

## ECKOLD HF80CH HANDFORMER

This is a manually operated machine which is suitable for shrinking, stretching, punching, notching and edging in metal sheets and profiles up to 16 gauge. It is supplied with a set of FWA405SSP shrinker and FWR407SSP stretcher jaws. Many other optional jaws are available.

Reach x Gap	Capacity			Adj. Working Height	Weight	Shipping Weight
	Steel	Alum.	Stainless Steel			
3"R x 2-1/4" G	16 ga.	14 ga.	19 ga.	32-1/2" to 44-1/2"	53 lbs.	69 lbs.

Optional Jaw Assembly		
<b>Shrinking Jaws</b> FWA405SSP(STD) HS40ASSP Beaked HLFA70SSP Nomar HLA60SSP Nomar Beaked HLR60SSP Nomar Beaked	<b>Stretching Jaws</b> FWR407SSP (STD) HSR60SSP Beaked HFLR70SSP Nomar	<b>Specialty Jaws</b> LSW1SSP Punching Jaws AK250 Edging Jaws ASW442SSP Notching Jaws



## ECKOLD PA80 PNEUMATIC DRIVE KIT

The PA80 drive unit is a power assist for the HF80CH Handformer. By adding this unit to the handformer you will have both hands free to hold and guide your work piece. Every application of the air foot pedal results in a single working stroke. The amount of pressure applied to the project depends on how much you step on the pedal.

HF80CH shown with PA80 attached. To order assembled, use part number HF80CH-702.



## ECKOLD HZ51 HAND PLIER

Manually operated, plier type tool which can be used for 3 different ranges of applications. By simply changing the jaws, shrinking, stretching or clinching operations can be achieved. Clinching is the joining of 2 sheets of metal without using rivets, bolts, staples, welds, etc. Jaws are not included and must be ordered separately. Call for more information regarding clinching tooling.

Available Jaws	
FWA405SSP	Shrinker Jaw
FWR407SSP	Stretcher Jaw

Specifications			
Capacity			
Part No.	Steel	Alum.	Weight
HZ51	0.039"	0.059"	10 lbs.



HZ51

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## ECKOLD KF170PD POWER FORMER

The KF170PD is the smallest machine in the Kraftformer Series. Unique to this machine is the fact that the machine can be switched from a single stroke per pedal activation to a continuous stroke mode. This is an ideal, low cost, power unit for fabrication, correcting and adjusting. Standard equipment includes the FWA405K shrinker and FWR407K stretcher jaws.



Reach x Gap	Capacity			Working Height	Weight	Shipping Weight
	Steel	Alum.	Stainless Steel			
7"R x 4"G	16 ga.	14 ga.	19 ga.	45" (slightly adjustable)	332 lbs.	400 lbs.

Available Jaws			
<b>Shrinking Jaws</b> FWA405K (std) 40 mm FWA602K 60 mm HSA40K Beaked HFLA70K	<b>Stretching Jaws</b> FWR407K (std) 40 mm FWR603K 60 mm HSR60K Beaked HFLR70K Nomar	<b>Specialty Jaws</b> TP15K 015/15 Planishing Jaws LSW1K Hole Punch* ASW42K Notching Jaws DFW1K Clinching Tool Holder (only)**	<b>Doming Jaws</b> PFW40K 040/R min .50 PFW50K 050/R min .75

\* Punch and dies ordered separately; inquire about sizes.

\*\* Inquire regarding rectangular and round inserts.

## AIR OPERATED FLOOR MODEL SHRINKER &amp; STRETCHER

- Handwheel screw and indicator adjustment for accurate control
- Adjustable air blow-off safety valve with air gauge
- Restippling service for worn jaws
- Small footprint: only 1-1/2' x 1-1/2' at floor
- FOB factory
- Made in the U.S.A.

Part No.	Model	Capacity Stainless*	Reach	Floor to Jaw	Weight
6A-1	Shrinker	1/4" thick, 1-1/2" wide	6"	42"	575 lbs.
6A-2	Stretcher				

\* Other capacities: aluminum 2024, 1/4" x 1-1/2"; aluminum 5052, 1/4" x 2"; titanium, 5/32" x 1"

Part No.	Model	Capacity Stainless*	Reach	Floor to Jaw	Weight
12A-1	Shrinker	3/32" thick, 1" wide	12"	42"	575 lbs.
12A-2	Stretcher				

\* Other capacities: aluminum 2024, 5/32" x 1"; aluminum 5052, 3/16" x 1"; titanium, 3/32" x 3/4"

Accessories	
Part No.	Description
T3A1	Conversion Assembly (stretcher to shrinker)
T3B1	Conversion Assembly (shrinker to stretcher)
HD1A3	Replacement Shrinker Jaws (4 pc. set)
HD1B3	Replacement Stretcher Jaws (4 pc. set)



12A

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## U.S. INDUSTRIAL / ECKOLD FOOT FORMER

- Includes 1 each FWA405K & FWR407K jaws
- Designed and developed through a team effort between Eckold AG and U.S. Industrial Tool
- Ideal for use in sheet metal shops, schools, auto restoration facilities, aircraft maintenance shops and manufacturers
- Quick change tooling allows change-over in seconds
- Cast iron base with built in work shelf for tool storage
- Adjustable stroke to compensate for metal thickness
- Foot operation allows the use of both hands on large jobs
- Provides compound leverage and is much more comfortable for the operator
- Allows for greater control in correcting operations



**USPFP150**

Reach x Gap	Capacity			Working Height	Weight	Shipping Weight
	Steel	Alum.	Stainless Steel			
6" x 3-1/2"	16 ga.	14 ga.	19 ga.	40"	365 lbs.	420 lbs.

Available Jaws	
<b>Shrinking Jaws</b> FWA602K 60 mm HSA40K Beaked HFLA70K Nomar	<b>Stretching Jaws</b> FWR603K 60 mm HSR60K Beaked HFLR70K Nomar

## ECKOLD KF324 & KF330 PICCOLO KRAFTFORMER

Both the KF324 and KF330 are driven by electric motors (specify voltage when ordering). The KF324 has a hand wheel for the jaw pressure adjustment while the KF330 is adjusted by an electro-mechanical foot pedal. The jaws can be replaced in a matter of seconds so that you can quickly change from task to task. Mounted on heavy duty casters allows you to move the units around the shop or out of the way when not in use. These units are extremely popular in auto restoration and fabrication shops, as well as throughout the aviation industry. All tooling must be ordered separately. (Specify voltage when ordering.)



Reach x Gap	Capacity			Working Height	Weight	Shipping Weight
	Steel	Alum.	Stainless Steel			
14"R x 9-1/2"G	16 ga.	14 ga.	19 ga.	45" (slightly adjustable)	970 lbs.	1125 lbs.

Available Jaws					
<b>Shrinking Jaws</b> FWA402S 40 mm FWA502S 50 mm FWA602K 60 mm LFA70S Nomar 40 x 70 mm LFA120S Nomar 70 x 120 mm HSA40K Beaked KS50S Beaked	<b>Doming Jaws</b> PFW60S 60 mm PFW80S 80 mm	<b>Planishing Jaws</b> TP15S 85/15 mm TP25S 85/25 mm	<b>Stretching Jaws</b> FWR403S 40 mm FWR603K 60 mm LFR70S Nomar 40 x 70 mm LFR90S Nomar 55 x 90 mm SW2S 60 mm	<b>Straightening Jaws</b> RWS 80 x 150 mm (Lower Part) RW-TP25S (Upper Part) RW-WT80S (Upper Part)	<b>Flattening Jaws</b> FWS60S 60 mm LFS60S Nomar 60 mm

## BENCH MODEL SHRINKER & STRETCHER

These exceptional metal formers are great for making smooth radius bends in sheet metal without cutting, heating, or hammering the material. Reproduce just about anything with a curved edge. Mount them on your work bench or in a vise. Use the shrinker to contract metal, to make inside curves and use the stretcher to expand the metal for outside curves. The hand operated press gives a 45-to-1 leverage, works metal up to 18 gauge mild steel, 20 gauge stainless, and 17 gauge aluminum. Specially hardened jaws are reversible for double life. Each 12 lb. unit comes completely assembled and ready to use.



TP371



TP372



TP395



TP371PSS  
550NB  
STAND ONLY



TP371ST

Part No.	Description	Capacity	Weight
TP371	Metal Shrinker	18 gauge mild steel 20 gauge stainless steel 17 gauge aluminum	11 lbs.
TP372	Metal Stretcher		11 lbs.
TP372C	Combo Units		13 lbs.
TP395	Deep Throat 8" Reach Shrinker		64 lbs.
TP371PSS	Complete power stand (550 NB) with foot pedal, TP371 and TP372		30 lbs.

Accessories		
Part No.	Description	Weight
TP371ST	36" high floor stand	16 lbs.
9084	Conversion Assembly (Stretcher)	.05 lbs.
9078	Conversion Assembly (Shrinker)	.05 lbs.

## FOOT OPERATED FLOOR MODEL SHRINKER & STRETCHER

- Low cost, high quality
- Small footprint: only 2' x 2' at floor
- Restippling service available for worn jaws, please inquire
- Special jaw configurations also available, please inquire
- Made in the U.S.A.
- FOB factory

Part No.	Model	Capacity*	Reach	Floor to Jaw	Shipping Weight
6F-1	Shrinker	5/64"	6"	43-1/2"	400 lbs.
6F-2	Stretcher				

\* Capacity based on a tensile strength of 70,000 psi

Accessories	
Part No.	Description
6F-A-7	Conversion Assembly (stretcher to shrinker)
6F-B-7	Conversion Assembly (shrinker to stretcher)
6F-A-3	Replacement Shrinker Jaws (4 pc. set)
6F-B-3	Replacement Stretcher Jaws (4 pc. set)



6F

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## ECKOLD PLANISHING HAMMER KIT

The GL2 is essential for the manual cold forming of metal and aluminum sheet. A portable design where the work can be brought to the tool on the tool to the work. Any industry that has to do prototype manufacture or repairs of existing product can use this kit successfully!

- Quick Change Tooling Design
- Includes: Three (3) different forming dies for planishing, stretching and curving.
- Handy Storage Shelf "The Eckold Tool for a Perfect Finish."

Part No.	Blows per minute	Description
GL2	2500	Planishing hammer
023-400-1069	-	Stretcher insert
023-400-1066	-	Planishing insert
023-400-1067	-	Curving insert



**GL2**

## MITTLER BROS. PLANISHING HAMMER KIT

Speed up fabrication time on complex multi form aluminum and steel panels. This tool is ideal for making those impossible-to-find replacement parts, as well as making your own custom designs. Adjuster sets load force and makes anvil changes a breeze. Foot pedal controller frees your hands for complete control.

- 4,600 hits per minute at 90 PSI
- Bench mount
- Floor stand available

Part No.	Description
MIT2700-12	12" hammer with 9 anvils
MIT2700-24	24" hammer with 9 anvils
MIT2700-018	Flat anvil
MIT2700-010	3/4" radius anvil
MIT2700-011	1-1/2" radius anvil
MIT2700-012	2" radius anvil
MIT2700-013	3" radius anvil
MIT2700-014	4" radius anvil
MIT2700-015	6" radius anvil
MIT2700-016	8" radius anvil
MIT2700-017	12" radius anvil
MIT2700-100	9 pc. complete set
MIT3100-100	Universal tool stand



**MIT2700**

## ENGLISH WHEEL

**U.S. INDUSTRIAL ENGLISH WHEEL (Non-Powered)****What is a Wheel Machine?**

English wheel gets its name from the two steel wheels between which metal is formed. The wheels - one above and one below - are rolled against one another with a piece of sheet metal between, under a pre-adjusted pressure setting. The wheels roll as the sheet metal is moved back and forth. Shaping results as the lower wheel is forced under pressure into the metal, stretching and forming it.

It is especially useful on large panels. The wheel works equally well on aluminum or steel. Two men work together to form a large panel. The wheel can produce very smooth, very complicated curved shapes.

The upper wheel - always with a flat rolling surface - is fixed to the machine. The curve, or crown, of the interchangeable lower wheel - the roller - determines the shape of the piece being formed. The more curve in the roller, the more curve in the work. An adjustment on the lower wheel varies the amount of pressure exerted against the metal by the roller. A knob below the roller sets this pressure. In addition to the pressure adjustment, U.S. wheels have a quick-release lever. This allows the operator to drop the roller away from the upper wheel so the work can be removed and inserted quickly without losing the pressure setting.  
MADE IN THE U.S.A.

US1001 Specifications

Capacity	Reach	Opening Height Inside Tooling Post	Max. Gap W/D Lower Anvil Wheel	Overall Height	Weight
.125 thick Soft Alum.	44"	38"	3"	77-3/4"	1450 lbs.*
.063 thick Mild Steel	44"	38"	3"	77-3/4"	1450 lbs.*

\* Shipped freight collect. Export crating at extra cost.

**US1001\***

Includes 3 standard wheels:

**TP1001-1**

Anvil Wheel - 12" radius

**TP1001-2**

Anvil Wheel - 2-3/8" radius

**TP1001-3**

Anvil Wheel - 5" radius

**Optional Wheels**

(Wheels complete with axle & bearings)

**TP1001-4**

Anvil Wheel - 8-1/2" radius

**TP1001-5**

Anvil Wheel - 3-1/4" radius

**TP1001-6**

Flat Anvil Wheel



\* Shipped Freight Collect Export crating at extra cost.



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## ENGLISH WHEEL/SHAPER

**U.S. Industrial  
Fournier Quick Shaper  
Part No: USFPMS-2001**

U.S. Industrial Tool has teamed with Ron Fournier, widely recognized master metal worker and international author, to create this innovative new machine. Ron's decades of experience shines through in his answer to efficient access to the most widely utilized cold working/metal forming process. Fournier recognized that sheet metal replication requires the following multiple tasks:

- Hammering for pre-forming
- Wheeling and raising of metal panel
- Shrinking or stretching
- Planishing

Ron's goal was to provide a mobile forming center that can be navigated within the shop, allowing the worker to do many tasks right at the work site, as well as store the many different forming tools needed for truly professional results.

Each machine comes equipped as follows:

- Mobile unit on large casters
- English wheel and raising machine – foot activated design with six (6) different forming rollers
- Shot bag
- Interchanged pre-forming and planishing dollies – one (1) different crown
- Foot operated shrinker
- Hands tools not included
- Throat opening: 24" deep x 19" high
- Overall height: 51"
- Replacement wheels available
- Optional stretcher jaws available
- Made in the U.S.A.
- 385 lbs.



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## BOX AND PAN BRAKE

- Slotted clamping bar permits bending of any size box to 16" (1-1/2" depth)
- Can also bend 16 gauge at 8" wide
- Cam-action for quick, high pressure clamping
- Offset handles stay out of the way



Part No.	Capacity (mild steel)	Maximum Bend Length	Maximum Box Depth	Maximum Bend Angle	Minimum Reverse Bend	Shipping Weight
B16	18 ga.	16"	1-1/2"	135°	1/2"	32 lbs.

## HEAVY-DUTY BENDING BRAKES

- Rugged all steel construction with machined bending edge
- Can also bend heavier gauge in narrower widths
- Maximum 36 width stock
- Bench mount or optional stand mount
- Made in U.S.A.



Part No. Bending Brake	Capacity (mild steel)	Maximum Bend Length (unlimited throat)	Minimum Reverse Bend	Shipping Weight
B36	20 ga.	36"	1"	65 lbs.

Part No. Floor Stand	Shipping Weight
B36S	40 lbs.

## HEAVY-DUTY BENDING BRAKES

- A vice mounted tool with a capacity of 18 gauge mild steel
- Max. sheet width 24"
- Produces up to 100° folds - suitable for channel and sections
- Clamping blade is spring-lift assisted for easier operation
- Includes a protractor attachment which permits the angle of fold to be measured in degrees



Part No. Bending Brake	Capacity (mild steel)	Maximum Bend Length	Maximum Bend Angle	Minimum Reverse Bend	Shipping Weight
TP866	18 ga.	24"	135°	1/4"	29 lbs.

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## TENNSMITH® BENCH BRAKES

- Welded steel plate construction
- Heavy truss rods and braces provide strength and rigidity
- Roller type thrust bearing to prevent upper leaf creep
- Dual position apron angle with removeable apron insert
- Bench stands also available\*
- Made in U.S.A.
- FOB factory



**HBU48-12**

Part No.	Capacity (mild steel)	Maximum Bend Length	Maximum Box Depth	Minimum Reverse Bend	Shipping Weight
HBU48-12	12 ga.	48-1/4"	4"	1/4"	1330 lbs.
HBU48-16*	16 ga.	48-1/4"	4"	1/4"	495 lbs.
S48S	Stand	-	-	-	95 lbs.

## TENNSMITH® HEAVY-DUTY BENCH BRAKES

- Welded steel plate construction
- Heavy truss rods and braces provide strength and rigidity
- Roller type thrust bearing to prevent upper leaf creep
- Dual position apron angle with removeable apron insert
- Heavy counterweights and apron stop rod
- Made in U.S.A.
- FOB factory



**HB97-16**

Part No.	Capacity (mild steel)	Maximum Bend Length	Minimum Reverse Bend	Shipping Weight
HB97-16	16 ga.	97"	1/4"	1675 lbs.
HB121-16	16 ga.	121"	1/4"	2875 lbs.

## JET® BENCH MODEL BOX & PAN

- Incorporates all the features of our standard hand brakes but with greater range of application
- Welded steel plate construction
- With fingers installed it can be used as a full-length nose bar, turning the machine into a straight brake
- Sectioned fingers are easily removed for box bending and special forming operations
- Total of 16 assorted size section fingers
- FOB factory



**BP2248N**

Part No.	Capacity (mild steel)	Maximum Bend Length	Minimum Box Depth	Finger Nose Radius	Shipping Weight
BP2248N	22 ga.	48"	3"	1/32"	258 lbs.
BP1648N	16 ga.	48"	4"	1/32"	441 lbs.

## NATIONAL/TENNSMITH® FOOT SQUARING SHEARS

- Sheer comes standard with tool steel blades and front arm extensions
- Includes protractor gauges, graduated slide gauges and front squaring arm
- Unit will also shear plastic, lead, zinc aluminum, brass and copper
- Made in U.S.A.
- FOB factory



**36**

Part No.	Capacity (mild/stainless)	Maximum Cutting Length	Gauge Ranges (back/Front)	Shipping Weight
36	16/20 ga.	37"	30"/37"	700 lbs.
52	16/20 ga.	52-1/4"	30"/37"	950 lbs.
N52-16	16/20 ga.	52"	30"/37"	980 lbs.

## JET® FOOT SHEARS

- Sheer comes standard with high carbon, chrome steel blades
- Includes finger guards and front, side and back gauges
- Unit will also shear plastic, lead, zinc aluminum, brass and copper
- A quality import
- FOB factory



**FS1636N**

Part No.	Capacity (mild/stainless)	Maximum Cutting Length	Gauge Ranges (back/Front)	Shipping Weight
FS1636N	16 ga.	36"	25-1/2" / 28	754 lbs.
FS1652N	16 ga.	52"	25-1/2" / 28	1100 lbs.

## NATIONAL/TENNSMITH® HYDRAULIC POWERED SQUARING SHEARS

- Sheer comes standard with tool steel blades and front arm extensions
- Includes bevel gauges, graduated slide gauges, foot control and stroke counter
- Unit has neoprene padded-hold down feet
- 75 psi maximum operating pressure (except NH5216)
- Made in U.S.A.
- FOB factory
- NH5216 240/460 volts 3 phase motor



**52A**

Part No.	Capacity (mild/stainless)	Maximum Cutting Length	Gauge Ranges (back/Front)	Strokes per Minute (approx.)	Shipping Weight
36A	16/20 ga.	37"	30"/37"	40	800 lbs.
52A	16/20 ga.	52-1/4"	30"/37"	40	1085 lbs.
NH5216	16/20 ga.	52"	30"/37"	25	1400 lbs.
NH5212	16/16 ga.	52"	30"/37"	25	1600 lbs.

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## TENNSMITH® SLIP ROLLS

- An affordable heavy-duty production tool
- Includes 3/16", 1/4" and 5/16" wire grooves (except SR-48: 3/8", 1/2" and 5/8")
- Three full length rear starting grooves are standard
- Front mounted handle to lift upper roll for material removal
- Oilite bearings eliminate need for lubrication during the life of the unit
- Stands available
- Made in U.S.A.
- FOB factory



**SR24**

Part No. Slip Roll	Part No. Stand	Capacity (mild/stainless)	Maximum Forming Length	Minimum Forming Radius	Roll Dia.	Shipping Weight
SR24	SR24FS	20 ga.	24"	1"	2"	190 lbs.
SR36	SR36FS	22 ga.	36"	1"	2"	250 lbs.
SR42	SR42FS	24 ga.	42"	1"	2"	270 lbs.
SR48	SR48FS	16 ga.	48"	1-1/2"	3"	775 lbs.

## JET® SLIP ROLLS

- Suitable for many industrial, educational and vocational shop uses
- Precision tuned carbon steel rolls are ground and polished
- Includes 3/16", 1/4" and 5/16" wire grooves (except SR1650: 1/4", 5/16" and 3/8")
- Large roll adjusting screws and front mounted handle
- Stands available
- FOB factory



**SR2024N**

Part No. Slip Roll	Part No. Stand	Capacity (mild/stainless)	Maximum Forming Length	Minimum Forming Radius	Roll Dia.	Shipping Weight
SR2024	SRS24N	20 ga.	24"	1"	2"	182 lbs.
SR2236	SRS36N	22 ga.	36"	1"	2"	240 lbs.
SR1650N	SRS50N	16 ga.	50"	2"	3"	600 lbs.

## JET® SHEAR, BRAKE & ROLL COMBO

- Includes applicable dies, dual edge shear blade and back gauge
- Brake equipped with removeable fingers for complex bending operations
- Right or left hand operation
- FOB factory



**SBR30**

Part No. Slip Roll	Part No. Stand	Capacity (mild/stainless)	Slip Roll Size	Upper Die Height*	Minimum Forming Radius	Shipping Weight
SBR30N	SRS30N	20 ga. @ 30" wide	30" x 1-1/2"	4-3/8"	3/4"	320 lbs.
SBR40N	SRS40N	20 ga. @ 40" wide	40" x 1-5/8"	3-3/8"	1"	575 lbs.

## TENNSMITH® NOTCHER

- Front gauges and large surface ground work table standard
- Straight shearing: notches over 90° are accomplished in two operations
- Especially useful where box, chassis and panel blanks are to be made
- Reversible upper blades
- Made in U.S.A.
- Stand available

Part No.	Capacity (mild steel)	Blades Included	Shipping Weight
16-18	16 ga. (notching)	Regular	170 lbs.
16-18BF	18 ga. (piercing)	Tab	170 lbs.



16-18

## JET® NOTCHER

- Front gauges and large surface ground work table standard
- Straight shearing: notches over 90° are accomplished in two operations
- Especially useful where box, chassis and panel blanks are to be made
- Reversible upper blades
- FOB factory

Part No.	Capacity (mild steel)	Blades Included	Shipping Weight
HN16N	16 ga. (notching)	Regular	66 lbs.
S16N	Stand	–	90 lbs.



HN16N

## TENNSMITH® HAND ROTARY MACHINE

- Six rolls included: beading, turning, closing, jogging, flanging and crimping
- Adjustable roll pressure and table mount with clamp standard
- Can be used in both forward and reverse
- Operation is smooth, fast and precise
- Made in the U.S.A.

Part No.	Capacity (mild steel)	Throat	Height	Shipping Weight
R22	22 ga.	7"	16"	67 lbs.



R22

## JET® HAND ROTARY MACHINE

- Six rolls included: beading, turning, closing, jogging, flanging and crimping
- Adjustable roll pressure and table mount with clamp standard
- Can be used in both forward and reverse
- Operation is smooth, fast and precise

Part No.	Capacity (mild steel)	Throat	Height	Shipping Weight
RM22N	22 ga.	7"	16"	60 lbs.



RM22N

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## BEVERLY THROATLESS SHEARS

- Ideal all-purpose metal cutting tools
- Units allow any cut in heavy gauges, yet handle lighter materials without distortion
- Alloy steel rack and pinion for great power with little effort
- Removeable handle for easy portability (not shown)
- Two-point lower blade adjustment
- Exclusive shoulder design permits turning work to any shape or position

**B1**

Part No. Shears	Part No. Extra Blade Pair	Capacity (mild/stainless)	Blade Length	Height Less Handle	Overall Length	Weight
B1	B-1-1	14/18 ga.	4-1/2"	14"	9"	18 lbs.
B2	B-2-1	10/14 ga.	4-3/8"	14"	10"	35 lbs.
B3	B-3-1	3/16" / 10 ga.	5-5/8"	15"	14"	58 lbs.
B-Stand	Floor stand for above					25 lbs.

## BEVERLY SLITTING SHEAR

Part No.	Part No. Blade Pair	Capacity (mild/stainless)	Blade Cut Length	Weight
SS2	SS2-1	10/14 ga.	3-1/2"	10.5 lbs.
SS3	SS3-1	3/16 / 1/4 ga.	4-1/4"	25 lbs.
B-Stand	Floor stand for above			25 lbs.

**SS2**

## JET® SLITTING SHEAR

Part No.	Capacity (mild/stainless)	Blade Cut Length	Weight
SS-8N	3/16 / 1/4 ga.	2-3/4"	49 lbs.
SS-12N	10/14 ga.	2-3/8"	48 lbs.
B-Stand	Floor stand for above		25 lbs.



**SS-8N**

## ZT MICRO-STOP COUNTERSINK CAGE

- Hardened and ground spindles
- Ball thrush and bronze bearings



**330S**

Part No.	Max. Capacity	Shaft Travel	Depth Adjustment	Max. RPM
330S	5/8"	9/32"	0.001"	3000

### Replacement Skirts

Image	Bell 7/8" Cap	Flange S	Flange N	Swage 5/16" Cap	Cutaway
Type	Bell 7/8" Cap	Flange S	Flange N	Swage 5/16" Cap	Cutaway
Part No.	ZT330013	ZT63008	ZT33005N	ZT330018	ZT330017

## NYLON FLANGE SKIRT MICRO-STOP COUNTERSINK CAGE

- Compact and heavy-duty
- Bronze bearings
- Postive stop to connect shaft eliminates work damage
- 1.250 nylon flange on TP61N



**TP61N**



**TP61M**

Part No.	Max. Capacity	Shaft Travel	Depth Adjustment	Max. RPM
TP61N	5/8"	9/32"	0.001"	3000
TP61M	7/16"	9/32"	0.001"	3000

Note: TP61M has steel skirt

## MICRO-STOP COUNTERSINK CAGE

- Hardened and ground spindles
- Double bearings and precision depth control



**TP61BB**

Part No.	Max. Capacity	Shaft Travel	Depth Adjustment	Max. RPM
TP61BB	5/8"	9/32"	0.001"	10000

### Replacement Skirts for TP61, TP61N, TP61BB and ATI441

Image	Bell 3/4" Cap	Flange S	Flange N	Colose 5/16" Cap	Cutaway
Type	Bell 3/4" Cap	Flange S	Flange N	Colose 5/16" Cap	Cutaway
Part No.	TP61BL-1	TP61WF-1	TP61WF-1T	TP61CT-1	TP61ST-1

## THREADED SHANK MICRO-STOP COUNTERSINK CAGE

- 1/4"-28 shaft thread
- Postive adjustment lock



**AIT362**

Part No.	Max. Capacity	Shaft Travel	Depth Adjustment	Max. RPM
AIT362	5/8"	3/32"	0.001"	3000

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## EXTENDED MICRO-STOP COUNTERSINK CAGE

- Hardened and ground spindles
- Bronze bearings and precision depth control
- See page ?? for cutters



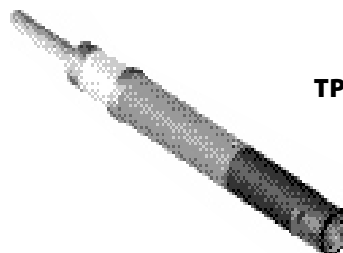
**AIT284**

Part No.	Max. Capacity	O.D.	Shaft Travel	Depth Adjustment	RPM
AIT284-A	1/4"	.375	9/32"	0.001"	3000
AIT284-B	5/16"	.425	9/32"	0.001"	3000
AIT284-C	3/8"	.500	9/32"	0.001"	3000
AIT284-D	5/8"	.750	9/32"	0.001"	3000

Note: AIT284-A has 10/32 thread

## EXTENDED TRAVEL MICRO-STOP COUNTERSINK CAGE

- Compact and heavy-duty
- Dual bearings for continuous high-speed use
- Positive stop to connect shaft eliminates work damage
- 1-1/2" travel allows users the all-in-one operation of drilling-reaming-countersinking all at once and with precision hole diameter and depth control



**TP61BBEX**

Part No.	Max. Capacity	Shaft Travel	Depth Adjustment	Max. RPM
TP61BBEX	3/8"	1-1/2"	0.001"	10000

## JUMBO MICRO-STOP COUNTERSINK CAGE

- Hardened and ground spindles, 3/8" shaft diameter, 3/8-24 thread
- Bronze bearings and precision depth control
- See page ?? for cutters



**TP59**

Part No.	Max. Capacity	Shaft Travel	Depth Adjustment	Max. RPM
TP59	1-1/4"	1/2"	0.001"	3000

## SNAP ON TYPE NYLON PROTECTIVE FOOT PIECE

- Just snap-on and snap-off protector

Part No.	ID	OD
286-1	.499	.750"
346-1	.680	.875"
304-1	.859	1.00"



**286-1**

## ATI MICRO-STOP COUNTERSINK CUTTER KIT

- Countersink versatility in a convenient and portable kit

**Kit Includes:**

- Countersink cage
- Six foot pieces
- 9 1/2" diameter cutters (3/32", 1/8", 5/32", 3/16", 1/4", #40, #30, #21 and #10)
- Plastic case

Part No.	Description
AT590CSK	17 pc. Countersink Cutter Kit



AT590CSK

## AERO MICRO-STOP COUNTERSINK CUTTER KIT

- Countersink versatility in a convenient and portable kit

**Kit Includes:**

Countersink cage, 330S, 4 cutters, 7/16" diameter #10, #21, #30 and #40 pcs, 304-1 protective cap and storage box.

Part No.	Description
AIT61K	6 pc. Countersink Cutter Kit



AIT61K

## ELLIPTICAL FASTENER COUNTERSINK CUTTER KIT

This kit provides countersinking capabilities for the installation of the NAS1734 or 1735 elliptical head blind nuts, for fasteners -3 (#10) thru -8 (1/2") hole preparation IAW NAS1736. The cutter and rockers are driven by common hand-held drill motors.

**Kit Includes:**

Kit includes two microstops with stabilizing rockers, and four cobalt cutters as follows:

- ATSK2260 - Microstop with Wobble Skirt and Arm Assembly (1/4"-28 threaded; 1/2" maximum diameter for fasteners #10, 1/4" and 5/16")
- ATSK2266 - Jumbo Microstop with Wobble Skirt and Arm Assembly (3/8"-24 threaded; 3/4" maximum diameter for fasteners 3/8", 7/16" and 1/2")
- C15374-3 - Elliptical Nut Countersink Assembly, #10
- C15374-4 - Elliptical Nut Countersink Assembly, 1/4"
- C15374-5 - Elliptical Nut Countersink Assembly, 5/16"
- C15374-6 - Elliptical Nut Countersink Assembly, 3/8"

Part No.	Description
AT2200CSK	8 pc. Countersink Cutter Kit



AT2200CSK



## BRILES MICRO-STOP COUNTERSINK CAGES

- 1/4"-28 thread
- Ball bearings



**AT441HSBRS**

Standard Skirt Model			
Part No.	Max. Capacity	Depth Adjustment	Max. RPM
AT441HSBRS	5/8"	0.001"	10000

Flanged Skirt Model			
Part No.	Max. Capacity	Depth Adjustment	Max. RPM
AT441HSBRF	5/8"	0.001"	10000

*Note: Other skirts available.*

## BRILES MICRO-STOP COUNTERSINK CUTTERS

- Cutter, counterbore and countersink
- Manufactured from M42 H.S.S. heat-treated to 63-66 Rc.

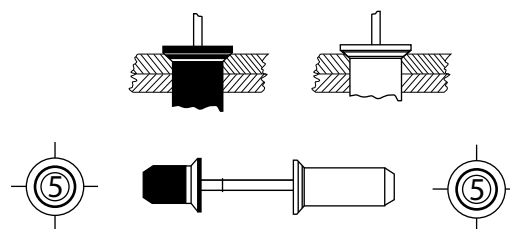


**FZP**

120° Countersink Cutters - 1/4"-28 Thread			
Part No.	Rivet Size	Diameter	Body Dia.
FZP-3	-3	3/32"	3/8"
FZP-4	-4	1/8"	3/8"
FZP-5	-5	5/32"	3/8"
FZP-6	-6	3/16"	3/8"
FZP-7	-7	7/32"	3/8"
FZP-8	-8	1/4"	1/2"

## BRILES DUAL GAUGES

Part No.	Nominal Diameter	No Go
FZDG-3	3/32"	.1265"
FZDG-4	1/8"	.1655"
FZDG-5	5/32"	.2140"
FZDG-6	3/16"	.2625"
FZDG-7	7/32"	.3170"
FZDG-8	1/4"	.3640"



**FZDG**

## ROSEBUD DEBURRING CUTTER

Especially suited for use in angle drills and angle attachments for hole deburring in close quarters. Precision ground angle to insure concentricity. Can also be used with TP120 speed deburring tool.

- 3 flute
- 3/4" OAL

HSS 1/4"-28 Thread		
Part No.	Diameter	Angle
TPCR3438	3/8"	100°
TPCR3438-7/16	7/16"	100°
TPCR3438-1/2	1/2"	100°



**TPCR**

## EXTENDED FOOTPIECE MICRO-STOP COUNTERSINK CUTTERS

- High speed steel
- 82° available

Integral Pilot Cutters		
Model No.	Diameter	Part No.
AIT284-A	1/4"	AIT285-17
AIT284-B	5/16"	AIT286-17
AIT284-C	3/8"	TP61-1
AIT284D	5/8"	TP64



AIT285-17

**Note:** When ordering cutters, please specify dash number and pilot diameter. Example: AIT285-17-1/8

## INTEGRAL PILOT CUTTERS

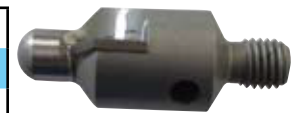


TP62

100° HSS				
Pilot Dia.	Part No. 3/8" Dia.	Part No. 7/16" Dia.	Part No. 1/2" Dia.	Part No. 5/8" Dia
3/32"	TP62-1-3/32	TP62-3/32	TP63-3/32	TP64-3/32
1/8"	TP62-1-1/8	TP62-1/8	TP63-1/8	TP64-1/8
5/32"	TP62-1-5/32	TP62-5/32	TP63-5/32	TP64-5/32
3/16"	TP62-1-3/16	TP62-3/16	TP63-3/16	TP64-3/16
7/32"	TP62-1-7/32	TP62-7/32	TP63-7/32	TP64-7/32
1/4"	TP62-1-1/4	TP62-1/4	TP63-1/4	TP64-1/4
#40	TP62-1-#40	TP62-#40	TP63-#40	TP64-#40
#30	TP62-1-#30	TP62-#30	TP63-#30	TP64-#30
#21	TP62-1-#21	TP62-#21	TP63-#21	TP64-#21
#10	TP62-1-#10	TP62-#10	TP63-#10	TP64-#10

**Note:** Available in 82° and 120° angle and solid carbide.

100° Carbide Tip			
Pilot Dia.	Part No. 3/8" Dia.	Part No. 7/16" Dia.	Part No. 1/2" Dia.
3/32"	TP62C-1-3/32	TP62C-3/32	TP63C-3/32
1/8"	TP62C-1-1/8	TP62C-1/8	TP63C-1/8
5/32"	TP62C-1-5/32	TP62C-5/32	TP63C-5/32
3/16"	TP62C-1-3/16	TP62C-3/16	TP63C-3/16
7/32"	-	TP62C-7/32	TP63C-7/32
1/4"	-	TP62C-1/4	TP63C-1/4
#40	TP62C-1-#40	TP62C-#40	TP63C-#40
#30	TP62C-1-#30	TP62C-#30	TP63C-#30
#21	TP62C-1-#21	TP62C-#21	TP63C-#21
#10	TP62C-1-#10	TP62C-#10	TP63C-#10



TP62C

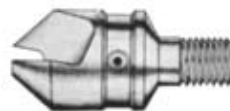
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## HSS REPLACEABLE PILOT CUTTERS AND PILOTS

- Precision ground, 1/4"-28 thread

HSS Replaceable Pilot Cutters, .086" Pilot Hole 100°		
Part No.	Body Diameter	Angle
MM307-1-100	3/8"	100°
MM307-2-100	7/16"	100°
MM307-3-100	1/2"	100°
MM307-4-100	5/8"	100°



**MM307**

.086" Replaceable Pilots	
Part No.	Pilot Diameter
MM311-3/32	3/32"
MM311-1/8	1/8"
MM311-5/32	5/32"
MM311-3/16	3/16"
MM311-7/32	7/32"
MM311-1/4	1/4"
MM311-#40	#40
MM311-#30	#30
MM311-#21	#21
MM311-#10	#10



**MM311**

## JUMBO MICRO-STOP COUNTERSINK CUTTERS



**MM307**



**MM311-2**

HSS Replaceable Pilot Cutters, .170" Pilot Hole 100°	
Part No.	Pilot Diameter
MM307-5-100	3/4"
MM307-6-100	7/8"
MM307-7-100	1"
MM307-8-100	1-1/8"
MM307-9-100	1-1/4"

*Note: Cutters available in 82° and 120°.*

.170" Replaceable Pilots	
Part No.	Pilot Diameter
MM311-2-3/16	3/16"
MM311-2-1/4	1/4"
MM311-2-5/16"	5/16"
MM311-2-3/8"	3/8"
MM311-2-7/16"	7/16"
MM311-2-1/2"	1/2"
MM311-2-5/8"	5/8"

## INTERCHANGEABLE PILOT AIRCRAFT COUNTERBORES

- Short flute type
- The OD is precision ground with back taper to ensure concentricity
- Corner radii ground to aircraft standards
- Sharp corner available - P.O.A.

848-1



1/4" Shank, 3/32" Pilot Hole			
Part No. HSS	Part No. Carbide Tip	Cutter Dia.	OAL
848-1	850-1	1/4"	2-3/8"
848-2	850-2	9/32"	2-3/8"
848-3	850-3	5/16"	2-3/8"
848-4	850-4	11/32"	2-3/8"
848-5	850-5	3/8"	2-3/8"

1/4" Shank, 1/8" Pilot Hole			
Part No. HSS	Part No. Carbide Tip	Cutter Dia.	OAL
848-6	850-6	13/32"	2-3/4"
848-7	850-7	7/16"	2-3/4"
848-8	850-8	15/32"	2-3/4"
848-9	850-9	1/2"	2-3/4"
848-10	850-10	17/32"	2-3/4"
848-11	850-11	9/16"	2-3/4"
848-12	850-12	19/32"	2-3/4"
848-13	850-13	5/8"	2-3/4"

1/4" Shank, 3/16" Pilot Hole			
Part No. HSS	Part No. Carbide Tip	Cutter Dia.	OAL
848-14	-	21/32"	2-3/4"
848-15	-	11/16"	2-3/4"
848-16	-	23/32"	2-3/4"
848-17	-	3/4"	2-3/4"
848-18	-	25/32"	2-3/4"
848-19	02-275-19C	13/16"	2-3/4"
848-20	02-275-20C	27/32"	2-3/4"
848-21	02-275-21C	7/8"	2-3/4"
848-22	02-275-22C	29/32"	2-3/4"
848-23	02-275-23C	15/16"	2-3/4"
848-24	02-275-24C	31/32"	2-3/4"
848-25	02-275-25C	1"	2-3/4"

Note: All HSS Counterbores: 1/32" corner radius.

Note: All Carbide Tipped Counterbores: 1/64" corner radius.

## AIRCRAFT COUNTERBORE PILOTS

- Made from precision ground, finest quality tool steel
- Exact size and concentricity tolerances
- Will fit almost all standard aircraft counterbores



3/32" Shank	
Part No.	Pilot Head Dia.
-	3/32"
855-2-3/32	1/8"
855-3-3/32	5/32"
855-4-3/32	#20
855-5-3/32	3/16"
855-6-3/32	#10
855-7-3/32	7/32"
855-8-3/32	1/4"
855-9-3/32	F
855-10-3/32	9/32"
855-11-3/32	-

1/8" Shank	
Part No.	Pilot Head Dia.
-	1/8"
855-3-1/8	5/32"
855-4-1/8	#20
855-5-1/8	3/16"
855-6-1/8	#10
855-7-1/8	7/32"
855-8-1/8	1/4"
855-9-1/8	F
855-10-1/8	9/32"
855-11-1/8	5/16"
855-12-1/8	11/32"
855-13-1/8	3/8"

3/16" Shank	
Part No.	Pilot Head Dia.
855-5-3/16	3/16"
855-6-3/16	#10
855-7-3/16	7/32"
855-8-3/16	1/4"
855-9-3/16	F
855-10-3/16	9/32"
855-11-3/16	5/16"
855-12-3/16	11/32"
855-13-3/16	3/8"
855-14-3/16	13/32"
855-15-3/16	7/16"
855-16-3/16	15/32"
855-17-3/16	1/2"

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## INTERCHANGEABLE PILOT AIRCRAFT COUNTERBORE KITS

### 13 Piece Short Series HSS Kit includes:

- 1 each Counterbores (1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16" and 1")
- Polyethylene case

### 25 Piece Short Series HSS Kit includes:

- 1 each Counterbores (Same as 13 pc, PLUS 9/32", 11/32", 13/32", 15/32", 17/32", 19/32", 21/32", 23/32", 15/32", 27/32", 29/32" and 31/32")
- Polyethylene case

Part No.	Description
848K13	13 pc. Counterbores
848K23P	13 pc. Counterbores & 10 Pilots
848K25	25 pc. Counterbores
848K45P	25 pc. Counterbores & 20 Pilots



**848K25**

## REVERSE COUNTERSINKS AND SPOTFACERS KITS

### Back Spotface Kit includes:

- 1 each Pilots (3/32", 1/8", 5/32", 3/16", 1/4" and 5/16")
- 1 each Cutter (190-1J, 190-1K, 190-2K, 190-3K, 190-3L, 190-4K, 190-4L, 190-5K, 190-5L, 190-6K, 190-6L, 190-7K, 190-7L)
- Plastic case

Part No.	Description
190K20	Reverse Spotfacer Kit (20 pcs.)

### Reverse Countersink Cutter Kit includes:

- 1 each Pilots (3/32", 1/8", 5/32", 3/16", 1/4" and 5/16")
- 1 each 100° Cutters (180-1J, 180-1K, 180-2J, 180-2K, 180-3K, 180-3L, 180-4K, 180-4L, 180-5K, 180-5L, 180-6K, 180-6L, 180-7K and 180-7L)
- Metal tray and plastic case

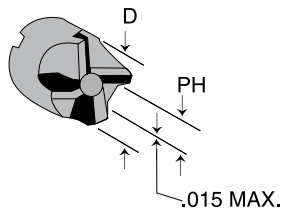
Part No.	Description
180K20	Reverse Countersink Cutter Kit (20 pcs.)



**180K20**

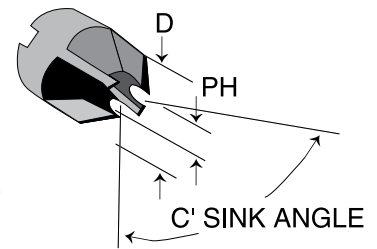
## REVERSE COUNTERSINKS AND SPOTFACERS

Reverse spotfacers are designed for use in restricted areas where conventional spotfacers cannot be utilized. Cutter furnished with 1/32" corner radius.



Reverse countersinks are designed for use in restricted areas where conventional countersinks cannot be utilized.

- 100° countersink angle



HSS		
Part No.	"D" Cutter Dia.	"PH" Pilot Hole
190-1J	1/4	3/32
190-1K	1/4	1/8
190-2J	5/16	3/32
190-2K	5/16	1/8
190-2L	5/16	5/32
190-3J	3/8	1/8
190-3K	3/8	5/32
190-3L	3/8	3/16
190-4J	7/16	1/8
190-4K	7/16	5/32
190-4L	7/16	3/16
190-5J	1/2	5/32
190-5K	1/2	3/16
190-5L	1/2	1/4
190-6J	9/16	5/32
190-6K	9/16	3/16
190-6L	9/16	1/4
190-7J	5/8	3/16
190-7K	5/8	1/4

Solid Carbide		
Part No.	"D" Cutter Dia.	"PH" Pilot Hole
191-1J	1/4	3/32
191-1K	1/4	1/8
191-2J	5/16	3/32
191-2K	5/16	1/8
191-2L	5/16	5/32
191-3J	3/8	1/8
191-3K	3/8	5/32
191-3L	3/8	3/16
191-4J	7/16	1/8
191-4K	7/16	5/32
191-4L	7/16	3/16
191-5J	1/2	5/32
191-5K	1/2	3/16
191-5L	1/2	1/4
191-6J	9/16	5/32
191-6K	9/16	3/16
191-6L	9/16	1/4
191-7J	5/8	3/16
191-7K	5/8	1/4

HSS		
Part No.	"D" Cutter Dia.	"PH" Pilot Hole
180-1J	1/4	3/32
180-1K	1/4	1/8
180-2J	5/16	3/32
180-2K	5/16	1/8
180-2L	5/16	5/32
180-3J	3/8	1/8
180-3K	3/8	5/32
180-3L	3/8	3/16
180-4J	7/16	1/8
180-4K	7/16	5/32
180-4L	7/16	3/16
180-5J	1/2	5/32
180-5K	1/2	3/16
180-5L	1/2	1/4
180-6J	9/16	5/32
180-6K	9/16	3/16
180-6L	9/16	1/4
180-7J	5/8	3/16
180-7K	5/8	1/4

Solid Carbide		
Part No.	"D" Cutter Dia.	"PH" Pilot Hole
181-1J	1/4	3/32
181-1K	1/4	1/8
181-2J	5/16	3/32
181-2K	5/16	1/8
181-2L	5/16	5/32
181-3J	3/8	1/8
181-3K	3/8	5/32
181-3L	3/8	3/16
181-4J	7/16	1/8
181-4K	7/16	5/32
181-4L	7/16	3/16
181-5J	1/2	5/32
181-5K	1/2	3/16
181-5L	1/2	1/4
181-6J	9/16	5/32
181-6K	9/16	3/16
181-6L	9/16	1/4
181-7J	5/8	3/16
181-7K	5/8	1/4

## REVERSE COUNTERSINK & SPOTFACER PILOTS

- Interchangeable among countersink and counterbore cutters
- Standard 6" overall length



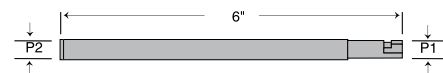
185-2

Part No.	Pilot Diameter
185-1	3/32"
185-2	1/8"
185-3	5/32"
185-4	3/16"

Part No.	Pilot Diameter
185-5	1/4"
185-6	5/16"
185-7	3/8"
185-8	1/2"

## REVERSE COUNTERSINK & SPOTFACER STEP PILOTS

- Interchangeable among countersink and counterbore cutters
- Standard 6" overall length



186-2

Part No.	Pilot Dia. P2	Pilot Dia. P1
186-1	3/32"	1/8"
186-2	1/8"	5/32"
186-3	5/32"	3/16"
186-4	3/16"	1/4"
186-5	1/4"	5/16"
186-6	5/32"	3/16"
186-7	3/16"	1/4"
186-8	1/4"	5/16"

Part No.	Pilot Dia. P2	Pilot Dia. P1
186-9	5/16"	3/8"
186-10	3/8"	1/2"
186-11	1/2"	9/16"
186-12	1/4"	5/16"
186-13	5/16"	3/8"
186-14	3/8"	1/2"
186-15	5/16"	3/8"
186-16	3/8"	1/2"

## ZERO FLUTE COUNTERSINK CUTTERS

- Single cutting edge for fast stock removal and chatter free finish in all materials

82° Zero Flute, 1/4" Shank		
Part No.	Capacity (Min. - Max.)	OAL
CSK35	3/32" - 15/64"	1-3/4"
CSK18	3/16" - 17/32"	1-7/8"
CSK26A	5/16" - 3/4"	2-1/16"

100° Zero Flute, 1/4" Shank		
Part No.	Capacity (Min. - Max.)	OAL
CSKA8	3/32" - 1/4"	1-1/2"
CSKA14	1/8" - 27/64"	1-11/16"
CSKA18	3/16" - 35/64"	1-7/8"



**CSK35**

## CARBIDE / HSS COUNTERSINK CUTTERS

- Radial relief ground angle to assure free cutting clearance and prevent chatter
- 82°, 100° and 120° available\*



**MM312-1**

Three Flute Chatterless			
Part No. HSS	Part No. Carbide	Dia.	Shank
MM312-1	MM312-1C	1/4"	1/4"
MM312-2	MM312-2C	3/8"	1/4"
MM312-5	MM312-5C	1/2"	1/4"

Six Flute Chatterless			
Part No. HSS	Part No. Carbide	Dia.	Shank
MM612-1	MM612-1C	1/4"	1/4"
MM612-2	MM612-2C	3/8"	1/4"
MM612-5	MM612-5C	1/2"	1/4"

*Note: Select the cutter required (charts) then add the desired cutting angle (82, 100 or 120). Example: For a 3/8 dia. HSS 3 Flute with 100°, use Part No. MM312-2.*

## CARBIDE TIPPED STOP COUNTERBORES & PILOTS

- 1/4-28 thread



**730-1**

Part No.	"D" Body Dia.	"PH" Pilot Hole	"S" Shank Size
730-1	3/8	3/32	1/4-28
730-2	7/16	1/8	1/4-28
730-3	1/2	1/8	1/4-28
730-4	9/16	1/8	1/4-28
730-5	5/8	1/8	1/4-28



**755-1**

Part No.	Pilot Head Nom. Dia.	Std. Shank Diameters	
		3/32	1/8"
755-1	1/8 (.125)	•	
755-2	#30 (.128)	•	
755-3	5/32 (.156)	•	•
755-4	#20 (.161)	•	•
755-5	3/16 (.187)	•	•
755-6	#10 (.193)	•	•
755-7	7/32 (.218)	•	•
755-8	1/4 (.250)	•	•
755-9	F (.257)	•	•
755-10	9/32 (.281)	•	•
755-11	5/16 (.312)	•	•

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## LIGHTENING HOLE PUNCHES

- Precision machined and heat treated
- Forms lightening holes for access or strengthening
- Punches and flares tool in one operation
- Punches 1" to 4" diameter holes
- Capacity 1/8" aluminum/mild steel

Arbor Press Type	
Part No.	Diameter
LHPA	1"
LHPAA	1-1/4"
LHPB	1-1/2"
LHPBB	1-3/4"
LHPC	2"
LHPCC	2-1/4"
LHPD	2-1/2"
LHPDD	2-3/4"
LHPE	3"
LHPPE	3-1/4"
LHPF	3-1/2"
LHPFF	3-3/4"
LHPG	4"

Note: Larger sizes available.

Portable (Draw Bolt Type)	
Part No.	Diameter
LHP-3/4	3/4"
LHP-1-1/4	1-1/4"
LHP-1-1/2	1-1/2"
LHP-1-3/4	1-3/4"
LHP-2	2"
LHP-2-1/4	2-1/4"
LHP-2-1/2	2-1/2"
LHP-2-3/4	2-3/4"
LHP-3	3"

13 Pc. Arbor Press Hole Punch Kit	
Part No.	Diameter Range
LHPK	1" - 4"



LHP-2

## COMBO INSTRUMENT PANLE HOLE CUTTERS

- Quickly cut 3-1/8" and 2-1/4" standard instrument mounting holes
- Aluminum panels 1/8" thick are easily handled

Part No.	Description
TP688	Panel Punch

TP688

## INSTRUMENT PANEL HOLE CUTTER

- Cuts clean burr-free holes
- Uses ordinary wrench
- Requires 7/16 pre-drill hole
- Capacity 10 gauge mild steel

Part No.	Description
TP292	2-1/4" cutter
TP292A	3-1/8" cutter



TP292



## FINE & COARSE TOOTH HOLES SAWS

Part No.	Description	For Use With
400	Fine Tooth	Aluminum, Sheet Steel & Plastics
401	Coarse Tooth	Thick Material (deep teeth for proper chip flow)



400

*Note: Select the type saw required, then add the desired diameter number (chart below). Example: For a Fine Tooth Hole Saw with a 3/8" diameter, the part number would be 400-1.*

Part No. (Prefix)	Diameter
-1	3/8"
-2	13/32"
-3	7/16"
-4	15/32"
-5	1/2"
-6	17/32"
-7	9/16"
-8	19/32"
-9	5/8"
-10	21/32"
-11	11/16"
-12	23/32"

Part No. (Prefix)	Diameter
-13	3/4"
-14	25/32"
-15	13/16"
-16	27/32"
-17	7/8"
-18	29/32"
-19	15/16"
-20	31/32"
-21	1"
-22	1-1/16"
-23	1-1/8"
-24	1-3/16"

Part No. (Prefix)	Diameter
-25	1-1/4"
-26	1-5/16"
-27	1-3/8"
-28	1-7/16"
-29	1-1/2"
-30	1-9/16"
-31	1-5/8"
-32	1-11/16"
-33	1-3/4"
-34	1-13/16"
-35	1-1/4"
-36	1-15/16"

Part No. (Prefix)	Diameter
-37	2"
-38	2-1/8"
-39	2-1/4"
-40	2-3/8"
-41	2-1/2"
-42	2-5/8"
-43	2-3/4"
-44	2-7/8"
-45	3"

*Note: 3/8" to 1-1/4" diameter furnished with 5/16"-24 thread, 1-5/16" to 3" diameter furnished with 1/2"-20 thread.*

## HOLE SAW ARBORS

- Precision ground to ensure concentricity



402-1

Part No.	Pilot Dia.	Shank Dia.	Thread Size
402-1	3/16"	1/4"	5/16"-24
402-2	1/4"	1/4"	5/16"-24
402-3	1/4"	1/2"	5/16"-24
402-4	3/8"	1/2"	5/16"-24
402A	Hole Saw Adapter - 1/2-20 outside to 5-1/6"-24 inside		

## HOLE FLANGING TOOL

- Ideal tool for flanging lightening holes
- Ball bearing construction
- Easy to use



TP326

Part No.	Description
TP326	Hole Flanger

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## HAND METAL PUNCH KITS

- 2.75 lbs.
- 1.2 tons of punching power

**Kit Includes:**

- Punch
- Punch Dies (3/32", 1/8", 5/32", 3/16", 7/32", 9/32", and 1/4")
- Plastic case

Part No.	Description
5JR	Complete Kit (USA)
TP76K	Complete Kit (Economy Model)

**TP76K**

TP76 Replacement Punch & Die Sets	
Part No.	Size
TP77	3/32
TP78	1/8
TP79	5/32
TP80	3/16
TP40	7/32
TP41	1/4
TP42	9/32

5JR Replacement Punch & Die Sets	
Part No.	Size
200050063	1/16
200050094	3/32
200050125	1/8
200050156	5/32
200050188	3/16
200050219	7/32
200050250	1/4
200050281	9/32

## BLAIR HOLE CUTTER KIT

- Retractable, spring-loaded pilot pops slug out on completion

**Blaircutter Sheet Metal Cutter Kit Includes:**

- Arbor with retractable pilot
- Three extra pilots
- Cutters (1/4", 5/16", 3/8", 7/16", 1/2", 9/16" and 5/8")

Part No.	Capacity
13218	3/16" thick

**13218**

- Retractable, spring-loaded pilot pops slug out on completion

**Blaircutter Sheet Metal Cutter Kit Includes:**

- Arbor with retractable pilot
- Extra pilots
- Cutters (5/16", 3/8", 7/16", 1/2", 9/16", 5/8" and 3/4")

Part No.	Capacity
11090	1/4" thick

**11090**

## OPTICAL CENTER PUNCH

- Removeable magnifier cylinder with crosshair accurate and easy to use
- Non-skid cone holds punch in position

Part No.	Description
14517	Optical Center Punch

14517



## AUTOMATIC CENTER PUNCH

- Automatic, spring-loaded operation
- TP249HD light-duty
- TP294HD heavy-duty
- Ground and hardened replaceable point

Part No.	Overall Length
TP249HD	5"
TP294HD	6"



TP294HD

## POCKET AUTOMATIC CENTER PUNCH

- Slim design for better visibility
- Can be adjusted for light or heavy strokes

Part No.	Description
AIT87	Tool with Centering Point
AIT87A	Spare Centering Point



AIT87

## HAND PIN PUNCH SETS

- Made of hardened and tempered tool steel with ground points (45-52 Rc.)
- Knurled body for better grip
- Includes fitted case and clear size markings



AIT-S75

AIT-76

Part No.	Description	Point Sizes Included	Overall Length
AIT-S75	8 pc. Drive Pin	1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16"	4"
AIT-76	5 pc. Ex. Long Dr. Pin		8"

## CIRCLE CUTTERS

- Replaceable 3/16" HSS blade and 1/4" pilot drill
- 3/8" round shank

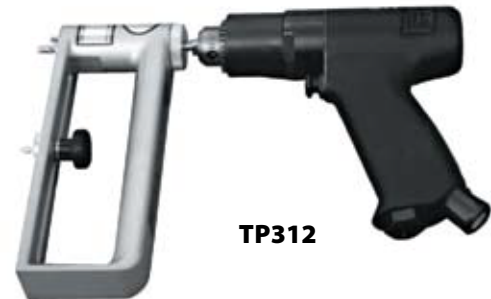
Part No.	Description
TP461	Circle Cutter (1" - 6")
TP461B	Replacement Pilot Drill
TP461A	Replacement Cutting Blade



## CIRCLE CUTTERS

- Cuts holes up to 20" diameter in 20 gauge sheet metal
- Use with any standard 1/4" drill (includes drill bit and allen key, not shown)
- Patented shoe feature permits smooth finishing of holes
- Drill not included

Part No.	Description
TP312	Hole Cutter
TP312B	Replacement Bit



## GASKET CUTTER KIT

- Provides clean, accurate cuts in all non-metallic gasket materials
- Unique 'snap-lock' quick release allows user to change punches in seconds

**Kit Includes:**

- Power Punch
- Centering Pin
- 10 Punches (1/4" to 1" x 16ths)
- Carrying case

Part No.	Description
TP460	Complete Kit



## PUNCH &amp; CHISEL HOLDER

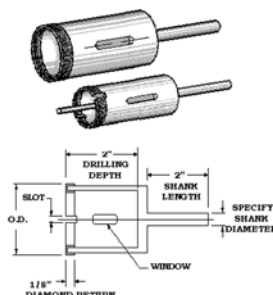
- Heavy-duty 4" plastic handle with nylon tip in steel frame
- Holds chisels and punches up to 1" diameter
- Rust resistant finish

Part No.	Overall Length
AIT1286	6" (152 mm)



## P.B.S. DIAMOND PLATED INTEGRAL SHANK HOLE SAWS

- Piloted integral shank
- Furnished with windows and slots 1/8" return
- 2" drilling depth (inside depth)
- .050" smaller than 1" diameter
- .090" 1" diameter and larger
- When ordering, specify shank and pilot diameter



40 Mesh - 1/8" Return	
Part No.	OD Diameter
HS-1/2	1/2"
HS-3/4	3/4"
HS-7/8	7/8"
HS-1	1"
HS-1-1/4	1-1/4"

40 Mesh - 1/8" Return	
Part No.	OD Diameter
HS-1-1/2	1-1/2"
HS-1-3/4	1-3/4"
HS-2	2"
HS-2-1/4"	2-1/4"
HS-2-1/2"	2-1/2"

40 Mesh - 1/8" Return	
Part No.	OD Diameter
HS-2-3/4"	2-3/4"
HS-3	3"
HS-4	4"
HS-5	5"

## P.B.S. DIAMOND PLATED HOLE SAWS

- MHS series, arborless
- Furnished with windows and slots 1/8" return
- 1-1/2" drilling depth (inside depth)



40 Mesh - 1/8" Return	
Part No.	OD Diameter
MHS-9/16	9/16"
MHS-5/8	5/8"
MHS-3/4	3/4"
MHS-7/8	7/8"
MHS-1	1"
MHS1-1/16	1-1/16"
MHS1-1/8	1-1/8"
MHS1-3/16	1-3/16"

40 Mesh - 1/8" Return	
Part No.	OD Diameter
MHS1-1/4	1-1/4"
MHS-1-3/8	1-3/8"
MHS-1-1/2	1-1/2"
MHS-1-3/4	1-3/4"
MHS-1-7/8	1-7/8"
MHS-2	2"
MHS-2-1/4	2-1/4"
MHS-2-1/2	2-1/2"

40 Mesh - 1/8" Return	
Part No.	OD Diameter
MHS-2-1/4	2-1/4"
MHS-3	3"
MHS-3-1/4	3-1/4"
MHS-3-1/2	3-1/2"
MHS-4	4"
MHS-4-1/4	4-1/4"
MHS-4-1/2	4-1/2"
MHS-5	5"

## HOLE SAW ARBORS

- For MHS series hole saws above, standard lenox type
- Quick release for change of hole saws without removing arbor from chuck
- Setscrew body for pilot drill adjustment
- Also available with pilots, please inquire

Part No.	Fits Hole Saw Dia.	Screw Thread	Shank Size
NA-01	9/16" to 1-3/16"	1/2"-20	3/8"
NA-06	1-1/4" to 5"	5/8"-18	7/16"



NA-01



NA-06

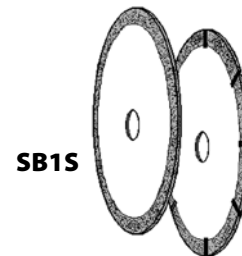
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## P.B.S. DIAMOND PLATED SAW BLADES

40 Mesh - 1/8" Return				
Part No. Slotted	Part No. Unslotted	Outside Dia.	Arbor Hole	Plated Thickness (Kerf)
SB1S	SB1U	1"	1/4	.060 to .080"
SB1-1/2S	SB1-1/2U	1-1/2"	1/4	.060 to .080"
SB2S	SB2U	2"	3/8	.060 to .080"
SB2-1/2S	SB2-1/2U	2-1/2"	3/8	.060 to .080"
SB3S	SB3U	3"	3/8	.060 to .080"
SB3-1/2S	SB3-1/2U	3-1/2"	3/8"	.060 to .080"
SB4S	SB4U	4"	3/8	.060 to .080"

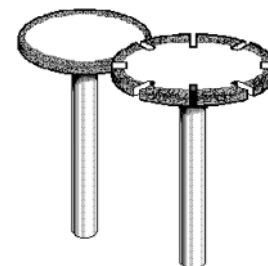
Arbors	
Part No.	Description
TP467A	3/8 arbor x 1/4 shank
TP467B	1/4 arbor x 1/4 shank



## P.B.S. DIAMOND PLATED MOUNTED SAW BLADES

- One-piece construction, 2-1/2" overall shank length

40 Mesh - 1/8" Return			
Part No. Slotted	Part No. Unslotted	Outside Dia.	Plated Thickness (Kerf)
MS3/4S	MS3/4U	3/4"	.080" to .100"
MS1S	MS1U	1"	.080" to .100"
MS1-1/4S	MS1-1/4U	1-1/4"	.080" to .100"
MS1-1/2S	MS1-1/2U	1-1/2"	.080" to .100"
MS3S	MS3U	3"	.080" to .100"
MS3-1/2S	MS3-1/2U	3-1/2"	.080" to .100"
MS4	MS4U	4"	.102" to .130"



MS1S

*Note: Please specify arbor diameter when ordering.*

## P.B.S. DIAMOND PLATED ROUTERS

- 2-1/2" shank length



40/60 Mesh					
Part No. Unfluted, Square End	Part No. Unfluted, Radius End*	Part No. Fluted, Square End*	Part No. Fluted, Radius End*	Outside Diameter	Head Length
R1US	R1UR	-	-	1/8"	1/4"
R5US	R5UR	R5FS	R5FR	1/4"	3/4"
R10US	R10UR	R10FS	R10FR	3/8"	3/4"
R15US	R15UR	R15FS	R15FR	1/2"	1"
R20US	R20UR	R20FS	R20FR	5/8"	1"
R25US	R25UR	R25FS	R25FR	3/4"	1"
R30US	R30UR	R30FS	R30FR	1"	1"

*Note: Please specify shank diameter. On .750" and larger outside diameter routers, min. shank diameter is 1/2".*

*Note: Different head lengths available, please inquire.*

*Note: Larger sizes are available, please inquire.*

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## GRAPHITE & KEVLAR DRILLS

These drills are designed specifically for use when drilling graphite and dupont Kevlar composites. The unique point configuration has been optimized to provide superior hole quality in composite materials. High RPM drilling with a low feed rate is recommended for best results.



**AT473F-1/4**

Carbide, Brad Point	
Part No.	O.D. Diameter
AT473F-1/8	1/8"
AT473F-3/16	3/16"
AT473-1/4	1/4"
AT473-5/16	5/16"

Carbide, Brad Point	
Part No.	O.D. Diameter
AT473-3/8	3/8"
AT473-7/16	7/16"
AT473-1/2	1/2"

## P.B.S. DIAMOND PLATED TWIST DRILLS

- All drills are general purpose, standard length
- Diamond length 3/16" - 1/4"



**TD1**

40 Mesh	
Part No.	O.D. Diameter
TD1	1/8"
TD2	1/4"
TD3	3/8"
TD4	7/16"
TD5	1/2"

40 Mesh	
Part No.	O.D. Diameter
TD6	5/8"
TD7	3/4"
TD8	7/8"
TD9	1"

## P.B.S. DIAMOND PLATED INTEGRAL PILOT COUNTERSINKS

1/2 Dia. - 1/4"-28 Thread - 100° Cutter Angle - 40 Mesh	
Part No.	O.D. Diameter
TP62D-40	#40
TP62D-30	#30
TP62D-21	#21
TP62D-3/16	3/16"



**TP62D**

## P.B.S. DIAMOND PLATED JIGSAW BLADES

Part No.	Fits Jig Saws	OAL
AIT1002	Black & Decker & competitive	3"
AIT2002	Rockwell Bayonet	3"
AIT3002	Rockwell Tiger & competitive	4"
AIT5002	Bosch Style	3"
AIT6002	Bosch Style	4"



**TP587**

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## FLEXIBLE DIAMOND HAND SANDING PADS

- These diamond hand sanding pads work best when used wet
- Excellent for composite work

Part No.	Grit	Type	Size
PFHP-70	70	Plated / Flexible (for grinding)	2-1/2" x 4-1/4" 1" Thick
PFHP-120	120		
PFHP-220	220		
PFHP-400	400		
PFHP-600	600		
RFHP-220	220	Resin / Flexible (for finishing)	
RFHP-600	600		
RFHP-1800	1800		
RFHP-3500	3500		



## P.B.S. DIAMOND PLATED HAND FILES

- P.B.S.™ bonded technology
- 10" overall length, 6" abrasive length, 3/4" wide
- Diamond abrasive 4 sides



AIT1001

Part No.	Description
AIT1001	30 Mesh
AIT1003	60 Mesh
AIT1004	100 Mesh

## KEVLAR HAND FABRIC SHEARS

These hand shears are intended for use in cutting composite fabric and thin cured laminates.

Part No.	Type	Cut Length	Overall Length
AIT468	Knife Edge	2-3/4"	8-1/4"
AIT330	Serrated	4-3/8"	10"



## EASY GRIP ROLLERS

- Roller is highly dense and medium soft (50 Durometer), free revolving on tubular bearing
- Heavy-duty black plastic handle with brass insert

Part No.	Description
TP262A	1-1/4 OD x 3" long
TP262B	1-1/4 OD x 4" long



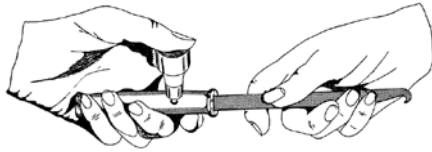
TP262A



## CHIP CHASER

- Designed for removing chips between sheets after drilling rivet holes

Part No.	Handle Type	Blade Replacement	Blade Length
AIT511	Plastic, 1 pc.	-	2-3/4"
AIT512	Plastic, 1 pc.	-	5-7/8"
SP200-3	Alum., 2 pcs.	SP20004	2-3/4"
SP200-1	Alum., 2 pcs.	SP20002	5-7/8"
AIT3512	Alum., 1 pc.	-	5-7/8"
SP200	Alum. Handle-Only	-	-



**SP200-1**

**AIT511**

**AIT512**



**AIT3512**

## PILOTED RIVET HOLE BRUSHES

- Stainless steel
- Cleans paint, dirt, rust or varnish from around rivet holes
- 3/8" length wire

Part No.	Description
TP465	5 pc. Kit (1/2" brush diameter)



**06781**

Part No.	Pilot Diameter	Brush Diameter	Shank Diameter	Wire Diameter	Safe RPM (no load)
06721-1/4	3/32"	1/4"	1/4"	.005"	20000
06741-1/4	1/8"				
06761-1/4	5/32"				
06781-1/4	3/16"				
06701-1/4	1/4"				
06721-3/8	3/32"	3/8"	1/4"	.005"	20000
06741-3/8	1/8"				
06761-3/8	5/32"				
06781-3/8	3/16"				
06701-3/8	1/4"				
06721	3/32"	1/2"	1/4"	.005"	20000
06741	1/8"				
06761	5/32"				
06781	3/16"				
06801	1/4"				

## BURRAWAY DEBURRING TOOL KIT

- Contains 5 tools and replacement blades in a fitted plastic case

**Kit Includes:**

- 1/8" tool and replacement blade
- 5/32" tool and replacement blade
- 3/16" tool and replacement blade
- 7/32" tool and replacement blade
- 1/4" tool and replacement blade
- Fitted plastic case

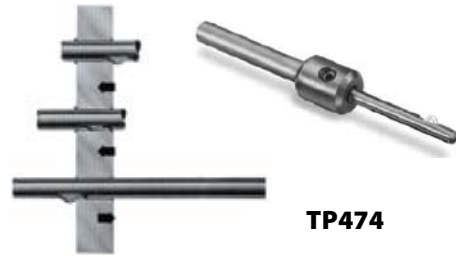
Part No.	Description
TP479K	Complete Kit



TP479K

## BURRAWAY DEBURRING TOOLS

- Deburr both sides in one pass
- Setscrew adjustment controls depth of cut and releases for blade replacement
- Metric sizes available



TP474

## Type A: 1/4" Shank

Part No. Complete Tool	Part No. Replacement Blade	Hole Size	Decimal Equivalent	Pilot Length	Overall Length
TP474	TP474B	3/32"	.0938"	.45"	3-3/8"
TP474-7/64	TP474B	7/64"	.1094"	.45"	3-3/8"
TP475	TP475B	1/8"	.1250"	.45"	3-3/8"
TP476	TP476B	5/32"	.1562"	.45"	3-3/8"
TP477	TP477B	3/16"	.1875"	.45"	4-1/8"

## Type B: Straight Shank

Part No. Complete Tool	Part No. Replacement Blade	Hole Size	Decimal Equivalent	Pilot Length	Overall Length
TP478-7/32	TP478B-1	7/32"	.2188"	.87"	4-1/2"
TP478	TP478B-1	1/4"	.2500"	.87"	4-1/2"
TP478-9/32	TP478B-1	9/32"	.2812"	.87"	4-1/2"
TP478-5/16	TP478B-2	5/16"	.3125"	.96"	4-1/2"
TP478-11/32	TP478B-2	11/32"	.3438"	.96"	4-1/2"
TP478-3/8	TP478B-3	3/8"	.3750"	1.00"	5"
TP478-13/32	TP478B-3	13/32"	.4062"	1.00"	5"
TP478-7/16	TP478B-3-1/2	7/16"	.4375"	1.03"	5-1/2"
TP478-15/32	TP478B-3-1/2	15/32"	.4688"	1.03"	5-1/2"
TP478-1/2	TP478B-3-1/2	1/2"	.5000"	1.03"	5-1/2"

## REVERSIBLE COUNTERSINK DEBURR TOOL

- Deburrs both inside and outside of very small holes
- Can be used in both clockwise and counterclockwise directions
- To use, hold between fingers and rotate back and forth
- To insert/withdraw blade into/from hole, push knob and release slowly



**ROY22455**



Part No.	Description
ROY22455	1/8 - 7/32 Hole
ROY22137	Blade Only

## COGGSDILL BURR-OFF TOOLS

- Deburr both sides in one pass
- Deburr 5 to 15 thousand holes per grind, up to four grinds per tool
- Handles tough jobs: interrupted/interference cuts, holes close to shoulders, etc.
- The original clothes pin tool



**CP-9**

Part No.	Hole Sizes	Shank Dia.	Overall Length
CP-6	.093" - 1.09"	.092"	4"
CP-7	.109" - .125"	.108"	4"
CP-8	.125" - .140"	.124"	4"
CP-9	.140" - .156"	.139"	4"
CP-10	.156" - .172"	.155"	4"
CP-11	.172" - .187"	.171"	4"
CP-12	.187" - .203"	.186"	4"
CP-13	.203" - .219"	.202"	4"
CP-14	.219" - .234"	.218"	4"
CP-15	.234" - .250"	.233"	4"
CP-16	.250" - .266"	.249"	4"
CP-17	.266" - .281"	.265"	4"
CP-18	.281" - .297"	.280"	4"

Part No.	Hole Sizes	Shank Dia.	Overall Length
CP-19	.297" - .313"	.296"	4"
CP-20	.313" - .328"	.312"	4"
CP-21	.328" - .343"	.327"	4"
CP-22	.343" - .359"	.342"	4"
CP-23	.359" - .375"	.358"	4"
CP-24	.375" - .390"	.374"	4-1/2"
CP-25	.390" - .406"	.389"	4-1/2"
CP-26	.406" - .422"	.405"	4-1/2"
CP-27	.422" - .437"	.420"	4-1/2"
CP-28	.437" - .453"	.436"	5-1/2"
CP-29	.453" - .468"	.452"	5-1/2"
CP-30	.468" - .484"	.467"	5-1/2"
CP-31	.484" - .500"	.483"	5-1/2"

### "SPEED DRIVER" HOLE DEBURRING TOOL

- Provides rapid deburring of drilled holes with high torque
- Cutter not included

Part No.	Description
TP120	Speed Driver



TP120

100° Cutters	
Part No.	Diameter
TPCR3438	3/8"
TPCR3438-7/16	7/16"
TPCR3438-1/2	1/2"



TPCR3438

### TELESCOPING DEBURR TOOLS

- Very useful for chamfering deep holes
- Telescoping ratchet-action
- Great where normal rotational deburring is impossible

Part No.	Type	Telescope Action	Cutter Included
ROY22650	Standard	1/4" - 3-1/4"	3/4"



ROY22650

Replacement Cutters	
Part No.	Diameter
ROY22155	1/2"
ROY22160	3/4"

### SPEE-D-BURR TOOL

- Aluminum handle
- Unique action allows constant turning without removing hand

Part No.	Description
TP796	1/4" straight shank tools



TP796

### ROTO-DRIVE TOOL

- Single flute countersink 5/16" dia.

Part No.	Description
ROY22510	5/16" Roto-Drive Tool



ROY22510

**POCKET DISPOSABLE BURR**

- For removing burrs from steel and aluminum
- Heavy-duty E-100 blade is non-replaceable

Part No.	Description
ROY22050	Slim Grip with Pocket Clip



**ROY22050**

**MULTI-BURR**

- Lifetime guarantee on handle
- Curved blades swivel freely for easier reach
- Blades are stored in lightweight plastic handle
- Includes one of all five blades offered below

Part No.	Description
ROY22022	Multi-burr with 5 blades



**ROY22022**

Replacement Blades	
Part No.	For Use On
E-100	Steel & Aluminum
E-200	Brass & Cast Iron (cw/ccw)
E-350	Straight edges on all materials
E-101	Small holes in steel & aluminum
E-102	Small holes in Brass & Cast Iron (cw/ccw)

**ECONOMY MULTI-BURR**

- Interchange with E-Series blades
- Curved blades swivel freely for easier reach
- Blades are stored in lightweight plastic handle
- Includes seven TP266A blades

Part No.	Description
TP266	Multi-Burr with 7 blades

Replacement Blades	
Part No.	For Use On
TP266A	Steel & Aluminum
TP266B	Brass & Cast Iron (cw/ccw)
TP266C	Straight edges on all materials
TP266D	Removes internal & external burrs simultaneously
TP266E	Small holes in steel & aluminum
TP266F	Small holes in Brass & Cast Iron (cw/ccw)



**TP266**



**TP266A**



**TP266B**



**TP266C**



**TP266D**



**TP266E**



**TP266F**

## REMOVAL BLADE SCRAPER

- Excellent for scraping, trimming and deburring almost any material

Part No.	Description
ROY22745	Scraper with 5/32" blade height
ROY22760	5/32" replacement blade



ROY22745

## FIXED BLADE SCRAPER

- Excellent for scraping, trimming and deburring almost any material
- 4" blade
- Wood handle

Part No.	Description
TP790	Scraper with 60° angle (3 side)



TP790

## DOUBLE EDGE DEBURR TOOL

- Deburrs both sides of the workpiece
- Blades can be rotated around circumference & reversed for long life
- Blades are M-2 steel and hardened to 64RC
- Includes safety guard



ROY22060

Part No.	Description
ROY22060	1/32" - 1/2"

Replacement Blade	
Part No.	Description
ROY22065	One set of replacement blades

## MASTER DEBURRING TOOL KIT

A deluxe kit that gives you a complete assortment of deburring tools for every job.

**This 21-piece kit includes:**

- 1 keyway burr
- 1 double burr
- 1 C holder with 3/4" countersink
- 1 D holder with mini-scraper
- 1 double header with B/E holder
- 1 chamfering tool, holder, blade
- 1 versa/burr handle
- 1 1/2" countersink
- 1 scraper
- 4 miscellaneous replacement bits

Part No.	Description
TP375	Complete kit

TP375

