TEST EQUIPMENT

EASTERN ELECTRONICS TEST EQUIPMENT

MAGNETO TIMING LIGHT - MODEL E50
Designed specifically for internal timing of aircraft magneto and for synchronizing magneto sets 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 magneto 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” / 2-1/8” unbbreakable case. Wt. 1.5 lbs. Complete with 18 gauge lead wires 36” long and instructions.

U.S. Industrial Equivalent..............P/N 12-01013..............

AIRCRAFT TIMING INDICATOR MODEL E25
This all-aluminum unit improves and speeds up the timing of magneto to the engine. Easily attached to propeller spinner, it is accurate to within 1/2 degree. Has easy to read dial and comes with top dead center locator and mounting bands.

P/N 12-01014 ..............
Replacement Piston Stop
P/N 12-18100 ..............
U.S. Industrial Equivalent
P/N TP102 ..............

MAGNETO TIMING LIGHT
These devices measure 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 ground terminal. To use, simply remove one plug from each cylinder. Connect black clip lead to engine ground. Connect red and green leads to right and left magneto terminals. Turn propeller slowly. When the points open the LEDs will turn off and the buzzer will sound a rapid beat and the magneto connected to the green lead will sound a slower beat. When both sets of points are open, a third and continuous sound will be emitted. 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 12-16902 ..............
Dual Magneto Synchronizer w/o Tweeter ........ P/N 12-16902 ..............
Single Magneto Timing Light w/Tweeter ........ P/N 12-16903 ..............

TRACERLINE AVIATION ULTRASONIC LEAK DETECTOR

Master Kit Includes: Markman Receiver • Ultrasonic Emitter • Headphones • 12 Inch Air Probe • Contact Probe • Carrying Case

Features: Converts & Amplifies Ultrasonic Sound Into Audible “Natural” Sound for Accurate Diagnosis. Finds Problems Before They Result in Major Breakdowns • Frequency Response: 36,000 - 44,000 Hz • Detects Air, Compressed Air, Vacuum, EVAP System and Other Pressurized Leaks Quickly and Effortlessly • Pinpoints Gear and Bearing Wear in Wheel Hubs, Transmissions, Transfer Cases, Differentials and Electric Motors. Check for Electrical Discharge Associated with Insulation Breakdown, Carbon Tracking and Arcing • Finds Air and Water Leaks Passed Faulty Seals, Gaskets and Weather Sealing in Passenger Cabs, Trailers and other Non-Pressurized Enclosures Using Ultrasonic Pulses

10-Bar LED Intensity Indicator Helps Detect Sounds Well Beyond the Range of the Human Ear • Automatic Gain Control that Instantly Compensates for Changes in Signal Strength so you can focus on the task

Specifications: • Shipping Weight: 3.4 lbs (1.7kg) • Housing: Chemical Resistant Nylon with Protective Boot • Battery Life: Approx 20 hours. • Power Requirement: One Standard 9-Volt Alkaline Battery Each for. • Receiver & Emitter Power Consumption: 27mA • Frequency Response: 36,000 - 44,000Hz • Circuity: Solid State • Headphones: Full-Sized, noise attenuating

P/N 12-01745..............

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.

U.S. Industrial Equivalent..............P/N 12-01016..............

DIFFERENTIAL CYLINDER PRESSURE TESTER

SLOW FILL safety valve and built in Master Orifice, has been field tested for 2 years by Teledyne Continental Motors, and has been approved for use on Teledyne Continental Engines by their Engineering and Field Services Group. The new valving adds additional safety; speeds up the test process. Rugged construction features heavy-duty gauges, extra long high-pressure hose, precision regulator, all connections quick-disconnect, 18mm plug adapter. Complete instructions with each unit. “M” models have built-in master orifice.

E2A - for cylinders < 5" bore........P/N 12-01012 ..............
E2A-1000 - for cyl. > 5" bore........P/N 12-01017 ..............
E2M - for cylinders < 5" bore........P/N 12-01015 ..............
E2M-1000 - for cyl. > 5" bore........P/N 12-00692 ..............
E2A-12mm (Rotax) for cyl. < 5" bore........P/N 12-00693 ..............
12 mm Adapter ..............P/N 12-01018 ..............
10/14 mm Adapter ..............P/N 12-18201 ..............
18 mm Adapter ..............P/N 12-18202 ..............
U.S. Industrial Equivalent..............P/N TP104 ..............
14MM Adapter ..............P/N TP171 ..............
18MM Adapter ..............P/N TP104-9A ..............

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 ..............

AUDIOTECH PROBE

The Model AT201 diagnostic Listening Tool is a versatile, time-saving tool which is ideal for use in any application where there is movement of mechanical parts, air, gas, or fluid. Ideal for use on commercial, general aviation, or homebuilt aircraft and helicopters for application such as air leak and vacuum detection, bearing wear, worn or chipped gears, engines, turbines, and compressors, hydraulics, fuel injectors, flow valves, instrument failure, and more. Auditech Probe can quickly and accurately pinpoint the trouble spot so that the problem can be fixed quickly the first time. Diameter of small mic at end of probe is 3mm. AAA battery included. Perfect for homebuilders, A & P’S, A & E’s, and A & I’s.

P/N 12-21420 ..............
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.

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. Their mallets and soft-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.

MET-L-CHEK PENETRANT INSPECTION KITS

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.

SPLIT-HEAD HAMMER

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 • Foundry • Die moving or positioning • Assembly • Electric Motor Repair • Propeller Repair

<table>
<thead>
<tr>
<th>Size</th>
<th>Face Dia. (Inches)</th>
<th>Head Length (Inches)</th>
<th>Weight (oz.)</th>
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SPRING TUBE BENDERS
P/N 12-00823

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.  

<table>
<thead>
<tr>
<th>Tubing O.D.</th>
<th>Bender Model No.</th>
<th>Part No.</th>
<th>Bending Radius</th>
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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.)

<table>
<thead>
<tr>
<th>Tubing O.D.</th>
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TRIPLE HEADER TUBE BENDER
For bending annealed copper, aluminum, brass, steel and stainless steel tubing. Multi-tube design does the work of three conventional lever type benders. Marked for making accurate left-hand, right-hand and offset bends. (for 1/8", 5/32", 1/4" O.D.)
P/N 12-01577

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

SOFT PIPE/TUBING CUTTER
This economical tool will cut soft pipe and tubing up to 1-1/4" outside diameter. The blade is teflon-coated and reverses for double the useful life of the blades. Replacement Blades P/N 12-20020 ea.
P/N 12-20020 ea.

EZ-BEAVER TUBING BEADERS
Designed to replace the original Parker beading tools. Compact design. Capable of tubing wall thickness from .035 to .065 thick

<table>
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<th>Size</th>
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<td>Set of all 9 EZ-BAVER Tubing Beader</td>
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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 spring knife, fold-away reamer and spare cutting wheel. Wt. 6-1/2 oz.
P/N 12-00382

 REPLACEMENT CUTTER WHEEL P/N 79318-01
 REPLACEMENT REAMER BLADE P/N 79319-01

"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 1-3/4" x 3/8". Wt. 2-1/2 oz.
P/N 12-01277

JUNIOR TUBE CUTTER
P/N 12-01576

WEATHERHEAD T-1295 Heavy Duty Segmented Flaring Tool (37°)

HI-DUTY FLARING TOOL 37°

Rol-Air Flaring Tool 37°

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

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
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

37° DOUBLE LAP FLARING TOOL
This U.S. made 37° Double 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. Adapters revolve for quick size change and act as positioning gauge for tube. For portable use or can be vise mounted. Sliding handle gives maximum leverage. Wt. 4 lbs.
P/N 12-00205

37° DOUBLE LAP FLARING TOOL KIT
Our 37° Double Lap Flaring Tool Kit includes the double lap flaring tool above which forms 37° double laps flares to AN10078 in soft copper and aluminum tubing (wall thick- ness to .040). Flares tubing sizes 3/16", 5/16" & 3/8" and 1/2" O.D. Also includes a tubing cutter, an inner reamer, and a plastic carrying case. A quality tool kit which is made in the U.S.A.
P/N 12-00210

BRAKE LINING & GENERAL RIVET SETS
Standard Model - Designed especially to economically relieve bends. The brake lining set is a handy tool for many other jobs where rivets are used to fasten leather, canvas, plastic & metal parts.
P/N 824

DELUXE MODEL - 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.
P/N 12-20810

Replacement Parts
(a) Anvil .........................P/N BR-1005/ea.
(b) Knockout Punch ....P/N BR-1006/ea.
(c) Rivet Set .....................P/N BR-1007/ea.
(d) Threaded Replacement-Punch ...P/N BR-1008/ea.

37° FLARING TOOLS
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 tool used 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

37° DOUBLE LAP FLARING 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 tool used 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

IMPERIAL 664-FH 180° TUBING BENDER
The 664-FH-08 Heavy Duty 180° Tube Bender line for 1/2" stainless steel and other tough tubing metals! Its patent- ed ROTO-LOK™ quick action trigger release two-stage handle allows the tubing to be bent up to 180° without crossing the hands or handles! This means bends are made with reduced effort and much better control.
P/N 12-00281

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 bend- ing 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

ATS HAND RIVET SQUEEZER
The newest addition to our ATS Pro Rivet Squeezer Line is built for hard use, but we must admit it's also one of the best looking squeezer we've ever seen. It's an all stainless steel design that's constructed to last a lifetime. The unique unibody styling is forged for extra strength and CNC machined to tight tolerances. The yoke (also stainless steel) is engineered to be half the weight of other yokes, yet retain full strength. Finally, the whole thing is beautifully finished in a brush satin look and highly polished surfaces. Has a very solid feel, and professional look that will complement anyone's toolbox. Squeezers up to 5/32" aluminum (1/8" steel) 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 •Classic brushed 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

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".
And it all comes to you in a stylish molded case to keep things neatly organized. This is the prefect "field" kit to take with you anywhere -- it has the riveting tools you need conveniently laid out in one handy ready-to-go package. The Professional Riveting Kit is a part of our ATS-PRO Series, so you can rest assured that your tool investment will be well protected by an Unconditional 30 Day Money Back Guarantee, and industry-leading ATS Pro Lifetime Warranty. 19lbs shipping weight.
P/N 12-01698

595
SPRING TENSION CLAMPS
Spring tension clamps can be applied in a fraction of the time required for ordinary screw clamps. The AT542 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.

P/N AT542 .................. /ea.

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. Clamping capacity - 0-1/2”. Jaw depth: 1/2” and 1”. Length: 2-3/16”.

P/N SC-1/2-1 .................. /ea.

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 AT-114C3 ................. /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”.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Face Dia.</th>
<th>Length</th>
<th>Price</th>
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<tr>
<td>AT-107A-3</td>
<td>1-1/4”</td>
<td>3-3/4”</td>
<td></td>
</tr>
</tbody>
</table>

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, 3-1/16”, .401” dia., centerless-ground shank.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Shank Dia.</th>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT-100A-3-3/32</td>
<td>3/32”</td>
<td>3/32”</td>
<td></td>
</tr>
<tr>
<td>AT-100A-3-1/8</td>
<td>1/8”</td>
<td>1/8”</td>
<td></td>
</tr>
<tr>
<td>AT-100A-3-3/16</td>
<td>3/32”</td>
<td>3/32”</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Shank Dia.</th>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT-101A-3-3/32</td>
<td>3/32”</td>
<td>3/32”</td>
<td></td>
</tr>
<tr>
<td>AT-101A-3-1/8</td>
<td>1/8”</td>
<td>1/8”</td>
<td></td>
</tr>
<tr>
<td>AT-101A-3-5/32</td>
<td>5/32”</td>
<td>5/32”</td>
<td></td>
</tr>
<tr>
<td>AT-101A-3-3/16</td>
<td>3/32”</td>
<td>3/32”</td>
<td></td>
</tr>
</tbody>
</table>

HAND RIVET SQUEEZER

P/N 12-00300 ..................

YOKES FOR RIVET SQUEEZER

<table>
<thead>
<tr>
<th>Shank Dia.</th>
<th>Body Length, Letter. PN PER SET 1 PUNCH 1 DIE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16” X 1” Reach</td>
<td>P/N 12-00308</td>
</tr>
<tr>
<td>1-1/4” X 1-1/2” Reach</td>
<td>P/N 12-00309</td>
</tr>
<tr>
<td>1-1/4” X 2” Reach</td>
<td>P/N 12-00310</td>
</tr>
<tr>
<td>2” X 2” Reach</td>
<td>P/N 12-00315</td>
</tr>
<tr>
<td>1-1/4” X 2-1/2” Reach</td>
<td>P/N 12-00318</td>
</tr>
<tr>
<td>1-1/4” X 3” Reach</td>
<td>P/N 12-00320</td>
</tr>
<tr>
<td>1-1/4” X 3-1/2” Reach</td>
<td>P/N 12-00321</td>
</tr>
<tr>
<td>1-1/4” X 4” Reach</td>
<td>P/N 12-00322</td>
</tr>
<tr>
<td>1-1/4” X 5” Reach</td>
<td>P/N 12-00323</td>
</tr>
<tr>
<td>1-1/4” X 6” Reach</td>
<td>P/N 12-00324</td>
</tr>
</tbody>
</table>

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 .................

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 ..................

DIMPLING SETS FOR SQUEEZER

When ordering, specify:

<table>
<thead>
<tr>
<th>Shank Dia.</th>
<th>P/N AT108AP</th>
<th>P/N AT108AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8”</td>
<td>AT108AP-1/8</td>
<td>AT108AS-1/8</td>
</tr>
</tbody>
</table>

CUPPED SQUEEZER SETS

<table>
<thead>
<tr>
<th>Shank Dia.</th>
<th>P/N AT108AP</th>
<th>P/N AT108AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8”</td>
<td>AT108AP-1/8</td>
<td>AT108AS-1/8</td>
</tr>
</tbody>
</table>

FLUSH RIVET SETS

<table>
<thead>
<tr>
<th>Shank Dia.</th>
<th>P/N AT109AP</th>
<th>P/N AT109AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8”</td>
<td>AT109AP-1/8</td>
<td>AT109AS-1/8</td>
</tr>
</tbody>
</table>
COUNTERSINK CUTTERS

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 concentrically-are 100°, with pilot diameters #40, #30, #21, 3/32", 1/8", 3/16", and 1/4".
P/N 12-00824......................

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..............

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.................. ea.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Head Dia. &quot;D&quot;</th>
<th>Part No.</th>
<th>Head Dia. &quot;D&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT484-2</td>
<td>#40</td>
<td>AT484-56</td>
<td>3/32</td>
</tr>
<tr>
<td>AT484-12</td>
<td>#30</td>
<td>AT484-57</td>
<td>1/8</td>
</tr>
<tr>
<td>AT484-21</td>
<td>#21</td>
<td>AT484-59</td>
<td>5/32</td>
</tr>
<tr>
<td>AT484-31</td>
<td>#11</td>
<td>AT484-61</td>
<td>3/16</td>
</tr>
<tr>
<td>AT484-32</td>
<td>#10</td>
<td>AT484-63</td>
<td>7/32</td>
</tr>
</tbody>
</table>

Part No. Head Dia. "D" Part No. Head Dia. "D"
AT484-4  #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......................

AT 442 HS MICRO STOP COUNTERSINK
A precision tool for production countersinking. Ball thrust bearing for absolute depth control. Adjusts in .001" increments, with positive adjustment lock. Skirt accepts cutters up to 5/8" dia. Has 1/4-28 male threaded shaft for use with AT418 cutters. Can be assembled and disassembled without special tools. Split shaft and taper locks pilot in place when cutter is tightened. Order cutters and pilots separately. P/N AT442-SLS......................

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......................
With Needle Bearings
P/N 12-00940......................

120° AT418 COUNTERSINK CUTTER
Same type cutter as described above except with 120° Cutter Angle. 7/16" Cutter Diameter. P/N AT418D-7............................

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

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Cutter Dia.</th>
<th>Thread Size</th>
<th>Pilot Hole</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT418A-4</td>
<td>1/4&quot;</td>
<td>1/4 - 28</td>
<td>.086</td>
<td>.</td>
</tr>
<tr>
<td>AT418D-4</td>
<td>7/16&quot;</td>
<td>1/4 - 28</td>
<td>.086</td>
<td>.</td>
</tr>
<tr>
<td>AT418E-4</td>
<td>1/2&quot;</td>
<td>1/4 - 28</td>
<td>.086</td>
<td>.</td>
</tr>
</tbody>
</table>

BRAKE RIVET SET
Use these sets with your hand squeezer. Will set brake rivets eliminating the possibility of cracking your brake pads. P/N 12-00550......................

AT416 PILOTS
Fit AT418 cutters. Undercut permits head to seat on cutter angle. Order by Part No. in table below.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Head Dia. &quot;D&quot;</th>
<th>Part No.</th>
<th>Head Dia. &quot;D&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT416-2</td>
<td>#40</td>
<td>AT416-56</td>
<td>3/32</td>
</tr>
<tr>
<td>AT416-12</td>
<td>#30</td>
<td>AT416-57</td>
<td>1/8</td>
</tr>
<tr>
<td>AT416-21</td>
<td>#21</td>
<td>AT416-59</td>
<td>5/32</td>
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<tr>
<td>AT416-31</td>
<td>#11</td>
<td>AT416-61</td>
<td>3/16</td>
</tr>
<tr>
<td>AT416-32</td>
<td>#10</td>
<td>AT416-63</td>
<td>7/32</td>
</tr>
<tr>
<td>AT416-65</td>
<td>#10</td>
<td>AT416-65</td>
<td>1/4</td>
</tr>
</tbody>
</table>

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 ....................

MICRO-STOP COUNTERSINK KAGES AND NYLONFOOT PIECE
2 Models available—one with NEEDLE bearing and one with BRONZE bushings. .001" increment depth adjustment. Positive adjustment lock. Skirt accepts cutters up to 5/8" dia. Has 1/4-28 male threaded shaft for use with AT418 cutters. Can be assembled and disassembled without special tools. Split shaft and taper locks pilot in place when cutter is tightened. Order cutters and pilots separately. P/N AT442-SLS......................

With Bronze Bushings
P/N 12-00940......................
With Needle Bearings
P/N 12-00550......................

597
PIERS – 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

HAND SEAMER TP44
- Wide, deep jaws machined for smooth parallel fit
- Forms precise folds and seams • 1" deep x 3-1/2" wide throat
P/N 44R

ROPER-WHITNEY METAL CRIPMER
Handy crimping tool to dispose excess metal. Depth of throat 1-1/8". Overall length 9". Wt. 1 lb.
P/N 111

ROPER-WHITNEY NOTCHER
P/N 141

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 12-00520

HOLE FLANGING TOOL
P/N 12-00600

MIGHTY ROD SHEET METAL BENDER
Designed to bend solid round, square and flat alloys into nearly any shape and angle. FEATURES: • Works on solid materials up to 3/8" diameter. • Coils and bends wires of many sizes. • Includes die for 1/2", 3/4", 1", 1 1/4" & 1-1/2" diameter bends. • Constructed of 3" x 3" aluminum base 1" thick with a 12" handle 7/8" in diameter. Made in the USA. • 1 year Replacement Warranty
P/N 12-00934

JUMBO ROD SHEET METAL BENDER
Constructed of 4" x 6" aluminum base 1" thick with a 16" handle 7/8" diameter. Bends solid round, square and flat iron. FEATURES: • Works on solid materials of up to 3/8" round and square (1/2" wide flat). • Coils and bends wire of many sizes. • Bends metal to any shape and degree of angle. • Includes dies for 3/8", 3/4", 2", 3" & 4" diameter bends. • Installs on any vise, • Ideal for hobbyists, prototype shops and do-it-yourselfers. Made in the USA.
P/N 12-00935

MAGNUM BENDER
For many homebuilders, the production of high quality aircraft metalwork can be a daunting prospect. There can be hundreds of intricate fittings to produce and many will require accurate bends. Magnum Bender has a BIG capacity and is capable of bending 1/8" thick x 6" wide 4130N. Magnum bender uses sets of interchangeable bending bars each with two different radii to produce high quality bends, up to, and including 90 degrees. Bending bars are hardened and polished and allow for material ‘spring back’. The Magnum Bender is available as either a standard version with 1/16", 3/32", 1/8", 5/32", 3/16" and 1/4" radii. Or, as a metric version, with 3 bending bars offering 1,2,3,4,5 and 6mm radii. Each machine is supplied with two pairs of operating levers, 1 ft. long and 2 ft. long.
Standard version ....P/N 12-01550
Metric version ..........P/N 12-01551

ROPER-WHITNEY METAL PUNCH
$5 JR. HAND PUNCH – with one ton punching power.
P/N 12-01600

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

STRAIGHT PUNCH & DIE SETS – for No. 5 Jr. punch in the seven sizes shown below.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>3/32&quot;</td>
<td>#12-01800</td>
<td>#12-01900</td>
<td>#12-02000</td>
<td>#12-02100</td>
<td>#12-02200</td>
<td>#12-02400</td>
<td>#12-02500</td>
<td>#12-02600</td>
<td>#12-02700</td>
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<tr>
<td>1/8&quot;</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>#12-02500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/32&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/16&quot;</td>
<td>#12-02100</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

COMBINATION PUNCH & DIMPLING DIE SETS
- For #5 Jr. punch. Punch and dimple in one operation. 3/32, 1/8 or 5/32" 100° punch & dimpling dies sets.

<table>
<thead>
<tr>
<th>Size</th>
<th>P/N 12-02500</th>
<th>P/N 12-02600</th>
<th>P/N 12-02700</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>#12-02500</td>
<td>#12-02600</td>
<td>#12-02700</td>
</tr>
<tr>
<td>3/32&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/32&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ECONOMY MODEL BENDING BRAKE
For bending and forming. Makes clean, smooth bends and forms up to 90° in metals. 18" & 30" handle up to 16GA aluminum. 40" handles is up to 20GA sheet metal, 18GA aluminum. All include brake bars. Clamps not included. Made in USA.
Up to 18" width stock.....P/N 12-02800
Up to 30" width stock.....P/N 12-02810
Up to 40" width stock.....P/N 12-02815

HEAVY DUTY BENCH BRAKE
This small, compact brake is excellent for all tough fabrication and repair jobs. The radiused dies make it possible to form those difficult materials such as 2024T3, 4130, and stainless without fear of cracks. Features solid steel bar construction, heavy duty clevis hinges, and portable bench mounting. Includes 2 sets of assorted width reversible dies with 1/16", 1/32", and 3/32" radii, plus complete instructions. Ideal for machine shops, aircraft, race car, boat builders, avionics installers, & auto repair shops.
P/N 12-02850

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.
P/N 12-19800
P/N 12-19900

MOUNTING PLATE - installs on shop vice to allow mounting of shrinker and stretcher.P/N 12-00494
RIVET GUNS

G-28 HAND RIVET 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

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

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 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. This compact, lightweight tool comes in a rugged plastic case. P/N 12-03105

RIVET KIT
The Deluxe hand riveter kit includes 200 assorted Klik-Fast rivets in popular sizes. The molded plastic case houses and protects the tool, rivets, G-28 Rivet Gun not included. Weight 4 lbs. P/N 12-03100

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

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

10 Hole spacer P/N 12-00184

RIVEDRILL™
Allows operators to set up to 1/4” 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. Excellent for working on aircraft, autos, or boats. The Rivedrill™ can be quickly inserted into a 3/8” reversible power drill as any standard drill bit would and is able to set any standard blind rivet up to 1/16” aluminum. The shank of the rivet is expelled when the drill is operated in the “reverse” mode. (For cordless electric power drills, a 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

ULTRALITE NUTPLATE DRIVE GUN
Ergonomic, lightweight design. Only one hand required to locate, drill & countersink both holes. Easily convert rivet spacings with interchangeable foot attachments. Available in single wing, double wing & Mickey mouse models. Accommodates all nutplate spindle spacings from 0.219” to 1.125”. Fully adjustable feed rate. 600 to 7000 RPM. P/N 12-01376

SWIVEL RIVETING TOOL

PROFESSIONAL HAND PIER RIVET TOOL
Professional Hand Plier Rivet Tool is 50% easier to use then 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”, 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

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

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

COMBINATION RIVET-RIVNUT TOOL
The D100-RN hand operated hydraulic tool is ideally suited to the needs of the aircraft homebuilder. The tool 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. The D100-RN quickly converts to a threaded blind nut setter to allow efficient installation of Rivnuts or similar blind nuts. 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 D100-RN Kit

PNEUMATIC-HYDRAULIC BLIND RIVET
The PT-100-1 power 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. CherryMax rivets can be installed with the P-100-1. It utilizes a patented two-valve hydraulic pump actuated by 90 to 130 PSI air pressure. Unlike most riveters, the P-100-1’s 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” P/N 09-01070

RIVET SET MAX FOR 2602 RIVET GUN
3/32”, 1/8”, 5/32” and 3/16” rivets. P/N 12-18341

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

Swell Riveting Tool

For More 3M™ Products See Pages 345-352
RIVNUT TOOLS – TAPE MEASURES

L-6000 RIVNUT 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 #6 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 Driver is available for Rivnuts with the following thread sizes:

- 6-32 P/N 12-12900
- 8-32 P/N 12-12700
- 10-32 P/N 12-12900
- 1/4-28 P/N 12-12900

<table>
<thead>
<tr>
<th>Conversion Kit</th>
<th>P/N 12-13100</th>
<th>P/N 12-13300</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-32 Kit.</td>
<td>8-32 Kit.</td>
<td>10-32 Kit.</td>
</tr>
</tbody>
</table>

L-7000 RIVNUT SPEED DRIVER
Designed for light production. Same as the L-6000 except made with a longer stroke for slotted rivet nuts. Made in U.S.A. Order by part number. Available in the following thread sizes:

- 6-32 (P/N 12-13605)
- 8-32 (P/N 12-13607)
- 1/4-28 (P/N 12-13609)

C-845 ECONOMY RIVNUT TOOL
Model L-845 wrench type rivnut 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 the following thread sizes:

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

L722 WRENCH TYPE RIVNUT TOOL
L722 Wrench Type Rivnut installation tool for the larger size fasteners 5/16" up to 1/2", tool comes with long arm wrench handle with plastic handle for easy installation.

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>L722</td>
<td>12-00520</td>
<td>5/16-18</td>
</tr>
<tr>
<td>L722</td>
<td>12-00522</td>
<td>3/8-16</td>
</tr>
<tr>
<td>L722</td>
<td>12-00524</td>
<td>1/2-13</td>
</tr>
<tr>
<td>L722</td>
<td>12-00529</td>
<td>M10</td>
</tr>
</tbody>
</table>

WRENCH TYPE RIVNUT TOOL
Model L-845 wrench type rivnut 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 the following thread sizes:

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

L-1000 ECONOMY HAND RIVNUT TOOL
The L-1000 economy hand rivnut 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-1000 is same tool, except in metric sizes.

<table>
<thead>
<tr>
<th>Model</th>
<th>Thread Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-1000 (60-30)</td>
<td>12-13645</td>
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</tr>
<tr>
<td>L-1000 (8-32)</td>
<td>12-13650</td>
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<tr>
<td>L-1000 (10-32)</td>
<td>12-13655</td>
<td></td>
</tr>
<tr>
<td>L-1000 (1/4-20)</td>
<td>12-13660</td>
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</tr>
<tr>
<td>L-1000M (M6)</td>
<td>12-13670</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP726A / 6-32</td>
<td>12-00348</td>
<td></td>
</tr>
<tr>
<td>TP726B / 8-32</td>
<td>12-00349</td>
<td></td>
</tr>
<tr>
<td>TP726C / 10-32</td>
<td>12-00350</td>
<td></td>
</tr>
<tr>
<td>TP726N/Notcher</td>
<td>12-00351</td>
<td></td>
</tr>
<tr>
<td>TP726K / Kit</td>
<td>12-00352</td>
<td></td>
</tr>
</tbody>
</table>

RIVET CUTTER
This heavy duty 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

BENCH TYPE RIVET CUTTER
Cuts 5 different diameter rivets, as well as wire and screws to 7 different lengths. Made of hardened and ground steel, this rivet cutter can be easily fastened to a workbench or held in a vise. Accepts rivet diameters 1/16, 3/32, 1/8, 5/32, 3/16. Will cut to lengths: 5/32, 7/32, 9/32, 11/32, 13/32, 17/32. P/N 12-00262

LUFKIN METRIC/INCH TAPE MEASURE
LUFKIN NO. W921OME Has 1/2" blade, 3 meters long (equal to about 10 ft.). Markings are on one side only, sized millimeters on lower edge and inches to 16ths on lower edge. White face.

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 12-19700</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 12-19700</td>
</tr>
</tbody>
</table>

SMART TOOL DIGITAL INCLINOMETER
Smart Tool is a unique digital inclinometer with up to 0.1° of repeatable accuracy. Place Smart Tool anywhere and it provides an accurate digital readout of angular reading instantly with no interpretation or guesswork needed. It 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. Smart Tool is ideal for fixture work, tube bending, metal forming, body work, drive shaft angles, camber, caster, and a wide variety of other applications in the aircraft and race car building industries. Also ideal for coordinating and aligning flight control surfaces. Compact & rugged, Smart Tool is powered by an AAA battery.

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 33-272</td>
</tr>
</tbody>
</table>

INSTANT ANGLE FINDERS

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 12-21365</td>
</tr>
</tbody>
</table>

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, lightweight, 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

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 12-30110</td>
</tr>
</tbody>
</table>

UNI-MAG WRIST BAND MAGNET
Uni-Mag is a wrist worn magnet that allows craftsmen to keep parts close to hand while working requiring no fumbling for small hardware with Uni-Mag. Comes complete with magnet and wristband.

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 12-00759</td>
</tr>
</tbody>
</table>

HOMEBUILDERS RIVET NUT TOOL
This rivet nut tool is an inexpensive alternative to industrial rivet nut setters. Fast and easy to use for the builder who needs to make sturdy installations requiring a rivet nut fastener. It has unlimited use on sheet metal screws. Its compact design takes up less room in your tool box. For use with aluminum or steel rivet nuts. Kit includes Rivet Tool, Stabilizing Rod, and Qty 1 each of 6-32, 8-32 and 10-32 rivet nuts.

<table>
<thead>
<tr>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N 12-00968</td>
</tr>
</tbody>
</table>

To
TOOLS

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.

<table>
<thead>
<tr>
<th>Kit P/N</th>
<th>Size</th>
<th>Inserts Per Kit</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460**</td>
<td>3/16 - 10-32</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>3460C</td>
<td>1/4 - 20</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>3460</td>
<td>5/16 - 24</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>3460**</td>
<td>5/16 - 18 (UNC)</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>3460C</td>
<td>3/8 - 16</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>3470RC*</td>
<td>7/16 - 20</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>3480</td>
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<td>3508**</td>
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<td>-</td>
</tr>
<tr>
<td>3508**</td>
<td>Mix (Metric)</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>3304**</td>
<td>UNC Range Kit</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>3403**</td>
<td>UNC Range Kit</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>

**UNF - Unified Fine Thread **UNC - United Coarse Thread **Metric = Metric & Spark Plug (ISO)

BLIND SKIN SCREIZE

For use on flush skin butt joints. This tool quickly and easily finds the cut line on the overlap of new metal. The lower leg slides under the new metal and hooks on the adjacent skin and the upper leg scribes the new skin as it pulled along. This tool is adjustable to suite the desired gap at the skin joint. This tool is especially handy when the old skin that is removed is damaged beyond usefulness as a pattern. Note: For use on skin as it pulled along. This tool is adjustable to suite the desired gap.

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/BASKET TOOL - Wedge tip, for use where a wide area is desired with a "soft" touch.

PLASTIC PRY BAR TOOLS - 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. P/N 12-00748

MASTER INSTALLER KIT - Soft, yet strong, all Bojo tools are made tough enough to scrape, but not hard enough to damage. Set of 4.

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.

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 resistant to all forms of chemicals and sealants.

P/N 12-01958

MULTI WEDGE NON-MARRING TOOL SETS

Multi Wedge non-marring tools allow homebuilders 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, electronic installation, upholstery etc. The Orange Set (3400) P/N 12-01671 is made of a softer polyethylene plastic blend for prying dash bezels, trims, and moldings without damaging the vehicle interior. 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 tight 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 Orange (Soft) 3400 P/N 12-01671
Multi Wedge Set Black (Hard) 3500 P/N 12-01672
Both Multi Wedge Sets - Orange (Soft) / Black (Hard) 3400/3500 P/N 12-01673

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

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 with 1/4" hex adapt- er included -Use standard Phillips or Slotted insert bits -Rivet gun required

P/N 12-00827

TORK-IT PRECISION TORQUE SCREWDRIVER

The Tork-It Model 36 precision torque screwdriver is a micro-setting device that is adjustable from 2 to 36-lbs. in 0.5-lb. increments. The tool complies with ANSI type 3 class A style 1 screwdriver grip torque wrench standards. Tork-It is supplied with a 1/4" pin-lock hex bit holder, 6-piece Hex Bit Set of 1/16", 1/32", 2.5mm, 3mm, 3/32 & 7/64" can be ordered separately.

Tork-It Screwdriver P/N 12-14330
Six Piece Hex Bit Set P/N 12-14335

601
MICRO LATHE
This is the machine you don’t have to “baby”. The Micro Lathe is a rugged, precision instrument. Its machined, ground and stabi-
ized steel bed has a lifetime 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 gibbs provide full compensation for carriage and cross slide wear. 2-yr. factory warranty.

General Specifications:
- Overall working accuracy: 0.0005”
- Max. bearing run out: 0.0004”
- Headstock normality to bed: .0001”
- Max. taper bed dovetail over pins: 0.0001”
- All machine dovetails: 45°
- Bed width: 5/16”
- Cross slide dial graduation: 0.001”
- Cross slide screw: 1/4”-20
- 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 ID taper: 15°
- Spindle ID size: 0.343”
- Spindle� ID size: 0.6692 I.D.
- Spindle normality to bed: .0004
- Overall length of lathe: 26-3/8”
- Overall length of ways: 21-3/8”
- Headstock normality to bed: .0004
- Spindle hole: 0.343”
- Motor mount bracket: 12-01607
- Drill chuck: 12-01605
- Tailstock: 12-01604
- 1/4 HP 1725 RPM Motor: 12-021w
- Motor mount bracket: 1022
- Mounting Board: 1023
- Pulleys (1162 with 1150).

Tease trigger allows slow start up & exhaust porting is through the bot-
m of the handle. P/N 12-00171 is basic lathe unit only.

General Specifications for Blade Selection

**Blade Diameter**

<table>
<thead>
<tr>
<th>Cutter</th>
<th>Cutter Dia.</th>
<th>Skirt Part No.</th>
<th>Skirt Price</th>
<th>Cutter Part No.</th>
<th>Cutter Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/4”</td>
<td>5/16</td>
<td>AT429A-1</td>
<td>AT429B-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1/2”</td>
<td>3/16</td>
<td>AT429A-2</td>
<td>AT429B-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7/16</td>
<td>AT429A-3</td>
<td>AT429B-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-1/4”</td>
<td>1/2</td>
<td>AT429A-4</td>
<td>AT429B-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9/16</td>
<td>AT429A-5</td>
<td>AT429B-5</td>
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<td></td>
</tr>
<tr>
<td>3-1/4”</td>
<td>5/8</td>
<td>AT429A-6</td>
<td>AT429B-6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NICHOLSON HACKSAW BLADES**

Nicholson Bi-Metaloy hacksaw blades last twice as long as high-speed steel and 10 times longer than carbon steel. Can operate 20%-50% faster. Practically unbreakable.

**PLYWOOD PLANER-SCARFFER ATTACHMENT**

The Plywood Planer-Scarffer attachment enables you to make consistent scarf cuts quickly and easily. Easy installation and removal allows your planer to be readily used for scarffing as well as a regular planer. The Planer-Scarffer attachment is easily installed on the Makitan 1911B and the Porter Cable 9125 planers. The attachment is not limited to these particular models or makes. With the Planer-Scarffer attachment, you can purchase standard size sheets of plywood and then join them together. This saves the extra cost of larger sheets and the shipping charges that would be required. By scarffing 4x8 sheets together, save 60% or more in the price of the plywood and make the cost more bearable. The attachment is made of heavy gauge steel and cuts an 8:1 bevel. 2 models are available. One fits a 4-3/8” planer for plywood up to 1/2”. The other is designed for a 3-1/4” planer and can be used on plywood up to 3/8”. Specify planer type when ordering.

**CRAFTSMAN WOOD TOOL CHEST PLANS**

Ideal for the aircraft builder or aircraft mechanic. Plans are to build this magnificent wood tool chest from our detailed professional plan. It’s the kind of chest a craftsman dreams of. Features 10 drawers in the sturdy base, 12 more drawers plus a large top bin in the removable upper portion. Overall size is 25”x 10-5/16”x 27”. Ideal for the aircraft builder or aircraft mechanic. Plans only for Wood Tool Chest. P/N 12-18350

**CRAFTSMAN WOOD TOOL CABINET PLANS**

Machinist’s and woodworkers show their skill. Impress potential customers when they come into your shop, and see such a nice cabinet like this. This cabinet has removable trays for easy access to all hand tools. The cabinet when built by my plans, will have room for all your hand tools. As a bonus it has wheels on it for easy mobility. Size of this unit when completed 32”x 19” x 64” H.

P/N 12-00978

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**MICRO MILL**

The Micro Mill has effortless, chatterless table and mill head movement. This is due to the unique design of our oversized gibbs, 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 .001 graduations on friction adjustable micrometer dials for X, Y, and Z controls. Adjustable gibbs provide full compensation for X, Y, and Z mill-ways. It all adds up to the best value in small mills.

General Specifications:
- Overall working accuracy: 0.0015”
- Max. bearing run out: 0.0004”
- Headstock normality to bed: .0001”
- Max. taper bed dovetail over pins: 0.0001”
- All machine dovetails: 45°
- Bed width: 5/16”
- Cross slide dial graduation: 0.001”
- Cross slide screw: 1/4”-20
- 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 ID taper: 15°
- Spindle ID size: 0.343”
- Spindle� ID size: 0.6692 I.D.
- Spindle normality to bed: .0004
- Overall length of lathe: 26-3/8”
- Overall length of ways: 21-3/8”
- Headstock normality to bed: .0004
- Spindle hole: 0.343”
- Motor mount bracket: 12-01607
- Drill chuck: 12-01605
- Tailstock: 12-01604
- 1/4 HP 1725 RPM Motor: 12-021w
- Motor mount bracket: 1022
- Mounting Board: 1023
- Pulleys (1162 with 1150).

This is the machine you don’t have to “baby”. The Micro Lathe is a rugged, precision instrument. Its machined, ground and stab-
ized steel bed has a lifetime 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 gibbs provide full compensation for carriage and cross slide wear. 2-yr. factory warranty.

**AT429XSC MICRO MILLER**

The AT429XSC Micro Miller features a .75 horsepower 20,000 RPM Sioux Tools motor. Cutter capacity is 3/4” and the unit will cut steel, alumi-
num and stainless steel. Spindle size is 1/4-28 and inlet pipe tap is 1/4” NPT. Air requirements: 90 PSI.
TOOL KITS — METAL FORMING TOOLS

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 R4, 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-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
Kit with 3x Rivet Gun.................................P/N 12-00899
RV-10 Bucking bar.........................................P/N 12-00903

12-00804 2X Rivet Gun
12-00816 AIR DRILL (PISTOL TYPE-14500RPM)
12-00877 AVERY AIR TOOL ON
12-00817 HAND RIVETING & DIMPLING TOOL
12-00605 AVERY POLY, DIMPLING MALLET
12-00320 3” YOKE for Hand Rivet Squeezer
12-00882 AVERY 6PC SQUEEZER SET
12-00688 AVERY DELUXE DIME DIE SET
12-00613 AVERY POP RIVET DIMPLER 3/32”
12-00811 AVERY VISE GRIP Dimpler 3/32”
12-00888 AVERY #15 BUCKING BAR
TP-670 BUCKING BAR 1-3/4 LB.
SM-10-474 STRAIGHT RIVET SET 3/16, 1/4, 5/32
12-00873 AVERY 1/16” DEL OFFSET RIVET SET
12-00741 AVERY FLUSH SWIVEL RIVET SET
12-07100-3 AVERY BACK RIVET SET 4-1/8-L
12-00609 AVERY FLUTING PLIER
12-00608 AVERY HAND SEAMER 3-1/2” JAW
12-10105 CLECO PIERS
M-3/32 SHEET HOLDERS M-3/32 KWIK-LOK
M-1/8 SHEET HOLDERS M-1/8 KWIK-LOK
M-5/32 SHEET HOLDERS M-5/32 KWIK-LOK
M-3/16 SHEET HOLDERS M-3/16 KWIK-LOK
SC-1/2-1/2 1/2" X 1/2" SIDE GRIP CLAMP
SC-1/2-1 SIDE GRIP CLAMPS P/N SC-1/2-1
12-00618 AVERY BACK RIVETING PLATE
12-00875 AVERY CUT/POLISH WHEEL KIT
12-03900 UNIBIT STEP DRILL # 3
12-1955-4 RIVET TAP 5/16” GREEN
12-04214 #40 SUPER COBAL DRILL (4PACK)
12-04217 SUPER COBAL DRILL #30 (3PACK)
12-04221 SUPER COBAL DRILL #21 (3PACK)
12-04219 SUPER COBAL DRILL #27 (3PACK)
12-00886 AVERY #19 COBAL DRILL BIT 2PK
12-00887 AVERY #18 COBAL DRILL BIT 2PK
12-00884 AVERY 1/4” COBAL DRILL BIT
12-05200 DRILL BITS 1/2” LONG 3/32”
12-05300 DRILL BITS 1/2” LONG 1/16”
12-00867 AVERY 4PC DRILL STOP SET
12-00883 AVERY 90° ANGLE DRILL KIT
12-01422 AVERY MICRO-STOP CSNK CAGE
12-00879 AVERY #40 X 3/8” CSNK CUTTER
12-00880 AVERY #40 X 3/8” CSNK CUTTER
12-00881 AVERY #20 X 1/2” CSNK CUTTER
12-00874 AVERY 8PK PILOT PENS
1216 STEEL RULES #1216
12-00631 AVERY SHOP HD RIVET GAUGE SET
12-00633 AVERY RIVET LENGTH GAUGE
M-1/4 WISS SNIPS # M-1/4
M-2R WISS SNIPS # M-2R
12-00622 AVERY SPEED DEBURR-CSNK TOOL
12-00873 AVERY ROYAL MULTI-BURR TOOL
12-00829 AVERY DOUBLE EDGE DEBUR TOOL
12-00875 AVERY SCOTCHBRITE CUT/PLSH WHL
01-00392 CURVED TOOTH FILE 14” LONG
12-00870 AVERY 3/32” DRIVING PIN PUNCH
12-00871 AVERY 1/8” DRIVING PIN PUNCH
12-00889 AVERY #360 DEG SWEEP POP RVT TL
13-19029 JEFF ACET SHT METAL & EA SM
13-11400 STANDARD AIRCRAFT HANDBOOK

 Hierarchical TOC

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.

This 530 piece kit includes:

1 TP44 - Hand Seamer
1 TP638 - Bucking Bar
1 TP112 - Bucking Bar
1 TP116 - Hand Rivet Squeezer
1 TP97 - Air Tool Regulator
1 TP266 - Deburring Tool
1 TP4263 - Dimple & Die Set
1 TP75 - Dimple & Die Set
1 TP4264 - Dimple & Die Set
1 TP45 - 1/4” Air Drill
1 TP61 - Micro Stop Countersink
1 TP91 - Flush Rivet Set w/Rubber Guard
1 TP89 Straight Rivet Set (5 Pcs. SM10 Series)
1 TP83 Standard or TP84 (special order) Rivet Gun (specify)
1 TP86- Beehive & Quick Change Retainer Springs
2 TP25 0° Offset Rivet Sets (5 Pcs. SM20 Series) (specify)
3 TP62 - Countersink Cutter Pilots (1 ea.: TP62-21, TP62-30, TP62-40)
500 TP75 - Cleco Fasteners (325 pcs. TP75-3/32 & 175 pcs. TP75-1/8)

P/N 12-01145

WHEELING MACHINE (BENCH MODEL)

Clearly, this is the most popular of in-home English Wheels. Trick out your custom-built bike or complete hobby projects without breaking the bank. Provides outstanding performance on small jobs like motorcycle tanks, tank covers, seat cowls and aircraft fillets. Versatile use - mount on bench, clamp in vise or use with optional welded floor stand.

Applications: ideal for small metal crafting projects such as motorcycle gas tanks, hobby projects and small fillets for aircraft applications.

Specifications:

- Thickness capacity for steel is 16 gage; for aluminum, up to 3/32”.
- 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:

- Radius Wheel 5”
- Radius Narrow Wheel 5”
- Radius Wheel 5” with Offsets
- Optional Narrow Wheel 5”
- Optional Stand for Wheeling Machine

P/N 12-00206
P/N 12-00207
P/N 12-00208
P/N 12-00209
P/N 12-00575

ACCESSORIES

- BEATER BAG

WHEELING MACHINE (U-WELD MODEL)

This floor model machine is available in Kit Form. We supply: upper wheel, yoke, anvil wheels, screw lift assembly, kick wheel adjuster, quick release cam, steel casters & instructions. You supply steel tubing for frame.

P/N 12-00570

BEATER BAG

18” diameter; Double stitched; Can be filled with lead shot or sand....P/N 12-00574

Optional Anvil Wheels

- 3.25”
- 5.00”
- 8.50”

P/N 12-00576
P/N 12-00577
P/N 12-00578

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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, S, 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.

Kit Contains:

- 1 - TP83 - Rivet Gun
- 1 - TP84 - Rivet Gun
- 1 - TP86 - Straight Rivet Set
- 1 - TP90 - Offset Rivet Set
- 1 - TP91 - Flush Set with Guard
- 1 - TP638 - Bucking Bar
- 1 - TP674 - Bucking Bar
- 1 - TP74 - Cleco Pliers
- 1 - TP83 (4x) or TP84 (3x) Gun
- 1 - TP4263 Drill Stop Kit
- 1 - TP90i Offset Rivet Set
- 1 - TP74 - Cleco Pliers
- 2 - TP844 Blind Riveter
- 1 - TP670 Bucking Bar
- 1 - TP9 air tool regulator
- 1 - TP249 - 60 pcs. #1-#60
- 1 - TP260 - 2-Drawer Tool Chest
- 1 - TP279 - Military Style Tool Pouch
- 1 - TP276 - Debulking Tool

48 lbs.

Kit Contains:

- 2X, 3X, 4X and many more.
- 1 TP90i offset rivet set
- 5 - TP123 - Rivet Set
- 1 TP90 - 3/8" Air Drill
- 1 TP91 - Flush Set with guard
- 1 TP83 or TP84 rivet gun
- 1 TP90 offset rivet set
- 1 TP112 - bucking bar
- 1 TP638 bucking bar
- 1 TP844 blind riveter
- 1 TP670 bucking bar
- 1 TP9 air tool regulator

This complete kit contains all the basic tools required for most riveting applications. In addition, the tools are well organized in the bag for a neat case, making it the perfect kit for the A & P student, mechanic, airline maintenance personnel or homebuilder.

This 21 piece kit includes:

- TP83(3x) or TP84(4x) rivet gun
- TP86 straight rivet set.
- TP90 offset rivet set.
- TP91 flush set with guard.
- TP83 spring retainers (2 pc.)
- 2X, 3X, 4X and many more.

Kit with TP83(3x) Gun ................................P/N 12-002009

Kit with TP84(4x) Gun ...............................P/N 12-002011

US INDUSTRIAL TP83 & TP84 RIVET GUN KIT

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. They are top quality, and designed to last. They are all covered by a 30 day unconditional money back guarantee.

Kit Contains:

- 1 TP83 - Rivet Gun
- 1 SM10-4703 - 3/32" Universal Rivet Set
- 1 SM10-4704i - 1/8" Universal Rivet Set
- 1 TP116 - Hand Rivet Squeezer
- 1 TP74 - Cleco Pliers

This kit meets all 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. 56 lbs.

P/N 12-00831

DELUXE STUDENT TOOL 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 SM10-4705 Rivet Set
- 1 SM10-4703 Rivet Set
- 1 SM10-4704i Rivet Set
- 1 TP123 - Rivet Set
- 1 TP838 90° Countersink/Extension Bits
- 1 TP260 - 2-Drawer Tool Chest

TO
**RIVETING HAMMERS**

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.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity</th>
<th>Bore</th>
<th>Stroke</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>US3R</td>
<td>3/16&quot;</td>
<td>3/32&quot;</td>
<td>1/2&quot;</td>
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<td>605</td>
</tr>
<tr>
<td>US5R</td>
<td>1/4&quot;</td>
<td>1/16&quot;</td>
<td>1/2&quot;</td>
<td>14 lbs</td>
<td>605</td>
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</table>

**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 airplane 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

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>MODEL</th>
</tr>
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<tbody>
<tr>
<td>Rivet Capacity Dural</td>
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</tr>
<tr>
<td>Standard Yoke Reach</td>
<td>2&quot;</td>
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<tr>
<td>Air Hose Size</td>
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<td>Recommended Line Pressure</td>
<td>90 PSI</td>
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<tr>
<td>Weight</td>
<td>6 LBS</td>
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</table>

**AIRCRAFT RIVET GUNS**

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 an excellent finger tip control. Accepts all .401 shank rivet sets and attachments. All guns are brand new and carry a full 1 year warranty.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Blows / Min</th>
<th>Capacity</th>
<th>Bore</th>
<th>Stroke</th>
<th>Weight</th>
<th>Price</th>
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<td>1/8&quot;</td>
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<tr>
<td>3X</td>
<td>1760</td>
<td>3/16&quot;</td>
<td>1/2&quot;</td>
<td>2-7/8&quot;</td>
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<td></td>
</tr>
<tr>
<td>4X</td>
<td>1740</td>
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<td>1/2&quot;</td>
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<td>3.6</td>
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</table>

**AT590RGK 3X RIVET GUN KIT**

This 21-piece dimpling and riveting set was designed especially for use in the construction of the Vans RV aircraft series, and is ideal for a variety of other aircraft as well. All the riveting and dimple dies are made from heat treated stainless steel.

### 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, and is ideal for a variety of other aircraft as well. All the riveting and dimple dies are made from heat treated stainless steel.

### 7-PC RIVET SET

**RIVET SIZE**

Holder includes 3/32", 1/8", 5/32", 7/32", 1/4", 9/64", and 5/64" cups for 470 rivets, plus 3 flat sets for AN426 rivets. To be used with pneumatic or hand rivet squeezer.

P/N 12-00555

### 6-PC DIMPLE DIE SET

**SCREW SIZE**

Holder includes springback dimple dies for 3/32", 1/8" and 5/32" screws. To be used with pneumatic or hand rivet squeezer.

P/N 12-00560

### 6-PC DIMPLE DIE SET

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
RIVET SETS STRAIGHT .401 SHANK (AN470)

<table>
<thead>
<tr>
<th>Length</th>
<th>Part Numbers</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2&quot;</td>
<td>SM10-4703/704</td>
<td></td>
</tr>
<tr>
<td>5-1/2&quot;</td>
<td>SM10-4705/706</td>
<td></td>
</tr>
<tr>
<td>7-1/2&quot;</td>
<td>SM12-4703/704</td>
<td></td>
</tr>
<tr>
<td>10-1/2&quot;</td>
<td>SM13-4703/704</td>
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</tbody>
</table>

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

RIVET SETS STRAIGHT .498 SHANK (AN470)

<table>
<thead>
<tr>
<th>Length</th>
<th>Part Numbers</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2&quot;</td>
<td>SM10SP-4264</td>
<td></td>
</tr>
<tr>
<td>5-1/2&quot;</td>
<td>SM10SP-4265</td>
<td></td>
</tr>
<tr>
<td>7-1/2&quot;</td>
<td>SM10SP-4266</td>
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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 .401 SHANK (AN470)

<table>
<thead>
<tr>
<th>Dia.</th>
<th>Part Numbers</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>SM91</td>
<td></td>
</tr>
<tr>
<td>1-1/4&quot;</td>
<td>SM92</td>
<td></td>
</tr>
<tr>
<td>1-1/8&quot;</td>
<td>SM93</td>
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</table>

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 (AN470)

<table>
<thead>
<tr>
<th>Dia.</th>
<th>Part Numbers</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>1/2&quot;</td>
<td>SM100</td>
<td></td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>SM10SP-4264</td>
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<tr>
<td>1&quot;</td>
<td>SM10SP-4265</td>
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</tbody>
</table>

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

RIVET SETS FOR HIGH SHEAR RIVETS .401 SHANK

<table>
<thead>
<tr>
<th>Rivet Size</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/32&quot;</td>
<td>SMHS10-4</td>
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</tr>
<tr>
<td>3/16&quot;</td>
<td>SMHS10-5</td>
<td></td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>SMHS10-6</td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>SMHS10-8</td>
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</table>

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 OFFSET .401 SHANK (AN470)

<table>
<thead>
<tr>
<th>Dia.</th>
<th>Part Numbers</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>SM100</td>
<td></td>
</tr>
<tr>
<td>1-1/4&quot;</td>
<td>SM10SP</td>
<td></td>
</tr>
</tbody>
</table>

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

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.

SWIVEL DIMPLING TOOL .401 SHANK

- Can be used with T932 Bucky Block

Model # | "L" | Type | Price |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SM10SP*</td>
<td>3/16&quot;</td>
<td>Punch</td>
<td></td>
</tr>
<tr>
<td>SM10SD</td>
<td>3/16&quot;</td>
<td>Die</td>
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KNOCKOUT PUNCHES FOR HIGH SHEAR RIVETS .401 SHANK

<table>
<thead>
<tr>
<th>Rivet Size</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/32&quot;</td>
<td>SMHS401K-4</td>
<td></td>
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<tr>
<td>3/16&quot;</td>
<td>SMHS401K-5</td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>SMHS401K-8</td>
<td></td>
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</tbody>
</table>

RETAILER SPRINGS

- Retainer springs come 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.

RIVET SET HOLDER

- This “no mar” rivet set holder was developed by an RV-7 builder who needed to drive rivets in tight spaces without scratching the surrounding metal, such as happens when using standard metal spring type set holders. Just attach the holder to a recessed (mushroom) rivet set, backside rivet sets, or any other rivet too set. A small slit in the half inch hole allows the set holder to stretch over the shoulder of the recessed and backside tools. P/N 12-01391.

RIVET SET HOLDER

- For back riveting flush rivets on RV control surfaces and other home builds. 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.

RIVET SET HOLDER

- Back Rivet Set 3-1/2" long. P/N 12-07100-3.
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.
**RIVET TOOLS – SHEARS**

**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
P/N 12-01128
P/N 12-01129
P/N 12-01130
P/N 12-01131

**REPLACEMENT BITS**

P/N 12-00817
P/N 12-01128
P/N 12-01129
P/N 12-01130
P/N 12-01131

**HAND RIVETING & DIMPLING TOOL**
Used for hand riveting of small parts and for hand riveting of parts, assemblies, and parts. The 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 .0187" shank 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

**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 skins. The relief under the lower frame 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" X 16" X 33"
- Weight: 60 lbs
- Size: 28" X 16" X 33"
- Weight: 60 lbs
- Size: 28" X 16" X 33"
- Capacity: Up to 22" depth
- Gap: 4" Skin thickness:

Up to 0.040" Aluminum
Dimple Dies: 3/16" shank Diameter.

P/N 12-00967

**AIRCRAFT BUILDER CALIPPERS**
Our Aircraft Builder’s Calipers feature an easy-to-read dial, 6" length capacity, and measurement in 4 dimensions outer, inner, depth, and step. The dial has .001" graduations for case and bulk measurement. A chart that shows maximum and trim lengths for all popular calipers, plus a fitted case with instructions, are included. Ideal measurement tool for aircraft mechanics and homebuilders. Available in plastic or stainless steel.

Stainless Steel Calipers—P/N 12-30220

**DIGITAL FRACTION CALIPPERS**
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 .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.

Features:
- Stainless Steel Caliper
- "Tri-Mode" digital display
- Resolution 0.0005" (0.01mm)
- Accuracy 0.001" (0.025mm)
- "Auto on/off" feature preserves battery life

Bar scale is graduated in inches and millimeters. Free-wheeling friction roller advances and retracts slide. Extensible depth gage for use in slots and small holes. Etched and filled black graduations. Convenient foam-padded case for storage.

Digital Fraction Caliper—P/N 12-00968

**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 AT881 Bucking Bar
- 1 AT647 Bucking Bar
- 1 AT670 Bucking Bar

P/N 12-02006

**POWER SHEAR**
This air-powered shear cuts straight lines or curves up to 180 inches/minute. An ideal shear for any aircraft builder. Cuts up to 18 gauge mild steel. Width of cut: 7/32". Length: 8-1/4". Wt: 2.14 lbs.

P/N 12-01330

**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: 1-1/2-1.2 lbs. Made in U.S.A.

P/N 12-01321

**CHIP CHASER**
This handy, economical tool removes chips and burrs on metal between sheets after rivet holes have been drilled. A recommended tool for any aircraft builder involved with sheet metal work.

P/N 12-01304

**WISS ANGLE SNIPS**
The new M8R and M9R compound action snips possess the same outstanding durability as all the other products in the wide Wiss® compound action line, but feature a right-angle blade that allow greater reach in overhead and other awkward applications.

And like every other Wiss compound action snip, both the M8R and M9R have a unique blade edge, shaped to allow the material to set deeper and serrated to hold it tight during the cut.

M8R - Compound action right angle blade cuts straight to left

P/N 12-02007

M9R - Compound action right angle blade cuts straight to right

P/N 12-02006

**AIR DRILLS (PISTOL TYPE)**
These air powered pistol drills feature ergonomic design and use .90 H.P. motors. Sound level is a low 84 db while production output remains high with these high quality drills. Made in U.S.A.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>RPM</th>
<th>Capacity</th>
<th>Length</th>
<th>Weight</th>
<th>Price</th>
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<tr>
<td>12-00816</td>
<td>4500</td>
<td>1/16</td>
<td>5-3/8&quot;</td>
<td>2 lbs.</td>
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<td>12-00815</td>
<td>2800</td>
<td>1/4</td>
<td>5-3/8&quot;</td>
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<tr>
<td>12-00813</td>
<td>500</td>
<td>3/8&quot;</td>
<td>7-1/2&quot;</td>
<td>2.13 lbs.</td>
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</tbody>
</table>
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

TRUE BLUE CONCENTRATED CUTTING FLUID
Water Soluble and environmentally safe. Completely freeze tolerant. Mixes 8 to 1 for economical use. Rust inhibiting properties. Wipes clean and leaves surfaces ready to paint. Size: Quart

P/N 12-01852

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. 9/16” 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
With Needle Bearings: P/N 12-00940

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; & 1/6” by 3/8” dia. flush set; plus #4510 organizer block.

P/N 12-00862

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 #14 short
1 ea. #4110 #40 long 1 ea. #4130 #30 long
1 ea. #203079 Mini 3-jaw chuck

P/N 12-00883

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

<table>
<thead>
<tr>
<th>Pilot Size</th>
<th>Decimal Equiv.</th>
<th>Body Dia.</th>
<th>Part No.</th>
<th>Price</th>
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<tr>
<td>#40 (3/32” rivet)</td>
<td>.0980”</td>
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<td>.2500”</td>
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</table>

360° SWIVEL HAND POP RIVET TOOL

P/N 12-00889

DELUXE Dimple die kit has all the most commonly used dimple dies in one package—at a special price. 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- #4520 Organizer Block for Dies

P/N 12-00886

DOUBLE OFFSET RIVET SET
SET OF 6 RIVET SETS - 5-1/2” long sets. Used for hard to reach rivets in corners. High alloy steel and heat treated. Shanks are precision ground. Cupings are polished.

3/32” Double Offset Rivet Set
P/N 12-00936

AVERY 1/8” Dbl. Offset Rivet Set
P/N 12-00873

5/32” Double Offset Rivet Set
P/N 12-00937

3/16” Double Offset Rivet Set
P/N 12-00938

4-PC Double Offset Rivet Set
P/N 12-00939

AVREY CUTTING & POLISHING WHEEL KIT
Avery 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 hand held 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 1/4” Wheels (1) #932 Mandrel + (2) 2” x 3/4” x 1/4” Wheels

3/32” 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 12-00976

Light Deburring Wheel-7S Fine Grade (Softer)

2” x 3/4” x 1/4” Hole Wheel
P/N 12-01999

Mandrel for 3719
P/N 12-01998

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.

Light Deburring Wheel-7S Fine Grade (Softer)

2” x 3/4” x 1/4” Hole Wheel
P/N 12-01999

Mandrel for 3719
P/N 12-01998

FOR OTHER 3M™ PRODUCTS SEE PAGES 345-352

DRIVE PIN PUNCHES

Drive Pin Punch 1/16”
P/N 12-00949

Drive Pin Punch 3/32”
P/N 12-00870

Drive Pin Punch 1/8”
P/N 12-00871

4-PIECE DRILL STOP SET
Use when drilling in sheet metal to help eliminate drill breakage & surface marks. Safely prevents 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
**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 2-5/8" round X 4" long with 12" handle. Wt: 16oz. P/N 12-00605

**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 resis-tant. Mallet head measures 2-5/8" round X 5" long w/ 11" handle. Wt: 14 oz. Great combo to the shot bag. P/N 12-00607

**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 filled with 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

**HAND SEAMER/3.5" JAW**
Has VISE. GRIP locking feature to aid clamping & holding work. Use for straightening and bending rib and bulkhead edges. 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

**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

**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"). P/N 12-00611

**LEVER SNIPS**
Offset cutting tool, leaves 2 clean, finished edges. 8.5" length, .75 lb. Model TP133 - (Right hand snip, cuts left & straight) P/N 12-00386
Model TP134 - (Left hand snip, cuts left & straight) P/N 12-00367

**ROBIN OFFSET HEAVY DUTY SNIP**
This offset blade design allows the sheet to pass under your hand. The steel forged blades keeps metal from stretching and causing puckering marks along the cut edge. 15 gauge mild steel capacity. 1.63 lbs. Model TP299 P/N 12-00369

**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
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
1/8" P/N 12-00614
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

**BACK RIVETING PLATE**
Back riveting requires a hard flat surface to act as a bucking bar while you set the 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

**HOLE FLANGING TOOL**

**SPARE ROLLER-SET OF 2**
Replacement rollers for our edge rolling & hole flanging tools (above). P/N 12-00621

**WISS COMPOUND ACTION SNIPS**
P/N 12-01198
P/N 12-01197
P/N 12-01189
P/N 12-01189
P/N 12-01190
P/N 12-01189

**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 pinchpoint 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
IRWIN (Left Cutting) P/N 12-00186
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
Handle and Extension Shaft sold separately
Swivel handle only P/N 12-00623
Extension Shaft only P/N 12-00624

BLUE SKY COUNTER SINK DEBURRING TOOL
This is an aluminum handle that a counter sink bit will fit into; a clutch mechanism allows the bit to only turn in one direction. The normal "speed de-burr" handle cuts a very irregular pattern and will not countersink, or true up a countersink. This tool will do both countersinking and de-burring. Use any countersink with a 1/4” shaft. P/N 12-01753

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 bit without the pilot. P/N 12-00625

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

STRAP WRENCH
Heavy malleable iron body with latex-covered nylon webbing. For gripping and turning of round, hex or square parts without marring the surface. Indispensable tool use in close quarters where electric wrench cannot be used. Tool is 11-1/2” long with 18” strap. Capacity 3”. Wt. 1-1/2 lbs. P/N 3004

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

BOLT GRIP
This new tool tightly 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 3/16” fasteners and one for 4-40 (1/4”) fasteners. 12” overall length. P/N 12-00628

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

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

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

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

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 fitting. Machine hardened 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

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

STEELMAX 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! Features: • Powerful, Portable Drill that cuts through mild steel up to 2 1/16” Diameter, with 2” Depth of cut and weighing only 37 lbs. • Unique low maintenance rail system reduces cutter run out and breakage without adjustments • Dual speed for cutting a variety of hole sizes as small as 1/16” up to 2 – 1/4” • Uses adjustable chuck for twist drill up to 1/4”, 1/8” or 1/32”. • Versatile, Light weight, and powerful, the D2’s unique design allows for easy maintenance and repairs in the field, keeping it in service far longer than competitors with gib system designs
Steelmax Magnetic Base Drill………………. P/N 12-01718 D1 Portable Magnetic Drill………………… P/N 12-01811

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

STEELMAX DRYCUT SAW S14
Using 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 45 degrees. Saves variable money giving cool cuts that need little to no finishing, eliminating any need for grinding or cool down time. ………… P/N 12-01717

611
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 goods stores.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Size (inches)</th>
<th>Part No.</th>
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<td>SB18</td>
<td>18”</td>
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<td>SBR18 (rectangular)</td>
<td>18”x12”</td>
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T-DOLLIIES
Simple, but necessary forming tool allows you to create new flanges or straighten out damaged flanges. Can be used effectively by taking 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.

ARC360 HOLE CUTTER
The tools on the market for cutting lightning holes in your airframe parts have never impressed me much especially if the holes are larger than a couple of inches in diameter. Panel knock put punches and hole saws work well for holes that 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 and I even made the Mustang-II flap handle notch plates in the photo out of .06 thick 4130 steel.

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.

HAND FORMING DOLLIIES
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 dollies. Dollies weight and shape impacts the flow of the metal. Choose weights according to sheet metal thickness. Medium carbon steel, forged, ground, 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 working along a tighter radius in more confined areas. Each slapper comes with a leather face cover to eliminate marring of the metal.

<table>
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</table>

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 devilry time you contact the metal. Each hammer style is color coded for easy recognition: the black beater is gentle, the yellow beater is medium, the red beater is stretching, and the blue beater is forming. These professional series panel beaters included are the dingening, or stretching (red) forming tasks. The 3 shallow-domed faces and pick hammer are designed to create an exact radius edge existing body panel or locked in bench vise and create an exact radius edge existing body panel or locked in bench vise. The reinforcement face is used to force flat panels into lock holes. The UHMW polyethylene face is used to force rounded fasteners or bolts. The 5 black beaters are designed to accomplish.

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.
ECONOMY AIRCRAFT TOOLS

HAND RIVET SQUEEZER
Features include 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 three roll pins you can change the yoke to match your riveting or gripping application.

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.

QUICK CHANGE PINS
Quick Change Pin. Makes changing yokes quicker & easier.

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. Made of steel and heat-treated for long wear and tool life. 187° (3/16”) shank.

RIVET SET FOR SQUEEZER
Made of steel and heat-treated for long wear and tool life.

1-1/2” AND 3 YOKES
- Holds 3/16” die sets • Adjustable set holder • Stainless steel construction • 1-1/2” x 1/2” x 3/4” x 1”

DIMPLE DIES
For any .187 shank diameter squeezer.

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 with 1/4” hex adapter included
* Use standard Phillips or Slotted insert bits

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

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.

DOOR HOOK REMOVER
This high quality tool steel door hook remover is designed for use in rivet gun. 2” yoke.

ECONOMY AIRCRAFT TOOLS

ALUMINUM BODY MINI AIR VACUUM
A handy air powered vacuum works off an air compressor and is simple to use. Attached 1/8” diameter plasticflex tube can easily get into tiny spaces to clean. The canvas bag is easily removed for cleaning.

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.

DOGLEG DEBURRING TOOL
Swivel action of this tool makes deburring holes fast and easy. Shaft includes a 1/4-28 threaded holder.

BURNISHING SPOON
Designed to remove surface blemishes in aircraft sheet metal. Hard chrome plated. Comfort grip handle.

CLECO PLIERS
Used in limited access areas, requires less travel per activation.

SPRING TENSION 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 screw makes it impossible to overtighten 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”.

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 screw makes it impossible to overtighten and damage the work surfaces or the clamp.

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.

Cyliner 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. Wrench Type B is for 3/8” and 1/2” internal hex.

Type A 1/2” P/N 12-01525
Type A 9/16” P/N 12-01568
Type A 5/8” P/N 12-01568
Type A 3/4” P/N 12-01570

Type B 3/8” P/N 12-01575
Type B 1/2” P/N 12-01575

613
### ECONOMY AIRCRAFT TOOLS

**STRAP DUPLICATOR (BUSHER 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. 

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10 6-1/4&quot;</td>
<td>12-01494</td>
<td>12-01499</td>
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<tr>
<td>#20 6-1/4&quot;</td>
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<td>12-01501</td>
</tr>
<tr>
<td>#30 6-1/4&quot;</td>
<td>12-01496</td>
<td>12-01502</td>
</tr>
<tr>
<td>#40 6-1/4&quot;</td>
<td>12-01497</td>
<td>12-01503</td>
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</table>

**STRAP DUPLICATOR (PUNCH TYPE)**
For drilling an accurate hole in overlapping sheets. The punch type duplicator comes with hardened marking pin. Permit the marking sheet metal from a hidden pilot hole.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>#10 6-1/4&quot;</td>
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<td>12-01510</td>
</tr>
<tr>
<td>#20 6-1/4&quot;</td>
<td>12-01506</td>
<td>12-01511</td>
</tr>
<tr>
<td>#30 6-1/4&quot;</td>
<td>12-01507</td>
<td>12-01512</td>
</tr>
<tr>
<td>#40 6-1/4&quot;</td>
<td>12-01508</td>
<td>12-01513</td>
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### ECONOMY BLIND HOLE SPOTTERS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>6&quot;..........</td>
<td>P/N 12-01472</td>
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<tr>
<td>6-1/4&quot;......</td>
<td>P/N 12-01536</td>
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<td>12-01537</td>
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**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.

**HAND SEAMER**
Large jaws are machined for smooth, parallel fit. Forms precise folds and seams. Has rounded jaws to prevent tearing when bending of aluminum and other light metals. Depth of throat 1". Width of jaws 3-1/2". Overall length 8".

**AIR SVIVELS & REGULATOR TOOLS**
Air Swivel Connector W/Regulator (Pictured to the left)

<table>
<thead>
<tr>
<th>Description</th>
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<th>Price</th>
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</thead>
<tbody>
<tr>
<td>Air Swivel Connector</td>
<td>P/N 12-01530</td>
<td>P/N 12-01550</td>
</tr>
<tr>
<td>Air Swivel Connector</td>
<td>P/N 12-01529</td>
<td>P/N 12-01549</td>
</tr>
</tbody>
</table>

**BRASS RIVET SET**
This rivet set is designed 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

**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

**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.

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<tr>
<td>6&quot;..........</td>
<td>P/N 12-01472</td>
<td>12&quot; P/N 12-01473</td>
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</table>

**CAMLLOC 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

**CANNON CONNECTOR PLIERS**
The tool features serrated jaws for improved gripping and a slipp joint for improved leverage. Ideal for all common cannon connector applications.

<table>
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<tr>
<th>Description</th>
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<tbody>
<tr>
<td>P/N 12-01531</td>
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</table>

**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.

<table>
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<tr>
<td>P/N 12-01533</td>
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</table>

**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 rivet lengths. Works for both universal head and flush rivets. Precision machined to size from 2024 aluminum. Rivet size permanently stamped. Blue anodized finish.

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>P/N 12-01534</td>
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**DRILL EXTENSION 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 the other.

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<thead>
<tr>
<th>Description</th>
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<th>Price</th>
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<tbody>
<tr>
<td>2&quot;...........</td>
<td>P/N 12-01535</td>
<td>P/N 12-01536</td>
</tr>
<tr>
<td>4&quot;............</td>
<td>P/N 12-01537</td>
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</table>

**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" Shank • 1/4"-28 Female Threads • Adjustable in .001" increments • 1/2" Cutter Capacity • Rates for 3000 RPM use.

<table>
<thead>
<tr>
<th>Description</th>
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<th>Price</th>
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<tbody>
<tr>
<td>P/N 12-01790</td>
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</table>

**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

<table>
<thead>
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<th>Price</th>
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<tr>
<td>P/N 12-01789</td>
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**MICRO-STOP (NYLON FACE)**
A micro-stop which has a nylon face and 1/4"-28 female threads. Adjustable in .001" increments • 1/16" Cutter Capacity • Rates for 3000 RPM use

<table>
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<tbody>
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<td>P/N 12-01788</td>
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</table>

**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.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>P/N 12-21595</td>
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**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.

<table>
<thead>
<tr>
<th>Description</th>
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<th>Price</th>
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<tr>
<td>P/N 432A</td>
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</table>
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.

<table>
<thead>
<tr>
<th>Length</th>
<th>BPM</th>
<th>Capacity</th>
<th>Bore Shank</th>
<th>Stroke</th>
<th>Weight (lbs)</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-11/16&quot;</td>
<td>2580</td>
<td>1/8&quot;</td>
<td>1/2&quot;</td>
<td>.401&quot;</td>
<td>2-1/4&quot;</td>
<td>3.1</td>
<td>12-02034</td>
</tr>
<tr>
<td>7-5/16&quot;</td>
<td>2160</td>
<td>3/16&quot;</td>
<td>1/2&quot;</td>
<td>.401&quot;</td>
<td>2-7/8&quot;</td>
<td>3.2</td>
<td>12-02035</td>
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<tr>
<td>8-1/2&quot;</td>
<td>1740</td>
<td>1/4&quot;</td>
<td>1/2&quot;</td>
<td>.401&quot;</td>
<td>3-1/16&quot;</td>
<td>3.4</td>
<td>12-02036</td>
</tr>
</tbody>
</table>

ECONOMY FLUTING PLIERS

Narrow type fluting pliers are used for straightening out or coaxing sheet metal into the correct shape. This tool makes narrow and precise flutes in sheet metal.

RIVET HOLDER

This tool holds your rivet, small bolt, or screw so you can get into those hard-to-reach areas.

QUICK-CHANGE CHUCK

Allows tool change in seconds. Designed for drilling bits, countersinks, etc. with quick-change ends. 3/8" x 24 thread.

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

60° C-SET

Excellent for limited access areas. • 60° Angle • .401 shaft

FORD WRENCH

• General-purpose adjustable wrench in available in 2 sizes
• Sliding Jaw
• Forged from Crescent special Analysis Tool Steel
• Chrome-plated
• Precision Machined

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.

ECONOMY DRILL EXTENSION THREADED

Has a 5/16" quick change shaft on one hand and 1/4"-28 female threads on the other. Allows you to chuck threaded drill bits or countersinks into a quick-change chuck.

P/N 12-01781

RED BOX RIVET GUN TOOL KITS

RED BOX RIVET GUN TOOL KITS

- 1 pc Rivet Gun (Choose Size 2X, 3X or 4X) * 1 pc Beehive Retainer
- 4 pcs 3.5" Straight Rivet Set (3/32", 1/8" 5/32", 3/16") * 1 pc Standard Flush Set (size: surface diameter 1"
- 2X Rivet Gun Tool Kit ...... P/N 12-02047
- 3X Rivet Gun Tool Kit ...... P/N 12-02048
- 4X Rivet Gun Tool Kit ...... P/N 12-02049

RED BOX 3.5" RIVET SET

3.5" Rivet (3/32") ...... P/N 12-02051
3.5" Rivet (1/8") ...... P/N 12-02052
3.5" Rivet (5/32") ...... P/N 12-02053
3.5" Rivet (3/16") ...... P/N 12-02054

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.

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.

SPEED HANDLE 3/8"

Useful for quickly tightening and loosening a nut or bolt particularly where other types of wrenches will not reach.

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.

SKIN WEDGE

Made of 4130 steel and heat-treated to perfection. • 7" long x 1" wide • Body thickness 1/4"

HEX KEYS

Designed to use when installing Hi-Lok style fasteners. Includes set screw and Allen key.

ECONOMY DRILL EXTENSION THREADED

Has a 5/16" quick change shaft on one hand and 1/4"-28 female threads on the other. Allows you to chuck threaded drill bits or countersinks into a quick-change chuck.

P/N 12-01781
ATS TOOLS - PORTABLE COMPRESSORS

**HOT DOG**
- *6 Gallon Tank*
- *Runs at 3300 rpm*
- *2 HP motor*
- *4.1 - 5.1 @ 90 PSI*
- *Weight 57 lbs.*
- Recommended for Pneumatic Tools
  P/N 12-01407

**PORTABLE COMPRESSORS**

**PANCAKE**
- *4 Gallon Tank*
- *Runs at 3300 rpm*
- *2 HP motor*
- *4.1 - 5.1 @ 90 PSI*
- *Weight 62 lbs.*
  P/N 12-01408

**TWIN TANKER**
- *Two 2 Gallon Tanks*
- *Runs at 3300 rpm*
- *2 HP motor*
- *4.1 - 5.1 @ 90 PSI*
- *Weight 60 lbs.*
  P/N 12-01409

**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

**ATS PUNCH & FLANGING TOOLS**

ATS8400
- *Capacity 16 ga (.060”/15mm)*
- *Steel or aluminum*
- *Punch Diameter 3/16” (5 mm)*
- *Flange width 1/2” (12 mm)*
- *Rubber comfort grip*
- *9-3/4” (248 mm) Overall Length*
- *Weight 2.75 lbs (1.25 kg)*
  P/N 12-01418

**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

**ATS 90 DEGREE ANGLE DRILL**

ATS6132
- *Spindle 1/4”-28 Thread*
- *Head Length 1.06” (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

**ATS TOOLS**

**ATS MINI 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

**ATS MINI DIE GRINDER**

ATS5101
- *1/4” (6.4 mm) Collet Size*
- *Front exhaust keeps work area clean*
- *Very light weight .79 lbs (.38 kg)*
- *26,000 RPM Free Speed*
  P/N 12-01417

**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

**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

**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

**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

**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

ATS TOOLS - PORTABLE COMPRESSORS

**HOT DOG**
- *6 Gallon Tank*
- *Runs at 3300 rpm*
- *2 HP motor*
- *4.1 - 5.1 @ 90 PSI*
- *Weight 57 lbs.*
- Recommended for Pneumatic Tools
  P/N 12-01407

**PORTABLE COMPRESSORS**

**PANCAKE**
- *4 Gallon Tank*
- *Runs at 3300 rpm*
- *2 HP motor*
- *4.1 - 5.1 @ 90 PSI*
- *Weight 62 lbs.*
  P/N 12-01408

**TWIN TANKER**
- *Two 2 Gallon Tanks*
- *Runs at 3300 rpm*
- *2 HP motor*
- *4.1 - 5.1 @ 90 PSI*
- *Weight 60 lbs.*
  P/N 12-01409
BOSCH POWER TOOLS

BOSCH 10.8V I-DRIVER
MODEL PS10-2 - Includes: (1) - Carrying Case (2) - 1.5” Power Drive Bits (1) - 30 Minute Charger (2) - Lithium™ 10.8V Batteries Features: • 80 in.-lbs. of Torque • Drives 100-3 inch screws per battery charge • Ultra-Compact Hardware Length - 3.5” • total head length - 3 times shorter than most popular competitor • 90-Degree Angulating Head • 7+1 Electronic Clutch • For increased sensitivity and control P/N 12-01754

BOSCH 10.8V POCKET DRIVER
MODEL PS20-2 - Includes (1) - Carrying Case (2) - 1.5” Power Drive Bits (1) - 30 Minute Charger (2) - Lithium™ 10.8V Batteries Features: • 80 in.-lbs. of Torque • Drives 100-3 inch screws per battery charge • Ultra-Compact Power & Design — Almost half the size of a 12V compact drill-driver • LED Light — For light spaces and applications • Forward/Reverse Button — Equally useful at driving or removing screws • Quick Change Chuck — pull to insert or release 1/4” hex shank bits • Storage Hanger — Convenient tool storage between uses • Variable Speed Trigger — Revolutionary design provides increased sensitivity and control P/N 12-01754

BOSCH 10.8V LITHIUM IMPACTOR FASTENING DRIVER
MODEL PS40-2 - Includes: (1) - Carrying Case (2) - 1.5” Power Drive Bits (1) - 30 Minute Charger — BC430 (2) - Lithium™ 10.8V Batteries — BAT411 Features: • 60% more torque than 18V drill-driver - 800 in.-lbs of max torque • Bosch Designed Hammer and Anvil System — Delivers 1,800 RPM/3,000 BPM • LED Light Ring — 3 LEDs illuminate work area for use in dark areas • Lithium™ 10.8V Batteries — Spring-Loaded Impact Mechanism • Reduces user fatigue • Aluminum gear housing with protective rubber front • 1/4” hex drive with quick release • Epoxy Coated Field Windings • 5/8” -11 Spindle • Tool-free Carbide Drive Bits • Quick Change Chuck • Prevents bit damage • 10+1 Clutch — Enables precision driving and eliminates over torque in soft base materials. Max mode allows pilot and other small bore holes • Variable Speed Trigger — For increased sensitivity and control P/N 12-01756

BOSCH 18V IMPACTOR CORDLESS IMPACT WRENCH
MODEL 22618 - Includes (2) - 2.4A-h Batteries - BAT181 (1) - 30 Minute Charger — BC130 (1) — Tool Hook • IMPKHOOK (1) — Carrying Case • Included (1) - Gear Box Cover Features: • Innovative Hammer & Anvil System delivers up to 1,950 in/lb of torque • 1/2” Drive Square Drive Anvil • Soft-grip handle, not the user bends the impact during fastening applications • Reduces fatigue and stress, provides maximum cushioning and comfort • Cutting-edge, high-performance motor and all-metal gears • Super fast speed, delivering a category-best • High speed mode produces 1,450 RPM • New 90-Degree Articulating Head • 7+1 Electronic Clutch • For increased sensitivity and control P/N 12-01756

BOSCH 18V IMPACTOR CORDLESS IMPACT WRENCH
MODEL 22619 - 12V Battery for medium-duty jobs. The Most Powerful Impact Wrench In The Line! 18V Battery for heavy-duty jobs. The Most Powerful Impact Wrench In The Line Up! 18V Battery for heavy-duty jobs. Faster and more powerful than standard impact drivers. The most light-weight driver in the line up. 9.6V Battery for medium-duty jobs Features: • 2-4A-h Battery — BAT181 (1) — 30 Minute Charger — BC130 (1) — Tool Hook • IMPKHOOK (1) — Carrying Case • Included (1) - Gear Box Cover P/N 12-01757

BOSCH 18V COMPACT TOUGH 1/2 INCH DRILL/DRIVER
MODEL 34618 - Includes: (2) - 2.4A-h Batteries - BAT180 (1) - 30-Minute Single Bay Charger — BC130 (1) Double-ended Bit Carrying Case Features: • 80 in.-lbs more torque, 150 RPM faster than previous generation • New world-class, single sleeve lightweight chuck • For 1/4” and 1/2” size changes • DuraShield™ housing • High torque mode produces 390 in.-lbs. • High speed mode produces 1,450 RPM • New Compact™ Quick Change Design • 20 Position Clutch • Variable Speed Trigger — Ergonomic Soft Grip Handle — For extended comfort and control P/N 12-01759

BOSCH 18V CORDLESS JIGSAW KIT
MODEL 52318 - Includes: (1) - 2.4A-h Battery • BAT026 (1) - 1-Hour Charger • BC004 (1) — Carrying Bag • PA1203 (1) - 2.4A-h Battery • BAT026 (1) - 1-Hour Charger • BC004 (1) — Carry Bag • 2610415200 Features: • One-Touch™ blade change system for quick blade changes • Patented Bosch blade retention • PowerLock™ • Bosch built motor and magnesium gear housing • Large, die-cast aluminum foot • Variable speed trigger with ambidextrous lock-off switch • Ergonomic soft grip handle design with multi position grip area P/N 12-01760

BOSCH 18V CORDLESS PLANER
MODEL 53518 - The Only Full Size Cordless Planer on the Market. Never worry again about running out of cord in the middle of a planing job. Sold as Tool Only (without battery, charger or carrying bag) so it can be efficiently added to any Bosch 18V Cordless System. Sold as Tool Only (without battery, charger or carrying bag) so it can be efficiently added to any Bosch 14.4V Cordless System. Includes: (1) - Chip Bag • 2605110355 (2) Woodrazor® Blades - PA1202 (1) — Edge Guide Fence • PA1203 (1) - 2.4A-h Battery • BAT026 (1) - 1-Hour Charger • BC004 (1) — Carry Bag • 2610415200 P/N 12-01763

BOSCH 4-1/2 INCH PADDLE SWITCH GRINDER
MODEL 1810PS • Paddle switch with lock-on for better operator comfort and control. Directed air flow diverts dust away from switch and vital components. Includes: • Guard • Vibration Control Auxiliary Handle • Flange Kit • Abrasive Wheel Features: • Paddle Switch with Lock-on • Vibration Control Handle • AC/DC capability • Sealed switch • ServiceMinder™ brushes • Epoxied Field Windings • 5/8” -11 Spindle • Tool-free adjustable guard • Spindle Lock • Directed Air Flow P/N 12-01764

BOSCH TOP HANDLE JIG SAW
MODEL 1590EVSK - ProVantage 3-year Protection Plan Includes: • Precision for Wood Blade • Wood Blade • Tight kerf blade — T244D Zero-clearance Insert • Non-marring Footplate • Carrying Case Features: • 6-4 Amps • Precision Control™ system • One-Touch® blade change • Quick bevel adjust cast aluminum foot • Constant Response™ circuitry • T-shank machined plunger • Robust 3-point connection • No blade play • On/off switch blows • 4-position orbital control • Variable speed trigger • Variable speed dial • Lock on button • Adjustable dust blower keeps cutting line clear P/N 12-01765

5 INCH RANDOM ORBIT SANDER
MODEL NO. 5020VSK - Features: • Best all-around sanding performance and convenience. • Twist-off translucent dust canister shows dust level and detaches easily. Anti-spillback design prevents dust from spilling on removal. • Bosch Microlayer system traps dust particles as small as 0.5 microns. • 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

BOSCH 3-1/4 INCH PLANNER
MODEL 3305 - Includes: (2) Woodrazor® Blades, Guide Fence, Blade Wrench, Chip Bag. Features: • Powerful 5 Amp Motor. 18,000 RPM • Electronically-balanced Single-Blade System automatically positions blade at ideal cutting angle. • Eliminates uneven planing caused by misaligned blades. • Equipped with Bosch Woodrazor® microgran carbide blades, which resist fractures from nail and staple strikes. • Racheting Depth Knob. • No need to re-zero the depth. • Chip Ejection Switch. • Edge Guide Fence. Has a protective shield that covers the section of blade not in use. • Lock on button • Park Chip Ejection Switch. • Edge Guide Fence. • Lock on button • Park P/N 12-01767

BOSCH PROGRAMMABLE HEAT GUN KIT
MODEL 1940-01 - Includes: (1) - 12-Amp, 120-1,100°F. • Cool air setting. • Double insulated, UL listed, complies to OSHA. P/N 12-01768
*S* Quick change retainer spring P/N 12-01934 ...............................
* 3 pc. chisel set included
* Ideal for standard duty applications
* Also available: 1/4" head kit

**1/4" DRIVE IMPACT WRENCH**

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**1/4" DRIVE HEAVY DUTY IMPACT WRENCH**

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**3" UTILITY CUT-OFF TOOL**

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**3" ANGLE GRINDER**

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**4.5" ANGLE GRINDER**

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**SUNEX SANDING TOOLS**

**3" UTILITY CUT-OFF TOOL**

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**3" ANGLE GRINDER**

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**4.5" ANGLE GRINDER**

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SUNEX TOOLS

1/2" DRIVE STANDARD
13 PIECE 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" 11/16" 3/4" 13/16" 7/8" 15/16" 1" 1-1/16" 1-1/8" 1-1/4"
P/N 12-01945

1/2" DRIVE DEEP
13 PIECE SAE IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy molded storage tray
2651 Includes: 7/16" 1/2" 9/16" 5/8" 11/16" 3/4" 13/16" 7/8" 15/16" 1" 1-1/16" 1-1/8" 1-1/4"
P/N 12-01946

1/2" DRIVE STANDARD
14 PIECE METRIC IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy molded storage tray
2652 Includes: 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 21mm 22mm 26mm 27mm
P/N 12-01947

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 21mm 22mm 26mm 27mm
P/N 12-01948

1/2" DRIVE DEEP SPINDLE NUT
4 PIECE METRIC IMPACT SOCKET SET
- Deep design for GM & Chrysler spindle nut applications
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy molded storage tray
2838 Includes: 30mm 32mm 34mm 36mm
P/N 12-01951

1/2" DRIVE WHEEL LOCK REMOVAL KIT
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy molded storage tray
P/N 12-01952

3/8" DRIVE DEEP
25 PIECE SAE IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy molded storage tray
3325 Includes: 12 Standard Sockets: 5/16" 3/8" 7/16" 1/2" 9/16" 5/8" 11/16" 3/4" 13/16" 7/8" 15/16" 1" 12 Deep Sockets: 5/16" 3/8" 7/16" 1/2" 9/16" 5/8" 11/16" 3/4" 13/16" 15/16" 1"P/N 12-01954

3/8" DRIVE MASTER 29 PIECE METRIC IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy duty blow mold case
3329 Includes: 14 Standard Sockets: 8mm 9mm 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 21mm 22mm 14 Deep Sockets: 8mm 9mm 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 21mm 22mm 2 Deep Flip Sockets: 1/2" (F) x 3/8"(M) Adapter 3" Extension
P/N 12-01955

3/8" DRIVE MASTER DEEP 28 PIECE SAE & METRIC IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy duty blow mold case
5133DD Includes: 13 Deep SAE Sockets: 7/16" 1/2" 9/16" 5/8" 11/16" 3/4" 13/16" 7/8" 15/16" 1" 1-1/16" 1-1/8" 1-1/4" 14 Deep Metric Sockets: 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 21mm 22mm 2 Deep Flip Sockets: 3/4" x 13/16 19mm x 21mm
P/N 12-01996

1/2" DRIVE DEEP MASTER 29 PIECE SAE & METRIC IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy duty blow mold case
3360DD Includes: 14 Deep SAE Sockets: 5/16" 3/8" 7/16" 1/2" 9/16" 5/8" 11/16" 3/4" 13/16" 7/8" 15/16" 1" 1-1/16" 1-1/8" 1-1/4" 14 Deep Metric Sockets: 8mm 9mm 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 21mm 22mm 26mm 27mm 2 Deep Flip Sockets: 3/4" x 13/16 19mm x 21mm
P/N 12-01949

1/2" DRIVE MASTER 39 PIECE METRIC IMPACT SOCKET SET
- CR-MO alloy steel for long life
- Fully guaranteed
- Heavy duty blow mold case
2669 Includes: 19 Standard Sockets: 9mm 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 20mm 21mm 22mm 23mm 24mm 26mm 27mm 30mm 19 Deep Sockets: 9mm 10mm 11mm 12mm 13mm 14mm 15mm 16mm 17mm 18mm 19mm 20mm 21mm 22mm 23mm 24mm 26mm 27mm 30mm
P/N 12-01950

1/2" DRIVE EXTRA THIN WALL 9 PIECE SAE & METRIC WHEEL PROTECTOR IMPACT SOCKET SET
- Durable outer sleeve and insert protects high polished wheels and lug nuts from damage
- Fully guaranteed
- Heavy duty blow mold case
2849 Includes 6 SAE Sockets: 3/4" (light green) 13/16" (purple) 7/8" (green) 15/16" (brown) 1" (silver) 1-1/16" (black) 3 Metric Sockets: 17mm (blue) 19mm (yellow) 21mm (red)
P/N 12-01953
SUNEX TOOLS

**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: 9/16, 5/8, 7/16, 1/2, 9/16, 11/64, 7/32
P/N 12-01967

14 PIECE SAE COMBINATION WRENCH SET
* Canvas pouch included
* Raised panel design
* High density, dropped forged alloy steel for strength
9714 Includes: 3/16, 7/32, 1/8, 5/32, 3/16, 1/4, 9/32
P/N 12-01970

14 PIECE ANGLE HEAD SAE WRENCH SET
* Canvas pouch included
* Fully polished drop forged alloy steel
* 15° and 60° angled ends for added convenience
P/N 12-01975

8 PIECE FLARE NUT CROWFOOT WRENCH SET
* Fully polished drop forged alloy steel
* 3/8" Drive
P/N 12-01968

7 PIECE JUMBO STRAIGHT CROWFOOT WRENCH SET
* Fully polished drop forged alloy steel
* 1/2" Drive
* Reusable blow mold storage tray
P/N 12-01971

10 PIECE METRIC FLARE NUT CROWFOOT WRENCH SET
* Fully polished drop forged alloy steel
* 3/8" Drive
* Mounted on a convenient storage rail
9730 Includes: 10mm, 11mm, 12mm, 13mm, 14mm, 15mm, 16mm, 17mm, 18mm, 19mm
P/N 12-01973

8 PIECE JUMBO METRIC STRAIGHT CROWFOOT WRENCH SET
* Fully polished drop forged alloy steel
* 1/2" Drive
9730 Includes: 24mm, 25mm, 26mm, 27mm, 28mm, 29mm, 30mm, 31mm, 32mm
P/N 12-01973

SUNEX TOOLS

6 PIECE JUMBO METRIC CROWFOOT WRENCH SET
* Fully polished drop forged alloy steel
* 1/2" Drive
* Reusable blow mold storage tray
9722 Includes: 15mm, 16mm, 17mm, 18mm, 19mm, 20mm
P/N 12-01972

10 PIECE METRIC ANGLE HEAD METRIC WRENCH SET
* Fully polished drop forged alloy steel
* 15° and 60° angled ends for added convenience
9914M Includes: 991404M-6mm, 991408M-10mm, 991402M-8mm, 991410M-15mm, 991411M-9mm, 991405M-11mm, 991412M-17mm, 991413M-18mm, 991414M-19mm
P/N 12-01976

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: 24mm, 25mm, 26mm, 27mm, 28mm, 29mm, 30mm, 31mm, 32mm
P/N 12-01973

SUNEX TOOLS

**SX-225RA AIR DRILL**
P/N SX225RA

**SX-232A ANGLE DIE GRINDER**
1/4”, right angle. Rear exhaust. Built in regulator lever throttle for positive speed control.
P/N SX232A

**SX-230A DIE GRINDER & ACCESSORIES**
1/4” air die grinder. Built-in regulator. Exhaust directed away. Lever throttle for positive lever control.
P/N SX230A

**SX-229B AIR NIBBLER**
Cuts metal without distortion up to 18 gauge. Lever throttle for easy operation. Compact design.
P/N 12-01123

**X-227B HEAVY DUTY METAL SHEARS**
Muffled handle exhaust. Heavy-duty, ball and needle construction. Pneumatic.
P/N 12-01122
SUNEX TOOLS

SUNEX 20 TON CAPACITY AIR BOTTLE JACK
* Designed for operating either manually or pneumatically * Air hose can swivel in any direction * Fitted with safety valve to prevent overloading * Two piece handle allows for easy pumping * Extension screw gives added height when necessary * Minimum air pressure required is 90 PSI, 7 Bars * Double spring return
4920BAH Specifications: Capacity (Tons)-20, Power Lift (In.)-7, Closed Height (In.)-10.5, Raised Height (In.)-20.1, Add. Screw Adj. (In.)-3.5, Base P/N 12-01958

SUNEX C-CLAMPS
* 4" * Provides sure, non-slip clamping on all shapes * Drop-forged steel for greater strength and durability * Zinc-plated acme thread screw for accurate control
P/N 12-01944

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
P/N 12-01966

8 PIECE PROFESSIONAL SCREWDRIVER SET - ORANGE
* Includes 5 flat tip drivers and 3 Phillips tip drivers * Hardened chrome vanadium shafts * Vapor blasted magnetic tips * Packaged in heavy molded plastic tray for storage * Hex bolster on most sizes for extra turning power
5001A Specifications: Power-1/2 HP Motor, No Load speed .3450 RPM
P/N 12-01968

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
5001C Specifications: Length (In.)-45.5, Width (In.)-19, Height (Headrest Down) 30.625, Shipping Weight (lbs)-29.0, Bed Size-12-01964

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. 8013DLX Specifications: Load capacity (lbs.)-350, Shipping weight (lbs.)-95.5, Color: Blue-8013A/BL/DX, 8844-13/16
P/N 12-01962

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. 8013DLX Specifications: Load capacity (lbs.)-350, Shipping weight (lbs.)-95.5, Color: Blue-8013A/BL/DX, 8844-13/16
P/N 12-01962

SUNEX VISE
* 2 locking mechanism for stability * Made from cast iron with steel handle threads
87602 Specifications: Base Swivel-360 deg.
P/N 12-01961

SUNEX 3/8 INCH CUTTING WHEEL - 5 PCS.
* For general purpose metal cutting 3" x 1/16" * Double reinforced * Use with 3/8" arbor * Do not exceed 20,000 RPMs * Comply with ANSI B7.1/OSHA regulations
3908 Specifications: Maximum reach (in.)-5.5, Maximum spread (in.)-7
P/N 12-01965

6 INCH BENCH GRINDER WITH LIGHT
* Bright, flexible work light * Has two 6" grit wheels * 1/2" Arbor accepts standard 6" wheel * Includes blow molded storage case
P/N 12-01959

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 * Fitted with safety valve to prevent overloading * Ideal for pulling gears, bearings, pulleys and other press fit parts
P/N 12-01957

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
P/N 12-01933

5001A Specifications: Power-1/2 HP Motor, No Load speed .3450 RPM
Motor -3.5 Amp, Voltage -115V/60Hz, Shipping Wt. (Lbs) -22

5001C Specifications: Length (In.)-45.5, Height (Headrest Down)-30.625 x 16.5 x 2.5,Weight (Lbs)-29.0, Bed Size-12-01964

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 * Fitted with safety valve to prevent overloading * Ideal for pulling gears, bearings, pulleys and other press fit parts
P/N 12-01957

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
P/N 12-01933

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AN WRENCHES - DIGITAL THERMOMETERS

**SOFTRQ CARBON FIBER AN WRENCHES**

SofTorq currently offers the following patented scratch-resistant product: *Designed to meet the torque requirements for fastening your aluminum anodized hydraulic A/N fittings * Made from a special formulation of fiber-glass layered with carbon fiber for strength and durability * Comes in SAE, Metric, and AN sizes * Designed, Assembled, and Made in the U.S.A. * Patented in design Benefits: * Will not severely scratch the specialty coating or damage aluminum anodized hydraulic A/N fitting like metal AN wrenches would when the tools are used for its intended applications * FBO, Air Charter, Corporate, Cargo, and Flight School operations for all general aviation aircraft. They will quickly and efficiently spray aircraft ground deicing or anti-icing fluid on your aircraft prior to takeoff. These portable, 3-wheeled carts are powered by either a small gasoline engine or a 12-volt electric pump. While both types will spray deicing or anti-icing fluid, they each have different characteristics which make them more appropriate for one type of fluid over the other.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 Gallon 3.5 Hp gas engine with 2500 watt heater and pintel ring</td>
<td>12-02083</td>
<td>.</td>
</tr>
<tr>
<td>60 Gallon 3.5 Hp gas engine with 2500 watt heater and pintel ring</td>
<td>12-02084</td>
<td>.</td>
</tr>
<tr>
<td>25 Gallon 12 volt Electric Cart with self Containment kit and pintel ring</td>
<td>12-02085</td>
<td>.</td>
</tr>
<tr>
<td>60 Gallon 12 volt Electric Cart with self Containment kit and pintel ring</td>
<td>12-02086</td>
<td>.</td>
</tr>
</tbody>
</table>

**HANDHELD ANTI-ICING AND DEICING SPRAYERS**

Handheld Deicing Sprayers are aircraft-portable pressure sprayers appropriate for defrosting and light deicing operations. They are commercial grade, polyurethane, controlled-pressure sprayers designed to spray hot SAE Type I deicing 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 deicing 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.

**DEICING CARTS**

Powered Deicing Carts are designed especially for FBO, Air Charter, Corporate, Cargo, and Flight School operations for all general aviation aircraft. They will quickly and efficiently spray aircraft ground deicing or anti-icing fluid on your aircraft prior to takeoff. These portable, 3-wheeled carts are powered by either a small gasoline engine or a 12-volt electric pump. While both types will spray deicing or anti-icing fluid, they each have different characteristics which make them more appropriate for one type of fluid over the other.

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</table>

**microTemps**

Digital, non-contact infrared thermometers are used for hundreds of practical applications and are essential tools for professional automotive and aviation technicians. Infrared Thermometers (IRTs) are great automotive and race tuning diagnostic tools-and are great for countless diagnostic tasks. Check track surface temperatures, tire temps, brake rotors, header and exhaust temps, air intake temp, heating and A/C vents. Think you have a leaky window? Find the link with a Microtemp IRT.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp Range: -27°F - 428°F (-33°C - 220°C) Compact Pocket Size, Metal Case</td>
<td>12-01656</td>
<td>-</td>
</tr>
<tr>
<td>Temp Range: -58°F - 752°F (-50°C - 400°C); Laser Target, Pistol Grip</td>
<td>12-01657</td>
<td>-</td>
</tr>
<tr>
<td>Temp Range: -27°F - 230°F; Distance to Spot Ratio (D:S) 1:1 Accuracy +/-2°F, Response Time: 1 Second, Dimensions: 75” x 3.25”, Battery Type 2 LR44</td>
<td>12-01994</td>
<td>-</td>
</tr>
</tbody>
</table>

**WIDE RANGE DUAL PORT DIGITAL THERMOMETER**

Jumbo Display with four digit LCD. Dual Channel K type ports T1/T2. Accepts K/J thermocouples. Fast response, Hi/Lo temperature alarm, Temperature hold, Instrument displays in °F/°C/Kelvin- absolute temperature

<table>
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<tr>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Temp Range: -240°F to 1000°F (30C to 538°C); -40°F to 302°F (-40°C to 150°C) for each channel</td>
<td>12-01893</td>
<td>.</td>
</tr>
<tr>
<td>Temperature Resolution: 0.1°F up to 99.9°F, and 1°C thereafter</td>
<td>12-01893</td>
<td>.</td>
</tr>
<tr>
<td>Sampling rate: 1 second</td>
<td>12-01893</td>
<td>.</td>
</tr>
<tr>
<td>Battery Life: 550 hours</td>
<td>12-01893</td>
<td>.</td>
</tr>
<tr>
<td>Weight: 415 grams with batteries</td>
<td>12-01893</td>
<td>.</td>
</tr>
<tr>
<td>Dimensions: 164 x 76 x 32mm</td>
<td>12-01893</td>
<td>.</td>
</tr>
<tr>
<td>Four AAA 1.5V Batteries</td>
<td>12-01893</td>
<td>.</td>
</tr>
</tbody>
</table>

**Heaters**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Gal Sprayer</td>
<td>7” Dia. x 17” H</td>
<td>12-21605</td>
</tr>
<tr>
<td>2 Gal Sprayer</td>
<td>8.5” Dia. x 19.5” H</td>
<td>12-21610</td>
</tr>
<tr>
<td>3 Gal Sprayer</td>
<td>9.5” Dia. x 21” H</td>
<td>12-00499</td>
</tr>
</tbody>
</table>

To heat Deicing fluid you need to purchase a heater below.

**SET**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN4 to AN12</td>
<td>12-02045</td>
<td>.</td>
</tr>
<tr>
<td>AN14 to AN16</td>
<td>12-02046</td>
<td>.</td>
</tr>
</tbody>
</table>

**VOLTAGE WATTS AMPS APPLICATION PART NO.**

<table>
<thead>
<tr>
<th>Mfg. P/N</th>
<th>Size</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN4</td>
<td>9/16</td>
<td>12-02039</td>
<td></td>
</tr>
<tr>
<td>AN6</td>
<td>11/16</td>
<td>12-02040</td>
<td></td>
</tr>
<tr>
<td>AN8</td>
<td>7/8</td>
<td>12-02041</td>
<td></td>
</tr>
<tr>
<td>AN10</td>
<td>1”</td>
<td>12-02042</td>
<td></td>
</tr>
<tr>
<td>AN12</td>
<td>1-1/4</td>
<td>12-02043</td>
<td></td>
</tr>
<tr>
<td>AN16</td>
<td>1-1/2</td>
<td>12-02044</td>
<td></td>
</tr>
</tbody>
</table>

**INDIVIDUAL**

<table>
<thead>
<tr>
<th>Mfg. P/N</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN45</td>
<td>12-02045</td>
<td></td>
</tr>
<tr>
<td>AN14</td>
<td>12-02046</td>
<td></td>
</tr>
</tbody>
</table>
ENGINE TOOLS

VALVE WOBBLE TEST FIXTURE
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 a single valve engine. Fixture without indicator.
P/N 12-21500 .................

Fixture with indicator.
P/N 12-21505 .................

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 ................

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 ...............

ELECTRODE SPREADING TOOL
This tool is used to increase the electrode gap on all massive electrode spark plugs. It is constructed from heat treated alloy steel and is nickel plated.
P/N 12-51520 ................

SPARK PLUG SERVICE KIT
Our spark plug service kit includes the Precision Gap gapping tool which is easy to use, features fine thread adjuster and ball pressure tips, and works on all massive electrode plugs. Also includes the 18mm Thread Cleanout Tool with spring loaded jaws which offer maximum thread penetration & control carbon build-up in threads. Completing the Kit is a double-end Gap Plug Gauge which features an aluminum handle and is easy to use. Kit comes complete with durable birchwood storage case.
P/N 12-21525 ...............

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 fixtures or hammers. All wear components are easily replaceable for long service life.
P/N 12-21529 .............../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 magneto gear. Remove cotter pin to engage gear tooth. Dimension: 2-3/4" x 1/2" x 3/4".
P/N 12-02243 ...............

SAFETY MAGNETO LOCK TOOL
This handy tool fits most Bendix magnetos and prevents damage to distributor gear teeth caused 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 ...............

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 ...............

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.
P/N 12-21545 ...............

SIDEWINDER SPEED WRENCH
The Sidewinder Speedwrench specialty tool was developed to counter the frustrations of using standard socket wrenches in applications where excessive repetitions are required to install or remove long bolts; or where there is not enough resistance involved to allow the ratchet to function; or where there is not enough working space for efficient use of the standard ratchet wrench. The sidewinder can cut work time in half for professional mechanics and aircraft builders. Now being used by major racing teams, the Sidewinder is a revolutionary addition to every tool box.

1/4" .................. P/N 12-21109 .............

3/8" .................. P/N 12-21100 .............

1/2" .................. P/N 12-21110 .............

ENGINE OVERHAUL STAND
This inexpensive engine overhaul stand is ideal for actual overhaul and for storage of engines. Constructed of heavy duty steel, it features three legs which allow the engine to sit level on uneven floors and comes complete with an adapter spacer block. The stand is 24" tall with made for user installed casters and comes presdrilled for Continental A–65 through O–520 series engines and Lycoming 65 through O–720 engines. A quality engine stand at an affordable price.
P/N 12-21555 ...........

ENGINE OVERHAUL STAND KIT
The engine stand kit has all of the components to construct an engine stand. Beginning at the top, the engine stand kit includes (1) The top plate. Designed to bolt down the engine flange to the stand. (2) Three legs that are pre-cut to the proper angle. (3) Three spreader bars to hold the base of the stand from spreading apart. (4) Three feet to stabilize the base and allow installation of casters. The kit is ready to weld, 24" tall when finished.
P/N 12-01364 ............

TWISTER DAMAGED NUT & BOLT REMOVERS
These handy Twister tools work with a socket or wrench and removes nuts regardless of the stud length. No chisels, hammers, or torches are required. No more busted knuckles! The flush face design allows the remover to grip on the smallest of surfaces, and only 3/4" of working space is required. The same set works on both standard metal or metric damaged bolts and nuts as well as on collar and flange nuts. Deep Socket. Made from high quality tool steel.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Nut or Bolt Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-00152</td>
<td>7/16&quot; or 10 mm</td>
<td></td>
</tr>
</tbody>
</table>
**TOOLS**

**LYCOMING BAFFLE SPRING COMPRESSOR**
Our top quality Lycoming Baffle Spring Compressor speeds up the removal & installation of cylinder baffles. It eliminates the danger of broken or bent cylinder fins caused by use of screwdrivers and punches. This tool is easy to use and features 2 pivot locations for parallel and angle valve cylinders.

P/N 12-30200 ..........................

**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 ..........................

**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 ..........................

**LYCOMING TAPPET GAUGE**
Similar to Lycoming Gauge ST23, this tappet gauge is Rockwell hardened to .080. This gauge is a must for professional aircraft mechanics.

P/N 12-00918 ..........................

**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 ..........................

**ECONOMIZER VALVE SETTING TOOL**
The economizer valve adjusting tool is a simple functional gage that eliminates the hassle of using a depth mic. The tool is precision made to assure required accuracy.

P/N 12-17500 ..........................

**DRILL PILOT SLEEVE & BOLT HOLE BULLET**

**DRILL PILOT SLEEVE**
Great for getting drill point centered, for drilling off rivet heads. Eliminates scoring of material and paint. Set of 3 (3/32, 1/8, & 5/32) Used with 
#40, 30, & 20 Drill Bit

P/N 12-02092 ..........................

**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 3 (1/4, 5/16, 3/8 7/16 and 1/2inch)

P/N 12-02093 ..........................

**LYCOMING TOOLS LOCKING SOCKET SETS**

**7-PC LINK 1/4 & 3/8 INCH PROFESSIONAL UPGRADE AND DELUXE PROFESSIONAL SET** • LINK Tools are available as professional upgrade sets for customers that wish to upgrade their tool chests with just a few LINK Tools. Additionally, a variety of sets with sockets and bits are available in convenient mobile cases. Adding just LINK Tools enhances your entire tool chest! The revolutionary LINK Tools are forged from solid steel, with a distinctive chrome finish for outstanding durability and strength. LINK Professional Upgrade Sets are available and work with all detent sockets.

Description | Part No. | Price
---|---|---
3/32" (80077) Up-grade Set | 12-01702 | 
3/8" (80099) (with Ratcheting Unidriver Deluxe) | 12-01703 | 
1/4" (50077) Up-grade Set | 12-01704 | 
1/4" (50099) (with Ratcheting Unidriver Deluxe) | 12-01705 | 
Electric Tool Adapter 3/8" | 12-01706 | 

**41-PC. LINK® 3/8" DRIVE SYSTEM SET**

**P/N 12-00807**

**41-PC. LINK® 1/4" DRIVE SYSTEM SET**
LINK® extensions and sockets will not pull apart until you unlock them. A small pull on the locking device lets the socket or extension fall free. The new 1/4" Drive Quick-Lock™ Set comes with 12 pt. sockets in a new custom-fitted carrying case that floats and contains storage space. The set includes the following 6 Link-Lock™ Drive Tools:


**P/N 12-00809**

**LINK® TOOLS PALM WRENCH & SPEEDER**
LINK® extensions and sockets will not pull apart until you unlock them. A small pull on the locking device lets the socket or extension fall free. The locking device is similar to those found on air hose co-pulls, but is a lot easier to lock and unlock. Hand spin, then attach your ratchet to torque down. Not with old fashioned ball bearings, but a space age case-hardened nickel plated steel pin. Or, leave the Palm Wrench on your ratchet and use it as a handy spinner! Exceeds 130% of ANSI standards. 2" Palm Wrench/Speeder 3/8-in.Drive ............. P/N 12-00808 ..........................

1-1/2" Palm Wrench/Speeder 1/4" Drive ............ P/N 12-00809 ..........................

**LINK® BRACE STYLE SPEEDER 16.5 INCH**
Just the accessory for tight places where there’s not much room to turn. Hand spin, then attach your ratchet to torque down. Made of aluminum and steel. Highly polished and nickel chome-plated for durability, rust resistance, and beauty. Exceeds 130% of ANSI standards. 1/4" Drive, 16.5 Speeder #25557.

P/N 12-01701 ..........................

**LINK® 1/4" DR. LOCKING ELECTRIC-TOOL ADAPTER**
For use with your battery-operated electric drill or screwdriver to always get secure locking and quick speed on your sockets and attachments. One end goes into the chuck of your power tool and the other clicks into a socket, socket-mounted accessory, or other LINK drive tool with the same Quick-Lock technology that gives you Hand-To-Work locking.

P/N 12-00933 ..........................

624
PRECISE-GAP SPARK PLUG GAPPING TOOL
Precise Gap is a simple tool to gap two- or four-electrode 18 mm sparkplugs. Only 2” overall — comfortably handheld. Precision made of stainless steel. “T” handle adjusts move the ground electrodes closer to the center electrode until wire feeler identifies proper gap. Adjusters have fine thread with ball tips for precise movement. Don’t buy an inferior imitation at a higher price! P/N 12-11600 .................... .016 NOMINAL GAP PLUG GAUGE

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 .................... THREAD CLEANOUT TOOL
In servicing spark plugs, a common problem is carbon accumulation in the jag threads. Cleaning these threads regularly can save big money by preventing thread damage and the need to pull the jag and install thread inserts. This specially designed tool works very well to limit this problem. It provides maximum depth penetration and its unique spring action assures that there will be no enlargement of the existing thread pitch diameter. P/N 12-17200 ....................

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 ....................

THROTTLE SHAFT BUSHING 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 ....................

SPRING TOOL
Get a handle on those springs! The “C” shaped tip fits the bend in spring end and won’t slip. Can be used to install and remove springs on anything! P/N 12-16945 ....................

TEMPEST AA473 OIL DRAIN TOOL
Tired of messy oil filter changes? Tempest oil drain tool with a twist of the knob drills a hole in the filter and allows the oil to drain out of the filter into your container. No mess, easy to do and inexpensive. P/N 12-02248 ....................

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 ....................

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 ....................

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 ....................

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........ P/N 12-17700 .................... /pr.
Bendix D2200, D3000, D3200, S6 ........ P/N 12-17710 .................... /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.

<table>
<thead>
<tr>
<th>Kit Description</th>
<th>Thread</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Gauge &amp; Ind.</td>
<td>3/8-16</td>
<td>12-17801</td>
<td>EP</td>
</tr>
<tr>
<td>Setting Gauge &amp; Ind.</td>
<td>3/8-24</td>
<td>12-17802</td>
<td>EP</td>
</tr>
<tr>
<td>Setting Gauge &amp; Ind.</td>
<td>Both</td>
<td>12-17803</td>
<td>EP</td>
</tr>
<tr>
<td>Setting Gauge, No Ind.</td>
<td>3/8-16</td>
<td>12-17901</td>
<td>BV</td>
</tr>
<tr>
<td>Setting Gauge, No Ind.</td>
<td>3/8-24</td>
<td>12-17902</td>
<td>BV</td>
</tr>
<tr>
<td>Setting Gauge, No Ind.</td>
<td>Both</td>
<td>12-17903</td>
<td>BV</td>
</tr>
</tbody>
</table>

STRUT LIFT JACK
In many instances, simple tire changing, bearing packing, etc. can be a real problem unless the wheel can be lifted in a safe, secure manner. The strut lift shown accomplishes this easily. A specially designed lift pad securely captures the strut elbow or gear leg. The compact jack can be stored in your toolbox. P/N 12-18000 ...................
ENGINE TOOLS

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).

<table>
<thead>
<tr>
<th>Part #</th>
<th>Size</th>
<th>Engine Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1123</td>
<td>3-7/8&quot; to 4-1/2&quot;</td>
<td>Cont. A-65, C-85, C-90, O-200, O-300</td>
</tr>
<tr>
<td>1125</td>
<td>4-3/8&quot; to 4-5/8&quot;</td>
<td>Cont. E-65, IO-470</td>
</tr>
</tbody>
</table>

PISTON RING FILER
A portable rotary filer. Sizes any make, type, size of ring with machine shop accuracy. Turning crank files both ends at the same time.

P/N 12-11000
Replacement Cutter File
P/N 12-11100

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. or order individual wrenches below.

<table>
<thead>
<tr>
<th>Wrench Part #</th>
<th>Size</th>
<th>Engine Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>2882</td>
<td>9/16&quot; Hex</td>
<td>C-65, 0-200, 0-300, G0-300, E-185, E-225, 0 &amp; IO-470, IO-360, IO-520</td>
</tr>
<tr>
<td>2882-2</td>
<td>1/2&quot; Hex</td>
<td>A-65, C-85, 0-200, 0-300, G0-300, E-185, E-225, IO-360</td>
</tr>
<tr>
<td>2882-3</td>
<td>5/8&quot; Hex</td>
<td>A-65, 0-470, IO-520</td>
</tr>
<tr>
<td>2882-4</td>
<td>3/4&quot; Hex</td>
<td>No longer used on Cont.; Used on Lyc. 0-3900, D2 and all wide deck Lyc engines</td>
</tr>
</tbody>
</table>

LYCOMING & CONTINENTAL CYLINDER BASE NUT WRENCHES

<table>
<thead>
<tr>
<th>Wrench Part #</th>
<th>Size</th>
<th>Engine Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; Allen Head Hex</td>
<td>P/N 64942</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; Allen Head Hex</td>
<td>P/N 64943</td>
<td></td>
</tr>
</tbody>
</table>

FOR ECONOMY WRENCHES SEE PAGE 613

ATS SPARK PLUG GAPPER
Sure-Gap is designed for use on all magnetic-electrode aircraft spark plugs. Saves time and money, eliminates guessing of plug gap, prolongs plug life and ensures peak performance. 18mm. 1lbs shipping weight.

P/N 12-01682

ATS SPARK PLUG GAP GAUGE
Convenient Gap Gauge for all Champion and Autolite magnetic-electrode spark plugs. Slider design keep gauge wires stowed away when not in use.

P/N 12-01692

ATS SPARK PLUG GAPPER & GAUGE 415K
A low-cost efficient gap setting tool for closing gaps on magnetic-electrode Aviation Spark Plugs. Great design allows it to clamp on to your workbench for easy gapping.

Features:
- Made of 4160 Tool Grade Steel
- CNC Machined surfaces for exact alignment
- Includes ATS450 Feeler Gauge
- Clamps to workbench for easy one-handed operation
- Compatible with all Champion, and Autolite Massive Electrode Spark Plugs
- 2lbs shipping weight.

P/N 12-01691

ATS SPARK PLUG THREAD CHASER
Chaser cleans threads in spark plug hole of dirt, carbon build-up, and metal particles. Double ended for both 14mm and 18mm threads. Neon-prene band on hex drive holds tool securely in any 13/16" deep-well spark plug socket. 1lbs shipping weight.

P/N 12-01683

ATS MAGNETIC SPARK PLUG SOCKET
The new Spark Plug Socket features a thin-walled design to get into the tightest confines. Magnetic interior guarantees that you won’t accidentally drop the plug during installation or removal. Works with all Champion and Autolite Aviation Spark Plugs.

- Works with all Champion and Autolite Aviation massive-electrode Spark Plugs
- Thin-Walled design to get to the tightly spaced plugs.
- Magnetic interior holds spark plugs and keeps them from falling out.
- 7/8" Socket
- 3/8" Drive
- 3-1/2" Overall Length
- Made of Chrome Vanadium Steel
- 1lbs shipping weight.

P/N 12-01693

ATS SPARK PLUG CLEANER
Cleans any size plug without changing grommet. Has 2-way valve (blast or air) and comes complete with abrasive powder. Ready to use.

P/N 12-01684

AIRCRAFT SPRUCE PLUG MAINTENANCE KIT
The Aircraft Spark Plug Maintenance Kit includes an aircraft spark plug tray, air-powered spark plug cleaner, feeler gauge, spark plug gap setting tool, aircraft spark plug socket, a set of 8 spark plug gaskets and a bottle of spark plug thread lubricant and anti-seize compound.

Kit includes:
- Qty. Description Part No.
  - 1 AIR ASSEMBLY SPRUCER KIT 12-0977
  - 1 SPRK PLG CLEANER ATS12 12-01684
  - 1 ATS PLUG GAPPER ATS116 12-01682
  - 1 ATS SPRK PLG GAP GAUGE ATS450 12-01692
  - 1 ATS MAG SPRK PLG SOCKET ATS590 12-01693
  - 8 CPR SPRK PLG CRT KIT 4813 48027-1 07-00877
  - 1 CHAMP ANTI-SIEZE 4OZ 2612 S 2612

P/N 12-02250

626
**SPARK PLUG & FILTER TOOLS**

**CT-415AV GAP SETTING TOOL**
A low-cost efficient gap setting tool for closing gaps on massive electrode type aviation spark plugs. May be used as a hand tool, mounted on a bench or held in a vise. Furnished with one adapter for 18mm spark plugs. (P/N GT-204) and one CT-450 gap gauge. Wt. 1-1/2 lbs., 7-1/2" high.

P/N 12-00796

**CT-450 RETRACTABLE GAP GAUGE**
High-impact red plastic case contains four sets of accurate, retractable "go" and "no-go" wire gauges: 2 sets .015-.019 (.016 Nom.) 2 sets .018-.022 (.019 Nom.) Length: 3-1/2". Wt. 1-1/4 oz.

P/N 12-00797

**CT-457 FINE WIRE GAP SETTING TOOL**
Designed exclusively for adjusting fine wire electrode sparkplug gap. Two sizes of slots fit all platinum or iridium electrodes for quick adjustment. Red plastic case.

P/N 12-00798

**LEAD-MASTER WRENCH SETS**
Reduce time to remove and install sparkplug ignition leads. Permit short barturning due to 12-point grip head.

CT911 3/4" "T" Handle Box Wrench ........ P/N12-00799
CT912 7/8" "T" Handle Box Wrench ........ P/N12-00801
3/4" & 7/8" Open End Box ................ P/N12-00802

**SCREEN CLEAN SPARK PLUG CLEANER**
The new Screen Clean tool works great for field cleaning of spark plugs. It is non-abrasive and can be used for several cleanings. Simple to use—just work the bi-fold edge through the gap with several strokes before setting the gap. Actually removes deposits blasting cannot reach.

P/N 12-15610

**SPARK PLUG TRAY**
This unique spark plug tray is quality made of PVC plastic. Each holding position has 18 mm thread so that plugs screw in for positive holding. This tray permits simultaneous inspection of either the electrode or barrel end of plugs, protects plugs from damage, and can be stored in any position. Optional carrying strap attaches to ends.

P/N 12-30185

**PLUG-A-LONG SPARK PLUG TRAY**
Holds 12 spark plugs each hole stamped with cylinder number also marked top and bottom so each plug can be identified easily, no mix-ups. Plugs can be serviced and returned back to where they were removed, a must for aircraft mechanics. Made from 18 gauge steel. Blue powder coat finish. Dimensions: W=4.0", L=8.0", H=2.8. P/N 12-00974

**ECONOMY SPARK PLUG GAPING TOOL**
This handy spark plug gapping tool is made from heat treated stainless steel for long life. To adjust the spark plug gap, simply place the tool into plug with ground electrode between the forks, push up on the tool bending the ground electrode closer to the center electrode setting nominal gap of .016".

P/N 12-21352

**OIL FILTER DRAIN TOOL**
This oil filter drain tool permits draining spinon oil filter prior to removal from the engine. Just clamp on to rear of filter with cutter punch small air bleed at the top of the housing with anice pick, remove cutter and oil will drain freely in-can or hose-extended funnel.

P/N 08-04200

**MODEL 2500 GAP SETTING TOOL**
Complete with accessories, gauges and instructions for use. A precision gap setting tool for all massive aviation sparkplugs. Permits simultaneous adjustment of 2 opposite prongs without removing the spacing gauge.

P/N 12-15500

**CT-446 SPARK PLUG TRAY**
Steel tray holds up to 12 plugs. Speeds handling of used or new plugs. Holes numbered to correspond with engine cylinders. Protects against shielding barrel contamination. Dims: 5"H x 8"L x 3.5"W. Wt. 1 lb.

(12 plug tray) P/N 12-00795
(18 plug tray) P/N 12-00162

**CT-475AV AVIATION SPARK PLUG TESTER**
Designed to clean and test all 14 and 18mm massive and fine-wire electrode aviation sparkplugs. Cleaner uses dry-abrasive air blast which quickly and effectively removes conductive deposits. The new "solid state" ignition system produces a very stable ignition test voltage for greater accuracy and reliability. Contains a built-in automatic water trap. Size: 11.5"H x 16-3/8"W x 12-1/8"D. Requires 125-180 PSI compressed air and 115V 50/60 Hz AC. Power consumption: 35 W. For use with 230V, a 3-wire connection is required (special order).

P/N 12-00794

**MODEL 2600A VIBRATOR/CLEANER**
Champion now makes it easier than ever to clean heavily lead-fouled spark plugs with this new, improved Vibrator/Cleaner. Each unit is shipped with all accessories required for cleaning fine-wire and 2-prong massive electrode aviation spark plugs. This unit features quick-change cleaning head assemblies, easy and inexpensive replacement of single cutter blades, improved heavy duty top-mounted switch and improved vibrator motor for faster cleaning and maximum durability.

P/N 12-15600

**NO. 91893 ABRASIVE COMPOUND**
For use in CT-475AV Dry Abrasive Cleaner/Tester. Contains 1 full charge (15oz.). Note: This main item no longer ships with a tip unless it is ordered separately.

P/N 12-09993

**ACCESSORIES**
622 CHAMPION RUBBER TIP
P/N 12-94023
**SPARK PLUG TOOLS – OIL CAN CUTTERS**

**ULLMAN UNIVERSAL SPARK PLUG GAP GAUGE**
This gap gauge provides easy accurate spark plug adjustment. Features flanged edge for electrode bending and beveled round hole for coating. Wt.: 0.8 oz. Scaled from .020” to .100”. Pewter plating makes the chuck more legible for user to read. Also available in metric scale (0.5 mm to 2.4 mm).
P/N 12-21375 .................................. /ea.

**CHAMPION CT-482 SPARK PLUG EROSION GAUGE**
Champion CT-482 spark plug erosion gauge provides an easy, accurate method of determining whether your plugs have reached their maximum wear limit. Simply recap the used plug to .016 nominal, then attempt to insert the electrode assembly through the chamfered hole in the gauge, as shown. Penetration of the hole by the electrode assembly indicates the plug has exceeded its recommended wear limits and should be replaced. The CT-482 is calibrated to reject plugs after their electrodes have eroded to at least one-half their hole by the electrode assembly indicates the plug has exceeded its service life.
P/N 12-00791 .................................. /ea.

**GET THE LEAD OUT**
**SPARK PLUG VIBRATOR CLEANER**
Anyone that cleans a lot of spark plugs knows that a spark plug vibrator cleaner is the only way to go to break up and clean out stubborn lead deposits. A spark plug abrasive cleaner is great for the finish cleaning, but it just won’t take care of the lead deposits found down around the plug porcelain. The Champion 456A inspection light now offers an inexpensive way to professionally clean spark plugs. This 115V vibrator cleaner provides an easy, accurate method of determining whether your plugs have reached their maximum wear limit.
P/N 12-01147 .................................. /ea.

**CT-709 Oil Filter Adapter Wrench**
The CT-709 tool, designed by a professional aircraft mechanic makes the job easier. Manufactured from tool quality steel, the wrench features both 3/8” and 1/2” drives, as well as “flip over” reversibility. For Cessna adapter for 150 Series through 300 Series Aircraft.
P/N 12-00792 .................................. /ea.

**CHALLENGER OIL FILTER TORQUE WRENCH**
Challenger CP102 Oil Filter Wrench Torque Wrench Adapter 1” L
P/N 12-06174 .................................. /ea.
Challenger CP103 Oil Filter Wrench Torque Wrench Adapter 30 MMS
P/N 12-06175 .................................. /ea.

**OIL EASY WRENCH**
The “Oil Easy” Wrench is specifically designed to remove the oil filter on any aircraft using the Teledyne Continental IO-520 or IO-550 engine. In fact, it is a universal oil filter wrench that works great on any piston engine airplane! Recommended at the Malibu Mirage Owners and Pilots Association (MMOPA) maintenance seminar!! On IO-520’s & IO-550’s engines, it’s the only wrench that can get between the top of the oil filter and the pressure pump and still provide enough leverage to remove the oil (usually stuck) oil filter by using a C-246 wrench. And because you are able to remove the oil filter without any damage, your inspections of the oil filter are more accurate, without any contamination from more extreme filter removal methods.
P/N 12-01552 .................................. /ea.

**CHAMPION CT-456A INSPECTION LIGHT**
The angled bulb socket is kept out of the viewing field of the magnifier providing a large viewing area. With a 2.75 magnification, it provides an extremely long focal length, ideal for viewing into spark plugs or igniter leads. It can also look into drilled or tapped holes on a part making it easy to spot burns or foreign matter in items such as valves & fittings.
P/N 12-00793 .................................. /ea.

**ACS OIL CAN CUTTER**
This unit has the capacity of both replacing the blade and cleaning the media and ensuring an accurate cut.
P/N 12-01854 .................................. /ea.

**TEMPEST AA471 OIL FILTER MEDIA CUTTER**
Tempest’s new AA471 provides a low-cost, efficient and safe tool that every mechanic will want to put in their tool box. Strong guard and non-retractable blade to secure the media and ensure an accurate cut.
P/N 12-01854 .................................. /ea.
AUTOLITE SPARK PLUG TOOLS

T-240 SPARK PLUG TRAY - Holds up to 12 plugs in numbered holes that correspond to cylinder location. P/N 12-00702

T-245 SPARK PLUG EROSION GAGE - Determines whether plugs have reached their maximum wear limit. P/N 12-00703

T-551 SPARK PLUG CLEANER / TESTER (115 VAC) - Tests plugs at 24,000V, and up to 150 psi to simulate engine conditions. P/N 12-00704

T-552 SPARK PLUG CLEANER / TESTER (220 VAC) - Tests plugs at 24,000V, and up to 150 psi to simulate engine conditions. P/N 12-00705

T-550-10 SPARK PLUG CLEANING TOOLS (PACK OF 10) - Removes lead deposits and other contaminants, when used with a vibratnr cleaner tool (T-559). P/N 12-00706

T-554 AUTOLITE SPARK PLUG FEELER GAUGE - Slides tabs check spark plug gap in decimals of an inch. P/N 12-00707

T-555 SPARK PLUG THREAD CHASER - Unique design ensures preservation of existing thread pitch diameter. P/N 12-00708

T-556 SPARK PLUG THREAD LUBRICANT & ANTI-SEIZE COMPOUND - Helps to prevent galling and lubricates threads during installation. P/N 12-00709

SPARK PLUG DEEP SOCKETS - T-557-1 3/8" drive w/magnet. T-558 1/2" drive w/o magnet. P/N 12-00710

T-559 SPARK PLUG VIBRATOR CLEANER (115 VAC) - Cleans out stubborn lead deposits. P/N 12-00713

T-560 SPARK PLUG CLEANER - Complete with powder and bag. Features a 1-way valve. P/N 12-00714

T-570 SPARK PLUG TOOL KIT - Includes a spark plug tray (T-240), erosion gage (T-245), cleaning tools (T-550-10), feeler gauge (T-554), 3/8" drive deep socket with magnet (T-557), vibratnr cleaner (T-559), and spark cleaner (T-560). P/N 12-00715

BB PRODUCTS FC-2000 OIL FILTER CAN CUTTER

Features: Cuts all Champion and Kelly Aerospace 3.7" Dia. oil filters - Rugged 6061-T6 aluminum construction - Roller bearings provide smooth rolling action - Hardened hardware throughout - No parts or adapters to change - Made in USA - Hundreds sold! P/N 12-00923-1

Replacement Cutter Wheel P/N 12-01689

BB PRODUCTS FMC-2000 OIL FILTER MEDIA CUTTER

This patented tool is designed to hold Champion Aerospace brand Aviation oil filter spoons, and to allow cutting the paper filter media at each end of the spoon without holding the filter spoon by hand. Using this tool reduces the risk of cutting one's hands while cutting the filter media as well as reducing the time necessary to accomplish this task. The filter media is rotated in a special holder that is supported by roller bearings. A knife, with a retractable safety cover is brought into position to make a clean cut of the filter media at each end. The filter media can then be removed for inspection. Patented P/N 12-00925-1

BB PRODUCTS FH 2000 OIL FILTER HOLDER

The FH-2000 oil filter holder is designed to hold all Champion, Kelly Aerospace and Tempest Oil Filters for cutting. P/N 12-00924-1

TOMS OIL FILTER CUTTING TOOL

Tom's oil filter cutting tool will allow you to inspect your filters in an efficient manner. Most filter cutters work like a pipe or tubing cutter in that you have to go around and around the filter, adjusting cutter depth with each pass. Although you could do that with this tool, the real beauty of this new product is that the cut can be easily made in one pass. The task of inspecting filters can be a bit messy but it is also quick and easy to do and should be part of your regular maintenance program.

The tool, as supplied, is wet up for Lycoming oil filters that have a threaded insert sticking out of the out of the end of the filter. This should cover almost all Lycoming engines, however, some of them and almost all Continental engines do not have this insert. A “center bolt” supplied with the tool can be used in these cases. To use the tool on smaller filters, such as Rotax filters, remove the cutter handle and reposition the pivot bolt to the inner hold on the base handle. The “center bolt” may have to be used on these filters as well. This tool will also work on a number of automotive filters.

MODEL 7000 OIL FILTER CUTTER

- Accepts both male & female styles of aircraft oil filters, and many automotive sizes. • Ball bearing rollers make it easy to turn the filter • Effective design helps insures a straight cut (the filter does not try to spiral off the cutter) • Heavy duty construction (designed for daily commercial use) • Aircraft quality aluminum construction • Replaceable hardened steel cutter wheel • Contoured knob is easy to turn, even with oily hands • Accepts oil filters 3 1/8" to 4" in diameter, which includes most aircraft oil filters such as Champion: CH48103, CH48104, CH48108, CH48109, CH48110 AND CH48111 • The cutter may be completely disassembled, and all parts are replaceable. P/N 13-03145

Replacement cutter Wheel P/N 13-05737

MODEL 7100 OIL FILTER KNOB

- Slips onto the hex of an aircraft oil filter • Large diameter knob for a strong grip even with oily hands. • Allows many filters to be installed and removed without using a wrench. • Works in tight spaces, you do not have to swing a wrench • Knob will accept a 3/8" drive ratchet handle to help remove very tight filters (ratchet handle not included) • Stainless steel core durability (your ratchet goes into stainless steel, not plastic). • Use a torque wrench to accurately tighten a new filter to the proper torque. • Handle can be used as a base to support the filter, holding it upright so the oil does not spill out. • Color: bright yellow. P/N 13-03146

MODEL 7300 OIL DRAINER

Make your oil changes less messy. Drain your oil lines and filter before removing the filter. Works with most Lycoming engines and remote filter installations, and some Continentals. When you drain the oil from the engine, you are only emptying the oil sump. Generally quite a bit of oil remains in the filter and oil lines (if you have a remote mounted filter). A remote mounted filter installation can easily hold a quart of oil in the filter and lines after the engine is drained. This oil will come pouring out when the filter is removed, making a mess in the engine compartment. Cleaning up this mess often takes longer than the actual oil change. The Oil DRAINER clamps over the center of the oil filter. A hardened steel rod pieces the filter and allows the oil to be neatly drained into your catch bucket. After the oil is drained, you can remove the filter with much less mess. P/N 13-03147

OIL FILTER WRENCH

The 1" hexes of the wrench easily fit Champion oil filters. The hexes are rotated 15 degrees from each other so by turning the wrench over or flipping it end-for-end you can easily find an orientation that allows you to get on the filter, even the tightest engine compartment. It's 6 inch overall length allows you to turn it tight locations, and the shorter length helps prevent over-tightening the filter during installation. P/N 12-01683
Ullman Magnetic Pick-Up Tools

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

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

HT-3 lifts 5 lbs, 10 lbs with Powercap™ telescopes from 6-3/4” to 30-1/4”
P/N 12-21367

Cflush-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

Msr-3 med-Mag Socket Rack - has a strong magnet on the front of the rack that keeps 1/4”, 3/8” & 1/2” drive sockets together, organized and ready to use. The magnetic force on the back holds the rack loaded with sockets to most flat metal surfaces.
P/N 12-00717

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

Steelmax Mag-It Magnetic Pick-Up Tool

Safely remove metal chips and debris from machinery and work areas using Steelmax Mag-It magnetic pick-up tool.

The Mag-It’s slide action lever quickly demagnetizes the tool, which releases chips for disposal.

10 inch Pick-Up........P/N 12-01714

15 inch Pick-Up........P/N 12-01715

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, etc.

Request........P/N 12-17605

A & C Series Continental Bracket........P/N 12-17609

Lycoming Parallel Valve Bracket........P/N 12-17610

Lycoming Angle Valve Bracket........P/N 12-17611

Cutter Head Inserts........P/N 12-17607

Eas 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 island removal tool pilot can be used to accomplish this without the use of power tools.

Deluxe Heat Gun

This handy tool gives you a fast, drum-tight, mirror smooth finish. It’s ideal for heat-shrinkable covering films. Get a professional finish with less time and effort. 1-year warranty. Features: Includes removable wide nozzle, <1000W heating power, Heavy-duty fan motor, Textured, composite hand-grip, 3-position, Hot/cool/off switch, Adjustable air intake baffle, Wt: 15 oz.

5.5” AC power cord w/2-prong plug
P/N 12-16708

The core resector 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. It is lightweight, easy and safe to use. Core resector can be used with no aid of electricity.

The Handy Mag is the size of a pen and can be carried in a shirt pocket. It telescopes out to an extended length of 32” and the magnet on the tip can pick up objects over 2 lbs. Excellent for retrieving dropped tools or parts in engine compartments or other unreachable areas. Tough stainless steel body.
P/N 12-14550

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

Exhaust Desiccator Plugs for Exhaust Stacks

Quality made polyurethane rubber plug won’t wear out and provides a positive seal in the exhaust pipe. Desiccator housing contains interchangeable desiccator canisters. Desiccant never needs to be removed from canister for drying. Removal flag and cap attach to external end of plug when in use. During storage, flag cap fits on desiccator chamber. Limits internal engine damage caused by corrosion. Fits 2” dia. exhaust pipes. Other sizes available as a special order. Minimum special order 5 pieces.
P/N 12-30212

Goldendon 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 stalling the instrument panel or on the deck between seats. If installed in the engine compartment, Goldendon will eliminate moisture which leads to rust, keep ignition wiring dry, and facilitate cold weather starts. In the hangar, Goldendon 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” | 100 cubic feet | $304.00
12-30230 | 18” | 200 cubic feet | $426.00
12-30235 | 24” | 300 cubic feet | $507.00
12-30240 | 36” | 500 cubic feet | $629.00

Eva-Dry Dehumidifier

This is a product that is the answer to a very common problem in Aircraft, Humidity!! The Eva-dry has a 100% effective, wireless, mini dehumidistat that requires no power to operate. It works with a Silica gel that absorbs moisture from where ever it is placed. There is an indicator window on the front of the unit that will change from blue to pink as the units absorbs moisture. Once the crystals have turned pink it is time to renew. To renew, simply fold down the hidden plug on the back of the unit and plug it in to any a/c outlet for 8-10 hours. A heating element will be activated which will evaporate the moisture. The Eva-dry has a 10 year life span and has a 5 year mfr. Warranty. Size: 6.25” X 4.75” X 1.25”.
P/N 12-01621

Scrooge Clamp

By attaching this mechanism to any brace, piece of wood or steel, it can be made adjustable simply by turning the handle. It works like a C-Clamp that will push or pull. It can be used in place of a bar or pipe clamp, and can be made any length by using a 2x2 or 2x4 piece of lumber. Using it, any object or aircraft part can be moved into its exact required position, within a 1/64 of an inch, simply by turning the handle. It is a large turnbuckle with attachment plates at either end. It can be used to plumb walls, square up or steel, it can be made adjustable simply by turning the handle. It works like a C-Clamp that will push or pull. It can be used in place of a bar or pipe clamp, and can be made any length by using a 2x2 or 2x4 piece of lumber. Using it, any object or aircraft part can be moved into its exact required position, within a 1/64 of an inch, simply by turning the handle. It is a large turnbuckle with attachment plates at either end. It can be used to plumb walls, square up or steel, it can be made adjustable simply by turning the handle. It works like a C-Clamp that will push or pull. It can be used in place of a bar or pipe clamp, and can be made any length by using a 2x2 or 2x4 piece of lumber. Using it, any object or aircraft part can be moved into its exact required position, within a 1/64 of an inch, simply by turning the handle. It is a large turnbuckle with attachment plates at either end. It can be used to plumb walls, square up or
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" x 44" x 36" w. Assembly req. Each stand holds 2 wings.
P/N 12-21390 ......................................

AEROROLLER-1000
AeroRoller makes movement of your aircraft or wheeled equipment easy. Aircraft can be loaded on AeroRoller without jack and minimum effort is required to move aircraft when on rollers. AeroRoller is constructed of Industrial 1/4" steel plate. Heavy duty Duraflex 360° swivel castor wheels means no flat spots. Brake castor lock parking location. Each unit can carry 1000 lbs.
P/N 13-00072 .....................

TENNSMITH BRAKES & SHEARS
Model S48-22 hand brake.............P/N 12-20700 ........................
Optional Stand........................P/N 12-20705 ........................

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 forming in held 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 ........................
Optional Stand........................P/N 12-20705 ........................

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 ..................
Model 52 (Max. Cutting Width 52")........P/N 12-20720 ..................

TENNSMITH - These products are shipped truck, priced F.O.B. McMinnville, TN. Allow 4-6 weeks for delivery

TOOL GRIP - TOOL AND CRAFT HOLDER
The Craft Grip is designed to hold tools or other items in the same manner as the Pen Grip. It differs only in the method of attachment. The attachment device is a u-shaped clip that fits over the edge of many surfaces and holds the organizer in place. The attachment device is a u-shaped clip that fits over the edge of many surfaces and holds the organizer in place. The attachment device is a u-shaped clip that fits over the edge of many surfaces and holds the organizer in place. The attachment device is a u-shaped clip that fits over the edge of many surfaces and holds the organizer in place. The attachment device is a u-shaped clip that fits over the edge of many surfaces and holds the organizer in place.

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 ........................
NOTCHERS

ACCU-JIGGER TUBING NOTCHERS

Constructed of 6061 T6 hard anodized aluminum extrusions, steel, and cast iron with two 2750 lb. rated roller needle bearings, the Accu-Jigger rigidly holds the hose clamp and tube to produce accurate, chatterless cuts. Accu-Jigger, with Single Point Technology, is able to notch tubes that “Fit Right The First Time” as fast as those produced from custom tooling. It employs a flip up Tube End Stop, (2) 1° step, pin settable Angle Indexes and standard bimetal hose clamps to accurately notch the ends of tubes used in aircraft fuselages and engine mounts. Notches tubes up to 1" diameter with up to 2" hose clamps at angles from 30 to 90°. Spin Angle settable 0 to 359°. Used to be driven by 1/2 inch chuck hand drill or mounted to a drill press.

1" diameter capacity................P/N 12-00377 ............
2" diameter capacity................P/N 12-00529 ............

MAGNETIC BIT CADDY

A non-spill bit holder at your fingertips. 36 individual 1/4" and 5/16" screwdriver 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 ....................

THE SPINNING RATCHET

This tool is a combination tool providing a ratchet wrench for power and a spinning action for speed. All types of accessories can be used with this wrench, such as extensions on either end, or flexible drives. The drive handle can be removed to make a very compact tool for restricted areas. The ratchet pawl is made from annealed steel to allow it to fail before the ratchet gear as it is a low cost item. The spinning gears are protected by a shear pin that will fail before the bevel gears; again a low cost item. If the gearment, replace one or both of the bevel gears if they become over loaded. The pawl is pointed on one to distinguish the on or off motion. 3/8" drive .........................P/N 12-00742 ............

PNEUMATIC HIGH SPEED DRILL

This heavy duty pneumatic drill will give years of consistent service. Due to speed and design this drill is excellent for deburring or grinding when used with mounted wheels or points. When used with a mounted wire brush it functions as an excellent scaler. As a drill it is adaptable to wood, plastic, rubber, aluminum, brass and sheet metal where contact is brief. Drilling capacity: Steel 1/8", plastic -3/16", wood - 1/4". Specifications: 13,000-17,000 RPM 80-150 PSI, 4-vo motor. Air supply: 4 CFM 80 PSI. Wt. 2 lbs.

5 oz. 1/4" chuck. Model 10..................P/N 12-01659 ............

THE 3RD HAND WELDING CLAMP

A simple yet rugged tool, The 3rd Hand was designed to hold round or square tubing in place during the welding process. Originally used for aircraft engine mount and airframe fabrication work, it has many other applications. This steel fixture is infinitely adjustable due to its full swiveling clamp. Each model comes with 3 different length arms (3.5", 5.25" & 7.5") Hose clamps are not provided.

Model 01 (for tube size 3/8" – 2.5").............P/N 12-00736 ............
Model 02 (for tube size 3/4" – 4")................P/N 12-00737 ............
Model 03 (for flat sheets or plates )..............P/N 12-00747 ............

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”x2.1”x1.1”. Wt. .22 lb. - P/N 12-16835

OL’ JOINT JIGGER

OL’ JOINT JIGGER MODEL RTN-100 TUBING NOTCHER - 0° Jiggle!F quickly notches tubing of up to 2” O.D. in less than 30 seconds. Great for assembling and welding tubing in your garage or workshop. Adjusts in single degree increments to make up to 60° angle notches. Automatic round tube centering and alignment. CNC machined steel construction. Bimetal hole saws not included. Use with your 1/2” hand drill. U.S.A. Ship Wt. 9 lbs.

P/N 12-01105 ..................................................RTN-BASE (UNIVERSAL DRILL PRESS MOUNT) - For use with RTN100 only. Allows for set up and dedication of a small drill press for tube notching. Adjustable for out-of-square tables, the RTN-Base also makes it easy to lay the notcher over horizontally, still bolted to the table, to handle long or cumbersome tubing that can’t be notched in a vertical position. Minimum requirements: 1/3HP drill press with 3-1/2" to 4” of travel and 1/4" from the table or base to the chuck. (Bolts for attachment included) U.S.A. Ship Wt. 3 lbs. - P/N 12-00691 ............

OL’ JOINT JIGGER MODEL RTN-1000 DELUXE ALUMINUM TUBING NOTCHER - 0° Jiggle!F combines precision performance, versatility and comfort for quickly notching tubing of up to 2” O.D. in less than 30 seconds. Enhanced vibrations spring temper and stainless steel base allow for either work bench or drill press mounting to provide the professional or hobbyist with the ultimate in tubing notchers. Laser-engraved protractor allows for set up and dedication in single degree increments to make up to 60° angle notches. Automatic tube centering and alignment. Anodized aircraft-grade aluminum construction. Bi-metal hole saws not included. Use with your 1/2” hand drill or drill press. U.S.A. Ship Wt. 9 lbs. - P/N 12-01108 ............

RTN NOTCHER REPLACEMENT PARTS & HOLESAWS

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<thead>
<tr>
<th>Description</th>
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<th>Price</th>
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<tr>
<td>5/8&quot;-18 Thread Adapter</td>
<td>12-00020</td>
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<td>Main Arbor/Shaft (1/2&quot;-20 Thread)</td>
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<td>Bushings for Arbor Support (pair)</td>
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<tr>
<td>5/8&quot; Holesaw</td>
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HOLESAW ASSORTMENTS

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</tr>
</tbody>
</table>

PIPMaster WELDER’S TOOL

PIPMaster 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 grading 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 the pipe, push down, transfer and cut, and the tubing is ready to weld. PIPMaster transfers the exact outline of the pipe joint in just seconds. Use for penetration cuts as well.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Tubing O.D.</th>
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<td>12-00115</td>
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</tbody>
</table>
NOTCHERS - SURFACE TREATMENT ITS

JMR NOTCHERS
Made in the U.S.A! • Highest quality, most versatile notchers on the market • Capacity greater than notchers costing 10-20x more • Notches faster and better than any end mill/belt notcher • Manufactured from bar stock not plate, to increase strength 1.125” induction hardened shaft supported by Timken™ bearings • Custom designed shaft seals prevent bearing/ shaft damage • Replaceable hole saw mounting threads • Timken™ thrust bearing increases clamping force (at pivot) while reducing wrench pressure • Stainless steel pointer ensures accuracy • Aluminum bronze acme threaded bushing on clamp.

MR IMPLE IES
Made in the U.S.A! • Made from heat treated 4142 steel • Will dimple 125” 4130 • All corners radiused • Set of 7 includes .050, .1, .15, .2, .25, .375, 1”. P/N 12-01390

MR MANUAL BEN ER
Capacity greater than benders costing 10-20x as much! • Uses available in 120 and 240 • Will bend .250 wall 4130 Tube • Dies are all billet • Follower blocks have hardened tips that strike the target surface • Flexible brush belts are inserted loosely into a cage-like adaptor system and secured with safety arms. The centrifugal force created by rotation causes the brush belt to tighten and work as if suspended on a cushion of air. Advantages: abrasion-free operation. The vibration of the wire bristles that occurs when the bristles strike the target surface is absorbed by the air-cushion. The bristles re-strike the target surface at rest (without vibration). This achieves the maximum kinetic energy.

MB NOTCHERS
MBX Surface Treatment Systems
PATENTED TECHNOLOGY • MB Systems are different from conventional surface treatment systems in that MB Systems are based on several physical principles. Flexible brush belts are inserted loosely into a cage-like adaptor system and secured with safety arms. The centrifugal force created by rotation causes the brush belt to tighten and work as if suspended on a cushion of air. Advantages: abrasion-free operation. The vibration of the wire bristles that occurs when the bristles strike the target surface is absorbed by the air-cushion. The bristles re-strike the target surface at rest (without vibration). This achieves the maximum kinetic energy.

MBX BRUSH-BELT TECHNOLOGY • MB Belts consist of individual, U-shaped crimped wire bundles anchored in a polyamide fabric. Made of spring steel, the wires have hardened tips that strike the target surface individually during rotation.

ADVANTAGES • High safety level: The U-shaped anchor points of the individual cramped bundles prevent wire bristles from being thrown clear. No heat development. Avoid toxic fumes and no smearing during the removal of sticky materials. No grinding. No removal of healthy material, no deformations. Flexibility: High degree of adaptability when working on contoured areas or areas with sharp edges. Optimal performance: Because of their design, each wire tip strikes the target surface twice per rotation. Long service life: Specially hardened wire tips with a hardness up to 68 HRC (Rockwell hardness) provide for a level of hardness never before achieved with conventional brush technology.

MBX PNEUMATIC DRIVE UNIT • Easy handling, lightweight - 1.1 kilograms, high torque, safe to use. Specially developed for the MB brush-belt and MB inlay apper systems. The high output rpm of the compressed-air turbine (21,000 rpm) is reduced to 3,500 rpm by means of a planetary gear and toothed belt torque increases. This gives our MB pneumatic drive units an optimized power profile. MB brush-belts and MB eraser wheels work as a direct extension to the drive shaft, i.e., there is no lateral centre of gravity and MB drive units operate in-line. Work in hard-to-reach areas or in the removal of tough, thick, sticky materials (e.g. compounding materials, underbody corrosion) with optimal ventilation.

MB ELECTRIC STARTER SET
For the removal of 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 - 2A Wire Belt, Med., 11mm angled tips • BS-F11 - V2A Brush Belt, Fine, 11mm • RE-0023 - Rubber Eraser, 31mm

MBX BRUSH BELTS
MB 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 MB Belts offers top safety and durability due to the high flexibility of the MB Belts. No clogging - no heat built-up - no grinding. The high masses due to centrifugal force during rotation are absorbed safely by MB Adapter Systems. MB Belts are high enough tips to create a sandblast effect. 11mm is for especially hard-to-reach-areas such as a 90° angles.

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, fibreglass (gel coats) - and most amazing: NO PAINT DAMAGE. The centrifugal force created by rotation makes the MB inlay apper work as if suspended on a cushion of air. Advantages: Faster working speeds of up to 5,500 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. Abrasion-free, smooth running (compare a solid rubber tire with an air-filled tire). Increased performance. The working surface of the MB inlay apper 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, inlay apper 31mm Toothed Wheel Construction Removal of elements such as vinyl decals & DOT tape from metal surfaces, fiberglass, plate glass, wood, aluminum, OEM paint finish.

MBX VINYL ZAPPER KITS
MB inlay apper 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.

STORAGE STATION
For storage of up to 15 wire belts or 9 rubber erasers and one MB Power Tool (machine, belts, erasers not included). P/N 12-01399...
CLECOS - HOLE SAW - CRIMPING TOOLS

CLECO SHEET HOLDERS

K-SERIES SPRING CLECO - 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 hole saws listed cut to standard 1.25" depth. Order appropriate arbor for use with each size hole saw.

<table>
<thead>
<tr>
<th>CLECO Description</th>
<th>Sheet Material</th>
<th>Part No.</th>
<th>Use w/Arbor No.</th>
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<tbody>
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<td>M-3/32 CLECO</td>
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<td>M-5/32 CLECO</td>
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<td>M-1/6 CLECO</td>
<td>1/6&quot;</td>
<td>12-01139</td>
<td></td>
</tr>
</tbody>
</table>

| CLECO EEPER       | Fabricated of durable polypropylene, the Cleco eep er is pregunched to hold up to fifty sheet metal fasteners. Helps eliminate misplaced fasteners and makes inventory of available fasteners quick and accurate. Available in three models to hold 3/32", 1/8", or 5/32" clocos. For 3/32" clocos the 12-011011 series, for 1/8" clocos the 12-011017 series, and for 5/32" clocos the 12-011018 series. | P/N 12-00626 |

| CLECO REVERSE PLIERS | Used in limited access areas. requires less travel per activation. Model TP74B. | P/N 12-01105 |

| SUPERCHAMP IV CRIMPING TOOL | The professional quality crimping tool. This versatile hand tool has a separate set of crimping dies for insulated terminals and splices in wire sizes No. 22 to No. 10 AWG. It has a terminal locator to position insulated terminals during crimping and an in-nose cutter for tight locations. This tool is a wire stripper and has a built-in heavy duty bolt cutter. Color coded dies in tool nose correspond to color on terminal insulation sleeve. Used for 32-10 AWG terminals and connectors. Its gauge and wire stripping gauge are important on the tool body. Cushioned handles. | P/N 604252-1 |

| BANTAM ROTA-CRIMP TOOL | The AMP Bantam Rota-Tool crimps uninsulated terminals and splices for No. 8 to 1/0 sizes. The correct die position is selected by rotating dies to correct AWG number. Dies are fixed in tool to avoid loss. Compact, rugged and easy to handle. 15" long. Wt. 3 lbs. Not for certified Aircraft use. | P/N 601075 |

| 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 |
Heavy duty hand setter utility knife which last from case hardened steel. Stud Extractors available in sizes listed below.

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<th>E</th>
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TWO STEP STUD TRACTORS

Our Two Step Stud Extractors are the simplest way to remove broken studs and require only 1/8" of the broken stud for removal. Simply tap stud remover on stud or frozen bolt with a hammer or mallet, and then remove stud by attaching a wrench to the hex portion of the remover. Just hammer on and screw out. Built to high-pressure rated materials.

SPOTFACE IT

The Spotface 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.

THE PRECISION SURE START TOOL

A tool to assist starting a nut onto a bolt in tight fitting areas. Simply screw the nut onto the SureStart tool, place the tool next to the bolt threads and using a small screwdriver or scriber, rotate the nut off of the SureStart tool and onto the threads of the bolt. The aluminum handle may be bent to suit a specific job. It accommodates Sizes: 6-32, 8-32, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 and 1/2-20 nuts. Constructed with aerospace grade aluminum and hardware. Made in the USA Patent Pending.

P/N 12-01360..............................

TAPER PIN REAMERS


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NYLON FLANGES IN BATTERY

- 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. - Eliminate extra connection on outside of the battery box. - Do away with the troublesome braded negative strap. - Experimental. P/N 11-02892 STC'd/PMA’d. P/N 11-02893

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

OLFA ROTARY CUTTER

Ergonomic 45mm rotary cutter features a unique comfortable handle design for both left- and right-handed use. Features include the dual-action safety lock that allows the blade to be locked open for comfort and closed for safety. Accommodates the Olfa straight, wave & pinking blades. The cutter is a rolling razor blade used to cut fabrics into shapes, strips and pieces. Guaranteed forever. Suggested uses: cut fiberglass, composite materials, delicate cloth, fabric, paper, leather, etc.

OLFA STAINLESS STEEL SCISSORS

The OLFA stainless steel scissors (7" overall length) are rapidly growing in popularity in both consumer and industrial applications. Extremely high quality stainless steel blades meet perfectly for precision cutting. The material being cut is held in place by one blade which is serrated, providing positive control. Ideal for use on such varied materials as paper, fabrics, plastic, rubber, & aircraft composites.

OLFA CUTTING TOOLS

OLFA L-2 CUTTER - A sure-grip heavy duty cutter which features a ratchet wheel blade lock & an anti slip rubber grip insert. P/N 12-00258

OLFA NOL-1 CUTTER - Heavy duty hand setter utility knife which features a ratchet wheel blade lock.

OLFA H-1 CUTTER - Extra heavy Duty sure grip 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.

AUTO-LOCK STAINLESS PROFESSIONAL NIFE

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.

45MM ROTARY PINKING BLADE - 1-pack (PB45-1) Circular rotary replacement pinking blade designed to place "teeth" on the edge of fabric to reduce raveling and to add a unique edge to any project. ery popular with crafts and memory book development. Also great for use with Polar Fleece. This blade is made of stainless steel for sharpness and durability. For Deluxe 45mm Rotary Cutter (RTY-2/DX) and Pinking Cutter (PIK-2). 1 blade per pack. P/N 12-01709
GENERAL SPECIALTY TOOLS

CIRCULAR HOLE CUTTER
General’s circle cutters produce precision circles in sheet metal, brass, copper, soft steel, aluminum, plastic, wood and composite 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 12-01600 ............
Extra 3/16” Blade............................................. P/N 12-10700 ............
Pilot Drills for #4 Cutter................................. P/N 12-10800 ............

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 ........................

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 designed with a knurled aluminum body for a sure grip while the swivel head turns smoothly against your palm.

P/N 92.................................

STEEL PROTRACTORS
General’s heavy duty steel protractors are 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.................................

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 ...........................
16ths & MM........................ P/N 12-01633 ............

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.................................

FEELER GAGES
Blades are made of tempered steel of exacting tolerances. Each blade has its size etched in both decimals of an inch and millimeters. Nickel plated case has knurled locking nut. No. 230 has 26 3x1/2“ leaves of the following sizes: 00015, 00025, 0003, 0004, 0005, 0006, 0007, 0008, 0009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019. P/N 200, 201, 202, 203, 204 and .250 in.

P/N 230.................................

REVOLVING PUNCH
This revolving punch is excellent for punching round holes in baffle seal prior to riveting in place. Also works well on leather, plastic, rubber, canvas, & cardboard. Punch sizes: 5/64”, 3/32”, 7/64”, 1/8”, 5/32”, 3/16”.

P/N 72.................................

6 INCH ELECTRONIC DIGITAL CALIPER
The Thread Repair Files help breathe life back to threads and rods such as copper, brass and aluminum. 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 ........................

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. 370-2 Power Magnet, 2 oz., approx. 13 lb. pull.

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.

P/N 12-02384........................

#20 American Standard Wire Gauge - For gauging non-ferrous wire & metal like copper, brass, aluminum, etc.

P/N 12-01874........................

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.

P/N 12-01873........................

UTILITY AUTOMATIC CENTER PUNCH
The Utility Automatic Center Punch is our most economical model, offering a lightweight 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........................

TRAMEL POINTS
General’s adjustable trammels accurately measure and mark distances that are too great for conventional compasses and dividers. Trammels will accurately transfer measurements, scribe arcs and lay out circles. Points can be replaced with pencils, ballpoint pens, crayons or soap- stone sticks for marking various materials.

P/N 520.................................

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.

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<tr>
<td>12-00518</td>
<td>13 Number size drills 61 to 80</td>
<td>64</td>
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<tr>
<td>12-00519</td>
<td>14 Fractional size drills 1/16” - 1/2” x 64ths</td>
<td>64</td>
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</table>
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

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

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

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 of 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
2-1/4 Diam  P/N 12-01888
3-1/2 OBLONG  P/N 12-01889

3-PIECE TELESCOPING SPEED-CHUCK INSPECTION SET

Our Speed-Chuck Inspection Sets feature a 26" telescoping wand and an assortment of interchangeable tools including mirrors, magnifiers, LED lights, clips and magnets. Simply pull back on the Speed-Chuck’s spring-loaded collar for effortless swapping of attachments. What’s more, every Speed-Chuck Inspection Kit comes in a molded zipper case for simple storage.

P/N 12-01885

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 barbecues. 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

5PC EXTRA LONG DRIVE PIN PUNCH SET

Our 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 12-01879

5-PC PRECISION ULTRAREACH STAR SCREWDRIVER SET SLOTTED & PHILLIPS

Our 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

5-PC PRECISION ULTRAREACH STAR SCREWDRIVER SET

Our 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 12-01882

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

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 marking contours, circles and edge marks. A carpenter’s favorite.

P/N 12-01872
An Offset Ratchet Screwdriver is a useful tool to have on hand as it provides greater leverage compared to a traditional screwdriver. The swivel 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.

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<thead>
<tr>
<th>Tap Capacity</th>
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<td>NO.12 TO 1/2&quot; (6.0 TO 12mm)</td>
<td>3-3/4&quot; (95mm)</td>
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</table>

**GENERAL SPECIALTY TOOLS**

**5 FLUTE ROSE PATTERN COUNTERSINKS**

Designed with the perfectionist in mind, our 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.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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**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 replica 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

**UTILITY TUNGSTEN CARBIDE TIP SCRIBER/ETCHING PEN**

The power of our Utility Scriber and Etching Pen is eclipsed only by its affordability. This durable scriber is a terrific pickup for making quick and accurate marks in the hardest work pieces. In addition, the Utility Scriber includes a permanent magnet affixed to the cap for retrieving and cleaning loose metal shavings.

P/N 12-01876

**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.

**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 swivel 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

**PRECISION OILER**

Our 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

**LONG NEEDLE NOSE PLIERS**

The Needle Nose Pliers are long and slender in construction, allowing access into both remote and crowded areas. A great retrieval and positioning tool, the Needle Nose Pliers are a staple of hands-on professionals world wide.

P/N 12-01886

**6 INCH FLEX ECONOMY RULER 3/4 WIDE**

Our Economy Steel Rules are ideal for a variety of home and office uses, offering the same accuracy you’ve come to expect from any General tool. Each rule is 6” in length and is offered in five distinct sets of Metric and English graduations. In addition, several of our Economy Steel rules are equipped with pocket clips for use in the field.

P/N 12-01159

**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 12-01199

**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/N 12-01866
1/2" P/N 12-01867
5/8" P/N 12-01868

**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 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

**PREMIUM 1/4" RATCHET OFFSET SCREWDRIVER**

Our Premium 1/4" Ratchet Offset Screwdrive is a useful tool that provides greater leverage when compared to traditional screwdrivers. The swivel 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
**DRILLS - TAPS - DIES**

**AIRCRAFT GRADE SUPER COBALT DRILLS**
These super cobalt hi-speed jobber length aircraft drill bits feature heavy duty construction to Type I 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.

<table>
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<td>12-04221</td>
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</tbody>
</table>

12” LONG DRILL BITS
These 12” long drill bits are for use with standard electric drills for the hard to reach jobs.

**MALE THREADED DRILL BITS**
Male threaded drill bits of high speed steel screw into female spindle of angle drill or snake drill.

<table>
<thead>
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<th>Part No.</th>
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<tbody>
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<tr>
<td>12-04249</td>
<td>5/32”</td>
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**CONVOLUTED CONE JAW CHUCK**
Heavy-duty 90° flexible drilling attachment. Overall length 26”. 3 Female threaded spindle sizes.

**ANGLE DRILL ATTACHMENT**
Quickly connects to any drill chuck. Makes a convenient, inexpensive close-up 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). Angle Drill w/ Key Chuck (1/4-28 Only)......P/N 12-18511 .................

**ANGLE DRILL KIT** - Includes tool case, 24” flexible attachment, 4 threaded drills, collet adapter, 90° angle drill, straight drill attachment, 4 collet drills.

**SNAKE DRILL ATTACHMENT**
Heavy-duty 90° flexible drilling attachment. Overall length 26”. 3 Female threaded spindle sizes. W/Key Chuck (5/32”cap.)......P/N 12-06600 .............

**CONVOLUTED 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.

**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) #20 collets & adapters - drill sizes 11, 21, 30, 30 & (4) 1/4” threaded drill bits (1-1/4” length) - drill sizes: 10, 21, 30, 30 & (1) Cone jaw chuck Model TP258 ......P/N 12-00368 ..........

**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 1/2 threads), are used where the thread has to go to the bottom of the hole.

**SPECIFY PLUG, TAPER OR BOTTOMING TAP.**

**DRILLING & TAPPING SETS**
13-Piece drilling and tapping set made from special high speed steel. Contains 6 screw machine length drill bits (Nos. 41, 43, 45, 29, 25, 19, 17, 15 & 13), 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.

**ADJUSTABLE ROUND SPLIT 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 dies. Can be operated by ordinary wrench. One punch required for each hole size.

**RAPTOR X81**
Gives you the choice of using screw machine drills or threaded shank tools. Three flex collets encompass a range of 3/32-1/4" shank tools. A simple attachment immediately converts the tool to use threaded drills. Recommended to use #0 machine drills for special sizes and metric sizes, which is not possible with threaded series. Features: “More power * Greater Torque

**DISCOUNT: 12 UNITS - LESS 15% (ASSORTED)**

**KNOWLEDGE & SKILLS 101**
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) #20 collets & adapters - drill sizes 11, 21, 30, 30 & (4) 1/4” threaded drill bits (1-1/4” length) - drill sizes: 10, 21, 30, 30 & (1) Cone jaw chuck Model TP258 ......P/N 12-00368 ...........

**Additional Sizes Available**
Drive punches with a ball bearing drive for faster, easier hand operation are available for the 2-1/4” & 3-1/8” knock-out punches.

**Drive for 2-1/4” Punch** .................P/N #0304AVBB ......

**Drive for 3-1/8” Punch** .................P/N #1433AVBB ......
**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 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 ..............

**29-PC BRITTE 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.

**115-PC HSS JOBER 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 12-00537 ..............

**STRAIGHT FLUTE CARBIDE DRILLS**
For use on hardened, treated, and abrasive materials, stainless steel, cryogenic alloys.

<table>
<thead>
<tr>
<th>P/N</th>
<th>Cutting Dia.</th>
<th>Decimal Dia.</th>
<th>Flute Length</th>
<th>Overall Length</th>
<th>Price</th>
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<tbody>
<tr>
<td>12-00538</td>
<td>13/64</td>
<td>.2031</td>
<td>1-3/16</td>
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<tr>
<td>12-00540</td>
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<td>.2500</td>
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<td>2-1/2</td>
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<tr>
<td>12-00541</td>
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<td>2-11/16</td>
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<tr>
<td>12-00542</td>
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<td>1-5/8</td>
<td>2-13/16</td>
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<tr>
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<td>.5000</td>
<td>2-1/4</td>
<td>3-3/4</td>
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<tr>
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<td>.3125</td>
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<td>2-11/16</td>
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<tr>
<td>12-00547</td>
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<td>.5000</td>
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<td>3-3/4</td>
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**CARBIDE TWIST DRILLS**
For use on non-ferrous alloys, cast iron, plastics, aluminum, and highly abrasive materials.

<table>
<thead>
<tr>
<th>P/N</th>
<th>Cutting Dia.</th>
<th>Decimal Dia.</th>
<th>Flute Length</th>
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<tr>
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<tr>
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<td>.0781</td>
<td>7/8</td>
<td>1-3/4</td>
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<tr>
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<td>.0938</td>
<td>1</td>
<td>2</td>
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<td>2-1/4</td>
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<td>2-1/2</td>
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<tr>
<td>12-00585</td>
<td>5/32</td>
<td>.1562</td>
<td>1-3/8</td>
<td>2-1/2</td>
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</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dia.</th>
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<th>Price</th>
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<tbody>
<tr>
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<td>5/8</td>
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</tr>
<tr>
<td>12-00590</td>
<td>1/2</td>
<td>1</td>
<td>.</td>
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</table>

**CYLINDRICAL CARBIDE BURS**
Aluminum Cut. 1/4" shank.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dia.</th>
<th>Flute Length</th>
<th>Price</th>
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<tbody>
<tr>
<td>12-00593</td>
<td>1/2</td>
<td>1</td>
<td>.</td>
</tr>
</tbody>
</table>

**ROUND NOSE TREE CARBIDE BURS**
Aluminum Cut. 1/4" shank.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dia.</th>
<th>Flute Length</th>
<th>Price</th>
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<tbody>
<tr>
<td>12-00596</td>
<td>1/2</td>
<td>1</td>
<td>.</td>
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</tbody>
</table>

**MEDIUM TOUG CUT**
Engineered specifically for tough applications. Tough cut insures faster, splinter-free cutting in weld & alloy casings with increased tool life.

**CYLINDRICAL BALL NOSE CARBIDE BURS**
Medium Tough Cut. 1/4" shank. 6" Long.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dia.</th>
<th>Flute Length</th>
<th>Price</th>
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<tr>
<td>12-00598</td>
<td>1/2</td>
<td>1</td>
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**ROUND NOSE TREE CARBIDE BURS**
Medium Tough Cut. 1/4" shank. 6" Long.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dia.</th>
<th>Flute Length</th>
<th>Price</th>
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<tbody>
<tr>
<td>12-00601</td>
<td>1/2</td>
<td>1</td>
<td>.</td>
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</tbody>
</table>

**14° INCLUDED ANGLE CARBIDE BURS**
Medium Tough Cut. 1/4" shank. 6" Long.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dia.</th>
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<th>Price</th>
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<tr>
<td>12-00602</td>
<td>3/8</td>
<td>1-1/16</td>
<td>.</td>
</tr>
<tr>
<td>12-00603</td>
<td>1/2</td>
<td>1-1/8</td>
<td>.</td>
</tr>
</tbody>
</table>

**DRILL DOCTOR TRADESMAN BIT SHARPENER**
The DD500X Pro Kit combines the Drill Doctor Tradesman sharpener with heavy duty carrying case. Sharpens bits either 118°, or the high performance 135° set-ting 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 ..............
ABRASIVE TOOLS & KITS

QUICK CHANGE SANDING & SURFACE CONDITIONING

Power Zirc sanding discs grind down welds and remove sharp edges on all types of metal surfaces. They also apply non-directional finishes to brake rotors, in addition to removing heavy rust and corrosion. Surface Conditioning discs remove baked on gaskets and silicone sealants. They are also used for deburring and polishing sharp edges, as well as paint and corrosion removal. Roloc® is a registered trademark of the 3M Company. P/N12-00845

STANDARD PORTING KIT

A very complete Porting Kit, with a large variety of Cartridge Rolls for a complete porting job. Includes Do-It-Yourself Guide. P/N 12-00842

<table>
<thead>
<tr>
<th>Description</th>
<th>Application</th>
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<tbody>
<tr>
<td>3 1&quot; x 1&quot; x 1/4&quot; Flag Wheel, 150 Grit</td>
<td>Weld removal/heavy stock removal.</td>
</tr>
<tr>
<td>3 Total Rotary Stones, Tapered, 60 Grit, (1) 3/8&quot; Diameter, (1) 11/16&quot; Diameter</td>
<td>For porting intake runners.</td>
</tr>
<tr>
<td>7 Total Cartridge Rolls, Straight, 1/4&quot; Diameter, (1) 1&quot; Diameter</td>
<td>Removes large amounts of metal in small areas.</td>
</tr>
<tr>
<td>7 Total Cartridge Rolls, Straight, 3/8&quot; Diameter, (2) 40 Grit &amp; (5) 80 Grit</td>
<td>Porting heads and intake runners.</td>
</tr>
<tr>
<td>7 Total Cartridge Rolls, Straight, 3/4&quot; Diameter, (2) 40 Grit &amp; (5) 80 Grit</td>
<td>For large porting jobs, to remove a great amount of material.</td>
</tr>
<tr>
<td>7 Total Cartridge Rolls, Half Tapered, 3/8&quot; Diameter, (2) 40 Grit &amp; (5) 80 Grit</td>
<td>Remove material in small areas with a greater product endurance.</td>
</tr>
<tr>
<td>7 Total Cartridge Rolls, Half Tapered, 5/8&quot; Diameter, (2) 40 Grit &amp; (5) 80 Grit</td>
<td>Remove material in small areas with a greater product endurance.</td>
</tr>
<tr>
<td>7 Total Cartridge Rolls, Full Tapered, 5/8&quot; Diameter, (2) 40 Grit &amp; (5) 80 Grit</td>
<td>For quick removal of material in small areas of the engine.</td>
</tr>
<tr>
<td>1 1/4&quot; Diameter Mandrel, 2-3/4&quot; O.A.L.</td>
<td>Use with Cartridge Rolls.</td>
</tr>
<tr>
<td>1 1/4&quot; Diameter Mandrel, 4&quot; O.A.L.</td>
<td>Use with Cartridge Rolls.</td>
</tr>
</tbody>
</table>

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 - Clean up dirty parts in solvent tank. • Light corrosion removal on steel and aluminum parts. Commercial - An aggressive hand pad for water-based 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.

METAL POLISHING KIT

An easy way to polish chrome, aluminum and brass with an electric drill motor. Includes: 4 Felt Discs, 1 Holder Pad, 1 1/4" Mandrel, Metal Polishing Kit (2" Dia.) P/N 12-00843. Metal Polishing Kit (3" Dia.) P/N 12-00844

DEBURRING AND FINISHING WHEELS FOR HAND GRINDERS

These abrasive nylon Deburring & Finishing Wheels for hand grinders are very aggressive for metal removal and deburring. They produce a satin-textured finish. New abrasive grain is exposed throughout the wheel’s wear, for a consistent quality finish. High Durability - The 1"x1" x 3/16" mini wheel is excellent for deburring and blending. • Used with our Cartridge Rolls for porting, our mini wheel supplies a smooth satin finish to ported heads and the intake manifold. • Increases edge life. • Resists loading - smear resistant for uniform final finish. • Conforms to work piece. • Prevents undercutting or gouging.

BENCH GRINDER DISCS

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.

METAL POLISHING

Save time and money with this generous assortment of our most popular types and grits of Straight Cartridge Rolls, in Coarse, Medium and Fine grades. Keep these Cartridge Rolls in your shop for a variety of hard-to-reach applications. Essential tools for engine porting, including intake manifold, heads and exhaust manifold. Kit includes 1/4", 3/8" and 1/2" cartridge rolls, in 40 and 80 grit, and mandrels. Metal Polishing Kit (3" Dia.) P/N 12-00846

HAND PADS

<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
<th>Grain</th>
<th>Color</th>
<th>Qty.</th>
<th>Part No.</th>
<th>Price</th>
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<td>General Purpose</td>
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<td>A/O</td>
<td>Maroon</td>
<td>60 pack</td>
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<tr>
<td>Ultra Fine</td>
<td>6&quot; x 9&quot;</td>
<td>S/C</td>
<td>Gray</td>
<td>1 each</td>
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<td>Commercial</td>
<td>6&quot; x 9&quot;</td>
<td>A/O</td>
<td>Green</td>
<td>40 pack</td>
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<tr>
<td>Heavy Duty</td>
<td>6&quot; x 9&quot;</td>
<td>A/O</td>
<td>Tan</td>
<td>40 pack</td>
<td>12-00864</td>
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<tr>
<td>Hand Pad Holder</td>
<td>-</td>
<td>-</td>
<td>Orange</td>
<td>1 Hand Pad Holder, 4 Sanding Pads</td>
<td>12-00865</td>
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BENCH GRINDER DISCS

<table>
<thead>
<tr>
<th>Size</th>
<th>Grain</th>
<th>Grade</th>
<th>Max RPM</th>
<th>Part No.</th>
<th>Price</th>
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<td>6&quot; x 1/2&quot;</td>
<td>A/O</td>
<td>Very Fine</td>
<td>3,600</td>
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<tr>
<td>6&quot; x 1/2&quot;</td>
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<td>Very Fine</td>
<td>3,600</td>
<td>12-00847</td>
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<tr>
<td>8&quot; x 1/2&quot;</td>
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<td>Very Fine</td>
<td>3,000</td>
<td>12-00849</td>
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DEBURRING AND FINISHING WHEELS FOR HAND GRINDERS

<table>
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<tr>
<th>Size</th>
<th>Density</th>
<th>Grain</th>
<th>Grade</th>
<th>Max RPM</th>
<th>Part No.</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>1&quot;x1&quot;x3/16&quot;</td>
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<td>A/O</td>
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<td>A/O</td>
<td>Fine</td>
<td>30,000</td>
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<td>1&quot;x1&quot;x3/16&quot;</td>
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<td>A/O</td>
<td>Fine</td>
<td>30,000</td>
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<tr>
<td>1&quot;x1&quot;x3/16&quot;</td>
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<td>A/O</td>
<td>Fine</td>
<td>30,000</td>
<td>12-00854</td>
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<tr>
<td>1&quot;x1&quot;x3/16&quot;</td>
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<td>S/C</td>
<td>Fine</td>
<td>30,000</td>
<td>12-00855</td>
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<tr>
<td>1&quot;x1&quot;x3/16&quot;</td>
<td>Hard</td>
<td>A/O</td>
<td>Coarse</td>
<td>30,000</td>
<td>12-00856</td>
<td>.</td>
</tr>
<tr>
<td>1&quot;x1&quot;x3/16&quot;</td>
<td>Hard</td>
<td>A/O</td>
<td>Medium</td>
<td>30,000</td>
<td>12-00857</td>
<td>.</td>
</tr>
</tbody>
</table>
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 mar- ring 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 significa nt. 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 precise 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, 00153), a TightFit® 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.

UNIBIT CARBIDE HOLE CUTTERS

Unlike ordinary hole cutters, UNIBit Carbide Hole Cutters cut without hogging, chattering, or vibrating. The aggressive carbide cutting edge holds sharpness for long life. Use them to cut clean, perfectly round holes through steel, stainless steel, aluminum, brass, copper, and many other materials. No center punch is required, and the double ended pilot drill allows for longevity and durability. Available in 16 sizes. Shank size on Hole Cutters 3/4" through 1-1/16" is 3/8", and 1-1/8" to 1-3/8" shank size is 1/2".

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.

FLANCING-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 1/2" to 2 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.

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 #1 Step Drill P/N 12-03700
UNIBIT #2 Step Drill P/N 12-03800
UNIBIT #3 Step Drill P/N 12-03900
**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!

**MICROMETER**


**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. Leather storage pouch. Model TP942. P/N 12-00384.

**HOLE DUPLICATORS (DRILL BUSHING TYPE)**

Provide an accurate means of drilling duplicate matching holes in over-lapping sheets. Hole to be duplicated is drilled through bushing when pilot is in place.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pilot &amp; Drill Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT532-61</td>
<td>#10 (.194”)</td>
<td>$3.40</td>
</tr>
<tr>
<td>AT532-62</td>
<td>#30 (.129”)</td>
<td>$3.90</td>
</tr>
</tbody>
</table>

**DRILL STOPS**

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

<table>
<thead>
<tr>
<th># Drill</th>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#40</td>
<td>Drills</td>
<td>P/N 12-088000</td>
<td>$8.75</td>
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<tr>
<td>#30</td>
<td>Drills</td>
<td>P/N 12-089000</td>
<td>$8.95</td>
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<td>#28</td>
<td>Drills</td>
<td>P/N 12-090000</td>
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<td>#21</td>
<td>Drill</td>
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<td>#20</td>
<td>Drill</td>
<td>P/N 12-092000</td>
<td>$9.75</td>
</tr>
<tr>
<td>#10</td>
<td>Drill</td>
<td>P/N 12-094000</td>
<td>$10.00</td>
</tr>
</tbody>
</table>

**ANGLE DRILL**

One of the smallest angle head designs for close-quarter drilling operations. Made in USA. Features:

- 2800 rpm
- 90° angle head
- Rear exhaust
- 1/4” drilled capacity
- 5/8”4 angle head height
- 1/4”-28 threaded spindle
- 12-5/8” length

P/N 12-00241

**ADEL HAND “NIBBLING” TOOL**

Cuts sheet metal like punch and die. Cuts holes to any size and shape. Start with 7/16” hole then “nibble” to size required. Capacity 18 Ga. steel. Wt. 8 oz. P/N 12-105000 Replacement Punch. P/N 12-105400

**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

**KETT PORTABLE POWER SHEARS**

**ELECTRIC MODEL K-200** – Extra-powerful 1/4V, 50/60 cycle AC/DC motor. Heavy-duty bearings & die-cast aluminum cutting head. Tool is UL and CSA approved. 2300rpm. Maximum cutting speed, 180 inches/minute. Wt. 5 lbs. Over-all length, 11.75”. Ampere rating, 2.2 amps. P/N 12-01137

**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 till the gap between Kett’s light duty and heavy duty power shears. P/N 12-01153

**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. 2500rpm. Maximum cutting speed, 180” per min. Wt. 3 lbs. Over-all length, 9”. P/N 12-01158

**KETT KB-301 CORDLESS 18GA SHEAR**

Kett’s powerful 14.4 volt Cordless Shear gives you complete freedom in the shop. Its high torque 2300 SPM motor lets you easily cut 18 gauge mild steel or up to 20 gauge stainless at over 150”/minute. The swivel head gives you precise control as you make straight or contour cuts. The double-cut shearing action leaves a clean burr free edge and won’t warp or bend the piece. The lightweight hi-impact thermoplastic housing and aluminum cutting head keep weight down to only 7 lbs. The extended run time NiCad battery recharges quickly and there’s room for a spare, and the charger unit, in the handy carrying case. Length: 12-3/4”. Weight: 7 lbs.

The kit includes the KB-301 power shear, KB-302 14.4 volt Nicad High Performance battery, KB-303 battery charger and KB-304 carrying case.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>KB-301-K</td>
<td>Cordless Shear Kit #300</td>
<td>12-00117</td>
<td>$148.00</td>
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<tr>
<td>KB-302</td>
<td>14.4 volt Nicad Battery</td>
<td>12-00118</td>
<td>$198.00</td>
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<tr>
<td>KB-303</td>
<td>One Hour Battery Charger</td>
<td>12-00119</td>
<td>$218.00</td>
</tr>
<tr>
<td>KB-304</td>
<td>Carrying Case</td>
<td>12-00121</td>
<td>$258.00</td>
</tr>
</tbody>
</table>

**KETT KD440 14GA POWER SHEARS**

This lightweight, pistol grip shear cuts 14 gauge mild steel and most grades of stainless to 16 gauge. Double insulated, the KD 440 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
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 crimping. 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 head and specially designed handles provided comfortable operation. Operator 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.

**KOUL SINGLES STAINLESS BRAIDED HOSE ASSEMBLY TOOLS**

Since the invention of stainless braided hose, racers and mechanics have been tightening 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 spacer. Not for use with Teflon style hose.

**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.

**ELECTRIC TOOL ADAPTER**
- 3/8" Drive, 3-inch, locking adapter for electric tools

**THE SPINNING RATCHET**
This tool is a combination tool providing a ratcheting action for power and a spinning action for speed. All types of accessories can be used with this wrench, such as extensions on either end, or flexible drives. With out the spinning handle attached, it is a very compact tool for restricted areas. The ratchet pawl is made from annealed steel to allow it to fail before the ratchegear as it is a low cost item. The spinning gears are protected by a shear pin that will fail before the bevel gears, again a low cost item, replacement, rather than replace one or both of the bevel gears, if they become over loaded. The tool is 3/8" drive. Use your socket accessories. You do not have a spinning handle purchase one when you buy your new tool.
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 anodized aluminum, has a CNC machined knurled grip and 1/4” male drive and comes packaged in a plastic box. The MD1F35 is a preset model ideal for repetitive assembly operations. P/N 12-00530

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 counter-clockwise. All wrenches are made in the USA for all steel construction for the highest quality. Both models come with a plastic storage box and a calibration compliance certificate. 3/8” sq.dr. / 200 lb.in. P/N 12-00531

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 mechanisms 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. / 30-200 lb.in. P/N 12-00533

TWISTED STRIPPER TWISTED SHIELDED PAIR WIRE PREPARATION TOOL

STP Wire Stripping Problem
Background:
From the beginning, Mil-Spec Tefzel Shielded Twisted Pair wire has delivered every wire stripper available to installers. Leaving a razor blade or knife as the best option for removing the outer jacket. This time consuming method is impractical, and it can easily lead to internal shorts between the center conductors and the shield, especially when solder sleeves are used for shield termination. With the increased use of RS-232, ARINC 429, and other types of data busses in today’s aircraft electronics, this type of wire is now a major component of many avionics installations. Stop the Razor’s Hidden Damage Ring and slit. That has been the standard way to shield termination. With the increased use of RS-232, ARINC 429, and Tefzel Shielded Twisted Pair wire has delivered every wire stripper available to installers. Leaving a razor blade or knife as the best option for removing the outer jacket. This time consuming method is impractical, and it can easily lead to internal shorts between the center conductors and the shield, especially when solder sleeves are used for shield termination. With the increased use of RS-232, ARINC 429, and other types of data busses in today’s aircraft electronics, this type of wire is now a major component of many avionics installations. Stop the Razor’s Hidden Damage Ring and slit. That has been the standard way to

ACCUTAP PRECISION SET

Accu-Tap delivers professional results with every use. Align Accu-Tap using the specially designed sight gages. The high visibility cross hairs ensure that you will not miss your mark. The v-block makes it easy to drill round stock and tubing and also works on any flat surface. With a flip of a switch, 180 pounds of force is activated in the unique magnetic base securing the guide in the exact location that you need. Simply select the desired drill bushing and insert into Accu-Tap’s locking liner. Grab your favorite drill and see the results unfold. Accu-Tap delivers results within .001".

FEIN MULTIMASTER SPEED START

For beginners, who do not want to sacrifice professionalism in spite of being price conscious.

Contains:
- 1 FEIN MULTIMASTER FMM 250
- 1 universal É-CUT saw blade (29mm)
- 5 of each type of sanding sheet, grain 80, 120 and 180
- 1 universal É-CUT saw Blade (29mm)
- 1 rigid stopping knife
- 1 key and mounting bolts

Features
- FEIN MultiMaster Start - a fully-fledged FEIN MultiMaster, suitable for all applications, featuring the most important accessories for grinding, sawing and scraping.
- In the lead through oscillation technology: unsurpassed versatility.
- Optimum handling thanks to ergonomical design and low weight
- Chuck with form-fitting mount provides high torque transfer.

ROTOWRENCH – 8 SIZES IN 1

RotoWrench provides 8 sizes in one prostyle box wrench. Change sizes in seconds with unique “spin lock” design. Features 12 gripping teeth to prevent rounded corners, 30° swing arc for tight clearances, slim profile makes RotoWrench easy to store, and hardened chrome-moly steel for lifetime service. Great for working on aircraft, autos, RV’s, trucks, bicycles, ATV’s watercraft, motorcycles and at home. Lifetime warranty.

MODEL 10M - includes 8 most common metric sizes: 8, 10, 12, 13, 14, 15, 17 & 19 mm

HOSE PINCH-OFF PLIERS

Great for radiator and heater hose, vacuum and fuel lines. The lightweight construction of nickel-chrome-moly steel for lifetime service. Great for working on aircraft, autos, RV’s, trucks, bicycles, ATV’s watercraft, motorcycles and at home. Lifetime warranty.

sizes. Made in U.S.A.
- Hose Pinch-off Pliers 1-1/4” OD Cap. P/N 12-00524
- Hose Pinch-off Pliers 2-1/2” OD Cap. P/N 12-00525
- Hose Pinch-off Pliers 3/4” OD Cap. P/N 12-00526

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.

BOLT INSERTION TOOL

This tool allows you to put bolts in tight areas. The tool was designed to install the bolts in an aircraft elevator, however this tool has many other uses. The tool is 1/2” wide 5-3/4” long with a 3-1/2” reach. It can be used for fasteners from #6 to 5/16” diameter. The tool is made of 100% stainless steel for strength and appearance.

P/N 05-04384

645
SAFETY WIRE TWISTERS - SAF-T-BLOKS

MILBAR SAFETY WIRE TWISTERS

Three-In-One Tool: Pliers, twist- ers and cutters. Used on wire sizes 0, 00, 000, and 0000. 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

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Nose - 9” Long</td>
<td>12-00915</td>
<td></td>
</tr>
<tr>
<td>Diagonal Nose - 9” Long</td>
<td>12-00917</td>
<td></td>
</tr>
<tr>
<td>Tapered Nose - 6” Long</td>
<td>12-00916</td>
<td></td>
</tr>
<tr>
<td>Diagonal Nose - 6” Long</td>
<td>12-00914</td>
<td></td>
</tr>
</tbody>
</table>

MILBAR WIRE TWISTERS MODEL 25W & 26W

Milbar is the world’s leading brand of SafetyTwist® Pliers to cover almost any application. 9” Automatic (1W939), 6” Mini (9W9) and a 19” Deep Reach Twister (13W). Includes three 1/4 lb. spools of stainless steel wire .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 Automatic Return

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>9” Long</td>
<td>12-00916</td>
<td></td>
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</tbody>
</table>

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 9”. Foreign made.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE 6”</td>
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</tr>
<tr>
<td>SIZE 9”</td>
<td>P/N12-02018</td>
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</tr>
</tbody>
</table>

SAFETY WIRE TWISTER KIT M300

Contains 6” Safety Wire Twister and 19” Chrome Adjustable Safety Wire Twister with Durable Plastic Case

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-01680</td>
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<td></td>
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</tbody>
</table>

MILBAR 105W PROFESSIONAL WIRING KIT

The most versatile kit available. Contains three different Mini Pliers to cover almost any application. 9” Automatic (1W939), 6” Mini (9W9) and a 19” Deep Reach Twister (13W). Includes three 1/4 lb. spools of stainless steel wire .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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit weight 4 lbs.</td>
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</table>

MINI SAFETY WIRE TWISTERS

Same quality construction as T-3000 twistes above, but in small 6” length. Ideal for operation in confined spaces.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-01890</td>
<td></td>
<td></td>
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</table>

19” DEEP-REACH TWISTER EXTENSION

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-16640</td>
<td></td>
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</table>

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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N13W</td>
<td></td>
<td></td>
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</tbody>
</table>

SAFETY WIRE TOOL MFG BY ACS PRODUCTS CO.

Easy one-hand operation. Reaches into tight places, makes a fast, neat twist. Shatterproof plastic handle.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-01072</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

POWER TWIST ADAPTER

This new tool attachment provides quick and precise twisting of safety wire using Skill or Black & Decker type cordless screwdrivers. Just attach the adapter to the screwdriver, insert wire and you will have a neat, tight, easy wire twist. Works perfectly in a wide variety of applications (partic- ularly twists in tight spaces). Available exclusively from Aircraft Spruce & Specialty Co.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-20800</td>
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<td></td>
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</tbody>
</table>

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 countersink and Allen head cap screws. Includes drill bushings and two cobalt drills.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-16600</td>
<td></td>
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</table>

“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 no matter how much center-punching necessary. If the tube is too fat to drill in a single opera- tion, 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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/N12-20815</td>
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</table>

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.

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<tr>
<td>Package of 18 Spare Washers</td>
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SAFETY WIRE KITS

These kits include professional safety wire kit for all applications. Contains 9” automatic standard wister, 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: 020-032-042). Model 100 also includes 19” chrome adjustable safety wire twister (for cavity and deep access applications.

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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.

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</table>
KLEIN TOOLS

STRIPPER/CUTTERS

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

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

11045 KLEIN 10-18 WIRE STRIPPER/CUTTER
Strips 10 to 18 AWG solid wire, easy-to-read wire gauge markings, comfortable handles with cushioned ridges. P/N 12-00233

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

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 adn double-dipped textured grips provide control and comfort. P/N 12-01456

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

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

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

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 th nose for quick, clean cuts. Size: 9.75”. Lifetime warranty. P/N 12-00698

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.

D228-6 KLEIN 8” DIAGONAL-CUTTING PLIERS - High-leverage, standard-bevel cutting knives, with hand-form style plastic-dipped handles. P/N 12-00220

D203-6 KLEIN 85/8” LONG-NOSE SIDE-CUTTING PLIERS - Standard cutting knives at hinge, wraps, loops, and cuts, plastic-dipped handles. P/N 12-00220

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 12-000230

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

D202-5 KLEIN 85/16” DIAGONAL-CUTTING PLIERS - With tapered nose, standard bevel cutting knives, plastic-dipped handles. P/N 12-00232

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

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.


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. P/N 12-00694


Klein nut driver 7pc. set. P/N 12-00036
Klein driver 7pc Magnetic Set. P/N 12-01594

TO

647
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
Arbors: 7/16" (qty.2)
P/N 12-00969.........................

Arbors: 1/4", 7/16" (qty.2), arbor extension
P/N 12-00970.........................

Arbors: 1/4", 7/16" (qty.2)
P/N 12-00971.........................

Large Size Hole Saw Kit - Contains necessary sizes to upgrade a basic hole saw kit into a master set. Hole Saws: 3", 3-5/8", 4-1/8", 4-1/2"
Arbors: 7/16" P/N 12-00972.........................

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
18-Piece Journeyman Tool Set........P/N 12-00821
28-Piece Electrician Tool Set........P/N 12-00820
41-Piece Journeyman Tool Set........P/N 12-00822

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

FLYING WIRE TENSIOMETER
This tool is used for setting the tension on flying wires from 1/4" - 1/2". Tension ranges from 200 lbs. to 2400 lbs. Can also be used for setting drag, anti-drag wire tension. Ideal for use on Stearmans, Wacos, and Pitts, etc. To use this tool you will need a torque wrench.
P/N 12-12500

SOFT JAW PLIERS
This new tool is suitable for loosening and tightening threaded locking collars of electrical connectors without marring the gripping surfaces of the collars. Excellent for use on AN and MS connectors, plated pipe and fittings, plastics, glass and ceramics. The soft jaws will not crack or chip plating. Ideal for rod, tube or sheet. Grip Range: 3/4" to 2-1/2" dia. Made from heat-treated steel with black oxide finish. Meets government. Specs. American Made.
P/N 12-16800

ENGINE CALIBRATION & SET-UP KIT
The Engine Calibration & Set-Up Kit gives you innovative tools that help eliminate mistakes when setting up mechanical engine timing sequences, timing chains, timing belts, balance shafts and belts, distributor installations and general engine set-up.

Kit includes: •Standard 6" (14mm) and Extended 10.75" (14mm) •TDC Indicators •Compression Gauge Extension •Compression Whistle Alert™ •Crank Stopper
•18mm & 12mm Spark Plug Hole Adapters, extra nipple for compression tube to whistle conversion

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 stoke
• 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
Whistle Alert (Flex)..................P/N 12-01041

GREASE JOINT REJUVENATOR - PROFESSIONAL MODEL
Have you ever tried to push grease in through a grease fitting and couldn't? The Grease Joint Rejuvenator opens clogged grease joints and fittings effortlessly in less than a minute!

Only 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.

How it works: Remove the piston end and fill the tool with penetrating oil. Then place the end over the grease fitting and tap on the piston head with a hammer until it starts to move down into the tool body. The hydraulic pressure created by tapping on the piston forces the penetrating oil into the grease joint where the blockage is and loosens the old hardened grease (or dirt), flushing the blockage and clearing the way for new grease.

Grease Joint Rejuvenator (Pro Model)................P/N 12-01038

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
Whistle Alert (Flex)..................P/N 12-01041

Engine Calibration & Set-Up Kit........P/N 12-01040
STEELMAX METAL CUTTING SAW 9 INCH
More efficient than any portable metal cutting process you are using now! • Increase Productivity - No Milling, Drilling 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 work-piece to cool down. Just cut it and handle it. • Precise Cutting - With integrated laser sighting system.

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STEELMAX DRYCUT SAW S14
Utilizing a 4" 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 4" 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 cooling down time. P/N 12-01717

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MAGNETIC BASE DRILL
SteelMax® brand drills maintain rigidity and accuracy throughout the life of the drill. The rail system eliminates sideways movement at the cutter tips. When cutters last longer, you save money every day you use SteelMax!

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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 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 cooling down time.

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6 AND 13 PIECE CUTTER SETS

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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.

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AVIATION MECHANICS GLOVES
Researched, developed and designed by aviation engineers, this mechanics glove is your best choice for comfort, dexterity, and wear. Excellent for aircraft mechanics or for using during preflight inspections. These gloves are not flame proof or fire retardant; do not wear during preflight inspections. These gloves are not flame proof or fire retardant; do not wear during preflight inspections. Available in black and blue. Wt: 6oz.

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CABLE CUTTERS - SWAGERS

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.

- **#C-7F CUTTER** - Capacity 3/16” diameter and smaller. Length 8”. Wt, 10 oz.
  
- **#C-9 CUTTER** - Cuts 1/4” steel cable
  
- **#C-12 CUTTER** - Capacity 3/8” diameter and smaller. Length 19”. Wt, 3 lbs.
  
- **#C2A CUTTER** - Snub nose for loose cuts. 10% harder blade than C7 for long life and cutting of very hard wire or cable. Opening of tool cuts up to 2mm wire & stranded cable. P/N 12-00223
  
S & F CABLE CUTTERS
A fine tool made from high quality alloy steel and 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. x 1 x 19 cable. No. 316 Cable Cutter. P/N 12-18600

BENCH MOUNT FOR #316 CABLE CUTTER
This bench mount adds to the versatility of the #316 cable cutter. Mounts with 2 screws to a bench or plate. Fingers can still grip the tool. Easily removed. P/N 12-00674

S & F HARD WIRE CUTTER
These quality cutters feature a unique handle design with thick “T” shaped vinyl handle grips for maximum comfort while cutting. Cuts 3/32” maximum diameter music wire, heat treated steel spring wire, stainless or galvanized cable. Produces clean square cuts. Gold indite finish for maximum rust protection. Length 6”. Wt, 7 oz.

Model No. 093. P/N 12-18605

CABLE TENSEMETER
This precision instrument gives accurate readings over a wide range of cable tensions. No preliminary adjustments are necessary. May be used continuously without resetting or checking. Extreme heat or bitter cold does not affect the accuracy of the readings. One instrument is usable on many cable sizes with absolute accuracy. The small size permits entry through small openings and permits accurate readings on cable located in confined areas. The entire operation of testing cable tensions can be done with one hand in a matter of seconds. Range in Lbs.: 10-100 for 1/16”, 3/32”, 1/8”, 15-150 on 5/32”, 3/16”; 25-150 on 7/32”, 1/4”...TS-2002-101-00

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. For 1/16”, 3/32”, 1/8”....

rence...P/N 12-19200...

TENSITRON 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 
- Weight approximately 21 oz. 

Compact design allows engagement of meter onto cables easily 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.

**ACM-100** - Designed to measure tension from 5-100 lbs tension in 1/16”, 3/32”, 1/8”, 5/32” diameter cables. 12-01050

**ACM-200** - Designed to measure tension from 5-200 lbs in 1/16”, 3/32”, 1/8”, 5/32”, 3/16”, and 1/4” diameter aircraft cables. 12-01051

**ACM-300** - Designed to measure tension from 40-300 lbs tension in 3/32”, 1/8”, 3/16”, 5/32”, 7/32” diameter standard cables. 12-01052

**ACM-400** - Designed to measure tension from 40-400 lbs tension in 3/32”, 1/8”, 5/32”, 3/16”, 1/4” diameter standard cables. 12-01053

**ACM-600** - Measures tension from 40-600 lbs in 1/8”, 5/32”, 3/16” and 1/4” diameter aircraft cables. 12-01362

ECONOMY SWAGING TOOLS

**NO. 2 SWAGE-IT** - For use with sleeves for 1/16”, 3/32” and 1/8” cable. Swaging pressure applied by using a wrench to tighten bolts. Size: 1/2” x 1” x 7”. Wt. 1 lb. Cadmium plated. P/N 12-12000

**NO. 3 SWAGE-IT** - For use with sleeves for 1/8”, 5/32”, 3/16” and 1/4” cable. Same design as No. 2 tool but larger. Size: 3/4” x 1-1/2” x 14”. Wt. 3-1/2 lb. P/N 12-12100

SWAGE-IT RIGGING KIT
This Swage-It rigging kit contains everything you will need for rigging and emergency repairs of Nicopress sleeves on cables. Includes the #2 Swage-It tool for 1/16”, 3/32” and 1/8” sleeves, 1/2” extension wrench for use on the #2 tool and a #316 cable cutter. Size: 4-1/2” x 9”. Packaged in a clear plastic tube with vinyl caps to better protect tools.

**LOCOLOC NO. 1-SC 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”, 3/32”, 1/16”, 3/32”, and #12 SEIMIC. Carries special 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

**NO. 3 SWAGE-IT** - For use with sleeves for 1/8”, 5/32”, 3/16” and 1/4” cable. Same design as No. 2 tool but larger. Size: 3/4” x 1-1/2” x 14”. Wt. 3-1/2 lb. P/N 12-12100

LOCOLOC HANDSWAGING TOOL
LocoLoc #1-3-SBHS Hand Swager – This 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”, 3/32”, 1/16”, 3/32”, and #12 SEIMIC. Carries special 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

**GO-NO GO SLEEVE GAUGE**
When the proper slot in the gauge slips over the compressed area of the sleeve after swaging then your swage is satisfactory. If the proper slot does not fit over the compressed area of the sleeve after swaging then your tool is out of adjustment and your cable assembly will not hold the rated breaking strength of the cable which should be the result when oval sleeves are used to form a loop or eye in a cable assembly. GA-1P: Gauges all swages performed on 1/32”, 3/32”, 1/16” and 3/32” oval and stop sleeves. P/N GA-1P

**LOCOLOC NO. 1-SC SWAGER**

ACX Screen Callouts: Display shows tension, battery charge level, name of calibration selected, and stores and displays up to 5 separate tension readings and their average. * Large, easy to read backlit, graphic display with adjustable backlighting and contrast. * Select cable size from menu. Instrument automatically adjusts calibration to correct setting. * Accuracy is +/- 2% full-scale for all menu-selectable calibrations. Accuracy for custom calibrations is material specific. * Up to 10 calibrations can be entered into instrument. (All calibrations password protected to provide due diligence). * Adjustable LCD refresh rates allow for stable digital readings. * All models factory-calibrated and ready for use on aircraft. * Calibration values traceable to National Standards. Calibration certificate included.

Input Real-Time Serial Data into any Windows® application using any number of software wedge programs, such as WinWedge Pro® for Windows, or configure your Windows® operating system to capture the data via HyperTerminal®.

**ECONOMY SWAGING TOOLS**

Model | Range | Res. | Cable Selections | Part No. | Price
--- | --- | --- | --- | --- | ---
ACK-100 | 5-150 lbs | 0.5 lb | 1/16”, 3/32”, 1/8”, 5/32” | 12-01013 |...

ACK-250 | 20-250 lbs | 0.5 lb | 1/16”, 3/32”, 1/8”, 5/32” | 12-01659 |...

ACK-500 | 50-500 lbs | 1 lb | 3/32”, 1/8”, 5/32” | 12-01052 |...

ACK-CWT | 5-20 lbs | 0.5 lb | CWT-5, CWT-10, CWT-15, CWT-20, CWT-25 | 12-02104 |...

ACK-CMB | 5-20 lbs | 0.5 lb | 1/16”, 3/32”, 1/8”, 5/32” | 12-02105 |...
SPECIALTY TOOLS - DEBURRING TOOLS

THE GRIPPER - ALL DIGITAL CABLE TENSOMETER

There are no extra parts to worry about. The Gripper can adapt to 5 Cable sizes 1/16, 3/32, 1/8, 5/32, and 3/16. From 5 to 1500lb’s. 1%-2% Accuracy. An instrument that will pay for itself quickly. The time savings compared to your current tool will amaze you. Electronically measured readings assures accurate, reliable and repeatable measurements every time you use the “Gripper”. The Gripper heads small size (1 1/8” square by 4 1/8” long) lets you access tight areas as it will go where other just will not go. It comes to you calibrated and ready for use. Features: • Unique Remote Head Fits in to tight areas • Backlit Controller for easy reading. Specifications: • Cable sizes: 1/16, 3/32, 1/8, 5/32, and 3/16. • From 5 to 1500lb’s. • 1%-2% Accuracy

P/N 12-01722

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

Item Description and Application P/N Price
#10 Deburring Blade High-speed steel. For steel, aluminum & smaller holes 12-00800 .
#20 Deburring Blade High-speed steel. For brass, Bronze, cast iron, larger holes 12-00900 .
#40 Scraper Blade High-speed steel. Small triangular blade. 12-01000 .
#42 Scraper Blade High-speed steel. Large triangular blade. 12-01100 .
#48 Scraper Blade Holder Holder has 10-32 threads. Accepts #40 & #42 blades. Extends to 3-1/2” 12-01200 .
#50 Scriber Carbide-tipped scriber. 12-01300 .
#60 Deburring Blade For backside deburring & for restricted positions 12-01400 .
#70 Deburring Blade Carbide-tipped blade for deburring edges of sheet metal 12-01500 .

SPEDDY BURR

Speedy Burr is designed to take the fatigue out of deburring. The wrist support makes the job easier. This tool is great for deburring spars and extrusions. The light weight, aluminum, hand-grip formed frame is comfortable and helps to maintain continuity in angle and depth of deburr. The wrist support is rubber lined to prevent skin abrasion.

P/N 12-00650

SPEDDY BURR II

Speedy Burr II is designed for deburring outside corners, sheet metal, machined parts, extrusions, castings, and plastic parts. This lightweight easy grip tool has a durable plastic coating on the handle for comfort and a sure grip. The burring tip is made from hardened steel and is replaceable. Speedy Burr II ... P/N 12-00651 . Replacement Burr Tip ... P/N 12-00652 .

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

TURNBUCKLE WRENCH CABLE RIGGING

This tool consists of two clamps joined by a 12” length of sprocket type (bicycle) chain. It will accommodate all sizes of aircraft cable. 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 12-00833

CESSNA COWLING FASTENER DRIVER

Slotted type cowling fasteners are not easy to fit with generic common screwdrivers. To overcome this, driver has a broad hollow cut tip that accurately engages the drive slot. Additionally, a no mar, spring loaded, plastic sleeve simultaneously guides the tip by fitting around the outside diameter of the fastener head.

P/N 12-17615

CESSNA SEAT RAIL GAGE

Allows for quick limit checking of seat rail hole and wear dimensions. Gage 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

PORTABLE STRUT / TIRE PUMP

This pump is constructed of aluminum and nylon. It’s overall dimensions are 29.5” (750 mm) long, with a body of approximately 1” diameter and a “T” handle and base 8” (200 mm) long. It weighs 1.65 lb (.75 kg), has a nylon hose with 2000 P.S.I. burst pressure and a strut valve fitting on the end that doesn’t depress the valve so that no pressure can escape from the strut. The pump is capable of pumping up to 650 P.S.I. without any compressed air required for the inlet, which is more than adequate for most light aircraft, e.g.: Piper Cherokee PA28-235 needs 450 P.S.I. for the main struts with the weight of the Aircraft on the strut. The pump can also be used as a tire pump as a backup. The main use for the strut pump is for the individual aircraft owner that operates from remote areas and don’t have access to a compressor, however they are popular with maintenance organizations as well. The pump is small and light enough to fit in the luggage compartment and have with you all the time ready for that moment when your Oleo goes flat.

P/N 12-16714

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

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.
- Weights 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.

P/N 12-16700

Nitrogen Adapter Kit

P/N 12-02016
WP
CM
ME
HA
BV
TO
AV
CS
LG
PS
EL

Light models are made in USA and come with batteries installed. Available in 3 lengths and 3 different lamps to choose from. All Bend-A-Light complete line of professional quality high intensity flexible light tools bend to any configuration and illuminate hard-to-reach areas wherever conventional lighting cannot go. The incredibly brilliant light beam penetrates almost 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 light available with a precision ground optic lens for even light distribution. Available in a clear or red lensed model. Clear...P/N 12-00383...Red...P/N 12-00521.

BEND-A-LIGHT
Bend-A-Light flexible brass-ally high intensity light head bends to any configuration and illuminates 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.

 Inspector Always 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.

HAWKEYE PRECISION FLEXIBLE BORESCOPE
Hawkeye precision borescopes feature the patented endoGRINS lens system for superior optical quality. The eyepiece can focus on an object from 0.280” (7mm) as the way to infinity at a maximum magnification of 120X. Kit includes the borescope, a high intensity Mag-Light flashlight, a SideWays™ 90° mirror for viewing at right angles, and a cleaning kit.

NOTE: ALL BORESCOPE ARE NON-RETURNABLE

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: • 1.75x 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. 14° focal length.

Part No. Description Length Flex Length Overall Batt. Bulb Price
12-15005 Mini Pro 6” 11.5” 2-AAA 12100
12-15150 Pro 15.75” 24” 3-AA 12110
12-10250 Removable Shaft 9.5” 15.25” 2.5-AA 12120

Part No. Description Dia Bulb Life Price
12-15000 12100 Replacement Lamp 63C 4 Hours .
12-12110 12110-Krypton Lamp 53C 30 hours .

Description Power Focal Length Part No. Price
Binocular Magnifiers 1.75X 14” 950-3 .
Binocular Magnifiers 2.25X 10” 950-5 .
Binocular Magnifiers 2.75X 7” 950-7 .

FLEXIBLE MICROLIGHTS
This Super-Bright Micro 360 Flexible LED Light is 10 times brighter than standard flashlights and lasts up to 100 hours on a single set of batteries! Features: •Stainless Steel • Lifetime Warranty • Focused lens power beam • Shock proof, water resistant and cold burning • LED-Light Emitting Diode • White beam • 100 hours of light without a battery change • Diode charge system • Easy on/off-switch • 6” in length • Batteries included.

Flex

 audi 00521 12-0242 .

 WO RK 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 a curved conductor it can swing and make light available around a corner in a full 360° arc. Operates on penlight batteries (not included).

P/N 12-14900

FLEXIBLE MIRRO RSH ARS AND MAGNFYING 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.

<table>
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<th>Description</th>
<th>Price</th>
</tr>
</thead>
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<td>12-01089</td>
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<td>HTS-2</td>
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Inspector .................P/N 12-15105 ............
Inspector Replacement Lamp ...........P/N 12-15110 ............
Inspector Replacement Mirror ...........P/N 12-15115 ............


d

 Binocular Magnifiers 2.25X 10” 950-5 .
 Binocular Magnifiers 2.75X 7” 950-7 .

NOTE: ALL BORESCOPES ARE NON-RETURNABLE
## VISUAL OPTICS - 10MM LED SERIES SCOPES

Visual Optics has engineered and manufactured the next step in the evolution of the fiber optic bore scope. Their creation of the VO LED Series Fiber Scope has raised the bar in the areas of optical quality, image light output, shaft control and material tolerance. The VO LED Series Fiber Scope achieves industrial level quality at an affordable price.

### Features:
- High resolution image bundle
- High flex shaft material
- Strong / stable light source
- Briefcase style instrument case
- Highly detailed imaging with 7400 pixels
- High output LED lighting - 2 White LED’s in tip
- No bulbs to change - Ever
- Superior optics provide easier viewing
- Spring Lok Design - Longer reach w/o dropping
- Waterproof shaft
- Industrial grade, 2 level light switch
- Viewing range, 40 degree - 1/2 inch to infinity
- Standard lengths 18, 24, 36 and 48 inch
- Replaceable halogen bulb in the handle
- Highly affordable

### Model Specifications:

<table>
<thead>
<tr>
<th>Model</th>
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## VISUAL OPTICS HALOGEN SERIES SCOPES

Visual Optics has engineered and manufactured the next step in the evolution of the fiber optic bore scope. Their creation of the VO Halogen Series Fiber Scope has raised the bar in the areas of optical quality, image light output, shaft control and material tolerance. The VO Series Fiber Scope achieves industrial level quality at an affordable price.

### Features:
- High resolution image bundle
- High flex shaft material
- Strong / stable light source
- Briefcase style instrument case
- Highly detailed imaging with 7400 pixels
- Superior optics provide easier viewing
- 4mm, 6mm diameters
- Water and abrasion resistant shaft material
- Industrial grade, 2 level light switch
- Viewing range, 40 degree - 1/2 inch to infinity
- Standard lengths 18, 24, 36 and 48 inch
- Replaceable halogen bulb in the handle
- Highly affordable

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## VISUAL OPTICS - 4FLUV SERIES SCOPES

Visual Optics has engineered and manufactured the next step in the evolution of the fiber optic bore scope. Their creation of the VO LED Series Fiber Scope has raised the bar in the areas of optical quality, image light output, shaft control and material tolerance. The VO LED Series Fiber Scope achieves industrial level quality at an affordable price.

### Features:
- High resolution image bundle
- High flex shaft material
- Strong / stable light source
- Briefcase style instrument case
- Highly detailed imaging with 7400 pixels
- High output LED lighting - 2 White LED’s in tip
- No bulbs to change - Ever
- Superior optics provide easier viewing
- Spring Lok Design - Longer reach w/o dropping
- Waterproof shaft
- Industrial grade, 2 level light switch
- Viewing range, 40 degree - 1/2 inch to infinity
- Standard lengths 18, 24, 36 and 48 inch
- Replaceable halogen bulb in the handle
- Highly affordable

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## VISUAL OPTICS - 4FLU Series SCOPES

Visual Optics has engineered and manufactured the next step in the evolution of the fiber optic bore scope. Their creation of the VO LED Series Fiber Scope has raised the bar in the areas of optical quality, image light output, shaft control and material tolerance. The VO LED Series Fiber Scope achieves industrial level quality at an affordable price.

### Features:
- High resolution image bundle
- High flex shaft material
- Strong / stable light source
- Briefcase style instrument case
- Highly detailed imaging with 7400 pixels
- High output LED lighting - 2 White LED’s in tip
- No bulbs to change - Ever
- Superior optics provide easier viewing
- Spring Lok Design - Longer reach w/o dropping
- Waterproof shaft
- Industrial grade, 2 level light switch
- Viewing range, 40 degree - 1/2 inch to infinity
- Standard lengths 18, 24, 36 and 48 inch
- Replaceable halogen bulb in the handle
- Highly affordable

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**SPRAY SYSTEMS**

**GRACO HVLP SPRAY SYSTEMS**

Virtually eliminates mist. Requires less maintenance. Blows less heat up the stack. Uses up to 50% less material. Delivers better pattern control. Reduces overspray up to 90%. Eliminates high-pressure "lop and tiger stripes.

**GTS-2500 HVLP SPRAYER** - This lightweight, portable sprayer features the GTS-980 Bleeder Style Gun and offers outstanding performance in its equipment class. Easily spray stains, lacquers, oils, enamels and urethanes.

- **Turbine Stages** – 2
- **Cup** – 1 qt (1 liter)
- **Weight**: Complete – 32 lb
- **Turbine Air Working Pressure** – 5 psi (.345 bar, 34.5 kPa) max.
- **Turbine Air Outlet Flow Rate** – 56 cfm (1642 lpm) max.
- **Gun** – GTS-980 Bleeder Style with Fluid Set #3
- **Standard Turbine Air Hose Length** – Standard units incl. 20 ft (6 m).
- **Use** 40 ft (12 m) max.
- **Power Cord** – No. 12 AWG, 3 wire, 50 ft (15 m)
- **Electrical Rating** – 7A at 120 VAC

*The GTS-2500 is not designed for use with non-bleeder guns.*

P/N 12-15710

**GTS-3800 HVLP SPRAYER** - The GTS-3800 is highly productive for nearly all fine finish applications. Easily spray stains, lacquers, oils, enamels, urethanes and automotive finishes. Plus, it atomizes many water-based latex and acrylic coatings, multi-color and other higher viscosity coatings.

- **Turbine Stages** – 3
- **Turbine Air Working Pressure** – 6 psi (.414 bar, 41.4 kPa) max.
- **Turbine Air Outlet Flow Rate** – 80 cfm (2265 lpm) max.
- **Gun** – GTS-980 Non-Bleeder Style with Fluid Set #3
- **Cup** – 1 qt (1 liter)
- **High-Flex Turbine Air Hose Length** – Standard units incl. 30 ft (9 m).
- **Use** 60 ft (18 M) max.
- **Power Cord** – No. 16 AWG, 3 wire, 6 ft (1.8 m)
- **Electrical Rating** – 12A at 120 VAC
- **Weight**: Complete – 34 lb
- **Dimensions**: 18 in. x 15-1/2 in. x 16 in.

P/N 12-15780

**GTS-4900 HVLP SPRAYER** - Our most powerful and versatile sprayer offers everything you need on the job for high productivity. This unit is loaded with features and can spray the broadest range of materials.

- **Turbine Stages** – 4
- **Weight**: Complete – 39 lb
- **Turbine Air Working Pressure** – 8 psi (.552 bar, 55.2 kPa) max.
- **Turbine Air Outlet Flow Rate** – 82 cfm (2321 lpm) max.
- **Gun** – GTS-980 Non-Bleeder Style with Fluid Set #3
- **Cup** – 1 qt (1 liter)
- **High-Flex Turbine Air Hose w/Quick disconnects** – Standard units incl. 30 ft (9 m).
- **Use** 60 ft (18 M) max.
- **Power Cord** – No. 16 AWG, 3 wire, 15 ft (4.6 m)
- **Electrical Rating** – 14A at 120 VAC
- **Weight**: Complete – 34 lb
- **Dimensions**: 18 in. x 15-1/2 in. x 16 in.

P/N 12-15950

**PRIMER PISTOL**

Ideal for tight areas. Holds approximately one pint of paint.

P/N 12-01121

**SUNEX SX-10 TOUCH-UP GUN**

Ideal for heavy duty spraying, precision air cap and fluid nozzle, features vented lid, two fingered control for ease of operation, 1.3 mm fluid orifice, shipping weight (Lbs.) - 2.7

P/N 12-01712

**SUNEX SX-80B SPRAY GUN AND CUP**

Ideal for heavy duty spraying, precision air cap and fluid nozzle. P/N 12-01385

P/N 12-01386

**ACCESSORIES**

Lexair Gun ................................................... 12-01385 ...........................
Hose 40 ....................................................... 12-00686 ....................

**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 homebuilder 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.

**Axes 1, to paint aircraft covered in fabric**

P/N 12-15920 ...........................
Sys. 1 to paint aircraft covered in fabric...
Sys. 2, to paint composite structure...
Sys. 3, to paint metal or wood...

**ACCESSORIES**

Lexair Gun ................................................... 12-01385 ...........................
Hose 40 ....................................................... 12-00686 ....................

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**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’ air lines (one for breathing and one for painting) and a half face mask. Available options include: A larger two-person Citation system with 3 air lines (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 ..........................
Optional 4 ft. whip hose........ P/N 12-15910 .........

**CITATION INTAKE ADAPTER**

The Intake Adapter allows the pump unit to be placed inside the shop area, keeping it out of the elements. With the adapter installed, the vent hose can be extended to a fresh air location up to 50 feet away, allowing the pump to draw in fresh air from a distant location. The caution is to place the pump in a location inside the shop that is at least 30 feet away from the actual spray area in which it will not come in contact with flammable material. For example, the pump should never be placed inside a paint booth. Adapter kit comes complete with the Lexair adapter itself, screws, weatherstrip, hose clamp, 50 feet of 4-inch hose and installation instructions.

P/N 12-15901 ..........................

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**GRACO ACCESSORIES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVLP 1 Qt. Cup &amp; Pot Assy</td>
<td>12-12990</td>
<td></td>
</tr>
<tr>
<td>2 mm Needle/Nozzle (dopes)</td>
<td>12-15750</td>
<td></td>
</tr>
<tr>
<td>2.8 mm Needle/Nozzle</td>
<td>12-15760</td>
<td></td>
</tr>
<tr>
<td>30 ft. Replacement Hose</td>
<td>12-00016</td>
<td></td>
</tr>
<tr>
<td>Superflex Hose 54&quot;</td>
<td>12-74660</td>
<td></td>
</tr>
</tbody>
</table>

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654
BINKS SPRAY EQUIPMENT

MODEL 2001 AIR SPRAY GUN - This new gun incorporates the best features found in most heavy-duty production guns. The new grip will reduce operator fatigue and improve control. It utilizes the new style fluid nozzle with six air passages. It weighs only 24 oz. and is perfectly balanced. The head is forged brass and the body is anodized forged aluminum alloy. Spray pattern is adjustable from round to fan with a full range of intermediate settings. Air Flow: 8.1 CFM @ 50 PSI with No. 66 fluid nozzle and No. 66SA air nozzle. Air connections - Fluid inlet - 3/8” NPS (m), Air inlet 1/4” NPS (m). All parts replaceable. Made in U.S.A. Furnished with 12-04410 MACH 1 Siphon Gun Only.

98-1176 MACH 1 HVLP Siphon outfit - Spray Gun, 81-375

P/N Description Price
--- --- ---
12-04100 Gun Only.............................
12-04100 Cup Only.............................
12-04000 Model 2001 Gun and Cup.......... P/N 12-04400....................

STAINLESS STEEL PRESSURE ASSISTED 1 QUART CUP
Bink stainless steel pressure assisted 1 quart cup & attachment.

80-500 cup/lid assembly ... P/N 12-01332...................
82-367 cup gasket (poly) ... P/N 82-367....................

BINKS MACH 1 HVLP
The Binks Mach 1 HVLP is a siphon-fed refinishing system that performs like your favorite conventional outfit but produces far superior transfer efficiency. A unique arrangement of air nozzle, fluid nozzle, and needle enable the Mach 1 to draw material from a standard siphon feed cup and avoid the need for a pressure cup. Eliminates the need for the operator to set fluid pressures. Delivers lower emissions for compliance with environmental regulations.

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 Wren Air Brush is a “must” for retouching, special effects spraying and small parts finishing. Ship Wt: 20 oz
P/N 59-10005 includes 1/4, 1/2 and 2-1/2 fl. oz. color bottle assemblies, and 6 ft. plastic air hose with connections, packed in a durable styrene case. The Wren Air Brush is a “must” for retouching, special effects spraying and small parts finishing. Ship Wt: 20 oz
WREN AIR BRUSH SET
Model No. 59-10005 includes 1/4, 1/2 and 2-1/2 fl. oz. color bottle assemblies, and 6 ft. plastic air hose with connections, packed in a durable styrene case. The Wren Air Brush is a “must” for retouching, special effects spraying and small parts finishing. Ship Wt: 20 oz
P/N 59-10006...............................
AOM SPRAY EQUIPMENT

AOM X SERIES GUNS - MAX 29 PSI

6605SSPX - HVLP Water Base Spray gun, die cast aluminum body, low cfm [4-6], SS fluid passages. replace xx with size 1.3, 1.4, 1.5, 1.6, 1.7, 2.0, 2.5, 3.0. P/N 12-02136

66-110 - 1 Qt aluminum cam-lock cup (Order Separate) P/N 12-02137

130614 - HVLP Spray gun, drop forged body, for use with pressure pots P/N 12-02138

130617 - HVLP Spray gun, drop forged body, with #66-110 cam-lock siphon cup P/N 12-02139

1231SSXX - Conventional spray gun with #66-110 camlock siphon cup replace xx with 1.8 or 2.0 P/N 12-02140

6006XX - Fluid nozzle, air nozzle and needle P/N 12-02142

6008RK REPAIR KIT - P/N 12-02143

AOM R 200 - MAX 45 PSI SPRAY GUN

662XX - Low pressure HVLP spray gun only for high efficiency low cfm at 5-7 (Replace xx with tip size 1.3, 1.4, 1.5, 1.7, 2.0, 2.5) P/N 12-02166

1.3 P/N 12-02167

1.4 P/N 12-02167

1.5 P/N 12-02168

1.7 P/N 12-02169

2.0 P/N 12-02170

2.5 P/N 12-02171

66-110 - 1 qt Cam-Lock Cup P/N 12-02172

2.0 P/N 12-02173

2.5 P/N 12-02174

67999 - Seals and springs repair kit P/N 12-02161

67-100 - 1 qt Pressurized aluminum cup with check valve and regulator P/N 12-02177

AOM SX SERIES - MAX 30 PSI SPRAY GUN

Gravity spray gun kit 600 cc. aluminum cup, 5 CFM @ 30 PSI

ECO/SX HVLP - Spray gun kit includes 3 needle/nozzle sets 1.0, 1.4, 1.7mm, 1 - 600cc aluminum cup #185015E, 2 cleaning brushes and wrench in carrying case P/N 12-02130

ECO/SX N/N - With tip size) P/N 12-02131

K1/SX HYBRID - High transfer efficiency Spray gun kit includes same as above P/N 12-02132

K1/SX N/N - With tip size) P/N 12-02133

REPAIR KIT - ALUMINUM GRAVITY CUP - 1000 cc (35 oz) P/N 12-02135

AOM ECO/MINI HVLP GUN KIT - MAX 43 PSI

61-210 - HVLP Mini Gravity Gun Kit includes 200cc aluminum cup, 4 glass jars, 12" air hose with quick disconnect, filter, 2 adapters, cleaning brush and wrench in carrying case. This unique kit has all the necessary parts to convert from a Mini Gun to an Air Brush P/N 12-02144

61-2000XX - Fluid nozzle, air nozzle and needle - (replaceexx with 0.8, 1.0, or 1.2 for tip size) P/N 12-02145

61-21005E - 200cc Nylon Cup P/N 12-02146

61-22005E - 200cc Aluminum Cup P/N 12-02144

61-2000UR - Repair Kit P/N 12-02150


1.0 P/N 12-02145

1.2 P/N 12-02145

1.5 P/N 12-02152

2.0 P/N 12-02152

828-GTXXX - Glazing nozzle kit with/o fluid nozzle, air nozzle and needle. (Complete for both sprayable and non sprayable materials) replace xx with 1.0 or 1.5 P/N 12-02153

1.0 P/N 12-02154

1.5 P/N 12-02154

AOM E70 CONVENTIONAL SPRAY GUN

This Gravity Gun is ideal for applying a wide range of materials such as Primers, Fillers, and Virtually all Wood Coatings P/N 12-02228

137XX - 70 cc Gravity Gun with 500 cc aluminum cup with nylon cover P/N 12-02229

139XX - 70 cc Gravity Gun with 500 cc aluminum cup with nylon cover P/N 12-02229

1211XX - Fluid nozzle, air nozzle and needle replace xx with 1.0, 1.2, 1.4, 1.5, 1.6, 1.8, 2.0, 2.2, 2.5, 3.0, mm. P/N 12-02229

12630A - Seals and springs repair kit for E70 P/N 12-02231

17000SE - 500cc. nylon cup with cover P/N 12-02232

15120SE - 500 cc. Aluminum cup with nylon cover P/N 12-02233

14320SE - 750 cc. Aluminum cup with nylon cover P/N 12-02234

AOM Q SERIES CONVENTIONAL SPRAY GUN

127XX - Spray gun with 1qt. Cam-lock cup P/N 12-02231

125XX - Pressure fed spray gun only with 3/8" fluid inlet P/N 12-02224

1211XX - Fluid nozzle, air nozzle and needle replace xx with 1.0, 1.2, 1.4, 1.5, 1.6, 1.8, 2.0, 2.2, 2.5, 3.0mm. P/N 12-02229

66-110 - 1 Qt. Cam-lock cup P/N 12-02137

12632A - Seals and springs repair kit for Q70 or SSP P/N 12-02227

AOM K4 CONVENTIONAL SPRAY GUN

Ultra compact and light spray gun featuring a reduced air consumption 1 qt. cam-lock cup 1206XX - K4 Spray gun with standard cam-lock cup replace xx with 1.0, 1.3, 1.5, 1.8, 2.0mm. P/N 12-02236

208XX - K4 SSP Spray gun only. Nozzles same as above P/N 12-02237

207XX - Fluid nozzle, air nozzle and needle for K4 (replace xx with nozzle size) P/N 12-02238

20895A - Seals and springs repair kit for K4 P/N 12-02239

66-110 - 1 qt. aluminum cup with cam-lock P/N 12-02137

AOM PQ CUP GUN

99518 - PQ Cup Gun Economical high pressure air spray gun P/N 12-02240

AOM AR UNDERCOATING GUNS

Tough aluminum body. 1000 cc (35 oz) siphon cup. Sprays virtually all materials. 31500 - AR Spray Gun P/N 12-02241

THE Q SERIES HVLP TURBINE UNIT EMITS 50% LESS NOISE THEN REGULAR TURBINES

PRO 3 - 110V, 3 Stage turbine unit, 101 CFM @ 6 PSI comes with gun, cup, 25 hose and coupler. Perfect for cabinet makers, furniture refinishers and most trades. Spray cabinets, furniture, autos or pianos. P/N 12-02108

PRO 4 - 110V, 4 Stage turbine unit comes with gun, cup, 25 hose and coupler. The most powerful 4 Stage available. Perfect for paint contractors spraying latex house paints, cabinet makers, furniture refinishers and most trades. P/N 12-02109

XT 2 - Turbine spray gun & cup P/N 12-02110

WARRANTY: All systems 24 months - Parts & Labor

656
AOM SPRAY EQUIPMENT

AOM DUAL ACTION AIRBURST KIT

AB1104C WA -
* Double action trigger for air-paint control
* Paint and machine nozzle and fluid cap
* Suitable for graphic artwork
* Fluid nozzle: 0.5 mm
P/N 12-02217

AB1117K -
* Double action trigger for air-paint control
* Precision machined nozzle and fluid cap
* Suitable for graphic artwork
Contains: -1 Airbrush, 1 - Hose, 1 - Wrench 1 - Jar Adapter, 1 - 5 cc Fluid nozzle 1-0 of 0.3, 0.5, 0.7mm Paint cup Fluid nozzles - 1 of 0.3, 0.5, 0.7/mm 2 - 22cc glass jar, 1 - 50 cc glass jar
P/N 12-02218

AOM MINI AIR BRUSH COMPRESSOR

AC18 1/8 HP Mini air brush compressor (Piston Type) with filter, micro switch and 10 retractable air hose (Airbrush Not Included)
P/N 12-02221

AOM 2 QT PRESSURE POT OUTFIT

RP-XX - 2 Qt. pressure pot outfit includes an R100 mini gun, 2 qt. pressure pot with regulator and 6 air and fluid hose with fittings. This outfit is especially designed to spray in hard to reach areas. Suitable for both water and solvent base material.
P/N 12-02186

75-111878WB - 2 Qt. pressure pot outfit includes an 87WB mini gun, 2 qt. pressure pot with regulator, 5’ air hose with fittings, 5’ clear fluid hose with SS fittings, adapter and SS elbow. Other tip sizes available 0.6, 1.2 and 1.5
P/N 12-02189

KIT-R - Retrofit kit consists of adapter, SS elbow, 5’ air hose with fittings and 5’ clear fluid hose with SS fittings
P/N 12-02189

75-112 - 2 Qt Gasket
P/N 12-02187

AOM 2-1/2 GAL PRESSURE POT OUTFITS

65-91213-305-1.4 - 2-1/2 gallon pressure pot outfit includes a 2-1/2 gallon pressure pot dual regulated, X series spray gun (available in 1.3, 1.4, 1.5, 1.8, 2.0) and 25’’ air and fluid hose with fittings. This outfit is perfect for small to medium production facilities. Suitable for glues, lacquers, stains, water based and solvent based materials, OPTIONAL: 5’/6” air hose and 3/8” fluid hose available on request at an additional cost.
P/N 12-02191

65-914 GASKET
P/N 12-02119

AOM PRESSURE TANKS 2 QT. REMOTE

75-111 - 2 qt remote pressure tank, single regulator, safety relief valve, handle, lightweight, SS pick up tube, Screw type top. Dual regulated available.
P/N 12-02111

75-111S - Large Mouth 2 qt. remote pressure tank, teflon coated inside, single regulator, safety relief valve, handle, lightweight, screw type top. Dual regulated available.
P/N 12-02112

75-11111 - Replacement gasket for 2 qt remote pressure tank
P/N 12-02111

65-424/1 - Replacement gasket for 2 qt large mouth remote pressure tank
P/N 12-02114

65-424S/1 - Replacement gasket for 2 qt all stainless steel remote pressure tank, single regulator, safety relief valve, handle, lightweight, screw type top.
P/N 12-02115

65-112S - Replacement gasket for 2 qt all stainless steel remote pressure tank
P/N 12-02116

AOM PRESSURE 2-1/2 GALLON TANKS

65-911 - 2-1/2 gal. pressure tank, single regulator, Teflon coated inside and outside Safety relief valve, pick-up tube with filter, wide lid and low side walls, large wheels for easy movement.
P/N 12-02117

65-912 - Same as above with dual regulators
P/N 12-02118

65-914 - Replacement gasket for 2-1/2 gal tank
P/N 12-02119

AT2.5ASS - 2.5 gal pressure tank, air agitator, stainless steel inner liner, dual regulators, stainless steel fitted.
P/N 12-02120

65-0097 - Complete regulator assembly for 2-1/2 gal tank
P/N 12-02121

65-0098 - Complete second regulator assembly for 2-1/2 gal tank only
P/N 12-02122

AOM GUN HOLDER RP 8413 - Gravity gun holder
P/N 12-02216

AOM DISPOSABLE LINERS - Disposable Liner round bottom fits # 65-911 & # 65-912 (10pk)
P/N 12-02124

Disposible Liner flat bottom fits # AT2.5ASS tank (12pk)
P/N 12-02125

Disposable Liner round bottom fits #65-911 & #65-912 (Same as 65-913-12 but is a pack of 60)
P/N 12-02124

Disposable Liner round bottom fits 5 gal pressure tanks (24pk)
P/N 12-02127

2 1/2 & 5 gal. bag tank liners 4 mil. (10 pk)
P/N 12-02128

Disposable Liner for 10 gal. pressure tanks (10 pk)
P/N 12-02129

AOM HARD CUP KITS - Can be mounted on any AOM spray gun.

DC 195-12 - Kit contains 12 Soft Liners, 12 Rings, 12 Lids w/Filters, 12 Caps, 1 Hard Cup and 1 Adapter
P/N 12-02204

DC 195-12 - Kit contains 12 Soft Liners, 12 Rings, 12 Lids w/Filters, 12 Caps (Used with DC 191 Hard Cup)
P/N 12-02205

DC 190-48 - Kit contains 48 Soft Liners, 48 Rings, 48 Lids w/Filters, 48 Caps (Used with DC 191 Hard Cup)
P/N 12-02206

DC 191 - Hard Cup ( 750 ml capacity)
P/N 12-02207

DC 192 - Adapter used with all AOM gravity guns (except Mini gun)
P/N 12-02208

DC 193 - Adapter used with all AOM pressure guns
P/N 12-02209

DC 194 - Shaker Cap
P/N 12-02210

SPRAY GUN ACCESSORIES

58-9637 - Air regulator w/gauge, 1/4”F swivel connection & 1/4”M NPS connection P/N 12-02213

65-0093 - Mini air regulator w/gauge, 1/4” F swivel connection & 1/4”M NPS connection
P/N 12-02214

51-2031 - Air adjustment Valve
P/N 12-02215

AOM QUICK COUPLERS -

41106 - 1/4” Brass Male thread
P/N 12-02198

41156 - 1/4” Brass Female thread
P/N 12-02197

AOM QUICK CONNECTORS -

42200 - 1/4” Brass High Flow male
P/N 12-02198

45600 - 1/4” Brass Std. flow male
P/N 12-02199

42300 - 1/4” Brass High Flow female
P/N 12-02201

45700 - 1/4” Brass Std. flow female
P/N 12-02202

AOM MAINTENANCE KIT - Spray gun maintenance kit includes 12 special steel cleaning needles. Perfect for removing dry paint particles from air cap and nozzle as well as all difficult to reach gun parts.
P/N 12-02107

AOM SPRAY GUN LUBE 811-12 - Spray gun lube 12 pcs/Counter Display Box
P/N 12-02211

AOM 18 PC SPRAY GUN CLEANING KIT KK118 -
* Extra long 12” Pick-up Tube Brush 1 - 1/4” HVLP Brush 1 - 1/2” Body Cavity Brush 1 - Detail End Brush 2 - Nylon - Bristol Parts Brush 5 - Miniature Brush Set 6 - Precision Needle Set 1 - O-ring Removal Tool
P/N 12-02212

657
TIG TORCHES - TIG WELDERS - WELDING CARTS

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

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.

P/N 12-00444

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

REPLACEMENT CABLE - 12-1/2 foot Superflex replacement cable for the PTA-9F

P/N 12-00399

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

REPLACEMENT CABLE - 12-1/2 foot Superflex replacement cable for the PTA-17H

P/N 12-00401

TIG TORCH ACCESSORY KITS

9GK KIT - TIGDepot Parts Kits provide all the torch accessories you need to start welding. Parts Kit 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 9GK-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

17H-6L KIT - The TIGDepot 17H Gas Lens Kit is made specifically for the 210Amp 17H Torch.

The Kit includes One of each:

- 2% Thoriated Tungsten .040, 1/16, 3/32 DIA.
- Alumina cups (5.6, 7.8)
- Gas lens, .040, 1/16, 3/32
- Collets, .040, 1/16, 3/32
- Backcaps-short, medium, long
- Insulator
- Tool box

P/N 12-00394

TIG BUZZ BOX KIT

TIG weld Aluminum, Stainless Steel, Chrome Moly, and many other metals. Plug it directly into your standard household outlet (110 volts, 15amps).

Kit includes:

- CKG Rigid Torch w/ Valve and 12.5’ one piece cable with male dinse connector
- Flowmeter Regulator
- Water Filter Regulator
- 1’ extension cord
- Backcap
- Female Dinse to allow you to go back and forth to stick welding

AK-4 Accessories Kit • AMP Conversion Decal • Instruction Manual

P/N 12-00389

TIG WELDERS / WELDING EQUIPMENT

INVERTEC V155-S TIG READY-PAK - Weighing in at just under 15 lbs. (6.8 kg) it is no lightweight contender. It packs the full punch of a heavyweight professional that you can take to the most demanding jobs. With 120/230V auto reconnect operation, it can operate from a portable generator. It can also plug into a 200 foot (61 m) 230V extension cord (not included) plasma torch. The 120 volt input welder class. MIG weld 24 gauge up to 10 gauge (.135”) sheet metal in a single pass. Includes: • Magnum 100L welding gun (K330-6) • Six sparse contact tips • Gas and gasless nozzles • Work cable and work clamp • Adjustable gas regulator and hose • .025 & .035 smooth drive rolls • .030-.045 knurled drive roll • .025-.035 wire guide • 2 lb. spool .025” Super Arch L-56 wire • 1 lb. spool .035” Innershield® NR-211-MF self-shielded flux-cored wire • 8” spool spindie adapter

How to Use DVD

P/N 12-01634

TIG 225 With Understorage Cart

P/N 12-01635


P/N 12-01978

POWER MIG 140C - Power Mig® 140C (K2471-1) with continuous voltage control for more critical projects where precise adjustment is required. Diamond Core Technology™ and the rugged drive system aid arc performance for MIG welding on thin gauge steel, stainless and aluminum. Or, use gas-less flux-cored welding for deep penetration on thicker steel, even outdoors! With a wide 30-140 amp welding output range it is the highest output in 120 volt input power welder class. MIG weld 24 gauge up to 10 gauge (.135”) sheet metal in a single pass. Includes: • Magnum 100L welding gun (K330-6) • Six sparse contact tips • Gas and gasless nozzles • Work cable and work clamp • Adjustable gas regulator and hose • .025 & .035 smooth drive rolls • .030-.045 knurled drive roll • .025-.035 wire guide • 2 lb. spool .025” Super Arch L-56 wire • 1 lb. spool .035” Innershield® NR-211-MF self-shielded flux-cored wire • 8” spool spindie adapter

How to Use DVD

P/N 12-01623

PRO-CUT 25 PLASMA CUTTER - The Pro-Cut25 combines the next generation of plasma technology and enough power to easily cut 3/8” mild steel with ease. This Plasma torch is capable of Stick Welding. P/N 12-00773

V205-T AC/DC INVERTEC - For TIG and Stick Welding. Ideal for critical AC or DC TIG Welding applications. Variable AC frequency allows you to focus the arc when precise arc control is required. The 110V/230V auto-reconnect makes it possible to use the V205-T AC/DC truly flexible. The unit comes with a 10 ft. 230V input cord and plug; a Twist-Mate Torch for AC/DC truly flexible. The unit comes with a 10 ft. 230V input cord and plug; a Twist-Mate Torch Adapter for AC/DC and 17 Series one piece torches; Twist-Mate adapter for work cable; and adjustable shoulder strap. This full featured TIG Welder is also capable of Stick Welding.

One-Pak™ Package Includes: V205-T Foot Amptrol (K870) and TIG-Mate 17 Starter Kit. Assembly required.

P/N 12-00776

WELDING CARTS

These Welding carts are for the Invertec V-155, Invertec V-205T AC/DC, Procut 25 Plasma Cutter, and Power Mig 140C.

K520 WELDING CART - (150 cu.ft. bottle capacity) Accommodates power source, gas cylinder, tools and welding accessories. Includes adjustable handle, front casters, and rear wheels. Dimensions (HxWxD): 30 (mm.)x34 (max.) x 18 x 35 inches. Physical specifications; Weight:38 lbs. (17.2 kgs.) Dimensions (in) H x W x D: 34 x 18 x 35 Dimensions (mm) H x W x D: 864 x 457 x 889 P/N 12-00773

K227-1 WELDING CART - (80 cu.ft. bottle capacity) Full-featured cart is designed to store and transport a welder, 80 cubic foot gas cylinder, welding cables and accessories. Includes an angled top shelf for easy access to welder controls, a lower tray for added storage space, a sturdy handle and a convenient cable wrap hanger. Replaces K520. Physical specifications: Weight:24.75 lbs. (11.2 kgs.) P/N 12-00777

TO
TIG WELDING EQUIPMENT & ACCESSORIES

**TIG FILLER MATERIALS**

<table>
<thead>
<tr>
<th>Base Material</th>
<th>Use Filler</th>
<th>Size</th>
<th>Part No.</th>
<th>Price/lb.</th>
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<tbody>
<tr>
<td>Aluminum</td>
<td>ER4043</td>
<td>045</td>
<td>12-00480</td>
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<tr>
<td></td>
<td>ER4044</td>
<td>045</td>
<td>12-00481</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>ER5356</td>
<td>062</td>
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<td></td>
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<tr>
<td>Stainless Steel</td>
<td>ER312</td>
<td>035</td>
<td>12-00484</td>
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<tr>
<td>Stainless Steel</td>
<td>ER308L</td>
<td>035</td>
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<td>Inconel</td>
<td>Nickel 625</td>
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<tr>
<td>Super Alloys</td>
<td>ALLOY W MKT</td>
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<td>Call</td>
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</tr>
<tr>
<td>Titanium</td>
<td>TITANIUM MKT</td>
<td>Special Order</td>
<td>Call</td>
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</tr>
<tr>
<td>Magnesium</td>
<td>TITANIUM MKT</td>
<td>Special Order</td>
<td>Call</td>
<td></td>
</tr>
</tbody>
</table>

**STEELMAN WELDING BENCH**

- 24 x 44 stretch metal grid table top w/grounding post and welding holster
- Scissor action for quick and easy set up and tear down
- Adjustable legs for easy leveling
- No metal-to-metal contact on any hinge points
- 500 lbs. weight capacity
  
P/N 12-02106

**SMALL OXY-ACETYLENE HOSE**

3/16" hose that may be used with all welding outfits.

**BOTTLES AND TOTE**

- Plastic Stand, Oxygen and Acetylene Cylinders
- Plastic Cylinder Stand holds "MC" Acetylene Cylinder and "R" Oxygen Cylinder

**HENROB 2000 IV WELDING TORCH**

The revolutionary design of the Henrob 2000 Torch makes it the ideal welding torch for aircraft construction. The Henrob 2000 allows less oxidation, minimal flux, reduced pressures and substantial materials savings. Fewer tips are required and hose fatigue is lessened. Perfect for steel and aluminum welding and cutting. Highly recommended by many aircraft builders. Formerly known as the Dillon Mark III.

P/N 12-16000

Henrob Instructional Video

**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. Ideal for aircraft, automotive, marine and home use. The hot knife will quickly cut and seal various materials such as metals, ceramics, and glass.

P/N 12-20600

**HARRIS MODEL 15 CLASSIC TORCH HANDLE**

The Model 15 is a lightweight, aircraft style featuring a forward valve designed to permit changing flame settings with one hand. For welding, heating and brazing with fuel gases. Class A 3/8"-24 hose connection - Cap: Cuts 2", welds to 5/16" - UL listed - Length: 5-3/4", Wt: .5 lbs.

**B-15-3 Mixer**

P/N 12-00688

**Torch Handle Kit - Torch, Mixer and Tip**

P/N 12-00690

**WELDING TIP**

P/N 12-00689

**TIG TUNGSTEN**

Sold in packages of 10

- 2% Thoriated
  - 1/16" .................. P/N 12-00440 ...................  
  - 3/32" .................. P/N 12-00439 ...................

- 2% Ceriated
  - 1/16" .................. P/N 12-00441 ...................  
  - 3/32" .................. P/N 12-00442 ...................

**38” LEATHER WELDING APRON**

Quick release buckle and cross straps make it very comfortable; it also has pockets.

P/N 12-05150

**FULL FACE SHIELD**

Lightweight headgear, shield flips down over prescription glasses. Good over bifocals.

P/N 12-05160

**WA-GOGGLE**

Gas welding goggle with adjustable headrest that pulls out and down. Permits easy use of eyeglasses.

P/N 12-05175

**SMALL OXY-ACETYLENE KIT**

With regulators. Designed for hobby, crafts, plumbing, etc. Brazes and solder material from the thinnest up to 1/8" thick steel, melt up to 3 oz. silver. Provides stable and precise concentrated feather flame up to 600°F for various materials such as metals, ceramics, and glass.

P/N 12-00447

**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

**BOTTLES AND TOTE**

Plastic Stand, Oxygen and Acetylene Cylinders - Plastic Cylinder Stand holds "MC" Acetylene Cylinder and "R" Oxygen Cylinder.

**COW HIDE GLOVES**

These are a good import, not too stiff.

P/N 12-05155

**TIG filling**

36” Cut Lengths are packaged in 1 lb. tubes to provide you the flexibility of buying only what you need for your job.
SMITH WELDING OPTIONAL EQUIPMENT

SERIES 30™ TWO STAGE REGULATORS
H1421A-510 for Acetylene, 0-15 PSI P/N 12-01186
H1410A-540 for Oxygen, 0-100 PSI P/N 12-01185
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.

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

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.

Headband - Model K P/N 12-05000
Visor - P/N 8124D
Complete Shield P/N 12-05100

HUNTSMAN ELECTRONIC WELDING HELMET
- For the professional. Heavy duty, w/check valves.


TIP CLEANER SET - 13 cleaners for #49 - #75 drill size orifices.

P/N 12-01195

SINGLE STAGE REGULATORS
Gas Used: Oxygen Delivery Pressure: 0-100 PSIG, 0-7 Bar
Gas Used: Acetylene Delivery Pressure: 0-15 PSIG, 0-1 Bar

P/N 12-19300
P/N 12-19400

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

AW200 AIRLINE™ SERIES OXY-ACETYLENE - USE IN: Torch Handles - AW1A & AW10A

For Metal Thickness

<table>
<thead>
<tr>
<th>Up To</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/32”</td>
<td>AW201</td>
<td></td>
</tr>
<tr>
<td>1/16”</td>
<td>AW202</td>
<td></td>
</tr>
<tr>
<td>1/8”</td>
<td>AW203</td>
<td></td>
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</tbody>
</table>

ONE SINGLE FLINT LIGHTER - P/N 12-01194
Box of Six Extra Flints for Lighter P/N 12-01193

TWIN HOSE - 12-1/2 Ft. (3/16” I.D.)/P/N RA921

ONE PAIR AMERICAN OPTICAL WELD VIEW GOGGLES P/N 91225

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

BULLDOG RED WELDING DAMAGE CONTROL CLOTH

This heavy duty red cloth is made from .015” thick fiberglass with a Hypercote finish. It resists abrasion and liquids, cuts without fraying, is electrically non-conductive and chemically resistant, and drapes easily.

P/N 12-19500

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

ECONOMY PORTABLE SAND BLASTING SYSTEM

A new portable blasting system for cleaning and surface preparation of metal, plastic, fiberglass or wood. Ideal for graffiti removal from brick or stone surfaces. This Blast System consists of an abrasive hopper 20-1/2” high and 9-1/2” diameter molded PVC drum with tight fitting top to keep abrasive media clean. Hopper holds up to 80 lbs. of media. It has a 10 ft. long rubber hose, a full-length face shield and a trigger-operated blasting gun that completely mixes air and media to produce a uniform spray pattern.

P/N 130

PORT-A-BLAST SANDBLASTER

The Port-A-Blast sand blast unit is the perfect tool for anyone who owns or flies an airplane. For removing paint and corrosion, cleaning spark plugs and even liquid blasting to clean your engine and parts. Its small compact design allows you to get into tight areas. Fill the container with an abrasive material and it's ready to go to work. It will operate on as low as 60 psi. However, for best results, pressures of 100-500 psi are recommended. The higher the pressure the faster the cutting will be. Port-A-Blast handles all types of abrasive, ranging from Silica Sand for average work to Nutshells for cleaning and polishing hard surfaces without scratching. For larger jobs you are also able to attach a siphon hose, and pull directly from a bucket. this is a versatile tool that every airplane enthusiast shouldn’t be without. We now offer a kit for the enthusiast who’s not quite sure which type of blast media the should use. The kit includes a Port-A-Blast gun and 4 media types: Glass Bead, Steel Shot, Nutshell, and Stag. We have also included a brief explanation of each media type and where it should be used.

Port-A-Blast gun P/N 12-00172
Flexible siphon tube P/N 12-00173
Replacement Ceramic nozzle P/N 12-00493

DELUXE PORTABLE PRESSURE BLAST SYSTEMS

These Portable Pressure Blasters are designed to make the most efficient use of your air and abrasive supply. 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.

Model 1000
Model 400

ABRASIVES – Black Beauty: Economical, fast cutting abrasive. For quick removal of paint and rust. 80# bag. P/N 12-20740.

DELUXE PORTABLE PRESSURE BLAST SYSTEMS

<table>
<thead>
<tr>
<th>Spec. Chart</th>
<th>Model 400</th>
<th>Model 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Pressure</td>
<td>60-125 psi</td>
<td>60-125 psi</td>
</tr>
<tr>
<td>ASME Tank</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Sandblast Hose</td>
<td>7 feet</td>
<td>10 feet</td>
</tr>
<tr>
<td>Abrasive Capacity</td>
<td>40-50 lb.</td>
<td>100-120 lb.</td>
</tr>
<tr>
<td>Nozzle Size</td>
<td>3/32”</td>
<td>1/8”</td>
</tr>
<tr>
<td>Part Number</td>
<td>12-20725</td>
<td>12-20735</td>
</tr>
<tr>
<td>Price</td>
<td></td>
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</tbody>
</table>

CENTURION TEAR-N-WEAR PROTECTIVE LENS COVERS

Each AOSAFETY Centurion® goggle TEAR-N-WEAR replacement lens protectors stack contains seven layers of high quality optically clear film. When the outer layer is soiled, scratched, or difficult to see through, simply “tear” the soiled layer off by pulling the tab horizontally from right to left. You now have clean and clear vision again and the next tab is automatically ready for your next tear away.

P/N 12-00894

660
SCALES - ROTATORS - TIRE BEAD BREAKERS

LANDING GEAR SAFETY STAND

The “Landing Gear Safety Stand” is a must! Anyone that has ever seen a plane slip off a jack knows! The stand slips on 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”.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity</th>
<th>Price</th>
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<tbody>
<tr>
<td>12-02015</td>
<td>9” Stand</td>
<td>P/N 12-02015</td>
</tr>
<tr>
<td>12-02025</td>
<td>12” Stand</td>
<td>P/N 12-02025</td>
</tr>
<tr>
<td>18-02026</td>
<td>18” Stand</td>
<td>P/N 12-02026</td>
</tr>
</tbody>
</table>

STRUT SERVICE TOOL

Service Strut in your Sunday Suit.
- Clean way to service struts.
- Strut valve core is NOT removed.
- Hose fittings releases pressure & fluid into the bottle.
- Raise & lower strut a few times, then apply the charge.

P/N 12-16792

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

P/N 12-16725 15,000 lbs. per pad

P/N 12-16721 10,000 lbs. per pad

P/N 12-16715 6,000 lbs. per pad

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 included is a case.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>12-16711</td>
<td>2,500 lbs. per pad</td>
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<tr>
<td>12-16715</td>
<td>6,000 lbs. per pad</td>
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<td>12-16721</td>
<td>10,000 lbs. per pad</td>
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<tr>
<td>12-16725</td>
<td>15,000 lbs. per pad</td>
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OPTIONS

<table>
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<th>Price</th>
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</thead>
<tbody>
<tr>
<td>12-16730</td>
<td>Extra cable, colored</td>
<td></td>
</tr>
<tr>
<td>12-16735</td>
<td>Extra ramps, small, set of 3</td>
<td></td>
</tr>
<tr>
<td>12-16740</td>
<td>Extra ramps, large, set of 3</td>
<td></td>
</tr>
<tr>
<td>12-16745</td>
<td>Extra tire stops (chocks)</td>
<td></td>
</tr>
<tr>
<td>12-16750</td>
<td>220V Battery Charger Cable for overseas</td>
<td></td>
</tr>
</tbody>
</table>

TIRE BEAD BREAKER

Anchors are either tail or wheel type. 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 & with- out doing damage to the expensive cast wheels. One broke wheel 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

TIRE PRESSURE MONITOR SYSTEM

Southern Precision Components Inc. is introducing a Wireless Tire Pressure/Temperature LCD Monitor (TPMS). 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. The sensors can be easily removed when adding air to the tires, and when placing the sensors back on the valve stems, will send the new pressure readings to the LCD monitor. Pressure can be read as PSI, KPA, BAR, or KG/CM squared. Temperature can be read in Centigrade or Fahrenheit. The monitor also has an alarm setting for high or low pressure. The battery has an average life of two years.

P/N 09-04367

AIR ARM TIRE FILLING ADAPTER

This adapter permits the easy air charging of tires inside of most light aircraft wheel pants. The Air Arm will couple to virtually all air dispensing connectors in the aircraft field. The Air Arm can be ordered with or without the gauge adapter head.

P/N 12-30180

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...... Red ...... P/N 12-11907...... White ...... P/N 12-11908...... Yellow ...... P/N 12-11911

RUGGLES AIRCRAFT SCALES

Ruggles Scales make it easy and affordable for you to compute weight and balance on your own aircraft any time and any place. They are small and easy to transport. With their drive on capability, there is no need to jack up each wheel to slide scales in place. Ruggles Scales use the principle of a fulcrum and a very long lever. So simple, the only tool you will need is a screwdriver for calibration. Sturdily constructed of cadmium plated steel and precision engineered for accuracy. Complete instructions are included with scales. Not certified. Capacity is 3600 lbs. (1200 lbs. per wheel). Scale can be set to either 2.1 or 4.1 ratio. Tricycle gear set includes 3 arms and 3 scales. Taildragger set includes 2 arms and 3 scales.

P/N 12-21450 10,000 lbs. per pad

P/N 12-21400 15,000 lbs. per pad

P/N 12-16790 18,000 lbs. per pad
AIRCRAFT JACkS - PARTS CARTS

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.

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Jacks</th>
<th>Tailstand</th>
<th>Legs</th>
<th>Tubes &amp; Caps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aero Commander</td>
<td>(2) A-6</td>
<td>(1) ATS</td>
<td>(2) A-3</td>
<td>(2) A-4</td>
</tr>
<tr>
<td>Beech: Model 50, King Air, Queen Air</td>
<td>(2) A-3</td>
<td>---</td>
<td>---</td>
<td>(1) A-3</td>
</tr>
<tr>
<td>Beech: Bonanza, Debonair Travelaire, Baron</td>
<td>(2) A-5</td>
<td>(1) ATS</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Mooney</td>
<td>(2) A-5</td>
<td>(1) ATS</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Piper: All except Navajo &amp; Aerostar</td>
<td>(2) A-5</td>
<td>(1) ATS</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Piper Navajo &amp; Aerostar</td>
<td>(2) A-6</td>
<td>(1) ATS</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Cessna: Cardinal RG</td>
<td>(2) A-5</td>
<td>(1) ATS</td>
<td>---</td>
<td>(2) ATC-4</td>
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<tr>
<td>Cessna: All high wings RGs except Cardinal</td>
<td>(2) A-6</td>
<td>(2) ATS</td>
<td>---</td>
<td>(2) ATC-4</td>
</tr>
<tr>
<td>Cessna: All 300 &amp; 400 Series</td>
<td>(2) A-5</td>
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<td>---</td>
<td>(3) ATC-4</td>
</tr>
<tr>
<td>Navion</td>
<td>(2) A-1</td>
<td>(2) ATS</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

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 rod gear jack pads listed below. • Save time when servicing tires, wheel bearings and brakes • Lift only the wheel 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

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
<th>AJJ Height Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-21405</td>
<td>A-5 Jack</td>
<td>A-5 w/AT-1*</td>
<td>22”-36”</td>
</tr>
<tr>
<td>12-21410</td>
<td>A-6 Jack</td>
<td>A-5 w/AT-28</td>
<td>28”-42”</td>
</tr>
<tr>
<td>12-21415</td>
<td>ATS Tailstand</td>
<td>A-5 w/AT-3</td>
<td>34”-58”</td>
</tr>
<tr>
<td>12-21435</td>
<td>A-6 w/AT-2*</td>
<td>A-6 w/AT-4</td>
<td>54”-78”</td>
</tr>
<tr>
<td>12-21440</td>
<td>AT-1 Tube</td>
<td>A-6 w/AJJ</td>
<td>7’-10”</td>
</tr>
<tr>
<td>12-21445</td>
<td>AT-2 Tube</td>
<td>ATC-4 Cap</td>
<td>+1 to 4’</td>
</tr>
<tr>
<td>12-21455</td>
<td>AT-3 Tube</td>
<td>ATC-8 Cap</td>
<td>+1 tp 8’</td>
</tr>
<tr>
<td>12-21460</td>
<td>AT-4 Tube</td>
<td>Taps Tallstand</td>
<td>30”-51”</td>
</tr>
<tr>
<td>12-21465</td>
<td>AT-28 Tube</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12-21470</td>
<td>ATC-4 Cap</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12-21475</td>
<td>ATC-8 Cap</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

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

ROUND JACK PAD ADJ-R

- ack pads provide a cradle for the main landing gear legs. The ADJ-R has a half round design cradles the landing gear safely. The round jack pads will not work on the Aerio Jack KIt below. No special jack pad needed on tubular C-152, 172, 172 etc.

P/N 12-00679

C300 JACK PAD ADJ-300

- 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 and slide together for easy stacking. • Use on aircraft with a jack pin. • Not the same extensions as found in the Aero Jack Kit below. No special jack pad needed on tubular C-152, 172, 172 etc.

P/N 12-00156

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 people 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” jack 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. * 42” W x 31” D x 5” H

P/N 12-00157

INNOVATIVE PARTS CART B™

- Industry’s easiest-nesting catalog. * More shelf positions that any other parts catalog. 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 on optional RO Holder. * U.S. Patent #7,314,413 * Other Patent Pending. * 42” W x 31” D x 75” H

P/N 12-00158

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

P/N 12-00204

INNOVATIVE PARTS CART D™

- 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

P/N 12-00205

INNOVATIVE PARTS CART E™

- 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

P/N 12-00206
### AIRCRAFT JACKS

**FITS THESE BEECHCRAFT holder and positive locking collars. Oversize shipping charges apply.**

- Tail Stand 18”-35: P/N 12-99130
- Cessna 300 & 400 Jack Series. Same as the J-105 except height 27”-52”, Cylinder capacity **16,000 lbs.**
- J-105 except height 26”-45”. Cylinder Capacity **6,000 lbs.**
- Note: Mooneys require 26” clearance plus for the cap or the Jack will not fit.
- 26” clearance plus for the cap or the Jack will not fit.
- **16,000 lbs.**
- **6,000 lbs.**
- 27”-52”. Cylinder capacity **16,000 lbs.**

**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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Aero Jack System - Service both flat and round gear from a handy toolbox.</td>
<td>12-00254</td>
<td>.</td>
</tr>
<tr>
<td>Flat Gear Aero Jack Kit - Cessna C-120, 140, 150, 170, 172, 175, 186, 182, 190, 195, 205, 206, 336, 337, flat gear 177RG, Piper Tomahawk, Beech Skipper, Champion, Bellanca, and similar landing gear.</td>
<td>12-00681</td>
<td>.</td>
</tr>
<tr>
<td>Round Gear Aero Jack Kit - Cessna C-172RG, 177RG, 182RG, 210, T210, P210, and similar landing gear.</td>
<td>12-00682</td>
<td>.</td>
</tr>
<tr>
<td>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.</td>
<td>12-02096</td>
<td>.</td>
</tr>
</tbody>
</table>

### BOGERT TRIBAL JACK

Forget expensive wing jacks for simple projects! Reach for Bogert’s 6-ton Tribal Aircraft Jack! Raise each wheel independently in seconds. Service brakes or bearings, and change a tire in seconds. Adjustable lifting height, with a range of 3.5” to 11.5”. Originally designed for Pipers, thus the name “Tribal Jack”, it is also used on King Air, Musketeers, Debonairs, Sundowners, Mooneys and most with near vertical landing gear. Max. load is 2500 pounds. P/N 12-00838...

### BOGERT LIL LIFTERS

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LITTLE LIFTER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lightweight, 8.5 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lift Range 2.75” to 9.5”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* 4 pivoting pads included</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Use with 800X6 tires or smaller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LITTLE LIFTER II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lightweight, 10 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lift Range 2.75” to 13.5”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* 4 pivoting pads included</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Use with 800X6 tires or larger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Picture shown with 2 liter bottle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LITTLE LIFTER III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lightweight, 13 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Lift Range 2.75” to 19.25”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* 4 pivoting pads included</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Use with 31” tires</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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 12-00684...

### PROP SLING, (BOGI-LIFT)

The tool every mechanic needs!

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Lift nose wheel without jacking up whole plane.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service nose wheel &amp; strut effortlessly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Support a new propeller during installation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Use with 2 and 3 blade props.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* 4-point stability with tail &amp; wing jacks.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### JACK POINTS

**JACK LIFT PAD**

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...

<table>
<thead>
<tr>
<th>JACK LIFT PAD</th>
<th>Image</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustable Jack Points</td>
<td>Fits Cessna 150, 172, 182, 188, Citabrias, Bellanca, &amp; Grumman.</td>
<td>P/N 12-00839</td>
<td>.</td>
</tr>
<tr>
<td>Mooney Jack Points (Sold Individually)</td>
<td></td>
<td>P/N 12-00838</td>
<td>.</td>
</tr>
</tbody>
</table>

**REDLINE DOLLY-JACK**

The Dolly-Jack is a self contained, portable system that can lift any main wheel or nose wheel with the turn of crank for routine maintenance and tire changes. It allows the plane to spin around in its own space. Made in the USA using 4130 Chromoly material. **FITS THESE PIPER:** Arrow, Lance, Saratoga (RG), Malibu, Matrix, Meridian, Seminole. **FITS THESE BEECHCRAFT** Bonanza, Baron, Travel Air, T-34 P/N 13-03380...

<table>
<thead>
<tr>
<th>REDLINE DOLLY-JACK</th>
<th>Image</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>P/N 12-00839</td>
<td>.</td>
</tr>
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</table>

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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 12-00684...

### PROP SLING, (BOGI-LIFT)

The tool every mechanic needs!

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<thead>
<tr>
<th>PROP SLING, (BOGI-LIFT)</th>
<th>Image</th>
<th>Part No.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>* Lift nose wheel without jacking up whole plane.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service nose wheel &amp; strut effortlessly.</td>
<td></td>
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<tr>
<td>* Support a new propeller during installation.</td>
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</tr>
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<td>* Use with 2 and 3 blade props.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>* 4-point stability with tail &amp; wing jacks.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

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 in the Bonanza... please see Model #324. • JACK POINT CENTERING CAP TO ASSURE THE AIRCRAFT STAYS ON THE JACK • DOUBLE ACTION 3 TON (6,000lbs) 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

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 high gear door hinge. If the only plane you’ll be lifting in the Bonanza... please see Model #326. 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 (6,000lbs) 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

THE ULTIMATE WHEEL LIFT FOR RV AIRCRAFT

• Mounts in back of the wheel on the axle
• Requires no hoist or bottle jack.
• No blocking required after wheel is removed - completely free standing.
• Wheel will come off and go back on with no changes or other equipment.
• Owner of RV8 Aircraft.
• Wheel is raised with rotation of hand crank.
• Positive movement with full control.
• Total weight 4 lbs.
• Lays flat for storage in aircraft compartment.
• Will fit either right or left main wheels.
Note - will not fit on RV8 flat axles.

P/N 12-01751

EIGHT TON HYDRAULIC AIRCRAFT JACKS

MODEL #838W 8 TON UNIVERSAL JACK - 26" - 43", 32", 49", 38", 55" When the need is for a versatile jack that can accommodate the needs of a busy FBO, the Model #838W is the choice. 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 (16,000lbs) HYDRAULIC CYLINDER • HIGHLY VERSATILE - SHIPPED WITH ADAPTERS FOR 26", 32" & 38" HEIGHTS • JACK POINT CENTERING CAP TO ASSURE THE AIRCRAFT STAYS ON THE JACK • LOCKING SAFETY COLLAR SECURES THE LOAD • STABRUGGED 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

MODEL #868W 8 TON UNIVERSAL JACK - The ULTIMATE in versatile heavy duty general aviation jacks. When the need is for a versatile jack that can accommodate the needs of a busy FBO, the Model #868W is the choice. 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, 182RG, 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 (16,000lbs) 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 • 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

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 37.5 lbs. Range of Adjustment: 17½" - 39½" P/N 12-01728

ACCESSORIES

MODEL #324, 326, 332 WHEEL KIT - We call them "Tilt and Go" because they do not touch the ground until you tilt back. P/N 12-02032

TAILWEIGHT EXTENSION - Adds 13½" to the post for higher wing aircraft like the bigger Cessna’s P/N 12-02033
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 face-mask with helmet style 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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hobbyair Pro 1 (1/2 mask)</td>
<td>P/N 12-15850</td>
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<tr>
<td>Hobbyair Pro 1 (1/2 mask)</td>
<td>P/N 12-15860</td>
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</tr>
<tr>
<td>Buddy System Hobbyair (110v)</td>
<td>P/N 12-15870</td>
<td></td>
</tr>
<tr>
<td>Hobbyair Pro (Full mask)</td>
<td>P/N 12-15851</td>
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<tr>
<td>Hobbyair II</td>
<td>P/N 09-00633</td>
<td></td>
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</tbody>
</table>

CITATION 4 HVLP SPRAYER/RESPIRATOR

Similar to, but much more powerful than their standard CITATION unit, this new sprayer will allow its user to achieve ‘show plane’ quality results to a level never before possible with a turbine powered system. Do you have HVLP finish quality reservations? You can forget about them with this new 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 higher 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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
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<tbody>
<tr>
<td>CITATION 4 HVLP SPRAYER/RESPIRATOR</td>
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<tr>
<td>Budder Air HVLP Kit</td>
<td>P/N 12-15875</td>
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<tr>
<td>Buddy System HVLP Kit</td>
<td>P/N 12-15880</td>
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PAINT SPRAY RESPIRATOR


<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>#95110, Respirator</td>
<td>P/N 12-15700</td>
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</tr>
<tr>
<td>#95111, Replacement Cartridges Set of Two</td>
<td>P/N 9511</td>
<td></td>
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<tr>
<td>#95112, Replacement Pre-Filters Set of Two</td>
<td>P/N 95112</td>
<td></td>
</tr>
<tr>
<td>#R165B, Clips for Pre-Filters Pkg. of 2</td>
<td>P/N 12-01197</td>
<td></td>
</tr>
</tbody>
</table>

3M™ PARTICULATE RESPIRATORS

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 reduce eyewear fogging. Workplace applications: woodworking, grinding, sanding, sweeping, bagging, other dusty operations.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
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<tbody>
<tr>
<td>Standard dust mask</td>
<td>P/N 09-01496</td>
<td></td>
</tr>
<tr>
<td>Vented dust mask</td>
<td>P/N 09-01497</td>
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</tr>
</tbody>
</table>

3M™ PROTECTIVE EYEWEAR

1730 SERIES - Meets the requirements of ANSI Z87.1-2003 as high impact protectors. Black and Clear................. P/N 09-01486

1740 SERIES - Meets the requirements of ANSI Z87.1-2003 as high impact protectors. Black and Clear......................... P/N 09-01725


PROFESSIONAL SAFETY GLASSES -

• For the professional or serious do-it-yourselfer
• Ideal for outdoor use (P/N 13-90751)

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear and Black</td>
<td>P/N 13-90750</td>
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</tr>
<tr>
<td>Tinted grey and Black</td>
<td>P/N 13-90751</td>
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</tr>
</tbody>
</table>

FOR OTHER 3M™ PRODUCTS SEE PAGES 345-352

SAFETY SPECTACLES

These safety spectacles feature a contoured shape which offers unobstructed vision, excellent side protection and comfort fit bridge. Front color and temple color is black. Lens and sideshell color is clear.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paint Spray Respiration</td>
<td>P/N 13-01310</td>
<td></td>
</tr>
</tbody>
</table>

IMPACT GOGGLES

Protects eyes from flying objects. Can be worn over personal glasses. Perforated mask reduces fogging. Fully adjustable elastic headband. Clear polycarbonate lens, 050” thick, is easily removed for cleaning. Meets requirements of ANSI Z87.1 Goggles................................. P/N 91200

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement Lens, Clear</td>
<td>P/N 91200</td>
<td></td>
</tr>
</tbody>
</table>

FULL-SEAL PROTECTIVE GOGGLES

These goggles completely shield the face from chemical splash, flying particles and dust. They are ideal for use with epoxies and paints and are included in our Safe-T-Plus Kits. Self-ventilating for comfortable wear.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFETY FACE SHIELDS</td>
<td>P/N 11-00317</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scabar Sand Blast Hood</td>
<td>P/N 12-01664</td>
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</tr>
<tr>
<td>Scabar Lite Sand Blast Hood</td>
<td>P/N 12-01666</td>
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</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lens for Scabar Blast Hood</td>
<td>P/N 12-01667</td>
<td></td>
</tr>
<tr>
<td>Screen for Scabar Blast Hood</td>
<td>P/N 12-01688</td>
<td></td>
</tr>
</tbody>
</table>
SAFETY EQUIPMENT

3M™ AOSAFETY GOGGLES

AOSAFETY GOGGLE BY
- Adjustable soft temples feel good even after extended wear
- Soft universal-fit nose bridge
- High impact polycarbonate lens blocks 99.9% UV
- Three lens angles for custom fit
- Available in Clear or Gray +1.50, +2.0 & +2.50 diopeter lenses

P/N 09-02154 ......................................

AOSAFETY GOGGLE VIRTUA SPORT
- Meets ANSI Z87.1
- Sleek - Styling with both men and women
- Lightweight - Less than 1 oz
- Curved flexible temples for comfortable fit
- Hard Coat guards against scratching, static and chemical attack

P/N 09-02155 ......................................

AOSAFETY DUST GOGGLEGEAR
- Vent channels at top and bottom for improved air flow
- Lighter weight than most goggles for improved comfort
- Soft foam backing seals out particulates
- Meets the Impact Goggles requirements of ANSI Z87.1

Made in U.S.A.

P/N 09-02156 ......................................

AOSAFETY GOGGLE OC CHOPPER
- Extreme safety eyewear for indoor use
- OCC styling
- Clear anti-fog lens
- Complies to ANSI Z87.1 high impact standards

P/N 09-02157 ......................................

AOSAFETY LIGHTVISION 2 GOGGLE
- Hands free direct lighting; anti-fog lens; available w/reader lens
- Two ultra bright, adjustable LED lights
- Long-life, replaceable CR2032 3V battery; includes bag and lanyard
- Flexible nose bridge fits virtually all faces
- Meets ANSI Z87.1-2003 and CSA Z94.3 standards

P/N 09-02158 ......................................

FOR OTHER 3M™ PRODUCTS SEE PAGES 345-352

PELTOR WORKTUNES

Worktunes is a self-contained AM/FM noise attenuating headset (NRR 25db) which provides hearing protection combined with an AM/FM radio. Features include a wide, soft padded headband, flexible antenna

P/N 11-01589 ......................................

PELTOR WORKTUNES

Safe listening at their fingertips. Just push the button on the PTL muff and speech and sounds “outside” the muff cup can be heard clearly and safely. After 30 seconds, the muff automatically returns to its full protection with a NRR of up to 25 db.

Over-the-head Ear Muff: P/N 12-00895 ..........
Cap Attached Ear Muff: P/N 12-00896 ..........
Hygiene Kit: P/N 12-00897 ..........

NOISEBUSTERS ANR EARMUFFS

Designed to reduce aircraft engine noise for airport ground support crews as well as aircraft maintenance and technical personnel. The NoiseBuster Active Noise Reduction (ANR) Safety Earmuff combines an ANSI-rated 26NRR passive earmuff with active noise reduction electronics that deliver up to an additional 20 db of low-frequency noise attenuation. Powered by a AA battery, the earmuff is resistant to water, moisture, contaminants, mechanical shock, and vibration. Perfect for users who do not require two-way communications capability but who can benefit from protection. Includes: * NoiseBuster ANR Safety Earmuff
* One AA battery
* 3.5 mm audio interface cable
* Warranty - 6 months

P/N 11-07369 ......................................

HEARING PROTECTOR

This 3-position ear muff offers protection from high noise levels. Lightweight comfort, effective design combine to provide high performance attenuation. Can be worn over or behind head, under chin.

P/N 97030 ......................................

PELTOR PERSONAL HEARING PROTECTOR

Pelletor Personal Hearing Protectors Provide maximum attenuation in severe noise environments such as jet engines, riveting, and industrial high noise areas. Features include soft, broad ear cushions and softly padded head band. Combined liquid and foam filled ear seals give good sealing and low surface pressure.

P/N 12-16110 ......................................

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 ......................................

CABOT HEARING PROTECTORS

The Cabot hearing protectors are lightweight and comfortable, allows commands to be heard. Liquid/foam ear cushions, and padded, adjustable headband.

P/N 12-01172 ......................................

E-A-R NOISE FILTERS

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 ......................................

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 09-02148 ............................

E-A-R SOFT™ YELLOW NEONS™
- NRR 32db-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 09-02150 ............................

E-A-R EARBUDS 2600 HEADPHONES

E-A-R EARBUDS 2600 HEADPHONES
- NRR 25dB
- Noise Limited to 82dB
- Convenient, Easy-Access Volume Control
- Ultra Comfortable Design
- Better fit for longer wear

P/N 09-02153 .............................
DRAEGER X-PLORE TWIN FILTER RESPIRATORS

X-PLORE 3300 SERIES RESPIRATORS

The 3300 Series Mask is an economical half mask made of TPE material with a continuous grey color neck strap.

Under the new particulate filter rules, there are three series of filters: N, R, and P. The N filters are Not resistant to oil; the R filters are resistant to oil; and the P filters are oil proof.

The N series of filters is appropriate for airborne particles such as silica or lead, when there are no oil-based products also in the air.

For example, an N series filter would be recommended during the removal of old lead paint. However, for spraying an oil-based lead paint, an R or P series filter would be recommended as protection against the airborne mist of oil-based solvent.

The R series (resistant to oil) should only be used for a single shift when solvent or oil mist is present in the air. This filter resists oil but may break down in contact with oil or solvent over a long time.

When using P series filters, check the manufacturer’s instructions to determine how long the filter can be used when airborne particles are present. NIOSH originally thought that P series filters were oil-proof but recent tests have found there may be some breakdown of the filter material with long-term oil exposure.

Note: N, R, and P filters do not provide protection against organic vapors.

3300/N95 RESPIRATOR KIT
Kit includes 3300 Mask, 2 each N95 filter pads, 2 each filter pad retainers, and 2 each filter pad bases. P/N 12-02261 ....................

3300/R95 RESPIRATOR KIT
Kit includes 3300 Mask, 2 each R95 filter pads, 2 each filter pad retainers, and 2 each filter pad bases. P/N 12-02262 ....................

3300/P100 RESPIRATOR KIT
Kit includes 3300 Mask, 2 each P100 filter pads, 2 each filter pad retainers, and 2 each filter pad bases. P/N 12-02263 ....................

X-PLORE 3500 SERIES RESPIRATORS

The 3500 Series Mask is a premium half mask made of Draeger Flex Material. Clasped Slide-Down feature with a black neck strap.

Under the new particulate filter rules, there are three series of filters: N, R, and P. The N filters are Not resistant to oil; the R filters are resistant to oil; and the P filters are oil proof.

The N series of filters is appropriate for airborne particles such as silica or lead, when there are no oil-based products also in the air.

For example, an N series filter would be recommended during the removal of old lead paint. However, for spraying an oil-based lead paint, an R or P series filter would be recommended as protection against the airborne mist of oil-based solvent.

The R series (resistant to oil) should only be used for a single shift when solvent or oil mist is present in the air. This filter resists oil but may break down in contact with oil or solvent over a long time.

When using P series filters, check the manufacturer’s instructions to determine how long the filter can be used when airborne particles are present. NIOSH originally thought that P series filters were oil-proof but recent tests have found there may be some breakdown of the filter material with long-term oil exposure.

Note: N, R, and P filters do not provide protection against organic vapors.

3500/N95 RESPIRATOR KIT
Kit includes 3500 Mask, 2 each N95 filter pads, 2 each filter pad retainers, and 2 each filter pad bases. P/N 12-02264 ....................

3500/R95 RESPIRATOR KIT
Kit includes 3500 Mask, 2 each R95 filter pads, 2 each filter pad retainers, and 2 each filter pad bases. P/N 12-02265 ....................

3500/P100 RESPIRATOR KIT
Kit includes 3500 Mask, 2 each P100 filter pads, 2 each filter pad retainers, and 2 each filter pad bases. P/N 12-02266 ....................

X-PLORE 3300 COMBINATION CARTRIDGE KIT

The combo cartridge is a P100 filter, and also filters out organic vapor/acid, gas, formaldehyde, chlorine dioxide, and hydrogen floride. Kit includes mask and one combo cartridge. P/N 12-02267 ....................

X-PLORE 3500 COMBINATION CARTRIDGE KIT

The combo cartridge is a P100 filter, and also filters out organic vapor/acid, gas, formaldehyde, chlorine dioxide, and hydrogen floride. Kit includes mask and one combo cartridge. P/N 12-02268 ....................

REPLACEMENT PARTS FOR 3300/3500 KITS

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300 Series Mask Only</td>
<td>12-02253</td>
<td></td>
</tr>
<tr>
<td>3500 Series Mask Only</td>
<td>12-02254</td>
<td></td>
</tr>
<tr>
<td>N95 Filter Pad Only</td>
<td>12-02255</td>
<td></td>
</tr>
<tr>
<td>R95 Filter Pad Only</td>
<td>12-02256</td>
<td></td>
</tr>
<tr>
<td>P100 Filter Pad Only</td>
<td>12-02257</td>
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</tr>
<tr>
<td>Filter Pad Retainer</td>
<td>12-02258</td>
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</tr>
<tr>
<td>Filter Pad Base</td>
<td>12-02259</td>
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</tr>
<tr>
<td>P100 Combination Cartridge</td>
<td>12-02260</td>
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