1 5/8" dial gauge readings in PSI and MPa, and includes a lockout knob that allows set PSI pressure. Adjustment ranges 5-125 PSI. Max Air Flow of 212 CFM and max operating pressure of 145 PSI. Gauge thread: 1/4" center mount.  
P/N 12-05339 ..... \$43.60

## MILTON 1/4 NPT LUBRICATOR 5 OZ POLYCARBONATE BOWL



This 1/4" NPT Air Lubricator features a Polycarbonate bowl with a capacity of 4.56 oz. FRL Lubricator delivers a consistent mist of oil through the airline and extends tool life. Oil amount is easily adjusted by rotating dial at the top of the unit. FRL Lubricator can be refilled either by removing bowl or filling through oil fill cap on top. Max Air Flow of 175 CFM and a max operating pressure 145 PSI. .... P/N 12-05340 ..... \$49.95

## MILTON REGULATOR 1/8 NPT MINI WITH 5-120 PSI GAUGE



This 1/8" NPT Mini Air Regulator maintains consistent pressure and prevents overdriving tools. The FRL Regulator features 1 5/8" dial gauge readings in PSI and MPa, and includes a lockout knob that allows set PSI pressure. Adjustment ranges 5-125 PSI. Max Air Flow of 20 CFM and max operating pressure of 145 PSI. Gauge thread: 1/8" center mount.  
P/N 12-05341 ..... \$29.50

## MILTON COBRA 50 FOOT FLEX HOSES



Milton flexible hybrid PVC air hose remains flexible down to -40 degrees Fahrenheit. This 50 foot hose is kink resistant and lays flat. Maximum working pressure of 300 PSI. Both 1/4" hose ends are brass with a bend restrictor to provide strain relief for the hose.

Features: • Highest rated flexibility - lays flat • Solid brass hose ends unlike soft aluminum ends on green hose competitors • UV, oil and abrasion resistant • Maximum working pressure of 300 pounds per square inch

1/4" Hose ..... P/N 12-05344 ..... \$19.55  
3/8" Hose ..... P/N 12-05345 ..... \$28.50

## MILTON SLIP SLEEVE FOR GAGING ELEMENT



Government - Slip-Sleeve Constant Bleed Detachable Fitting.

Milton Slip Sleeve For Gaging Element  
P/N 12-05385 ..... \$39.50

Slip Sleeve-Detachable Fitting  
P/N 12-05386 ..... \$34.60



## MILTON COUPLER WASHERS

Milton Washer 768 for an M & T Style coupler. Comes in a pack of 10. .... P/N 12-05432 ..... \$4.90

## EASY OUT SCREW EXTRACTORS



Black Max spiral screw extractor grips screw firmly with its tapered, left-handed spiralflutes. Intended to remove screw manually with T-handle tap wrench or equivalent. Features: • Black oxide coating for maximum corrosion protection and cutting performance • Black oxide coating combined with a tough carbon tool steel construction ensures longer life • Extractor size is permanently etched on the tool for quick and easy reference. Specifications • To remove Bolts/Screws: 3/32" to 5/32" • Use Drill Bit Size: 5/64" • Shank Diameter: 1/8" • Point Diameter: 0.060"

Description	Part No.	Price
3/32" TO 5/32"	12-02873	\$3.70
5/32" TO 7/32"	12-02874	\$3.70
7/32" TO 9/32"	12-02875	\$3.70
9/32" TO 3/8" AND 1/8" PIPE	12-02876	\$4.65
3/8" TO 5/8" AND 1/4" PIPE	12-02877	\$4.95
5 PIECE SET	12-02882	\$14.95

## RYOBI PLANER



The Ryobi cordless Hand Planer has the power of a corded hand planer when powers through the toughest jobs. The rear mounted "kickstand" keeps blades from contacting surfaces when the unit is placed shoe down between operations. The pommel front handle and rear handle designed with overmold for added comfort. Dust ejection adjusts for left or right exhaust. All these great features are a part of the Ryobi ONE+™ system which has 40 tools and batteries. Depth adjustment knob adjusts from 0-1/64". Dual carbide blades for smooth, accurate planning. Rear mounted "kickstand" keeps blades from contacting a surface when the planer is set down between operations. Extended front for balance and accuracy. MFG Brand Name : Ryobi. MFG Model # : P610. MFG Part # : P610

18 V Planer ..... P/N 12-02824 ..... \$100.00  
BI P100 ONE+ Nickel-Cadmium 18-V Rechargeable Battery  
P/N 12-02825 ..... \$73.85  
P131 ONE+ 18-V IN-Vehicle Charger ..... P/N 12-02826 ..... \$57.25

## RYOBI PLANER KIT

Kit includes:

- (1) 18 Volt Planer - The Ryobi cordless Hand Planer has the power of a corded hand planer when powers through the toughest jobs. The rear mounted "kickstand" keeps blades from contacting surfaces when the unit is placed shoe down between operations. The pommel front handle and rear handle designed with overmold for added comfort. Dust ejection adjusts for left or right exhaust. All these great features are a part of the Ryobi ONE+™ system which has 40 tools and batteries.
- (1) P100 ONE+ Nickel-Cadmium 18-Volt Rechargeable Battery - The Ryobi ONE+ Nickel-Cadmium 18-Volt Rechargeable Battery provides extended run-time and works with all present and past Ryobi 18-volt ONE+ tools and chargers.
- (1) P131 ONE+ 18-Volt In-Vehicle Charger - The Ryobi ONE+ 18-Volt In-Vehicle Charger is compatible with all past and present Ryobi 18-volt ONE+ NiCd and lithium-ion batteries. It plugs conveniently into a vehicle's 12-volt DC outlet and takes less than an hour to charge the batteries fully. .... P/N 12-02827 ..... \$229.00

## DECALPRO® KIT



DecalPRO® allows you to do what you have never been able to do before. It's now graphics and text "on demand" from your standard PC or Mac computer with any laser printer and do it all in under 10 minutes.

AIRCRAFT BUILDERS: ...freedom to stylize your main control panel any way you wish using any font, size and color right from your home computer before the panel is installed.

Also great for Avionics Shops and Upholstery Shops.

Description	Part No.	Price
Decalpro Kit	12-03204	\$89.95
<b>Accessories</b>		
Carrier TRF Packs (Foil)	12-03209	\$16.50
Carrier Board 8" x 10"	12-05415	\$13.95
Toner Transfer Paper (TTP) Pack	12-03207	\$16.50
Pigment Foils White	12-03210	\$9.65
Pigment Foils Gray	12-03211	\$8.95
Pigment Foils Black	12-03212	\$9.65
Specialty Foils Clear Coat	12-03213	\$8.95

SEE OUR COMPLETE SELECTION OF MILTON TOOLS ON OUR WEBSITE.

WWW.AIRCRAFTSPRUCE.COM



# MICROMETERS

## ELECTRONIC MICROMETER

Quick, accurate, easy-to-use and coolant, water and oil resistant to IP54 standards, Fowler's Electronic IP54 Outside Micrometers offer the same features as Fowler's standard electronic micrometers, but are robust enough to perform in situations where regular electronic micrometers fail .....P/N 12-03414 .....**\$156.75**



P/N 12-03410

P/N 12-03411

P/N 12-03412

Quick, accurate, easy-to-use and coolant, water and oil resistant to IP54 standards, Fowler's Electronic IP54 Outside Micrometers offer the same features as Fowler's standard electronic micrometers, but are robust enough to perform in situations where regular electronic micrometers fail.

Description	Part No.	Price
2-3" Ip54 54-860-003-1	12-03410	<b>\$195.85</b>
3-4" Ip54 54-860-004-1	12-03411	<b>\$225.95</b>
1-2" Water Resistant 54-860-002-0	12-03412	<b>\$179.95</b>

## ELECTRONIC OUTSIDE MICROMETER SET

Quick, accurate, easy-to-use and coolant, water and oil resistant to IP54 standards, Fowler's Electronic IP54 Outside Micrometers offer the same features as Fowler's standard electronic micrometers, but are robust enough to perform in situations where regular electronic micrometers fail. P/N 12-03413 .....**\$519.00**



**MARK VI ELECTRONIC INDICATOR**  
0-1"/25mm Mark VI Electronic Indicator. P/N 12-03420 .....**\$812.00**

**MARK VI ANALOG ELECTRONIC INDICATOR**  
0-.500"/12.5mm Mark VI Electronic Indicator with Analog Display .....P/N 12-03424 .....**\$646.00**

**MARK VI ELECTRONIC MICROMETER**  
0-.500"/12.5mm Mark VI Electronic Indicator, 8mm stem model.....P/N 12-03425 .....**\$888.00**

## ADJUSTABLE MICROMETER STAND

A compact, well-constructed, folding micrometer stand with a unique locking mechanism that positions the micrometer over a 180° range for perfect use and viewing.....P/N 12-03423 .....**\$44.50**

## ELECTRONIC XTENDER

The industries two most popular bore gage ranges combined in one easy-to-use ELECTRONIC set! All the same benefits included in the X-Tender Dial Bore Gage are now available with an electronic indicator providing inch/metric reading capability, preset size of master for absolute reading and minimum hold feature to lock on the bore size as the gauge is rocked in the part to be measured. P/N 12-03416 .....**\$377.74**

## METRIC BORE GAUGE SETTING MASTER

Using the new Fowler Bore Gage Setting Master and the included gage blocks you can now quickly and easily set virtually any bore gage from 0 to 150mm in diameter with an accuracy of .003mm. Gone are the numerous masters formerly required to accurately set your bore gage for use. Now with one setting master kit and the included gage blocks you can set your bore gage with ease. Each Fowler Bore Gage Setting Master Kit includes a bore gage setting master, and a 36 piece gage block set. Both come packaged in a high quality aircraft-style, shop-hardened aluminum case! All packaged in a high quality, shop-hardened aircraft-style aluminum case! Bore Gage shown is not included .....P/N 12-03421 .....**\$405.00**

## POLY-CAL ELECTRONIC CALIPER

Poly-Cal Electronic Caliper Inch/Metric/Fraction. Range: 6"/150mm. P/N 12-03426 .....**\$37.65**

## ELECTRONIC CALIPERS

Description	Part No.	Price
lv 6"/150mm 54-100-330-1	12-03417	<b>\$182.75</b>
lv 12"/300mm 54-100-332-0	12-03418	<b>\$269.95</b>
lv 8"/200mm 54-100-331-0	12-03419	<b>\$157.75</b>

## XTRA-VALUE CAL AND DEPTH ATTACHMENT COMBO

Accuracy: .001"/.02mm. Range: 6"/150mm. Large east to read display. Resolution: .0005"/.01mm. Direct inch/metric conversion. Absolute/incremental measurement. 4-way measuring P/N 12-03427 .....**\$91.75**

## SHOCKPROOF DIAL CALIPER AND DEPTH ATTACHMENT COMBO

Tough shockproof design. 4-way measuring. Solid stainless steel construction. Silky-smooth movement throughout. 100° range per revolution. .001" reading dial face. P/N 12-03409 .....**\$122.75**

## MASTER BORE GAGE SET

Setting Bore gages is a breeze with Fowler's new Bore Gage Setting Master Kit! Using the new Fowler Bore Gage Setting Master and the included gage blocks you can now quickly and easily set virtually any bore gage from 0 to 6" in diameter with an accuracy of .0001". Gone are the numerous masters formerly required to accurately set your bore gage for use. Now with one setting master kit and the included gage blocks you can set your bore gage with ease. Each Fowler Bore Gage Setting Master Kit includes a bore gage setting master, and a 36 piece gage block set. Both come packaged in a high quality aircraft-style, shop-hardened aluminum case! All packaged in a high quality, shop-hardened aircraft-style aluminum case! Bore Gage shown is not included .....P/N 12-03408 .....**\$457.00**

TO

# CALIPERS – MICROMETERS – KNOCK-OUT PUNCHES

## DIGITAL FRACTION CALIPERS



The Digital Fractional Caliper brings you three universal systems of measurement, making it an equally practical choice for both professional and do-it-yourself projects. The high-contrast digital display easily switches between inches, millimeters and fractions, with guaranteed accuracy to 0.001". In addition, the rugged stainless steel design delivers accurate readings of inside, outside, step and depth measurements. The Fraction+ comes with a foam padded plastic case for safe storage when not in use. **Feature:** • Stainless Steel Caliper • Tri-Mode digital display – inches, millimeters, and fractions • For making inside, outside, depth and step measurements • Resolution 0.0005" (0.01mm) • Accuracy 0.001" (0.02mm) • Auto on/off feature preserves battery life • Bar scale is graduated in inches and millimeters • Free-wheeling friction roller advances and retracts slide • Extendable depth gage for use in slots and small holes • Etched and filled black graduations • Convenient foam-padded case for storage.

Digital Fraction Caliper - 6" ..... P/N 12-02012 ..... **\$49.80**  
 Digital Fraction Caliper - 8" ..... P/N 12-02013 ..... **\$66.75**  
 Digital Fraction Caliper - 12" ..... P/N 12-02014 ..... **\$101.85**

## FRACTIONAL DIGITAL CALIPER 3 INCH



Three universal systems of measurement Guaranteed accuracy to 0.001". Delivers accurate readings of inside, outside, step and depth measurements. This 3" caliper fits conveniently into your pocket for working in the field. Range 0-3" (0-76mm) Resolution 0.0005" (0.01mm or 1/64"). Accuracy 0.001" (+/- 0.02mm). Auto on/off feature preserves battery life. Free-wheeling friction roller advances and retracts slide. Extendable depth gage for use in slots and small holes. Replacement Battery - SR54 or LR54 ..... P/N 12-02307 ..... **\$21.50**

## DIAL INDICATOR



0-1" Dial indicator with measuring resolution of .001"; equipped with mounting lug on back of body for multiple mounting options ..... P/N 12-02709 ..... **\$29.80**

## STANDARD AND METRIC DIAL INDICATOR



AGD 2 series. Dial face reads in inch (black) or metric (red). Range: 1"/25mm. Graduation: .001"/.01mm. Reading: 0-100. Separated dial for Inch and Metric. Rotating bezel with clamp. Lugback included .. P/N 12-03659 ..... **\$109.75**

## PROFESSIONAL GRADE MICROMETER



0-1" Professional grade micrometer with measuring resolution of .0001"; carbide anvil faces for long life and durability. Includes plastic case. P/N 12-02707 ..... **\$39.95**

## DIGITAL SLIDING T-BEVEL



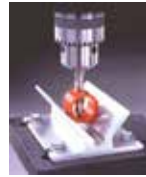
Takes the guesswork out of angle duplication and eliminates the problems associated with analog readings and manual measurement transfer. This is the first and only digital T-bevel on the market. It is ideal for measuring, storing and transferring inside and outside angles when building cabinetry, furniture and picture frames; installing tile and more. This highly accurate tool offers easy-to-read measurements via a large LCD display and integrates an 8" stainless steel blade with a steel locking knob. Practical function buttons make it ultra-convenient for setting and transferring measurements instantly. P/N 12-03226 ..... **\$37.50**

## OFFSET KNOCKOUT PUNCHES (WITCHES FINGER)



Can be used to knock out those hard to reach stubborn fasteners. Available in 1/8", 5/32", 3/16", and 1/4" tip diameter. Also available in a 4 piece set.

Size	Part No.	Price
1/8"	12-02927	<b>\$13.95</b>
5/32"	12-02926	<b>\$13.95</b>
3/16"	12-02928	<b>\$13.95</b>
1/4"	12-02929	<b>\$13.95</b>
Set of 4	12-02925	<b>\$58.75</b>



## "CENTER IT" HOLE DRILLING JIG

"Center It" is a jig used to drill holes in pipe or tube stock. To use the Center It, simply place it on your drill-press table, run the bit down (with the motor off) to hold the centered jig on the bit, then bolt the jig to the press table. No clamping of the tube is necessary; the angled flats of the jig hold it in a centered position. Your holes are automatically centered on the tube with no center-punching necessary. If the tube is too fat to drill in a single operation, simply turn it over. The device is useful to kitplane builders who have to drill several holes in a single tube or many tubes because no clamping or center-punching of the tube is required. It also makes short work of drilling ..... P/N 12-20815 ..... **\$13.85**

## DRILL RITE PRECISION DRILL GUIDE



Light and portable, this tool provides straight and true holes every time. Your electric hand drill will perform like a professional drill press. The easy, accurate way to drill any curved surface: Simply place the Drill Rite VGuide™ on any type of pipe or round stock, from 1/2" to 2 1/2" in diameter. Swing the gate closed and lock it down. Insert the proper drill bit in the guide bushing and drill a precisely accurate hole. Includes super hardened drill bushings for popular 3/16" and 1/4" holes for rivets and aircraft hardware. Precision made in the U.S.A. from high quality aircraft grade aluminum. P/N 12-00836 ..... **\$59.75**

## PLATE NUT DRILL JIG



One piece heat treated tool steel jig. Use for accurate & fast drilling of rivet holes for plate nuts. Has flexible handle design. Use for both on lug (both holes on 1 side) & two lug (holes on both sides) style nut plates - K1000 & K1100 style nutplates.

#6 Plate Nut Drill Jig ..... P/N 12-03041 ..... **\$46.75**  
 #8 Plate Nut Drill Jig ..... P/N 12-03042 ..... **\$46.75**  
 #10 Plate Nut Drill Jig ..... P/N 12-03043 ..... **\$46.50**

## DIGITAL PRECISION PROTRACTOR



Displays absolute and relative angle measurements in a large, easy-to-read LCD window. This display offers a hold function and can be inverted 180° for easy reading when the tool is upside down. It features a 6" (150mm) stainless steel pivoting protractor arm with a knurled locking nut and one-button zero calibration, which ensures accurate readings every time. Take the guesswork out of measuring, marking and reading angles on your next woodworking or home improvement project. The UltraTECH Pro-ANGLE Digital Protractor displays absolute and relative angle measurements in a large, easy-to-read LCD window. For user convenience and comfort, the display offers a hold function and is easily inverted, or flipped, 180 degrees for reading upside down. Angles in any plane can be measured with accuracy to 0.1 degree and 0.05 degree resolution anywhere within a 0.00 to 180 degree range, making this tool useful for many applications ..... P/N 12-03224 ..... **\$31.50**

## DIGITAL ANGLE FINDERS



These new angle finders combine the ruggedness of analog rulers (standard and metric) together with the digital technology needed for complete accuracy when measuring inside, outside and reverse angles. Precise measurements prevent waste by facilitating exact miter cuts. One button activates the reverse angle function, a hold button digitally saves the measurement and the large ergonomic locking knob saves the angle manually. A big LCD readout makes measurements extremely easy to read while an innovative center check notch enables exact ruler placement marking. The Models 822 (Patent Pending) are ideal for framing, custom furniture-building, stair and patio construction, flooring, tiling basically all woodworking, carpentry and contractor needs in the shop or in the field.

5 inch ..... P/N 12-03223 ..... **\$31.80**  
 10 inch ..... P/N 12-03222 ..... **\$41.65**

TO



# ECONOMY AIRCRAFT TOOLS



## HAND RIVET SQUEEZER

Features includes an all-steel construction, adjustable set holder (accepts all sets with 3/16" shank), and long handles for increased force. The yoke is made of the highest quality tool steel, and by simply removing 3 pins you can change the yoke to match your riveting or dimpling application. Each squeezer includes the yoke of the coordinating size.

Description	Part No.	Price	Description	Part No.	Price
1" Squeezer	12-01460	\$103.75	1" Yoke	12-01457	\$30.95
2" Squeezer	12-01461	\$105.75	2" Yoke	12-01458	\$32.50
3" Squeezer	12-01462	\$110.75	3" Yoke	12-01459	\$34.75

## STAINLESS STEEL HAND SQUEEZER

This stainless steel hand squeeze made of quality stainless steel construction. Features include an adjustable set holder (accepts all sets and dies with 3/16" shank) and a locking lever arm. Yokes are easily interchangeable by simply removing three roll pins and designed to accept yokes and parts made by other stainless steel hand squeeze manufacturers. Includes a 3" Yoke. 1.5" is sold separately.

S/S Hand Squeezer 3"	P/N 12-01464	\$129.00
1.5" Yoke	P/N 12-01547	\$49.85
3" Yoke	P/N 12-01548	\$61.75

## QUICK CHANGE PIN

Quick Change Pin. Makes changing yokes quicker & easier.

3/4" Reach	P/N 12-01798	\$3.35
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## INTEGRAL WHOLE TYPE HAND SQUEEZER

A basic tool for all riveting operations. Quality steel construction with black oxide finish and all parts are heat treated. Adjustable set holder accepts dies and sets with 3/16" shank. 1-1/2" reach x 1-1/2" gap.

1-1/2"	P/N 12-01465	\$92.75
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## RIVET SET FOR SQUEEZER

**(FLUSH & CUPPED)** - Made of steel and heat-treated for long wear and tool life. .187" (3/16") shank. • 2 Flush sets required for Flush Head Rivets • 1 Flush and 1 Cup required for Round Head Rivets. • Sold as individual items / not a pair

Description	Part No.	Price
Flush 1/8	12-01466	\$4.90
Flush 3/16	12-01554	\$4.90
Flush 5/16	12-01556	\$4.90
Flush 3/8	12-01557	\$4.90
Flush 7/16	12-01558	\$4.90

Description	Part No.	Price
Flush 1/2	12-01559	\$4.90
Cupped 1/8	12-01561	\$5.45
Cupped 5/32	12-01562	\$5.45
Cupped 3/16	12-01563	\$5.45

## 1-1/2" AND 3 YOKES

• Holds 3/16" die sets • Adjustable set holder • Stainless steel construction. 1-1/2" ..... P/N 12-01547 ..... \$49.85  
3" ..... P/N 12-01548 ..... \$61.75

## DIMPLE DIES

For any .187 shank diameter squeezer.

3/32"	P/N 12-01468	\$19.60
1/8"	P/N 12-01564	\$19.75
5/32"	P/N 12-01565	\$15.85
3/16"	P/N 12-01566	\$20.65
<b>Economy Dimple Die Set Includes: 3/32", 1/8", 5/32", 3/16"</b>		
	P/N 12-01467	\$75.50

## SCREW REMOVAL TOOL

• Useful in removing screws that are corroded or have stripped heads • 401 Parker taper shank for use in rivet gun • 3/8" square socket end • Use standard Phillips or Slotted insert bits • Rivet gun required • 1/4" hex adapter not included. 4" Tool ..... P/N 12-01567 ..... \$23.70

## MICRO-STOP

This tool permits you to set the desired cut depth to help eliminate mistakes and skin damage. • 1/4" Shaft travel • Depth adjustable in .001" increments • 1/4"-28 Female Threads • Rated for 3,000 RPM. .... P/N 12-01470 ..... \$28.50

## HEAVY DUTY RIVET CUTTER

This heavy-duty rotary cutter is designed to quickly and easily shear aluminum rivets. Just insert the rivet into the correct sized hole and set to desired length; adjustable for 1/4" to 3/4" long rivets in 1/16" increments. Cuts diameters of 3/32", 1/8", 5/32", 3/16", 7/32", and 1/4".  
P/N 12-01471 ..... \$56.90

## ECONOMY RIVET SET

2.5" Straight & Offset Rivet. Made of steel and heat-treated for long tool life. The precision made cups are highly polished. • .401 shank • Length: 2.5" • Cup Sizes: 3/32", 1/8", 5/32" & 3/16" • For AN470 rivets

2.5" Straight 3/32"	P/N 12-02318	\$8.65
2.5" Straight 1/8"	P/N 12-02319	\$9.50
2.5" Straight 5/32"	P/N 12-02320	\$9.50
2.5" Straight 3/16"	P/N 12-02321	\$8.65

## ALUMINUM BODY MINI AIR VACUUM

A handy air powered vacuum works off an air compressor and is simple to use. Attached 12" clear plasticflex tube can easily get into tiny spaces to clean. The canvas bag is easily removed for cleaning ..... P/N 12-01474 ..... \$24.60

## CHIP CHASER

Ideal for removing chips and burrs from between metal after drilling rivet holes. Each chaser features a plastic molded handle and flexible steel blade with hook on the end. Blades are 5.5" and 2.5" long.

2.5"	P/N 12-01597	\$3.60
5.5"	P/N 12-01476	\$3.95

## DOGLEG DEBURRING TOOL

Swivel action of this tool makes deburring holes fast and easy. Shaft includes a 1/4"-28 threaded holder.

\*Flute De-burring cutter sold separately - PN 12-00625  
P/N 12-01478 ..... \$14.85

## Accessories

Replacement Deburring Bit	P/N 12-03755	\$11.90
Swivel Handle Only	P/N 12-00623	\$17.75
Extension Shaft only	P/N 12-00624	\$8.50
HSS 3 Flute De-burring cutter	P/N 12-00625	\$18.95

## CLECO PLIERS

Used in limited access areas, requires less travel per activation. .... P/N 12-01480 ..... \$7.85

## CLECALL STEEL UPRIGHT

## CLECO PLIERS

Clecall Upright Steel Cleco Pliers: Faster to use / Easier to Activate. Spring Loaded to open with less effort. Latest design accommodates 1/4" Cleco width. Forged steel for heavy duty use. Handle Compression distance reduced further for more comfort. Reduce fatigue and wrist pain. Vertical profile installs clecos in tight areas with ease. Install clecos on upside down surfaces easily. .... Economy Steel Pliers ..... P/N 12-03756 ..... \$24.95

## SPRING TENSION CLAMPS

## (ZINC ALLOY YOKE OR STEEL YOKE)

Spring tension clamps can be applied in a fraction of the time required for ordinary screw clamps. The clamp, with 2" throat depth, has a Zamak alloy yoke and a steel spring which provides a 70 lb. clamping pressure. Designed for use with sheet holder pliers.

Description	Grip Range	Part No.	Price
Zinc Alloy	0 - 1/2"	12-01481	\$6.50
Steel 2"	0 - 1/2"	12-01482	\$7.90
Steel 3"	1/4" - 5/8"	12-01483	\$8.70

## SIDE GRIP CLAMPS

Designed to hold two or more work pieces together where no holes exist. Clamping force is applied at edge of work. Spring loaded, plier actuated. The lack of a takeup screw makes it impossible to over-tighten and damage the work surfaces or the clamp. There are 4 standard sizes : 1/2 x 1/2", 1/2 x 1", 3/4 x 1/2", 3/4 x 1".

Description	Part No.	Price
1/2" x 1/2"	12-01484	\$2.35
1/2" x 1"	12-01485	\$2.45
3/4" x 1/2"	12-01486	\$2.25
3/4" x 1"	12-01487	\$2.50

## DRILL STOPS

Use when drilling in sheet metal to help eliminate drill breakage & surface marks. Safely keeps drill from going too far through the work. Drill stops have a coiled spring to cushion the drill breakthrough & prevents the drill chuck from marring the work surface. Color coded for easy identification.

#10	P/N 12-01488	\$1.82	#20	P/N 12-01489	\$1.82
#30	P/N 12-01490	\$1.82	#40	P/N 12-01491	\$1.75
#1/4	P/N 12-01492	\$1.80	#5/16	P/N 12-01493	\$1.82

## CYLINDER BASE NUT WRENCHES

Where torque application accuracy is critical these tools meet the requirement. They offer excellent rigidity and surpass other wrenches in overall quality and efficiency. Wrench Type A is for sizes 1/2", 9/16", 5/8", and 3/4" hex nuts. Also available in a kit.

Type A 1/2"	P/N 12-01525	\$21.80
Type A 9/16"	P/N 12-01568	\$21.80
Type A 5/8"	P/N 12-01569	\$21.80
Cylinder Base Nut Wrench Set	P/N 12-02302	\$65.00

TO

# ECONOMY AIRCRAFT TOOLS

## STRAP DUPLICATOR (BUSHING TYPE)

For drilling an accurate hole in overlapping sheets. The Bushing type duplicator is used by sliding the end with the pin between the sheets and locating the hole to be duplicated from inside. P/N 12-01498 is pictured.

Description	Part No.	Price	Description	Part No.	Price
#10 6-1/4"	12-01494	\$9.50	#10 13-1/4"	12-01499	\$10.65
#21 6-1/4"	12-01495	\$7.95	#21 13-1/4"	12-01501	\$10.65
#30 6-1/4"	12-01496	\$9.50	#30 13-1/4"	12-01502	\$10.65
#40 6-1/4"	12-01497	\$9.50	#40 13-1/4"	12-01503	\$10.65
1/4" 6-1/4"	12-01498	\$9.50	1/4" 13-1/4"	12-01504	\$10.65

## STRAP DUPLICATOR (INVERTED TYPE)

For drilling an accurate hole in overlapping sheets. The inverted type duplicator allows you to locate a hole from the back of an overlapping sheet. #10 #21 #30 #40 1/4" drill sizes, 6-1/4" or 13-1/4". PN 12-01507 is pictured.

Description	Part No.	Price	Description	Part No.	Price
#10 6-1/4"	12-01505	\$9.50	#10 13-1/4"	12-01510	\$10.65
#21 6-1/4"	12-01506	\$9.50	#21 13-1/4"	12-01511	\$10.65
#30 6-1/4"	12-01507	\$9.50	#30 13-1/4"	12-01512	\$10.65
#40 6-1/4"	12-01508	\$9.50	#40 13-1/4"	12-01513	\$10.65
1/4" 6-1/4"	12-01509	\$9.50	1/4" 13-1/4"	12-01514	\$10.65

## ECONOMY BLIND HOLE SPOTTERS



For inserting into drilled holes already bored and marking exact center for opposite hole. Available size: 5/16", 1/4", 3/16", 5/32" and 1/8"

Description	Part No.	Price	Description	Part No.	Price
5/16"	12-01775	\$1.69	3/16"	12-01773	\$1.65
1/4"	12-01774	\$1.65	1/8"	12-01771	\$1.65

## EDGE BREAKER

This tool allows the quick removal of burrs and roughness from the edges of sheet metal. .25" or .187" in diameter grooved blade with safety shield. Safety-grip plastic handle ..... P/N 12-01527 ..... \$11.60

## AIR SWIVELS & REGULATOR TOOLS

Air Swivel Connector W/ Regulator (Pictured to the left) ..... P/N 12-01530 ..... \$14.50  
 Air Swivel Connector ..... P/N 12-01529 ..... \$12.50  
 Air Swivel Regulator ..... P/N 12-01545 ..... \$7.95

## BRASS RIVET SET

This rivet set has a soft face to prevent damage to the fastener when inserted or removed. Fits into any standard rivet gun or air hammer that supports .401" shank tooling, 3 1/8" overall length. .... P/N 12-01543 ..... \$14.50

## RIVET GUN SHAFT REDUCER

Rivet set adapter sleeve, .401 shank. Made of hardened steel (SKD11) and is open at both ends to allow maximum riveting power ..... P/N 12-01544 ..... \$18.65

## ECONOMY SAFETY WIRE TWISTERS

These top quality twisting lock pliers with automatic return are economically priced and extremely durable. Features a sharp cutting edge and will twist up to .060" dia. safety wire. Length 6" & 9". Foreign made.  
 6" ..... P/N 12-01472 ..... \$26.90  
 12" ..... P/N 12-01473 ..... \$24.95

## CAMLOC PLIERS

These Camloc Pliers are used to depress #2600, #2700 and #4000 series Camloc (C-LOCK) studs so they can be properly installed. Pliers are manufactured from forged steel and feature polished bearing surfaces to avoid scratching the stud as it's being installed. The grips are rubber cushioned for extra comfort and to reduce slipping. .... P/N 12-01475 ..... \$21.50

## CANNON CONNECTOR PLIERS

The tool features serrated jaws for improved gripping and a slip joint for improved leverage. Ideal for all common cannon connector applications.  
 P/N 12-01531 ..... \$19.60

## SHOP HEAD RIVET GAUGE SET

Set of four gauges for -3, -4, -5, -6 rivets. Each gauge measures Minimum height and Minimum diameter of shop heads AFTER setting. Eliminates guessing if your rivets are properly set. Works for measuring both universal head and flush rivets. Precision machined to size from 2024 aluminum. Rivet size permanently stamped on each gauge. Color coded anodized finish.  
 P/N 12-01533 ..... \$12.50

## RIVET LENGTH GAUGE

One gauge measure -3, -4, -5, -6 rivets. Used to check for proper length of rivets Before setting. Eliminates measuring and guessing of rivets lengths. Works for both universal head and flush rivets. Precision machined to size from 2024 aluminum. Rivet size permanently stamped. Blue anodized finish.  
 P/N 12-01534 ..... \$6.90

## DRILL EXTENSION THREADED

These are used to extend a straight chuck drill to 1/4"-28 female threads.  
 2" ..... P/N 12-01535 ..... \$7.50  
 4" ..... P/N 12-01536 ..... \$7.50  
 6" ..... P/N 12-01537 ..... \$6.95

## DRILL EXTENSION DUAL THREADED

Use these different length extensions in your 90° or 45° drills. 1/4"-28 male threads on one end and 1/4"-28 female threads on other.  
 2" ..... P/N 12-01541 ..... \$8.70  
 4" ..... P/N 12-01542 ..... \$8.70

## SLIM MICRO-STOP

A slim design that's only 11/16" outside diameter. Used for those narrow areas that can't be reached with a standard micro-stop. • 1/4" Shaft • 1/4"-28 Female Threads • Adjustable in .001" increments • 1/2" Cutter Capacity • Rates for 3000 RPM use.  
 P/N 12-01790 ..... \$24.95

## MICRO-STOP (LONG NOSE)

This micro-stop reaches into very confined areas.  
 • 5/16" Quick-change Shaft or regular chuck • 1/4"-28 Female Threads • Adjustable in .001" increments • 3/8" Cutter Capacity • Rates for 3000 RPM use  
 P/N 12-01789 ..... \$49.70

## MICRO-STOP (NYLON FACE)

• 1/4" Shaft • 1/4"-28 Female Threads • Adjustable in .001" increments • 11/16" Cutter Capacity • Rates for 3000 RPM use ..... P/N 12-01788 ..... \$31.90

## 5.5" STRAIGHT & OFFSET RIVETS

Made of steel and heat-treated for long tool life. The precision made cups are highly polished. .401 shank. Length: 5.5". Cup Sizes: 3/32", 1/8", 5/32" & 3/16". For AN470 rivets.

Size	Straight	Price	Offset	Price
3/32"	12-02326	\$10.65	12-02330	\$10.95
1/8"	12-02327	\$10.65	12-02331	\$11.50
5/32"	12-02328	\$10.65	12-02332	\$11.50
3/16"	12-02329	\$10.65	12-02333	\$11.50

## ALUMINUM & NYLON RIVETS

This rivet set has a soft face to prevent damage to the fastener when inserted or removed. Fits into any standard rivet gun or air hammer that supports .401" shank tooling. • Surface: 1" • Length: 3 1/8"  
 Nylon Rivet ..... P/N 12-02342 ..... \$12.65  
 Aluminum Rivet ..... P/N 12-02343 ..... \$11.90

## RADIUS CHECK

Radius Check is a hand-held tool which can be used to check the radius of parts and panels used in the construction or restoration of aircraft. Also used extensively in the restoration of antique and classic automobiles. P/N 12-21595 ..... \$38.50

## RADIUS OR FILLET GAUGES

16 leaves, especially for checking radius of inside and outside fillets and corners. Checks 1/32 to 17/64" by 64ths. .... P/N 432A ..... \$36.60

TO



# ECONOMY AIRCRAFT TOOLS



## ECONOMY RIVET GUNS

These popular 2X /3X /4X rivet guns used in aircraft manufacturing plants worldwide. "X" series rivet gun has an incomparable teasing triggers, allowing you to slowly begin riveting without damaging the skin. A lightweight aluminum handle with powder coat finish for comfort. Hardened & precision ground steel piston, cylinder, spool valve for long life. Includes spring retainer & brass air regulator.

Length	BPM	Capacity	Bore	Shank	Stroke	Weight (lbs)	Part No.	Price
6-11/16"	2580	1/8"	1/2"	.401"	2-1/4"	3.1	12-02034	\$173.75
7-5/16"	2160	3/16"	1/2"	.401"	2-7/8"	3.2	12-02035	\$174.95
8-1/2"	1740	1/4"	1/2"	.401"	3-1/16"	3.4	12-02036	\$174.99

## ECONOMY FLUTING PLIERS

Narrow type fluting pliers are used for straightening out or coxing sheet metal into the correct shape. This tool makes narrow and precise flutes in sheet metal.

P/N 12-01782 .....\$24.95



## RIVET HOLDER

This tool holds your rivet, small bolt, or screw so you can get into those hard-to-reach areas.

P/N 12-01791 .....\$8.60



## RIVET ECONOMY COLLAR CUTTER

Use with your rivet gun to easily remove Huck and Hi-Lok type collars. Shank: 0.401 Size includes 1/8", 5/32", 3/16" & 1/4" Overall Length: 5 1/2"

1/8" .....P/N 12-02275 .....\$19.95

5/32" .....P/N 12-02276 .....\$19.95

3/16" .....P/N 12-02277 .....\$19.95

1/4" .....P/N 12-02278 .....\$19.95



## ECONOMY FLUSH SET

5.5" & 7.5" Flush Set Made of steel and heat-treated for long tool life. Faces are polished to a high luster for smooth, precise riveting. .401 shank Surface: 1" Length: 5.5" & 7.5"

5.5" .....P/N 12-02273 .....\$19.95

7.5" .....P/N 12-02274 .....\$21.50



## JIFFY RIVET SETTERS

### ECONOMY JIFFY STRAIGHT RIVET SETTER

For use with "Jiffy" style rivet gun. Made of steel and heat-treated for long tool life. The precision made cups and highly polished. 401 shank, Length: 1-3/16", Cup Sizes: 3/32", 1/8", 5/32" & 3/16", For AN470 rivets

3/32" x 1-3/16" .....P/N 12-02381 .....\$8.50

1/8" x 1-3/16" .....P/N 12-02382 .....\$8.50

5/32" x 1-3/16" .....P/N 12-02383 .....\$8.50

3/16" x 1-3/16" .....P/N 12-02385 .....\$8.50



### ECONOMY JIFFY OFFSET RIVET SETTER

For use with "Jiffy" style rivet guns. Made of steel and heat-treated for long tool life. The precision made cups are highly polished. 401 shank, Length: 1-3/4", Cup Sizes: 3/32", 1/8", 5/32" & 3/16", For AN470 rivets

3/32" x 1-3/4" .....P/N 12-02387 .....\$8.65

1/8" x 1-3/4" .....P/N 12-02388 .....\$8.65

5/32" x 1-3/4" .....P/N 12-02389 .....\$8.65

3/16" x 1-3/4" .....P/N 12-02390 .....\$8.65



### ECONOMY RIVET GUN PUNCH

For use to remove rivet after collar is split. Made of steel and heat-treated for long tool life. 401 shank, Length: 3-1/2", Punch size includes: 3/32", 1/8", 5/32" & 3/16" & 1/4"

3-1/2" x 1/8" .....P/N 12-02392 .....\$12.50

3-1/2" x 5/32" .....P/N 12-02393 .....\$9.55

3-1/2" x 3/16" .....P/N 12-02394 .....\$9.55

3-1/2" x 1/4" .....P/N 12-02395 .....\$9.55



**ECONOMY JIFFY FLUSH RIVET SETTER** - For use with "Jiffy" style rivet gun, polished flush surface Length: 1-3/16", For AN470 Rivets

P/N 12-02386 .....\$8.50

## QUICK-CHANGE CHUCK

Allows tool change in seconds. Designed for drilling bits, countersinks, etc. with quick-change ends. 3/8" x 24 thread. ....P/N 12-01778 .....\$24.95



## C-SET

This C-Rivet Set bends around obstacles and allows you to reach into awkward areas for riveting. • 3/16" diameter hole for any squeezer sets or dimple dies with 3/16" shaft • 401 shaft .....P/N 12-01776 .....\$35.95



## RED BOX RIVET GUN TOOL KITS

### RED BOX RIVET GUN TOOL KITS

- 1pc Rivet Gun (Choose Size 2X, 3X or 4X) • 1pc Brass Regulator • 1pc Beehive Retainer • 1pc Handi Retainer
- 4pcs 3.5" Straight Rivet Set (3/32", 1/8" 5/32", 3/16")
- 1pc Standard Flush Set (size: surface diameter 1", length 2-1/2") • 1pc Marvel Air Tool Oil (Made in USA)
- 1pc Thread Seal Tape • 1pc Air Tool Fitting

2X Rivet Gun Tool Kit .....P/N 12-02047 .....\$237.95

3X Rivet Gun Tool Kit .....P/N 12-02048 .....\$237.95

4X Rivet Gun Tool Kit .....P/N 12-02049 .....\$237.95

### RED BOX FLUSH RIVET SET

P/N 12-02050 .....\$9.65

### RED BOX 3.5" RIVET SET

Size	Straight	Price	Offset	Price
3/32"	12-02051	\$8.50	12-02322	\$9.50
1/8"	12-02052	\$6.50	12-02323	\$9.50
5/32"	12-02053	\$7.95	12-02324	\$9.50
3/16"	12-02054	\$7.95	12-02325	\$9.50



### RED BOX 7.5" RIVET SET

Size	Straight	Price	Offset	Price
3/32"	12-02334	\$10.65	12-02338	\$11.90
1/8"	12-02335	\$10.65	12-02339	\$11.90
5/32"	12-02336	\$10.65	12-02340	\$11.90
3/16"	12-02337	\$10.65	12-02341	\$11.90



## TURNBUCKLE WRENCH

2 inch diameter turnbuckle wrench easily rotates turnbuckle while chain tool holds the cable ends in precise alignment and prevents them from rotating.

P/N 12-01795 .....\$75.75



## TURNBUCKLE CHAIN TOOL

This tool consists of two clamps joined by sprocket type (bicycle) chain. When clamped to cable and fittings at each side of the turnbuckle, anchor the cable to allow free adjustment of the turnbuckle. The adjustment becomes a two hand instead of three hand adjustment .....P/N 12-01794 .....\$32.50



## SPEED HANDLE 3/8"

Useful for quickly tightening and loosening a nut or bolt particularly where other types of wrenches will not reach.

P/N 12-01797 .....\$12.50



## PHENOLIC SCRAPER

Scraper Blade, 2" wide x 6.5" long x 3/8" thick. Designed for use with a rivet gun (.401 shank). Phenolic scrapers are perfect for safely removing sealant, adhesives, stickers, labels, grime, and more. ....P/N 12-01796 .....\$16.85



## SKIN WEDGE

Made of 4140 steel and heat-treated to perfection. • 7" long x 1" wide • Body thickness 1/4" .....P/N 12-01793 .....\$12.50



## HEX KEYS

Designed to use when installing Hi-Lok style fasteners. Includes set screw and Allen key.

1/8" .....P/N 12-01785 .....\$9.50

5/64" .....P/N 12-01786 .....\$9.50

3/32" .....P/N 12-01787 .....\$9.50



## ECONOMY DRILL

### EXTENSION THREADED

This threaded extension allows you to chuck threaded drill bits or countersinks into a quick-change chuck. It features a 5/16" quick change shaft on one end, and 1/4" -28 female threads on the other. The overall length of the extension is 3.46" ...P/N 12-01781 .....\$8.50



## 60° C-SET

Excellent for limited access areas. • 60° Angle • .401 shaft P/N 12-01777 .....\$34.50



## FORD WRENCHES

• General-purpose adjustable wrench • Sliding Jaw • Forged from Crescent special Analysis Tool Steel • Chrome-plated • Precision Machined

9" Wrench .....P/N 12-03795 .....\$29.70

11" Wrench .....P/N 12-01784 .....\$34.95

15" Wrench .....P/N 12-03796 .....\$53.75



## SEALANT MIXER

Designed to quickly and efficiently mix all types of pre-filled Semkit® packages. Has a 1/4" shank. Chuck it up in your drill to mix Semkit® sealant tubes ...P/N 12-01792 .....\$16.95



TO

# ATS TOOLS

## ATS TOOLS

### ATS AIR NIBBLER



#### ATS8300

- Cuts up to 16 ga (.060" / 15 mm) steel or aluminum
  - Easily replaceable punch and die
  - Weight 1.74 lbs (.79 kg)
- P/N 12-01414.. **\$109.95**

### ATS PUNCH & FLANGING TOOLS



#### ATS8400

- Capacity 16ga (.060"/15mm) steel
  - Punch Diameter 3/16" (5 mm)
  - Flange width 1/2" (12 mm)
  - Rubber comfort grip
  - 9-3/4" (248 mm) Overall Length
  - 2.75 lbs (1.25 kg)
- P/N 12-01413..... **\$75.95**

### ATS AIR POWER RECIPROCATING SAW KIT



#### ATS8202K

- Cuts up to 16 ga (.060" / 15 mm) steel or aluminum
  - .063" (16, mm) Stroke Length
  - 10,000 Strokes Per Minute (SPM)
  - Weight 2.1 lbs (1.35 kg)
- P/N 12-01419..... **\$99.95**

### ATS 90 DEGREE ANGLE DRILL



#### ATS6132

- Spindle 1/4"-28 Thread
  - Head Length 1.08" (2.7 mm)
  - 2,800 RPM
  - Head Width .65" (1.6 mm) .33 hp
  - 10" (254 mm) Overall Length
  - Variable speed control 1.6 lbs (.73 kg)
- P/N 12-01422.... **\$269.95**

### ATS MNI ANGLE DIE GRINDER



#### ATS5105

- 1/4" (6.4 mm) Collet Size
  - 5-1/2" (140 mm) Overall Length
  - 1.1 lbs (.5 kg)
  - 20,000 RPM Free Speed
- P/N 12-01416. .... **\$85.95**

### ATS MINI DIE GRINDER



#### ATS5101

- 1/4" (6.4 mm) Collet Size
  - Front exhaust keeps work area clean!
  - Very light weight .79 lbs (.36 kg)
  - 26,000 RPM Free Speed
- P/N 12-01417..... **\$79.95**

### ATS 3" CUT-OFF TOOL



#### ATS8502

- 3" (75 mm) disc capacity, 3/8" (15 mm) mount
  - Free speed 20,000 RPM
  - Weight 1.74 lbs (.79 kg)
- P/N 12-01420..... **\$49.70**

### ATS AIR HYDRAULIC RIVETER



#### ATS8805

- Pulling Force 2,300 lbs (1,045 Kg)
  - Rivet Capacity 3/16" aluminum or mild steel
  - Stroke Length .63" (16 mm)
  - Nosepieces: 3/32" (2.4 mm), 1/8" (3.2 mm), 5/32" (4.0 mm), 3/16" (4.8 mm)
  - Weight 3.26 lbs (1.48 kg)
- P/N 12-01423..... **\$99.75**

### ATS HEAVY DUTY AIR DRILL



#### ATS6101

- 3/8" (9.5 mm) Jacobs® Chuck
  - Full Cage Gear
  - 2,600 RPM
  - Variable speed control
  - .67 hp (.5 kw)
  - Ergonomic Design for Maximum Comfort
  - 7-1/2" (190 mm) Overall Length
  - 2.07 lbs (.94 kg)
- P/N 12-01418..... **\$90.75**

### ATS HD REVERSIBLE AIR DRILL



#### ATS6104

- 3/8" (9.5 mm) Jacobs® Chuck
  - Full Cage Gear For Smooth Operation
  - 2,400 RPM • Variable Speed Control
  - Fully Reversible with Positive Stop
  - 7-1/2" (190 mm) Overall Length
  - .67 hp (.5 kw)
  - 2.86 lbs (1.3 kg)
- P/N 12-01421..... **\$89.95**

### ATS PALM DRILL



#### ATS6100

- 1/4" (6.4 mm) Jacobs® Chuck
  - Two-stage (Low/High) Control Trigger
  - 5-7/8" (150 mm) Overall Length
  - 1.54 lbs (.7 kg)
  - 2,800 RPM Free Speed
- P/N 12-01424... **\$109.95**

TO



# BOSCH POWER TOOLS

## BENCH GRINDER DISC - VERY FINE



Quickly remove carbon from pistons and valve stems. Great for light deburring head bolts and studs. One disc is flexible when run alone. Stack as many discs on at a time for the desired finish and removal rate. Safer than a wire wheel, with a much better finish. The very fine grade Bench Grinder Discs are packaged 10 to a pack, and the medium grade Bench Grinder Discs are packaged 5 to a pack. Size: 8" x 1/2" • Grain: A/O • Grade: Very Fine • Max RPM: 3,000 P/N 12-00849 .....\$51.75



## 7" CUTTING WHEEL 1/2" X BRE 1/16"

Oxide abrasive wheel - fine abrasive for burr-free cutting of thin wall tubing and applications which require a fine finish.  
• Wheel Size: 7" x 1/16" x 1/2" • Max RPM: 8,700  
• Weight: 6lbs • Standard Grades: A60TBE 3C14 P/N 09-02564 .....\$5.35

## BOSCH 18 VOLT CORDLESS JIG SAW



18 V Cordless Jig Saw and L-BOXX™ Carrying Case. Up to 30% lighter weight than leading competitor. Up to 10% smaller than leading competitor. 1-handed blade insertion and ejection offers most convenience and ease of use. Smallest grip diameter reduces user fatigue during extended use applications. Always-on dust blower helps keep intended cut line visible. On-board tool storage for more convenience. Adjustable footplate for bevel cuts up to 45°. Battery and charger sold separately. In the box: • Jig Saw • L-Boxx-2 • Exact-Fit Insert Tray • Battery and Charger Not Included - Sold Separately. ....P/N 12-03737 .....\$223.95

## BOSCH TOP HANDLE JIGSAW



Toolless Blade-Change System – Fast insertion, blade ejection lever eliminates need to touch hot blade. Most secure jigsaw clamping system.

**Features:** • Powerful 7.0-Amp Jigsaw – Top jigsaw amp rating. • Variable speed - Dial sets maximum speed and accelerator trigger controls operating speed. • Constant Response™ circuitry – Maintains desired speed for consistent performance and precision. • Aluminum gearbox with insulated

cover • Toolless Blade-Change System – Fast insertion, blade ejection lever eliminates need to touch hot blade. Most secure jigsaw clamping system. • Internal Precision Control - Precision-machined plunging system and low-vibration design for enhanced accuracy and extremely smooth operation. • Large, sturdy die-cast foot with steel insert and on-board bevel wrench. • Exclusive multi-directional blade clamp provides superior grip of T-shank blades. (JS470E does not accept U-Shank blades) • Four orbital-action settings -Different blade strokes for smooth to aggressive cuts. • Adjustable dust blower keeps cutting line clear. • Ergonomic top handle with soft-grip areas for solid, comfortable grip. • Ambidextrous lock-on button – For steady long cuts and user comfort and control.....P/N 12-03215 .....\$175.95

## BOSCH TOP HANDLE JIG SAW 5 INCH RANDOM ORBIT SANDER MODEL NO. ROS20VSK



**Features:** • Best all-around sanding performance and convenience. • Twist-off translucent dust canister shows dust level and detaches easily. Ant-spillback design prevents dust from spilling on removal. • Bosch Microfilter system traps dust particles as small as 1/2 micron. • Hook-Tight™ hook-and-loop disk attachment ensures firm grip of standard hook-and-loop sanding discs. • Comfortable, ergonomic soft-grip top and body • Integral pad dampening system prevents swirl marks • Soft microcellular backing pad ensures smooth, fine finish on flat or contoured surfaces. • Variable-speed dial allows matching of speed to work piece and task.

P/N 12-01766 .....\$99.85

## AIRCRAFT STATIC TEST ADAPTER



SA3Y-P-UNI-2 Aircraft Static Test Adapter. • Automatically attaches to aircraft fuselage • High pressure hoses with quick release fittings • Press to release button for static adapter removal • Safety check valves for power failure and system leaks • High impact yellow case with internal electric vacuum pump • Designed to fit most general & military aircraft static ports • Comes with 1/2 in center suction cup. Accessory kits are available for specific static ports • Power input: 115 V AC 50/60 Hz. Continuous operation • Custom voltages available: 12vdc, 28vdc, 115 vac & 220 vac • Size: 12" x 10" Wt. 8.5lbs.

P/N 13-20266 .....\$1,350.00

## BOSCH 4-1/2 INCH ANGLE GRINDER



**Features:**

6 Amps, 11,000 RPM • Lock-on/off switch – for extended use applications • Service Minder™ brushes – Eliminates guesswork, stops the tool when preventative maintenance is required • Epoxy Coated Field Windings – Provides ultimate protection against abrasive dust and metal debris • 5/8" -11 Spindle – wide flexibility for mounting most popular accessories • Spindle Lock – For quick wheel changes • Double insulated, UL listed, complies to OSHA • 2-Position auxiliary handle – specifically designed and angled to a "natural" position for maximum comfort and control.....P/N 12-02685 .....\$169.85

## BOSCH 3-1/4 INCH PLANER 120V



Powerful 6.0 amp motor, 16,500 RPM for fast stock removal and a smooth finish. Electronically-counterbalanced, single-blade system automatically positions blade at ideal cutting angle. Reduces drag and provides fast operation and a smooth finish. Eliminates uneven planing caused by misaligned blades. Equipped with Bosch Woodrazor™ micrograin carbide blades. Ratcheting depth knob

that allows for fool-proof setting of depth increments from 0" to 1/16" (1.5 mm). Also features an edge guide fence. A protective shield covers the section of blade not in use. Amperage: 6.0. Cord Length: 10'. Country of Origin: Malaysia. No Load RPM: 16,500. Planing Depth: 0 - 1/16" (1.5 mm). Planing Width: 0" to 3-1/4". Rabbet Depth: 5/16". Rating: 120V AC. Shoe Length: 11 - 1/8" .....P/N 12-02823 .....\$129.90

TO

# SUNEX TOOLS



## SUNEX IMPACT WRENCH SX4335

3/8" Impact Wrench SX4335  
P/N 12-02610 .....\$168.99



## SUNEX IMPACT WRENCH SX4345

1/2" Impact Wrench. 750 ft.lbs. of quiet power. 1100 ft.lbs. of breakaway torque. One hand forward/reverse. Quiet Tech™ exhaust system delivers 82 dBA. Weighs only 4.3 lbs..  
P/N 12-02611 .....\$168.99



## SUNEX IMPACT WRENCH WITH ANVIL SX4345-2

1/2" Impact Wrench with 2" extended anvil. 750 ft.lbs. of quiet power. 1100 ft.lbs. of breakaway torque. One hand forward/reverse. Quiet Tech™ exhaust system delivers 82 dBA. Weighs only 4.3 lbs .....P/N 12-02612 .....\$243.95



## SUNEX IMPACT WRENCH SX4355

3/4" Impact Wrench. 1400 ft.lbs. of quiet power. One hand forward/reverse. Quiet Tech™ exhaust system delivers 90 dBA. Weighs only 7.55 lbs.  
P/N 12-02613 .....\$416.00



## SUNEX AIR RATCHET SX3825

1/4" Air Ratchet. 30 ft. lbs. of quiet power. 84 dBA makes it the quietest in it's class. Weighs only 1.45 lbs.. P/N 12-02614 .....\$129.95

## SUNEX SHORT AIR HAMMER



SX821A Specification	
Blows Per Minute	4,500
Bore (In.)	1-5/8
Stroke (In.)	1-5/8
Air Inlet (NPT)	1/4
Min. Hose Size (I.D.)	3/8
Recommended Air Pressure (PSI)	90
Average Air Consumption (CFM)	4
Sound Level (dBA)	105
Length (In.)	5.5

- \* Built-in regulator
- \* Accepts .401" Parker taper shank chisels
- \* Ideal for standard duty applications
- \* 3 pc. chisel set included
- \* Quick change retainer spring .....P/N 12-01934 .....\$50.80

## SX-230A DIE GRINDER & ACCESSORIES



1/4" air die grinder. Built-in regulator. Exhaust directed away. Lever throttle for positive lever control.  
Die Grinder .....P/N 12-01124 .....\$44.85



## X-227B HEAVY DUTY METAL SHEARS

Muffled handle exhaust. Heavy-duty, ball and needle construction. Pneumatic.  
P/N 12-01122 .....\$103.75

## SUNEX SOCKET SET 1/2" DRIVE STANDARD 13 PIECE SAE IMPACT SOCKET SET



1/2" Dr. SAE Impact Socket Set  
• CR-MO alloy steel for long life  
• Fully guaranteed  
• Heavy molded storage tray  
2650 Includes: 7/16" 1/2" 9/16" 5/8" 11/6" 3/4" 13/16" 7/8" 15/16" 1" 1-1/16" 1-1/8" 1-1/4"  
P/N 12-01945 .....\$47.50

## SUNEX 5" REVERSIBLE HI-SPEED SANDER



The Sunex HD ® 5" Reversible High-Speed Sander has all of the durability, features, and power that customers have come to expect from the HD product line.

This product sets itself apart by being the only composite High-Speed Sander available that gives you light weight comfort and durability, as well as the added feature of a reversible direction control. If you are in a tight spot or need to control sparks or debris, this tool is exactly what you need. For paint removal, weld smoothing, shaping filler patches, to rust removal, there is no equal in the market. 2 Year Limited Warranty. Weight lbs. (kg): 2.2 (1.0) .....P/N 12-03189 .....\$119.85

## 1/2" DRIVE DEEP 14 PIECE METRIC IMPACT SOCKET SET



\* CR-MO alloy steel for long life  
\* Fully guaranteed  
\* Heavy molded storage tray  
2653 Includes: 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 21mm 22mm 26mm 27mm.....P/N 12-01948 .....\$77.75

## SUNEX 1/4" 0.5HP ANGLED DIE GRINDER



Sunex HD ®1/4" 0.5hp line of Die Grinders provides all of the durability, features, and power required for today's demanding applications. With the powerful 0.5hp motor, you are given the torque to get through even the toughest material and twice the horse power of the average die grinder. The speed control dial and soft composite handles enhances your ability to complete any job quickly and efficiently. With these top of the line products, you will find all of the features and speed you need to get the job done right the first time. 2 Year Limited Warranty. Weight lbs.(kg): 1.5 (0.7)  
P/N 12-03192 .....\$104.75

## SUNEX 1/4" 1.0HP SUPER DUTY DIE GRINDER



The new Sunex HD ® 1/4" 1.0hp Super Duty Die Grinder has all the durability, features, and power mechanics want in an industrial die grinder. With the powerful 1.0hp motor, you're provided with the torque needed to get through the toughest of materials. The no slip Erickson Industrial Collet, allows you to work efficiently, as it holds your accessories securely without slippage. You would normally pay twice as much for a tool of this caliber. 2 Year Limited Warranty. Weight lbs.(kg): 1.7 (0.77) .....P/N 12-03193 .....\$119.75

## SUNEX ANGLE DIE GRINDER SX5203



1/4" Angle Die Grinder. 20,000 max. RPM of quiet speed. Only 82 dBA. Weighs only 1.1 lbs. ....P/N 12-02618 .....\$89.75

## SUNEX REVERSIBLE CUT OFF TOOL SX6210



3" Reversible Cut-Off Tool. Reversible spark direction with 18,000 max. RPM. Strong 0.9 horsepower motor. Only 83 dBA. Weighs only 3.6 lbs.  
P/N 12-02619 .....\$114.95

TO



## SUNEX WRENCH SETS



### 7 PIECE JUMBO SAE COMBINATION WRENCH SET

- High density, dropped forged alloy steel for strength
- Raised panel design
- Comes with sturdy metal clip for storage

9707  
Includes: 942-1-5/16", 956-1-3/4", 944-1-3/8", 960-1-7/8", 948-1-1/2", 964-2", 952-1-5/8".....P/N 12-01967 .....**\$130.85**



### 14 PIECE SAE COMBINATION WRENCH SET

- Canvas pouch included
- Raised panel design
- High density, dropped forged alloy steel for strength

9714  
Includes: 712-3/8", 726-13/16, 714-7/16", 728-7/8", 716-1/2", 730-15/16", 718-9/16", 732-1", 720-5/8", 734-1-1/16", 722-11/16", 736-1-1/8", 724-3/4", 740-1-1/4" P/N 12-01970 .....**\$65.95**



### 14 PIECE ANGLE HEAD SAE WRENCH SET

- Canvas pouch included
- Fully polished drop forged alloy steel
- 15° and 60° angled ends for added convenience

9914  
Includes: 991401-3/8", 991408-13/16, 991402-7/16", 991409-7/8", 991403-1/2", 991410-15/16", 991404-9/16", 991411-1", 991405-5/8", 991412-1-1/16", 991406-11/16", 991413-1-1/8", 991407-3/4", 991414-1-1/4" P/N 12-01975 .....**\$77.75**



### 14 PIECE ANGLE HEAD METRIC WRENCH SET

- Canvas pouch included
- Fully polished drop forged alloy steel
- 15° and 60° angled ends for added convenience

9914M  
Includes: 991404M-6mm, 991408M-13mm, 991403M-7mm, 991409M-14mm, 991402M-8mm, 991410M-15mm, 991401M-9mm, 991411M-16mm, 991405M-10mm, 991412M-17mm, 991406M-11mm, 991413M-18mm, 991407M-12mm, 991414M-19mm P/N 12-01976 .....**\$62.95**



### 8 PIECE FLARE NUT CROWFOOT WRENCH SET

- 3/8" Drive
- Fully polished drop forged alloy steel
- Mounted on a convenient storage rail

9708  
Includes: 970802-3/8", 970810-5/8", 970804-7/16", 970812-11/16", 970806-1/2", 970814-3/4", 970807-9/16", 970818-7/8" P/N 12-01968 .....**\$26.90**



### 7 PIECE JUMBO STRAIGHT CROWFOOT WRENCH SET

- Fully polished drop forged alloy steel
- 1/2" Drive
- Reusable blow mold storage tray

9720  
Includes: 97732-1", 97734-1-1/16", 97736-1-1/8", 97738-1-3/16", 97740-1-1/4", 97760-1-3/8", 97744-1-1/2" P/N 12-01971 .....**\$68.90**



### 6 PIECE JUMBO CROWFOOT WRENCH SET

- Fully polished drop forged alloy steel
- 1/2" Drive
- Reusable blow mold storage tray

9722  
Includes: 97746-1-5/8", 97752-2", 97748-1-3/4", 97754-2-1/8", 97750-1-7/8", 97756-2-1/4".....P/N 12-01972 .....**\$97.75**



### 10 PIECE METRIC FLARE NUT CROWFOOT WRENCH SET

- Fully polished drop forged alloy steel
- 3/8" Drive
- Mounted on a convenient storage rail

9710M  
Includes: 971010-10mm, 971015-15mm, 971011-11mm, 971016-16mm, 971012-12mm, 971017-17mm, 971013-13mm, 971018-18mm, 971014-14mm, 971019-19mm P/N 12-01969 .....**\$32.50**



### 8 PIECE JUMBO METRIC STRAIGHT CROWFOOT WRENCH SET

- Fully polished drop forged alloy steel
- Mounted on storage rail for convenience
- Reusable blow mold storage tray

9730  
Includes: 97324-24mm, 97328-28mm, 97325-25mm, 97329-29mm, 97326-26mm, 97330-30mm, 97327-27mm, 97332-32mm P/N 12-01973 .....**\$68.75**

## SUNEX PNEUMATIC TOOLS



### 1/4" DRIVE MINI AIR RATCHET WRENCH

SX1068 Specification	
Free Speed(RPM) @90PSI	230
Torque (ft.lbs.) @90PSI	25
Square Drive	1/4
Min. Hose Size	2/8
Recommend Air Pressure (PSI)	90
Average Air Consumption (CFM)	3
Sound Level (dBA)	87
Length(In.)	8

- Lever throttle for positive speed control
- Ball detent socket retainer
- Rear exhaust
- Also available: 1/4" head kit .....P/N 12-01932 .....**\$87.75**



### 3/8" DRIVE PISTOL GRIP IMPACT WRENCH

SX821A Specification	
Square Drive (In.)	3/8
Max. Torque (ft. lbs @90PSI)	75
Working Torque (ft.lbs.)	30-60
Free Speed (RPM@90PSI)	10,000
Air Inlet (NPT)	1/4
Recommended Air Pressure (PSI)	90
Average Air Consumption (CFM)	4
Sound Level (dBA)	84
Length (In.)	5

- Ring socket retainer for rapid socket changes
- Front bumper for added protection
- Built-in regulator for added protection
- Reliable dog clutch mechanism for dependable service
- Reliable dog clutch mechanism for dependable service

P/N 12-01937 .....**\$89.75**



### MEDIUM DUTY AIR HAMMER

SX275B Specification	
Blows Per Minute	3,000
Bore (in.)	11/16
Stroke (In.)	2-5/8
Air Inlet (NPT)	1/4
Min. Hose Size (I.D.)	3/8
Recommended Air Pressure (PSI)	90
Average Air Consumption (CFM)	4
Sound Level (dBA)	105
Length (In.)	6.75

- Built-in regulator
- Accepts .401" Parker taper shank chisels
- An excellent general purpose hammer
- Quick change retainer spring .....P/N 12-01935 .....**\$45.50**

TO

# SUNEX TOOLS

## SUNEX SERVICE CART WITH LOCKING TOP & DRAWER



• This combination makes for the ultimate cart  
 • The locking drawer and locking top are keyed the same, so the user only has one set of keys  
 • Clip-on roller-bearing slides on drawer • Large, easy to maneuver 4" wheels: 2 locking and 2 standard, Chrome 16 gauge steel frame, Durable powder coated finish, 3" deep shelves, Available colors: red, blue, black & yellow 8013A  
**Specifications:** Load capacity (lbs.)-350, Shipping weight (lbs.)-69.5.....P/N 12-01963 .....**\$261.95**

## 4 PIECE 3/8 INCH DRIVE UNIVERSAL SPARK PLUG SOCKET SET



• All four sized spark plug sockets in one convenient set • Fully polished chrome vanadium alloy steel for durability • Universal joint design for easy access in confined areas • Rubber inserts hold spark plug securely during installation and removal • Includes new 9/16" size • Convenient blow mold case • Fully guaranteed. 87602  
**Specifications:** 8844-9/16, 8844-5/8, 8844- 3/4, 8844-13/16 .....P/N 12-01966 .....**\$38.65**

## SUNEX DELUXE CREEPER



• 1" Rugged steel tube construction • Oversize frame for added comfort • Tapered frame and head rest for extra clearance in tight areas  
 • 3-1/2" Heavy duty chrome finished casters with rubber tread • 5-Position stick shift headrest adjustment system • Rear drop frame design for extra leg comfort 8515

**Specifications:** Length (In.)-45.5, Width (In.)-19, Height (Headrest Down)-5, Height (Headrest Up)-9.5, Shipping Weight (lbs.)-29.0, Bed Size-30.625 x 16.5 x 2.5.....P/N 12-01964 .....**\$169.75**

## SUNEX SERVICE CART WITH LOCKING TOP & DRAWER



• 8016 - 3 Drawer Unit • 8011 - Large Locking Screwdriver/Pry Bar holder • 8004 - Side Work Bench • 8014 - Leg extension Drawer liner sold separately Note: This item is purchased as a complete unit with the accessories listed above. 8013ADLX  
**Specifications:** Load capacity (lbs.)-350, Shipping weight (lbs.) -115.5, Color: Blue-8013ABLDLX, 8844-13/16-13/16"  
 P/N 12-01962 .....**\$524.00**

## SUNEX SOCKET DRIVES



Radius corner design causes the socket to grab the sturdy wall, or flat, of the fastener instead of grabbing the corners, resulting in less corner wear on the fastener. CR-MO alloy steel for long life.

Drive	Socket	Description	Part No.	Price
3/4"	41mm	Sunex 441MD	12-03448	<b>\$23.99</b>
3/4"	46mm	Sunex 446MD	12-03450	<b>\$23.99</b>
1"	46mm	Sunex 546MD	12-03451	<b>\$35.50</b>

## SUNEX REDUCING SOCKETS



CR-MO alloy steel for long life. Steel ball retainer on male end. Will meet a variety of needs. Lifetime warranty. Fully guaranteed.

Description	Part No.	Price
Sunex 2302 1/2"(f)x3/4"(m)	12-03452	<b>\$9.50</b>
Sunex 4300 3/4"(f)x1"(m)	12-03453	<b>\$16.85</b>

## 6 INCH BENCH GRINDER WITH LIGHT



• Bright, flexible work light • Has two 6" grit wheels: coarse 36 and medium 60 • Each wheel has protective spark guard and adjustable eye shield • Mounting holes and rubber feet make grinder easy to mount on a stand (optional - part #5003 or 5005) or use on an approved worktable or workbench  
 • Conveniently placed, easy to use on/off switch • Long, 6-foot power cord • Cast iron base for durability • Ball bearing construction for smooth operation • 1/2" Arbor accepts standard 6" wheel • UL & CSA Listed • Includes: eye shields (RS500119B) & tool rests (RS500135B) 5001A  
**Specifications:** Power-1/2 HP Motor, No Load speed 3450 RPM Motor -3.5 Amp, Voltage -115V/60Hz, Shipping Wt. (Lbs) -22  
 P/N 12-01959 .....**\$191.95**

## 5 TON CAPACITY 8-WAY, 2-3 JAW REVERSIBLE PULLER



• Can be assembled to make a two or three jaw puller when additional stability is needed  
 • Reversible jaw design for added versatility and a broader range of pulling capability  
 • Ideal for pulling gears, bearings, pulleys and other press fit parts 3908  
**Specifications:** Maximum reach (in.)-5.5, Maximum spread (in.) -7  
 P/N 12-01957 .....**\$37.50**

## 3/16 INCH HEAVY DUTY RIVET GUN



• Sets all conventional, standard blind rivets and all structural blind rivets, mono bolts and t-rivets up to and including 3/16" diameter in all materials • Comes with nose pieces in 3/32", 1/8", 5/32", and 3/16" sizes  
 • Features a pulling (traction) power of 1,983 lbF @90PSI • Forged aluminum handle • Nose pieces stored conveniently underneath base of gun • Minimum air pressure required is 90 PSI, 7 Bars • Includes blow molded storage case SX0918T  
**Specifications:** Air Pressure (PSI) -75-90, Stroke Length (In.) -11/16, Height (In.) -12-3/8, Weight (Lbs.) -3.70, Min. Hose Size (I.D.) -3/8, Air Inlet Size (NPT) -1/4. • Tips available on special request.  
 P/N 12-01933 .....**\$242.95**

## SUNEX 3 PIECE PROFESSIONAL ANGLE BLADE PRY BAR SET



Includes angle blade pry bars in lengths of 12", 17" and 25" and boast a handle specifically designed to ensure a "no slip" grip allowing the user maximum leverage and control. Each pry bar also has hardened, tempered blades for unmatched strength and durability.  
**Specifications** • Weight: 4.1lbs • Length: 25.8" • Height: 1.9"  
 P/N 12-02451 .....**\$51.80**

## SUNEX 3PC FLEXIBLE PICKUP TOOL



Helps to get you into those tight spots and help you with removal, fastening, and pick up of fasteners and parts. **Features:** Includes: 1/4" Magnetic Bit Driver, 1/4" Socket Driver, and a 2 in 1 Magnetic Claw Pick-Up Tool. Flexible ends bend to desired angles. Extra long 24" length shafts. 1/4" Bit Socket accepts all standard bits. 1/4" Socket Driver can be used with all 1/4" sockets and bit sockets.....P/N 12-02450 .....**\$46.50**

## SUNEX CABLE SPRING CLAMP PLIERS



24" flexible neck cable for hard to reach areas. Clamps lock in open position. Removes plastic and metal self-tightening (11/16" - 2-1/2" diameter) hose clamps. Extended clamp on allows for added extension. Lifetime warranty (does not include cable and spring).  
 P/N 12-03454 .....**\$64.95**

TO



# SUNEX TOOLS – METAL WORKING TOOLS

## 3-IN-1 SHEET METAL ROLLERS



These Sheet Metal Roller Presses have 6 adjustable hardened fingers, spring loaded sheet hold-down, heavy cast iron frame, grooves for wire rolling, 1 1/4" slip rolls, adjustable back gauge. Works up to 20 gauge sheet metal. Stand not included but available for the 30" Roller only.

Model	Size	Part No.	Price
SP3-1-3	30"	12-03467	\$851.00
SP3-1-40	40"	12-03469	\$1,301.00
SP3-1-52	52"	12-03470	\$2,298.00
Roller Stand for 30" Roller.....P/N 12-03468.....			\$190.80



## POWER BEAD ROLLER MACHING

Heavy Duty Power Bead Roller, works off 110v gear drive motor and has a 43" throat depth with an adjustable fence and includes floor stand, die rack, 2 step dies, 2 bead dies and a 45 degree tipping die.

P/N 12-03472.....\$2,499.00

## HAND SHEARS



Throatless design, adjustable work hold down, arched top blade allows for effortless cutting throughout the stroke and indexable bottom blade. Up to 3/16" steel, up to 3/8" round bar.

Description	Part No.	Price
Hand Shear 5" Model SPHS5	12-03459	\$120.85
Hand Shear 8" Model SPHS8	12-03460	\$140.75
Hand Shear 10" Model SPHS10	12-03457	\$258.95
Hand Shear 12" Model SPHS12	12-03458	\$220.95



## ROTARY SHEAR

Shape cutter, easily cut any shape up to 1/8" thick, forged steel frame, ratcheting head, adjustable cutter, adjustable work stop.

P/N 12-03463 .....\$250.95



## 3-IN-1 SHEET METAL ROLLER

This Sheet Metal Roller Press is 12" length with 5 adjustable hardened fingers, material hold-down, back gauge, 1-1/4" slip rolls with 1/16", 1/8" and 3/16" grooves for wire forming. Works up to 20 gauge sheet metal.

P/N 12-03466 .....\$357.00

## HAND SHEAR MULTI PURPOSE CUTTER

5" Top length, throatless design, adjustable work hold down, geared reduction handle makes cutting easy.

P/N 12-03464.....\$303.00



## MANUAL SHEET METAL CORNER NOTCHER

Heavy cast iron frame, adjustable work stops, 4 x 4 blades adjustable blade gap, high chrome blades, adjustable gibs for long life.

P/N 12-03461 .....\$1,395.00



## SQUARE NOTCHER

Foot operated, 3" x 3" blades, adjustable work stops, adjustable blade gap. 16 Gauge.

P/N 12-03465 .....\$704.00



## 52 INCH FOOT SHEAR

52" Blade length, cast iron frame, front arm supports, high carbon blade, adjustable blade gap, front squaring arm with scale, back gauge with inch and metric scale.

P/N 12-03462 .....\$4,003.00



TO

## ENGLISH WHEEL THROAT DEPTH

Heavy Duty Construction, Quick Release Lower Anvil and Includes Floor Stand. \* Part Number 12-03474 - Can Be Used For Rolling, Beading and Forming Foot Operated Height Adjustment.

Model	Description	Top Wheel	Ball Bearings	Includes	Part No.	Price
WFEW-2	English Wheel 28" Throat Depth With Stand	8"	Precision	5 Pieces Radius Anvils And One Flat Anvil	12-03473	\$794.00
WFEW45T	English Wheel 43" Throat Depth*	6"	Super Wide 3" Anvils Precision	4 Top Wheels And 10 Lower Anvils	12-03474	\$2,995.00



12-03473

# METAL WORKING TOOLS



## PLANISHING HAMMER

26" Throat depth, quick adjust anvil height. Includes floor stand with handy retractable wheels, industrial hammer at 4600 beats per minute, includes in line oiler, pressure regulator and foot pedal. Up to 1/16" steel.  
P/N 12-03475 .....\$1,999.00

## PLANISHING HAMMER

Uses shop air 50-100 psi 4 cfm, 19-5/8" throat depth, features quick adjust anvil height/pressure, includes floor stand, 3 anvil, air motor, foot pedal. 16 Gauge Mild Steel.  
P/N 12-03476.....\$350.00



## SHRINKER / STRETCHER MACHINE



Ideal for creating repair panels for wheel openings, winshields, etc., Produce curves as tight as 3" radius, drilled bottom for bench mounting or clamp in a bench vise. Cast iron frame. 18 Gauge mild steel, 16 gauge aluminum .....P/N 12-03477 .....\$229.00



## DEEP THROAT SHRINKER STRETCHERS

8" Throat Depth. 18 Gauge Mild Steel, 16 Gauge Aluminum .....P/N 12-03478 .....\$500.00  
Adjustable Stand .....P/N 12-03479 .....\$150.75

## WOODWARD-FAB BOSS16 BOX & PAN BRAKE



Maximum box depth 4", removable fingers - 2", 3", 4", bend angle stop 0 to 130 degrees, floor stand included, counterweight included, upper beam is adjustable for radius bending. 16 Gauge Mild Steel, 20 Gauge Stainless Steel .....P/N 12-03480 .....\$1,485.00



## 12 INCH 20 GA BOX & PAN BRAKE

12" Length, 5 hardened, removable fingers, cam lock handle. 20 Gauge.....P/N 12-03481 .....\$321.00



## 24 INCH 20 GA BOX AND PAN BRAKE

Solid heavy duty construction, reinforced frame, hardened and ground fingers, finger to bend leaf gap can be adjusted, maximum box depth, 5 removable fingers. 20 Gauge.....P/N 12-03482 .....\$461.00



## EURO BRAKE

50" Box and Pan Brake, 14 Gauge Capacity Mild Steel, Air Cylinder Assist "No Need for Weights", Adjustable Hold Down Force, Adjustable Bend Gap, Foot Operated Locking Hold Down, Hardened and Ground Fingers plus removable lower fingers for custom bends. 14 Gauge .....P/N 12-03483 .....\$3,495.00



## MODEL S TURBO BURR

55,000 rpm, 1/4" air hose connection, 60 to 120 psi, 5 to 11 cfm, feed up to 2" per second. Ideal for deburring and edge finishing, puts a safety edge on sheet metal in one pass. .015" Minimum material thickness.  
P/N 12-03484 .....\$448.00



## WELD SHAVER

Removes both flat "butt" welds and inside 90 degree corner "fillet" welds. Uses carbide inserts, milling type cutter head. Remove weld beads up to 1/2".  
P/N 12-03485 .....\$920.00



## SLIP ROLL

12" Length, 1" diameter hardened rolls, 1/16", 1/8" 3/16" wire grooves. 20 Gauge.  
P/N 12-03486 .....\$238.95



## 24 INCH 20 GAUGE SLIP ROLL

24" Length, 1-1/2" diameter rolls, solid precision ground rollers, heavy cast iron frame, quick release top roll, hardened steel gears, wire grooves for wire rolling. 20 Gauge.  
P/N 12-03487 .....\$448.00

## WOODWARD-FAB ELITE SHEET METAL / WIRE SLIP ROLLER 24 INCH



24" Length, 2-3/8" diameter drive rolls, 2-1/2" rear adjustable roll. Uses single front mounted hand wheel for adjusting the rear roll. Uses single hand wheel to adjust the bottom roll for material thickness, roll tapers up to 15 degrees, fully enclosed gear box, cast iron end plates, wire grooves for wire rolling. Floor stand included. 16 Gauge.....P/N 12-03488 .....\$1,599.00

## WOODWARD-FAB ELITE SHEET METAL / WIRE SLIP ROLLER 50.5 INCH



50-1/2" Length, 2-3/8" diameter drive rolls, 2-1/2" rear adjustable roll. Uses single front mounted hand wheel for adjusting the rear roll. Uses single hand wheel to adjust the bottom roll for material thickness, roll tapers up to 15 degrees, fully enclosed gear box, cast iron end plates, wire grooves for wire rolling. Floor stand included. 16 Gauge.....P/N 12-03491 .....\$2,014.00



## SHOP PRESSES

Hydraulic hand pump, press plates included 7" stroke, easy read gauge. 10 Ton - 14 1/2" inside clearance.

Model	Description	Stroke	Inside Clearance	Part No.	Price
PR102	10 Ton Shop Press	7"	10 Ton - 14 1/2"	12-03492	\$400.00
PR103	12 Ton Shop Press	7"	12 Ton - 18 1/2"	12-03493	\$404.00
PR104	20 Ton Shop Press	7 1/2"	20 Ton - 19 1/2"	12-03494	\$580.00



## 2 INCH PIPE NOTCHER

Use with any hand held drill motor or drill press, create any angle saddle notch on pipe for weld fit up, uses standard hole saw blades up to 2 1/2", compound angle adjustment. Holds up to 2" pipe, uses up to 2 1/2" hole saws.  
P/N 12-03495 .....\$100.85



## PIPE / TUBE NOTCHER

Solid steel construction, use with any 1/2" hand drill, accepts standard hole saw cutters, hardened and ground spindle, superior needle bearing support, adjustable angle to 50 degrees mount to bench top or clamp in vise. 3/4 - 3" O.D. Pipe/ tube.....P/N 12-03496 .....\$279.95



## TRACE-A-PUNCH NIBBLER

1 1/2 Hp, 110 V, 6 3/4" Throat Depth, Cuts Any Shape Metal Or Plastic. 1/8" Maximum Thickness.  
P/N 12-03497 .....\$1,995.00



## TRACE-A-PUNCH NIBBLER

3 HP, 220/440 V, 3 phase, 16" throat depth, cuts any shape metal or plastic. 3/16" Maximum thickness.  
P/N 12-03498 .....\$3,622.00

TO



# MALLETS – GRINDERS – POLISHERS – SANDERS

## GARLAND NON-MARRING MALLETS AND HAMMERS



Since 1866, Garland Manufacturing has been supplying America with top-quality products made from the finest water buffalo rawhide. Today, they're the leader in the manufacture of soft-faced mallets and hammers of unsurpassed quality. All Garland products are manufactured in the U.S.A. to ISO 9002 international quality standards. They combine superior craftsmanship with the best materials and then field-test their products extensively on a range of surface finishes to meet the requirements of the industries in which they're used. Industries ranging from foundries and electrical manufacturing to jewelry and woodworking. -faced hammers are preferred by both craftsmen and production workers.

## RAWHIDE AND WEIGHTED RAWHIDE MALLETS

Garland's all-rawhide mallets are made of tough, long-wearing, water buffalo rawhide. They're ideal for use on broad-faced striking surfaces in a broad range of applications.

RAWHIDE MALLETS					
Size	Face Dia. (Inches)	Head Length (Inches)	Weight (oz.)	Part No.	Price
0	1"	2"	2	12-00749	\$20.85
2	1-1/2"	3"	6	12-00750	\$26.95
4	2"	3-1/2"	11	12-00751	\$39.90
6	2-3/4"	4-3/4"	24	12-00752	\$71.75

WEIGHTED RAWHIDE MALLETS					
Size	Face Dia. (Inches)	Head Length (Inches)	Weight (oz.)	Part No.	Price
7	1-1/4"	2-1/2"	8	12-00753	\$43.95
10	2"	3-1/2"	20	12-00754	\$75.85

## NYLON MALLET



Nylon mallet works great for shaping metal.

**Specifications:** • Head Length: 3 1/2" • Face Diameter: 1 1/2" • Hammer Length: 10" .....P/N 12-02895 ..... **\$8.95**

## SPLIT-HEAD HAMMER - NO FACE



The split-head hammer does the work of six different hammers because the face can be easily changed. Available in two sizes. Many materials & surfaces. Die moving or positioning. Assembly. Electric Motor Repair. Propeller Repair. Foundry.

Face Dia.	Head Length	Weight	Part No.	Price
1-3/4"	3-1/4"	2.5 lbs	12-00965	\$44.50
2-3/4"	4"	5.25 lbs	12-00966	\$67.95

## VAN SANT MULTITOOl ATTACHMENTS

The Multitool belt and disc grinding attachments for your bench grinder are must-have tools for any fabricator! These versatile tools remove material up to 5 times faster than with the equivalent grit grinding wheel. Belts change in seconds from grinding, to sand deburr or polish. Quality construction is backed by a 1-year warranty. The attachments are all available with motor options to suit the hobbyist or the professional. Includes 1 belt and 1 disc. Fits 1/2HP or more grinders with 1/2" or 5/8" shaft. Visit our website for a Compatibility Template in PDF



**MT362 MULTITOOl GRINDER ATTACHMENT**  
(2"X36" Belt and one disc)  
P/N 12-02064 .....**\$228.95**



**M482 MULTITOOl GRINDER ATTACHMENT**  
(2"X48" Belt and one disc)  
P/N 12-02068 .....**\$309.00**



**M462 MULTITOOl GRINDER ATTACHMENT**  
(4"X48" Belt and one disc)  
P/N 12-02070 .....**\$329.95**



**DISC GRINDER MITER ATTACHMENT**  
The Multitool disc grinding attachment for your bench grinder are must-have tools for any fabricator! These versatile tools remove material up to 5 times faster than with the equivalent grit grinding wheel. ....P/N 12-02071 .....**\$69.75**

## VAN SANT - VISE AND GRINDER MOUNT WITH WALL RECEIVER



Completely free up work surfaces and eliminate floor space wasted on stands with the wall mount tool receiver (sold separately). Featuring a 4 x 8 x 1/4 inch thick mounting surface with 3 mounting holes, it can be mounted to any vertical surface in the shop. In addition to a 5/8

inch detent pin, the mount also features two sets of jam bolts to produce a rock-solid fit for the receiver tube. The included tool mount is constructed from 2 x 2 3/16 inch wall square tubing and a 3/8 inch thick steel plate measuring 8.5 x 9.5 inches. The mounting plate features both 90 and 120 degree slots to accommodate a wide variety of tools, or you can drill your own holes as needed. P/N 12-05414 .....**\$103.75**

## VAN SANT VISE AND GRINDER MOUNT WITH TABLE RECEIVER



The included tool mount is constructed from 2x2 3/16 wall square tubing and a 3/8 inch thick steel plate measuring 8.5 x 9.5 inches. The mounting plate features both 90 and 120 degree slots to accommodate a wide variety of tools, or you can drill your own holes as needed.

**Specifications:** • Weight (pounds): 18 • Dimensions (LxWxH): 13" x 9.5" x 2.5" .....P/N 12-05413 .....**\$89.95**



## VAN SANT WALL MOUNT RECEIVER

Completely free up work surfaces and eliminate floor space wasted on stands with the wall mount tool receiver. Featuring a 4 x 8 x 1/4" thick mounting surface with 3 mounting holes, it can be mounted to any vertical surface in the shop. In addition to a 5/8" detent pin, the mount also features two sets of jam bolts to produce a rock-solid fit for the receiver tube. P/N 12-05412 .....**\$59.95**

## VAN SANT TABLE MOUNT RECEIVER



Keep your work surface clear and eliminate the need for dedicated machine stands with this handy receiver mount. Featuring a 6 inch square mounting surface with 5/8 diameter holes on 4 in centers, it can be easily attached to your own workbench, Buildpro, or Certiflat welding tables. The mount also features two sets of jam bolts to produce a rock-solid fit. The receiver is designed to accept 2 x 3/16 inch wall square tubing. ....P/N 12-05410 .....**\$49.95**

## VAN SANT GRINDER MOUNT FOR RECEIVER



Vans Sant Grinder Mount Plate can be used with Receiver Mount (sold separately) to keep your bench grinder, vise, or any other tool close at hand, but not take up valuable bench space. Use the existing 1/2 inch wide slots in the 8.5 x 9.5 inch plate, or drill your own mounting holes. Built from 2 inch x 3/16 wall square tube and 3/8 inch plate and finished in black zinc. P/N 12-05411 .....**\$56.75**

TO

# BAILEIGH METAL TOOLS

## BAILEIGH MANUAL BENDER FB-4



Baileigh's FB-4 form bender is a useful tool for press bending ornamental iron, mild steel, aluminum and other metals. This flat bar bender is a manual press brake and can create 90 degree bends by simply turning a hand lever until the desired angle is accomplished.

This metal bender is perfect for hobbyists, ornamental iron artists, and much more. Of course this is not a production bender, but is perfect for small runs or those one off applications. • Capacity: 3/16" • Shipping Dimensions (L/W/H): 17"7"/8" • Shipping Weight: 19 lbs.

P/N 13-08987 .....\$195.00

## BAILEIGH MANUAL ROLL BENDER R-M3



Baileigh The R-M3 metal ring roller is perfect for any typical sheet metal shop for bending small rod up to 1/4". Metal artists, technical schools, and home shops can find hundreds of uses to keep this well built angle roll in use.

This single pinch metal ring roller can be bench or pedestal mounted. It has fine adjustment for the top roll and to power this machine there is a manual hand crank.

• Capacity Solid Round: .25" • Capacity Flat Bar: 1" (.1875 • Minimum Diameter: 3" • Handle Length: 13.5" • Power Requirement: Manual • Shipping Dimensions (L/W/H): 15" / 7" / 8" • Shipping Weight: 18 lbs

P/N 13-08975 .....\$194.95

## BAILEIGH MANUAL ROLL BENDER R-M7



Baileigh Industrial's Roll Bender R-M7's small size makes it highly portable and versatile. Although not for rolling complete circles, it makes quick work of large radius bends. Many different tooling options are available as well.

Capacity / Size / Diameter: • Pipe - 1.5" / 20" dia • Round Tube - 1.25"(.078") / 31.5" dia • Square Tube - 2" / 70" dia • Rectangle Tube - 1x2" / 30" dia • Flat bar - Easy Way / 10" dia

Specifications: • Roll adjustment: Manual • Pinch: Single • Shaft Center Distance (lower rolls): Adjustable • Driven Rolls: 1 • Speeds: N/A • Motor: N/A • Power Requirements: Manual • Shipping Weight: 150 lbs.

P/N 13-08976 .....\$695.00

## BAILEIGH MANUAL ROLL BENDER R-M10



Baileigh's R-M10 tube roller has a powerful manual drive system that has a maximum capacity of 1-1/4" (.078" wall) round tubing capacity (mild steel). It comes standard with segment rolls that allows for many different types of flat bar, some angle iron and some square to be rolled. This roll bender has optional rolls for round tube and pipe, as well as other profiles.

This tube roller is typically in stock for fast deliveries. For further information on the R-M10 roll bender, please contact your Baileigh representative.

Capacity / Size / Diameter: • Pipe - 1" (Sch.40) / 28" dia • Round Tube - 1.25"(.078") / 31.5" dia • Square Tube - 1.2" (.078") / 35" dia • Angle Iron - 1.25" (.157") / 30" dia • Solid Square - .75" / 20" dia • Solid Round - .875" / 20" dia • Flat Bar Easy Way - 2" / 15.75" dia • Flat Bar Hard Way - .75" / 6.5" dia

All Specs based on 60,000 PSI (42 kg/mm2) Tensile Strength - Mild Steel. Specs are to be used as a base line for purchase purposes only. Baileigh Industrial cannot control Variations in Material.

Technical Specifications and Standard Equipment: • Two rolls are manually powered • Special cast frame • Shafts are hardened with special steel material • Rolls are special steel material hardened and ground • Gears milled with full material • Standard rolls, guide rollers, manual working • Users manual. ....P/N 13-08977 .....\$2,184.00

## BAILEIGH MANUAL TUBE BENDER RDB-10



The RDB-10 manual hand tube bender is the perfect bending machine for bending air lines, brake lines, fuel lines, and general hydraulic lines. Thus, if you're into building or repairing race cars, auto and airplane repair or restoration, an automated machinery builder, or much more, the RDB-10 manual bender will save you time and money from the moment you use it.

This manual tube bender comes standard with 10 different size combinations from 1/4" to 5/8" OD in either 3 or 5 times the diameter radiuses. This manual tube bender works great with mild steel, certain coppers and aluminums, as well as stainless steel. It comes standard with a heavy pedestal, tooling rack, and bending machine.

The RDB-10 hand bender is easy to use and can bend tubing up to 180 degrees. Because of the design, this bending machine can do serpentine bends with ease at very tight radiuses depending on the OD, material and wall thickness. ....P/N 13-08971 .....\$895.00

## BAILEIGH MANUAL TUBE BENDER RDB-25



The RDB-25 manual tube bender is the perfect machine for hose hobbyists that need to bend tube on a budget. It is made from a sturdy cast iron frame and can be bench or pedestal mounted with the included pedestal. The RDB-25 from Baileigh Industrial was designed to bend the most common sizes of tubing on safe centerline radii to ensure great looking bends. This

manual tubing bender comes standard with the following round tube die sets: • 3/8" OD x 2" CLR • 1/2" OD x 2.25" CLR • 9/16" OD x 2.5" CLR • 5/8" OD x 3" CLR • 3/4" OD x 3.5" CLR • 7/8" OD x 4.25" CLR • 3/4" Square x 3.75" CLR • 1" Square x 4.25" CLR

Also included is a very nice carrying case, which allows the bender to be stored when not in use. Contact a Baileigh Industrial representative for more information on the RDB-25 manual tube bender.

P/N 13-08972 .....\$345.00

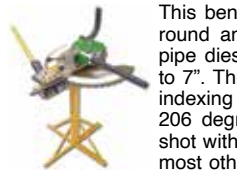
## BAILEIGH MANUAL TUBE BENDER RDB-050



The RDB-050 manual tube bender was designed as an affordable bender that has enough capacity for just about any chassis fabrication shop. Can bend up to 2-1/2" OD mild steel with a wall thickness of .120" and 2" OD Chromalloy with a wall thickness of .120". The most unique feature of the RDB-050 is that it has three selectable bending speeds. The proper speed for each

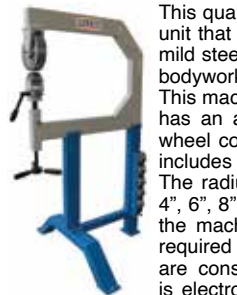
application depends on the material type, OD and wall thickness. The RDB-050 manual tube bender has no dis-assembly or assembly needed to produce a bend. Simply walk up to the RDB-050 and put your tubing into the hook arm insert and begin bending. When the bend is complete, return the machine to the home position and pull your bend out, or position it for the next bend. The RDB-050 tube bender can bend up to 200 degrees and an anti spring back mechanism holds each bend in place as the operator ratchets forward. **Tooling List - Sold separately - Call 1-877-477-7823 for pricing.**.....P/N 13-08973 .....\$1,295.00

## BAILEIGH MANUAL TUBE BENDER RDB-100



This bending machine can be fitted with hundreds of round and square tubing die sets as well as round pipe dies sets with a maximum center line radius up to 7". This manual tube bender uses a large diameter indexing plate that allows the fabricator to bend up to 206 degrees (180 degrees plus spring back) in one shot without having to re-index and re-pin common on most other manual pipe benders on the market. Each pull of the handle bends the material approximately 8 degrees. When requirements are for lighter gauge materials this tube bending machines indexing unit can be shut off and the handle can be put into a manual override housing that allows the operator to simply walk around the manual bender and bend without the power of the indexing unit. Includes the stand, degree dial, and handle .....P/N 13-08974 .....\$3,270.25

## BAILEIGH ENGLISH WHEEL EW-28



This quality English wheel is a heavily built floor stand unit that can handle smoothing compound curves into mild steel and aluminum sheet metal for restoration or bodywork on autos, planes, cycles and much more. This machine has an 18-gauge mild steel capacity and has an ample 28" throat depth. The EW-28 English wheel comes standard with an 8" X 2" upper roll and includes six lower anvil rolls with varying crowns. The radius included for the six lower rolls are 2", 3", 4", 6", 8", and 12". Like other Baileigh English wheels, the machine comes intact with only minor assembly required (no welding required). The frame members are constructed of heavy walled square tubing that is electro welded to a truss system offering little flex

at maximum capacity. **Specifications:** • Capacity (Mild Steel): 18 ga • Throat Depth: 28" • Shipping Dimensions(L/W/H): 36"/34"/15" • Shipping Weight: 191 lbs.....P/N 13-09001 .....\$1,095.00

## BAILEIGH ENGLISH WHEEL MANUALLY OPERATED EW-40



Baileigh's quality English Wheels have a generous 40" throat depth, and ship complete with five bottom anvils and one 7" upper wheel. It has a rugged electro welded frame and stand for ease of use and years of quality shaping and forming metal. The EW-40 English wheel has an 18 gauge mild steel capacity and a 13 gauge aluminum capacity. Like all Baileigh metal forming machines the EW-40 is a quality machine

for a reasonable price. This machine is in stock for quick deliveries. **Specifications:** • Capacity (Mild Steel): 18 ga • Throat Depth: 40" • Shipping Dimensions(L/W/H): 72"/36"/15" • Shipping Weight: 388 lbs .....P/N 13-09003 .....\$1,695.00

TO



# BAILEIGH METAL TOOLS



## BAILEIGH MANUAL MULTI-PURPOSE BENDER MCB-650

Baileigh's MCB-650 flat bar benders are ruggedly built to bend up to 5/16" X 1-1/4" mild steel or 1/4" X 2" mild steel as the maximum capacity. This is a fantastic ornamental bender to have for railings, fences, gates and for hundreds of additional applications. This flat bar bender comes standard with 7 die sets from 1" up to 3" for flat metal. Other solid applications such as wire, rod, and bar can be bent as well up to 200 degrees. Specifications: • Bend Capacity: 2" x .236" • Angle Capacity: 0 - 200 deg • Shipping Dimensions (L/W/H): 35"/10.5"/10.5" • Shipping Weight: 53 lbs.....P/N 13-08988 .....**\$195.00**

## BAILEIGH MANUAL HOLE SAW NOTCHER TN-200H



This coping machine can be vertically mounted in a drill press, or for larger pieces it can be horizontally mounted on a weld bench and powered by a portable drill. This hole saw tube notcher is made of thick 3/8 inch aluminum with a heavy bronze bushing that is replaceable if ever need be. The spindle is made of a 1/2" hardened shaft for longevity and less vibration. This coping machine can notch at angles up to 45 degrees in less than 30 seconds and has a capacity of up to 2" round tube. Specifications: • Notch Capacity (OD): 2" • Spindle Size: 1/2" • Spindle Adapter: 1/2" - 5/8" • Shipping Size (L/W/H): 12" / 7" / 5" • Shipping Weight: 10 lbs P/N 13-08978 .....**\$384.00**

## BAILEIGH MANUAL HOLE SAW NOTCHER TN-250



This is the most revolutionary hole saw pipe notcher on the market and is perfect for chassis, roll cages, and much more. This is the only hole saw tubing notcher that is always centered left to right and up and down. This coping machine is constructed of heavy steel plate to reduce vibration, uses a 1-1/4" Thompson® shaft that rides in a sealed needle bearing for longevity of the machine and hole saw. The TN-250 tube notchers vise has a powerful screw with a built in hand wheel that opens and closes the unique six radial clamping jaws. Can notch up to 2-1/2" OD and allows for steep angles as the hole saw can pivot up to 230 degrees making it the most versatile notching machine on the market. This tubing notcher can easily offset in seconds for off center notches and does not require crazy shims or spacers common on inferior models. P/N 13-08981 .....**\$835.00**

## BAILEIGH MANUAL HOLE SAW NOTCHER TN-300



This tubing notcher can notch from 1/2" to 3" tube and 1/2" to 2-1/2" Schedule 40 Pipe in materials such as aluminum, mild steel, chromoly, and stainless steel. The tube notchers vise has a quick release so different notch angles can be set up in a second or two and locked in with a solid taper lock. Can notch up to 60 degrees as standard, but with extended hole saws and the right size OD, notches up to 75 degrees can be attained. The vise is a self centering that is on an acme screw for quick tightening and releasing of the material. An offset adjustment is standard for those jobs where more strength is needed like on some hand railing or chassis frame applications. The drive carriage on the TN-300 pipe notcher houses an industrial grade motor tied to a direct drive gear reducer that turns the hole saw with ease, even at full capacity. This tube notchers carriage rides on a solid V-block roller assembly that is coupled to a large drive wheel for pushing the hole saw into the material with limited vibration and ease. This simple unique design on this tube notcher makes notching tube and pipe a breeze. P/N 13-08983 .....**\$2,919.00**

## BAILEIGH MSS-18 MANUAL 18GA SHRINKER STRETCHER



Baileigh's MSS-18 sheet metal shrinker stretcher has one complete shrinker and one complete stretcher both in their own cast iron housings. The heavy casting assures a quality function at full capacity, which is 18-gauge in mild steel and 16-gauge in aluminum. Both units are foot operated and come with a heavy steel stand as standard. Specifications: • Capacity Mild Steel: 18 ga • Capacity Aluminum: 16 ga • Minimum Forming Diameter: 4.5" • Stand: Included .....P/N 13-08984 .....**\$730.00**



## BAILEIGH MSS-16 MANUAL 16GA SHRINKER STRETCHER

Baileigh's MSS-16 sheet metal shrinker stretcher has a heavy cast iron frame with a deep 8" throat. It comes standard with two sets of jaws, one for shrinking and one for stretching. This is a manually operated machine that has a heavy engagement lever that allows perfect control of the function at hand. This sheet metal shrinker stretcher has a mild steel capacity of 16 gauge and an aluminum capacity of 14 gauge. No other sheet metal stretcher shrinker on the market has such a generous throat depth with a heavy maximum capacity for such a good price. Specifications: • Capacity Mild Steel: 16 ga • Capacity Aluminum: 14 ga • Throat Depth: 8" P/N 13-08985 .....**\$749.00**



## BAILEIGH MSS-16F SHRINKER STRETCHER

This model is a heavy duty foot operated shrinker stretcher for shrinking or stretching mild steel sheet metal down to 16-gauge (14-gauge aluminum) in thickness. This is the perfect machine for working metal for auto, cycle or airplane body work. This machine is ruggedly built and can shrink or stretch metal with ease at full capacity. Our MSS-16F metal shrinker stretcher has a rugged floor stand with foot pedal control to actuate the jaws allowing the hands to be free to properly work the material. An ample 6" throat depth allows for hundreds of applications to be worked on compared to smaller throat depth models. The rugged base has wheels allowing for mobility in any cramped shop environment. This metal stretcher shrinker has quick jaw change over features built in so changing from shrinking metal to stretching metal takes only a couple seconds. This machine comes standard with jaws to stretch metal and shrink metal (note: optional aluminum jaws are available). Specifications: • Capacity Mild Steel: 16 ga • Throat Depth: 6" • Weight: 78 lbs.....P/N 13-08986 .....**\$1,395.00**

## BAILEIGH VARIABLE SPEED POWER HAMMER



The Baileigh Industrial PH-19 power hammer is the little brother to the MH-19 Power Hammer. The PH-19 can do many of the same functions as the MH-19, shrink, stretch, dome, edge turn, bead, offset, but at a price that fits any budget. The PH-19 also accepts all readily available MH-19 tooling. Specifications: • Capacity Mild Steel: 16 ga • Capacity Aluminum: 12 ga • Throat Depth: 19" • Tooling Height Adjustment: 5" • Speed: 0 - 1700 beats/minute • Power Requirement: 120V .....P/N 12-02646 .....**\$10,295.00**

## BAILEIGH ONE PHASE POWER HAMMER



MH-19 power hammer is the most revolutionary metal forming machine on the market. In summary you can achieve stretching, shrinking, planishing, and doming with critical adjustments on the fly while in operation. This is the ultimate metal shaping and forming power hammer on the market. No other machine is as versatile as the MH-19. The MH-19 includes the following tooling to get you up and running quickly at no extra charge: (1) set of thumbnail shrink dies, (1) flat top die, and

(1) Lower planishing die. Specifications: • Capacity Mid Steel: 16 ga • Capacity Aluminum: 12 ga • Throat Depth: 19" • Length of Stroke: .177 - .550 (adjustable) • Tooling Height Adjustment: 2" • Speed (variable): 0 - 1500 beats/minute • Power Requirement: 220v / 1 phase • Shipping Dimensions: (L/W/H)60"/60"/84" • Shipping Weight: 1600 lbs .....P/N 12-02645 .....**\$24,795.00**

TO

# DE-ICE EQUIPMENT – DIGITAL THERMOMETERS

## HANDHELD ANTI-ICING AND DE-ICING SPRAYERS



Handheld De-icing Sprayers are aircraft-portable pressure sprayers appropriate for defrosting and light de-icing operations. They are commercial grade, polyurethane, controlled-pressure sprayers designed to spray hot SAE Type I de-icing fluid directly on your aircraft to remove frost, and light snow & ice. They are equipped with a 2 piece brass wand, flat-fan spray pattern, high-capacity, interchangeable nozzle tip that sprays 1.2 gpm of de-icing fluid at 20 psi. They will also accept

our optional 120-volt, 1100 to 1700 watt electrical immersion heaters to quickly heat the fluid within the sprayer tank to 160° F.

Description	Dimensions	Part No.	Price
1 Gal Sprayer	7" Dia. x 17" H	12-21605	\$119.75
2 Gal Sprayer	8.5" Dia. x 19.5" H	12-21610	\$144.85

To heat De-icing fluid you need to purchase a heater below.

Heaters					
Voltage	Watts	Amps	Application	Part No.	Price
120	1,100	9.2	12-21605 Sprayer	12-02087	\$668.00
120	1,400	11.7	12-21610 Sprayer	12-02088	\$767.00
120	1,700	14.2	12-00499 Sprayer	12-02089	\$704.00

## DE-ICING CARTS

Aircraft De-icing Gasoline Engine Powered Carts are designed for outdoor de-icing operations. These carts use either a 5.0 or a 5.5 hp air-cooled gasoline engine, providing adjustable fluid flow rates and pressures of up to 6.0 gpm/150 psi and 10.0 gpm/300 psi respectively -- sufficient to de-ice all general aviation, corporate & charter aircraft. The standard carts range in capacity from 25 to



110 gallons. Each is equipped with an electric immersion heater to heat the de-icing fluid to a maximum of 160° F to help melt frost, snow & ice from your aircraft's surfaces. All carts include Honda 5.5 engine, 24" tow bar with pintel ring, high-pressure hose, adjustable pressure valve, pressure gauge, pistol grip handgun, and adjustable brass nozzle. Electric models come with 12v Self Containment kit.

Gas powered engines		
Description	Part No.	Price
40 Gallon 5.5 Hp gas Engine with 2500 watt heater.	12-02083	\$4,408.00
60 Gallon 5.5 HP gas engine with 2500 watt heater.	12-02084	\$4,946.00
110 Gallons 5.5 HP gas engine with 3000 watt heater.	12-05525	\$6,217.78
Electric powered engine		
Description	Part No.	Price
25 Gallon 12 volt Electric Cart.	12-02085	\$1,695.00
40 Gallon 12 volt Electric Cart.	12-02086	\$2,353.00
60 Gallon 12 volt Electric Cart.	12-05533	\$2,573.33

## NYLON FLANGES IN BATTERY BOX MODIFICATION KIT

• Improve Starting Performance • Easier Removal & Installation of Battery • May prolong life of battery and starter • Less expensive to modify existing box than to replace • Compatible with our famous "Low Loss" Cable Kits! • Eliminate extra connection on outside of the battery box • Do away with the troublesome braided negative strap.

Experimental.....P/N 11-02892 .....\$41.55  
STC'd/PMA'd.....P/N 11-02893 .....\$87.00



## BATTERY TERMINAL TOOL

The Right Tool for the Job • Prevents damage to battery posts • Steel frame, fits battery wing nuts securely • Insulated to eliminate shorting, sparks or possible explosions • Foam grip handle eliminates slipping. • Great gift for pilot or mechanic. ....P/N 12-16200 .....\$21.95

## MINITEMP PORTABLE INFRARED THERMOMETER



Diagnose problems faster and more easily with the Raytek MiniTemp MT6 infrared (IR) thermometer. The laser point sighting on the MT6 unit helps to direct measurements toward the target, and the large backlit display shows both the current and maximum readings simultaneously. With a protective boot for added durability, award winning ergonomic design and Raytek quality and accuracy, the MT6 model is the perfect introduction to infrared temperature measurements in automotive diagnostics.

P/N 12-03153 .....\$179.75

## HEAVY-DUTY IR DUAL-LASER THERMOMETER



Features of the IR Long Range Professional Thermometer include a bright, built-in dual laser which provides easy aiming and defines target area, amber back-light LCD display, programmable HI and LOW audible temperature alarms, and high intensity white LED flashlight. Uses 2 x AAA batteries (incl) to provide 180 hours of use. Weight and Dimensions: 16 ounces (with batteries,magnets); 8 x 8 x 2.8 inches. Temp Range: -76° to 1832°F.

P/N 12-03152 .....\$339.00

## INFRARED THERMOMETER WITH STAR BURST LASER TARGETING



Ideal for isolating overheated electrical components and hot spots, trouble-shooting HVAC/R and automotive systems, and performance-testing motors and boilers.

### Features:

- 12:1 distance-to-spot (D:S) ratio • IRT measurement range -58° to 1202°F (-50° to 650°C) • "K" type thermocouple measurement range: -146° to 2498°F (-99° to 1370°C) • Includes "K" type thermocouple with 0° to 500°F (-18° to 260°C) range • Automatically stores last 10 readings for recall • Automatically holds measurements and displays Min/Max/Avg/Dif session values • Settable high and low temperature alarms • Adjustable emissivity from 0.1 to 1.0 (in 0.01 steps) • Auto Power Off • Power Source: 1 "9V" battery (included).....P/N 12-03355 .....\$93.75

## NICHOLSON HACKSAW BLADES



Nicholson Bi-Metalloy hacksaw blades last twice as long as high-speed steel and 10 times longer than carbon steel. Can operate 20%-50% faster. Practically unbreakable.

### GENERAL RECOMMENDATIONS FOR BLADE SELECTION

**14 TOOTH** – For cutting heavy cross section and for soft materials where maximum chip clearance is needed.....P/N 12-19514 .....\$2.25

**18 TOOTH** – For general shop use, where blade is used on several jobs.....P/N 12-19518 .....\$4.35

**24 TOOTH** – For cross sections of 1/16" to 1/4", such as pipe, angles, small drill rod. ....P/N 12-19524 .....\$4.35

**32 TOOTH** – For cutting stock up to 1/16" thick, such as 4130 tubing, sheet metal, BX. ....P/N 12-19532 .....\$4.35

## ATS HOSE FITTING ASSEMBLY TOOLS



Individual sizes: #3, #4, #5, #6, #8, #10, & #12. For use in assembling stratoflex series 300, aeroquip 303, 491 hose fittings. Chrome Plated.

Size	Part Number	\$22.50	Size	Part Number	\$22.50
#3	12-05273	\$22.50	#8	12-05498	\$24.95
#4	12-05274	\$17.50	#10	12-05271	\$34.95
#5	12-05275	\$17.50	#12	12-05272	\$44.50
#6	05-26371	\$23.75			

TO



# ENGINE TOOLS

## VALVE WOBBLE TEST FIXTURES



The Valve Wobble Test Fixture for parallel valve Lycoming engines is used to comply with Lycoming SB-388a. Quality made of aluminum and alloy steel, it is easy to use with no set screws or feeler gauges required. Allows direct reading of wobble from dial indicator. Note: Will work on an angle valve engine.  
 Fixture w/o indicator.....P/N 12-21500 .....\$174.75  
 Fixture with indicator.....P/N 12-21505 .....\$229.95

## DISTRIBUTOR BLOCK SPRING INSTALLATION TOOL



This tool facilitates the proper installation of contact springs on Bendix magnetos. The O-ring locator ring assures proper location of the tool in the contact tower. Features knurled body grip and ball plunger grip. Made of alloy steel.....P/N 12-21510 .....\$114.65

## VALVE SPRING COMPRESSOR



This tool is used to compress valve springs during valve removal and installation. It is ergonomically designed for shop and field use and comes with special pivot pin. Features alloy steel construction with nickel plating.  
 P/N 12-00202 .....\$115.75

## VALVE LASH ADJUSTING TOOL



This tool greatly reduces the time required to adjust valves and improves the accuracy of the adjusting operation. Used on Lycoming O 235 and O 290 series engines. Quality constructed of alloy and tool steel.  
 P/N 12-21550 .....\$233.95

## PROPELLER SHAFT OIL SEAL INSTALLER



Installs one piece stretch seals without damaging surface on seal or crankshaft. For all flange shafts per Continental Bulletin M-70-2. Also fits Lycoming. For installing one piece stretch seals without damaging surface on seal or crankshaft. 1 lbs (0.5Kg) shipping weight.  
 P/N 12-04566 .....\$94.85

## ROCKER ARM SHAFT REMOVAL TOOL



These simply bolt to the head and the knurled knob screws down to compress the valve spring allowing the shaft to be slid out with no spring pressure.  
 P/N 12-03227 .....\$44.75

## THROTTLE SHAFT BUTTERFLY SCREW STAKING TOOL



This quality made alloy steel tool facilitates the proper staking of throttle shaft butterfly screws and eliminates the possibility of damaging the carburetor during staking. The tool can easily be operated by one person on the bench without chisels, special fixturing or hammers. All wear components are easily replaceable for long service life.....P/N 12-21528 ...\$129.50/ea.

## BENDIX MAG LOCK



This Bendix Mag Lock works on S4 and S6 and other Bendix Mags. To use simply place a cotter pin loosely into lower plunger hole. Screw sleeve into magneto case. Align red slot in plunger parallel to mag tooth gear. Remove cotter pin to engage gear tooth. Dimension: 2-3/4" x 1/2" x 3/4"  
 P/N 12-02243 .....\$57.75

## AEROTAR LYCOMING ST-289 INTAKE PIPE SWAGING TOOL



Aerotar Lycoming ST-289 Intake Pipe Swaging Tool.....P/N 12-05310 .....\$2,118.00

## SAFETY MAGNETO LOCK TOOL



This handy tool fits most Bendix magnetos and prevents damage to distributor gear teeth brought about by accidental turning of the engine during magneto installation. Use for E gap or engine timing. Body taper locks into timing window. Polyurethane rubber throughout.  
 P/N 12-21535 .....\$9.95

## ATS MAG LOCK TOOL



Holds Timing Gears When Removed. Works with all bendix magnetos. 1 lb (0.5Kg) shipping weight.  
 P/N 12-05509 .....\$6.95

## LYCOMING TIMING POINTER



This tool is used to align timing numbers and marks to the crankcase parting line on Lycoming engines. It permits timing from the marks on the aft side of the flywheel. A spring clip holds the tool to the flywheel.  
 P/N 12-21540 .....\$52.75

## CONTINENTAL O-200 TIMING POINTER



This tool is used to align timing numbers and marks to the crankcase parting line on the Continental O-200 engine. It is held to the propeller flange with magnets, and eliminates the need for all other timing angle devices and TDC indicators. Quality made from delrin and tool steel. Greatly simplifies the timing of new magnetos and periodic timing checks.  
 P/N 12-21545 .....\$42.75

## ALTERNATOR DRIVE COUPLING TOOL KIT



Alternator Drive Coupling Tool Kit: Designed for proper installation, removal and testing of alternator drive couplings found on many Continental Aerospace Technologies piston engines. Alternator Coupling Tools are purpose-built to make it easy for mechanics to inspect this critical component and simplify coupling installation and removal. The tool kit consists of a zinc-coated coupling spanner wrench and unique coupling gear socket with steel housing and aluminum gear engagement, designed to protect the steel coupling gear from damage during maintenance. Together, these tools allow the coupling to be held in place (mounted on the alternator or free-standing) while the coupling gear slippage is checked with a calibrated 3/8" torque wrench (as specified in the engine maintenance manual).  
 1/4" .....P/N 08-17288 .....\$169.95

## ENGINE OVERHAUL STAND



This bolt together Engine Overhaul Stand, ideal for actual overhaul of engines. Constructed of heavy duty steel, it features three legs which allow it to sit level on uneven floors. Pre-drilled adapter for Continental & Lycoming engines. Sturdy tripod design. Assembles in minutes with a 1/2" wrench. Assembled dimensions: 24" (61cm) high, 36" (91cm) distance between legs. Includes a set of locking casters for easy mobility. Supports up to 1200 lbs (545 Kg) (static tested to 2500 lbs (1136 Kg). Includes Adapter for Continental and Lycoming engines. MADE IN USA.  
 Overhaul Stand .....P/N 12-21555 .....\$336.00  
 Wheel Set for Stand .....P/N 12-00919 .....\$59.75

## CONTINENTAL ENGINE MAG TIMING TOOL



Aluminum CNC tool manufactured in Alaska for simple and perfect magneto timing. Simply position engine on #1 TDC compression stroke. Lube grommets. Put this tool on the top two propeller nuts and sight down top case halves to see exact mag timing. Now there's no need for propeller protractor cones!  
 TCM: 470 / 520 / 550 .....P/N 12-02817 .....\$39.95  
 C-85F / C-90 / O-200 .....P/N 12-05514 .....\$39.95  
 O-300: A / B / C .....P/N 12-05515 .....\$39.95

## 15-IN-1 STANDARD SCREWDRIVERS



This standard driver is loaded with 7 double end Professional quality bits. This assortment provides the 14 most popular tips for driving screws. The shaft opening also serves as 1/4" hex driver. Retractable bit cartridge™, Palm Saver Cap™, EZ-Guide Collar. Tamper Proof.....P/N 12-03694 .....\$23.50

TO

# TOOLS



**VALVE SPRING COMPRESSOR TOOL**  
This unit will work on Continental 65 thru 0300, and some 0-470's. Lycoming 0320 & 0360, and most any cylinder with a vertical valve constructed head. It is extremely simple to use. Place Spring Compressor in drill press, and a length of wood in cylinder (to keep valve seated). Depress and remove valve stem clips, and spring. Removes valves in a minute.....P/N 12-02072 .....\$54.75

## LYCOMING VALVE SPRING COMPRESSOR

This cast aluminum alloy valve spring compressor fits Lycoming parallel valve and angle valve horizontally opposed engines. An excellent tool at an economical price.  
P/N 12-21520 .....\$74.75

## LYCOMING TAPPET GAUGE

Similar to Lycoming Gauge ST23, this tappet gauge is Rockwell hardened to 48-52 and precision ground to .028 and .080. This gauge is a must for professional aircraft mechanics.  
P/N 12-00918 .....\$42.75



## EAR ISLAND REMOVAL TOOL

When substantial quantities of material have to be removed from the exhaust port, it may be necessary to also remove the island around the exhaust stud area. The ear island removal tool and pilot can be used to accomplish this without the use of power tools .....P/N 12-17608 .....\$119.75

## MAGNETIC SHEET METAL CLAMPS



Great general purpose discs. They are excellent for arts and crafts applications that require a strong, thin disc. Just 1/16" thick, but still a sturdy disc. They are an excellent choice for magnetic therapy. The D81 is deceptively strong for it's size.  
P/N 12-05104 .....\$0.99

## REAL GASKET SPRING COMPRESSOR TOOL



TCM 4-Cylinder Spring Compressor. (A good tool for PRT Installation)  
05-11186 - OEM P/N 530162: (Continental A-65, C-75, C-85, C-90, C-125, C-145, O-200, O-300, GO-300).....P/N 08-13615 .....\$69.75

## DRILL PILOT SLEEVE & BOLT HOLE BULLET



**BOLT HOLE BULLET** - Every tool box should have a set. Simply tap bullet into bolt hole requiring alignment, and tap bullet on through with proper AN Bolt Set of 5 (1/4, 5/16, 3/8 7/16 and 1/2inch)  
P/N 12-02093 .....\$26.90

## HANDY BEARING PACKER



Quickly Flushes Out Old Grease and Repacks Bearings with Less Mess. The Handy Packer works on bearings up to 3 1/2" O.D. The grease stays in the tool cavity, not on your hands. To pack a bearing, place the bearing on the piston. Press down on the cap until the old grease is forced out and the new grease shows on top of the bearing.....P/N 12-02578 .....\$29.50

## MAGNETIC FINGER TOOL



This snug and stretchy glove slips on your finger and turns it into a professional tool. The powerful magnet at your fingertip allows you to hold and retrieve any small metal object with precise control. Use it to easily start a variety of fasteners in tight-fitting or difficult to reach places. At work. At home. Anytime your finger needs a magnetic grip on things.....P/N 12-04565 .....\$9.95

## NUT PLATE DRILL JIGS



Nut Plate Drill Jigs are designed to facilitate accurate rivet hole drilling for standard plate nuts. Nut Plate Drill Jigs are known as Anchor Nuts Or Nut Plates. Hand-held Nut Plate Drill Jigs are manufactured to precise tolerances and include drill bushings to reduce wear and assure consistent hole-spacing. Every Nut Plate Drill Jig features an ergonomically designed handle with a flexible stainless spring blade, allowing for clearance while the jig is in use.

### SINGLE LUG PLATE NUT DRILL JIGS

Nut Thread Reference	(C) Hole Spacing	(P) Pilot Diameter	(K) Drill Size	Part No.	Price
6-32	.344	.1390	#40	12-04781	\$34.50
8-32	.344	.1640	#40	12-04783	\$34.50
10-32	.344	.1910	#40	12-04784	\$34.50
1/4-28	.344	.2480	#40	12-04785	\$34.50

### SINGLE MINI LUG PLATE NUT DRILL JIGS

Nut Thread Reference	(C) Hole Spacing	(P) Pilot Diameter	(K) Drill Size	Part No.	Price
6-32	0.218	0.1660	#40	12-04786	\$34.50
8-32	0.234	0.1930	#40	12-04787	\$34.50
10-32	0.250	0.2180	#40	12-04788	\$34.50
1/4-28	0.281	0.2810	#40	12-04789	\$62.75

### TWO-LUG PLATE NUT DRILL JIGS

Nut Thread Ref	(C) Hole Spacing	(P) Pilot Dia	(J) Hole Spacing	(K) Drill Size	Part No.	Price
6-28	0.344	0.688	0.1390	#40	12-04790	\$34.50
8-32	0.344	0.688	0.1640	#40	12-04791	\$34.50
10-32	0.344	0.688	0.1910	#40	12-04792	\$34.50
1/4-28	0.344	1.000	0.2480	#40	12-04793	\$34.50

### TWO-LUG MINI PLATE NUT DRILL JIGS

Nut Thread Ref	(C) Hole Spacing	(P) Pilot Dia	(J) Hole Spacing	(K) Drill Size	Part No.	Price
6-32	0.2180	0.4360	0.1390	#40	12-04794	\$34.50
8-32	0.2340	0.4680	0.1640	#40	12-04795	\$41.95
10-32	0.2500	0.5000	0.1910	#40	12-04796	\$34.50

### CORNER LUG PLATE NUT DRILL JIGS

Nut Thread Ref	(C) Hole Spacing	(P) Pilot Dia	(J) Hole Spacing	(K) Drill Size	Part No.	Price
8-32	0.344	0.486	0.1640	#40	12-04797	\$34.50
10-32	0.344	0.486	0.1910	#40	12-04798	\$75.75
1/4-28	0.500	0.707	0.2480	#40	12-04799	\$34.50

## MECHANICS EYEBALL DRILL JIG



The eyeball drill jig was designed to help eliminate time consuming manual layout of the holes for the firewall eyeball. It's a great accessory! The drill sequence is started with the center hole for the eyeball, drilling a #30 hole. Once this hole is drilled, a #30 cleco is placed in the center hole. Next, drill all of the perimeter holes with the drill jig and remove the #30 cleco. Take the drill jig off, and increase the center hole to the size of the eyeball. ....P/N 12-04593 .....\$6.75

## SCREWGRAB ANTI-SLIP GEL FOR STRIPPED SCREWS



Helps remove or tighten all types of fasteners - damaged or rusted. A single dab of ScrewGrab creates a positive grip between metal surfaces (tests have shown as high as 800% ), that virtually eliminates tool wear or rounding and deforming of fasteners • Not a glue • Works instantly • Wipes clean after use • Non-corrosive.....P/N 12-04568 .....\$5.95

TO



# ENGINE TOOLS



## S4-1 RACE REMOVAL TOOL

A & P mechanics will find this S4 outer bearing race removal tool to be very effective and well priced. Hemispheres held together by the "O" ring are inserted together behind the bearing race. The pilot is then inserted to expand and lock the halves & push out the race. You'll like its simplicity and ease of use.....P/N 12-17601 .....\$99.75



## S4-2 RACE REMOVAL TOOL

The S4 magneto drive end inner race removal tool works in conjunction with a standard bearing puller. The split gripper ring fits behind and around the race and is captured in the puller ring by 2 opposing set screws. A groove on the puller ring provides the point of attachment for the puller arms.

P/N 12-17602 .....\$168.75



## S4-3 RACE REMOVAL TOOL

The S4 magneto seal installation, inner and outer race installation tool is three tools in one and is proportioned in such a way that it is easily accommodated by most small bench arbor presses.

P/N 12-17603 .....\$89.75

## TIMING JUMPERS



The timing jumpers are easily used for timing magnetos without removing the breaker box cover. Simply remove the "P" lead and replace with timing jumper. Then hook up timing light leads. These handy devices have proven to be a real time saver and, in some cases, an outright necessity. **SOLD IN PAIRS**

Bendix S4/S6.....P/N 12-17700 .....\$46.80/pr.  
Bendix D2200, D3000, D3200 .....P/N 12-17710 .....\$46.95/pr.

## MAGNETO ROTOR BEARING SETTING GAUGE



Determines condition of excess bearing clearance and allows for precise adjustment of new bearings to prevent over or under preload. Available with or without dial indicator. Choice of 3/8-16 or 3/8-24 threaded shaft fittings.

Kit Description	Thread	Part No.	Price
Setting Gauge & Ind.	3/8-16	12-17801	\$149.65
Setting Gauge & Ind.	3/8-24	12-17802	\$150.95
Setting Gauge & Ind.	Both	12-17803	\$204.95
Setting Gauge, No Ind.	3/8-16	12-17901	\$98.75
Setting Gauge, No Ind.	3/8-24	12-17902	\$69.85
Setting Gauge, No Ind.	Both	12-17903	\$108.50

## THROTTLE SHAFTBUSHING KNOCKOUT

The throttle shaft bushing removal tool is very competitively priced and will help you avoid a jury-rigged operation that could damage an expensive carburetor body. Now there is no reason not to have one. They are available and affordable.....P/N 12-17400.....\$190.75

## SPRING TOOL



Get a handle on those springs! The "C" shaped tip fit the bend in spring end and won't slip. Can be used to install and remove springs on anything!

P/N 12-16945 .....\$13.95

## GAP PLUG GAUGE .014 TO .018



Many customers have indicated that they have had difficulty obtaining setting wires for gaging the plug gap. We now provide a handy tool at reasonable cost. No need to buy extra gauge sizes that you don't need. Furnished with protective end caps.....P/N 12-17100 .....\$14.50

## COMPASS ADJUSTING TOOL



The compass screwdriver is a great little tool that is totally non-magnetic, but also overcomes the shortcomings of solid brass or aluminum tools. This tool has a nice hex aluminum handle and a stainless steel driver insert. No need to worry about damaging the tip on a frozen compensator screw, and you can also remove the cover plate screws with the same tool.....P/N 12-17300 .....\$12.70

## ENGINE TOOL TRAY



The engine tool tray is designed for aviation enthusiasts who do maintenance on their own aircraft, as well as full time mechanics. This tool tray sits on top of the push rod tubes and is protected by rubber trim on the bottom to eliminate any damage to the aircraft engine. Instead of dropping a screwdriver or a nut down between cylinder baffling, this tool tray will give the mechanic great organization. It allows for spark plug placement, tool placement, as well as all of those pesky nuts and bolts.....P/N 12-04592 .....\$149.00

## ATS PISTON RING COMPRESSOR KIT



The ATS Piston Ring Compressor features a quick-change design to speed up piston ring installation. It includes the famous Hastings Ring-O-Matic® pliers and bands that operate in all positions: not just vertically or horizontally. The pliers incorporate a precision locking action for exact holding and quick release. Complete kit includes the Ring-O-Matic® pliers and one of each of the following size bands: 3-7/8" to 4-1/8", 4-1/8" to 4-1/2", 4-1/2" to 4-3/4", 4-3/4" to 5", 5" to 5-1/4", & 5-1/4" to 5-3/4"

Description	Part No.	Price
Kit	12-03154	\$199.95
Compressor Pliers	12-03155	\$45.95
Piston Ring Compressor Band 3-7/8" TO 4-1/8"	12-03156	\$29.99
Piston Ring Compressor Band 4-1/8" TO 4-1/2"	12-03157	\$29.99
Piston Ring Compressor Band 4-1/2" TO 4-3/4"	12-03158	\$30.95
Piston Ring Compressor Band 4-3/4" TO 5"	12-03159	\$31.50
Piston Ring Compressor Band 5" TO 5-1/4"	12-03160	\$30.95
Piston Ring Compressor Band 5-1/4" TO 5-3/4"	12-03161	\$36.99

## PISTON RING COMPRESSOR SET



The most efficient, versatile and dependable tool of its kind on the market. Designed to operate both vertically and horizontally. Fine-tooth ratcheting lock permits bands to be contracted in extremely small increments. Positive lock insures a free hand.

Eliminates broken rings during installation. Set includes compressor pliers and the two bands (1123, 1125).

Part No.	Size	Engine Application
1123	3-7/8" to 4-1/8"	Cont. A-65, C-85, C-90, O-200, O-300
1125	4-3/8" to 4-5/8"	Cont. E-225, IO-470

Set .....P/N 12-10900 .....\$115.95  
Piston Ring Pliers #1114.....P/N 1114 .....\$63.75  
Individual band # 1123 for 3-7/8 .....P/N 1123 .....\$25.60  
Individual Band # 1125 for 4-3/8 .....P/N 1125 .....\$27.50

## CYLINDER BASE NUT WRENCHES (CONTINENTAL)



Made of top quality tool steel. 12 Point with 1/2" square drive, 13" long.

Set of 4 .....P/N 12-11200 .....\$68.50  
or order individual wrenches below.

## LYCOMING & CONTINENTAL CYLINDER BASE NUT WRENCHES

Wrench Part #	Size	Engine Application	Price
2882	9/16" Hex	C-85, O-200, O-300, G0-300, E-185, E-225, O & IO-470, IO-360, IO-520	\$18.95
2882-2	1/2" Hex	A-65, C-85, O-200, O-300, G0-300, E-185, E-225, IO-360	\$18.95
2882-3	5/8" Hex	A-65, O-470, IO-520	\$18.95
2882-4	3/4" Hex	No longer used on Cont.; Used on Lyc. O-390D, D2 and all wide deck Lyc engines	\$18.95

## CYLINDER BASE NUT WRENCHES



- For Lycoming engines
- For socket type nuts (internal wrenching)
- Standard 1/2" square female drive end
- Made from alloy steel forgings, heat-treated for maximum toughness.

1/2" Allen Head Hex .....P/N 64942 .....\$48.70  
3/8" Allen Head Hex .....P/N 64943 .....\$48.70  
Set of both .....P/N 12-04722 .....\$74.50

## ATS LYCOMING AND CONTINENTAL CYLINDER BASE NUT WRENCHES



The ATS 3882-series Cylinder Base Nut Wrenches are made from forged alloy steel, tempered, and hardened for maximum strength.

Description	Part No.	Price	Description	Part No.	Price
ATS 3882 9/16	12-04977	\$35.65	ATS 3882 5/8	12-04976	\$35.65
ATS 3882 1/2	12-04975	\$35.65	ATS 3882 3/4	12-04978	\$35.65

## DIPSTICK REMOVAL TOOL



This Removal Tool is perfect for freeing up those seemingly seized plugs. The Innovative design only allows a counter-clockwise rotation, meaning this device won't further lock the dipstick in place.

**Features:** • Molded from very durable and light weight plastic • Unique design prevents this tool from being used to tighten (nice feature for flight school use) .....P/N 12-05420 .....\$13.95

TO

# SPECIALTY TOOLS

## ULLMAN MAGNETIC PICK-UP TOOLS



HT-2

HT-1

These Ullman pick-up tools with Powercap offer a unique combination of features which make them ideal for work around aircraft. The stainless steel telescoping handle is strong, long, and lightweight, and the comfortable, textured cushion grip keeps handle secure even in wet or oily hands. The head features a compact industrial strength magnet for retrieving heavy objects in tight places. The powercap shields magnet side so that the head can be easily guided past ferrous metal objects. Available in 3 convenient sizes.

**HT-1** lifts 1-1/2 lbs, over 2 lbs with POWERCAP™ telescopes from 6-5/8" to 33-1/4".....P/N 12-21385 .....**\$12.50**

**HT-2** lifts 3-1/2 lbs, over 5 lbs with POWERCAP™ telescopes from 6-5/8" to 33-1/4".....P/N 12-21386 .....**\$14.65**



### CHP4-L HOOK & PICK SET

has picks that are 9.75" long with textured cushion grips. These longer picks are ideal for working in hard to reach awkward areas.

P/N 12-00716 .....**\$14.65**



### GMC-2 DUAL PURPOSE TOOL

contains a MegaMag Pickup Tool that lifts 16 lbs. and a 2.25" Inspection Mirror with a metal base that mounts in seconds and brings hidden areas into full view.

P/N 12-00718 .....**\$25.80**

## EXHAUST PORT RESURFACING TOOL



The exhaust port resurfacing tool is designed to recondition port surfaces where no more than .010" of material need to be removed. It is easily bracketed and aligned to the port in reference to the rocker cover surface. Execution of the cutting operation only requires hand power. No air or electrical power is required.

Mounting bracket adapters are available for the following engines: A&C series Continentals, Lycoming Parallel Valve, Lycoming Angle Valve, others on request.

P/N 12-17605 .....**\$458.00**

A & C Series Continental Bracket.....P/N 12-17609 .....**\$199.75**

Lycoming Parallel Valve Bracket.....P/N 12-17610 .....**\$184.80**

Lycoming Angle Valve Bracket.....P/N 12-17611 .....**\$276.95**

Cutter Head Inserts.....P/N 12-17607 .....**\$28.75**

**EAR ISLAND REMOVAL TOOL** – When substantial quantities of material have to be removed from the exhaust port, it may be necessary to also remove the island around the exhaust stud area. The ear island removal tool and pilot can be used to accomplish this without the use of power tools.....P/N 12-17608 .....**\$119.75**



## THE CORE RECESSOR

The core recessor is a new product with the purpose of serving as an efficient tool that makes the process of removing core cells in Nordam Panels and composite fiberglass more efficiently. Thus, it reduces time for edge fillers, which are necessary procedures to customize aircraft cabinets, floorboard, vanity's headliners, valance panels, etc. Is light weight, easy and safe to use. Core panels from 1/8 to 3/4 inch with no adjusting. Requires no electricity.

Core Recessor.....P/N 12-02270 .....**\$133.75**

Core Recessor Mini.....P/N 12-02271 .....**\$106.95**



## UNI-MAG WRIST BAND MAGNET

Uni-Mag is a wrist worn magnet that allows craftsmen to keep parts close to hand while working rather than in your pocket, on a ladder, or in your mouth. It holds nuts, bolts, screws, nails, tools, etc. A specially created magnetic field allows parts to lay flat on the face of Uni-Mag rather than upright. Save time and put an end to fumbling for small hardware with Uni-Mag. Comes complete with magnet and wrist-band.....P/N 12-30110 .....**\$18.50**



## SUPER HANDY MAGNETIC RETRIEVAL TOOL ST-225

The Super Handy Magnetic Retrieval Tool extends 26" and picks up five pounds.

P/N 12-02932 .....**\$9.75**

## 2-IN-1 MAGNETIC TIP PICKUP TOOL



This pickup tool helps you retrieve ferrous metal objects from tight spaces your arm won't fit into. It's easy to use - just squeeze the handle to open and close the jaws. The 24 in. arm, 4-claw grabber and powerful magnetic tip on the pickup tool will quickly have your wayward part back in your hand where it belongs.....P/N 12-03707 .....**\$5.45**

## AMAZING ROD SAW



Tiny particles of tungsten carbide, one of the toughest and hardest substances in the world, have been bonded to a steel rod to produce the Rod Saw. Fits standard 12" hacksaw frame. Use when regular hacksaw will not work. Lets you cut steel, rock. Not recommended for soft materials. ....P/N 12-01180 .....**\$6.95**

## HANDEE CLAMP



This innovative tool solves the problem of that out of reach grasp. Have you ever been working on a job where you needed to put a clamp, nut, or bolt on something that was just out of reach of your fingers or another bulky tool?

The Handee Clamp makes that job easy. Simply put that nut, clamp, or bolt on one end and then tighten the nut on the other end to secure. Designed to firmly hold nuts, bolts, and clamps in its easily adjustable jaws, the Handee Clamp acts as a small, versatile vise grip enabling you to focus on the job at hand. You won't have to worry about dropping that nut or bolt into that pesky floor drain ever again, or fight with that hose clamp as you work on that transmission line. From a professional auto or aviation mechanic, to a do-it-yourselfer that always has a project on deck in your garage at home, you need this tool in your inventory.....P/N 13-20594 .....**\$18.75**

## HIGH CAPACITY EXHAUST DESICCATOR



2.5 times the desiccant capacity of previous design. One piece construction allows the desiccant to be contained in the core of the plug. Made of durable high quality urethane rubber that will last almost indefinitely  
P/N 12-01057 .....**\$54.75/ea**

## GOLDENROD DEHUMIDIFIER



This compact, low-voltage dehumidifier is an ideal way to eliminate dampness and mildew in aircraft which can cause mildew growth in carpet and upholstery and wreak havoc with electrical systems. In stall under the instrument panel or on the deck between seats. If installed in the engine compartment, Goldenrod will eliminate moisture which leads to rust, keep ignition wiring dry, and facilitate cold weather starts. In the hangar, Goldenrod can protect parts, tools, supplies, and components. Operates on standard 110V current 24 hours per day but uses four times less power than a standard light bulb. Safe and effective. Available in four lengths.

Part No.	Length	Watts	Approx. Coverage Up To	Price Ea.
12-30225	12"	8	100 cubic feet	<b>\$44.65</b>
12-30230	18"	12	200 cubic feet	<b>\$52.75</b>
12-30235	24"	15	300 cubic feet	<b>\$50.50</b>
12-30240	36"	25	500 cubic feet	<b>\$56.75</b>

## EVA-DRY® HIGH CAPACITY DRY DEHUMIDIFIER



Designed to absorb moisture from small enclosed areas. It will help protect clothes and valuables from the damaging effects of mold/mildew and moisture rot. It is 100% renewable and needs no power to operate. Place the Eva-Dry unit in a closet or any small, enclosed space, and it will start to absorb moisture immediately. There is an indicator window with special "Color Changing Crystals" that change from orange (when dry) to green (when wet) to indicate when the unit needs to be "renewed". The unit will absorb approx. 6-8 ounces of moisture (depending on humidity levels this should take approx. 4-8 weeks). Once the moisture has been absorbed it cannot leak or spill. This unit uses a specially engineered, crystallized silica gel that is odorless, non-toxic, Eco-Friendly and completely safe. ....P/N 12-01621 .....**\$29.95**

TO



## WING STAND



This wing stand is ideal for aircraft homebuilders or restorers needing to safely store and protect aircraft wings during the project. It accommodates virtually all shapes and sizes of wings and is available at a very economical price. We ship this wing stand direct to you from the factory (freight collect). Dims: 72"l x 44"h x 36"w. Assembly req. Each stand holds 2 wings.

P/N 12-21390 .....\$199.00/ea

## TENNSMITH BRAKES & SHEARS

### HAND BRAKE & STAND



Versatile, economical hand brake designed for straight forming of mild steel in thicknesses of 22 gauge & lighter. Made in the U.S.A by Tennsmith. Bends material up to 48" wide. Wts: brake: 280 lbs. Optional stand: 95 lbs. Ideal for bending materials used in light aircraft construction. Shipped direct to you from factory in Tennessee.

Model S48-22 hand brake  
P/N 12-20700 .....\$735.00  
Optional Stand  
P/N 12-20705 .....\$265.95

### UNIVERSAL HAND BRAKE & STAND



Tennsmith's heavy duty universal hand brake is a great tool for a wide range of sheet metal binding and forming operations in 12 gauge and lighter mild steel. The brake is ideal for both box and pan and straight bending in hold and cold rolled plate, stainless steel, aluminum, and heavy plastic. Welded steel plate construction for strength and rigidity. Bends material up to 48" wide Wts: brake: 1330 lbs. Optional stand: 95 lbs. Shipped truck collect direct to you from factory in Tennessee.

Model HBU48-12 Hand Brake.....P/N 12-20710 .....\$4,247.00  
Optional Stand.....P/N 12-20705 .....\$265.95

### FOOT SQUARING SHEAR



Tennsmith squaring shears offer precision shearing and rugged construction. These shears feature traction, ground alloy tool steel blades to prevent material movement during shearing. Will shear material up to 16 gauge mild steel and up to 20 gauge stainless steel. Both blades are adjustable and back gauge gives highly accurate readings. Wts: Model 36: 700 lbs. Model 53: 950 lbs. Shipped truck collect to you direct from factory in Tennessee.

Model 36 Shear (Max. Cutting Width 37")...P/N 12-20715 .....\$2,462.00  
Model 52 (Max. Cutting Width 52") .....P/N 12-20720 .....\$3,298.00

**TENNSMITH** -These products are shipped truck, priced F.O.B. McMinnville,TN. Allow 4-6 weeks for delivery

## SEAT TRACK CLEANER



Maintaining adjustable cockpit seats, or passenger seating secured in notched tracks, requires removing the dirt and grit that have become embedded in the tracks. Rex-Cut Products has developed a thin-profile mounted wheel specially designed to accomplish this job efficiently and safely.

The seat track cleaners are manufactured using layers of reinforced nonwoven cotton fiber and abrasive grain which are bonded into discs. When mounted on a die grinder they are able to fit inside the seat tracks. Designed for cleaning all the interior surfaces of the track without having to change discs, one disc will remove caked on sludge, dirt and grit while removing minor burrs and rough edges. The seat track cleaners are non-loading on aluminum and leave superior surface finishes. Available in 54 and 80 grits in aluminum oxide grain mounted on a 1/4 x 1/2" shank.

54 Grit Seat Track Cleaner .....PN 12-00955 .....\$10.50  
80 Grit Seat Track Cleaner .....PN 12-00952 .....\$10.50

## SLIDE HAMMER



Blue vinyl hand grip over steel handle reduces sting on technicians hands and provides 100% grip. 3 lb. slide weight is mounted on 1/2" plated steel shaft. Broached hex in nose cone locks pulling screw in place...ends breakage. Supplied with two hardened pulling screws and "L" puller hook fabricated of aircraft quality steel. Nose cone and shaft threads are 1/2" - 20.

P/N 15-08252 .....\$53.75

## MACHINIST HOOK SCRIBE



Machinist Hook Scribe New. 2-point scribe has hardened, ground steel points. Features a straight point and a 90 degree point. Length: 9".

P/N 12-02896 .....\$3.95

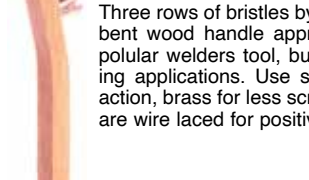
## PIG TAIL HOOK SCRIBE



Both the 45 degree and pig tail points of the scribe are made of hardened, ground steel. Both ends of the tool unscrew from the body.

P/N 12-02897 .....\$3.95

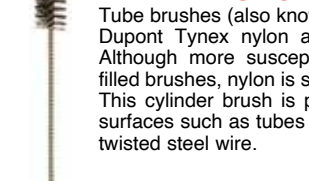
## WOOD HANDLE TOOTHBRUSH STYLE CLEANING BRUSH



Three rows of bristles by seven, your choice of materials, with bent wood handle approx 7 3/4 inches long. An especially popular welders tool, but very suitable for a variety of cleaning applications. Use stainless steel for maximum abrasive action, brass for less scratching. SW version stainless bristles are wire laced for positive retention.

P/N 04-02647 .....\$1.45

## CLEANING TUBE BRUSH 3/16 X 6.25 INCHES



Tube brushes (also known as cylinder brushes) are filled with Dupont Tynex nylon and have excellent wear resistance. Although more susceptible to strong solvents than bristle filled brushes, nylon is stiffer, wears longer and cleans easier. This cylinder brush is perfect for manually cleaning internal surfaces such as tubes or threaded holes. Handle is made of twisted steel wire.

P/N 09-04587 .....\$1.57

## ELECTRIC ENGRAVER



Use like a pencil to write, draw, engrave on wood, metals, plastics, and glass. Variable stroke adjustment for heavy or fine engraving. Tungsten carbide tip for long life and clean lines. Soft-Grip neck for control and comfort and 6' Cord.

P/N 12-21355-1 .....\$14.75

TO

# SPECIALTY TOOLS



## SWISS PATTERN NEEDLE FILE SET

Swiss Pattern Needle File Sets have been designed to meet the needs of hobbyists, craftsmen, tool makers and jewelers. Every file is made from alloy steel and machined into distinctive shapes for various small scale and finishing applications. Also included is a 700 series Versa-Grip handle with a locking screw chuck.

P/N 12-03351 .....\$25.70

## MAGNETIC BIT CADDY

A non-spill bit holder at your fingertips. 36 individual 1/4" and 5/16" screw-driver bits may be stored in this magnetic-based organizer. Remains solid at any angle placement while holding bits in their respective slots.

P/N 12-01083 .....\$19.90



## STRIPMASTER WIRE STRIPPER

Stripmaster wire Stripper #16 to #26 AWG. Knife-type blades Cleanly strips wire up to 7/8 in. (22mm). One-third less hand pressure for each strip. Eliminates nicking, cutting, and fraying of wire. Wire gripper holds wire centered in hole.

P/N 12-03714 .....\$69.95



## IDEAL COAX STRIPPER

3-step coaxial stripper. Adjustable coaxial wire stripper. For popular dual crimp BNC and TNC connectors. Strips braid 0.240 inch (6mm) and dielectric 0.240 inch (6mm). Replacement cassettes available.

P/N 12-03716 .....\$37.95



## SCREW PAINT CUTTERS

For AN4 Screws. You know how frustrating it can be to remove a painted over screw only to wind up chipping up the paint job. But you wouldn't have that problem if you had a set of these innovative paint cutters. They work by slicing through the paint around the head of the screw so you can remove it without chipping the paint. They have a 1/4x28 thread to fit into any angle drill or you can get the optional arbor (p/n 12-02460) for use in a drill chuck. Does not work on dome head rivets. 1 lbs (0.5Kg) shipping weight.



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Size	Part No.	Price	Size	Part No.	Price
AN4	12-02452	\$23.65	AN6	12-02453	\$23.65
AN8	12-02454	\$23.65	AN10	12-02456	\$23.65
1/4"	12-02459	\$24.50	6 pc. Set	12-02461	\$124.80

## PAINT CUTTER ARBOR

Arbor.....P/N 12-02460 .....\$24.50



## INSTRUMENT MOUNTING HOLE DRILL JIG

Aircraft instrument mounting hole drill jig for standard 2-1/4" & 3-1/8" diameter instruments. Accurate and simple tool to use, drill jig made of hardened steel for long life.

P/N 12-00975 .....\$38.75



## ERCOUPE 3 STONE ROTARY CYLINDER HONE KIT



This 3 Stone Rotary Cylinder Kit makes available an effective tool to recondition the interior running surface of the oleo cylinder barrel, and is intended to be used each time the MLG oleo struts are disassembled for routine seal replacement or when upgrading to the popular Main Landing Gear Oleo Restoration Kit (STC SA01247CH).

The clean and resurfaced interior cylinder bore results in increased seal effectiveness and service life and can be accomplished with or without removing the Taxi Stack end fitting and Donuts.

This kit is applicable to Ercoupe 415-C, CD, D, E, G, F-1, F-1A, Alon A2, A2-A and early M10 aircraft that are equipped with either the Hayes welded or Erco forged trailing link MLG assemblies that incorporate liquid filled oleo struts. ....P/N 12-05513 .....\$38.50

## PIPEMASTER WELDER'S TOOL FOR CONTOUR FITS

Pipemaster gives aircraft builders the ability to cut a piece of tubing on both ends and have it fit its intended location on the first try. Tedious hours of grinding and misfit joints can be eliminated producing exact welds and stronger airframes. Features spring temper stainless steel pins, aluminum inner shell, and rugged ABS housing. Simply slip over pipe, push down, transfer and cut, and the tubing is ready to weld. Pipemaster transfers the exact outline of the pipe joint in just seconds. Use for penetration cuts as well.



Part No.	Tubing O.D.	Price	Part No.	Tubing O.D.	Price
12-00102	3/4"	\$45.85	12-00109	1-1/2"	\$51.75
12-00103	7/8"	\$46.50	12-00111	1-5/8"	\$62.99
12-00104	1"	\$45.95	12-00112	1-3/4"	\$68.75
12-00105	1-1/8"	\$57.85	12-00113	1-7/8"	\$72.75
12-00106	1-1/4"	\$45.95	12-00114	2"	\$72.75
12-00107	1-5/16"	\$49.80	12-00116	2-3/8"	\$73.75
12-00108	1-3/8"	\$65.75			

## MAGNETIZER / DEMAGNETIZER



This versatile tool saves you time and trouble by instantly magnetizing or demagnetizing you tools & parts on the job. Reliable, powerful permanent magnets for a super long life, and its compact size, shatterproof plastic shell, this tool will fit easily in your tool box. This tool allows easy, precise handling of small steel parts in confined spaces, collects metal items from inaccessible places, leaves 1 hand free for positioning the work piece, demagnetizes instruments & electronics components. Size: 2.1"x2"x1.1". Wt. .22 lb.....P/N 12-16835 .....\$12.95

TO



# SANDERS - SURFACE TREATMENT KITS

## 3M™ ELITE PNEUMATIC ORBITAL SANDER



Features an alloy steel curved-throttle lever with built-in wrist support. 3M gripping material molded into the interchangeable comfort grip conveniently located speed control dial and internal muffler. Precision Balanced for Smooth Operation Meet or exceed highest performance standards Optimize to work with 3M abrasives. Multiple grips sizes available for improved operator comfort.

P/N 05-11839 .....\$335.00

## P-KIT AIRCRAFT WINDOW INSPECTION PRISM KIT



The "P-KIT" (Inspection Prism Kit) is packaged as a completely self contained aircraft window inspection tool kit. It comes in a waterproof lockable case and includes Instructions, Inspection Prism, Coupling Agent and a 6000 Candlepower Flashlight with batteries. It's ready to use to inspect your aircraft windows for possible bolt hole damage.

P/N 12-01333 .....\$3,125.00

## 3M™ ORBITAL SANDERS



The all new line of 3M™ air-powered finishing tools includes innovations designed to optimize performance and productivity. 3M™ Tools are designed for smooth operation, and are packed with horsepower. Multiple grip sizes are designed to provide advanced operator comfort, and color-coded levers allow for easy orbit identification.

### RANDOM ORBITAL SANDERS



Non-Vacuum Model Self-Generated Vacuum Model

The 3M's NEW dust management system featuring Clean Sanding Abrasives and Accessories is revolutionizing the dust evacuation process. Discs are designed to cut more and last longer. The patented multi-hole pattern captures and remove more dust compared to 5- or 6-hole products.

Model	Tool Dia. Inch (mm)	Vacuum	Orbit Dia Inch	Max RPM	Motor HP (W)	Airflow Rate (SCFM) (LPM)	Part No.	Price
20319	5"(127)	Yes	3/16"	12,000	.28(209)	17(481)	05-03483	\$285.95
20314	3"(77)	No	3/32"	12,000	.28(209)	17(481)	05-03485	\$229.00
20317	5"(127)	No	3/16"	12,000	.28(209)	17(481)	05-03484	\$239.00

### ACCESSORIES



Clean Sanding Filter Bag Thorough dust collection enhances the performance of 3M™ Clean Sanding Discs (sold separately) Achieves superior dust collection when used with 3M™ Random Orbital Sanders with Self-Generated Vacuum .....P/N 05-03486 .....\$4.95

### STORAGE STATION



For storage of up to 15 wire belts or 9 rubber erasers and one MBX Power Tool (machine, belts, erasers not included).

P/N 12-01399 .....\$52.75

## MBX PNEUMATIC STARTER SET



For the removal of seam sealant, corrosion, paint, vinyl decals, glue on aluminum and alloy.

**SET 1** - • MP-3500 - MBX Pneumatic Power Tool S (3500 rpm) with adapter system for 23mm belts/31mm rubber eraser. • AA-0011 - Adapter for 11mm wire belts • BS M11X - V2A Wire Belt, Med., 11mm angled tips • BS-F11 - V2A Brush Belt, Fine, 11mm • RE-0023 - Rubber Eraser, 31mm

P/N 12-01394 .....\$495.00

## MBX ELECTRIC STARTER SET



For the removal of seam sealant, corrosion, paint, vinyl decals, glue on aluminum and alloy.

**ME-3200 - MBX ELECTRIC POWER** - Tool A (3200 rpm) with adapter system for 23mm belts/31mm rubber eraser • AA-0011 - Adapter for 11mm wire belts • BS-M11X - V2A Wire Belt, Med., 11mm angled tips • BS-F11 - V2A Brush Belt, Fine, 11mm • RE-0023 - Rubber Eraser, 31mm.....P/N 12-01396 .....\$495.00

## MBX BRUSH BELTS



Medium (11 or 23 mm) For the removal of seam sealant & corrosion on aluminum bodies



Fine (11 or 23 mm) For the removal of paint on aluminum bodies.

MBX Belts are made of a high-performance polyamide fabric - tension resistant up to 440 kilograms. Individual bristles made of spring steel or stainless steel are anchored U-shaped in the flexible polyamide fabric. The materials used for the production of MBX Belts offer top safety and durability due to the high flexibility of the MBX Belts. No clogging - no heat built-up - no grinding. The high masses due to centrifugal force during rotation are absorbed safely by MBX Adapter Systems. MBX Medium have angled tips to create a sandblast effect. 11mm is for especially hard-to-reach-areas such as a 90° angles.

BS-M11X Med. Blue 11mm Brush P/N 12-01402 .....\$29.85  
BS-M23X Med. Blue 23mm Brush P/N 12-01403 .....\$29.85  
BS-F11 Fine Blue 11mm Brush P/N 12-01404 .....\$29.85  
BS-F23 Fine Blue 23mm Brush P/N 12-01405 .....\$29.95

## MBX VINYL ZAPPER



"The rotating toothed eraser wheel", patented For the removal of self-adhesive foils and materials, wide-area decoration, adhesive residue on decorative strips and lettering on OEM-painted surfaces made of metal, aluminum, glass, fiberglass (gel coats) - and most amazing: NO PAINT DAMAGE. The centrifugal force created by rotation makes the MBX Vinyl Zapper work as if suspended on a cushion of air. Advantages: Faster working speeds of up to 3,500 rpm Conventional rubber eraser wheels operate only at circa 1,500 rpm. No paint damage, no smearing despite speeds of 3,500 rpm Toothed wheel design. Easy handling. Vibration-free, smooth running (compare a solid rubber tire with an air-filled tire). Increased performance. The working surface of the MBX Vinyl Zapper is strongly enlarged by the application of pressure to the work surface. This improves performance (compare to a car tire containing only a small amount of air). Long service life Wide construction. Vinyl Zapper 31mm Toothed Wheel Construction Removal of elements such as vinyl decals & DOT tape from metal surfaces, fiberglass, plate glass, wood, aluminum, OEM paint finish. ....P/N 12-01406 .....\$31.95

## MBX VINYL ZAPPER KITS



MBX Vinyl Zapper Kit is for removing vinyl decals and graphics on metal glass and fiber glass. It is available with either a pneumatic tool or an electric tool.

Description	Part No.	Price
MBX Electric Vinyl Zapper Kit USSE-01-05 MBX Electric Tool, 1-23mm Adaptor, 3 Vinyl Erasers	12-02037	\$505.00
MBX Pneumatic Vinyl Zapper Kit USSP-01-05 MBX Pneumatic Tool, 1-23mm Adaptor, 3 Vinyl Erasers	12-02038	\$466.00

TO

# CLECOS - HOLE SAWS

## CLECO SHEET HOLDERS



**K-SERIES SPRING CLECOS** - Sheet holders provide the quickest method for holding sheets together for drilling or riveting. Drill the size hole needed for the rivet and insert the sheet holder. The holders listed comprise the most common sizes. Material thickness range 0" - 1/4". Length is 2.26" Use with sheet holder pliers. **10% discount on 50 pcs., 15% discount on 100 pcs.**

Description	Size	Part No.	Price
M-3/32 Cleco	3/32"	12-01140	\$0.75
M-1/8 Cleco	1/8"	12-01138	\$0.75
M-5/32 Cleco	5/32"	12-01141	\$0.75
M-3/16 Cleco	3/16"	12-01139	\$0.75

**KK-SERIES SHORT BODY SPRING CLECOS** - A shorter overall body to use in areas of limited space. 0-1/4" grip range. Length is 1.63" Made in USA

Material	Size	Drill Size	Part No.	Price
Copper	1/4"	1/4	12-02424	\$2.35
Zinc	3/32"	#40	12-02077	\$1.30
Copper	1/8"	#30	12-02078	\$1.30
Black	5/32"	#21	12-02079	\$1.30
Brass	3/16"	#10	12-02080	\$1.20

**KHD-SERIES LONG REACH SPRING CLECOS** - Designed for clamping thicker material. 0-1/2" grip range. Length is 2.40". Made in USA

Material	Size	Part No.	Price
Zinc	3/32"	12-02077	\$1.30
Copper	1/8"	12-02078	\$1.30
Black	5/32"	12-02079	\$1.30
Brass	3/16"	12-02080	\$1.20

**CL SERIES** - The "CL" series fasteners are the standard plunger type Cleco with an extended grip range of 1/4" - 1/2". Length is 2.475" Spring type Fastner

Material	Size	Part No.	Price
Zinc	#40	12-02425	\$1.75
Copper	#30	12-02426	\$1.70
Black	#21	12-02427	\$1.75
Brass	#10	12-02428	\$1.75

## CLECO KEEPER

Fabricated of durable polypropylene, the Cleco Keeper is prepunched to hold up to fifty sheet metal fasteners. Allows the builder to extract and install Clecos from the storage bin to the work with one hand. Compact, the Cleco Keeper measures 8" L x 3" W. Helps eliminate misplaced fasteners and makes inventory of available fasteners quick and accurate. Available in 3 models to hold 3/32", 1/8", 5/32", or 3/16" clecos.

For 3/32" clecos.....	P/N 12-10116 .....	\$7.95
For 1/8" clecos.....	P/N 12-10117 .....	\$7.95
For 5/32" clecos.....	P/N 12-10118 .....	\$7.95
For 3/16" clecos.....	P/N 12-00604 .....	\$7.95

## NO-MAR™ REUSABLE CLECO BOOTS



Eliminates surface marring both on painted and unpainted surfaces. Easily slips on plier operated style clecos, one size fits all. Yellow polyurethane color. 25 pcs./pkg.....P/N 12-00626 ..... **\$10.70**

## CLECALL UPRIGHT CLECO PLIERS



The world's lightest and most comfortable cleco pliers!™ Clecall Upright Cleco Pliers: Faster to use / Easier to Activate. Spring Loaded to open with less effort. 70% lighter than normal cleco pliers at 4.3 oz. (aluminum version) Latest design accommodates 1/4" Cleco width. Vertical profile installs clecos in tight areas with ease! Reduce fatigue and wrist pain. Install clecos on upside down surfaces easily. Designed by Zenith Builder and EAA Lifetime Member. Economy Steel Pliers .....P/N 12-03756 ..... **\$24.95**

## SPRING LOADED CLECO PLIERS



Due to significant demand, Clecall has developed the first spring loaded traditional cleco pliers with a very affordable price point .....P/N 12-03807 ..... **\$13.70**

## CLECO SHEET HOLDER PLIERS



These pliers are designed to grip and actuate all standard sizes of sheet holders and tension clamps. New manufacture.....P/N 12-10105 ..... **\$5.65**

## CLECO REVERSE PLIERS



Used in limited access areas. requires less travel per activation. Model TP74B  
P/N 12-00370 ..... **\$31.75**

## CLECO GRIP POWER DRIVEN SHEET HOLDERS



**Power-Hex Nut Style** - Standard Grip 0-1/2". Hex Nut Fasteners are recommended for high production applications that require a consistent clamping force. They are pneumatic driven with the US7381HX Power Nut Runner.

Description	Size	Part No.	Price
0-1/2" Grip Power Driven Hex Nut Fastner, Copper	#30	12-02430	\$4.80
0-1/2" Grip Power Driven Hex Nut Fastner, Black	#21	12-02431	\$4.65
0-1/2" Grip Power Driven Hex Nut Fastner, Brass	#10	12-02432	\$6.95



**Power-Hex Nut Style -Long Grip 0-1"**

Description	Size	Part No.	Price
1" Grip Power Driven Hex Nut Fastner, Zinc	#40	12-02433	\$6.50
1" Grip Power Driven Hex Nut Fastner, Copper	#30	12-02434	\$6.50
1" Grip Power Driven Hex Nut Fastner, Black	#21	12-02435	\$6.60
1" Grip Power Driven Hex Nut Fastner, Brass	#10	12-02436	\$7.50



**Manual Wing Nut Style** - Standard Grip 0-1/2". Wing Nut Fasteners are recommended for low production applications where high clamping force is required. The clamping force ranges from zero to 300 lbs.

Description	Size	Part No.	Price
0-1/2" Grip Manual Wing Nut Fastner, Zinc	#40	12-02437	\$4.65
0-1/2" Grip Manual Wing Nut Fastner, Copper	#30	12-02438	\$4.65
0-1/2" Grip Manual Wing Nut Fastner, Black	#21	12-02439	\$4.65
0-1/2" Grip Manual Wing Nut Fastner, Brass	#10	12-02440	\$4.65



**Manual Wing Nut Style - Long Grip 0-1"**

Description	Size	Part No.	Price
1" Grip Manual Wing Nut Fastner, Zinc	#40	12-02441	\$5.35
1" Grip Manual Wing Nut Fastner, Copper	#30	12-02442	\$5.35
1" Grip Manual Wing Nut Fastner, Black	#21	12-02443	\$5.45
1" Grip Manual Wing Nut Fastner, Brass	#10	12-02444	\$4.95

## HEAVY-DUTY BI-METAL HOLE SAWS



Milwaukee hole saws provide an economical means of extending the useful range of portable drills, drill presses and lathes. High speed cutting edges welded to steel bodies produce clean, accurate holes All hole saws listed cut to standard 1.25" depth. Order appropriate arbor for use with each size hole saw.

Hole Dia.	Part No.	Use w/Arbor No.	Price
5/8"	49-56-0620	12-01993	\$8.45
3/4"	12-02001	"	\$9.65
7/8"	12-01992	"	\$9.60
1"	49-56-1000	"	\$10.65
1-1/8"	12-01991	"	\$8.50
1-3/16"	49-56-1180	"	\$10.50
1-1/4"	49-56-1250	49-56-7055	\$9.90
1-3/8"	49-56-1370	"	\$11.50
1-1/2"	12-01990	"	\$9.75
1-5/8"	49-56-1620	"	\$11.50
1-3/4"	49-56-1750	"	\$9.95
1-7/8"	49-56-1870	"	\$9.55
2"	49-56-2000	"	\$12.95
2-1/4"	49-56-2250	"	\$15.75
3-1/8"	49-56-3120	"	\$15.85

## HEAVY-DUTY SHOE SAW ARBORS



**QUICK CHANGE ARBOR** - Use for hole saw sizes 1-1/4" and larger. The Quick Change 7/16" shank prevents slipping in chuck. Pin drive construction permits fast interchanging of hole saws without removing arbor from chuck. Pilot drill size 1/4".  
P/N 49-56-7055 ..... **\$29.60**

## PNEUMATIC CLECO INSTALLATION TOOL



Features: • Lever throttle • 360° swivel mount • For use on button type and side grip temporary fasteners • Quiet operation • Straight handle • 5'8" polyurethane lead hose with 1/8" Male NPT  
• 5-3/8" Length of tool with 1/4" Female NPT Threaded for air fitting  
• Made in the U.S.A. ....P/N 12-01120 ..... **\$89.50**

TO



# TOOLS - CUTTERS

## 5 INCH SERRATED EDGE SCISSORS



5" stainless steel scissors are ideal for consumer and industrial applications. High quality stainless steel blades meet perfectly for precision cutting. The material being cut is held in place by one blade which is slightly serrated providing maximum control. Scissors so sharp, they can cut through electrical wiring, plastic, aircraft composites, Kevlar® and more.

P/N 12-02975 ..... **\$19.90**

## UTILITY SCISSORS



These 5.5" stainless steel utility scissors can cut through heavy materials, while the black plastic handle and ergonomic design make using the tool comfortable. These scissors are not only useful in the medical field, but in the industrial world as well, and its strong safety tip can offer peace of mind to medics and industrial workers alike

P/N 13-03015 ..... **\$3.65**

## CERAMIC SAFETY SCISSORS



With a proprietary finger-friendly ceramic grind, these scissors cut materials effectively, but they resist cutting skin. Used in industrial, institutional, and educational settings alike, these lightweight scissors are ambidextrous and durable. Soft-touch finger grips line their tough glass-filled nylon handles for the ideal mix of strength and comfort. They are also non-sparking and chemically inert.

P/N 12-04970 ..... **\$34.55**

## NO NICK TOOL CABLE TIE REMOVAL TOOL



No nick tool cable tie removal tool

P/N 12-03169 ..... **\$26.60**

## PLASTIC / LAMINATE CUTTER



Olfa Heavy-duty plastic/laminate cutter, designed to produce a fine score line to precisely break plastics, acrylic and laminates. Features built-in room for spare blades, and blade retractable function. Comes with 2 spare blades in handle with shipment

P/N 12-02973 ..... **\$12.50**

## RATCHET-LOCK UTILITY KNIFE



This heavy-duty knife features an all-over rubber grip for professional comfort and control. An acetone resistant, elastomer handle with a poly-acetate blade-lock makes it an official acetone resistant cutter. It features a ratchet-wheel blade lock and a heavy-gauge stainless steel blade channel that holds blade tight. A new sharp edge with each snap.

P/N 12-03654 ..... **\$8.45**

## FIBERGLASS RUBBER GRIP UTILITY KNIFE



This heavy-duty auto-lock utility knife is a powerful anti-slip utility knife, featuring a professional grade Fiberglass rubber grip and automatic blade lock for maximum comfort and control. Heavy-gauge stainless steel blade channel protects and holds blade tight. Acetone resistant handle for easy cleaning. Built in versatile metal pick for opening paint cans, removing switch plates and more. Easy, tool-free blade change. Includes the double-honed UltraSharp Black snap-blade

P/N 12-03655 ..... **\$11.50**

## OLFA SNAP BLADE KNIFE



Features a convenient detachable built-in blade snapper/disposal container in a heavy-duty ABS plastic handle. Storage container can hold up to 26 9mm AB blade segments for thousands of cuts before emptying is needed. Easy, tool-free blade change. Blade is made of high-quality Japanese grade carbon tool steel

P/N 12-03656 ..... **\$6.50**

## CERAMIC CRAFT KNIFE



The Slice craft knife is ideal for precision cutting, scraping, and handling. Its ceramic safety blade is non-sparking, chemically inert, safe to 1600 degrees Celsius, never rusts, and requires no oil coating. With a textured grip for superior control, this precision knife allows the user to make accurate, delicate cuts. Its ambidextrous no-roll design is weighted for balance and stability. Includes one rounded-tip ceramic safety blade with patented finger-friendly edge.

P/N 12-04971 ..... **\$18.60**

## SELF HEALING ROTARY CUTTING MATS



Self-healing, double-sided large mat protects and covers work. Green, self-healing professional quality rotary mat. Double-sided with yellow grid lines on one side for precision cutting, solid on opposite for general cutting. 1.5mm thick for a variety of applications. Store flat.

24" x 36" ..... P/N 12-02403 ..... **\$45.70**  
 23" x 70" - with clip set (RM-clips/2) ..... P/N 12-02404 ..... **\$98.75**  
 35" x 70" - with clip set (RM-clips/3) ..... P/N 12-02405 ..... **\$140.75**

## ROTARY CUTTER



Ergonomic 45mm rotary cutter features a unique comfortable handle design for both left- and right-handed use.

Rotary Cutter ..... P/N 01-00302 ..... **\$24.50**  
 RB45-1 Replacement Blade only ..... P/N 01-00300 ..... **\$7.50**  
 RB45-1 Replacement Blade pk of 5 ..... P/N 01-00301 ..... **\$29.50**  
 Rotary Pinking Blade ..... P/N 12-01709 ..... **\$10.50**

**Good For:** general quilting, sewing and craft projects. Great for cutting out patterns, reduces fraying. Can be used in industrial applications.

## STAINLESS STEEL SCISSORS



The OLFA stainless steel scissors (7" overall length) are extremely high quality stainless steel blades perfect for precision cutting. Ideal for use on such varied materials as paper, fabrics, plastic, rubber, & aircraft composites.

P/N 01-00303 ..... **\$19.90**

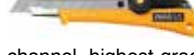
## MULTIPURPOSE PLASTIC UTILITY KNIFE



Auto-Lock-featured standard-duty model with a pocket clip/blade snapper. For both right- and left-handed uses. Handle and all plastic parts made from 100% recycled materials. Easy disassembly for next recycling.

9mm ..... P/N 12-03652 ..... **\$6.50**

## L-2 CUTTER



18MM heavy-duty cutter features a ratchet wheel blade lock, heavy gauge stainless steel blade channel, highest grade carbon tool steel blade and anti-slip rubber grip insert.

P/N 12-00258 ..... **\$8.95**

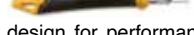
## NOL-1 CUTTER



Heavy-duty 18mm "HandSaver" Acetone resistant cushion grip with ratchet wheel blade lock and high-carbon tool steel snap-off OLFA blade.

Cutter ..... P/N 12-00257 ..... **\$9.50**

## SNAP IT 'N' TRAP IT CUTTER



18mm heavy duty cutter features an innovative design for performance and functionality. Developed for professionals looking for a convenient way to snap-off and securely store their dull blade segment for increased on-the-job productivity. Features a convenient detachable built-in blade snapper/disposal container in a heavy-duty ABS plastic handle.

Cutter ..... P/N 12-02696 ..... **\$10.95**  
 10 Pack Blade ..... P/N 12-02697 ..... **\$8.50**

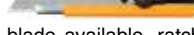
## ULTRAMAX CUTTER



Heavy-duty utility knife / cutter is an auto lock cutter includes a stainless steel blade channel with a unique cushion handle provides a comfortable and positive grip.

P/N 12-02367 ..... **\$9.50**

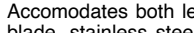
## H-1 CUTTER



25mm Extra heavy-duty cutter features largest blade available, ratchet lock to prevent slipping, rubber grip insert for positive control, and a rope loop to secure cutter to belt or work table.

Cutter ..... P/N 12-00259 ..... **\$13.70**  
 Replacement blades (5 pack) ..... P/N 12-02970 ..... **\$9.50**

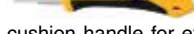
## AUTO-LOCK STAINLESS PROFESSIONAL KNIFE



Accommodates both left- and right-handed users. Features locking slide blade, stainless steel handle and built-in pocket clip/blade snapper. A perfect steel cutter where rust is a concern. Lifetime Guarantee.

Cutter ..... P/N 12-00339 ..... **\$7.90**  
 Replacement blades (10 pack) ..... P/N 12-00340 ..... **\$5.35**

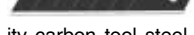
## EXTRA HEAVY DUTY RATCHET LOCK CUTTER



25mm Extra heavy-duty cutter features: • anti-slip cushion handle for exceptional comfort and safety • chemical resistant handle for easy cleaning • Heavy gauge stainless steel blade channel holds blade tight • ratchet wheel blade lock • rope loop • high-quality carbon tool steel snap-off blades for sharpness and durability.

P/N 12-02368 ..... **\$15.50**

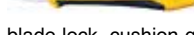
## EXTRA HEAVY DUTY SNAP-OFF BLADE



Snap-off black blades, are made from high quality carbon tool steel. Blade container locks for safety. Fits most Extra Heavy-Duty handles. 7 cutting edges per blade.

20 blades per pack ..... P/N 12-02369 ..... **\$28.50**

## EXTRA HEAVY DUTY RATCHET LOCK CUTTER



Anti-slip grip cutting tool. Features an automatic blade lock, cushion grip for maximum comfort and control, and a heavy gauge stainless steel blade channel that holds blade tight. Chemical resistant handle for easy cleaning. Includes a pocket clip for convenience, and the premium, ULTRAMAX® ultra sharp durable snap-off blade.

P/N 12-02370 ..... **\$6.85**

TO

# GENERAL SPECIALTY TOOLS



## CIRCULAR HOLE CUTTER

General's circle cutters produce precision circles in sheet metal, brass, copper, soft steel, aluminum, plastic, wood and composition materials. Bodies are constructed of heat treated tool steel for durability. All Circle Cutters have replaceable pilot points. The replaceable cutter blades are made of high-speed steel for precise and clean cuts. Circle Cutters are adjustable for cutting variable diameter holes. A hex wrench is included for diameter and depth adjustments.

#4 Cutter ..... P/N 12-10600 ..... **\$17.60**  
Extra 3/16" Blade ..... P/N 12-10700 ..... **\$4.70**



## JEWELERS' SCREWDRIVER KITS

The Screwdriver and Hobby Kit includes five interchangeable blades and a heavy duty knurled handle. Loaded with the most popular jeweler's-sized Slotted and Phillips tips and a scratch awl, this modestly priced set is great for model making and other small-scale applications.

P/N 12-19600 ..... **\$7.85**



## SWIVEL HEAD PIN VISE

The Swivel Head Pin Vise provides fingertip control of small tools when working with jewelry, electronics or models. The double-ended collet offers two distinct sizes for holding a variety of drill bits, reamers and taps. For added control, this Pin Vise has been design with a knurled aluminum body for a sure grip while the swivel head turns smoothly against your palm.

P/N 92 ..... **\$10.95**



## STEEL PROTRACTORS

Trusted by machinists and draftsmen worldwide to deliver crucial measurements with unwavering accuracy. The 6" adjustable arm is ideal for setting bevels, taking measurements and transferring angles. Ultra-fine etched graduations read from 0 to 180 degrees in forward and reverse directions, and will not wear or rub off. Made of ground stainless steel for precision and durability.

P/N 17 ..... **\$15.50**



## POCKET CALIPERS

Although small in stature, these 4" Slide Calipers deliver the same accuracy and precision as some of our larger models. The rugged, stainless steel construction, coupled with a compact design makes these Slide Calipers a great addition to any workbench or toolbox. This item provides inside and outside readings in both 1/16" and 1/32" graduations. In addition, there is a decimal equivalents chart on the caliper's back side for help in making measurement calculations.

16ths & 32nds ..... P/N 729 ..... **\$13.50**  
16ths & MM ..... P/N 12-01633 ..... **\$13.55**



## DIGITAL FRACTIONAL CALIPER

The Carbon Fiber Digital Fractional Caliper brings you three universal systems of measurement, making it an equally practical choice for both professional and do-it-yourself projects. The high-contrast digital display easily switches between inches, millimeters and fractions, with guaranteed accuracy to 0.001". In addition, the light-weight, non-marring carbon fiber construction delivers accurate readings of inside, outside, step and depth measurements.

3" Caliper ..... P/N 12-02307 ..... **\$21.50**  
6" Caliper ..... P/N 12-03201 ..... **\$31.80**



## WIRE STRIPPERS & CUTTERS

Just dial the size and avoid damaging wire, especially when used repetitively. Spring opening jaws can be locked in closed position to protect cutting edges. Made of tool steel, equipped with vinyl cushion grip handles. Individually carded.

P/N 69 ..... **\$13.50**



## FEELER GAGES

Blades are made of tempered steel of exacting tolerances. Each blade has its size printed in both decimals of an inch and millimeters. Nickel plated case has knurled locking nut. No. 230 has 26

3x1/2 in. leaves of the following sizes: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024 and .025 in.

P/N 230 ..... **\$9.50**



## BRASS CALIPERS

For measuring rod diameters, plate thickness, inside and outside of tubing. 4" outside and inside measuring capacity. Heavy gauge solid brass. Inside and outside graduations in 16ths and millimeters. Close tolerance dovetail design. Smooth brushed finish with lacquer coating. Finely stamped numbers and graduations.

P/N 12-03782 ..... **\$9.50**



## STEEL RULES

General's industrial quality Steel Rules are precision made with etched fine black graduations for easy reading and long life. The two finishes available are polished stainless steel or satin chrome. Front graduated in 10ths, and 100ths, back in 32nds and 64ths. Quality 12 inch (30cm) flexible stainless steel rule. Precision made. Fine black etched graduations. 6" Long, 15/32" Wide ..... P/N 616 ..... **\$5.90**

## PERMANENT ALNICO MAGNETS



These industrial grade Alnico (Aluminum/Nickel/Cobalt) Magnets are built for heavy duty use and will not naturally demagnetize over time like other magnets. They are handy in a plethora of applications and work settings. The horseshoe-shaped Power Alnico Magnets are available in 2 distinct sizes with extraordinarily strong pull capacities ranging up to 13 lbs.

No. 370-1 Pocket Magnet, 3/4 oz., approx. 1 lb. pull  
P/N 370-1 ..... **\$7.95**  
No. 370-2 Power Magnet, 2 oz., approx. 13 lb. pull  
P/N 370-2 ..... **\$20.50**



## WIRE & SHEET METAL GAUGES

**#20 WIRE GAUGE** - The Wire Gage helps you to accurately determine the thickness of American Standard wire from 0 to 36. The Gage works with all non-ferrous wires, metals and rods such as copper, brass and aluminum. This heavy duty tool is made from hardened and tempered steel, and is stamped with wire sizes on the front and their decimal equivalents on the back

**#20 American Standard Wire Gauge** - For gauging non-ferrous wire & metal like copper, brass, aluminum, etc.  
P/N 12-02384 ..... **\$26.60**



**#21 U.S. STANDARD SHEET METAL GAUGE** - The Sheet Metal Gage is for gauging uncoated sheet, plate iron and steel, based on weights in ounces per square foot. gauge numbers are in U.S. Standard. Numbers 0-36 (.325"-.007"). Made of hardened steel, with a satin finish for easy reading. Decimal equivalents on the back side. Measures 3-1/4" in diameter.

P/N 21 ..... **\$25.75**

## SCREWDRIVER HANDLE SCRATCH AWL



If you're looking for a quality, yet economic awl, then check out our Screwdriver Handle Scratch Awl. Featuring a 3-5/8" steel blade and a durable plastic handle, this Scratch Awl makes a great addition to any workbench of toolbox.

P/N 12-01873 ..... **\$7.85**



## UTILITY AUTOMATIC CENTER PUNCH

The Utility Automatic Center Punch is our most economical model, offering a light-weight aluminum body and a hardened steel point. The punch is great for use on various metals and woods, and is impact adjustable.

P/N 12-01874 ..... **\$15.50**

## STAINLESS STEEL AUTOMATIC CENTER PUNCH



Provides accurate center punches to prevent drill bits from traveling. It has a one-hand spring impact operation, no hammer needed. This is used for marking, punching & staking and it has a durable stainless steel body that will not rust.

P/N 12-03515 ..... **\$17.70**



## DRILL GAUGES

General's Drill Gages help you to quickly and accurately identify the sizes of stray drill bits in your workshop. These gages can be extremely useful with older, unmarked bits or ones that are too small for markings. Each heat treated, heavy steel gage is machined to close tolerance for spot-on accuracy. The bit sizes and decimal equivalents are permanently etched to the face to provide years of dependable use.

Part No.	No.	Description	Price
12-00519	14	Fractional size drills 1/16" - 1/2" x 64ths	<b>\$14.50</b>
12-00378	15	Number size drills 1 to 60	<b>\$14.50</b>



## LOCKING WING ACADEMIC DIVIDER

This 6" drafting compass is most commonly used to measure inside or outside diameters and reproduce circles and arcs. Often used with maps or architecture, the wing divider features a pencil holder to easily plot curves and lines. Lockable wing for repeat measurements.

P/N 12-04896 ..... **\$9.95**

TO



# GENERAL SPECIALTY TOOLS

## COTTER PIN PULLER

General's Cotter Pin Puller helps you to easily and safely remove steel cotter pins from confined areas. The compound bend design facilitates use of the tool with either a pull or a twist motion. In addition, the heavy duty screwdriver handle provides a familiar, comfortable grip.  
P/N 12-01892 .....\$9.50

## PRECISION MAGNETIZER/DEMAGNETIZER

Our Precision Magnetizer and Demagnetizer transforms standard screwdrivers, tweezers and tool bits into powerful magnetic pickups. This dual-sized device can magnetize screwdrivers for installing small screws in jewelry, or demagnetize a set of tweezers for working with sensitive electronics. In addition, the innovative step design allows you to control the level of magnetism that is imposed upon your tools.  
P/N 12-01890 .....\$4.70

## ARCH PUNCH SET

Our extensive selection of Arch Punches are machined to close tolerances for creating precise holes in gasket material, rubber and soft metals. These industrial-quality tools are hand forged to ensure the longevity and accuracy of the cutting edge. This seven-piece set includes some of our most popular punch sizes and is conveniently packaged in a vinyl storage pouch.  
P/N 12-01891 .....\$83.75

## INSPECTION MIRRORS

General's Inspection Mirrors are known for their seemingly limitless uses both around the home and in the shop. For instance, an Inspection Mirror can be used to check behind an armoire for lost keys or beneath an engine block for a missing bolt. The Inspection Mirrors come in a variety sizes and lengths, and feature dual ball-and-socket joints for infinite angle adjustments of the mirror.

- 1-1/4" Diam .....P/N 12-01887 .....\$8.99  
2-1/4" Diam .....P/N 12-01888 .....\$13.50  
3-1/2" Oblong .....P/N 12-01889 .....\$14.50

## LED-LIGHTED TELESCOPING INSPECTION MIRROR

2 extra bright LED lights facilitate the inspection of hard-to-see and hard-to-reach areas. Easily peer into the dark crevices of your work space in search of leaks, breaks or lost tools. Telescoping shaft extends to 33 in. (840mm). Fully polished, shatter-resistant glass mirror sits on a 360° swivel, double ball joint for accurate positioning and infinite angle adjustments. Non-slip cushion grip. CE Approved.

- Round Mirror .....P/N 12-03197 .....\$18.75  
Rectangular Mirror .....P/N 12-03199 .....\$17.70

## TELESCOPING ALLIGATOR CLIP

The Telescoping Alligator Clip is often used as a third-hand tool in electrical repair for holding and positioning wires. It is also commonly employed around the home for lighting pilot lights and barbeques. The extendable shaft reaches up to 24-1/2" for working in cramped areas, or to provide a safety buffer for lighting a gas grill or furnace. The tool condenses to 5-1/2" and is equipped with pocket clip for those on the go.  
P/N 12-01884 .....\$6.80

## DECAL ERASER WHEEL

For quick and easy removal of decals, pinstripes, bumper stickers, reflective tapes etc from glass and OEM painted surfaces without any damage. Also very effective in removing adhesive tapes and glue from the back of moldings. Best result at 1500 - 3000 rpm. Let the wheel do the work, apply light pressure only. Start at the top of the decal and move side to side. For faster results, use entire width of the wheel, do not tilt on angle. Remove any residue with appropriate mild solvent. Natural Rubber. Diameter: 4 Inch. Width: 1 Inch. Max RPM: 4000 Universal arbor, no special tool needed. Use with electric or pneumatic tools.  
P/N 12-02401 .....\$16.50

## REVOLVING PUNCH

General's revolving punch plier is a convenient spring tension, self-opening tool for punching round holes in leather, plastic, rubber, canvas, cardboard and similar materials. The snap ring pliers are used for the installation or removal of exterior and interior snap rings. Revolving turret with six hardened steel punches: 5/64", 3/32", 7/64", 1/8", 5/32", and 3/16" .....P/N 72 .....\$11.99

## 5PC EXTRA LONG DRIVE PIN PUNCH SET



These Drive Pin Punches have been machined to exacting tolerances for accurate driving without damaging the pin or hole. The punch ends are ground square to sit flush on the top of the pin. Made of hardened tool steel with a knurled body, General's Drive Pin Punches can either be held by hand or with our Punch and Chisel holder. This five-piece set features extra-long 3-1/2" shafts for reaching deeply recessed pins.  
P/N 12-01875 .....\$33.99

## 5-PC PRECISION ULTRAREACH STAR SCREWDRIVER SET SLOTTED & PHILLIPS



These UltraTech Precision Screwdriver Sets were assembled in conjunction with industry tradesmen to offer the most comprehensive and reliable solutions. This five-piece set includes Slotted and Phillips screwdrivers in two distinct handle sizes. The color-coded ring on each screwdriver helps you to easily identify the blade type when working arduously in the field.  
P/N 12-01881 .....\$22.65

## 5-PC PRECISION ULTRAREACH STAR SCREWDRIVER SET



These UltraTech Precision Screwdriver Sets were assembled in conjunction with industry tradesmen to offer the most comprehensive and reliable solutions. This five-piece Torx set features a great assortment of blades in two distinct handle sizes. The color-coded ring on each screwdriver helps you to easily identify the blade type when working arduously in the field.  
P/N 12-01882 .....\$26.60

## PICK AND HOOK 4 PIECE SET



Get into tight places to retrieve small parts, "O" rings, and gaskets. Great for household and hobby use. Includes straight pick, 90° pick, 120° hook, and round angle hook. High-visibility handles. Screwdriver-style handles give better control. Specifications: Includes straight pick, 90° pick, 120° hook, and round angle hook, High-visibility handles, Screwdriver-style handles give better control, 5-1/4" average length, Handle: 5/8" square, 2-1/2" L, Approximate weight: 0.20 lbs.....P/N 12-02642 .....\$7.80

## BULLSEYE PICKS



The bullseye pick was originally used in the dent repair/collision trade, but also works great for restoration work. These are ideal to reach in

around the edge of a panel, around a gusset, or into a blind area to repair the dent from the backside. By sighting the low area through the open sight, the tool will deliver accurate light blows to raise the low area. This tool includes both a regular pick and a blunt tip. The blunt tip works great for aluminum and prevents unattractive pick marks in the metal.  
15" .....P/N 12-02292 .....\$119.95  
25" .....P/N 12-02293 .....\$119.95

## THREAD REPAIR FILE



The Thread Repair Files help breathe life back into bolts, screws or fittings that have been damaged due to cross-threading or corrosion. Made of high carbon steel, the Repair Files offer eight different thread pitches. In addition, the Thread Repair Files can also be used as a screw pitch gage.  
P/N 12-01879 .....\$14.50

## PRECISION PENCIL COMPASS



The Precision Pencil Compass is a robust scribing and marking tool with a jaw capacity of up to 9". The fulcrum spring handle makes this tool great for making contours, circles and edge marks. A carpenter's favorite.  
P/N 12-01872 .....\$6.80

## LIGHTED MAGNETIC PICK UP



Powerful Bright White LED Flexible Obedient Gooseneck. Heavy-duty Anodized Aluminum Body Magnet easily lifts 3 lbs. (1360g) Telescopes from 6 in. to 14 in. (152 - 356mm) 3 "LR44" batteries included .....P/N 12-03783 .....\$11.99

TO

# SPECIALTY TOOLS

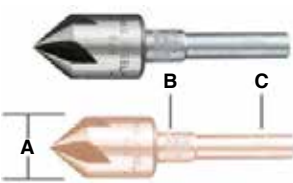
## M-4 PIPER / CESSNA / MOONEY TAPER PIN TOOL



Sweating the Piper Control Wheel AD? Relax, this patent pending M-4 tool makes the hardest part of compliance with this AD easy. This specialty tool was designed to counter the frustration of removing the Piper control wheel taper pin. With the aid of the M-4 tool even the most stubborn taper pin can be removed in minutes, not hours, without vibration or stress being induced on your aircraft or the surrounding delicate instruments and avionics. The tool is self-indexing, locking the taper pin in position and securing itself in place for easy pin removal. Quality made in the USA and precision milled from bar stock for maximum strength, the body is Cad Plated for corrosion resistance and the press screw is Grade 8 to assure long life. The tool is shipped with detailed instructions.

P/N 12-02620 .....\$239.00

## 5 FLUTE ROSE PATTERN COUNTERSINKS



Designed with the perfectionist in mind, these Rose Pattern Countersinks are a must have for any close-tolerance woodworking or machinist project. The 5-flute design reduces chatter and easily pierces steel, brass, aluminum, plastic and wood. The stepped shank can be used with either a 1/4" or 3/8" chuck.

A	B	C	Part Number	Price
1/2"	3/8"	1/4"	12-01863	\$5.35
5/8"	3/8"	1/4"	12-01865	\$5.35
3/4"	3/8"	1/4"	12-01864	\$6.80

## 6 INCH CONTOUR GAGE



General's 6" Contour Gage is designed for precise surface duplication in woodworking, fine carpentry and other professional genres. The 35 ultra-thin leaves per inch assure that you are getting an exact replication of your copied shape. The Contour Gage is capable of duplicating surfaces up to 3-1/2" deep. Instructions: 1. Press Contour Gage against surface to be copied. 2. Trace the formed contour gage onto your cutting material. 3. Cut the material. 4. Fit into place

P/N 12-01870 .....\$10.50

## ENGRAVER FOR WOOD AND METAL



• Perfect tool for engraving in plastic, metal, glass, ceramic, leather, wood, and more • Depth-adjustment dial helps control the length of the engraver's stroke • 13-watt motor provides up to 7,200 strokes per minute • Lightweight 9 oz design combines with the soft-touch grip for easy handling • Includes a two-piece stencil set and a tungsten carbide tip for powerful and reliable engraving.

P/N 12-05429 .....\$15.90

## PLAIN TAP WRENCHES



The standard Tap Wrenches are perfect for creating straight and accurate thread holes in your work piece. The fixed T-Handle provides a large gripping surface for generating maximum leverage. This versatile tool can also be used with reamers, drill bits, screw extractors and other hand-turned tools.

Tap Capacity	Length	Part No.	Price
NO. 0 TO 1/4" (1.6 TO 6.3mm)	2-1/4" (57mm)	12-01877	\$13.50
NO. 12 TO 1/2" (6 TO 12mm)	3-3/4" (95mm)	12-01878	\$16.50

## RATCHET OFFSET SCREWDRIVER



An Offset Ratchet Screwdriver is a useful tool to have on hand as it provides greater leverage compared to a traditional screwdriver. The swift ratcheting motion allows you to remove and install screws with ease, and the offset head provides odd-angle access in obstructed areas. This item features two Slotted screwdriver blades and a reversible ratchet.

P/N 12-01883 .....\$11.50

## CESSNA SEAT RAIL GAUGE



Allows for quick limit checking of seat rail hole and wear dimensions. Gauge elements are made from heat treated blue tempered steel. Each element is marked to correspond to the limits set forth in the relevant AD. The three gage elements are linked together on a universal spiral key ring.

P/N 12-01056 .....\$30.85

## LIGHTED POWER PRECISION SCREWDRIVER



These lighted cordless precision screwdriver (502) from general tools & instruments (general) is a first-of-its-kind tool that can handle all of those difficult, repetitive fastening jobs involving tiny screws in tight spaces where it is difficult to see. It's perfect for on-the-go technicians and anyone who works with small parts and micro assemblies. Super Bright LED Light 6+ Hours of Power 100+ RPM Super-Torque Drive Cordless (2 AAA alkaline batteries included)

Screwdriver.....P/N 12-03517 .....\$29.75

## PRECISION OILER



These Precision Oiler is a highly accurate lubrication tool intended for anyone working with small mechanical parts. The needlepoint tip allows for the precise placement of oil in confined areas. The smooth thumb actuator lets you control the release of lubricant from the reservoir in small droplets. In addition, the Precision Oiler includes a screw-on cover and pocket clip for use on the go.

P/N 12-01894 .....\$11.50

## REPLACEMENT BLADE OIL CAN CUTTER



General Tool's Gold Standard Cutting Wheels are made from tempered, bearing tool steel for smooth, exact pipe cuts. The slim-line surface geometry ensures fewer inner surfaces burrs and less chance for outer surface distortion. The RW122 is designed for larger capacity cutters on iron pipe and other tough surfaces.

P/N 12-01159 .....\$7.50

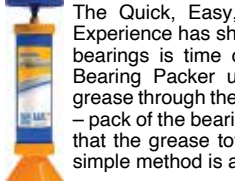
## CUTTER PLUG WOODWORKING



General's Plug Cutters produce accurate plugs for covering screw holes in decking, flooring and fine furniture. Plug cutters are great for creating a decorative effect in any woodworking project and can also be used to repair nicks, scratches and dents. Each cutter is made from hardened alloy steel and will fit in both hand-held power drills and drill presses.

3/8".....P/N12-01866 .....\$4.60  
1/2".....P/N 12-01867 .....\$4.70  
5/8".....P/N 12-01868 .....\$4.85

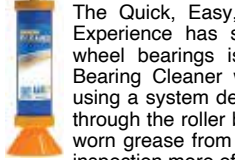
## AARC BEARING GREASE PACKER



The Quick, Easy, Efficient way to Grease Wheel Bearings! Experience has shown that the inspection and cleaning of wheel bearings is time consuming and messy. Likewise, the AARC Bearing Packer utilizes similar principles to hand pressurize grease through the individual roller bearings for a complete – total – pack of the bearings. The use of the cone or the plates assures that the grease totally encompasses the rollers in grease. This simple method is accomplished quickly with minimal waste.

P/N 12-03753 .....\$85.00

## AARC BEARING CLEANER



The Quick, Easy, Efficient way to Grease Wheel Bearings! Experience has shown that the inspection and cleaning of wheel bearings is time consuming and messy. The AARC Bearing Cleaner was developed to expedite this process by using a system designed to aggressively flush cleaning solvent through the roller bearings to loosen and rinse the accumulated worn grease from the bearings. This cleans the rollers, making inspection more efficient.

P/N 12-03754 .....\$109.00

## JOGGLE-360 FABRICATION TOOL



Noah Industries has introduced the Joggle-360 into its lineup of innovative metal aircraft fabrication tools. The Joggle-360 will joggle round openings for inspection plates with joggle widths up to 0.562 inch and straight joggle offsets up to 0.625 inch. The tool features hardened steel rollers that form the joggle while gliding around the opening or along the edge by ball bearings that eccentrically adjust for joggle width.

### Instruction:

1. Adjust the guide rollers to the desired set back or width of joggle by rotating the Eccentric Guide Roller Adjustment Screws with an Allen wrench.
2. Place the Joggle-360 onto the work that you are going to joggle and tighten the Tension Knob.
3. For straight joggles, run the Joggle-360 back and forth along the work tightening the Tension Knob as required until you achieve the desired joggle depth. Joggling a hole is the same process. Be sure to keep the Guide Rollers in contact with the edge of your work.
4. When the joggle is finished, loosen the Tension Knob and remove the tool from your work.

**Note:** You may need to tighten the Eccentric Lock Screws from time to time in order to keep the Eccentric Guide Rollers from rotating during use.  
P/N 12-02252 .....\$178.85

TO



# KNIPEX PRECISION TOOLS



## KNIPEX PRECISION-SNAP-RING PLIERS SET

Contains common Precision Circlip Pliers for highest requirements in sturdy plastic packaging, also suitable for storage of the pliers. From 12-25 to 19-60 Straight Tip and 12-25 to 60 Bent Tip.

P/N 15-08431 ..... **\$239.00**



## KNIPEX HIGH LEVERAGE COMBINATION PLIERS

35 % less effort required than with conventional combination pliers easier work due to optimised leverage with cutting edges (hardness approx. 63 HRC) for soft and hard wire and piano wire. Long cutting edges for thicker cables with gripping zones for flat and round material, suitable for versatile use. High-grade special tool steel, forged, oil-hardened, 200mm length. 8 inch.

8 inch Pliers (pictured) ..... P/N 15-08432 ..... **\$32.50**  
8 inch Pliers with Comfort Grip ..... P/N 15-08433 ..... **\$38.50**

## KNIPEX COMBINATION PLIERS

Gripping zones for flat and round material, suitable for versatile use with cutting edges for soft and hard wire. Long cutting edges for thicker cables cutting edges additionally induction hardened, cutting edge hardness approx. 60 HRC Special tool steel, forged, oil-hardened, 8 inch.

P/N 15-08434 ..... **\$28.50**

## KNIPEX HIGH LEVERAGE COMBINATION PLIERS COMFORT GRIP

Gripping zones for flat and round material, suitable for versatile use with cutting edges for soft and hard wire. Long cutting edges for thicker cables cutting edges additionally induction hardened, cutting edge hardness approx. 60 HRC Special tool steel, forged, oil-hardened, 6.25 inches.

P/N 15-08435 ..... **\$29.50**

## KNIPEX DIAGONAL CUTTERS

The indispensable diagonal cutter for all-round use with high quality material and precise workmanship for long service life. Precision cutting edges for soft and hard wire, clean cutting of thin copper wires, also at the cutting-edge tips cutting edges additionally induction hardened, cutting edge hardness approx. 62 HRC narrow head style for use in confined areas. Vanadium electric steel; forged, oil-hardened, 7.25 inches.

7.25 inch Pliers (pictured) ..... P/N 15-08436 ..... **\$33.65**  
7.25 inc Pliers with Comfort Grip ..... P/N 15-08437 ..... **\$36.95**

## KNIPEX COBRA PLIERS QUICK SET STYLE

Adjustment at the touch of a button directly on the work piece with fine adjustment for optimum adaptation to different sizes of work pieces and a comfortable handle width. Self-locking on pipes and nuts: no slipping on the work piece and low hand force required. 61 HRC: low wear and stable gripping. Just position the upper jaw to the workpiece, push button and move close the lower jaw, ingeniously simple. 10 Inch

P/N 15-08438 ..... **\$46.50**

## KNIPEX AUTO ADJUSTING WATER PUMP PLIERS

Automatic adjustment per one-hand operation both for right-handed and left-handed use with good access to the workpiece thanks to the slim dimensions in the head and joint area and flush joint bolt. Self-locking on pipes and nuts: no slipping on the workpiece and low handforce required. Gripping surfaces with special hardened teeth, teeth hardness approx. 61 HRC: low wear and stable gripping box-joint design: high stability because of the double guide. Guard prevents operators' fingers being pinched and locking lever for space saving transport with reliable closed handles. Chrome vanadium electric steel, forged, oil-hardened 10 inch.

P/N 15-08439 ..... **\$78.75**

## KNIPEX PLIERS WRENCHES

Adjustable tightening tool, also excellent for gripping, holding, pressing and bending work pieces. Replaces the need for sets of metric and imperial spanners, with smooth jaws for damage free installation of plated fittings Zero backlash jaw pressure prevents damage to edges of sensitive components. Adjustment at the touch of a button directly on the work piece and parallel jaws give a more solid grip; the construction gives infinite adjustment of all widths up to the specified maximum size.

6 Inch ..... P/N 15-08440 ..... **\$65.75**  
7.25 Inch ..... P/N 15-08441 ..... **\$65.75**  
10 Inch ..... P/N 15-08442 ..... **\$73.75**  
12 Inch ..... P/N 15-08443 ..... **\$89.75**

## KNIPEX PLIERS WRENCH-COMFORT GRIP



Adjustable tightening tool, also excellent for gripping, holding, pressing and bending work pieces. Replaces the need for sets of metric

and imperial spanners, with smooth jaws for damage free installation of plated fittings Zero backlash jaw pressure prevents damage to edges of sensitive components. Adjustment at the touch of a button directly on the work piece and parallel jaws give a more solid grip; the construction gives infinite adjustment of all widths up to the specified maximum size.

6 Inch ..... P/N 15-08444 ..... **\$68.95**  
7.25 Inch ..... P/N 15-08445 ..... **\$73.75**  
10 Inch ..... P/N 15-08446 ..... **\$83.75**

## KNIPEX COBRA PLIERS



Adjustment at the touch of a button directly on the work piece with fine adjustment for optimum adaptation to different sizes of work pieces and a comfortable handle width. Self-

locking on pipes and nuts: no slipping on the work piece and low hand force required. Gripping surfaces with special hardened teeth, teeth hardness approx. 61 HRC. Box-joint design. Reliable catching of the hinge bolt: no unintentional shifting and guard prevents operators' fingers being pinched. Chrome vanadium electric steel, forged, oil-hardened. Pliers Pictured are without the comfort grip. Pictured without Comfort Grip.

5 inch ..... P/N 15-08447 ..... **\$39.50**  
6 inch ..... P/N 15-08448 ..... **\$40.50**  
7.25 inch ..... P/N 15-08449 ..... **\$41.50**  
7.25 inch with Comfort Grip ..... P/N 15-08452 ..... **\$47.50**  
10 inch ..... P/N 15-08450 ..... **\$44.50**  
10 inch with Comfort Grip ..... P/N 15-08453 ..... **\$49.95**  
12 inch ..... P/N 15-08451 ..... **\$62.75**  
12 inch with Comfort Grip ..... P/N 15-08454 ..... **\$71.75**

## KNIPEX ALLIGATOR PLIERS



More output and comfort compared to conventional water pump pliers of the same length: 9-notch adjustment positioning for

30 % more gripping capacity. Self-locking on pipes and nuts. Gripping surfaces with special hardened teeth, teeth hardness approx. 61 HRC. Box-joint design. Particularly suitable for outdoor work. Guard prevents operators' fingers being pinched. Chrome vanadium electric steel, forged, oil-hardened. Pictured without Comfort Grip.

7.25 inch ..... P/N 15-08455 ..... **\$29.75**  
7.25 inch with Comfort Grip ..... P/N 15-08458 ..... **\$36.70**  
10 inch ..... P/N 15-08456 ..... **\$34.50**  
10 inch with Comfort Grip ..... P/N 15-08459 ..... **\$40.60**  
12 inch ..... P/N 15-08457 ..... **\$51.75**  
12 inch with Comfort Grip ..... P/N 15-08460 ..... **\$56.75**

## KNIPEX 3PC UNIVERSAL PLIERS SET & ALLIGATOR PLIERS



This 3pc Professional Pliers Set includes: Angled High Leverage Diagonal Cutter 8", Knipex Alligator Water pump Pliers 10", Long Nose Pliers with Cutter 8" ..... P/N 15-08461 ..... **\$107.75**

## KNIPEX 3PC COBRA PLIERS SET



Knipex 3pc Cobra Pliers Set 7", 10", 12". Adjustment at the touch of a button directly on the work piece with fine adjustment for optimum adaptation to different sizes of work pieces and a comfortable handle width. Self-locking on pipes and nuts. Gripping surfaces

with special hardened teeth, teeth hardness approx. 61 HRC. Box-joint design. Reliable catching of the hinge bolt. Chrome vanadium electric steel, forged, oil-hardened. .... P/N 15-08462 ..... **\$138.75**

## KNIPEX 3 PC ALLIGATOR PLIERS SET



Knipex 3pc Alligator Water pump Pliers 7", 10", 12". More output and comfort compared to conventional water pump pliers of the same length. Self-locking on pipes and nuts. Gripping surfaces with special hardened teeth, teeth hardness approx. 61 HRC.

Box-joint design. Particularly suitable for outdoor work. Guard prevents operators' fingers being pinched. Chrome vanadium electric steel, forged, oil-hardened. .... P/N 15-08463 ..... **\$106.99**

## KNIPEX 3PC UNIVERSAL PLIERS SET & COBRA PLIERS



This 3pc Professional Pliers Set includes: Angled High Leverage Diagonal Cutter 8", Knipex Cobra Water pump Pliers 10", Long Nose Pliers with Cutter 8" ..... P/N 15-08464 ..... **\$114.75**

## KNIPEX 2 PC MINI PLIERS WITH BELT POUCH



Knipex 2pc Mini Pliers Set includes: Knipex Pliers Wrench 6", Knipex Cobra Pliers Wrench 5". P/N 15-08465 ..... **\$128.75**

TO

# DRILLS - TAPS - DIES

## AIRCRAFT GRADE SUPER COBALT DRILLS

These super cobalt hi-speed jobber length aircraft drill bits feature heavy duty construction to Type J aircraft specifications. Use to drill hard, tough metals, stainless steels, iron based and titanium alloys, and certain plastics. Hardness of cobalt permits speeds 30% over regular H.S.S. drills. Cobalt drills demand rigidly held, positive feed drilling equipment.

Part No.	Drill Size	Price Ea.	Part No.	Drill Size	Price Ea.
12-03791	55	\$2.25	12-04220	23	\$2.70
12-03698	51	\$2.35	12-14221	21	\$2.85
12-03792	44	\$1.85	12-04221	19	\$2.70
12-04212	42	\$1.70	12-04222	12	\$3.75
12-04213	41	\$1.70	12-04223	10	\$3.75
12-04214	40	\$1.70	12-04224	"D"	\$4.95
12-04215	36	\$1.95	12-04225	1/8"	\$2.50
12-04216	33	\$1.95	12-04226	5/32"	\$2.65
12-03793	37	\$1.65	12-04227	3/16"	\$3.35
12-04217	30	\$2.25	12-04228	1/4"	\$4.60
12-04218	28	\$2.45	12-04229	5/16"	\$6.85
12-04219	27	\$2.70	12-04235	#35	\$2.15



## 12" LONG DRILL BITS

These 12" long drill bits are for use with standard electric drills for the hard to reach jobs.

Drill	Size	Part No.	Price
3/32"	(.094")	12-05200	\$6.65
1/8"	(.125")	12-05300	\$6.95
3/16"	(.188")	12-05400	\$8.50
#10	(.194")	12-05500	\$9.50
1/4"	(.250")	12-05600	\$10.50



## MALE THREADED DRILL BITS

Male threaded drill bits of high speed steel screw into female spindle of angle drill or snake drill.

Drill Size	Part No.	Price	1/4-28 Thread Part No.	Price
#10	12-05701	\$10.95	12-05702	\$3.55
#20	12-05801	\$11.85	12-05802	\$2.95
#21	12-05901	\$12.75	12-05902	\$2.95
#30	12-06001	\$14.80	12-06002	\$2.50
#40	12-06101	\$11.95	12-06102	\$2.95

## ANGLE DRILL ATTACHMENT

Quickly connects to any drill chuck. Makes a convenient, inexpensive close-quarter tool. 3/16 drill capacity.  
Specify threaded spindle size: 5/16-24 (P/N 12-18503), 1/4-28 (P/N 12-18501) or 10-32 (P/N 12-18502) .....\$78.85  
Angle Drill w/ Key Chuck (1/4-28 Only).....P/N 12-18511 .....\$194.00  
**ANGLE DRILL KIT** - Includes tool case, 24" flexible attachment, 4 threaded drills, collet adapter, 90° angle drill, straight drill attachment, 4 collet drills.....P/N 12-18505 .....\$312.00



## SNAKE DRILL ATTACHMENT

Heavy-duty 90° flexible drilling attachment. Overall length 26". 3 Female threaded spindle sizes.  
1/4-28 .....P/N 12-06500 .....\$108.95  
10-32 .....P/N 12-06600 .....\$240.95  
W/Key Chuck (5/32"cap.) P/N 12-06800 .....\$136.95

## CONE JAW CHUCK

Heavy duty yet mini size fits any angle drill or attachment with 1/4" x 28 threads. It's just what you need for close quarter drilling. **Features:** • Capacity from 1/16" to 1/4" 3/4" length, 0.13 lbs • Wrench included.  
P/N 12-00245 .....\$21.50

## ANGLE DRILL COLLET & CHUCK KIT

This 10-piece kit gives you 3 different methods of drilling in tight spots. Each shank is 1/4" x 28 which will thread into most drill spindles that angle attachments and angle drills are supplied with. 0.25 lb.  
**Kit Includes:** • (4) #200 collets & adapters - drill sizes 11, 21, 30, & 40 • (4) threaded drill bits (1-1/4" length) - drill sizes: 10, 21, 30, 40 • (1) Cone jaw chuck  
Model TP258 .....P/N 12-00368 .....\$37.85



## TAP EXTRACTOR SETS

Remove broken taps and save the threads! Walton Tap Extractors let you remove broken taps without drilling, lasers, damaged threads, scrapped parts or repair inserts. The hardened steel fingers of Walton Tap Extractors fit in the flutes of a broken tap to back it out simply and safely. This effective method has been used since 1908. They are available in every tap size, both inch and metric, as handy sets or individual pieces. The Tap Extractors will fit both NC and NF taps. Sizes: 3/16", 1/4", 5/16", 3/8", 7/16", 1/2"  
P/N 12-02352 .....\$91.75

## HAND THREAD TAPS

There are three basic types of straight thread taps:  
**PLUG TAPS** - used for ordinary threading and have a 3 to 5-thread chamfer, or relief, at the point.  
**TAPER TAPS** - have 8 to 10 threads chamfered for easy starting and are used for tough threading jobs.  
**BOTTOMING TAPS** - with their short chamfer (1 to 1-1/2 threads), are used where the thread must go to the bottom of the hole.  
**Specify Plug, Taper or Bottoming Tap.**



PLUG TAPS				
Die Size	Left-Hand	Right-Hand		
6-32	12-07601	\$6.80	12-07701	\$3.75
8-32	12-07801	\$6.50	12-07901	\$3.65
10-32	12-08001	\$7.50	12-08101	\$3.85
1/4-28	12-08201	\$8.75	12-08301	\$3.95
5/16-24	12-08401	\$8.50	12-08501	\$4.55
3/8-24	12-08601	\$8.50	12-08701	\$4.95



TAPER TAPS				
Die Size	Left-Hand	Right-Hand		
6-32	12-07602		12-07702	\$3.45
8-32	12-07802	Call for price and availability special order	12-07902	\$3.60
10-32	--		12-08102	\$3.60
1/4-28	12-08202		12-08302	\$3.85
5/16-24	12-08402		12-08502	\$4.55
3/8-24	--		12-08702	\$4.95



BOTTOMING TAPS (HIGH-SPEED STEEL)				
Die Size	Left-Hand	Right-Hand		
6-32	--		12-07703	\$3.45
8-32	--	Call for price and availability special order	12-07903	\$3.60
10-32	12-08003		12-08103	\$3.70
1/4-28	--		12-08303	\$3.90
5/16-24	--		12-08503	\$4.70
3/8-24	--		12-08703	\$4.90



## DRILLING & TAPPING SETS

13-Piece drilling and tapping set made from special high speed steel. Contains 6 screw machine length drill bits (Nos. 43, 35, 29, 25, 21 and 7), 16 NC taps (4-40, 6-32, 8-32, 10-24, 10-32 and 1/4-20) and one tap wrench. Choice of 135° split point or spiral point drill bits. Set with Split-Point Drill Bits.  
P/N 41095 .....\$54.75

## ADJUSTABLE ROUND SPLIT DIES

Die Size	Die Dia.	Left-Hand	Right-Hand		
6-32	13/16"	12-07001	\$14.50	12-07002	\$10.55
8-32	13/16"	12-07101	\$14.50	12-07102	\$10.50
10-32	13/16"	12-07201	\$14.60	12-07202	\$10.55
1/4-28	1"	12-07301	\$15.50	12-07302	\$10.55
5/16-24	1"	12-07401	\$16.55	12-07402	\$9.55
3/8-24	1"	12-07501	\$16.55	12-07502	\$11.50



## ROUND "KNOCK-OUT" PUNCHES & DIES

Save hours of tedious drilling, sawing, filing and hand-fitting. Produce clean, true holes for sockets, controls, instruments. Cut clean, burr-free holes with these easy-to-use tools. Can be operated by ordinary wrench. One punch required for each hole size.

Punch Size	Model 730 P/N	Price	Punch Size	Model 730 P/N	Price
1/2"	12-20905	\$86.90	1-1/2"	12-20950	\$136.75
5/8"	12-20910	\$88.75	1-5/8"	12-20955	\$149.80
3/4"	12-20915	\$91.75	2"	12-20970	\$202.95
1"	12-20925	\$99.85	2-1/4"	12-20975	\$249.00
1-7/32"	12-20935	\$107.85	304AVBB		
1-1/4"	12-20940	\$108.75	3-1/8"	12-20980	\$549.00

## ROUND DIE STOCK HANDLES

For holding adjustable round split dies. Three set screw pattern. Single piece construction. Die diameter 1" or 13/16".  
13/16" .....P/N 12-04875 .....\$8.85  
1" .....P/N 12-04876 .....\$9.60

TO



# DRILL BITS

## CARBIDE DRAGGER DRILL BITS



Reference NAS 965 specification with special geometry for drilling composite and composite stack ups.

Size	Carbide	4" Part No.	Price	6" Part No.	Price
#40	3000-0980	12-04547	---	---	---
1/8	3000-1285	12-04549	---	12-04552	<b>\$41.85</b>
#21	3000-1590	12-04551	<b>\$37.50</b>	12-04552	<b>\$41.85</b>
#13	3000-1875	12-04553	---	12-04554	<b>\$46.50</b>
#11	3000-1935	12-04555	<b>\$40.65</b>	12-04556	<b>\$47.95</b>
#2	3000-2210	12-04557	<b>\$33.85</b>	---	---
1/4	3000-2500	--	---	---	---
G	3000-2610	--	---	12-04560	---

## HSS EXTENSION DRILL BITS

NAS 907 Type "B" and Type "J" 135° Split Point  
These aircraft extension drills are manufactured to provide long life. Our cobalt drills are used for drilling in tough, high tensile strength materials like stainless steel titanium and inconel. A heavy duty flute design is incorporated and a 135° split point.

Size	Length	Part No.	Price
3/32	6 inches	12-04202	<b>\$3.50</b>
40		12-04204	<b>\$3.90</b>
1/8		12-04234	<b>\$3.50</b>
#30		12-04236	<b>\$3.90</b>
#21		12-04247	<b>\$3.95</b>
#10		12-04260	<b>\$4.65</b>
1/4	12 Inches	12-04274	<b>\$6.95</b>
3/32		12-04391	<b>\$10.50</b>
40		12-04393	<b>\$8.95</b>
1/8		12-04404	---
#30		12-04405	<b>\$8.95</b>
#21		12-04417	<b>\$8.50</b>
#10		12-04430	<b>\$9.50</b>
1/4		12-04444	<b>\$13.60</b>

VISIT [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR A FULL LIST OF AVAILABLE SIZES.

## COBALT EXTENSION DRILL BITS

Size	Length	Part No.	Price
3/32	6 inches	12-04307	<b>\$4.55</b>
40		12-04309	<b>\$4.50</b>
1/8		12-04320	<b>\$5.35</b>
#30		12-04321	<b>\$4.65</b>
#21		12-04332	<b>\$5.75</b>
#10		12-04345	<b>\$6.90</b>
1/4	12 Inches	12-04359	<b>\$8.75</b>
3/32		12-04476	<b>\$14.70</b>
40		12-04478	<b>\$14.70</b>
1/8		12-04489	<b>\$13.60</b>
#30		12-04490	<b>\$14.50</b>
#21		12-04501	<b>\$14.55</b>
#10		12-04514	<b>\$15.55</b>
1/4		12-04528	<b>\$17.50</b>

VISIT [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR A FULL LIST OF AVAILABLE SIZES.

## ECONOMY COBALT 115 PC DRILL SET



Each of these 115 cobalt drill bits comes organized in a metal indexed storage case for easy transport to your worksite. These cobalt drill bits retain their hardness up to 1000 degrees Fahrenheit making them ideal for drilling cast iron, heat-treated steel, stainless steel and other hard materials. With aggressive 135 degree tips, these cobalt drill bits not only last longer but also cut faster than your standard high speed steel bits! Imported .....P/N 12-04806 .....**\$147.75**

## HSS 1/4-28 MALE THREADED DRILL BITS



High Speed Steel  
• Type B Threaded Hex Shank HSS Adaptor  
• Drill - NAS 965 1/4-28 UNF Class 2A Thread  
• Surface Treated-Steam Oxide  
• Drills are manufactured to NAS 965 Type B construction.  
• High Speed Steel drills are for drilling general to medium duty, low tensile strength materials in confined areas.

Size	Length	Part No.	Price
3/32	1/2 inch	12-04065	<b>\$5.70</b>
#40		12-04066	<b>\$2.85</b>
1/8		12-04077	<b>\$3.90</b>
#30	9/16 inch	12-04078	<b>\$3.35</b>
5/32		12-04087	<b>\$4.50</b>
#21		12-04089	<b>\$3.95</b>
#10		12-04103	<b>\$5.35</b>
#9	5/8 inch	12-04104	---
13/64		12-04107	<b>\$11.50</b>
7/32		12-04112	---
1/4		12-04120	<b>\$5.70</b>
3/32		12-03941	<b>\$5.40</b>
#40	1 inch	12-03942	<b>\$2.75</b>
7/64		12-03947	<b>\$9.95</b>
1/8		12-03954	<b>\$3.95</b>
#30	1-1/4 inch	12-03955	<b>\$2.90</b>
5/32		12-03964	<b>\$5.35</b>
#21		12-03966	<b>\$3.85</b>
#10		12-03979	<b>\$3.90</b>
3/32	2-1/8 inch	12-03814	<b>\$5.35</b>
#40		12-03815	<b>\$2.90</b>
1/8		12-03826	<b>\$5.70</b>
#30		12-03827	<b>\$3.35</b>
#21		12-03838	<b>\$3.90</b>

VISIT [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR A FULL LIST OF AVAILABLE SIZES.

## COBALT 1/4-28 MALE THREADED DRILL BITS



Cobalt  
• Type D Threaded Square Shank Cobalt Adaptor  
• Drill NAS 965 1/4-28 UNF Class 2A Thread  
• Surface Treated-Steam Oxide  
• Drills are manufactured to NAS 965 Type D construction.  
• Cobalt drills are for drilling hard, tough, high tensile strength materials in confined areas.

Size	Length	Part No.	Price
3/32	1/2 inch	12-04127	<b>\$5.75</b>
#40		12-04128	<b>\$3.25</b>
#30	9/16 inch	12-04140	<b>\$3.35</b>
5/32		12-04149	<b>\$5.70</b>
#21		12-04151	<b>\$3.90</b>
#10	3/4 inch	12-04166	<b>\$3.90</b>
5/16		12-04187	<b>\$7.55</b>
3/8	1 inch	12-04188	---
3/32		12-04004	---
#40		12-04005	<b>\$2.85</b>
7/64		12-04010	<b>\$9.95</b>
1/8		12-04016	<b>\$5.75</b>
#30	1-1/4 inch	12-04017	<b>\$2.95</b>
5/32		12-04026	<b>\$4.95</b>
#21		12-04028	<b>\$3.60</b>
#10	2-1/8 inch	12-04041	<b>\$4.65</b>
3/32		12-03875	<b>\$5.75</b>
#40		12-03876	<b>\$3.55</b>
1/8		12-03887	<b>\$4.65</b>
#30		12-03888	<b>\$4.65</b>
#21		12-03899	<b>\$4.45</b>

VISIT [WWW.AIRCRAFTSPRUCE.COM](http://WWW.AIRCRAFTSPRUCE.COM) FOR A FULL LIST OF AVAILABLE SIZES.

## COBALT REAMER SETS



Cobalt Steel straight flute reamer set 1/16" - 1/2" by 64ths with case. 29 piece set includes sizes 1/16; 5/64; 3/32; 7/64; 1/8; 9/64; 5/32; 11/64; 3/16; 13/64; 7/32; 15/64; 1/4; 17/64; 9/32; 19/64; 5/16; 21/64; 11/32; 23/64; 3/8; 25/64; 13/32; 27/64; 7/16; 29/64; 15/32; 31/64; 1/2.  
Fraction Set .....P/N 12-04821 .....**\$329.00**  
Number Set .....P/N 12-04822 .....**\$516.00**

TO

# COBALT DRILL BIT SETS

## COBALT DRILL BIT SET 1-60 PIECES



Numbered 1 - 60 Drill Bit Set Cobalt. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. 60 total pieces plus index box. 135 degree split point (Note: Bits smaller than .0625 have no split point) .....P/N 12-05110 .....**\$124.95**

## COBALT DRILL BIT SET 1/16-1/2 INCH 29 PIECES



Fractional 1/16" - 1/2" 60 Drill Bit Set Cobalt. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. 29 total pieces plus index box. 135 degree split point P/N 12-05111 .....**\$158.85**

## DRILL BIT SET A-Z COBALT 26 PIECES



Letters A - Z Drill Bit Set Cobalt.. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. 26 total pieces plus index box. 135 degree split point P/N 12-05112 .....**\$179.99**

## DRILL BIT COMBO COBALT ALL BITS 115 PIECES



Combo Set Includes Cobalt: Numbers, Letters & Fractional. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. Complete set in Index Box. 135 degree split point (Note: Bits smaller than .0625 have no split point) P/N 12-05113 .....**\$423.00**

## DRILL BIT SET 1-60 NUMBERS HIGH SPEED



Numbered 1 - 60 Drill Bit Set High Speed. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. 60 total pieces plus index box. 135 degree split point (Note: Bits smaller than .0625 have no split point) .....P/N 12-05114 .....**\$89.95**

## DRILL BIT SET 1/16-1/2 INCH FRACTIONS 29 PIECES



Drill Bit Set Fractions 1/16-1/2 High Speed. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. 29 total pieces plus index box. 135 degree split point (Note: Bits smaller than .0625 have no split point) .....P/N 12-05115 .....**\$158.85**

## DRILL BIT SET A-Z HIGH SPEED USA 26 PIECES



Letters A - Z Drill Bit Set High Speed. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. 26 total pieces plus index box. 135 degree split point (Note: Bits smaller than .0625 have no split point) .....P/N 12-05116 .....**\$89.95**

## DRILL BIT COMBO HIGH SPEED ALL BITS 115 PIECES



Combo Set Includes High-Speed: Numbers, Letters & Fractional. Tired of always looking for that drill bit you desperately need? Now you can have all of them right at you fingertips. All Index boxes are the highest quality made. Made in the U.S.A. Complete set in index box. 135 degree split point (Note: Bits smaller than .0625 have no split point) P/N 12-05117 .....**\$239.95**

TO



# DRILL BIT SETS - CARBIDE DRILLS & BURS



## DRILL BIT SET - SIZES 1-60

This jobber length drill bit set includes high speed steel (HSS) drill bits in sizes 1-60. The set comes complete with a steel storage box. Ideal as a pre-drill for tapping of holes and for many other aircraft building applications .....P/N 12-00227 .....**\$69.95**



## 29-PC BRITE FLUTE DRILL SET

This 118° point, high speed steel (HSS) drill set performs well in a wide variety of drilling applications. It is recommended for non-ferrous metals, wood, and plastics. Set includes 29 pcs (1/16 to 1/2" in 64ths) in metal index.....P/N 12-00537 .....**\$113.85**



## 115-PC HSS JOBBER LENGTH DRILL SET

This 118° point, high speed steel (HSS) drill set performs well in a wide variety of drilling applications. It is recommended for non-ferrous metals, wood, and plastics. Set includes 115 pcs (1/16 to 1/2" by 64ths and #1-60 and A-Z in metal index).  
P/N 12-00536 .....**\$322.00**

## STRAIGHT FLUTE CARBIDE DRILLS

For use on hardened, treated, and abrasive materials, stainless steel, cryogenic alloys.

Part No.	Cutting Dia.	Decimal Equiv.	Flute Length	Overall Length	Price
12-00538	13/64	.2031	1-3/16	2-1/4	\$20.65
12-00539	7/32	.2188	1-1/4	2-3/8	\$20.65
12-00540	1/4	.2500	1-3/8	2-1/2	\$24.99
12-00541	9/32	.2812	1-1/2	2-11/16	\$32.50
12-00542	5/16	.3125	1-5/8	2-13/16	\$35.50
12-00543	3/8	.3750	1-13/16	3-1/8	\$49.80
12-00544	1/2	.5000	2-1/4	3-3/4	\$81.75
12-00545	1/8	.1250	7/8	1-7/8	\$12.85
12-00546	9/64	.1406	15/16	1-15/16	\$14.50
12-00547	5/32	.1562	1	2-1/16	\$15.50
12-00551	3/16	.1875	1-1/8	2-3/16	\$15.60

## CARBIDE TWIST DRILLS

For use on non-ferrous alloys, cast iron, plastics, aluminum, and highly abrasive materials

Part No.	Cutting Dia.	Decimal Equiv.	Flute Length	Overall Length	Price
12-00579	1/16	.0625	3/4	1-1/2	\$9.85
12-00580	5/64	.0781	7/8	1-3/4	\$9.65
12-00581	3/32	.0938	1	2	\$8.85
12-00582	7/64	.1094	1-1/4	2-1/4	\$10.50
12-00583	1/8	.1250	1-1/4	2-1/4	\$10.95
12-00585	5/32	.1562	1-3/8	2-1/2	\$14.50
12-00586	11/64	.1719	1-5/8	2-3/4	\$15.99
12-00547	3/16	.1875	1-5/8	2-3/4	\$15.50
12-00548	13/64	.2031	1-3/4	3	\$19.80
12-00549	7/32	.2188	1-3/4	3	\$20.50
12-00552	15/64	.2344	2	3-1/4	\$23.70
12-00553	1/4	.2500	2	3-1/4	\$24.80
12-00554	17/64	.2656	2-1/8	3-1/2	\$29.50
12-00557	9/32	.2812	2-1/8	3-1/2	\$30.50
12-00558	5/16	.3125	2-3/8	3-3/4	\$36.50
12-00561	11/32	.3438	2-1/2	4	\$41.50
12-00563	3/8	.3750	2-3/4	4-1/4	\$52.75
12-00564	7/16	.4375	2-7/8	4-1/2	\$69.75
12-00567	1/2	.5000	3	4-3/4	\$93.75

## CARBIDE ROTARY - RADIUS END

Rotary files have a 1/4" shank and a double-cut (self-cleaning) burrs for quicker cutting speed and less chip build-up. Style: Cylindrical Radius End (SC-5). Diameter of cut: 1/2". Length of cut: 1" .....P/N 12-02917 .....**\$12.95**

## CARBIDE ROTARY FILE - BALL END

Rotary files has a 1/4" shank and a double-cut (self-cleaning) burrs for quicker cutting speed and less chip build-up. Style: Round ball (SD-1). Diameter of cut: 1/4". Length of cut: 7/32" .....P/N 12-02918 .....**\$7.95**

## SPIRAL FLUTE CHUCKING REAMER

High speed steel straight shank spiral flute chucking reamer. Diameter tolerance thru 1/2 diameter + .0002.0000. Decimal Equivalent: 0.0980. Shank Type: Straight Shank. Flute Type: Spiral Flute. Size Type: Wire Gage Size. Flute Length: 7/8. Overall Length: 3-1/2. Material: High Speed Steel. Size: 40. Type: Straight Shank / Spiral Flute. Number of Flutes: 4 Flute. Brand Name: Quality Import.  
Size 30 .....P/N 12-02930 .....**\$8.85**  
High Speed, Size 30 .....P/N 12-02931 .....**\$6.65**

## ALUMINUM CUT

Designed for use on aluminum, non-ferrous metals, soft steel, reinforced plastics, and other soft materials.

## CYLINDRICAL BALL NOSE CARBIDE BURS

Aluminum Cut. 1/4" shank.



Part No.	Dia.	Flute Length	Price
12-00588	1/4	5/8	\$14.90
12-00589	3/8	3/4	\$19.55
12-00590	1/2	1	\$30.50



## CYLINDRICAL CARBIDE BURS

Aluminum Cut. 1/4" shank.

Part No.	Dia.	Flute Length	Price
12-00591	1/4	5/8	\$13.90
12-00592	3/8	3/4	\$18.50
12-00593	1/2	1	\$29.50



## ROUND NOSE TREE CARBIDE BURS

Aluminum Cut. 1/4" shank.

Part No.	Dia.	Flute Length	Price
12-00594	1/4	5/8	\$16.50
12-00595	3/8	3/4	\$19.55
12-00596	1/2	1	\$28.50

## MEDIUM TOUGH CUT

Engineered specifically for tough applications. Tough cut insures faster, splinter-free cutting in weld & alloy castings with increased tool life.

## CYLINDRICAL BALL NOSE CARBIDE BURS

Medium Tough Cut. 1/4" shank. 6" Long.



Part No.	Diameter	Flute Length	Price
12-00597	3/8	3/4	\$23.70
12-00598	1/2	1	\$29.70

## ROUND NOSE TREE CARBIDE BURS

Medium Tough Cut. 1/4" shank. 6" Long.



Part No.	Diameter	Flute Length	Price
12-00599	3/8	3/4	\$21.95
12-00601	1/2	1	\$28.60

## 14° INCLUDED ANGLE CARBIDE BURS

Medium Tough Cut. 1/4" shank. 6" Long.



Part No.	Diameter	Flute Length	Price
12-00602	3/8	1-1/16	\$26.99
12-00603	1/2	1-1/8	\$31.50

## CARBIDE ROTARY FILE - 8 PIECE SETS

8 Piece Carbide Rotary File Set. 1/4" or 1/8" shaft available.  
1/8" Set .....P/N 12-02916 .....**\$32.50**  
1/4" Set .....P/N 12-02915 .....**\$58.95**



TO

# VICE GRIPS - UNIBITS



Locking Pliers,  
two straight jaws



Locking Pliers,  
two curved jaws



Locking Nose Jaw with  
wire cutter



"C" Clamps

Vise-Grip Style	Size	Part No.	Price
Locking Pliers with Two Straight Jaws	7"	12-00196	\$14.60
Locking Pliers with Two Curved Jaws and Wire Cutter	4"	4WR	\$14.70
	5"	12-00194	\$13.50
	7"	12-00189	\$14.90
Long Nose Jaws with Wire Cutter	4"	12-00190	\$13.50
Locking "C" Clamps	6"	12-00188	\$15.90
	11"	12-00195	\$22.50

## TIGHT-FIT DRILL KIT



Space, every inch of it, is at a premium in aircraft design as shape and weight is critical to function. Also, airplanes are riveted together which requires thousands of holes to be drilled in difficult locations without scratching or marring the work surface. So, engineers needed to design a versatile "chuck-less" drill attachment that could reach into very confined areas. The answer was found in putting threads on the shanks of drill bits. The benefits are significant. Threaded drill bits eliminate the need for a chucking mechanism. Freed of this restriction, it is possible to do a wide variety of jobs in places with extreme space limitations (less than 1" x 2"). Chuck slippage is all but eliminated while the precision mating angle between threaded drill and drive spindle insures concentricity. Drill bit change times are reduced, an exact working drill bit length is insured and the chance of marring or scratching the work surface is greatly reduced. The Model 00105 Kit includes: a versatile close-quarter Right Angle Drill Attachment capable of drilling up to 1/4" diameter holes and compatible with all standard power drills, a 6" Threaded Extension for those deep hard-to-reach spots, a Chucking Spud which allows direct use of threaded TightFit® drill bits and extensions with your standard drill motor, five aircraft quality threaded TightFit® drill bits (Short Drill Bit Set, 00133), a Tight Fit® 3-Way Wrench, and is packaged in a red, heavy-duty, blow-molded storage case. Features: Attaches to any power drill; Recommended operating speed not to exceed 2500 rpm. • Light weight; Right angle drill weighs 1/3 of a pound and rotates 360 degrees for tight-spot access. • Threaded components allow for fast, easy tool changes; Drill over, under or around obstructions. • Design allows "deep reach" in confined areas; Provides utility of extension drill bit set.

P/N 12-01334 ..... \$52.85

## ACCESSORIES

- Stub Drill Kit** - 5 Drills 9/16" long in 3/32", 1/8", 5/32", 3/16", 1/4" Dia. P/N 12-20310 ..... \$19.85
- Short Drill Kit** - 5 Drills 1-1/8" long, in same diameters as above P/N 12-20320 ..... \$20.50
- Long Drill Kit** - 5 Drills 2" long in same diameters as above. P/N 12-20330 ..... \$19.85
- Screwdriver Set** - #1 & #2 Phillips bits, small & large slotted bits. P/N 12-20340 ..... \$2.95
- Extension Set** - 4 Extensions in 1/2", 3" 6" & 9" (can be combined for a work length of 18") ..... P/N 12-20350 ..... \$16.70
- Collet Adapter** - Designed to hold all 1/4" shank accessories (countersinks, rotary files, sanding drums). ..... P/N 12-20360 ..... \$8.50

## DELUXE TIGHT FIT TOOL KIT PROFESSIONAL MODEL



- 1- Right angle drilling attachment
- 1- 6" Threaded Extension Rod
- 1- Chucking spud
- 1- 5/16" Threeway Wrench
- 12- Threaded Shank Drill Bits (Split into a quantity of 6 each)
- 6- Stub drill bits in the following diameters: 3/32", 1/8", 5/32" 3/16", 7/32" and 1/4"
- 6- Stub Bits (1-1/2") in the same diameter.
- 4- Screwdriver Bits Set: Phillips #1 & #2 and Slotted

#3-#4, & #6-#8.

- 2- 1/8" & 1/4" Threaded Collets
- 1- 5/16" Combination Wrench
- 1- Pro Kit Red Storage Case ..... P/N 12-11215 ..... \$69.75

## CARBIDE TIPPED HOLE CUTTERS



Multiple tungsten carbide tips for long life and smooth cutting. Cut fast, accurate, high quality holes in stainless steel, copper, aluminum, steel. Flange stop prevents over drilling. Replaceable cobalt steel pilot drill, with split point tip design, to improve performance and resist walking; eliminates need for "center punch." Size :7/8in. 22.2mm Min. Chuck Size:1/4in. 6.4mm PG 13 Cduit Size :1/2" Maximum Cutting Depth: 8 Ga. (4 mm)

P/N 12-03715 ..... \$45.50

## BLAIR HOLE CUTTER



The Blair hole cutter fits any 1/4" drill and set includes 7 blades (1/4" to 5/8" arbor), pilot and holder. The blades are threaded onto arbor and precise control of the depth of cuts is provided by adjusting screws. Over 3000 holes in sheet metal can be cut by each blade.

Model TP147 ..... P/N 12-00243 ..... \$107.75

## FLANGING-360 TOOL



This is a companion tool to the ARC-360 lightning hole cutter. The Flanger-360 will form a 30 degree flange on 2024-T3 aircraft aluminum up to .032" thick and in diameters from 2 to 6 inches. Its polished hardened steel rollers gently and effortlessly form the flange as the operator rotates the tool around the lightning hole. Unlike other flanging tools that rely on the skill and eye of the operator, the Flanger-360 stays in constant position with the lightning hole via guide rollers as it progressively forms the flange.

P/N 12-02030 ..... \$199.00

## UNIBIT STEP DRILL



The UNIBIT Step Drill uses a unique single flute design to drill perfectly round holes in thin materials quickly and with less effort than any other bit on the market today. UNIBIT incorporates cutting steps of progressively larger diameter, making it possible to drill up to 13 different hole sizes with a single bit. Once the desired hole diameter is obtained, the hole is automatically deburred by the cutting edge of the next larger step. UNIBIT #1 drills 13 holes in 1/32" increments from 1/8" through 1/2" and has a shank size of 1/4". UNIBIT #2 drills 6 sizes of holes from 3/16" through 1/2" and has a 3/8" step thickness with a 1/4" shank. UNIBIT #3 drills 9 sizes of holes from 1/4" to 3/4" and has a step thickness of 1/8" with a 3/8" shank. UNIBIT #5 drills holes 1/4" - 1-3/8". 10 steps. UNIBIT #21 drills 13/16"-1-3/8". 10 steps.

- UNIBIT #1 Step Drill ..... P/N 12-03700 ..... \$24.85
- UNIBIT #2 Step Drill ..... P/N 12-03800 ..... \$24.85
- UNIBIT #3 Step Drill ..... P/N 12-03900 ..... \$45.50
- UNIBIT #4 Step Drill ..... P/N 12-03164 ..... \$49.95

## LOCKING C-CLAMP WITH SWIVEL 6 INCH



Locking C-Clamp W/Swivel Pad, 6 In, **Specifications:** Size: 6", Capacity (In.): 2, Throat Depth (In.): 1 1/8, Clamping Force (Lb.): 500, Locking Mechanism: Release Lever, Screw Mechanism: Adjusts Clamping Pressure, Pliers

Length (In.): 7 11/16, Finish: Nickel Plated, Material: Hardened Carbon Steel, Standards: ASME B107.36-2002 ..... P/N 12-02422 ..... \$18.60

TO



# CLAMPS – SHEARS - NIBBLERS



## INDUSTRIAL FABRIC SHEARS

Wiss No. 20W heavy-duty shears, ideal for cutting fiberglass cloth and all fabrics. Hot drop-forged steel.

Right Hand Shears ..... P/N 01-00397 ..... **\$39.85**  
 Left Hand Shears ..... P/N 01-00398 ..... **\$39.95**



## FISKARS 9" PINKING SHEARS

These orange handled pinking shears keep your projects from unraveling at the seams.

Ergonomic handles give comfort and control, extended lower blade to help lift fabric while cutting. Adds functional pinking edge to prevent fabric fraying. Tested to ensure clean cutting even through multiple layers of cloth to the tip..... P/N 12-02942 ..... **\$28.55**



## OFFSET KEVLAR CUTTING SHEARS

Although Kevlar has many advantages over conventional fiberglass weaves, it is very difficult to cut. Special scissors have been

developed to facilitate cutting. These scissors have a wear -resistant coating which is metallurgically bonded to the steel substrate. The coating will not chip or peel off and can be sharpened.

Model WR-10E-4 Shears ..... P/N 01-00341 ..... **\$85.75**



## ECONOMY KEVLAR SCISSORS

GINGHER® Scissors cut Kevlar exceptionally well. Lightweight, extremely sharp and comfortable, these 2 1/2 oz. scissors are perfect for use during the lay-up. Soak in acetone for easy clean-up. We recommend saving one pair for only cutting Kelvar®, and keeping a second pair for general use..... P/N 01-00342 ..... **\$47.85**



## TOP FLITE HEAT GUN

This Top Flite Heat Gun is a handy tool that gives you a fast, drum-tight, mirror smooth finish. It's ideal for MonoKote, EconoKote and other heat-shrinkable covering films to get a professional finish with less time & effort. This heat gun has a One-Year Warranty . P/N 12-03703 ..... **\$28.75**



## QUICK GRIP BAR CLAMPS

From the makers of Vise-Grip tools comes the amazing new Quick-Grip bar clamp. The unique pistol-grip handle lets woodworkers hold the clamp and adjust jaw pressure with just one hand. One finger unlocks the Quick-release trigger. Features include positive locking action to hold work tight, strong, lightweight high-tech construction, instant adjustable clamping pressure, large, pliable pads that won't mar work, and a variety of jaw openings. It will "single-handedly" change the way you think about bar clamps!

Part No.	Jaw Opening Size (mm)	Price
12-03910	6"/150	<b>\$21.50</b>
12-03920	2"/305	<b>\$23.50</b>



## STEEL SPRING CLAMPS

This nickel-plated steel spring clamp is ideal for gluing, assembly and welding work. The comfortable vinyl coated handle makes it easy to open the clamp for 2" wide placement and the tempered spring ensures a strong hold. Keep several on hand for all projects.

P/N 12-03778 ..... **\$3.95**

## KETT PORTABLE POWER SHEARS



### DOUBLE-CUT SHEARS KD-400

Variable-speed, double-cut shears feed quickly and quietly, without warping or bending your finished piece (distortion is in the waste strip). It easily follows a scribed line. The materials edges are not hardened or burred, so you get maximum use of a sheet. The swiping action of blades seals the edge of coated metals.

These shears cut C.R. mild steel up to 18 gauge in straight or contour lines at over 300 inches per minute, most grades of stainless, aluminum to .080 and plastic or Formica up to 3/32" thick. These shears are also available with a contour cutting blade 60-21C to cut tighter curves and the HS blade 60-21HS for cutting foam filled doors.

P/N 12-03806 ..... **\$258.00**



### ELECTRIC MODEL K-442

Kett's all-purpose 16 gauge power shears cut up to 16 gauge mild steel, cleanly and easily, without burring or buckling the material. These lightweight shears, designed for durability, feature a variable speed motor and fill the gap between Kett's light duty and heavy duty power shears ..... P/N 12-01153 ..... **\$262.95**



### PNEUMATIC MODEL P-500

Equipped with air-metering trigger for variable-speed cutting, so that initially the blade can be operated slowly to prevent chattering at start of cut. 2600rpm. Maximum cutting speed, 180" per min. Wt. 3 lbs. Over-all length, 9".

P/N 12-01158 ..... **\$227.95**

## KETT KD440 14GA POWER SHEARS



Cuts 14 gauge mild steel and most grades of stainless to 16 gauge. Cuts over 150 inches/minute, leaving a clean, flat sheet, ready to fabricate. Distortions are absorbed in an easily disposed of waste curl, leaving the sheet cool and free of burn, chips, and burrs. The cutting blades are finest high speed steel. (Also cuts sheet metal, Stainless and Plastics).

P/N 12-00676 ..... **\$234.95**



## KETT KD-446R PROFILE SHEARS

Cuts profile and flat materials up to 18 gauge, spiral duct, wire mesh and many other materials. Can cut tight curves at a radius of three inches. The blades are made of high quality steel, heat treated and precision ground. The motor is variable speed up to 2500 RPM and cuts up to 28 feet per minute.

**Features:** • 5.0 amp pistol grip • Replaceable A-2 tool steel shear blades. • These snips cuts C.R. mild steel 18 gauge and lighter, wire mesh to 18 gauge, spiral pipe, metal studs and corrugated metal  
 Left Hand ..... P/N 12-02509 ..... **\$327.00**

## CORDLESS ELECTRIC KEVLAR SCISSOR KIT



The USATCO cordless electric kevlar scissor kit cuts aramid fibers, kevlar and other tough materials! Lightweight and maneuverable with superior ergonomic design. Requires much less effort than cutting manually. Short rapid strokes for intricate work. This can be operated with cord and adapter for unlimited cutting time.

P/N 12-02630 ..... **\$190.75**

## CUSHIONED CABLE CLAMP (ADEL CLAMP) INSTALLATION PLIERS



These special pliers allow for greatly simplified installation of single or multiple Adel type cushioned clamps. The pliers securely hold the aligned clamps in position, allowing for easy installation of securing hardware. Each kit includes special plier, alignment awl, and simple instructions ..... P/N 12-02017 ..... **\$34.75**

TO

# VAMPLIERS

## VAMPLIERS MINI SCREW REMOVAL PLIERS



- Remove stripped/rusted/corroded/stuck/one-side/Torx screws, nuts and bolts.
- Designed with VamPLIERS™ Technology.

- Target screws can be extracted using top jaw or side jaw.
  - Perfect slim nose for access confined spaces.
  - ESD safe handle (1x106 ~ 107 O • sq)
  - Ergonomic elastomer handles for unmatched comfort.
  - RoHS Compliant for use in various industries.
  - Made in Japan from high carbon stainless steel.
- P/N 12-04717 ..... **\$26.95**

## VAMPLIERS PRO SCREW REMOVAL PLIERS



- Remove stripped/rusted/corroded/stuck/one-side/Torx screws, nuts and bolts.
- Designed with VamPLIERS™ Technology.

- Target screws can be extracted using top jaw or side jaw.
  - Ergonomic elastomer handles for unmatched comfort.
  - Wire cutters hardened to HRC58±2 (Rockwell standard).
  - RoHS Compliant for use in various industries.
  - Made in Japan from high carbon stainless steel.
- P/N 12-04718 ..... **\$39.95**

## VAMPLIERS SCREW REMOVING PLIERS



The amazing Vampliers doubles as a regular pair of pliers, as well as a handy and effective screw remover. It uses a patented vertical and horizontal serration pattern to clamp onto screws (even if they are completely stripped) and remove them. Of course, it can also be used as a regular pair of pliers which features built-in wire cutters and wire strippers.....P/N 12-04716 ..... **\$29.95**

## VAMPLIERS SLIP JOINT STRIPPED SCREW REMOVAL PLIERS



These Slip Joint VamPLIERS have the signature concave shaped jaws with vertical and horizontal serrations designed inside of the jaws. This which gives the perfect bite around a stripped/rusted/corroded screw, nut or bolt for extraction. Compared to its predecessor, these jaws are wider to tackle bigger problem screws. Adding to its big bite is the "slip-joint" feature made with reversed body structures that allows the jaws to adjust and firmly take on bigger screws, nuts, and bolts!

P/N 12-04719 ..... **\$34.95**

## VAMPLIERS KIT



VamPLIERS have a signature concave shaped jaws with vertical and horizontal serrations designed inside of the jaws. This which gives the perfect bite around a stripped/rusted/corroded screw, nut or bolt for extraction.

This kit features a pair of the VT001-8 VamPLIER Pro Pliers, VT001-5 Mini Pliers, and the VT001-7S/J VamPLIER Slipjoint to cover all your rusted screw problems.

P/N 12-04720 ..... **\$119.95**



## VAMPLIER TOOL POUCH

Keep your VamPLIERS all in one place. This handy case has five individual pouches to hold your tools, and rolls up to save space in your toolbox. Note: Does not include VamPLIERS.

P/N 12-04721 ..... **\$9.95**

## VAMPLIERS® SCREW REMOVAL PLIERS

Remove stripped/rusted/corroded/stuck/one-side/Torx screws, nuts and bolts. Designed with patented VamPLIERS® Technology. Long Nose ideal for hard-to-reach screws up to 5.5mm in diameter and 2.2mm in height. Wire cutters hardened to HRC60±2 (Rockwell standard) to handle tough screws. Serrations in between grips used as wire pullers. Top teeth are inter-meshed for non-slip grip. Ergonomic elastomer handles for unmatched comfort. T-Shaped forged handles prevent the grip covers from twisting or slipping off. RoHS compliant for use in various industries. Made in Japan from high carbon stainless steel.

Description	Part No	Price
Long-Nose 7.5 Inch Screw Extraction Pliers	12-05052	<b>\$39.95</b>
2 Piece Set S2A 5 Inch Mini and 6.25 Inch	12-05053	<b>\$53.95</b>
2 Piece Set S2B 6.25 Inch and 7 Inch	12-05054	<b>\$59.95</b>
2 Piece Set S2C 7 Inch and 8 Inch	12-05055	<b>\$71.85</b>
2 Piece Set S2D 6.25 Inch and 8 Inch	12-05056	<b>\$66.85</b>
3 Piece Set S3A 5 Inch Mini, 6.25 Inch, and 7 Inch	12-05057	<b>\$87.75</b>
3 Piece Set S3B 6.25 Inch, 7 Inch, and 8 Inch	12-05058	<b>\$99.60</b>
3 Piece Set S3C 5 Inch, 6.25 Inch, and 8 Inch	12-05059	<b>\$91.95</b>
4 Piece Set S4AP 5 Inch Mini, 6.25 Inch, 7 Inch, and 8"	12-05061	<b>\$134.70</b>

## VAMPLIERS® RECESSED SCREW EXTRACTOR WITH 2-IN-1 BIT SET



High Quality Screw Extractor for recessed stripped screws. Easily removes stripped or damaged flathead, countersunk, and recessed screws. Saves time – No preparation required. No messy drilling required. High-Torque handle grip. 2-in-1 bit set for slightly-damaged and heavily-damaged screws.

P/N 12-05062 ..... **\$39.95**

## VAMPLIER SHEARS



The VT-3949 Eshears are made of high carbon stainless steel with Molybdenum and Vanadium blades, vacuum hardened and precision-ground for a long lasting edge. These sport modern ergonomic handles that are made of Nylon with 30% fiberglass and work for both the right and left handed user.

P/N 12-04997 ..... **\$24.95**

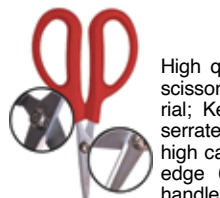
## VAMPLIER ALL-IN-ONE ELECTRICAL SHEARS / CRIMPER



An electrician's choice shear, the All-In-One Eshears are made of high carbon steel with molybdenum and Vanadium micro-serrated blades, which are vacuum hardened for everlasting durability. They are also outfitted with sporty ergonomic handles made of Nylon and 30% fiberglass for comfort and designed for ambidextrous use .....

P/N 12-04996 ..... **\$29.95**

## VAMPLIER 6.25" KEVLAR CUTTING SHEARS



High quality scissors for cutting Kevlar thread. These scissors are specially designed for cutting Kevlar material; Kevlar thread in particular. One blade is micro-serrated along the whole edge. The blades are made of high carbon alloy steel with Molybdenum and Vanadium edge 60~62, cutting edge hardness HV1200. The handles are especially designed for firm grip and to ease repetitive cutting action.....

P/N 12-04994 ..... **\$19.95**

## VAMPLIER SUPER COMBO SCISSORS



A high quality multi-use 4-in 1 innovative scissors for industrial and home use. The cutting edges are sharp and micro-serrations provide a firm grip during cutting.

P/N 12-04995 ..... **\$29.95**

## VAMPLIER 8" KEVLAR CUTTING SHEARS



These shears are ideal to cut materials made from aramid and para-aramid Fibers such as Kevlar, Dyneema, Vectran, and Technora in rope, ribbon, tape or fabric form. Its blades are made of high carbon alloy steel from Japan and are infused with Molybdenum and Vanadium (HRC 60~62) through a proprietary process to achieve a level of hardness (HV1200) to cut strong materials.....

P/N 12-04993 ..... **\$39.95**

TO



# COMPARTMENT BOXES – TOOLS

## 16 COMPARTMENT STORAGE BOX



Easy glide large and small racks are designed to accommodate large and small compartment boxes and create convenient, compact storage systems. Boxes can be removed and transported to the job site. Rugged plastic inserts and scoop bottoms fit neatly into steel outer shell boxes. Optional bases raise racks off the floor.

• Compartment: 16 • Weight: 8 lbs • Material: Prime cold rolled steel • Interlocking and Welded Construction • Colors: Durable gray powder coat finish • Depth: 12" • Height: 3" • Width: 18"  
P/N 12-02623 .....\$40.50

## 21 COMPARTMENT STORAGE BOX



Easy glide large and small racks are designed to accommodate large and small compartment boxes and create convenient, compact storage systems. Boxes can be removed and transported to the job site. Rugged plastic inserts and scoop bottoms fit neatly into steel outer shell boxes. Optional bases raise racks off the floor.

• Compartment: 21 • Weight: 8 lbs • Material: Prime cold rolled steel • Interlocking and Welded Construction • Colors: Durable gray powder coat finish • Depth: 12" • Height: 3" • Width: 18"  
P/N 12-02622 .....\$40.50

## 32 COMPARTMENT STORAGE BOX



Easy glide large and small racks are designed to accommodate large and small compartment boxes and create convenient, compact storage systems. Boxes can be removed and transported to the job site. Rugged plastic inserts and scoop bottoms fit neatly into steel outer shell boxes. Optional bases raise racks off the floor.

• Compartment: 32 • Weight: 8 lbs • Material: Prime cold rolled steel • Interlocking and Welded Construction • Colors: Durable gray powder coat finish • Depth: 12" • Height: 3" • Width: 18"  
P/N 12-02621 .....\$40.50

## EZ GUIDE DRAWER RACKS



Easy glide large and small racks are designed to accommodate large and small compartment boxes and create convenient, compact storage systems. Boxes can be removed and transported to the job site. Rugged plastic inserts and scoop bottoms fit neatly into steel outer shell boxes. Optional bases raise racks off the floor.

• Weight: 20 lbs • Material: Prime cold rolled steel • Interlocking and Welded Construction • Colors: Durable gray powder coat finish • Depth: 15" • Height: 8-1/8" • Width: 20".....P/N 12-02624 .....\$139.75

## EASY GLIDE RACK BASE



Rack base (20 5/8" W X 15 5/8" H X 12 5/8" D; weight 13 lbs.) is available for use with PN# 12-02626.

• Weight: 13 lbs. • Material: Prime cold rolled steel • Colors: Durable gray powder coat finish • Depth: 12-1/8" • Height: 15-1/8" • Width: 20-3/8"  
P/N 12-02627 .....\$53.75

## AEROSPACE VALVE CORE REMOVAL TOOL



Used for rapid and safe tire deflation, Tool threads on valve stem, Releases and traps the valve core within the tool but exhausts the air through ports, Prevents Injury to Technician and FOD (stops the valve core from becoming a missile), and Air exhausts away from technician. Made In the USA **Small:** Examples of applicable aircraft: Boeing 757, 737 Classic/NG, 727, 717, MD88, Airbus A320 Series, Bombardier and Embraer Regional Jets, General Aviation piston and jet aircraft: Cessna piston, Beechcraft piston and turbine (Bonanza and King/Queen Air), Pilatus PC-12 etc. **Large:** Examples of applicable aircraft: Boeing 747, 767, 777, 787, DC10, MD11, Airbus A300, A330, and A380.

Small.....P/N 12-03428 .....\$57.75  
Large .....P/N 12-04868 .....\$65.75

## GRYPMAT NON-SLIP ANTI-STATIC TOOL MAT



The GrypMat by Grypshon Industries is made from a rubberized, flexible, non-marring, non-slip, anti-static material. GrypMat is designed to give mechanics a safe and secure surface to Place tools without worrying about damaging the equipment they are working on. GrypMat works where other tool trays won't, such as the curved surfaces found on aircraft wings and bodies. Using GrypMat reduces Foreign Object Damage (FOD), lowers maintenance times, prevents scratches and damage, and helps mechanics do their jobs.

Product Specs: Non-flammable. To clean product use damp cloth or alcohol prep pad. Periodic cleaning will provide better grip on Surfaces.

Small 6" x 12" .....P/N 12-04880 .....\$29.99  
Medium 8" x 12" .....P/N 12-04879 .....\$44.99  
Large 12" x 22" .....P/N 12-04878 .....\$59.95  
Trio (All 3 Sizes) .....P/N 12-04982 .....\$119.95

## BOLTSTER FLEXIBLE BOLT AND FASTENER ORGANIZER



The Boltster is a must have for shops, aviation mechanics, and anyone looking to streamline their wrenching projects.

P/N 12-05554 .....\$29.45

## BOLTSTER FLEXIBLE BOLT AND FASTENER ORGANIZER



The Bitster was built for accountability. The Bitster is a must have for tradesmen, mechanics, electronic repairmen, technicians, aviation repair, and anyone else looking to streamline their projects. ....P/N 12-05555 .....\$14.25

## CLAMPTITE TOOLS

### 4-3/4 INCH STAINLESS STEEL / ALUMINUM TOOL EXTENDS TO 7 INCH LONG



With stainless steel components and an aluminum body, this tool was designed for the outdoors man, fisherman and farmer who would have it around a corrosive environment. The stainless steel components are stronger and you can just toss it in the tool box that is in the truck, boat or tractor. The tool is great for emergencies and tough wire jobs. This is the original marine grade tool.

4 3/4" Long - 7" Fully Extended.....P/N 12-02633 .....\$39.95

### 4-3/4 INCH PLATED STEEL / ALUMINUM TOOL EXTENDS TO 7 INCH LONG



Plated steel components with aluminum body. This tool was designed with the mechanic in mind who would have it around grease, oil and a controlled environment (non corrosive). Great for the CV boots, fuel line, thermostat housing, radiator hose and air hose type repairs.

4 3/4" Long - 7" Fully Extended.....P/N 12-02634 .....\$29.95

### 4-3/4 INCH STAINLESS STEEL TOOL WITH BRONZE NUT EXTENDS TO 7 INCH LONG



This tool is machined stainless steel with a one piece body and nose and bronze nut. The tool was designed with the detailed craftsman who need a long lasting tool able to hold up to extremely tough wire while clamping, binding and pulling the wire until the job is complete.

4 3/4" Long - 7" Fully Extended.....P/N 12-02632 .....\$69.95

## TOGGLE CLAMPS



Easier to use than regular C-clamps. Quick-release style. Removable rubber pads on each screw.

Gap: 1" 1-1/2" Reach.  
P/N 12-02863 .....\$14.65

## QUICK ANGLE - MEASURING ANGLES AND PITCHES



A multi-functional revolutionary new tool for measuring angles and pitches. It's rare to find one tool that will accomplish so much (miter cuts for one and duplications for another). Use this one-in-all tool to compliment and enhance your tool box.....P/N 12-02458 .....\$35.80

TO

# TOOLS

## AMP PRO CRIMPER II HAND TOOL

The PRO-CRIMPER II Hand Tool provides the versatility of general-purpose service of general-purpose service tools along with the reliability and ease of use of many premium-grade tools. For versatility, 75 die sets (available separately) are interchangeable, including those for open-barrel contacts and terminals. Additionally, many of these die sets have multiple cavities for crimping a variety of contact or terminal sizes. For reliability, the tool is constructed of durable high carbon steel with extra-strength pivot pins. And, for user convenience, the PRO-CRIMPER II Hand Tool particularly excels. Ratchet control is provided for complete crimp cycling; this helps eliminate partial crimps. Also, an emergency ratchet release allows the user to open the tool jaws at any time during the crimp cycle. To reduce handle force, the linkage was designed to match the forces required to crimp our largest insulated terminal. The result is dramatically less hand force than comparable tools. Also, the angled had and specially designed handles provided comfortable operation. Locator are mounted on pin-and-socket style tools. They help properly locate the contact in the die set, provide a wire stop, and help minimize contact rotation and bending during crimping.

PROCRIMPER II 58433-3.....P/N 12-01379 .....**\$116.75**  
 O-CRIMP DIE 58435-1.....P/N 12-01380 .....**\$243.95**  
 HEX CRIMP DIE 58436-1 .....P/N 12-01381 .....**\$198.75**  
 PIN & SOCKET 58495-2.....P/N 12-01382 .....**\$189.95**

## KOUL SINGLES STAINLESS BRAIDED HOSE ASSEMBLY TOOLS

Since the invention of stainless braided hose, racers and mechanics have been fighting the problem of installing it into the socket part of the assembly. If your lucky and get a clean cut on the end of that hose, you might get it in. Most of the time a little fuzz appears on the hose end and the battle begins. It is not only time consuming, it can get bloody. This tool is the solution that makes the assembly a snap. Manufactured of a high tech composite, it is virtually indestructible. No need to worry about vise marks or wearing out. Just insert the socket into the tool, twist the hose in, and in less than 10 seconds you have it assembled. You can repeat this several times without recutting the hose end. The tool can pay for itself the first time you don't have to scrap some hose because it got too short trying to clean up the end. You'll be amazed at the amount of time you'll save.



**SMALL KIT** - The Small kit contains the capsules to install -4, -6, -8 hose into their respective sockets. To accommodate all the different manufacturer's fittings, spacers and sleeves are required to tighten up the some of the sockets within the capsule. For the tool to perform at its best, the socket needs to be a snug fit in the funnel. The two spacers are used in some -6's and 8's. If the socket seems loose in the tool, use a spacer to tighten it up. In the small kit, only the Russell -4 needs a sleeve. Not for use with Teflon-style hose.....P/N 12-01061 .....**\$73.50**

socket needs to be a snug fit in the funnel. The two spacers are used in some -6's and 8's. If the socket seems loose in the tool, use a spacer to tighten it up. In the small kit, only the Russell -4 needs a sleeve. Not for use with Teflon-style hose.....P/N 12-01061 .....**\$73.50**



**LARGE KIT** - The Large kit contains the capsules to install -10, -12, -16 hose into their respective sockets. To accommodate all the different manufacturer's fittings, spacers and sleeves are required to tighten up some of the sockets within the capsule. For the tool to perform at its best, the socket needs to be a snug fit into the funnel. In the 1016 kit, all the -16's except Russell's require the sleeve and a rear spacer. See the instructions in the case for the proper spacer number. Most of the -10's and 12's\* will use a spacer. Not for use with Teflon-style hose. \* -12 is a stainless washer.....P/N 12-01062 .....**\$88.20**

the 1016 kit, all the -16's except Russell's require the sleeve and a rear spacer. See the instructions in the case for the proper spacer number. Most of the -10's and 12's\* will use a spacer. Not for use with Teflon-style hose. \* -12 is a stainless washer.....P/N 12-01062 .....**\$88.20**



**HOT ROD KIT** - The Hot Rod kit contains the capsules to install -6, -8, -10 hose into their respective sockets. To accommodate all the different manufacturer's fittings, spacers and sleeves are required to tighten up some of the sockets within the capsule. For the tool to perform at its best, the socket needs to be a snug fit into the funnel. Spacers are used in some -6's, -8's, and most -10's. If the socket seems loose in the tool, use a spacer to tighten it up. See the instructions in the case for the proper spacer number. Not for use with Teflon-style hose. P/N 12-01898 .....**\$78.40**

Spacers are used in some -6's, -8's, and most -10's. If the socket seems loose in the tool, use a spacer to tighten it up. See the instructions in the case for the proper spacer number. Not for use with Teflon-style hose. P/N 12-01898 .....**\$78.40**



**THE PRO COMBO** - The Pro Combo is a special offer of BOTH the #468 and #1016 kits listed above. Pros need both kits to handle all the hose sizes in a race car. Ordering this combination will save \$15.00. Not for use with Teflon-style hose. P/N 12-01897 .....**\$147.00**

## PRO CRIMPER III HAND CRIMPING TOOL

Ratchet tool for panel mount free hanging connectors, open barrel pins and sockets with dies 16-28 AWG. The PRO-CRIMPER III Hand Tool provides the versatility of general-purpose service of general-purpose service tools along with the reliability and ease of use of many premium-grade tools. To reduce handle force, the linkage was designed to match the forces required to crimp large insulated terminals. The result is dramatically less hand force than comparable tools. Model: #584951.....P/N 11-14450 .....**\$219.00**



## EXPRESS PORTABLE AIRCRAFT VACUUM

Express Vacuum Features Weighs only 4 pounds Powerful 79 CFM/110V Motor& made in the USA. Portable - Weighing just 4 pounds, the Atrix Express Plus is one of the lightest portable vacuums available. Convenient - The Express Vacuum is easy to operate. The replacement cartridge filters install with a snap and

without mess. And, an inexpensive two-stage bag/shell filter option is available.

Powerful - Atrix has built in a powerful motor making the Express Plus as powerful as most of the larger service vacuums.

Safe - The Express Vacuum comes with an ESD safe hose, ESD safe round dust brush, ESD safe gooseneck, ESD safe crevice tool and power cord. The complete system is grounded from the tip of the hose through the end of the power cord.

Filtration - Standar filter with a 0.3 micron retention - Ideal for soot, dust, laser toner and other fine particulate.

Toner/ESD Vacuum 110V.....P/N 12-01058 .....**\$126.75**

Toner Toner Filters 2 Pk.....P/N 12-01059 .....**\$24.55**

Vacuum Carrying Bag.....P/N 12-01454 .....**\$24.90**

## XCELITE ROUND BLADE SLOT SCREWDRIVER



- Xcelite 1/8 inch x 10 inch length, Regular Round Blade Screwdriver, Amber Handle
- 1/8" x 10" Regular Round Blade Screwdriver, Amber Handle

**Features:** • Regular round blade screwdriver • Blades made of AISI 6150 chrome vanadium steel, plated for protection • Handle color: Amber P/N 12-04776 .....**\$13.50**



## AIRLOC CROSSPIN INSTALLATION TOOL

This tool accommodates the two series (diameters) of Airloc (A-Spec) studs commonly found in Beechcraft and Raytheon aircraft: #2 and #5. It has a seat for each series so the cross pin

can be installed and centered and operates by placing the pin into the appropriate hole where it should remain seated. Then compress the pliers to force the cross pin into the stud. Once completely clamped, the pin will be perfectly centered in the stud. Comes with complete instructions. P/N 12-04808 .....**\$219.00**

## SPEEDKIT AERO TOOL KIT



It provides the most essential tools in an affordable and compact package. Included are three combination wrenches, three hex wrenches, a 5-in-1 screwdriver, 11/32" nut driver, tire pressure gauge, and our highly competent diagonal cutters. Everything is housed in a durable textile pouch with extra room for additional items as needed. Weighing in less than a pound (2 kg.) and measuring only 7" x 2" x 2", even Cub owners can find a place for the SPEEDKIT.

**Features:** • Designed specifically for General Aviation aircraft • Includes the most commonly used items • Professional grade, lifetime guaranteed tools • Super compact and lightweight - easily fits into a flight bag. P/N 12-04750 .....**\$32.50**

## KOUL SINGLES

- 6 Koul Single .....P/N 12-01928 .....**\$29.40**
- 8 Koul Single .....P/N 12-01929 .....**\$29.40**
- 10 Koul Single .....P/N 12-01930 .....**\$29.40**





# TORQUE WRENCHES

## FULLY RELEASING TORQUE DRIVER



The MD1F35H is an adjustable driver with a range of 5 to 35 lb. in. Body is constructed of steel and anodize aluminum, has a CNC machined knurled grip and 1/4" male drive and comes packaged in a plastic box. The MDP1F35 is a preset model ideal for repetitive assembly operations.....P/N 12-00530 .....**\$228.95**

## DIAL TYPE TORQUE WRENCH



Dial Type Wrenches provide unmatched reliability, accuracy and durability for applications where torque measurement is extremely critical. Models feature a memory pointer that indicates the highest torque achieved during application of torque. 2% accuracy clockwise and counterclockwise. All wrenches are made in the USA of all steel construction for the highest quality. Both models come with a plastic storage box and a calibration compliance certificate.

3/8" sq.dr. / 300 lb.in. ....P/N 12-00531 .....**\$225.95**  
 3/8" sq.dr. / 600 lb.in.-50 lb. ft. ....P/N 12-00532 .....**\$223.95**

## MICROMETER ADJUSTABLE CLICK WRENCH



Engineered, precision bearing surfaces extend the calibrated life of these micrometer torque wrenches to as many as 60,000 cycles or more and ensure the most reliable performance possible. In addition to flawless operation at release, calibration is completely external, unlike traditional mechanism that require disassembly and the replacement of blocks and shims. Both models come with a plastic storage box and a calibration compliance certificate.

3/8" sq.dr. / 40-200 lbs. In. ....P/N 12-00533 .....**\$219.95**  
 3/8" sq.dr. / 20-100 lbs. In. ....P/N 12-00534 .....**\$219.95**

## QUICK-GRAB RATCHET-ACTION WRENCHES



You'll have the advantages of an open-end wrench, plus the convenience of ratchet action. The jaws snap open to slip onto fittings and fasteners; then, they close tightly for ratcheting. Wrenches require a 30 degree handle swing to turn a fastener. All are made of hardened steel with a black finish.

Size	Part No.	Price
5/8 Inch	12-00913	<b>\$42.60</b>
3/8 Inch	12-03238	<b>\$36.60</b>
1/2 Inch	12-03239	<b>\$28.90</b>
9/16 Inch	12-03240	<b>\$43.75</b>

## ADJUSTABLE TORQUE SCREWDRIVER



Bi-directional Accuracy of +/- 6% Indicated Value from 20% to 100% of capacity meets or exceeds ASME B107.300-2010 and ISO 6789. Incredibly durable; many owners have experienced a service life of 10+ years! Operator cannot overtorque. Clutch releases automatically when desired torque has been achieved. Scale on shaft is marked in dual incrementation (in. lbs. and NM) on Cal 36/4, kgf·cm on CAL 40. Magnifying lens improves view of clearly engraved scale. To operate, simply dial torque setting and insert bit. Uses standard bits, adapters and sockets. Anti-backlash design enhances repeatability. Comes with FREE certificate of calibration from our ISO/IEC 17025 Accredited Calibration Laboratory. CAL 36/4 can be ordered with certification for English or SI units of measure..P/N 12-03398 .....**\$264.95**

## MICROMETER TYPE TORQUE WRENCH



The wrench is equipped with a reversible ratchet head or plain (non-ratcheting) head may be used in both right or left hand directions. The drive head accommodates sockets, extensions, crowfoot adapters, and other attachments to fit a multitude of fasteners both in English and Metric.....P/N 15-05531 .....**\$160.75**

## DIAL TORQUE WRENCH



- Capacity: 300 in. lbs.
- Graduation: 5 in. lbs.
- Sq. Dr.: 3/8"
- Length: 10.3"
- Weight: 1.2 lbs. ....P/N 12-03399 .....**\$275.95**

## MICROMETER ADJUSTABLE TORQUE WRENCHES



- Range: 40-200 in.lbs.
- Graduation: 2 in. lbs
- Sq. Dr.: 3/8" .....P/N 12-03403 .....**\$258.95**

## MICROMETER ADJUSTABLE INTERCHANGEABLE TORQUE WRENCHES



- Range: 30-150 in. lbs.
- Graduation: 2 in. lbs .....P/N 12-03404 .....**\$207.95**

## 3/8 INCH SQUARE DRIVE RATCHET INTERCHANGEABLE HEAD



Note: Must be used with part numbers 12-03404 or 12-03405 and 12-03407. See Accessories. This series is designated "SDRT". Ideal for use when a socket is to be used and there is significant rotation of the fastener required to complete the tightening: A socket can be used to engage the fastener. A higher amount of rotation will be needed to attain the desired torque.

P/N 12-03406 .....**\$94.75**

## 3/8 INCH SQUARE DRIVE INTERCHANGEABLE HEAD



Note: Must be used with part numbers 12-03404 or 12-03405 and 12-03406. See Accessories. This series is designated "SD". Ideal for use when a socket is to be used and there is significant rotation of the fastener required to complete the tightening: Calibrating the wrench on a torque tester, A socket can be used to engage the fastener, A small amount of rotation will be needed to attain the desired torque.

P/N 12-03407 .....**\$47.50**

TO

# WRENCHES - PLIERS - FEIN MULTIMASTER

## REVERSIBLE RATCHETING TAP WRENCH



No. 0 to 1/4" Reversible Tap Wrench - General's Reversible Tap Wrenches feature a fine-tooth ratcheting mechanism which adjusts on the fly for right - and left-hand use. In addition, the ratchet can be locked to transform the tool into a standard tap wrench. The self-centering, hardened-steel jaws assure the formation of straight threads in your work piece. Although designed mainly for holding taps, the Reversible Tap Wrench also works great with reamers, drill bits, screw extractors and other hand-turned tools.

P/N 12-03352 ..... **\$34.50**

## 60 PIECE DRILL BIT SET



60 pc. Bright - Jobber Length - 118° Point - Wire Sizes - 95090850. Excellent general purpose drill bit. Precision CNC machined for faster, more efficient chip removal. Industrial-Grade NAS High Speed Steel (HSS). Heavy duty metal storage case. Numbered metal tip-out indexes keep bits organized. Made in the USA. Material applications: aluminum, copper, wood, plastic Size range: Wire #1-#60 P/N 12-04760 ..... **\$116.75**

## AIR CHISEL TOOLS



Aircraft structures are sensitive to tool damage during manufacture, servicing and repair but the numerous plastic and composite materials available in our products are able to deliver the levels of strength and durability required of tools systems whilst

conforming to aircraft manufacturer specifications.

Strong ribbed backing air chisels that are easily reshaped. Designed to fit standard air chisel tools with a 0.401" diameter shank, this scraper system maintains the damage reduction and non-marring properties of our hand tools but is suited to heavy-duty and higher volume material removal while reducing operator fatigue.

### GENERAL SCRAPER CHISEL TOOLS

Standard width air chisel scraper. General Scrapper Chisel Tool - Soft P/N 12-02282 ..... **\$7.50**



### FLAT SCRAPER CHISEL TOOLS

Steep angle for air chisel scraping delicate, narrow jobs that require less of a wedging angle. Flat Scrapper Chisel Tool - Soft P/N 12-02284 ..... **\$7.50**



### BOX CORNER SCRAPER CHISEL TOOLS

Ideal shape for air chisel scraping tight into corners, removing material on both sides surface at once. Box Corner Scrapper Chisel Tool - Soft P/N 12-02286 ..... **\$7.45**



### LARGE HEAVY DUTY FLAT AIR CHISEL TOOL

Wide air chisel scraper for larger areas of removal. Large Heavy Duty Flat Air Chisel Tool- Hard P/N 12-02288 ..... **\$9.95**



### NARROW HEAVY DUTY FLAT AIR CHISEL TOOLS

Narrow air chisel scraper for tight, confined areas of removal. Narrow Heavy Duty Flat Air Chisel Tool- Hard P/N 12-02289 ..... **\$8.75**



## FEIN MULTIMASTER START PLUS



The universal system for interior construction and renovation with the basic accessories for the most common applications.

Kit Includes: 1 FEIN Multimaster FMM 250, 1 backing pad, 20 sanding sheets (5 each of grits 60, 80, 120, 180), 1 Universal E-CUT saw blade (1 3/4 in), 1 HSS segment saw blade, 1 rigid scraper blade, 1 wrench and mounting bolts, and 1 tool case. Weight: 2.6 lbs.

P/N 12-02962 ..... **\$210.95**



## HOSE PINCH-OFF PLIERS



Great for radiator and heater hose, vacuum and fuel lines. Tested to 50,000 cycles without failure for reliable performance. Patented clamping mechanism - No adjustment needed -- Simply squeeze to lock Cushion handgrips for comfort and control. Available in three sizes. Made in U.S.A.

Hose Pinch-off Pliers 1-1/4" OD Cap. ....P/N 12-00524 ..... **\$28.50**  
Hose Pinch-off Pliers 2-1/2" OD Cap. ....P/N 12-00525 ..... **\$32.75**  
Hose Pinch-off Pliers 3/4" OD Cap .....P/N 12-00526 ..... **\$21.50**

## HOSE CLAMP PLIERS



Specially designed for applying and removing spring hose clamps. The recesses in the jaws grip the ends of the spring so it cannot slip or twist. Grips with either end or side of jaws for reaching into tight places.


P/N 12-01154 ..... **\$19.65**

TO



# SAFETY WIRE TWISTERS - SAF-T-BLOKS


## MILBAR SAFETY WIRE TWISTERS

 Three-In-One Tool: Pliers, twisters and cutters. Used on wire sizes .060" or less. Grips wire into 30° slip proof angle. One-hand operation. Squeeze, press button and it locks. Squeeze again and it unlocks. Made in USA.


With Manual Return		
Description	Part No.	Price
Standard Nose - 9" Long	12-00915	\$75.99
Diagonal Nose - 6" Long	12-00914	\$77.90
With Automatic Return - Non Reversible		
9" Long	12-00916	\$77.85

## MILBAR WIRE TWISTERS


### CUSHION THROAT MODEL 25W & 26W

 Milbar is the world's leading brand of Wire Twister Tools and Kits. Designed for the professional mechanic, Milbar forgings are made from high carbon alloy steel and are controlled throughout the manufacturing process to exacting engineering specifications. Each tool passes a series of rigorous quality assurance tests which ensure function and reliability under the most demanding environments. (Black oxide finish) TYPES AND STYLES - Wire Twisters come in 6" Diagonal Configuration. The 25W model incorporate a Cushion Throat to catch clipped wire ends, preventing FOD (foreign object damage). The Spring Return feature automatically retracts the twist rod to ease and speed the work. 25W-NOM Size 6" ..... P/N 12-01631 ..... \$99.75  
6W-NOM Size 9" ..... P/N 12-02018 ..... \$102.75

### ECONOMY MILBAR WIRE TWISTERS MODEL 42W & 45W

 Milbar Safety Wire Pliers 45W 6" & 42W 12" Reversible- Automatic Return Milbar Safetytwist Reversible Wire Twister with Automatic Return. Milbar 45W Reversible 6" Safety Wire Pliers have an overall length of 8-3/4" and wire capacity of .041" ..... P/N 45W ..... \$89.95  
Milbar 42W Reversible 12" Safety Wire Pliers have an overall length of 12-1/4" and wire capacity of .060" ..... P/N 15-06301 ..... \$133.95

## SAFETY WIRE TWISTERS

 These top quality twisting lock pliers with automatic return are reversible, economically priced, and extremely durable. Features a sharp cutting edge and will twist up to .060" dia. safety wire.  
6-INCH ..... P/N 12-02828 ..... \$60.95  
9-INCH ..... P/N 12-02829 ..... \$62.75


### SAFETY WIRE TWISTER KIT M300

 Contains 6" Safety Wire Twister and 19" Chrome Adjustable Safety Twister Tool.  
P/N 12-01680 ..... \$126.95


### MILBAR 105W PROFESSIONAL WIRING KIT

 The most versatile kit available. Contains three different SafetyTwist® Pliers to cover almost any application: 9" Automatic (1W393), 6" Mini (9W) and a 19" Deep Reach Twister (13W). Includes three 1/4 lb. spools of stainless steel safety wire (.020, .032, .041). Durable plastic storage case. Kit weight 4 lbs.  
P/N 12-02020 ..... \$207.95


### SAFETY WIRE TWISTER KIT

 • 04-134SR - Safety Wire Twister • 04-134SR6 - Safety Wire Twister - Mini • 43-025 - Stainless Steel Aircraft Safety Wire • 43-032 - Stainless Steel Aircraft Safety Wire • 43-041 - Stainless Steel Aircraft Safety Wire • Kit Box 13" ..... P/N 12-02350 ..... \$66.75


### ECONOMY SAFETY WIRE TWISTERS

 These top quality twisting lock pliers with automatic return are economically priced and extremely durable. Features a sharp cutting edge and will twist up to .060" dia. safety wire. Length 6" & 9". Foreign made.  
6" ..... P/N 12-01472 ..... \$26.90  
9" ..... P/N 12-01473 ..... \$24.95


### ATS WIRE NIPPERS

 These wire nippers have hardened jaws to cut up to 12 AWG copper wires without dulling. Plus it has a FOD catching clip that will hold the shipped ends of wires before they can fly off and become a safety hazard. It's also ESD safe, which means that it will not hold a static charge, thus eliminating any chance of accidentally zapping your delicate electronics with static electricity. Convenient spring-loaded handles makes it easy to do one-handed work in confined areas. .... P/N 12-03714 ..... \$69.95

## SAFETY WIRE STARTER KIT


 This handy kit enables you to safety wire any nuts or bolts on an airframe or engine. Just place the special washers under the bolt or nut, bend up the small flanges to hold the bolt or nut in place, and then use the tab of the washer to attach the wire to a solid point so the bolt cannot move. This kit works on the same principle as drilled bolts do and is very handy for those flying with an engine that does not have safety wired nuts and bolts. Excellent for use on 2 stroke engines. Package of spare washers includes 6 ea. of: 6, 8, & 10 mm sizes.  
Safety Wire Starter Kit ..... P/N 12-16625 ..... \$53.75  
Package of 18 Spare Washers ..... P/N 12-16626 ..... \$33.50

## AERO SAF-T-BLOKS


 Since the introduction of Saf-T-Bloks in 1981, they've helped thousands of mechanics by taking the headaches and hassle out of drilling safety wire holes in bolts and nuts. This easy to use Saf-T-Blok holds the bolt steady after you thread it in to the required depth. You then drill the hole through the center with no risk of misalignment. Saf-T-Blok is available in 4 sizes:

Description	Part No.	Price
Metric: (5 Thread Size) 6x1, 8x10, 8x1.25, 10x1.25, 10x1.5	12-15346	\$35.85
Aero: (5 Thread Size) 8-32, 10-32, .25x20, .25x28, 5/16 x 24	12-15347	\$35.50


## NUT SAF-T-BLOK

 Designed to enable safety wire holes to be drilled through the head of bolts or through nuts, across the diagonal. Designed to accept up to 3/4 inch diameter nut. Easy to use. Nut Saf-T-Blok requires that the nut or bolt be placed into the "V" groove, tighten down the holding screw, drill and deburr. .... P/N 12-15349 ..... \$38.50


## ALLEN II SAF-T-BLOK STANDARD

 From MTE industries the Allen Saf-T-Blok2. Design for all socket head cap screws Metric and SAE. With an added plus can be used as a tubing drill guide. As with all the Saf-T-bloks, this takes the headache and hassle out of drilling safety wire holes. .... P/N 12-02407 ..... \$36.50


## SWP8 SAFETY WIRE INSTALLATION PLIERS

 The SWP8 features a diagonal nose jaw and heat-treated cutting blades, using pro-spec chrome vanadium material. The locking mechanism operates with ease, as does the self-retracting twist lever, according to company officials. .... P/N 12-05033 ..... \$39.95


## SAFETY WIRE KITS

 These kits include professional safety wiring kit for all applications. Contains 9" automatic standard twister, 6" safety wire twister, made of hardened alloy steel-black oxide finish plus (3) 1/4 lb. spools of annealed stainless steel safety wire. (Sizes: 020, 032, 041). Model 100 also includes 19" chrome adjustable safety wire twister (for cavity and deep access applications).  
Model 200 ..... P/N 12-16650 ..... \$118.75


## SAFETY WIRE DRILLING JIG

 This tool provides a fast, simple way to drill bolt heads with virtually no broken drill bits. The tool is made of 6061T6 hard anodized aluminum for durability. Fits 3/16" to 5/8" dia. bolts and works on hex head bolts, header bolts, 12 point counter-sink and Allen head cap screws. Includes drill bushings and two cobalt drills. Made in U.S.A. .... P/N 12-16600 ..... \$71.75

## SPECIALTY TWISTER

 An excellent tool for different access situations, this twister provides a deep reach and access to close quarters. Made in U.S.A.  
P/N 13W ..... \$45.50

## SAFETY WIRE TOOL

 Easy one-hand operation. Reaches into tight places, makes a fast, neat twist. Shatterproof plastic handle ..... P/N 12-01072 ..... \$19.75

TO

# KLEIN TOOLS

## STRIPPER/CUTTERS

Klein wire strippers and cutters cut, strip, gauge and loop a wide range of wire types and sizes. Made of strong, hardened steel with comfortable handles, these tools are durable and long lasting.

### 11055 KLEIN-KURVE™ WIRE STRIPPER/CUTTER



Solid and Stranded. Double-dipped comfort grips with curved handles, cuts, strips, loops and gauges 10-18 AWG solid wire and 12-20 AWG stranded wire, cleanly shears 6-32 & 8-32 screws, coil spring provides fast, self-opening action.

P/N 12-00235 .....\$21.99

### 11057 KLEIN-KURVE™ WIRE STRIPPER/CUTTER



Solid and Stranded. Double-dipped comfort grips with curved handles, cuts, strips, loops and gauges 20-30 AWG solid wire and 22-32 AWG stranded wire, cleanly shears 6-32 & 8-32 screws, coil spring provides fast, self-opening action.

P/N 12-00236 .....\$21.50

### 11045 KLEIN 10-18 WIRE STRIPPER/CUTTER



Strips 10 to 18 AWG solid wire, easy-to-read wire gauge markings, comfortable handles with cushion ridges.....P/N 12-00233 .....\$13.95

### 11046 KLEIN 16-26 WIRE STRIPPER/CUTTER



Strips 16 to 26 AWG stranded wire, easy-to-read wire gauge markings, comfortable handles w/ cushion ridges .....P/N 12-00234 .....\$16.85

### 11054 KLEIN KURVE WIRE STRIPPER / CUTTER



Cuts, strips and loops 8-16 AWG Solid and 10-18 AWG Stranded wire. Precision shear-type blades for clean cuts on solid and stranded copper wire.

Easy-to-read markings on both sides. Curved handles help reach into confined areas.....P/N 12-03218 .....\$28.50

## KLEIN WIRE STRIPPERS 6-12



This lightweight Klein-Kurve wire stripper-cutter strips large gauge 6-12 AWG stranded wire and eliminates the need for a skinning knife. The tool clearly shears 6-32 and 8-32 screws and has a serrated pliers nose, which allows the user to pull, grip, and twist wire design and double-dipped textured grips provide control and comfort....

P/N 12-01456 .....\$21.99

### 63020 KLEIN-KURVE MULTI CABLE CUTTER



Designed with 3 different cutting blades; anvil cutter, a copper curved cutter & a steel cutter. Cleanly shears 6-32 & 8-32 screws, double-dipped comfort grips with curved handles, coil spring provides fast self-opening action.....P/N 12-00496 .....\$26.50

## KLEIN TOOLS CABLE STRIPPER / CUTTER



Klein Tools added its new QTR-Turn NM cable stripper/cutter with Klein-Kurve handles to its existing line of strippers and cutters. The QTR-Turn technology allows users to place cable in the upper jacket strippers, squeeze the handle, and turn one-quarter to completely sever the outer jacket. It utilizes spring-loaded action for self-opening.

P/N 12-01770 .....\$32.50

### 63030 KLEIN 8-1/4" CABLE CUTTER



Cuts up to 1" diameter aluminum and copper coaxial cable, curved jaws firmly grasp cable, shear-type cutting blades, precision, one-hand shearing action.....P/N 12-00497 .....\$47.50

## CRIMPING/CUTTING TOOL



This tool is designed to crimp insulated and non-insulated 10 to 20 AWG solderless terminals & connectors. It has easy-to-read tool markings to identify the insulated or noninsulated crimping dies. Its tapered nose design works well in tight places and has specially hardened cutter in the nose for quick, clean cuts. Size: 9.75". Lifetime warranty.

P/N 12-00698 .....\$47.99

## KLEIN SCREW-HOLDING SCREWDRIVERS



Unique screw-holding design in which screws are held at the tip of drivers for precise placement in tight, hard-to-reach places and allows both torquing and tightening of screws. Starts and drives screws with one hand when working in hard-to-reach spaces.

1/4" Slotted.....P/N 12-02702 .....\$11.65  
1/4" Phillips.....P/N 12-02701 .....\$9.95

## PLIERS

Designed and built with exceptional quality standards in a tradition that dates back to 1857. Klein specializes in the making of the world's finest pliers, for the professional. What makes Klein pliers different is induction hardening of cutting edges, pliers head hardness, hot riveting and special handle hardness.



### D228-8 KLEIN 8" DIAGONAL-CUTTING PLIERS

High-leverage, standard-bevel cutting knives, with hand-form style plastic-dipped handles.

P/N 12-00228 .....\$35.70



### D203-6 KLEIN 65/8" LONG-NOSE SIDE-CUTTING PLIERS

Standard cutting knives at hinge, wraps, loops, and cuts, plastic-dipped handles.

P/N 12-00229 .....\$25.90



### D203-6 KLEIN 85/16" HEAVY-DUTY LONG-NOSE SIDE-CUTTING PLIERS

Induction hardened cutting knives, greater cutting power, hot-riveted joint, plastic-dipped handles.

P/N 12-00230 .....\$33.50



### D252-6 KLEIN 6" DIAGONAL-CUTTING PLIERS

All-purpose, heavy duty, tapered nose, induction hardened cutting knives, hot riveted joints, plastic-dipped handles.

P/N 12-00231 .....\$33.80



## 5139 KLEIN CANVAS ZIPPER BAG

White canvas bag with strong zipper, convenient storage for tools, 7.5" x 12" overall size.

P/N 12-00239 .....\$17.95

## NUT DRIVERS



The professional requires a number of nut drivers in a variety of sizes and types. Klein drivers feature convenience, comfort and efficiency in use, plus exceptional strength and durability. All Klein nut drivers are made of the highest quality tempered steel, carefully heat-treated for maximum strength.

**631 KLEIN 7-PC. CUSHION-GRIP NUT DRIVER SET** - Contains 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", & 1/2" hollow-shaft nut drivers, roll-up plastic storage pouch. ....P/N 12-00238 .....\$58.75



**610 STUBBY NUT DRIVERS** - The #610-1/4 & #610-5/16 stubby nut drivers are designed for use in tight spaces and on hard-to-reach fasteners. The tools have cushion grip handles for greater torque and user comfort. Drivers are made for 1/4" & 5/16" hex nut and hex screw sizes. The tool shafts measure 1.5" long and overall 3.5" long.

#610-1/4 .....P/N 12-00694 .....\$11.50  
#610-5/16 .....P/N 12-00695 .....\$10.75



## KLEIN TIP NUT DRIVER SET 7 -PC SET

Full Hollow Shaft design with Rare Earth magnetic tip. (Only with P/N 12-01594). Full hollow shafts facilitate work on long bolt applications. Cushion Grip handles allow for greater torque and comfort. Handle domes are color coded for easy identification. Internal flanges provide solid, twist-resistant shaft anchor. Chrome plated shaft helps prevent corrosion. Set contains Cat.

No. 646-3/16M, 646-1/4M, 646-5/16M, 646-11/32M, 646-3/8M, 646-7/16M, 646-1/2M.

Klein nut driver 7pc. set.....P/N 12-00306 .....\$71.75  
Klein driver 7pc Magnetic Set .....P/N 12-01594 .....\$103.85

## KLEIN HIGH-TENSION HACKSAW



Adjustable blade tension of up to 30,000 PSI for fast, precise cuts, along with soft touch grips for comfort. The alternative 45-degree mounting is perfect for flush cutting, and there's a front mount for reciprocating saw blade. There's a space to store your blade in the handle, and it comes with a 12" x 24 TPI bi-metal hacksaw blade and 6" x 24TPI bi-metal reciprocating saw blade.....P/N 12-02641 .....\$29.95  
6" Replacement Blade.....P/N 12-03247 .....\$12.95  
24" Replacement Blade.....P/N 12-02706 .....\$28.90

TO



## KLEIN HOLE SAW KITS



Klein Hole Saws feature bimetal cobalt construction which allows for heavy-duty cutting; they can cut through studs in one pass. They also have multiple knock-out slots and holes for easy core removal. Carbide grit hole saws work well for cutting abrasive materials and offer a smooth cut with minimal tear-out.

Electrician's Hole Saw Kit - Contains the most popular sizes for basic electrical work. Hole Saws: 7/8", 1-1/8", 1-3/8", 1-3/4", 2", 2-1/2" Arbors: 7/16" (qty.2)  
P/N 12-00969 ..... **\$84.99**

## KLEIN ELECTRICIAN TOOL SETS



Designed for beginner and experienced wiremen, these tool sets range in size from a basic 14-piece assortment to the 41-piece comprehensive collection. Each set contains Klein premium products, such as wire stripper/cutters, screwdrivers, and pliers, plus protective eye wear and a pouch or tool bag for toting and storage. Each set offers a cost savings when compared to buying the tools separately. Tools in Electricians sets have standard handles.

Tools in Journeyman sets have state of the art dual-material handles which provide a superior grip without sacrificing tool strength or durability.

14-Piece Electrician Tool Set.....	P/N 12-00819	<b>\$270.95</b>
18-Piece Journeyman Tool Set.....	P/N 12-00821	<b>\$369.00</b>
28-Piece Electrician Tool Set.....	P/N 12-00820	<b>\$438.00</b>
41-Piece Journeyman Tool Set.....	P/N 12-00822	<b>\$818.00</b>

## KLEIN DIAGONAL CUTTING PLIERS WITH TAPERED NOSE



Easy working in confined areas. Short jaws and beveled cutting edges permit close cutting of wire. Induction-hardened cutting knives for long life. Hot-riveted joint ensures smooth action and no handle wobble. Plastic-dipped handles for comfort and ease of identification. Custom, US-made tool steel.  
P/N 12-03373 ..... **\$33.50**

## KLEIN LIGHTWEIGHT FLUSH CUTTERS



These shears wire up to 18 AWG producing a flat, flush cut. Strong cutting greatly reduces cutting effort and minimizes fly-off. Cushioned grips and steel return spring for increased comfort during repetitive cutting. Ultra slim profile increases access in confined areas. Heat treated for increased durability. With 1/2" drive ..... **\$11.75**  
P/N 12-03360

**TENSIMETER PRODUCTS MAY NOT BE CANCELLED OR RETURNED.**

## PISTON PIN REMOVAL TOOL



This tool takes all the work and risk out of removing the piston pin. It works on Lycoming and Continental engines. Just slip it over the piston, turn the shaft and it pushes the pin out smoothly and cleanly. Vinyl coated tip prevents scratching and marring the pin or piston during removal. Will handle up to 5.5" pistons.  
P/N 12-04810 ..... **\$73.95**

## LIGHTED SCREWDRIVER - 8-IN-1



Perfect for Computers, Electronics, Industrial and Residential Applications, Hobbies and Crafts. Two Super Bright LED Lights Provide 360° Tip Illumination. Transparent Collar Maximizes Illumination. Unique Design Features Two Drivers in One Handle. This is an 8 in 1 tool perfect for just about any need (Bit Sizes: #0, #000, 1/8", 5/64"; T5, T8; T6, T10). Convenient Bit Storage in Handle. Removable mini screwdriver. Cordless (3 "LR41" Batteries Included).  
P/N 12-03354 ..... **\$16.55**

## LIGHTED TWEEZER



Working inside those dark, confined spaces on the job just got a lot easier! General's Illuminated Tweezers offer a built-in, bright white light-emitting diode (LED) to directly illuminate your working area. Made from heat-treated steel with a corrosion-resistant black finish, these cutting-edge tweezers are built to withstand tough jobs and working environments. We've also included a non-slip cushion grip for added comfort. Available in Serrated Blunt, Serrated Bent and Smooth Pointed Tips.  
P/N 12-03349 ..... **\$10.95**

## GREASE JOINT REJUVENATOR



Have you ever tried to push grease through a grease fitting and couldn't? The Grease Joint Rejuvenator opens clogged grease joints and fittings effortlessly in less than a minute! • Opens clogged grease fittings & joints • Cleans and replenishes old and dirty grease fittings • Loosens dried grease in joints • Cleans ways and stays in milling machines and lathes • Lubricates bearings on farm, lawn & construction equipment ..... P/N 12-01038 ..... **\$44.60**

## COMPRESSION WHISTLE ALERT



No more burning your fingers and hands! Just Listen! Insert Whistle Alert™ into any 14mm spark plug hole and bump the engine until you hear the whistle. You are now on the compression stroke! • Easily find Top Dead Center compression stroke • Turn engine over from inside the car and listen for the whistle • Made of steel and aluminum • Made and assembled in the USA.

Whistle Alert (Rigid).....	P/N 12-01039	<b>\$23.90</b>
Whistle Alert (Flex).....	P/N 12-01041	<b>\$16.85</b>

## KEARNEY SWAGER



This portable, hand-operated roll type swaging machine will swage MS type terminals onto galvanized and stainless steel cables from 1/16" diameter up to and including 3/16" diameter. Includes machine, a full set of roll dies, terminal gauges and feed guide adapters & instructions in a steel carrying case. Wt. 95 lbs. New manufacture. All replacement parts available. Special order.  
P/N 12-01188 ..... **\$6,995.00**

## HAWKEYE PRECISION FLEXIBLE BORESCOPIES



Hawkeye Rigid Borescopes feature the patented endoGRINS(r) lens technology that provides a sharp view inside engine cylinders, wings, under seats, and other remote areas. Includes a mirror tube which allows you to look sideways in a 360 degree arc as well as straight ahead. Packed in a lockable metal case with die-cut foam to protect the borescope. The heavy duty Mini-NOVA light source is highly recommended in aircraft applications. All Hawkeye Slim borescopes have a 0° direction-of-view and 42° field-of-view. A rotating 90° direction-of-view is achieved by sliding a Slim Mirror Tube onto the scope. Hawkeye

7" Hawkeye Hardy Kit .....	P/N 12-00337	<b>\$841.00</b>
12" Hawkeye Hardy Kit .....	P/N 12-00338	<b>\$895.00</b>

**NOTE: ALL BORESCOPIES ARE NON-RETURNABLE**

## ATS PUSH ROD SPRING COMPRESSOR



You know how hard it is to get at the springs on the push rod tubes... Now, you can compress them and remove the tube in under a minute. Just slip this tool onto the spring and crank the shaft counterclockwise (an air ratchet works great for this) to compress the spring, and then give everything a wiggle and out it comes. It's a must-have tool when working on big bore Continentals. This tool will fit all production engines Lycoming, Continental, Franklin, and even most old radials.

P/N 12-04809 ..... **\$53.80**

## TACH DRIVE SEAL REMOVER



This straight forward tool will let you remove the tach seal in minutes time and time again. .... P/N 12-04820 ..... **\$319.00**

TO

# STEELMAX POWER TOOLS - TENSIO METERS

## STEELMAX METAL CUTTING SAW 9 INCH



More efficient than any portable metal cutting process you are using now! • Increase Productivity - No Milling or de-burring with near surgical dry-cut technology. • Cuts a Variety of Metals, Plastic and Wood - Bring your saw to the work-piece while cutting mild steel, stainless steel and aluminum as easy as it cuts plywood. • Cool-to-the-Touch - No waiting for your workpiece to cool down. Just cut it and handle it. • Precise Cutting - With integrated laser sighting system.....P/N 12-01716 .....\$412.95

Accessories	Teeth	Arbor	Part No.	Price
9.25" Mild Steel Blade	48T	1.0"	12-01804	\$59.95
9" Stainless Steel Blade	80T	1.0"	12-01805	\$76.95
9" Alluminum Blade	80T	1.0"	12-01807	\$61.95

## STEELMAX DRYCUT SAW S14



Utilizing a 14" carbide tipped blade, the Steelmax S14 cuts through metal faster, safer and cleaner than abrasive chop saws in a fraction of the time and cost. Powered with a 15 amp motor and geared to turn slower than a chop saw, the S14 dry cutter cuts like a cold saw, but at a fraction of the cost. Sold standard with a 14" carbide tipped mild steel blade attached, heavy duty, industrial strength cast iron base and two position locking vise, this saw is ready for immediate action! Cuts solid mild steel up to 1" thickness; cut profiles: pipe, angles, channel with a depth of cut up to 4-3/4". Bevels to 45 degrees. Saves time and money giving cool cuts that need little to no finishing, eliminating any need for grinding or cool down time.....P/N 12-01717 .....\$536.00

Accessories	Teeth	Arbor	Part No.	Price
14" Stainless Steel (Less Than 1/4")	90T	1.0"	12-01809	\$172.75
14" Thin Mild Steel (Less Than 1/4")	90T	1.0"	12-01810	\$142.95

## MAGNETIC BASE DRILL



SteelMax® brand drills maintain rigidity and accuracy throughout the life of the drill. The rail system eliminates the need to adjust or maintain traditional gibs. In addition to saving on maintenance, cutter life is increased by reducing movement at the cutter tips. When cutters last longer, you save money every day you use SteelMax! Magnetic Base Drill.....P/N 12-01718 .....\$1,398.85  
Portable Magnetic Drill .....P/N 12-01811 .....\$999.95

### CUTTERS FOR MAGNETIC BASE DRILL

Dia.	D.O.C.	Part No.	Price	Dia.	D.O.C.	Part No.	Price
7/16"	1"	12-01813	\$25.66	1/2"	2"	12-01834	\$46.70
1/2"	1"	12-01814	\$25.97	9/16"	2"	12-01835	\$39.75
9/16"	1"	12-01815	\$26.26	5/8"	2"	12-01836	\$39.75
5/8"	1"	12-01816	\$26.66	11/16"	2"	12-01837	\$36.79
11/16"	1"	12-01817	\$27.17	3/4"	2"	12-01838	\$40.29
3/4"	1"	12-01818	\$28.68	13/16"	2"	12-01839	\$44.29
13/16"	1"	12-01819	\$29.94	7/8"	2"	12-01840	\$48.95
7/9"	1"	12-01829	\$32.70	15/16"	2"	12-01841	\$51.95
1"	1"	12-01831	\$38.49	1"	2"	12-01842	\$58.75
1-1/16"	1"	12-01832	\$41.27	1-1/16"	2"	12-01843	\$59.90
7/16"	1"	12-01833	\$35.29				

Accessories for Base Drill	Part No.	Price
1" Center Pin For SM4374	12-01845	\$11.75
1" Center For 1" DOC Cutters	12-01844	\$11.75
2" Center Pin For SM437L Only	12-01847	\$7.95
2" Center For 2" DOC Cutters	12-01846	\$7.95

## 1/2 INCH CHUCK & ADAPTER



With this optional industrial arbors and 2MT-1/2" Drill Chuck now you can! SteelMax industrial arbors let you easily adapt our premium m2AL cutters to a variety of machinery, including CNC, lathe's, stationary drill presses and similar equipment. With our integrated coolant collar, cutter performance and cutter life is assured!.....P/N 12-01812 .....\$98.85

## 6 AND 13 PIECE CUTTER SETS

Description	Includes	Part No.	Price
6 Piece Set 1" DOC	9/16", 11/16", 13/16", 15/16", 1-1/16", Cutter Case, and 1" Pilot 9/16"-1-1/16"	12-01848	\$149.95
6 Piece Set 2" DOC	9/16", 11/16", 13/16", 15/16", 1-1/16", Cutter Case, and 2" Pilot 9/16"-1-1/16"	12-01849	\$199.95
13 Piece Set 1" DOC	7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1-1/16", Cutter Case, and 1" Pilot 7/16", 1" Pilot 9/16"-1-1/16"	12-01850	\$299.95
13 Piece Set 2" DOC	7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1-1/16", Cutter Case, and 1" Pilot 7/16"-1/2", 1" Pilot 9/16"-1-1/16"	12-01851	\$399.95

## TENSITRON TRANSDUCERS

Tensitron's transducers convert a material's tension into a reliable signal that can be used for remote indication, high-speed recording, computer hook-ups, or as input for automatic tension control systems.

Note: A Signal Conditioner is needed to provide the necessary excitation, amplification, signal conditioning, calibration functions, display/readout and other options necessary to operate strain gaged transducers. Attention: Tensitron products may not be cancelled or returned.



### TENSITRON FIBER AND WIRE TRANSDUCERS

Model No.	Description	Tension Range	Part No.	Price
E-090-00	Single Roller Low Force Load Cell	1 - 100 lb.	12-05002	\$1,055.00
E-091-00	3 Roller Low Force Load Cell	1 - 100 lb.	12-05003	\$1,107.00
E-095-01	Notched Beam Transducer	10 - 1,000 lb.	12-05005	\$1,158.00
E-095-03	3 Roller Notched Beam Transducer	10 - 1000 lb.	12-05006	\$1,670.00
E-415-002	Small Space Transducer with Single Roller	5 - 5,000 g	12-05011	\$1,055.00
F-1806	Platform Mounted Fiber Transducer	5 - 5,000 g	12-05013	\$1,363.00
FT-107	Small Space Fiber Transducer	5 - 5,000 g	12-05014	\$1,055.00
FT-107-TIS	Small Space Fiber Transducer - Titanium	5 - 5,000 g	12-05015	\$1,670.00
FT-116	Low Profile 3 Roller Sensor	5 - 5,000 g	12-05016	\$1,055.00
FT-117	Single Roller Sensing Beam	5 - 5,000 g	12-05017	\$1,004.00



### TENSITRON WEB AND BELT TRANSDUCERS

Model No.	Description	Tension Range	Part No.	Price
4260	Single Roller Web Transducer.	2-200 lb.	12-05001	\$1,670.00
E-091-02	Low Force Load Cell with Cylindrical Rollers	1-100 lb.	12-05004	\$1,210.00
E-095-04	Notched Beam Transducer with Cylindrical Roller.	25-250 lb.	12-05007	\$1,260.00
E-200-00	Cantilever Transducer	1-25 lb.	12-05008	\$1,055.00
E-202-00	Pillow Block Load Cell Transducer	25-1,000 lb.	12-05009	\$1,670.00
E-210-00	S Column Transducer	5-250 lb.	12-05010	\$1,670.00
E-415-003	Small Space Transducer with 3 Rollers	5-5000 g.	12-05012	\$1,107.00



### OMEGA-NEWPORT INFCS TRANSDUCER SIGNAL CONDITIONERS

Model No.	Description	Part No.	Price
INFCS-000 B	Infinity Basic Signal Conditioner, 115 VAC	12-05023	\$580.00
INFCS-001 B	Infinity Basic Signal Conditioner, 115 VAC Analog Out	12-05024	\$748.00
INFCS-010 B	Infinity Basic Signal Conditioner, 115 VAC Dual 5A Relays	12-05025	\$738.00
INFCS-011 B	Infinity Basic Signal Conditioner, 115 VAC Analog Out & Dual 5A Relays	12-05027	\$817.00
INFCS-100 B	Infinity Basic Signal Conditioner, 230 VAC	12-05028	\$580.00
INFCS-101 B	Infinity Basic Signal Conditioner, 230 VAC Analog Out	12-05029	\$748.00
INFCS-110 B	Infinity Basic Signal Conditioner, 230 VAC Dual 5A Relays	12-05030	\$738.00
INFCS-111 B	Infinity Basic Signal Conditioner, 230 VAC Analog Out & Dual 5A Relays	12-05031	\$817.00
INFCS-411 B	Infinity Basic Signal Conditioner, 10 to 30 VDC Analog Out & Dual 5A Relays	12-05032	\$1,122.00

TO



# CABLE TENSIONMETERS - SWAGERS

## T5 2000 SERIES CABLE TENSIONMETERS



The familiar T5 Tensionmeter is a low cost, highly accurate, precision instrument giving cable tension readings covering a wide range. In use, each T5 instrument is calibrated at the factory and is provided with its own calibration chart for the simple conversion of readings into pounds-tension. The charts shown, indicate the riser which must be used to accommodate the various cable sizes and tensions. The T5 is a small, lightweight, precision instrument, durably constructed for long accurate service.

Model No.	Cable Size	Range	Part Number	Price
T5-2002-101-00	1/16", 3/32", 1/8"	10-100	12-01144	\$745.00
	5/32", 3/16"	15-150		
	7/32", 1/4"	25-150		
T5-2002-104-00	1/16", 3/32", 1/8"	30-200	12-04805	\$745.00
	5/32", 3/16"	30-300		
	7/32", 1/4"	30-300		

## BURROUGHS CABLE GAUGE



Easy to use - just squeeze ball handle, put gauge on cable, release handle and read tension on rotation dial. No conversion charts necessary. Tension range: 10-70lbs. for 1/16" cable, 15 - 70 lbs. for 3/32 & 1/8" cable. 50-350 lbs. on 5/32" & 3/16" cable. Only 3-1/4" wide. Fits through inspection hole.

**Attention: Tensionmeter Products may not be cancelled or returned.**

For 1/16", 3/32", 1/8".....P/N 12-19200 .....\$189.00  
For 5/32", & 3/16".....P/N 12-19210 .....\$186.00

## TENSITRON ACM CABLE TENSION METERS



Standard Features of all models: • Easy one-hand operation • No interchangeable parts are needed to adapt to different cable sizes • Memory Lock Pointer holds readings until cleared • Calibration chart affixed to back of meter • Durable and made of non-corrosive materials • Weigh approximately 21 oz. Compact design allows engagement of meter onto cables closely routed along floors, flat surfaces and other minimum clearance areas. Models ACM-100, ACM-200, ACM-300, ACM-400 are compact enough to allow use in limited access panels as small as 4" dia.

**Attention: Tensionmeter Products may not be cancelled or returned.**

Model	Part No.	Price
<b>ACM-100</b> - Designed to measure from 5-100 lbs tension in 1/16", 3/32", 1/8", 5/32" diameter cables.	12-01050	\$789.00
<b>ACM-200</b> - Designed to measure 20-200 lbs tension in 1/16", 3/32", 1/8", 5/32", 3/16", and 1/4" diameter aircraft cables.	12-01051	\$789.00
<b>ACM-400</b> - Designed to measure from 40-400 lbs tension in 3/32", 1/8", 5/32" and 3/16" diameter standard cables.	12-01053	\$789.00
<b>ACM-600</b> - Measures tension from 40-600 lbs in 1/8", 5/32", 3/16" and 1/4" diameter aircraft cables.	12-01362	\$789.00

## TENSITRON ACX-SERIES DIGITAL AIRCRAFT CABLE TENSION METERS



In its 5th generation of digital aircraft cable tension meters, Tensitron is using the latest technology, software, and design improvements providing unsurpassed accuracy and resolution for numerous material sizes and tension ranges. Select the cable size from the menu, press "Enter", engage the meter, and instantly see the actual numeric tension value on the display while simultaneously a dynamic colored bar graph indicates whether the tension is in the user's acceptable range. **Attention: Tensionmeter Products may not be cancelled or returned.**

Model	Range	Res.	Standard Cable Selections	Part No.	Price
ACX-100-1	5-100 lbs	0.5 lbs	1/16", 3/32", 1/8", 5/32"	12-03758	\$1,202.00
ACX-250-1	20-250 lbs	0.5 lbs	1/16", 3/32", 1/8", 5/32", 3/16"	12-03759	\$1,202.00
ACX-250-M-1	20-250 lbs	0.5 lbs	2.0 mm, 2.5 mm, 3.5 mm, 4.0 mm	12-03761	\$1,202.00
ACX-500-1	40-500 lbs	1 lbs	3/32", 1/8", 5/32", 3/16"	12-03762	\$1,202.00
ACX-CWT-1	20-250 lbs	0.5 lbs	CWT-5, CWT-10, CWT-15, CWT-20, CWT-25	12-03763	\$1,202.00
ACX-CMB-1	20-250 lbs	0.5 lbs	1/16", 3/32", 1/8", 5/32", 3/16", CWT-5 thru CWT-25	12-03764	\$1,352.00
ACX-CMB-M-1	20-250 lbs	0.5 lbs	1/16", 3/32", 1/8", 5/32", 3/16", & 2.0 mm, 2.5 mm, 3.5 mm, 4.0 mm	12-03766	\$1,302.00

## LOCOLOC® HAND SWAGER NO. 1-SC



Designed for swaging copper and aluminum 1/16, 3/32, 1/8, 5/32 and 3/16 oval and stop sleeves, plus 7/32 stop sleeves, total of 11 sizes plus the ability to cut up to 7/32 diameter aircraft quality steel cable. A multi cavity hand cable swaging tool with a dozen functions. 26 inches long, weighs 6.5 pounds. Parts list included with each cable swaging tool. To assure proper swaging of Locoloc® aluminum, copper and stainless steel sleeves there is a Locoloc "Go" "No Go" gauge with each cable swaging tool .....P/N 12-12400 .....\$269.00

## LOCOLOC® TRIPLE CAVITY HANDSWAGER



Locoloc® Triple Cavity Handswager is made of 4140 Carbon Steel Hardware for superior longer life. This has 3 cavities for the most commonly used sleeve sizes: 3/32", 1/8", 3/16". Eliminates confusion on the job site. It has an Adjustment Bolt for calibration.

Made in America .....P/N 12-04960 .....\$178.00

## LOCOLOC HANDSWAGING TOOL



LocoLoc #1-3-SBHS Hand Swager – This tool is an outstanding small hand tool, and it does a great job of swaging small sleeves. This is a (4) cavity tool, swaging sleeve sizes 1/32", 3/64", 1/16", 3/32" and #12 SEISMIC. Ratchet mechanism will not release until swage is complete. Swages copper and aluminum sleeves only. Usage instructions and swage gauge included in each tool. Each LOCOLOC Swager is supplied with a gauge. Application: Copper Oval Sleeves, Copper Oval Plated Sleeves and Aluminum Oval Sleeves .....P/N 12-00222 .....\$137.85

## LOCOLOC® 0-3/32SC HANDSWAGER



Eye, lap and stop sleeve splicing of cables are made sure and easy with the new handswagers. Design features "over-center" leverage, which transmits a powerful snap-action to the final thrust of the jaws... assuring a tight, clean compression every time. Easy adjustment. Individual replacement parts are available. Parts list included with tool. To assure proper swaging of Locoloc® aluminum, copper and stainless steel sleeves Locoloc® includes a "Go/No-Go" gauge with each cable swaging tool free of charge.

**Specifications:** • Swages 3/32" oval and 3/32", 1/8" stop sleeves, plus 1/8" stainless steel oval sleeves • Length: 20" • Weighs 4.2 lbs.

P/N 05-22402 .....\$214.99

## NICOPRESS SWAGING TOOLS - 64-CGMP



The 64-CGMP has four grooves and is used for Oval Sleeve in the range of cable sizes from 1/16" through 5/32". The "C" groove is also used for the No. 871-1-C Stop Sleeve. The No. 63V-XPM has three grooves and is used only with Oval Sleeves. For cable sizes 1/8", 5/32" and 3/16".

Cable Dia	Sleeves				Swaging Tools	
	Plain Copper		Zinc Coated Copper		64-CGMP	63V-XPM
1/16	MS51844-42	18-1-C	MS51844-22	28-1-C	X	
3/32	MS51844-43	18-2-G	MS51844-23	28-2-G	X	
1/8	MS51844-44	18-3-M	MS51844-24	28-3-M	X	X
5/32	MS51844-45	18-4-P	MS51844-25	28-4-P	X	X
3/16	MS51844-46	18-6-X	MS51844-26	28-6-X		X

64-CGMP.....P/N 12-02560 .....\$313.00

63V-XPM .....P/N 12-02561 .....\$299.00

TO

# SPECIALTY TOOLS

## NO-GO GAGE



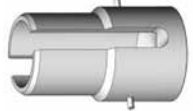
There are five measurements required for each pilot and co-pilot seat, these two tools will shorten the time to make these five measurements to minutes.....P/N 12-02861 .....**\$39.95**

## COMPASS FILLING AID



The compass filling aid is designed to be used for filling most standard aircraft compasses. The standpipe is simply attached to the compass with a supplied special rubber band. The compass is then filled and purged through the standpipe. When all air is removed, and the level in the standpipe is constant, the plug is then installed through the filled standpipe. Thus the need for submerging for proper filling is eliminated.  
P/N 12-17604 .....**\$23.50**

## VENTURI REMOVING TOOL



Venturi extractor tool used on Marvel-Schebler®, MA-3® and MA-4® series carburetors.  
P/N 12-01908 .....**\$255.95**

## THE PEN GRIP - PEN AND TOOL HOLDER



The Pen Grip attaches to almost any surface with double stick tape. Just peel off the backing on the attached double stick adhesive, press firmly onto the surface to which you want it attached and insert your tools. The unique gripping fingers hold all sorts of pens, pencils, & tools in many different positions, even upside down. Like the Tool Grip, The Pen Grip is available in White and Black.  
Black.....PN 12-00961 .....**\$5.95**  
White .....PN 12-00962 .....**\$5.95**

## WIRE SPOON



**Features:** • Wire threader designed for threading wires into an already tied harness • 300 Series stainless steel construction • Made in America for superior quality.  
P/N 12-01801 .....**\$8.50**

## FELCO CABLE CUTTERS



A cable when crushed or deformed is difficult to use with fittings. These fine quality Swiss made cutters, with unique triangular jaws, never leave a frayed end.

Felco No.	Max Cutting Dia.	Length	Weight	Part No.	Price
C2A	2mm	8"	.625 lbs	12-00223	<b>\$66.75</b>
C7F	3/16"	8"	.625 lbs	12-01135	<b>\$56.90</b>
C9	1/4"	13"	1.6 lbs	12-00179	<b>\$162.75</b>
C12	3/8"	19"	3 lbs	12-01174	<b>\$244.95</b>
C16	5/8"	22"	5 lbs	12-05133	<b>\$347.00</b>

## S & F CABLE CUTTERS



A fine tool made from high quality alloy steel and heat treated for best cutting action and long life of cutting edges. Handles shaped for comfortable grip and minimum cutting effort. Max. capacity 3/16" dia. 1 x 19 cable.  
No. 316 Cable Cutter .....P/N 12-18600 .....**\$19.50**



## 1/4 INCH AIR DIE GRINDER - VT3000

- 1/4" Air Die Grinder - VT3000
- Lightweight - powerful compact design
- VT3000- 25,000 RPM
- All ball bearing construction for longer tool life
- Self-locking safety throttle lever to prevent accidental starts
- Ergonomic positive grip
- Rear exhaust.....P/N 12-02550 .....**\$39.85**



## 1/4 INCH AIR DIE GRINDER - VT3000A

- 1/4" Angle Type Air Die Grinder VT3000A
- Lightweight - powerful compact design
- All ball bearing construction for longer tool life
- Self-locking safety throttle lever to prevent accidental starts
- Ergonomic positive grip
- Rear exhaust.....P/N 12-02551 .....**\$89.75**



## 1/4 INCH AIR DIE GRINDER - VT3001A

- 105° angle type head
- Direct drive - no bevel and pinon gears to maintain
- One piece casting
- Ergonomic design for operator convenience
- Safety throttle lever
- Rear exhaust.....P/N 12-02553 .....**\$96.75**

## DILLON MECHANICAL FORCE GAUGE



Model X-C comes in nine capacities ranging from 50 lb to 25,000 lb or 50 to 10000 kg. Allfeature accuracy of ±1% of full capacity, except the 25,000 (10000kg) capacity instruments which are accurate to ±2% of full capacity.

Load is applied against a hardened ball which rotates to maintain vertical alignment as pressure increases. The ball is held in place with a spring clip or retainer. A threaded mounting hole is located opposite the loading ball in the bottom of the beam. Model X-C is available in pound and kilogram capacities.  
P/N 12-03326 .....**\$820.00**

## DZUS SNOOPY TOOL



Classic tool designed for Dzus fasteners found on warbird and antique airplanes. Tool matches the most common size slots in 1/4 turn fasteners, giving the tool the distinctive "snoopy" shape. This tool is made from heat treated 4130 aircraft steel, with a riveted wooden handle – exact copy of the original tools. Made in the USA.....P/N 12-04763 .....**\$21.50**

## AN VISE JAWS



Generally AN Vise Grips are cheap castings that lack the precision mating surfaces necessary to avoid unsightly tool marks on your fresh hose assemblies. This is especially true with black anodized fittings so prevalent today. Get rid of your old vise jaws and stop using the sharpie to cover mistakes.....P/N 04-03665 .....**\$28.55**

## QUICK-CHECK TENSION METERS



The Dillon Quick-Check can be placed on a cable, measure its tension, and removed in under five seconds! There are no complex lookup tables, no conversion charts. The operator can quickly select from 15 different wire sizes and types stored in Quick-Check's memory. The Check-Tensioning mode graphically displays the current and target tensions for extremely quick setting of line tension. Even the infrequent battery changes are quick. The Quick-Check can be employed in many industries to ensure proper tensioning. Typical applications include tower and stack guy wires, pretensioned cable barriers, bridges, elevators, winch rope, overhead electric transit wires, fall arrest systems, aircraft cables and utilities. **Features:** • Sheaves with bearings eliminate friction and provide the best accuracy • Accommodates a wide range of wire sizes and styles • Telescoping handle engages meter quickly with minimal effort • Highly visible yellow finish • Easy-to-read display with full-text prompts • Easy to use soft-key interface • Uses popular AA batteries and has long life between changes.

2000 Lb. ....PN 12-03324 .....**\$2,632.00**  
10000 Lb. ....PN 12-03325 .....**\$3,598.00**

TO



# STRUT PUMPS – DEBURRING TOOLS

## DEBURRING TOOL



Utilizes a twist-of-the-wrist action for deburring holes and radii. Curved blade automatically follows all contours. Telescoping blade holder extends to reach deep internal holes. Supplied with one #10 and one #20 deburring blade. ....P/N 12-00700 .....**\$18.50**

Item	Description and Application	Part No.	Price
#10 Deburring Blade	High-speed steel. For steel, aluminum & smaller holes	12-00800	\$3.65
#20 Deburring Blade	High-speed steel. For brass, Bronze, cast iron, larger holes.	12-00900	\$2.17
#40 Scraper Blade	High-speed steel. Small triangular blade.	12-01000	\$14.50
#42 Scraper Blade	High-speed steel. Large triangular blade.	12-01100	\$17.50
#48 Scraper Blade Holder	Holder has 10-32 threads. Accepts #40 & #42 blades. Extends to 3-1/2".	12-01200	\$9.90
#50 Scriber	Carbide-tipped scriber.	12-01300	\$7.90
#60 Deburring Blade	For backside deburring & for restricted positions	12-01400	\$5.60
#70 Deburring Blade	Carbide-tipped blade for deburring edges of sheet metal.	12-01500	\$10.80



## DEBURRING & SCRAPING KIT

Standard duty kit includes MANGO II Handle, "B" Blade Holder, "C" Blade Holder, B10, B20, B30, B60, B11, B70, C40 blades and the "C" Key .....P/N 12-03194 .....**\$40.60**



## PRO SERIES STRUT SERVICE TOOL

The Pro Series Strut Service Tool has all the great attributes of the original Strut Service Tool, with the addition of a dual tank and dual check valve design. The longer service hose makes it easy to attach. Strut pressure, fluid and foam is captured in one tank. Clean, foam-free fluid is drawn back into the strut from the second tank. Simplicity, cleanliness and less waste make this tool a must-have. The strut valve core is not removed. ....P/N 12-00677 .....**\$220.00**

## SPOTFACE KIT



The Spotface Kit tool makes a flat spot for screws. This tool is specifically modified to provide rail cap clearance for use on seat rails. Cutter comes with 1/8", 5/32", 3/16" pilots. ....P/N 05-04429 .....**\$102.75**

## BALLPOINT HEX SOCKET DRIVER



3/32" Ballpoint Hex Socket Driver for use on hex head screws and nuts. \*This tool is commonly used with most avionics units like Honeywell Bendix/King and Garmin.....P/N 12-02063 .....**\$5.75**

## HX STRUT PUMP

Boost air to 1000psi without an air compressor.



- Very portable. No air compressor needed!
- Use air bottle, spare tire, tire pump for source air.
- Can also use with air compressor for air source.
- Detailed instructions.
- Equipped with 7 foot hose.....P/N 12-16710 ..... **\$549.00**

## 10X STRUT PUMP



Aircraft Strut Pump 10X delivers up to 1,500 PSI of pressure to raises struts without the need to place the airplane on jacks. Safety one-shot air delivery system gives you maximum control over the entire process -- each stroke of the delivery valve injects a small shot of high pressure air into the strut so that you can raise it in controlled increments. There is virtually no chance of you accidentally overpressurizing and possibly damaging your struts.....P/N 12-03731 ..... **\$308.00**

## 15X STRUT PUMP



Boost air or nitrogen to 2250psi.

- More than enough pump for most aircraft.
  - Built for shop use or for a discriminating do-it-yourselfer.
  - Weighs less than 7 pounds.
  - Equipped with a 36" hose.
  - Comparable to pumps priced in the thousands.
  - Nitrogen adapter makes it easy to use bottled nitrogen.
- 15X Strut Pump .....P/N 12-16700 .....**\$719.00**  
Nitrogen Adapter Kit .....P/N 12-02016 .....**\$51.75**

## STRUT SERVICE TOOL

Service Strut in your Sunday Suit.



- Clean way to service struts.
- Strut valve core is NOT removed.
- Hose fitting releases pressure & fluid into the bottle.
- Raise & lower strut a few times, then apply the charge. ....P/N 12-16792 .....**\$31.50**

## BOGERT PRESSURIZED STRUT FILLER 16M-PSF



Finally a real time and money saver! This tool changes the way landing gear struts are serviced. No longer do you have to put an aircraft up on jacks to add fluid to and fill Oleo type landing gear. This is a totally clean and safe process. No oil is spilled. The strut valve is not disturbed and the plane is sitting on the ground the whole time. This is safe for the technician and the aircraft. Features: • It is a convenient, small, compact system, easy to use, and neat to store • Two tank system. One tank contains clean Strut fluid and the other collects the excess • Built in pump forces fluid into the strut to top it off and the excess is drained off controlled right from the unit • Large capacity 5 qt storage tanks are big enough for just about any strut • Can be used on struts requiring up to 3000 psi strut pressure • Made in the USA. Strut Filler .....P/N 12-03166 .....**\$923.00**

## SCREWSTICK POCKET SCREWDRIVER



The Screwstick is a pocket screwdriver which accepts any common 1/4" tip. An extra tip is stored in the stainless steel shaft, and a heavy duty magnet holds tips firmly in place. A steel torque driver for stubborn applications is stored in the shaft. A rubber finger grip for holding plus a heavy duty pocket clip are included. Ideal for aviation, automotive, & many other applications. Great for mechanics. ....P/N 12-20105 .....**\$4.50**

TO

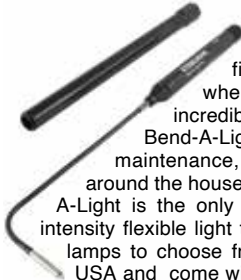
# WORK LIGHTS - INSPECTION MIRRORS

## CONDUCT-A LITE INSPECTION KIT



Kit consists of aluminum 2-cell holder, 1-cell holder for use in small areas, 6" straight Lucite conductor, 4" curved Lucite conductor for lighting around corners, 2-1/2" straight conductor for pin-point lighting, and clip on mirror which attaches to any of the Lucite conductors. When used with curved conductor it can virtually make light available around a corner in a full 360° arc. Operates on penlight batteries (not included).....P/N 12-14900 .....**\$19.95**

## BEND-A-LIGHT



Bend-A-Light flexible brass-alloy high intensity light tools bend to any configuration and illuminate hard-to-reach areas where conventional lighting cannot go. The incredibly brilliant light beam penetrates anywhere! Bend-A-Light is a must for electronics, automotive, maintenance, repairs, locksmiths, industrial, hobbies, around the house and more. You bend it...and it holds! Bend-A-Light is the only complete line of professional quality high intensity flexible light tools. Available in 3 lengths and 3 different lamps to choose from. All Bend-A-Light models are made in USA and come with batteries installed.

Part No.	Description	Length Flex Shaft	Length Overall	Batt.	Bulb	Price
12-15005	Mini Pro	6"	11.5"	2-AAA	12100	<b>\$19.95</b>
12-15150	Pro	15.75"	24"	3-AA	12110	<b>\$39.95</b>
12-10250	Removable Shaft	9.5"	15.75"	2-AA	12100	<b>\$22.65</b>

Part No.	Description	Dia	Bulb Life	Price
12-15020	12100 - Replacement Lamp	5/32"	4 Hours	<b>\$7.50</b>
12-12110	12110- Krypton Lamp	5/32"	20 hours	<b>\$9.50</b>

## BIG LARRY POWER WORK LIGHT



The BIG Larry™ knows how to light up a room! Equipped with C•O•B LED technology, the BIG Larry™ outputs 400 lumens of intense light. Secondary light modes include Low (160 lumens) and the Emergency Red Flash mode. This intense red light is perfect for distress signaling or roadside emergencies. The anodized aluminum body and recessed LED housing ensures that the BIG Larry™ can handle any situation.

### Features:

- Light** • High-power 400 lumen C•O•B LED work light • High-power C•O•B LED emergency red flasher
  - Design** • Anodized aircraft-grade aluminum; water and impact-resistant • Powerful magnetic base
  - Operation** • Top-positioned, ON/OFF button
  - Batteries** • Powered by 3 AA batteries (included)
- Black.....P/N 13-18745 .....**\$18.50**  
 Silver.....P/N 13-18746 .....**\$21.55**

## BINOCULAR MAGNIFIERS



The Binocular Magnifiers offer powerful, crisp magnification of your detailed projects while simultaneously leaving both of your hands free to work. The ground and polished optical lens is mounted to a tilt-up frame, allowing you to disengage the magnifier without removing the entire assembly from your head. This item is equipped with a cushioned headband which rests as

comfortably as a baseball cap and is likewise adjustable for a snug fit. **Features:** • 2.25x magnifying lens • Great for assembly and inspection applications • Used commonly by toolmakers, machinists, engravers, jewelers and hobbyists • Leaves hands free to work • Tilt-up lens frame instantly removes magnifying lens from sightline • Ground and polished optical lens eliminates eyestrain • Fits over prescription glasses • Adjustable, cushioned headband for comfort fit • 10" focal length. P/N 950-5 .....**\$32.85**

## INSPECTION MIRRORS AND MAGNIFYING MIRRORS FOR ALL-ANGLE VIEWING



Double ball-joints of tempered spring steel move freely, hold desired position for viewing to 360°. Mirrors have brushed stainless steel backs and insulating vinyl grips. Refill mirrors available.

Description	Size	Length	Part No.	Price
A-2 Circular Pocket mirror	7/8" Dia.	7.5"	12-01080	<b>\$6.50</b>
A-2M Circular Magnifying Pocket mirror	7/8" Dia.	7.5"	12-01081	<b>\$8.95</b>
B-2 Oval Pocket mirror	1" x 2"	8.5"	12-01169	<b>\$6.50</b>
C-2 Circular Telescoping Mirror	2-1/4" Dia.	10" to 14"	12-01175	<b>\$8.95</b>
C-2M Circular Magnifying Telescoping Mirror	2-1/4" Dia.	10" to 14"	12-01176	<b>\$14.50</b>
K-2M Rectangular Magnifying Telescoping Mirror	2-1/8" x 3-1/2"	11.25" to 14.25"	12-01152	<b>\$15.50</b>
K-2 Rectangular Telescopic Inspection Mirror	2-1/8" X 3-1/2"	11-3/8" to 15-1/4"	12-05311	<b>\$8.95</b>

Description	Part No.	Price
HTE-2 with 1.25" mirror for viewing in tight areas telescopes from 6.5" to 35"	12-01090	<b>\$12.50</b>
HTC-2 with 2.25" mirror for viewing in less restricted areas telescopes from 6-1/2" to 36-3/8"	12-01089	<b>\$12.50</b>
HTS-2 Circular Telescoping Mirror Dia. 3-1/4" Length 6.5" - 29". Double ball-joints of tempered spring steel move freely, hold desired position for viewing to 360°	12-01091	<b>\$14.65</b>
HTC-2LT with 2.25 LED case illuminates darkened areas - two lithium batteries included. All-angle ball joint holds lighted mirror head firmly for perfect viewing textured cushion grip will not slip in wet or oil hands. Stainless steel handle telescopes from 6-3/4" to 37"	12-01979	<b>\$18.90</b>

## ACCESSORIES

Mirror Size: Dual 1"x2" Weight: 2oz  
 P/N 12-01084 .....**\$1.42**

## TELESCOPING INSPECTION MIRROR



PLM2 Telescoping Inspection Mirror / Flashlight - Batteries included. Best design on the market-LED is on the end of the handle directing light exactly where you need it, not on the end of the mirror which can be blocked. Professional grade construction. Sleek mirror design and size allows you to get into tighter spaces. Fieldpiece brand. Doubles as a telescoping flashlight without mirror. Telescopes to 30 1/2". Bright white LED to light the darkest of places. Mirror slides off when all you need is a flashlight. Clips to your pocket just like a pen. Pivot control with adjustable tension screw. Omnidirectional ball joints for precise mirror positioning. 2" x 1" mirror size. Beautiful chrome finish. Handle screws down tight to ensure LED stays off when not in use. P/N 13-16353 .....**\$22.50**

## THE INSPECTOR ADJUSTABLE LIGHTED INSPECTION MIRROR



No more trying to aim a flashlight at the old style mirror. Inspector is a one-hand tool that comes with a very bright light that illuminates the total inspection area. Easy to adjust the mirror angle. Once inserted into the inspection area, simply push or pull the thumb knob for a 90° mirror angle adjustment. The product is constructed of non-conductive materials for safety. The mirror, lamp, and 2-AA batteries (included) are easily replaceable. Inspector.....P/N 12-15105 .....**\$26.50**  
 Inspector Replacement Lamp.....P/N 12-15110 .....**\$3.99**  
 Inspector Replacement Mirror ....P/N 12-15115 .....**\$5.95**

TO



# DRILL DOCTOR – SPRAY SYSTEMS

## DRILL DOCTOR 350X



The DD350X is ideal for the home workshop. It provides the homeowner, weekend craftsman, or hobbyist with the sharpening power needed to restore dull bits and keep on working. The DD350X adds simplicity, stability and accuracy.

Specifications: • On Chuck Alignment, eliminates alignment port for simplified sharpening process • V-Block jaws eliminate jaw twisting on small bits • New ergonomic low profile design for increased stability and less tool walking • New permanent magnet motor produces consistent power, regardless of speed or load • Sharpens 3/32" to 1/2" drill bits • Sharpens to a 118 degree point angle • Sharpens High-speed Steel, Carbide, TiN-coated and Masonry bits • User-Replaceable diamond sharpening wheel accessory available.

P/N 12-03774 ..... **\$64.75**

## DRILL DOCTOR TRADESMAN BIT SHARPENER



The DD500X Pro Kit combines the Drill Doctor Tradesman sharpener with heavy duty carrying case. Sharpen bits either 118° or the high performance 135° setting and it can turn standard drill bits into self-centering, split point bits. Sharpens bits from 3/32" to 1/2" diameter in about 60 seconds and includes the patented E-Z align system and diamond grinding wheel

for sharp precise results. Includes: Sharpener, 1/2" chuck, 110V power cord, carrying case, free video and easy to follow instructions.

P/N 12-00673 ..... **\$131.75**

## NUTPLATE INSTALLATION BLOCK



With this Nut Plate Block, you can install nut plates faster, easier, and with less damage to the surface and paint of the object you are fastening the nut plate to. The top side has 1/8" radius so no gouging will occur. The Nut Plate Block will produce a flush nut plate on the back side and the rivet will be flush to the skin surface every time. It takes less than 1 minute to install a nut plate. It is zinc plated for corrosion protection.

1/8" Nutplate Block 10-32..... P/N 12-04813 ..... **\$36.80**

## HAND VACUUM/PRESSURE PUMPS



Mityvac vacuum gauges are scaled 0 - 30 inches of Mercury (0 - 100 kPa). Compound gauges included on dual vacuum/pressure converter pumps are scaled 0 - 30 psi (0 - 200 kPa) pressure, and 0 - 30 inches of Mercury (0 - 100 kPa) vacuum. All Mityvac pumps produce vacuum at the front port. Dual converter pumps are capable of producing vacuum or pressure at the front port. A rotating knob on the side of the pump allows the operator to switch between vacuum and pressure. Dual converter pumps include a compound gauge for indicating levels of both. All Mityvac pump vacuum/pressure ports fit standard 1/4" (6.4 mm) ID tubing

**Features:** • Produces vacuum or pressure at the turn of a switch • Comfortable ergonomic design • One-finger trigger vacuum/pressure release • Pressure and vacuum are created on the squeeze stroke for superior accuracy and control • Includes durable, accurate gearless diaphragm style compound vacuum/pressure gauge with pinned connection for 360° rotation.

**Specifications:** • Pump Displacement: 1 in3 (16cc) per stroke • Max. Pressure 30 psi, 207 kPa • Material: PVC • Vol. per Stroke: 1 cu. in. / 16cc • Gauge1: Yes • Dual Converter2: Yes • CE Certified: Yes • Weight: 11.5 oz 326 g • Country of Origin: China, Designed and quality controlled in the USA.

Standard..... P/N 15-08423 ..... **\$82.95**  
Deluxe ..... P/N 15-08422 ..... **\$84.90**

## AXIS HVLP PAINT SPRAYERS



The Axis series of paint sprayers is designed to take the guesswork out of choosing a spraying system which can be confusing for the home-builder who is going to paint for the first time. Rather than offer a wide variety of sprayers, Axis has selected the best turbine for each type of product normally used to finish an airplane. This is the SP 2003 (three stage turbine) which is furnished with 30 feet of air delivery hose and the Lexair spray gun. Select one of the three systems shown below based on type of material you will be spraying. If waterborne materials are going to be used, we can furnish systems for this process on a special order basis.

Sys. 1 to paint aircraft covered in fabric..... P/N 12-15920 ..... **\$869.00**  
Sys. 2, to paint composite structure..... P/N 12-15930 ..... **\$844.00**  
Sys. 3, to paint over metal or wood ..... P/N 12-15940 ..... **\$820.00**

### ACCESSORIES

Lexair Gun..... 12-01385 ..... **\$399.95**  
Hose 40 ..... 12-01386 ..... **\$77.75**

## AXIS HALF FACEMASK ASSEMBLY



Comfortable neoprene half facemask with durable strap assembly provides maximum seal with a wide sealing edge that fits securely against the face. You'll find it a pleasure to wear. Add a Pullover Painting Hood (PN 12-03317) and Lens Protectors (PN 12-03318) for complete head and eye protection. Weight: 2 lbs.

P/N 12-03316 ..... **\$104.75**

## PULL OVER PAINTING HOOD



Durable full protection hood designed to be worn over any Axis Products, Inc. half facemask air supplied respirator system. Large 16" x 6 1/4" viewing area. Air pump supplies seven cfm of cool fresh air which circulates around the hood and exits around the neck. Don't forget to protect your lens with Hood Lens Covers (PN 12-03318) Caution: This hood is designed to be worn over air supplied half facemask system only!..... P/N 12-03317 ..... **\$44.90**

## AXIS AIR SUPPLIED TYVEK PAINTING HOOD



The Air Supplied Tyvek Painting Hood is durable and provides full protection. Large 16" x 6 1/4" viewing area and ratcheting headband for a secure fit are included. When used with any Hobbyair System it will supply cool fresh air to the hood, which circulates and exits around neck. Air flow prevents lens fogging. Don't forget to protect your lens with Hood Lens Protectors (PN 12-03318).

Painting Hood ..... P/N 12-03319 ..... **\$109.95**  
Hood Lens Protectors..... P/N 12-03318 ..... **\$24.95**

## AXIS GUN WITH BOTTOM FEED - QT CUP



Features a heavy duty chrome plated die cast aluminum gun body. The stainless steel needle and nozzle, chrome plated brass air cap, and 6061-T6 anodized aluminum nozzle holder are all CNC machined to tight tolerances. The three position floating air cap offers the ultimate in pattern control. The Pro Series spray gun features an exclusive Teflon packing design for long life and easy adjust-ability. The Pro Series spray gun has no O-rings and is gun washer safe and impervious to all solvents. • Pressurized Cup helps atomize paint better • All Metal Construction • One Quart Bottom Feed Cup • Includes 1.0 Needle/Nozzle..... P/N 12-03321 ..... **\$397.00**

## QUICK DISCONNECT FITTING



Weight: 0.5 lbs ..... P/N 12-03320 ..... **\$10.85**

## CITATION 240

### PAINT SPRAYER/RESPIRATOR SYSTEM



The Citation HVLP 'twin turbine' system provides both a 'professional quality' paint spray system and the HobbyAir supplied-air respirator in one portable package. This system comes complete with everything you will need to spray exceptionally fine finishes with practically any material and to breathe in safety and comfort while you work. The basic system includes two 40' airlines (one for breathing and one for painting) and a half face mask. Available options include: A larger two-person Citation system with 3 airlines (two for breathing and one for spraying), Full face masks, and air-supplied hoods. This system comes with an unconditional 1-year warranty..... P/N 12-15900 ..... **\$997.00**  
Optional 4 ft. whip hose..... P/N 12-15910 ..... **\$31.65**

TO

# APOLLO SPRAY SYSTEMS

## APOLLO POWER-3 PAINT SPRAY SYSTEM



Apollo's TrueHVLP™ Power Series gives more power, more performance and more value than ever before - Provides 15% more power from a 3-Stage Turbine. Spray all solvent-based materials such as: enamels, lacquers, stains, polyurethanes, most HVLP compatible waterborne coatings and more. Yields a high quality finish and suits smaller-scale professional and home-based operations. Comes equipped with the Handi-Hold® Spray Gun Docking Station, an Apollo innovation.

**Specifications:** • Type: 3 Stage • Pressure: 7.0 PSI (0.48 Bar) • Volume: 115 CFM (3.25 cmm) • Filtration: Dual Air Filtration • Gun Type: HVLP Only, Single gun • HP: 1.65 HP • Current: 110VAC - 60HZ or 240VAC - 50Hz • Amps: 11 or 5.5.....P/N 09-04548 .....**\$999.00**

## APOLLO POWER-4 PAINT SPRAY SYSTEM



Apollo's Power Series POWER-4 brings you 12% more power from a 4-stage Turbine. Sprays higher viscosity materials with excellent results, like, solvent-based materials including: enamels, stains, lacquers, polyurethanes, catalyzed finishes, conversion varnishes, and linear polyurethanes, as well as any waterborne coatings, latex (emulsion) paint (use with Floetrol® or similar flow additive) and other specialized materials like faux paints and gel coat. Extremely versatile unit that provides the perfect finish to woodwork-

ers, boat builders and restorers, automotive and airplane restorers and finishers, and any industry desiring super fine atomization with the widest range of materials. Optional Y-connector. Equipped with the Handi-Hold® Spray Gun Docking Station, an Apollo exclusive innovation. **Specifications:** • Type: 4 Stage • Pressure: 9.0 PSI (.062 bar) • Volume: 130 CFM (3.68 cmm) • Filtration: Dual Air Filtration • Gun Type: HVLP Only, Single gun • HP: 1.85 HP • Current: 110VAC - 60HZ or 240VAC - 50Hz • Amps: 13 or 6 • Dimensions: 15" X 8.5" X 12" (38.1cm X 21.6cm X 30.48cm).....P/N 09-04551 .....**\$1,199.00**

## APOLLO POWER-5 PAINT SPRAY SYSTEM



The Apollo POWER-5 combines exceptional Power Series features in a 5-Stage Turbine - with 22% more power! Spray solvent-based materials: enamels, stains, lacquers, polyurethanes, catalyzed finishes, conversion varnishes and linear polyurethanes. The POWER-5 also delivers superb results with waterborne coatings, latex (emulsion) paint (using Floetrol® or similar flow additive) and specialized materials like faux paints and gelcoat. The POWER-5 comes with the Handi-Hold® Spray Gun Docking Station to store, hold

or transport your spray gun safely. The enhanced power and exclusive precision features of the new Precision Series POWER-5 put you in control of the most advanced TrueHVLP system for industries and applications demanding precision technology for the perfect finish. The POWER-5 will support multiple spray gun operations with a Y-connector. The POWER-5 turbine comes equipped with the Handi-Hold® Spray Gun Docking Station, an Apollo exclusive innovation. Store, hold or transport your spray gun in a vertical position with no risk of tipping. Ready to spray when you are.

**Specifications:** • Type: 5 Stage • Pressure: 9.5 PSI (.070 bar) • Volume: 130 CFM (3.68 cmm) • Filtration: Dual Air Filtration • Gun Type: HVLP Only - Single Spray Gun • H.P.: 1.85 HP • Voltage: 110VAC - 60HZ or 240VAC - 50Hz • Amps: 13 or 6.....P/N 09-04552 .....**\$1,399.00**

## TURBOPRO SPRAY GUNS



Experience flawless performance paired with any TURBOPRO TrueHVLP Turbospray system. Additional spray gun models are available that will easily adapt to any pressure pot for larger applications. A full range of nozzles, needles and air caps are available for every automotive, marine or aviation spraying application. Basecoat.....P/N 09-04557 .....**\$476.10**  
Clearcoat.....P/N 09-04558 .....**\$476.10**

## TURBOPRO 1000 PAINT SPRAY SYSTEM



APOLLO SPRAYERS are the TrueHVLP Turbospray equipment is finding broad application across the world. The benefit of less overspray and recorded savings of 38% on coatings with no finish compromise is just one. Imagine having portability if necessary and no need for dryers or filters since the air supply is clean, dry and continuous always. Spraying waterborne coatings is a dream with Apollo TrueHVLP Turbospray Technology. Add to the list less energy consumption and even less booth filter maintenance if used in a spray booth.

P/N 09-04546 .....**\$2,245.50**

## TURBOPRO 2000 PAINT SPRAY SYSTEM



APOLLO SPRAYERS the TrueHVLP Turbospray equipment is finding broad application across the world. The benefit of less overspray and recorded savings of 38% on coatings with no finish compromise is just one. Imagine having portability if necessary and no need for dryers or filters since the air supply is clean, dry and continuous always. Spraying waterborne coatings is a dream with Apollo TrueHVLP Turbospray Technology. Add to the list less energy consumption and even less booth filter maintenance if used in a spray booth.

Precision - Pressure Control System (PCSTM) controls motor speed, voltage and amperage adjusting automatically for altitude and barometric pressure assuring precise atomizing pressure worldwide. Power - Documented 80% transfer efficiency and 38% savings on coating when compared with compressed air systems. Throttle Back Control (TCB™) - Permits highest available flow pressure and increased motor longevity. LCD Message Center - Accurate Pressure Display - Motor Idle - Temperature - Hour Use Meter. Systems are supplied with our Award Winning PBC-GTO Series spray guns and our Handi-Hold Spray Gun Docking Station, an Apollo innovation. Store, hold or transport your spray gun in a vertical position with no risk of knocking or falling over. It's ready to spray when you are.

P/N 09-04547 .....**\$3,145.50**

## ATOMIZER GRAVITY FEED SPRAY GUN



A7500GT AtomiZer™ Gravity Feed Spray Gun. The Apollo 7500GT gravity feed spray gun is supplied with an 8fl. oz (250cc) or 20fl. oz (600cc) non-stick coated gravity cup or a 1 quart (1000cc) gravity cup, duckbill valve, deluxe carrying case, spare parts kit, sample bottle of genuine Apollo Spray Gun Lube and a wrench (spanner). **Gravity feed** - three cup sizes **Pressure feed** - two cup sizes, and **Production** - 2 quart (2 litre) pot or larger. P/N 09-04556 .....**\$369.00**



A7500MT AtomiZer™ Touch-Up Spray Gun. The Apollo 7500MT touch-up cup gun is supplied with an 8fl. oz (250cc) mini touch-up cup assembly, duckbill valve, carrying case, spare parts kit, stainless steel material filter, sample bottle of genuine Apollo Spray Gun Lube and a wrench (spanner). **Gravity feed** - three cup sizes. **Pressure feed** - two cup sizes, and. **Production** - 2 quart (2 litre) pot or larger ....P/N 09-04555 .....**\$369.00**

## PRO-TEC MIGHTY TUFF CLEANER / DEGREASER



Will not harm carpet or fabric. Great for cleaning vinyl, plastic and rubber. Multi-purpose cleaner/degreaser. Removes blood, coffee, grease and fish formulas. Great for cleaning vinyl, plastic and rubber. Multi-purpose cleaner/degreaser. Multi-purpose cleaner / degreaser is water-soluble Can dilute or use full strength Removes blood, coffee, grease and fish formulas from carpet Will not harm carpet or fabric itself Great for cleaning vinyl, plastic and rubber Even cleans mildew form vinyl seats! 16 oz.....P/N 09-04545 .....**\$369.00**

TO



# SPRAY EQUIPMENT



## ZIPGUN REPLACEMENT CUP ONLY - PACKAGE OF 25

Utilizes disposable paper cups as paint reservoirs making color changes possible in seconds. Package of 25 cups.

P/N 01-00325 .....\$6.95

## PREVAL SPRAY GUN

Sprays paints, primers, gel coats, lubricating oils, cleaners, zinc chromate, etc. The Preval Sprayer is a professional grade spray system that is good for countless applications. It's disposable, recyclable, easy to clean, and, best of all, no compressor is needed. The Preval Sprayer's patented venturri vacuum process pulls liquid from any compatible, removable, and refillable container and delivers a professional-grade spray stream to virtually any surface. It's amazing.

- Easy replacement and cleanup with interchangeable and disposable parts
- Customize your color or use with the medium of your choice
- Store media in containers for easy reuse
- Great for DIY projects
- Professional- grade finish

#267 Complete Set.....P/N 09-00339 .....\$7.90  
 #268 Power Unit .....P/N 09-00340 .....\$9.65  
 #269 Product Container.....P/N 09-00341 .....\$1.95



## PREVAL PROPACK SPRAY SYSTEM

Deliver twice the spray with the Preval Pro-Pak : two complete Preval Spray Systems in one money-saving package. Each versatile Preval sprayer is made in the USA and delivers 16oz. of almost any paint or liquid, offering unparalleled versatility for small projects and touch ups.

P/N 09-04560 .....\$26.95

## PREVAL VALPACK SPRAY SYSTEM



Preval Sprayers' best value for your workshop, garage, job site and around the house.

The Preval Val-Pak is a complete assortment of Preval Sprayers and sprayer accessories. This cost-effective kit provides everything you need to apply multiple types of paints, chemicals, finishes, coatings and most other liquids in a multitude of prep, touch up and maintenance applications. Ideal for commercial use and DIY projects, every Preval Power Unit atomizes up to 16oz. of virtually any liquid.

Included with the Val-Pak kit are accessories and extra bottles that enable you to switch easily between different liquids for different projects, then store the remaining material in the reservoirs for later use.

Easy to clean. Each Power Unit can be reused for multiple applications.

**In The Box:** • 1 – Preval Sprayer with bottle and tubes • 1 – Preval vGrip • 2 – Preval Replacement Power Units • 8 – Spray buttons • 4 – 6oz. glass reservoirs • 4 – 6oz. plastic reservoirs (solvent proof) • 4 – 3oz. plastic reservoirs w/cap (solvent proof) • 8 – Bottle lids • 4 – Short dip tubes • 16 – Long dip tubes

Made in the USA.....P/N 09-04531 .....\$58.75

## THE BEUGLER STRIPER PROFESSIONAL PINSTRIPING TOOL



The Beugler tool makes accurate lines consistently, without gravity or pressure, eliminating the need for tape. The unique serrated wheel and wheel head design are the secret to the striper's success. Ideal for any art project, the Beugler Striper is a professional tool used by auto, truck and motorcycle painters around the world. Beugler's magnetic guide securely holds to any steel surface, allowing the striper's guide arm to slide smoothly along its recessed groove for long, accurate, straight, or arced lines. To ensure customer satisfaction, Beugler also offers a 40 minute video tape or DVD with instructions, tips and demonstrations. The Beugler Striper works well with any "creamy" consistency paint. You can stripe at any angle, as the tool is not gravity fed. Both Professional and Deluxe Kits are of the same quality and include guides, clean up brush, 2/3 oz. paint barrel (which stripes 250 to 1750 feet, depending on stripe size) and complete instructions. Length 4-1/4". O.D. 3/4".

Description	Part Number	Price
Deluxe Kit (Includes 3 Stripping Heads)	12-01696	\$165.75
Professional Kit (Includes 7 Stripping Heads)	12-01695	\$229.00

## MINI-AIR POWERED VACUUM



Runs off of an air compressor and is simple to use. Just plug it into the air hose using the adapter (included) & start cleaning. The body of the unit is plastic or cast aluminum construction with an 18" clear plastic flex tube that can easily get into tiny spaces to clean. The canvas bag is easily removed. Wt. 8.5 oz.

Mini-Air Vacuum - plastic .....P/N 12-16820 .....\$31.90

Mini-Air Vacuum - aluminum .....P/N 12-16821 .....\$65.75

Spare Bag and Clip.....P/N 12-16825 .....\$9.90

36" Clear Flex Hose .....P/N 12-16830 .....\$12.50

## PREVAL UNIVERSAL VGRIP HANDLE



vGrip Universal Handle is a 2-in-1 gun handle and ergonomic trigger that snaps onto the Preval Sprayer with ease. Also attaches to any other standard aerosol can. (handle only). This is a replacement part for the Preval Valpack (09-04531).....P/N 09-04563 .....\$7.85

TO

# BLASTING SYSTEMS

## VAC BLAST PORTABLE VACUUM BLASTER



This portable 28-gallon vacuum unit blasts, removes and recycles abrasives in one operation. It works with glass oxide, aluminum oxide, steel grit, garnet, plastic grit, walnut shells, corn cobs and more. Rolls easily on 6-inch wheels. What's included: (1) 28-gallon vacuum blaster (1) 8-ft. air and vacuum hose (1) Gun and brush assembly (1) 6-ft. power cord (2) Wheels (1) Replacement nozzle. **Specifications:** Operating PSI: 115 - 140 (Max), Capacity: 28 gallons, Vacuum motor: 1100 watt, 120V, 1.5 HP, Air Consumption at Load (CFM): 15 at 80 PSI, Body Material: Steel, Body

Finish: Powder-coated, Recommended Media: Glass beads, aluminum oxide, steel grit, garnet, plastic grit, walnut shells, corn cob, Hose length (ft.): 8, Nozzle Size (in.): 1/4, Tire Size (in.): 6 Dimensions L x W x H (in.): 15 x 15 x 41, Manufacturer Warranty: 1 year limited warranty, Ship Weight: 88.0 lbs.....P/N 12-02647 .....\$695.00

## MONSTER BLAST CABINET



The Monster Blast Cabinet is constructed of 14-gauge steel for strength and durability. It features a built-in dust collector and large work area to handle bigger pieces. Foot pedal control and side-mounted light switches for easy control. What's included: (1) Blast cabinet (1) Blast Gun (4) Nozzles (two 7/32in., two 9/32in.) (1) Air regulator (2) Blast gloves (1) Foot pedal (4) Fluorescent lights (5) Extra window and (5) extra light underlayment sheets. **Features:** Large front door for easy loading. Heavy-duty 90 CFM dust collector improves visibility during blasting. Rear-mounted dust collector saves floor space. Convenient foot pedal operation. Large work area. Large viewing window: 30 inches x 15 inches. Heavy-duty steel grate holds up to 400 pounds! 4 fluorescent bulbs provide a very bright work area. Monster-sized 443 pounds! Heavy-duty 14 gauge steel has a resilient powder-coated finish. Gas-charged hydraulic hinges provide smooth and easy opening / closing. Power controls are lighted and within easy reach on side of cabinet. Blast-gun hook inside cabinet.

P/N 12-02648 .....\$2,571.00

## BLASTING ABRASIVES



Removes paint/corrosion/rust from military, commercial and private aircraft while preserving anodized and alclad surfaces. Customers and usages include: Bell Helicopter Textron, U.S. Air Force, U.S. Navy, U.S. Marine Corps, U.S. Army, Pratt & Whitney, Commercial Airlines(MRO), FAA Repair Stations, turbine blades. **Note: Priced and sold in 25 lb bags.**

Model No.	Description	Part No.	Price
T-2 Urea	T-2 Urea, with a Barcol Hardness of 54-62, is our most versatile plastic blast media. It is highly suitable for a broad range of cleaning and stripping applications, including aircraft, automobiles, marine vessels, trucks, and trailers. Superb results can be expected in the removal of paints, anti-corrosion coatings, hydrocarbon deposits, waxes, oils, adhesives, and sealants, to name a few. T-2 for optimum results on a variety of applications!	12-03810	\$49.50
T-3 Melamine	T-3 Melamine, with a Barcol Hardness of 64-72, is our most aggressive, fast blast media. It is highly suitable for a broad range of cleaning and stripping applications, and is highly desirable for replacing glass beads and other harsh abrasives. Best results can be expected in the removal of stubborn paints, printers, hydrocarbon deposits and other hard materials such as molds, engines, iron, and steel. T-3 for maximum aggression and performance on harder substrates!	12-03811	\$49.50
T-5 Acrylic	T-5 Acrylic, with a Barcol Hardness of 46-54, is especially suited for a broad range of applications that require high stripping rates coupled with the need to insure surface integrity. T-5 Mil Spec media meets or exceeds the requirements set forth in Mil-P-85891A. Ideal for aircraft components, it is also excellent for powder coating removal from pultruded aluminum parts, thin fiberglass components, thin gauge metals, and of course, aircraft components. T-5 Mil Spec for optimum results where surface integrity is a must!	12-03812	\$79.75

## CABINET BLASTERS



100 CFM dust collector included with all steel cabinets. HD 14 gauge steel - welded seams. Full width top door. Optional additional side door. Optional foot pedals or ALC pistol grip trigger gun. High quality lined 24" gloves. Cushioned foam armholes.

**Specifications:** Work Area: 36" or 48" or 60" W x 24"H x 24"D, Height: 60", Door Options: Double Doors, Top Door Opening: 13" x 35", Side Door

Opening: 11" x 17", Gun Options: Foot Pedl, Weight: 36" - 272, 48" - 303, 60" - 333.

Cabinet 36".....P/N 12-02563 .....\$1,995.00

Cabinet 48".....P/N 12-02564 .....\$2,119.00

Cabinet 60".....P/N 12-02565 .....\$2,272.00

## PORT-A-BLAST SANDBLASTER



The Port-A-Blast sand blast gun is a complete sand blast unit. Fill the container with the abrasive material, connect the gun to your air line and it is ready to go to work. Will operate on air pressure as low as 60 PSI. However, for best results, pressures of 100-500 PSI are recommended. The greater the pressure the faster the cutting. The gun can be used to siphon abrasives or liquids

directly from a hopper or bucket, using a flexible siphon tube, and eliminating the 1Qt. container.

Compatible Abrasives: • Silica Sand - the cheapest and most widely used for average work • Glass Beads • Black Beauty Abrasive • Aluminum Oxide Abrasives - for fast cutting and fine texturing and etching • Nut Shell Abrasives - for cleaning and polishing hard under surfaces without scratching • Metal Shot - for removal of hard surfaces such as porcelain.

Port-A-Blast gun.....P/N 12-00172 .....\$92.80

Flexible siphon tube.....P/N 12-00173 .....\$11.75

Replacement Ceramic nozzle.....P/N 12-00493 .....\$19.50

## DELUXE PORTABLE PRESSURE BLAST SYSTEMS



Model 1000



Model 400

These Portable Pressure Blasters are designed to make the most efficient use of your air and abrasive supply. These are not inexpensive siphon units. The entire tank is filled with air and sand under pressure. When the nozzle and valve is opened the sand/air mixture is released under tremendous pressure to quickly remove paint, rust, scale and other coatings. These units are 3-5 times faster to use than siphon units. All units arrive complete with air gauge, pressure vessel, sandblast hood, and sandblast hose. Simply fill with abrasive and attach to your air supply and you are ready to begin blasting. Order by Part no.

Spec. Chart	Model 400	Model 1000
Operating Pressure	60-125 psi	60-125 psi
ASME Tank	No	Yes
Sandblast Hose	7 feet	10 feet
Abrasive Capacity	40-50 lb.	100-120 lb.
Nozzle Size	3/32"	1/8"
Part Number:	12-20725	12-20735
Price:	\$994.00	\$2,246.00

**ABRASIVES** - Black Beauty: Economical, fast cutting abrasive. For quick removal of paint and rust. 80# bag....P/N 12-20740 .....\$47.50

TO



# BLASTING SYSTEMS- TIG WELDERS



## DUAL STATION BLASTING CABINET

2 operators can blast simultaneously. No long delays for moving blast items, operator can simply change stations. 2 siphon blast guns. 2 90 CFM dust collectors. 4 Bright florescent tube lights. 2 pairs of 7"x33" blast gloves. 2 Air pressure regulators. 2 Foot pedal controls. 10 Extra protective window underlays. 5 Extra protective light underlays. 8 Extra nozzles - 4 Ea. 6mm and 7mm. Lighted power controls. 1 Year warranty.

P/N 12-04818 .....\$2,673.00



## BLASTER KIT (F-50)

Use dry abrasives only. Hose length - 7ft. Tank capacity - 50lbs. Free standing open top tank. Maximum 125 psi. 7 CFM@80 psi minimum. Lightweight and portable. Easy setup. Steel nozzles - 13/64", 1/4", 5/16"

P/N 12-02548 .....\$142.95



## BLASTER KIT (F-90)

Use dry abrasives only. Hose length - 10 ft. Tank capacity - 90 lbs. Strong tubular steel cart. Wheels - 6". Maximum 125 psi. 7 CFM@80 psi minimum. Lightweight and portable. Easy setup. Steel nozzles -13/64", 1/4", 5/16"

P/N 12-02549 .....\$199.95



## TRIPLE DOOR BLAST CABINET

48x24" Triple Door Blast Cabinet  
**Features:** • Full width top door • Two side doors • Foot pedal • Fluorescent light • 90 CFM dust collector attached • Pressure regulator • Replaceable window underlays • Includes 4 nozzles • Some assembly required.

P/N 12-02858 .....\$1,695.00



## BENCHTOP CABINET BLASTER

30x20" Bench Top Blast Cabinet  
**Features:** • Made of tough LDPE polymer • One-piece construction (no leaks) • Self-adhesive underlay • Pistol grip trigger gun • Overside top window/door  
**Specifications:** • Work area: 30"W x 27"H x 20"D • Height: 28" • Weight: 34 lbs.....P/N 12-02857 .....\$465.00



## ASK MISTER TIG DVD

Learn how to tig weld with the best!! Mister Tig (Wyatt Swaim-30 years of aerospace welding experience) will teach you the fundamentals and launch your tig welding training. This 34 minute DVD will teach you the proper torch angle, tungsten preparation, tungsten stick-out, and the proper "dabbing" of the filler rod technique. This instructional DVD will help you set up your machine for the correct procedures including aluminum (alternating current), and 4130-cro-mo (DC-). The DVD is also packed with tig information and is designed for the beginner tig operator and will even help the intermediate operator.

P/N 13-05751 .....\$26.75



## TIG CALCULATOR

Just tell it what material you're welding, the thickness, and type of weld (butt, lap, etc.), and it will give you information concerning your weld such as travel speed, number of passes needed, tungsten type and size, what amperage to run, and speed of welding. Slide rule style.

AP/N 12-00444.....\$8.90

## TIG TORCHES & REPLACEMENT CABLES



**PTA-9F** - Air-cooled TIG torch, rated 125 amps at 60% duty cycle. Includes a 12-1/2 foot Superflex Cable. Equipped with a flexible head for easy maneuverability into tight places .....P/N 12-00391 .....\$196.90

**REPLACEMENT CABLE** - 12-1/2 foot Superflex replacement cable for the PTA-9F ..P/N 12-00399 .....\$58.75



**PTA-17H** -Air-cooled TIG torch, rated 250 amps at 60% duty cycle, heavy duty. Equipped with a 12-1/2 foot Superflex Cable .....P/N 12-00392 .....\$296.95

**REPLACEMENT CABLE** - 12-1/2 foot Superflex replacement cable for the PTA-17H  
 P/N 12-00401 .....\$84.75

## TIG TORCH ACCESSORY KITS



**9GL KIT** - TigDepot Parts Kits provide all the torch accessories you need to start welding. Parts Kits provide collets, collet bodies, a back cap, alumina nozzles and tungstens in a variety of sizes, all packaged in an easy to carry reclosable box. The 9GL-Kit comes with .040, 1/16, 3/32 Collets, Gas Lens Collet Bodies, Gas Lens Nozzles, (#5, #6, #7), a long Back Cap, and an assortment of 2% Thoriated and Ceriated Tungsten in a convenient plastic box. For the 9 Series torches.

P/N 12-00393 .....\$69.95



**17H-GL KIT** - The TigDepot 17H Gas Lens Kit is made specifically for the 210 Amp 17H Torch. **The Kit includes One of each:** • 2% Thoriated Tungsten .040, 1/16, 3/32 DIA. • Alumina cups #5,6,7 • Gas lens .040, 1/16, 3/32 • Collets .040, 1/16, 3/32 • Backcaps-short, medium, long • Insulator • Tool box.....PN 12-00394 .....\$79.95

## TIG WELDERS 200 DC-PRO READY PAK



Tig Welders 200 DC-Pro Ready Pak. Replaces Tig 200 DC-Pro Ready Pak.

### In The Box:

- 1 - Foot pedal
- 1 - Ckworldwide superflex 17 flexhead torch
- 1 - Argon regulator
- 1 - Stick welding accessory
- 1 - Mister Tig instructional video
- 1 - 17h stubby gas lens kit

P/N 12-05455 .....\$1,064.22

TO

# TIG WELDING EQUIPMENT & ACCESSORIES

## FULL ARM WELDING GLOVES



Full Arm Welding Gloves. Industry First! - 21" glove with heavy duty padding on the forearm and elbow for comfort. Super supple Genuine American Deerskin tanned in U.S.A. Boarhide™ leather heat shield patch, reinforced palm, cuff and lean-on patch. Sock-lined FR (flame resistant) cotton fleece insulated. Boarhide™ leather pull-strap. Sewn with Kevlar® thread. Complimentary 3" carabineer to keep gloves together with exclusive Caiman® loops on each pair. Kontour™ - Exclusive 3-Dimensional, pre-curved fingers, and form-fitting design for ultimate fit, comfort & dexterity. Patches, padding and reinforcements for comfort & protection .....P/N 13-20151 .....\$54.75

## MAGNETIC UNI-JIGS



Magnetic holders for hands-free support in a variety of applications. Designed to last a life time. Each angle is screwed (not riveted) completely through the magnet to insure proper angles.  
Small (supports up to 45 lbs.)  
P/N 12-05185 .....\$7.50  
Large(supports up to 80 lbs.)  
P/N 12-05186 .....\$11.50

## TIG TUNGSTEN

Sold in packages of 10



2% Thoriated  
1/16 .....P/N 12-00438 .....\$14.85  
3/32 .....P/N 12-00439 .....\$32.85  
2% Ceriated  
1/16 .....P/N 12-00440 .....\$14.95  
3/32 .....P/N 12-00441 .....\$32.70  
Pure  
1/16 .....P/N 12-00442 .....\$14.60  
3/32 .....P/N 12-00443 .....\$39.90



## TIG FILLER MATERIALS

36" Cut Lengths are packaged in 1 lb. tubes to provide you the flexibility of buying only what you need for your job.

Base Material	Use Filler	Size	Part No.	Price/Lb.
4130	ER80S-D2	.035	12-00473	\$13.60
4130	ER80S-D2	.045	12-00474	\$11.80
4130	ER80S-D2	.062	12-00475	\$9.90
4130	ER70S-2	.035	12-00477	\$13.60
4130	ER70S-2	.045	12-00478	\$12.85
4130	ER70S-2	.062	12-00479	\$9.90
Aluminum	ER4043	.045	12-00480	\$25.50
Aluminum	ER4043	.062	12-00481	\$14.70
Aluminum	ER5356	.045	12-00482	\$25.65
Aluminum	ER5356	.062	12-00483	\$13.50
Stainless Steel	ER312	.035	12-00484	\$32.85
Stainless Steel	ER312	.045	12-00485	\$29.90
Stainless Steel	ER312	.062	12-00486	\$22.75
Stainless Steel	ER308L	.035	12-00487	\$28.65
Stainless Steel	ER308L	.045	12-00488	\$25.50
Inconel	NICKEL 625	.035	12-00490	\$188.85
Inconel	NICKEL 625	.045	12-00491	\$138.95
Super Alloys	ALLOY W	MKT	Special Order	Call
Titanium	TITANIUM	MKT	Special Order	Call
Magnesium	TITANIUM	MKT	Special Order	Call

## BRAZING AND SILICON BRONZE



.062 .....P/N 12-00470 .....\$19.90

## CUTTING TORCH ATTACHMENT



Cuts up to 3". Spiral tube mixer design optimizes the mixture of fuel and oxygen. Stainless steel tubes and lever. "A" hose fitting, 3/8"-24 thread.  
P/N 12-00448 .....\$102.50



STAND

## BOTTLES AND TOTE

Plastic Stand, Oxygen and Acetylene Cylinders - Plastic Cylinder Stand holds "MC" Acetylene Cylinder and "R" Oxygen Cylinder.  
Plastic Cylinder Stand  
P/N 12-00449 .....\$33.50

"MC" Acetylene Cylinder (Empty)  
P/N 12-00451 .....\$82.75  
"R" Oxygen Cylinder (Empty)  
P/N 12-00452 .....\$100.75



## COW HIDE GLOVES

These are a good import, not too stiff.  
P/N 12-05155 .....\$7.95

## 38" LEATHER WELDING APRON

Quick release buckle and cross straps make it very comfortable; it also has pockets..... P/N 12-05160 .....\$22.50



## 3M SPEEDGLAS BLAZED WELDING HELMET 100

3M™ Speedglas™ 100 Welding Helmets deliver outstanding protection, comfort and performance with distinctive graphic designs. Welders can benefit from its excellent optical quality and reliable light-to-dark switching at a highly affordable price. The Speedglas 100 welding helmet can be used with most arc welding processes, such as stick (MMA), MIG/MAG and TIG applications greater than 10 amps. It's also the ideal "entry-level" auto-darkening helmet for occasional users, such as hobbyists, farmers and maintenance or construction workers.  
P/N 12-02695 .....\$278.95



## FULL FACE SHIELD

Lightweight headgear, shield flips down over prescription glasses. Good over bifocals.  
P/N 12-05175 .....\$30.56



## OXY-ACETYLENE HOSE

3/16" hose that may be used with all welding outfits.

**B-B FITTING**  
12' .....P/N 12-05916 .....\$18.95  
25' .....P/N 12-05917 .....\$17.95

**A-B FITTING**  
12' .....P/N 12-05918 .....\$18.70  
25' .....P/N 12-05919 .....\$28.50



## TWO-IN-ONE 'R' GRADE HOSE FOR ACETYLENE

Green Hose: Oxygen. Red Hose: Acetylene. Length: 12-1/2" (3.8m). Diameter: 3/16" (5mm). Weight: 2-1/2 lbs (1.1kg). Use with AW Torch Series. "A" 3/8-24 & "B" 9/16-18 Hose Fittings.....P/N 12-01198 .....\$36.70



## PORTASOL CORDLESS BUTANE SOLDERING TOOL KIT

Contains four different tools. Simple tip/accessory installation allows you to convert into a soldering iron, blow torch, hot blower or hot knife within seconds. Quickly cut and seal repairs on dacron, mylar and nylon. Cordless, go-anywhere versatility, 90 minute continuous use capacity, refills in 20 seconds with standard butane lighter fuel, and full 2 year warranty.  
P/N 12-20600 .....\$107.75

TO



# WELDING EQUIPMENT – PARTS CARTS



**COBRA STANDARD TORCH KIT**  
Standard Welding System contains the DHC2000 Welding Torch, #0, #0.5, #1, #2, #3 and Copper Cutting Tip, undercutter, overcutter with guide rail attachment, one set of check valves, a tip cleaner set, wrench, DVD, and instructional manual.  
P/N 12-16000 .....\$425.00



**COBRA HENROB WELDING TIP - #0**  
P/N 12-16011 .....\$24.95

## SMITH WELDING OPTIONAL EQUIPMENT



**SERIES 30™ TWO STAGE REGULATORS**  
H1421A-510 for Acetylene, 0-15 PSI  
P/N 12-01186 .....\$346.00  
H1410A-540 for Oxygen, 0-150 PSI  
P/N 12-01185 .....\$324.00  
For the professional. Heavy duty, w/check valves.



**AC309 AIRLINE™ - STANDARD DUTY CUTTING ATTACHMENTS**  
Cutting capacity up to 3" thick (76mm) steel. Head Angle 90° USE IN: Torch Handles - AW1A, AW10A....  
P/N 12-01082 .....\$199.95



**CUTTING TIP**  
Slip-in cutting tips for general medium duty hand cutting. Use with medium pressure acetylene and oxygen. USE IN: Cutting Attachments - DG109A, MC505, MC509, CC509P (all sizes); AC309 (Maximum tip size MC12-4)  
P/N 12-01192 .....\$17.85



**HUNTSMAN FACE SHIELD** - Dark green plastic window 8" x 11-1/2" snaps onto lightweight plastic adjustable headband. Permits full peripheral vision during work. Protects against radiation - flip up visor when not in service.  
Visor .....P/N 8124D .....\$5.50  
Complete Shield.....P/N 12-05100 .....\$36.50

## HUNTSMAN ELECTRONIC WELDING HELMET

Call for prices and information on the new Huntsman Autoview Welding Filters which provide uncompromising eye protection.



**SINGLE STAGE REGULATORS**  
Gas Used: Oxygen Delivery Pressure: 0-100 PSIG, 0-7 Bar .....P/N 12-19300 .....\$139.85  
Gas Used: Acetylene Delivery Pressure: 0-15 PSIG, 0-1 Bar .....P/N 12-19400 .....\$139.85



**STANDARD DUTY TORCH HANDLE** - Inlet connections 3/8" - 24 right and left hand, fit "A" size hose nuts. Cuts up to 3" (76mm), welds up to 1/2" (13mm). Covered by the LIFETIME Warranty & Service Agreement. USED WITH: Cutting Attachment - AC309. Welding Tips - AW200 Series, AW400 Series.  
P/N AW1 .....\$199.85



**AW200 AIRLINE™ SERIES OXY-ACETYLENE -**  
USE IN: Torch Handles - AW1A & AW10A.

For Metal Thickness Up To	Part No.	Price
1/32"	AW201	\$64.95
1/2"	AW203	\$65.75
1/8"	AW205	\$64.75



**ONE SINGLE FLINT LIGHTER**  
P/N 12-01194 .....\$1.95



**TIP CLEANERS**  
Quality aluminum case with rustproof stainless steel wire. The long spiral cleans a large number of tip styles. A hardened steel file included in each case.  
P/N 12-05180 .....\$2.95



**SILVER PENCILS**  
The best way to mark tubing. Will not corrode tubing and shows up well on greasy tubing. May be used to mark exhaust system without lead cracking  
P/N 12-05190 .....\$4.40

## INNOVATIVE PARTS CARTS

Keep parts and pieces from taking off. Cut clutter and down time. Everyone needs one or more - at work or at home, innovative parts carts become very attached to their parts carts. They're virtually indestructible. Make users more efficient, productive and better organized - plus they're good looking and customizable.



### INNOVATIVE PARTS CART A™

- Industry's easiest-nesting /catalog.
- Perfect size for "lighter-hit" jobs.
- Makes a great portable workstation.
- High-carbon, heat-treated steel shelf brackets for years of trouble-free use.
- All shelves have upper side rails to prevent parts slide-off.
- Four industrial grade total-lock caster wheels for mobility; zero movement when locked.
- Durable powder coat finish stays new looking longer.
- Shown with optional Shelf Mat.
- U.S. Patent #7,314,413
- Other Patent Pending.
- Dimensions: 42"W x 31"D x 44"H
- Shelves measure 40"W x 24"D
- Shelves adjust every 3"
- Weight rated to 125 lbs. per shelf
- Includes: 2 adjustable shelves, 2 adjustable support arms, 2 bungee cords, 6 metal hooks
- 73 lbs. ....PN 12-02023 .....\$294.95



### INNOVATIVE PARTS CART B™

- This best-selling cart features an open design and 30 percent more shelf positions than most carts. It is ideal for major teardowns and repairs. The cart shelves can be easily adjusted to accommodate various parts. High-carbon, heat-treated brackets support each shelf up to 125 pounds. Multiple parts carts can also be nested and easily stored, saving you space. There's no need to flip or reverse the shelf for nesting multiple units.
- U.S. Patent #7,314,413, 7,708,156 & other Patents Pending
  - Dimensions: 41"W - 51"W x 31"D x 75"H
  - Shelves measure 40"W x 24"D
  - Shelves adjust every 3"
  - Weight rated to 125 lbs. per shelf
  - Includes: 3 adjustable shelves, 2 adjustable support arms, 2 bungee cords, 6 metal hooks
  - 100 lbs. ..PN 12-02024 .....\$524.00



### INNOVATIVE PARTS CART C™

- Easiest shelves in the industry to adjust.
- Provides 32 sq. ft. of shelf space!
- High-carbon, heat-treated shelf brackets for years of trouble-free use.
- All shelves have upper side rails to prevent parts slide-off.
- Durable powder coat finish stays new-looking longer.
- Shown with optional RO Holder.
- U.S. Patent #7,314,413
- Other Patent Pending.
- 42"W x 50"D x 75"H
- Shelves measure 40"W x 24"D
- Shelves adjust every 3"
- Weight rated to 125 lbs. per shelf
- Includes: 6 adjustable shelves, 4 adjustable support arms, 2 bungee cords, 6 metal hooks
- 152 lbs. ..PN 12-02025 .....\$618.00

TO

# AIRCRAFT SCALES – TEST EQUIPMENT

## PRECISION AIRCRAFT SCALES FOR ACCURATE WEIGHT & BALANCE



Checks aircraft weight and balance after modifications or fitting of new accessories. Flight safety is improved by periodic weighing to verify weight and balance is within limits. Simply roll the aircraft up the ramps onto the scales or jack the wheels and slide the pads under tires. A single high performance strain gauge load cell is in each pad. Temperature compensation prevents zero shift or sensitivity changes. Weighing pads, indicator and cables are color coded for easy match up. Include one 3 channel indicator, three colored cables, one 110V battery charger cable, three ramps, and six tire stops. Also includes a case.

Part No.	Capacity	Price
12-16711	2,500 lbs. per pad	<b>\$6,196.00</b>
12-16715	6,000 lbs. per pad	<b>\$8,951.00</b>
12-16721	10,000 lbs. per pad	<b>\$8,496.00</b>
12-16725	15,000 lbs. per pad	<b>\$9,397.00</b>
OPTIONS		
Part No.	Description	Price
12-16730	Extra cable, colored	<b>\$282.95</b>
12-16735	Extra ramps, small, set of 3	<b>\$256.95</b>
12-16740	Extra ramps, large, set of 3	<b>\$561.00</b>
12-16745	Extra tire stops (chocks)	<b>\$56.75</b>

## BARFIELD DIGITAL TURBINE TEMP TEST SET



The Barfield TT1200A is a Digital Turbine Temperature Test Set. It is microprocessor based, completely self-contained, battery powered unit housed in a high visibility ruggedized enclosure. It is designed with sufficient accuracies and range to be able to test digital and glass cockpit indicators with simple operation, direct reading, and multi-function versatility. The TT1200A is specifically designed to accomplish all requirements for testing the aircraft Chromel/Alumel (K type) turbine temperature measuring systems. The Test Set can measure resistances down to 0.001 ohms, measure insulation up to 200M ohms, perform indicator run-outs with a resolution of 0.1°C or 1°C and a range of 1372°C.....P/N 11-13986 .....**\$5,995.00**

## SCALES 4 PLANES



2,000 lb scale measures 11-3/4" x 15-1/4" and is made of cast aluminum. The electronic display has been recessed into the top to keep it out of harms way. Your tire will be positioned parallel to the display to allow the readout to be clearly seen on the outboard side of the tire, or wheel pants. The scale top is powder coated gray. The coating makes cleanup quite easy because most everything will wipe right off. The units are not water proof. They should never be washed by hose or high pressure, but gentle hand cleaning should be all that is needed.

Model No.	Description	Part No.	Price
AWS-3K-STD	3k Per Wheel with built in display	12-03799	<b>\$746.00</b>
AWS-6K-REM	A set of 3-2k with remote display	12-03801	<b>\$1,645.00</b>
AWS-9K-REM	A set of 3-3k with remote display	12-03803	<b>\$1,789.00</b>
AWS-15K-REM	A set of 3-5k with remote display 12" x 16"	12-03805	<b>\$2,899.00</b>
BS-004D	3K Smart Scale 11-3/4" x 15-1/4" Aluminum	12-04817	<b>\$659.00</b>

## SCALES 4 PLANES 2K SMART BASE WITH BUILT-IN DISPLAY



This smart product is very versatile. This unit can be adapted to talk to your computer, or a smart remote. It is also fully functional as a stand alone scale. Does not have an internal battery and therefore requires no routine recharging. This can be powered from an A/C adapter, or powered from 6V power source. The smaller opening for the display saves more of the weighing surface for the tire. By eliminating the need for Keys on the scale platform, the unit is even less capable of damage than before. The Aircraft tire should be unable to penetrate deep enough to ever touch the LCD display, but avoid the possibility because it would break the glass if it ever did ..... P/N 12-05409 .....**\$509.00**

## SCALES 4 PLANES LIGHT SMART II



Runs on (3) AA batteries, or included A/C adapter. Digital readout is backlighted. Backlight works on a timer that resets with movement or motion on the scale. The Weight reading comes with no time out. You will not have to worry about it shutting off before you are ready. Batteries should last 8 hours of operation, but should be removed for storing for long periods. This unit can be calibrated through Weigh-Systems Inc., or at a local scale company, with no need to purchase a calibration tool. Everything is included that qualified technicians need to recertify your equipment.....P/N 12-05456 .....**\$508.00**

## AEROWEIGH AW-3-150LT LAPTOP / TABLET



Aeroweigh AW-3-150LT Wireless aircraft weighing equipment designed for large turbo props, large corporate jets and commercial airliners. Full wireless operations via laptop/tablet computer, USB antenna, 3ea wireless 50,000 lb top of jack aircraft scales, standard one inch jack mounting, calibrated with OEM NIST traceable calibration, ready to use as received. This is a large aircraft scale, it is intended for use from the Bombardier 600 series, Hawker 800 and up. This scale type is supplied to the OEM aircraft manufacturers like Gulfstream, Bombardier, Dassault Falcon and regional airliner use. It is capable of aircraft up to the large single aisle jets. **Features:** • Solid stainless steel top of jack load cells, each cell is capable of up to 50,000 lb and reads in a 5 lb count. • 300ft range or more, operations and read out via the laptop computer which is included, capable of printing a full report, graphics are supported for enriched print outs including company logos. P/N 12-05422 .....**\$10,495.00**

## AEROWEIGH AW-3-30HH HANDHELD WIRELESS AIRCRAFT WEIGHING SYSTEM



Aeroweigh AW-3-30HH Wireless aircraft weighing equipment designed for turbo props and light jets up to 10,000 lbs per jack point, wireless operations via Hand Held Transceiver with built in antenna, 3 each wireless 10,000 lb top of jack aircraft scales, standard one inch jack mounting, calibrated with OEM NIST traceable calibration, ready to use as received. This is a helicopter, small turbo prop and light jet aircraft weighing system. One of the lightest aircraft scales available of any aircraft weighing kits on the market. **Features:** • Solid stainless steel top of jack load cells, each cell is capable of up to 10,000 lb and reads in a 1 lb count • 300ft range or more, operations and read out via the hand held transceiver which is about the size of a large cell phone, this is a standard scale system with read out showing total weight with individual channel displays. P/N 12-05423 .....**\$8,995.00**

## AIRCRAFT SCALES M2400-3-10KP WIRELESS AIRCRAFT WEIGHING PLATFORM KIT



Aircraftscales M2400-3-10KP Wireless aircraft weighing platform kit is designed for most aircraft wheel weighing applications in the 10,000 lb per wheel and under category. Full wireless operations via 11.4 inch laptop computer (included) USB antenna, software pre loaded. 3 each wireless 10,000 lb aircraft platform scales, 30 inch long 7 degree aluminum ramps for easy pull up are included, calibrated with OEM NIST traceable calibration, ready to use as received. This is a small to medium aircraft platform weighing scale kit, widely used in small to large FBO operations, a must have for the small shop and 135 operators. **Features:** • This kit features full function platform weighing capability for most small to medium aircraft that require to be weighed on platform aircraft weighing systems • Full wireless • No cables • Laptop power is capable of system operations for over 3 hours of use on a single charge. • Platform batteries are field replaceable and available anywhere in the world.....P/N 12-05424 .....**\$7,495.00**

## SCALES 4 PLANES SMART REMOTE INDICATOR



This remote display, allows owners of Smart I or Smart II scales to read the scale weight in one location. The unit reads the Data from the smart scales and displays the info as the selector switch is switched to one base at a time. This allows you to see a display that might otherwise be obscured by a Float or even Tundra Tires. Additionally as you are also communicating bi-directional you are also controlling the zero and LB/KG switches which your scale may have never had before. Smart I scales have no keypad. Calibration can be preformed using this unit by your local scale company too. P/N 12-05506 .....**\$469.65**

## SCALES 4 PLANES CALIBRATION TOOL



This product is a keypad which works with the Smart I series scales, which have no keypad. Smart scales are built with removable modules that make shipping easy because the frame does not need to be shipped. P/N 12-05507 .....**\$46.47**

TO



# TIRE BEAD BREAKERS – TIRE GAUGES

## BEADBUSTER XB-455™



The BeadBuster XB-455 was designed to work on even the most difficult tires, which means it can make quick work of all general aviation light aircraft tires. An innovative new design requires no adjustment for different sized rims and no floor space required to set up. Precise, powerful control will ensure professional results without damaging rims. Change your own tires whenever, and wherever you want. Weight 3 lbs. Dimensions 6 x 6 x 1.75 in.

**Features:** • Designed in USA, made with care in Taiwan • Durable Steel Construction (AISI 1020 Cold Rolled) • Extra-strong Ram Foot is made from Hardened & Tempered 4130 Chrome-Moly Steel, with a Proof Load of >3,000 lbs • MIG Welded • Grd-5 & Grd-8 Hardware • Polyester Powder Coat Finish • Padded Clamp Arm (Will not scratch or dent rims).  
**Specifications:** • Weight: 2.93 lbs • Size: 6" x 6" x 1-3/4" • Rim Lip Width (clamp opening): 1.70" • Max Rim Lip Thickness: 0.63" • Rim Diameter: Any • Rim Width: Any • Rim Material: Any • Max Ram Extension (throw): 1.438" ..... P/N 12-04707 ..... **\$99.00**

## TIRE BEAD BREAKER



Once the tire & wheel have been removed from the airplane, the air is let out of the tire. The "Tire Bead Breaker" is used to break the bead or bond between tire and wheel. The "TBB" let you safely break this bead almost without effort & without doing damage to the expensive cast wheels. One broken wheel half can easily cost more than the "Tire Bead Breaker"! The "Tire Bead Breaker" adjusts to fit tires as small as tailwheel tires and as large as those tires found on large, corporate cabin planes. Can be used on both tube and tubeless tires. ....P/N 12-16790 ..... **\$253.00**

## BOGERT LARGE BEAD BREAKER 13M-TBB2



Break tire beads safely, with little effort! Originally built to work on dragster tires, this Tire Bead Breaker is capable of working on very small to very large tires. It's extremely adjustable! The Tire Bead Breaker is used to break the bead or bond between the tire and wheel with little effort and without doing damage to the expensive cast wheels. ....P/N 12-03577 ..... **\$309.00**

## TIRE BEAD BREAKER



The universal design of this tire bead breaker accommodate tube type and tubeless tires. It is easily adjustable for a wide range of tire sizes up to as large as tires for Twin Beech and Aero Commanders. Features all steel construction. ....P/N 13-02360 ..... **\$239.00**

## VALVE CORE REMOVAL TOOL



Boxell Aerospace 968RB Safe Core Valve Tool. Aircraft Tire Valve Core Removal Tool. Used for rapid and safe tire deflation. Tool threads on valve stem. Releases and traps the valve core within the tool but exhausts the air through ports. Prevents Injury to Technician and FOD (stops the valve core from becoming a missile!) Air exhausts away from technician. Fits all standard aircraft tire schrader valves (equivalent to US Automotive valve stem). 100% Lifetime Warranty. Made In the USA. ....P/N 12-03428 ..... **\$57.75**

## TIRE DOG



The Wireless Tire Pressure/Temperature Monitoring System for Trucks, Trailers, and Motor Homes. The tire pressure range is 0 to 180 psi. It will support 4 tires up to 22 tires. An adjustable swivel mounting bracket allows the monitor to be mounted on the dash or windshield. All items of the system are battery operated with a life span of 12 to 24 Tire Dog Sensor .....P/N 05-04850 ..... **\$50.00**  
 Tire Dog Wireless Relay .....P/N 05-04851 ..... **\$75.00**

## ACCUGAGE PROFESSIONAL TIRE GAUGE



This very accurate bourdon tube tire gauge offers precision pressure control and a rugged steel case with rubber shock-absorbing cover. It comes complete with a 12" long flexible braided hose, a bleeder valve, and stop hand. It is easy to read the pressure on this 2" gauge with 1" psi markings and 60 lb. range. Excellent for use on aircraft tires as well as cars and trucks. ....P/N 13-00437 ..... **\$16.85**

## TIRE PRESSURE MONITOR SYSTEM



With the flip of a switch, this battery operated, hand held unit, displays the actual tire pressure and tire temperature. Small removable electronic valve sensors transmit pressure/temperature to the LCD monitor within 25-50 feet of the aircraft. These sensors replace the standard valve caps and stay on the tires during flight. Pressure range 0 to 80 PSI. Temperature range - 50 Centigrade to 145 Centigrade. The monitor also has an alarm setting for high or low pressure. The product is warranted for 12 months from the date of purchase. Only rated to flight level 30. Not FAA Approved. Installation on certificated aircraft requires FAA form 337.  
 PSI Range 0-60 .....P/N 05-04367 ..... **\$389.00**  
 PSI Range 0-140 .....P/N 05-10769 ..... **\$465.00**

## ANALOG TIRE GAUGE



Tool Testing Lab's backlit digital gauge reads in PSI, InHg, Oz, SqIn, Inches or Feet, H2O, Kg, sqCm, Kpa, and Bar, with 1/2% tolerance and as fine as 0.1PSI resolution. It also holds peak readings, and features a built-in bleeder valve. Features: 300 PSI gauge, Accuracy 1% Full Scale 300 PSI Rated Hose Rubber Boot, Dual Foot Chick, Swivel Footing on Gauge. 0-160 PSI .....P/N 12-03345 ..... **\$129.95**

## TTL DIGITAL TIRE PRESSURE GAUGE



Ensure a safe flight by checking aircraft tire pressure with an accurate, certified Tool Testing Lab pressure gauge. The TTL Digital Aircraft Tire Gauge has a +/- 0.25% FS accuracy for the most precise jobs. Gauge Size: 3" 1/4 NPT; Gauge Orientation: Inverted. Pressure Range: 0-300 psi .....P/N 12-05314 ..... **\$329.00**

## TTL ANALOG TIRE PRESSURE GAUGE



TTL Inverted tire pressure gauge with included protective boot is a direct gauge replacement for TTL-300-ATG-I. Pressure Range: 0-300 psi  
 P/N 12-05315 ..... **\$139.95**

## TTL DIGITAL AIRCRAFT TIRE MASTER KIT



Ensure a safe flight by checking aircraft tire pressure with an accurate, certified Tool Testing Lab pressure gauge. Along with certification, this Master Kit includes quick connect dual foot chuck, long and short straight chuck, and tire tread depth tool. Range (C): 300 PSI  
 P/N 12-05316 ..... **\$385.00**

## TTL ANALOG TIRE INFLATOR



This inflator provides accuracy and safety with an over pressure blow-off valve, 1% accurate gauge, bleeder valve, clip-on chuck, and inflation control ball valve  
 Pressure Range: 0-300 psi.  
 P/N 12-05317 ..... **\$219.00**

## TTL DIGITAL TIRE INFLATOR



This inflator provides accuracy and safety with an over-pressure blow-off valve, 0.25% accurate gauge, bleeder button, clip-on chuck, and inflation control trigger valve. Pressure Range: 0-300 psi.  
 P/N 12-05318 ..... **\$385.00**

## TTL ANALOG AIRCRAFT STRUT GAUGE



TTL analog aircraft strut gauge provides you with the needed accuracy when dealing with strut inflation. This kit includes the necessary strut fitting, soft seat valve, and air bleed valve to get the job done right. Pressure Range: 0-3000 psi .....P/N 12-05319 ..... **\$278.95**

TO

# MEYER AIRCRAFT JACKS



## MEYERS HYDRAULICS AIRCRAFT JACKS

Meyers Hydraulics have been recognized as the industry standard for aircraft jacks for over 25 years. Professional mechanics rely on the AJS Jack Set for applications requiring heavy-duty lifting capacity, smooth maneuverability, and reliability. Refer to the Application Chart below for the components required for your aircraft, and then order from the price list accordingly.

Aircraft	Jacks	Tail-stand	Legs	Tubes & Caps
<b>Aero Commander</b>	(2) A-6	(1) ATS	(2) AJL	(2) AT-4
<b>Beech:</b> Model 50, King Air, Queen Air	(2) A-6 (1) A-5	---	---	---
<b>Beech:</b> Bonanza, Debonair, Travelaire, Baron	(2) A-5	(1) ATS	---	---
<b>Mooney</b>	(2) A-5	(1) ATS	---	---
<b>Piper:</b> All except Navajo & Aerostar	(2) A-5	(1) ATS	---	---
<b>Piper Navajo &amp; Aerostar</b>	(2) A-6	(1) ATS	---	---
<b>Cessna:</b> Cardinal RG	(2) A-6	(1) ATS	---	(2) AT-4 (2) ATC-8
<b>Cessna:</b> All high wings RGs exce pt Cardinal	(2) A-6	(1) ATS	(2) AJL	(2) AT-4 (2) ATC-8
<b>Cessna:</b> All 300 & 400 Series	(2) A-5	---	---	(2) AT-28 (3) ATC-4
<b>Navion</b>	(2) A-5	(1) ATS	---	(2) AT-28

Part No.	Description	Price
12-21405	A622 W/ AT62222 & JPR1	\$745.00
12-21415	ATS Tail Stand	\$224.95
12-02281	A427 Jack w/ AT42727 (27"/46")	\$795.00
12-21435	AJL Leg	\$110.75
12-21440	AT-1 Tube	\$79.95
12-21445	AT-2 Tube	\$102.85
12-21455	AT-3 Tube	\$85.75
12-21460	AT-4 Tube	\$119.75
12-21465	AT-28 Tube	\$87.75
12-21470	ATC-4 Cap	\$85.75
12-21475	ATC-8 Cap	\$99.75
12-04981	AJL-ZB 8 Leg	\$207.95

AJS	Height Ranges
A-5 w/AT-1*	22"/36"
A-5 w/AT-28	28"/42"
A-5 w/AT-3	34"/58"
A-6 w/AT-2*	34"/58"
A-6 w/AT-4	54"/78"
A-6 w/AJL	Legs+10"
ATC-4 Cap	+1 to 4"
ATC-8 Cap	+1 to 8"
ATS Tailstand	30"/51"

(\*) ATC Caps will not work on these tubes.

## MEYER TRITASK AIRCRAFT JACK SETS



This has been designed to provide professional technicians with the selection of equipment that best matches their own needs. It has a unique combination of aircraft jacks and accessories to lift the maximum number of different types of airplanes and helicopters weighing up to 8000 lbs. (3629kg) for the least amount of capital investment.

**BASIC SET:** • 2) A622 Jacks w/AT62222's and AT-JPR1's • 2) A634 Jacks w/AT63434's and AT-JPR1's • 1) AJL-ZB Extension Leg Set (8 legs) • 1) AT-EBZA Extension Bar Set • 2) AT62234 Inner Slide Tube • 2) AT63448 Inner Slide Tubes • 1) ATS Aircraft Tailstand  
P/N 12-04777 ..... **\$5,245.00**

**DELUXE SET:** • 1) A600JS-A TriTask Basic Aircraft Jack Set • 1) A622 Jack w/AT62222 and AT-JPR1 • 1) ALW-10 Leveling Washer Set • 1) AT-EBZB Extension Bar Set • 1) AT62234 Inner Slide Tube  
P/N 12-04778 ..... **\$5,071.00**

**PREMIUM SET:** • 1) A600JS-A TriTask Basic Aircraft Jack Set • 2) A627 Jacks w/AT62727's and AT-JPR1's • 1) ALW-10 Leveling Washer Set • 1) AT-EBZB Extension Bar Set • 1) ATS-AA72 Extended Inner Slide Tube ..... P/N 12-04779 ..... **\$5,970.00**

## A700 3-LEG SERIES AIRCRAFT JACKS



The heavier piston, turbo-prop and jet powered aircraft weighing up to 32000 lbs. (14517kg) are too valuable to consider using anything less than the A700 Series Aircraft Jacks from Meyer Hydraulics. For over 55 years, Meyer Hydraulics have been manufacturing aircraft jacks that continue to set the standard for safe, dependable lifting at affordable prices. This series of professional hydraulic lifting equipment handles airplanes and helicopters with the security and features one should demand in an aircraft jack.

Meyer Model No.	Old No.	Capacity	Low	High	Lifting Range	Part No.	Price
A722B	-	16,000 lbs	22.5"	36.5"	14"	12-05106	\$1,445.00
A722C	-	24,000 lbs	22.5"	36.5"	14"	12-05217	\$1,650.00
A725B	A-2516	16,000 lbs	25.5"	42.5"	17"	12-02669	\$1,450.00
A725C	-	24,000 lbs	25.5"	42.5"	17"	12-05218	\$1,663.00
A728B	A-9	16,000 lbs	28.5"	48.5"	20"	12-02670	\$1,410.00
A728C	-	24,000 lbs	28.5"	48.5"	20"	12-05219	\$1,687.00
A734B	A-17	16,000 lbs	34.5"	60.5"	26"	12-02672	\$1,475.00
A734C	A-1724	24,000 lbs	34.5"	60.5"	26"	12-02673	\$1,460.00
A740C	-	24,000 lbs	40.5"	71.5"	31"	12-05066	\$1,508.00
A755C	A-5524	24,000 lbs	55.5"	95.5"	40"	12-02677	\$1,880.00
A760A		10,000 lbs	60.5"	100.5"	40"	12-05220	\$1,876.00





# MEYER AIRCRAFT JACKS



## MEYER AIRCRAFT JACK AND EXTENSION LEG

This Series basic design from Meyer Hydraulics has served as the general aviation industry standard for over 55 years. The A600 Series and its predecessors are being used by professional service technicians around the world providing confident lifting of airplanes and helicopters weighing up to 8000 lbs. (3629kg) with the security and features one should demand in an aircraft jack. Even after the additional TriTask features have been added, the A600 Series still continues to be surprisingly affordable.

**In the box:** • 1 - A634 Jack • 1 - AT-JPRI  
P/N 12-04765 .....**\$845.00**



## MEYER A500 SERIES LOW AIRCRAFT JACKS

This Series has an ultra-low design that provides maximum single stage stroke while maintaining excellent stability throughout the lifting range. These Aircraft Jacks are ideal for low-slung airplanes and helicopters weighing up to 8000 lbs. (3629kg).

A514 - height range 14"-24" .....P/N 12-05216 .....**\$845.00**  
A519 - height range 19"-34" .....P/N 12-02290 .....**\$824.00**  
A521 - height range 21"-38" .....P/N 12-02291 .....**\$835.00**

## MEYER HYDRAULICS EXTENSION BAR SETS

Model No.	Kit Contains	Part No.	Price
AT-EBZA	(2) AT-EB015s; (2) AT-EB035s (2) AT-EB055s; (2) AT-EB075s (2) AT-EB105s; (2) AT-EB125s (not for A755C or A760A)	12-04873	<b>\$360.00</b>
AT-EBZB	(2) AT-EB025s; (2) AT-EB045s (2) AT-EB065s; (2) AT-EB085s (2) AT-EB095s; (2) AT-EB115s (not for A755C or A760A)	12-04874	<b>\$314.00</b>

Model No.	Description	Part No.	Price
AT-EB015	1.5" (38mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05222	<b>\$21.80</b>
AT-EB025	2.5" (64mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05223	<b>\$23.50</b>
AT-EB035	3.5" (89mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05224	<b>\$26.75</b>
AT-EB045	4.5" (114mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05225	<b>\$25.85</b>
AT-EB055	5.5" (140mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05226	<b>\$28.50</b>
AT-EB065	6.5" (165mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05227	<b>\$27.80</b>
AT-EB075	7.5" (191mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05228	<b>\$31.50</b>
AT-EB085	8.5" (216mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05229	<b>\$29.50</b>
AT-EB095	9.5" (241mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05230	<b>\$31.50</b>
AT-EB105	10.5" (267mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05231	<b>\$31.50</b>
AT-EB115	11.5" (292mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05232	<b>\$33.85</b>
AT-EB125	12.5" (318mm), for A600 & A700 Series Jacks (not for A755C or A760A)	12-05233	<b>\$35.50</b>

## MEYER JACKING POINT RECEIVERS



Made of solid steel and powder-coated with a long-lasting yellow finish for easy spotting, these JPR Receivers have been designed to be put into the top of an A600 or A700 Series Aircraft Jack's Inner Slide Tube, an AT-EBnnn Extension Bar or the AT500-CA Conversion Adapter for the A500 Series. The AT-JPR1 is a 1.5" x .187" (38x5mm) pad with a .875" (22mm) round Jacking Point receiving socket. The AT-JPR2 is a little larger with a 1.75" x .375" (44x10mm) pad with a 1.25" (32mm) round receiving socket. Both have a 1" x 1" (25.25mm) round stem.

Model No.	Description	Part No.	Price
AT-JPR1	Meyer Jacking Point Receiver #1	12-05235	<b>\$12.85</b>
AT-JPR2	Meyer Jacking Point Receiver #2	12-05236	<b>\$14.65</b>

## MEYER AIRCRAFT JACK REPLACEMENT SLIDE TUBES



Meyer Hydraulics Aircraft jack Replacement Inner Slide Tubes.

Description	Application	Lift (in)	Part No.	Price
Inner Slide Tube	A427, A62 (Tail Lifting)	28"-47"	12-05234	<b>\$128.75</b>
Inner Slide Tube Extension	A419, A421, A519, A521	4"	12-05237	<b>\$37.50</b>
Inner Slide Tube	A422	22"-36"	12-21440	<b>\$79.95</b>
Inner Slide Tube	A422	28"-42"	12-21465	<b>\$87.75</b>
Inner Slide Tube	A422	34"-48"	12-21455	<b>\$85.75</b>
Inner Slide Tube	A427	27"-46"	12-05238	<b>\$88.75</b>
Inner Slide Tube	A434	54"-78"	12-21445	<b>\$102.85</b>
Inner Slide Tube	A434	54"-78"	12-21460	<b>\$119.75</b>
Inner Slide Tube Top Conversion Adapter	A419, A421, A500	.875"	12-05239	<b>\$63.75</b>
Inner Slide Tube	A622	22.312"-37.312"	12-05240	<b>\$84.95</b>
Inner Slide Tube	A622	34.312"-49.312"	12-05241	<b>\$95.75</b>
Inner Slide Tube	A627	27.312"-47.312"	12-05242	<b>\$96.95</b>
Inner Slide Tube	A634	34.312"-59.312"	12-05243	<b>\$102.85</b>
Inner Slide Tube	A634	48.312"-73.312"	12-05244	<b>\$126.75</b>
Inner Slide Tube	ATS Aircraft Tailstand	51-72	12-05245	<b>\$79.75</b>

## MEYER JACK REPAIR KIT



Meyer Hydraulic Jack repair kit for A-5 Jacks (s/n 6417 plus), A-6 Jacks (s/n 5118 plus), A-60 Jacks (s/n 86 plus), A360A, A419, A421, A422, A427, A434. 1 bls (0.5Kg).

Model No.	Application	Part No.	Price
K-150A	A-5 (s/n 1 thru 6416), A-6 (s/n 1 thru 5117), A-10 (s/n 1 thru 51) A-11 (s/n 1 thr 98), A-16 (s/n 1 thru 85), A-60 (s/n 1 thru 85), C-1, C-4, DT-2, F-1, FL-1, JC, JC-ET, JML, LTJ (n/n 1 thru 1531), S5J, U-11, U-12)	12-05246	<b>\$53.75</b>
K-150B	A-5 (s/n 6417 plus), A-6 (s/n 5118 plus), A-60 (s/n 86 plus), A360A, A419, A421, A422, A427, A434, A514, A519, A521, A622, A627, A634, A760A, LTJ (s/n 1532 plus), MAC	12-03246	<b>\$59.95</b>
K-175	A-9, A-10 (s/n 52 plus), A-11 (s/n 99 plus), A-12, A-13, A-17, A322B, A325B, A328B, A330B, A334B, A342B, A722B, A725B, A728B, A734B, C-2, F-4, RC-2, SRC, TJC, TTJ	12-05248	<b>\$63.85</b>
K-200	A-14, A-15, A334C, A340C, A342C, A355C, A728C, A734C, A740C, A755C, C-6A, P-12, TTJ3	12-05249	<b>\$54.80</b>
K-ETJ-2S	ETJ (s/n 2000 plus), EVJ	12-05250	<b>\$60.85</b>



TO

TO



# AIRCRAFT JACKS

## AIRCRAFT JACKS

Constructed of welded square steel tubing. The three leg design clears close tolerance gear doors, such as Bonanzas and Barons. All models have machine jack point centering cap with casters, jack handle holder and positive locking jack point centering cap with casters, jack handle holder and positive locking collars. Oversize shipping charges apply.

Aircraft Jacks	Image	Part No.	Price
Piper and Mooney Jack and other light twins and singles Height 26"-45". Cylinder Capacity **6,000 lbs. <b>Note: Mooneys require 26" clearance plus room for the cap or the Jack will not fit.</b>		12-99115	\$397.00
Aircraft Tail Stand 19"-35", Easy to use tail stand with "U" shaped locking collar to attach to aircraft. Use weight available in shop (i.e. sand bags) making the stand itself more manageable.		12-99130	\$237.00

## JACK POINTS

Aircraft Jacks	Image	Part No.	Price
Cessna Jack Points Spring Gear Type		12-01374	\$62.75
Mooney Jack Points (Sold Individually)		12-01375	\$24.95 each

## JACK LIFT PAD



Angle View

Bottom View

This Jack Lift Pad is quality made of alloy steel and is adaptable to all bottle type hydraulic jacks. The serrated vee design provides positive holding. It is easy to install and proves a great variety of applications.  
P/N 12-30270 .....\$45.60

## ADJUSTABLE JACK PAD FOR CESSNAS



Adjustable jack pad with rubber protective strip for spring steel landing gear. (fixed-gear Cessna 150, 172, 182, etc). Just tuck the pad underneath a landing gear leg and bring a floor jack up to it, efficiently lifting the wheel for tire/hub work. Seven place Adjustable Jack Pad Width Range: axle to fuselage  
P/N 12-04890 .....\$118.75

## AERO JACK KIT



The Aero Jack System saves time when changing tires or working on landing gear. Use a combination of innovative tools packed in a handy toolbox. Designed by an A&P, for do-it-yourselfers and other mechanics, three kits are available depending on your needs.

Description	Part No.	Price
Complete Aero Jack System - Service both flat and round gear from a handy toolbox.	12-00254	\$389.00
Flat Gear Aero Jack Kit - Cessna C-120, 140, 150, 170, 172, 175, 188, 182, 190, 195, 205, 206, 336, 337, flat gear 177RG, Piper Tomahawk, Beech Skipper, Champion, Bellanca, and similar landing gear.	12-00681	\$296.00
Round Gear Aero Jack Kit - Cessna C-172RG, 177RG, 182RG, 210, T210, P210, and similar landing gear.	12-00682	\$269.00
Expandable Aero Jack System - Included in the tool box is: Bogert Tribal Jack with all the jack pads. (C210, RG, R, FPP, Moon, Musk, C300). Weight is 30 lbs.	12-02096	\$1,211.00

## TRIBAL JACK



Aid aircraft maintenance, such as servicing brakes, working on bearings, or changing tires. Maximum load of 2,500 pounds and can be used on Piper aircraft, Musketeer, Mooney, and many more aircraft with near-vertical landing gear. Lower clearance lifting pad which allows jack owners to begin lifting from a 2 1/2" starting position and up to 12". It can be used on main gear, nose gear and the tail wheel. Made in USA.

Tribal Jack.....P/N 12-00838 .....\$288.00  
Tribal Jack Pads.....P/N 12-03536 .....\$54.00

## LANDING GEAR SAFETY STAND



The stand slips over the axle when ever the wheel is removed. Put the nut back on and the plane can't slip off the stand. It adjusts for height with a quick release pin. The wide, stable "H" base is made from heavy gauge square steel tubing for strength, safety and durability. The unique stand is finished in an attractive, bright red powder coat finish. LGSS-2, has a 12" x 12" base with adjustable axle height of 10"-15", and LGSS-3 has an 18" x 18" base with adjustable height of 14"-21.5".

9" Stand.....P/N 12-02015 .....\$99.85  
12" Stand.....P/N 12-00255 .....\$132.00  
18" Stand.....P/N 12-00256 .....\$182.00



## PROP SLING, (BOGI-LIFT)

The tool every mechanic needs!

- Lift nose wheel without jacking up whole plane
- Service nose wheel & strut effortlessly
- Support a new propeller during installation
- Use with 2 and 3 blade props
- 4-point stability with tail & wing jacks .....P/N 12-16718 .....\$134.00



## AUTO JACK ADAPTER

P/N 05-08297 .....\$32.85

TO



# AIRCRAFT JACKS

## BOGERT WING JACK PADS



Jack Pads attach to wing jack points. Follow aircraft service manual instructions for jacking.

Cessna 210, 177RG.....	P/N 12-03533	.....\$96.00
Cessna 172RG, 182RG .....	P/N 12-03532	.....\$96.00
Beech Musketeer, Sundowner .....	P/N 12-03535	.....\$137.00
Mooney M20 Series .....	P/N 12-03534	.....\$96.00

## BOGERT JACK PADS

Jack pads provide a cradle for the main landing gear legs. The cradle design securely holds the landing gear providing a safe jack point. The adjustable jack pad fits flat spring gear. The round gear jack pad fits the models listed below. • Save time when servicing tires, wheel bearings and brakes • Lift only the wheel instead of the whole aircraft • Eliminate the unsafe practice of stacking wood blocks under a bottle jack • All parts pack away neatly into a sturdy weather resistant toolbox • Made in USA



### FLAT PIVOT POINT ADJUSTABLE JACK PAD

• Adjust width, taper and angle adjustment  
• Adapts to many jacks. Shown with bottle jack • Fits: Cessna C-120, 140, 150, 170, 172, 175, 180, 185, 182, 188, 190, 195, 205, 206, 336, 337, flat gear 177RG, Piper Tomahawk, Beech Skipper, Champion, Bellanca, and similar spring steel landing gear.

P/N 12-00837 .....\$124.00



**ROUND JACK PAD ADJ-R** - Jack pads provide a cradle for the main landing gear legs. The ADJ-R has a half round design cradles the landing gear safely. Pivots on a machined bottle jack extension. Use with Cessna C-172RG, 177RG, 182RG, 210, T210, P210, and similar landing gear .....P/N 12-00679 .....\$96.00



**C300 JACK PAD ADJ-300** - • Cessna 300, 400 & 500 series • Perfect for the Conquest & Citation • Sold in Singles.

P/N 12-00683 .....\$56.00

## BOGERT JACK EXTENSIONS



• Bottle Jack Extensions will fit any 1-1/4" O.D. ram • Typical 6 ton jack has a 1-1/4" O.D. ram. • Extensions are machined & slide together for easy stacking • Use on aircraft with a jack point pin • Not the same extensions as found in the Aero Jack Kit below • No special jack pad needed on tubular C-152, 172, 182 etc.

1.5" extension.....P/N 12-00156 .....\$35.50

3" extension.....P/N 12-00157 .....\$38.75

8" extension.....P/N 12-00158 .....\$43.50

## BOGERT AVIATION CIRRUS SR20 / SR22 JACK PAD



This jack pad is designed to thread into the wing jack points for use with wing jacks. Each pad can be used with an aviation wing jack that is made to accept a jack point.

P/N 12-05118 .....\$96.00

## BOGERT CESSNA 337 JACK PAD



This jack pad is designed to thread into the wing jack points for use with wing jacks. Each pad can be used with an aviation wing jack that is made to accept a jack point.

P/N 12-05119 .....\$96.00

## BOGERT BEECHCRAFT B35/58 JACK PAD COMBO



Forget dragging out a full set of wing jacks to do routine maintenance. The 30M-B35/B58 Jack Pad for all Beech Bonanza and Beech Baron aircraft makes maintenance on wheels, brakes, tires and wheel bearings simple and fast. You can do the work just about anywhere. Use the jack adapter and axle pin with any 4-6 ton hydraulic bottle jack to raise main gear and nose gear to fix a flat or do normal preventative maintenance. The system is small and light enough to carry on board so you have the tools you need. **Features:** • Works for Main and Nose Gear • Saves time and money • Adds mission capability • This jack adapter and pin can be used to pick up a flat tire to tire changing height • Frees up full service and wing jacks for other work .....P/N 12-05120 .....\$188.00

## BOGERT BEECHCRAFT B35/58 JACK PAD KIT WITH JACK



Forget dragging out a full set of wing jacks to do routine maintenance. The 30M-B35/B58 Jack Pad for all Beech Bonanza and Beech Baron aircraft makes maintenance on wheels, brakes, tires and wheel bearings simple and fast. You can do the work just about anywhere. Use the jack adapter, axle pin and included Safe Jack 6 ton hydraulic bottle jack to raise main gear and nose gear to fix a flat or do normal preventative maintenance. The system is small and light enough to carry on board so you have the tools you need. ....P/N 12-05121 .....\$249.00

## BOGERT CESSNA 340 / 401 / 402 / 4011 / 414 JACK KIT



Forget dragging out a full set of wing jacks to do routine maintenance. The 30M-402-k Jack Kit for all Cessna 340, 401, 402, 411, 414 and 421 aircraft makes maintenance on tires, brakes, and wheel bearings simple and fast. You can do the work just about anywhere. Use the jack pad and hydraulic jack to raise main gear to fix a flat or do normal preventative maintenance.

The system is small and light enough to carry on board so you have the tools you need. **Features:** • Works for Main Gear • Saves time and money • Adds mission capability • This jack pad and hydraulic jack can be used to pick up a flat tire to tire changing height • Frees up full service and wing jacks for other work • Frees up hanger space.

P/N 12-05129 .....\$369.00

## BOGERT VANS RV JACK PAD



You asked for them and here they are. This jack pad is designed to thread into the wing tie down holes for use with wing jacks. Pad can be used with an aviation wing jack that is made to accept a jack point or you can use the supplied adapter on homemade wing jack that are popular with home built owners. Pad is sold individually with a jack adapter.

**Specifications:** • Fits RV aircraft that have a threaded tie down rings with 3/8-16 threads • Fits RV aircraft that have a threaded tie down rings with 3/8-16 threads • Sold as singles • Made in USA • Pad has 3/8-16 internal threads and grade 10 set screw threads • Pad is 2 inches in diameter • Rubber padded • 3/4" Ball jack point • Jack ram adapter fits jack rams up to 1.25 inch diameter • Jack ram adapter is machined steel. Sold as singles • Made in USA • Pad has 3/8-16 internal threads and grade 10 set screw threads • Pad is 2 inches in diameter • Rubber padded • 3/4" Ball jack point • Jack ram adapter fits jack rams up to 1.25 inch diameter • Jack ram adapter is machined steel.

P/N 12-05132 .....\$86.00

TO

# AIRCRAFT JACKS

## BROWNELL AVIATION JACKS



For over forty years Brownell has been the leading name in boat storage equipment throughout North America and the world. The same commitment comes in our new line of aviation products. Brownell slightly modified our jack stands and dollies to fit the needs of aviation professionals and enthusiasts in order to help make the work place safer and more efficient. All of the products are made in America using skilled American labor and American steel.

- Precision acme threads for easy, smooth adjustment
- Very stable work or storage platform
- Stays in place with no bleeding, etc.
- Small footprint of base and top pad allow for easy access
- Stands stack neatly when not in use to free up valuable space
- TPE surface resists slipping and scratching
- SWL 20,000lbs/9,100kgs

Description	Height Mins (in/cm)	Weight (lb/kg)	Part No.	Price
AS3 w/top	25-38 / 64-97	97 / 15.0	12-03299	<b>\$155.90</b>
AS2 w/top	29-46 / 74-117	37 / 16.5	12-03301	<b>\$206.95</b>
AS1 w/top	33-50 / 84-127	38 / 17.0	12-03302	<b>\$192.75</b>
AS0 w/top	41-58 / 104-147	46 / 21.0	12-03303	<b>\$208.95</b>
AS0X w/top	54-72 / 137-183	46 / 22.5	12-03304	<b>\$239.95</b>
AS0XX w/top	67-84 / 170-213	50 / 43.0	12-03305	<b>\$261.95</b>

## BROWNELL AVIATION TAIL STAND



- Precision acme threads for easy, smooth adjustment
- Very stable work or storage platform
- Stays in place with no bleeding, etc.
- Small footprint of base and top pad allow for easy access
- Stands stack neatly when not in use to free up valuable space
- TPE surface resists slipping and scratching
- SWL 20,000lbs/9,100kgs
- 30-52"/76-131cm range
- Universal connection
- Base plate
- Accommodates ballast

P/N 12-03306 .....**\$263.95**

## RV JACK STAND KIT



Someday you'll need to jack up your aircraft to install new tires, clean & grease wheel bearings, or fix a flat. This nifty jack stand is safer than using an engine hoist or the wing tie down location. Requires a modification to the axle nuts (about 1 hour). Kit includes the axle jack arm, axle nut modification hardware, & directions to modify the nuts. For hollow axles (Wittman style) Gear only. Uses automotive bottle jack. Jack not included. Not for RV-8s. For RV Gear Legs with Hole in Axle.

P/N 12-00634 .....**\$59.85**

## RV 8 TRAVEL JACK



The RV 8 Travel Jack was designed and manufactured by RV-8 builder / pilot Steve Jackson. All steel construction, weighs less than 3 pounds. Jack mast easily removes from base plate for compact storage. Uses 3/4" wrench to operate (wrench not included). Tested to 1350 pounds. Has securing arm that positions between the gear leg & brake to stabilize the jack - works on both left and right gear leg with a simple adjustment. Base measures 3-1/2" X 8"; mast stands 10" tall. Designed for RV-8 flat spring gear legs (only -- will not work on the other RVs with round gear legs).

Standard.....P/N 12-03170 .....**\$239.95**  
For Grove Gear...P/N 12-03243 .....**\$239.95**

## BEECHCRAFT B90 JACK PAD



The pad is available without the remote bottle jack. The 30M-B90 Jack Pad is great for raising one wheel for a tire change, repacking wheel bearings or servicing the brakes. When used with a long stroke jack, the jack pad may be used to change a flat tire. Small and light enough to carry on board, the jack pad adds mission capability when operating from airports that do not have full service or wing jacks large enough to lift these aircraft.

### Features:

- Small, Portable and light weight compared to wing jacks
- Should be used with Bogert hydraulic, 12", 15 ton long stroke bottle jack
- The jack pad can be used with 6 ton, 1 1/4" ram or larger bottle jacks
- Can be used with 3 ton or larger floor jacks.
- Made in the USA

Jack Pad Only .....P/N 12-03165 .....**\$356.00**  
Jack, Pad, and Pump Kit .....P/N 12-03184 .....**\$588.00**

## ALPHA AVIATION 3 TON PRO-LINE JACK



The ULTIMATE in versatile general aviation jacks. When the need is for a versatile jack that can accommodate the needs of a busy FBO, the Model #368W is the choice. The Model #368W combines all the versatility of Model #838W with the necessary fittings to accommodate high wing Cessna aircraft such as 172RG, 177RG, 210. (Models 182RG and 337, see 868HLW), but in a 3 Ton version. Shipped with adapters, the unique design allows the Model #368W to easily convert from a 26" low wing jack through the 32" and 38" levels to a double-braced 62" or 68" high wing jack, avoiding the high cost of having to purchase model specific jacks.

**Note: NOT RECOMMENDED FOR:** Beech Model 99, Beech 1900, Citation Series, Cheyenne I/II/III/IV, Conquest King Air, Navajo, Pilatus, Queenair, T28 due to untested side-load situations.

P/N 05-22912 .....**\$549.00**

## QUALITY JACK POINTS



Quality Jack Points. (Very high quality jack points for most aircraft wing installations and jacks). These very small, lightweight (less than two oz.) aircraft grade aluminum Jack Points can make jacking your aircraft a simple and safe task. These Jack Points incorporate a grade eight 3/8" X 16 plated stud that fits the wing thread that can't fail causing damage. The heat-treated, aircraft grade aluminum body, is de-burred, and tumbled to eliminate sharp edges and includes an attached nylon spacer to protect the wing skins painted surfaces. These parts are small and light weight so you may want to carry them in your plane should you find the need for them away from home. Sold as a pair .....P/N 05-12379 .....**\$24.75**

## SHOP TUFF ELECTRIC HOISTS



This handheld remote control electric hoist works great in your garage or shop. This item comes with Universal Mount brackets and has a 110 Volt, 3/4 HP motor. Lifting height: 36ft SL, 18ft DL. Cable length: 39ft. Handheld remote control 5ft cord. Motor: 110Volt, 1-1/4HP. Universal Mount with brackets.

Model No.	Description	Part No.	Price
STF-5511EH	550 lb Single line pull 1100 lb Double line pull Motor: 110Volt, 1-3/4HP	12-03377	<b>\$160.75</b>

TO



# ALPHA AVIATION AIRCRAFT JACKS

## THREE TON HYDRAULIC AIRCRAFT JACKS



### MODEL #324 3 TON LOW WING JACK

Eliminates the frustration of having unstable jacks that conflict with landing gear components and gear doors adjacent to your jack point. These jacks are especially appreciated by owners of Bonanza, Mooney, Comanche, & Twin Comanche Aircraft for the manner in which they may be positioned clear of the inner gear door hinge. Model #324 provides an easy slide under fit on aircraft with lower jack points. • Double action 3 ton (6,000lbs) hydraulic cylinder • Jack point centering cap • Locking safety collar secures the load • Rugged heavy gauge steel construction • Stable three leg design clears gear doors • Convenient handle storage. Effective Range: 24"-40" Ram Capacity: 6000lbs .....P/N 12-01724 .....**\$406.00**

collar secures the load • Rugged heavy gauge steel construction • Stable three leg design clears gear doors • Convenient handle storage. Effective Range: 24"-40" Ram Capacity: 6000lbs .....P/N 12-01724 .....**\$406.00**



### MODEL #326 3 TON LOW WING JACK

26" - 43" Eliminates the frustration of having unstable jacks that conflict with landing gear components and gear doors adjacent to your jack point. Owners of Beechcraft Bonanza 33/35/36 aircraft especially appreciate these jacks for the manner in which they may be positioned clear of the inner gear door hinge. If the only plane you'll be lifting is the Bonanza please see Model #324. • Jack point centering cap to assure the aircraft stays on the jack • Double action 3 ton (6,000 lb) hydraulic cylinder • Locking safety collar secures the load • Rugged heavy gauge steel construction • Three leg design clears gear doors • Convenient handle storage. Effective Range: 26"-43" Ram Capacity: 6000lbs .....P/N 13-05544 .....**\$409.00**

lb) hydraulic cylinder • Locking safety collar secures the load • Rugged heavy gauge steel construction • Three leg design clears gear doors • Convenient handle storage. Effective Range: 26"-43" Ram Capacity: 6000lbs .....P/N 13-05544 .....**\$409.00**



### MODEL #332 3 TON LOW WING JACK

26" - 43" & 32" - 49" Especially suited for use on Cessna 310/320 Aircraft. Supplied with a removable 6" riser to accommodate the higher jack points found on some aircrafts. Similar in design to Model #326, this unique design allows the Model #332 to be easily converted for use as a Model #326 by removing the 6" riser. Owners report this versatility to be of great benefit when aircraft of various types are housed together or the jacks are loaned out to others • Double action 3 ton (6,000 lb) hydraulic cylinder

• Jack point centering cap to assure the aircraft stays on the jack • 6" riser provided to accommodate higher jack points. Effective range 26"- 43" & 32" - 49" • Locking safety collar secures the load • Rugged heavy gauge steel construction • Three leg design clears gear doors • Convenient handle storage. Effective Range: 26"-43" & 32" - 49" Ram Capacity: 6000lbs .....P/N 12-01725 .....**\$409.00**

## EIGHT TON HYDRAULIC AIRCRAFT JACKS



### MODEL #838W 8 TON UNIVERSAL JACK

26"-43", 32"-49", 38"-55"

Model #838W provides all the strength and versatility needed to accommodate larger aircraft. This unique design allows the Model #838W to easily convert from a 26" low wing jack to a 32" or 38" jack, avoiding the high cost of having to purchase model specific jacks. Now with "Tilt & Go" wheels and convenient handle storage for greater value • Double Action 8 Ton (16,000lb) Hydraulic Cylinder • Highly Versatile- Shipped With Adapter For 26" 32" & 38" Heights • Jack Point Centering Cap To Assure The Aircraft Stays On The Jack • Locking Safety Collar Secures The Load • Stabridged Heavy Gauge Steel Construction • Three Leg Design Clears Gear Doors • "Tilt & Go" Wheels For Greater Mobility • Convenient Handle Storage Height Range 26"-43", 32"-49" & 38"-55" Ram Capacity: 16,000 lbs ..... P/N 12-01726 .....**\$489.00**

The Model 838HLW combines the strength and versatility of our Model 838W jack with the ability to provide a full 6" of additional ram travel. Ram travel that translates into additional ground clearance, working room and reduced set up time .....P/N 12-03328 .....**\$529.00**



### MODEL #868W 8 TON UNIVERSAL JACK

The Model #868W combines all the strength and versatility of Model #838W with the necessary fittings to accommodate High Wing Cessna Aircraft such as 172RG, 177RG, 210 and 337. Shipped with adapters, our unique design allows the Model #868W to easily convert from a 26" low wing jack through the 32" and 38" levels to a 68" high wing jack, avoiding the high cost of having to purchase model specific jacks • Double Action 8 Ton(16,000 Lbs.) Hydraulic Cylinder • Highly Versatile- Shipped With Adapters For 26", 32", 38", & 68" Heights • Double Braced At The 68" Height For Stability • Jack Point Centering Cap To Assure The Aircraft Stays On The Jack • Locking Safety Collar Secures The Load • Rugged Heavy Gauge Steel Construction • Stable

Three Leg Design Clears Gear Doors • Tilt & Go Wheels For Greater Mobility • Convenient Handle Storage Height Range: 26"-43", 32"-49", 38"-55", 68"-87" Ram Capacity: 16,000 lbs ..... P/N 12-01727 .....**\$599.00**  
\*\*\*NOT RECOMMENDED FOR\*\*\* Beech Model 99, Beech 1900, Citation Series, Cheyenne I/II/III/IV, Conquest, King Air, Navajo, Pilatus, Queenaire, T28 .....P/N 12-03287 .....**\$649.00**



### MODEL #375 TAILWEIGHT/POST

A tailweight that doubles as a tail post and can be moved easily about the shop. This unique design allows the secure anchoring of Compression or Torsion Loads without the need of numerous sand bags and anchor chains. The #375 Tailweight/Post is a safer and much more professional approach to securing the tail of an aircraft undergoing maintenance. Shipped knocked down, the Model #375 is easily assembled and weighted using Six (6) - 60 lb bag of Quickcrete - obtained locally. • Single Unit Provides The Tailpost And Tailweight Functions • No More Sandbags • Telescoping Square Tube Post Pins In 3" Increments • Rugged Swivel Casters • Corrosion Resistant Galvanized Weight Box • Ships At 32 Lbs. ~ Finished Weight 375 lbs. Range of Adjustment: 17½" - 39½" .....P/N 12-01728 .....**\$286.95**

(6) - 60 lb bag of Quickcrete - obtained locally. • Single Unit Provides The Tailpost And Tailweight Functions • No More Sandbags • Telescoping Square Tube Post Pins In 3" Increments • Rugged Swivel Casters • Corrosion Resistant Galvanized Weight Box • Ships At 32 Lbs. ~ Finished Weight 375 lbs. Range of Adjustment: 17½" - 39½" .....P/N 12-01728 .....**\$286.95**

## ACCESSORIES

### WHEEL KIT FOR HYDRAULIC AIRCRAFT JACKS

Add Wheels to our Model #324, #326 or #332 The base that comes standard with all of our aircraft jack models is pre-drilled to easily allow for the addition of a Wheel Kit. **This Kit Includes:** 1 Left Bracket, 1 Right Bracket, 2 Wheels, Hardware Packet, Installation Instructions

P/N 12-02032 .....**\$67.75**

### ALPHA AVIATION PORTABLE TAILWEIGHT POST 535

The unique design allows the secure anchoring of compression or torsion loads without the need of numerous sand bags and anchor chains. A safer and much more professional approach to securing the tail of an aircraft undergoing maintenance. Shipped knock down, the portable tail weight/tail post is easily assembled and weighted using solid concrete blocks obtained locally.

P/N 12-05486 .....**\$299.00**

### ALPHA AVIATION JACK SEAL KITS

3 Ton Jack Seal Kit for Alpha Aviation Aircraft Jack Models #324W (324) / #326W (326) / #332W (332) with 1-1/4" diameter ram only .....P/N 05-22907 .....**\$32.80**  
8 Ton Jack Seal Kit for Alpha Aviation Aircraft Jack Models #838W, 868W, 838HLW or 868HLW with 1-1/4" diameter ram only. P/N 05-22908 .....**\$27.00**

### TAILWEIGHT EXTENSION FOR TAILWEIGHT POST

Adds on an additional 12 inches to the Tailweight Post model 375. For higher wing aircraft .....P/N 12-02033 .....**\$35.50**

### ALPHA AVIATION TAILWEIGHT EXTENSION - 24 INCH

Alpha Aviation Tailweight Extension 24 Inch for Jacks .....P/N 05-22910 .....**\$37.00**

TO



# SAFETY EQUIPMENT



## HOBBYAIR RESPIRATOR

The Hobbyair Pro 1 is a fresh air breathing system specifically designed for the amateur painter which allows only fresh air to reach the user's lungs. It features a comfortable, lightweight facemask with beltline hook, simple snap together fittings, and is very affordable. Includes the pump unit with two stage, single speed, air bypass type motor, mask, belt and 40 foot delivery hose, fittings, filter, cord and case. The Buddy System Hobbyair is designed for two people and includes two 40 ft. delivery hoses. 1 yr warranty. Excellent for use in homebuilt aircraft construction and painting.

Hobbyair 1 (1/2 mask) 110V .....	P/N 12-15850 .....	<b>\$397.00</b>
Hobbyair 1 (1/2 mask) 220V .....	P/N 12-15860 .....	<b>\$518.00</b>
Buddy System Hobbyair (110V).....	P/N 12-15870 .....	<b>\$532.00</b>
Hobbyair I (Full mask) 110V.....	P/N 12-15851 .....	<b>\$516.00</b>
Hobbyair I (Full Mask) 220V.....	P/N 12-03520 .....	<b>\$545.00</b>
Hobbyair II .....	P/N 09-00633 .....	<b>\$459.00</b>
Hobbyair Buddy System (2 full face Masks 110V).....	P/N 12-05094 .....	<b>\$734.00</b>
Hobbyair F01 Air Filters .....	P/N 09-01014 .....	<b>\$6.95</b>
Hobbyair Cartridge Filter .....	P/N 09-01015 .....	<b>\$7.55</b>



## HOBBYAIR BUDDY SYSTEM AIR RESPIRATOR

Hobbyair Buddy System comes standard with an air pump, 2-40' hoses and a half facemask (HF01) for one person. Locate the intake air pump in a fresh air location and breathe HEPA filtered clean fresh air in most contaminated breathing environments.....P/N 12-02365.....**\$733.00**

**Full Facemask Lens Protectors** - Sold in package containing 25 lens protectors. Apply one at a time over full facemask lens. Clear covers protect your lens from overspray and lengthen the life of your facemask.....P/N 12-02366.....**\$25.00**

## CITATION 4 HVLP SPRAYER/RESPIRATOR

Allows its' user to achieve 'show plane' quality results to a level never before possible with a turbine powered system. The CITATION '4' offers a much higher PSI range without sacrificing the benefits of HVLP such as lower overspray, the elimination of moisture and high transfer efficiency. This is all accomplished with a more powerful, yet quieter and cooler running turbine blower. Like the standard CITATION, this new system, of course, offers the additional benefit of a built-in supplied-air respirator to assure breathing protection for its' user.....P/N 12-00973.....**\$1,195.00**



## CITATION 3 & 4 HVLP SPRAYER/RESPIRATOR SYSTEM



### CITATION 3 STAGE HVLP PAINT SPRAYER & RESPIRATOR W/ BOTTOM FEED GUN

**Standard One man System Includes:** Citation Dual HVLP Pump, Two 40' hoses, one sprayer & one respirator, Half facemask & belt, HVLP Apollo Paint Spray Gun with One Cup - Bottom Feed, Complete System and Spray Gun Manual, Introductory 'How to' Spray Manual, 3 **Stage Sprayer Specs:** 110-120V VAC, 50/60HZ, Amps: 11.5, PSI: 5.5 **One Man Respirator:** 110-120V VAC, 50/60 HZ, Amps: 1.6, Cfm: 7 @ Facemask **Two Man Respirator:** 110-120V VAC, 50/60HZ, Amps: 7, Cfm: 7.5 @ Facemask. P/N 12-02372.....**\$993.00**



### CITATION 3 SPRAYER & RESPIRATOR W/ GRAVITY GUN - Standard One man System Includes:

Citation Dual HVLP Pump, Two 40' hoses, one sprayer & one respirator, Half facemask & belt, Gravity HVLP Apollo Paint Spray Gun with One Cup - Gravity Feed, Complete System and Spray Gun Manual, Introductory 'How to' Spray Manual 3 **Stage Sprayer Specs:** 110-120V VAC, 50/60HZ, Amps: 11.5, PSI: 5.5 **One Man Respirator:** 110-120V VAC, 50/60 HZ, Amps: 1.6, Cfm: 7 @ Facemask **Two Man Respirator:** 110-120V VAC, 50/60HZ, Amps: 7, Cfm: 7.5 @ Facemask.....P/N 12-02373.....**\$949.00**



### CITATION 3 STAGE HVLP PAINT SPRAYER & RESPIRATOR W/ BOTTOM FEED GUN - Standard One man System Includes:

Citation Dual HVLP Pump, Two 40' hoses, one sprayer & one respirator, Half facemask & belt, Bottom Feed HVLP Paint Spray Gun with Quart Cup, Complete System and Spray Gun Manual, Introductory 'How to' Spray Manual 3 **Stage Sprayer Specs:** 110-120V VAC, 50/60HZ, Amps: 11.5, PSI: 5.5 **One Man Respirator:** 110-120V VAC, 50/60 HZ, Amps: 1.6, Cfm: 7 @ Facemask **Two Man Respirator:** 110-120V VAC, 50/60HZ, Amps: 7, Cfm: 7.5 @ Facemask.....P/N 12-00973.....**\$1,195.00**



### CITATION 4 STAGE SPRAYER & RESPIRATOR W/ GRAVITY GUN

- The Citation 4 combined HVLP paint sprayer and respirator system includes a paint sprayer and second separate air pump for cool fresh breathing air. Includes four stage turbine power and spray gun of your choice. Great for most finishes.....P/N 12-02374.....**\$1,283.00**

## 3M™ PARTICULATE RESPIRATORS



P/N 09-01496 P/N 09-01497

Helps provide worker protection against certain non-oil based particles. Comfortable, easy to use, and promotes greater worker acceptance increasing wear time. Features 3M's patented filter media, nose foam, and adjustable noseclip that helps

provide a secure seal and helps reduce eyewear fogging. Workplace applications: woodworking, grinding, sanding, sweeping, bagging, other dusty operations.

Description	Part No.	Price
8210 Standard dust mask	09-01496	<b>\$1.53</b>
Vented dusk mask	09-01497	<b>\$3.35</b>



## 3M HALF FACE DISPOSABLE RESPIRATOR ASSEMBLY

The 3M™ 5000 Series Half Facepiece Disposable Respirator Assembly with Organic Vapor and P95 Particulate Filters, Respiratory Protection (51P71, 52P71, 53P71) helps provide protection against certain airborne contaminants. This respirator is NIOSH approved for respiratory protection against certain organic vapors and particulates up to ten times the permissible exposure limit (PEL). Half Facepiece respirator may be used in a variety of workplace applications, including spray painting, pesticides, agriculture, construction, and transportation. This disposable respirator assembly offers greater convenience by reducing the need for long-term maintenance. This half facepiece respirator is an ideal choice for intermittent use. ....P/N 09-05716.....**\$22.59**

## UVEX BIONIC FACE SHIELD



- Honeywell Uvex™ Bionic™ Face Shields
- Shell offers built-in chin protection and extended top-of-head coverage
- Highly adjustable headgear tilts visor nearer or farther from face depending on preference and application
- Comfortable cell foam on back of headgear
- Breathable, removable, washable headband
- Comfortably worn with most goggles and respirators

Testing and Approvals:  
Passes ANSI Z87+ and CSA Z94.3 Standards  
P/N 12-05261.....**\$32.50**

## OPTICOR SAFETY GLASSES



Meets ANSI Z87.1+ (High Impact) and CSA Z94.3 Standards. Sizes : One Size Fits Most Frameless. Black Nylon Temples. Polycarbonate Lens. CASC (Cordova Anti-Scratch Coating). Thermo-Plastic Temples and Nose Piece.  
Clear.....P/N 14-02170.....**\$6.95**

## SAFETY FACE SHIELD REPLACEMENT



Provides protection for the face and neck against chemical splash and flying particles.  
Replace. Window, Clear ..P/N 90030.....**\$7.25**

## 3M™ SECUREFIT™

## PROTECTIVE CLEAR EYEWEAR



These glasses come with important safety features for overall eye protection, including impact resistant polycarbonate lenses that absorb 99.9% UVA and UVB rays up to 380 nm. The glasses also meet the requirements of CSA Z94.3-2007 and ANSI Z87.1-2010. This protective eyewear weighs less than one ounce for lightweight comfort.

Color	Part No.	Price	Color	Part No.	Price
Clear	09-04759	<b>\$4.60</b>	AntiScratch Gray	09-04763	<b>\$2.75</b>
Gray	09-04760	<b>\$2.60</b>	Anti-Fog Clear	09-04764	<b>\$3.75</b>
Amber	09-04761	<b>\$2.75</b>	Anti-Fog Gray	09-04765	<b>\$3.95</b>
AntiScratch Clear	09-04762	<b>\$3.95</b>			



## SCARAB SAND BLAST HOODS

Features durable construction and large size to cover the head, face, neck and shoulders to protect against the impact of high velocity abrasives. Made with super-heavy 10.38 oz. army duck canvas treated with high water repellent and mildew resistance. Complete with an ERB Safety built-in construction type hard hat that meets ANSI Z89.1-2003 (Type 1, Class E, G & C) and complies with OSHA regulations for industrial head protection.

Scarab Sand Blast Hood.....P/N 12-01665.....**\$85.75**  
Scarab Lite Sand Blast Hood.....P/N 12-01666.....**\$39.95**

## ACCESSORIES

Lens for Scarab Blast Hood.....P/N 12-01667.....**\$14.95**  
Screen for Scarab Blast Hood.....P/N 12-01668.....**\$11.95**

TO



# SAFETY EQUIPMENT

## 3M™ SAFETY GOGGLES



### SAFETY GOGGLE BX

• BX protective eyewear are fully adjustable with three lens angles and adjustable nose bridge and temple length. Silver/Black frames.

**Features:** • Soft adjustable nose bridge • Three lens angles for cozy fit • Integrated

sideshields • Protect your eyes from impact and block 99.9% UV rays • Polycarbonate anti-fog lens • Meets the requirements of CSA Z94.3-2007 and the High Impact Requirements of ANSI Z87.1-2003

P/N 09-02154 .....\$5.65



### SAFETY GOGGLE VIRTUA SPORT

The unisex Virtua Sport protective eyewear combine an athletic style with versatility and value. The high wraparound, anti-fog polycarbonate lens provide excellent eye coverage and a comfortable fit. Designed

for indoor or outdoor use. Clear lens, clear temple.

**Features:** • Polycarbonate lens absorbs 99.9% UV rays • Anti-fog lens coating • Durable, lightweight frame design • Exceptional impact protection and an unobstructed view • Meets the requirements of CSA Z94.3-2007 and the High Impact Requirements of ANSI Z87.1-2003

P/N 09-02155 .....\$3.40



### SAFETY LIGHTVISION 2 GOGGLE

Protective industrial safety eyewear for indoor or outdoor work featuring adjustable, hands-free LED lights and high wrap lens for additional coverage. Work in low light or dark environments. LEDs are adjustable and lights swivel for

directional viewing. Gray frame with black temples. Clear anti-fog lens. Dual LED lights.

**Features:** • Includes Ultra-bright LED lights, bag, and lanyard • Adjustable length temple and soft nose bridge • Polycarbonate lens absorbs 99.9% UV rays • Meets the requirements of CSA Z94.3-2007 and the High Impact Requirements of ANSI Z87.1-2003 .....P/N 09-02158 .....\$18.75



### VIRTUA PROTECTIVE EYEWEAR AP

The Virtua protective eyewear line merges outstanding unisex style, protection and affordability, all while offering wearers an open, unobstructed viewing range and impact-resistant, 3-piece polycarbonate

construction. Designed for indoor or outdoor use.

Clear Anti-Fog Lens.....P/N 09-03053 .....\$9.95

Gray Hard Coat Lens.....P/N 09-03055 .....\$2.02

Light Blue Hard Coat Lens .....P/N 09-03056 .....\$1.95

Clear Hard Coat Lens.....P/N 09-03059 .....\$2.15

## SAVE-EARS HEARING PROTECTION FOR TODDLERS / CHILDREN

• Noise Reduction rating average 25 dB, comparable to a \$250 David Clark Aviation headset! • High quality padded felt headband for extreme comfort • The compact folding design ensures easy transportation and storage. • Only 7 oz in weight! • Compact, easy to use design, makes them both functional and fun! • Intended for ages 1 year and up.

Pink.....P/N 11-13993 .....\$29.95

Blue.....P/N 11-13994 .....\$29.95



## DAVID CLARK DELUXE HEARING PROTECTOR

The David Clark Deluxe Model Hearing Protector provides maximum noise attenuation and optimum comfort. Features urethane covered ear seals, soft foam cushioned headband, military quality materials, finish and workmanship.

P/N 11-09205 .....\$42.85



## 3M™ PELTOR™ PERSONAL HEARING PROTECTORS



**OPTIME 105** - Over-the-head dual cup. NRR 30. Can be used for noise levels up to 105 dB. Color: Black and Red P/N 12-00699 .....\$28.50



### OPTIME 105 HI-VIZ

NRR 30. Can be used for noise levels up to 105 dB. Bright Hi-Viz Yellow great for recognition of workers.

P/N 12-02568 .....\$32.90



### OPTIME 101

- Over-the-head Hp. NRR 27. Can be used for noise levels up to 101 dB. Color: Green.

P/N 12-16110 .....\$22.50



### OPTIME 98

- Over-the-head Hp. NRR 25. Can be used for noise levels up to 98 dB. Color: Yellow and Black.

P/N 12-02569 .....\$18.50



### OPTIME 95

- Folding hearing protector. NRR 21. Can be used for noise levels up to 95 dB. Folding - Slim design.

Color: Beige and Black.....P/N 12-02570 .....\$24.95

## 3M™ E-A-R™ EARPLUGS



### E-A-R CLASSIC

Most popular earplug in the world • NRR 29dB • The E-A-R® Yellow color is your assurance of proven protection • Moisture resistant dermatologically safe foam is not irritating • Slow recovery PVC foam provides comfort with low pressure .....P/N 9134 .....\$0.40

P/N 09-02148 w/ Cord\$0.34



### CLASSIC™ PLUS

Classic Plus are longer than Classic earplugs to fit deeper into the ear canal and provide a higher level of protection. • Slow-recovery foam helps ensure comfort and minimize pressure • Bright yellow color provides a quick visual compliance check • Dermatologically safe foam is non-irritating, non flammable, and moisture-resistant

P/N 09-02149 .....\$0.29

P/N 09-02150 w/ Cord\$0.30



### E-A-R SOFT™ YELLOW NEONS™

NRR 33dB-Highest NRR available • THE WORLD'S SOFTEST EARPLUGS • Self-adjusting foam provides low pressure with excellent attenuation • Exciting designs and brilliant colors • Dermatologically safe foam is non-irritating to the skin

P/N 09-02151 .....\$0.29

P/N 09-02152 w/ Cord\$0.35



### 3M™ PISTONZ™ EARPLUGS

No need to roll down. Biaxially-stiff stem for easy insertion, yet designed to flex sideways if impacted. Tips look like metal, yet provides ultra-soft feel for all day wear.

P/N 12-02571 .....\$1.25

P/N 12-02572 w/ cord.\$0.89



**E-A-R EARBUDS 2600 HEADPHONES** - • NRR 26dB • Noise Limited to 82dB • Convenient, Easy-Access Volume Control • Mp3 Compatible • Blocks out External Noise • Hear Your music while you work • Ultra Comfortable Design • Better fit for longer wear.....P/N 09-02153 .....\$45.95

TO

# SAFETY EQUIPMENT – PROTECTIVE COVERALLS

## DERMA-LITE POWDERED NITRILE DISPOSABLE GLOVES



Powdered nitrile. Thickness: 5 mil. Extraordinary strength and puncture resistance. Non-latex. Lightly textured.

Color	Part No.	Price
Small	01-01537	\$34.50
Medium	01-01538	\$33.80
Large	01-01539	\$36.50
X-Large	01-01541	\$31.90
XX-Large	01-01542	\$31.90

## DERMA-LITE POWDER FREE NITRILE DISPOSABLE GLOVES



Powder-free exam grade nitrile. Thickness: 5 mil. Extraordinary strength and puncture resistance. Non-latex. Lightly textured.

Color	Part No.	Price
Small	01-01543	\$46.75
Medium	01-01544	\$34.65
Large	01-01546	\$34.55
XX-Large	01-01547	\$34.65

## KEVLAR™ HEAT SLEEVE

14" length of 100% Kevlar. Improved comfort and protection against cuts and abrasions. Heat resistant. May be worn with gloves. Washable and reversible.

P/N 01-01548 ..... \$7.65



## 3M™ HARD HAT

Protective White hard hat with comfortable 4-point ratchet suspension and standard brow pad. Meets requirements of ANSI/ISEA Z89.1-2014 Type 1, Class G and E.

4-point ratchet suspension allows wearer to customize height and fit. Suspension sits lower on head to reduce pressure and increase security. Short brim enhances better upward visibility. Slots allow for attachment of safety accessories. Replaceable brow pad enhances comfort and extends life. Meets requirements of ANSI/ISEA Z89.1-2014 Type 1, Class G and E. ANSI/ISEA compliant when worn in the forward and reverse donning positions. P/N 09-04766 ..... \$11.50



## 3M™ DISPOSABLE PROTECTIVE COVERALL 4530

The 3M™ Protective Coverall 4530 is disposable safety work wear made of lightweight, breathable polypropylene with flame resistance. Designed to be worn over primary FR garments, it helps provide protection against dusts

and light liquid splashes. **Features:** Breathable material to help reduce heat buildup and promote comfortable wear. Knit cuffs with elasticized waist and ankles for increased comfort and freedom of movement. Three panel hood design for compatibility with complementary PPE. Two-way zipper with sealable storm flap. Reinforced gusset for increased durability. Flame resistant treatment offering secondary protection against heat and flames. Anti-static coating on both sides.

L..... P/N 12-02663 ..... \$8.75 XL..... P/N 12-02664..... \$8.75  
2XL..... P/N 12-02665 ..... \$8.75 3XL..... P/N 12-02666..... \$8.50  
4XL..... P/N 12-02667 ..... \$9.50

## 3M™ DISPOSABLE PROTECTIVE COVERALL 4520

The 3M disposable protective coverall 4520 key features include: Breathable material (SMMMS) to help reduce heat stress and comfortable wear. Elasticated waist, ankles, and wrists for convenience and freedom of movement. Three panel hood design for compatibility with complimentary PPE. Two-way zipper with storm flap for convenience and to help provide additional protection. Anti-static coating on both sides. Protect against light liquid splashes and hazardous dusts.

XL..... P/N 12-02692 ..... \$6.50 4XL..... P/N 12-02694..... \$5.60

## 3M™ DISPOSABLE PROTECTIVE COVERALL 4540

The 3M™ Protective Coverall 4540 is disposable safety work wear made of a high quality laminated material with a breathable back panel for improved air circulation. Protection against light liquid splashes and hazardous dusts. **Features:** Constructed of a low-linting, non-woven, laminated microporous material with anti-static coating on both sides. Knit cuffs with elasticized waist and ankles for increased comfort and freedom of movement. Three panel hood design for compatibility with complementary PPE. Two-way zipper with sealable storm flap. Reinforced gusset adds extra durability. Breathable back panel to help improve air ventilation and reduce heat buildup.

XL..... P/N 12-02659 ..... \$7.95 3XL..... P/N 12-02661..... \$6.95

## 3M™ PARTICULATE RESPIRATOR



The lightweight, disposable N95 particulate dust respirator is designed to help provide quality, reliable worker respiratory protection. 3M uses a variety of innovative features to help you meet your respiratory protection and comfort needs. The respirator incorporates 3M's proprietary technology with advanced electrostatically charged microfiber filter media.

P/N 09-04753 ..... \$3.85

## 3M™ VFLEX™ PARTICULATE RESPIRATOR



This disposable N95 particulate respirator is designed to help provide quality, reliable worker respiratory protection for certain non-oil based particles. It has a unique folded design with 3M proprietary filter media and V-shaped pleats that expand to help make breathing easier. In addition, the V-shaped pleats flex with mouth movement for easier talking. The respirator features uniquely designed tabs for positioning the respirator on the face and embossed front panel to help the respirator retain its shape. P/N 09-04754 ..... \$1.65

## 3M HALF FACEPIECE REUSABLE RESPIRATOR



The 3M™ Half Facepiece Reusable Respirator 6000 Series helps provide protection against particulates and a wide variety of gases and vapors when used with approved cartridges and filters. When properly fitted and used with approved 3M™ cartridges and filters, this respirator helps provide protection at concentrations up to 10 times the Permissible Exposure Limit (PEL). The swept back design of the cartridges helps improve balance and visibility. Remarkably comfortable, soft, lightweight facepiece has eEasy-to-adjust head straps allow for a customized fit to the user. Replaceable cartridges help reduce waste and costs over time.

P/N 09-05764 ..... \$14.70

## PARTICULATE RESPIRATOR



95% filter efficiency level effective against particulate aerosols free of oil; time use restrictions may apply. Maintenance-free construction. Adjust-able nose bridge with foam strip to reduce the potential for eyewear to fog. Latex-free stapled fixed head strap. 20 masks per box.

Box of 2..... P/N 01-01558 ..... \$5.50  
Box of 20..... P/N 01-01556 ..... \$17.95

## VALVED PARTICULATE RESPIRATOR



95% filter efficiency level effective against particulate aerosols free of oil; time use restrictions may apply. Maintenance-free construction. Exhalation valve for easy breathing. Adjustable nose bridge with foam strip to reduce the potential for eyewear to fog. Latex-free stapled fixed head strap. 10 masks per box.

Box of 1..... P/N 01-01559 ..... \$3.85  
Box of 10..... P/N 01-01557 ..... \$19.95

## 3M RUGGED COMFORT HALF REUSABLE RESPIRATOR



The 3M™ Rugged Comfort 6500 Series Half Facepiece Reusable Respirator helps provide respiratory protection in harsh, dirty environments against airborne contaminants when used with approved 3M™ cartridges and filters. When properly fitted and used with approved 3M™ cartridges and filters, this respirator helps provide respiratory protection at concentrations up to 10 times the Permissible Exposure Limit (PEL).

Color	Part No.	Price
Small	09-04755	\$20.75
Medium	09-04756	\$23.90
Large	09-04757	\$19.95

## 3M™ E-A-R™ PUSH-INS™ CORDED EARPLUGS



3M™ E-A-R™ Push-Ins™ Corded Earplugs feature soft and flexible E-A-Rform™ Foam that inserts quickly and easily into the ears for comfortable noise reduction. The push-to-fit design with a flexible stem helps keep the soft foam tip clean, even when hands are dirty, since there is no need to roll the foam before fitting. Cord allows earplugs to be stored conveniently when earplugs are worn intermittently. Earplugs are packaged in a poly bag to keep them clean prior to use. Recommended applications include assembly and mechanical, chipping, chiseling, cleaning, drilling, furnace operations, grinding, heavy equipment operations, machining, metal repair, painting, pouring/casting, power fastening, riveting, sanding, sawing and welding. P/N 09-04758 ..... \$0.66

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