

Eastwood[®]

DO THE JOB RIGHT.[®]

Item #22220

BENCH MOUNTED METAL PUNCH

INSTRUCTIONS



The **EASTWOOD BENCH MOUNTED METAL PUNCH** is designed to rapidly produce repeatable, clean, accurate holes in mild steel and aluminum up to 3/16" [4.8mm] thick making it perfect for industrial production applications and high-volume fabrication shops. A unique, Eastwood engineered Anti-Lift Foot prevents lifting of the workpiece after punching providing greater accuracy, speed and convenience. The Eastwood Bench Mounted Metal Punch is supplied with a 5/8" Die Set installed, 8 additional size Die Sets, and a Handle Extension for greater ease in punching thicker material.

CONTENTS

- (1) Manual Metal Punch Unit
- (1) Main Handle
- (1) Handle Extension
- (2) M12 x 65mm Bolts, M12 Flat Washers, Lock Washers and Nuts
- (1) Set of 9 Punch Dies; 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16" & 5/8"

⚠ NOTICE

The 5/8" Die Set is factory installed.

TOOLS REQUIRED (not included)

- 18mm Wrenches
- 1/4" Drift or Punch
- Medium Hammer
- 5mm and 8mm Hex Keys

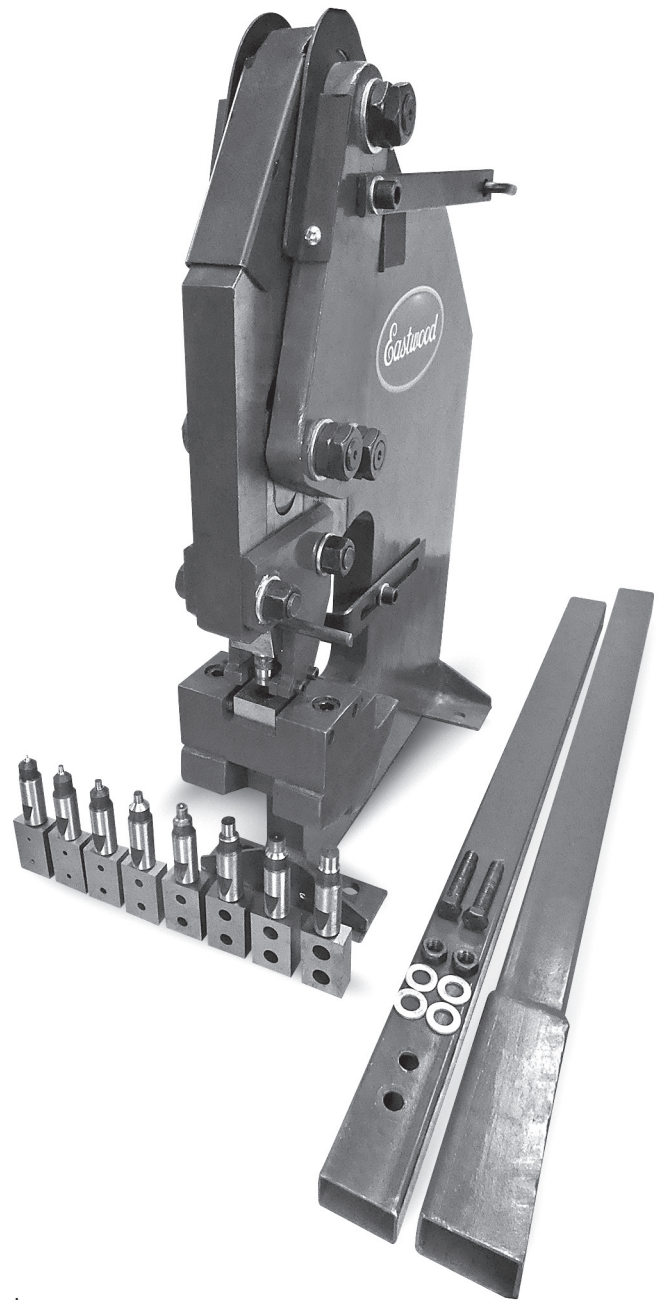
SPECIFICATIONS

⚠ NOTICE

The maximum material punching capacity is rated for low-carbon steel, aluminum or other materials not exceeding a maximum tensile strength of 64,000 PSI. Material thickness to be punched **MUST NOT** exceed that of the diameter of the Die size up to 3/8". Refer to thickness listing below.

⚠ WARNING

Exceeding rated material limitations can result in severe personal injury and/or damage to the unit.



6.25" [159mm] throat depth allows punching into the center of a 12.5" [318mm] work piece.

Frame fabricated of 1.5" [38mm] thick steel.

Unit weight (without Dies): 176 lbs. [388 kg].

Anti-Lift Foot prevents lifting of workpiece.

MAXIMUM MATERIAL PUNCHING THICKNESS

Die Diameter	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"
Max. Material Thickness, Aluminum	11 Ga.	1/8"		3/16"					
Max. Material Thickness, Copper	14 Ga.	11 Ga.	1/8"	3/16"					
Max. Material Thickness, Mild Steel	20 Ga.	18 Ga.	16 Ga.	13 Ga.	1/8"	3/16"			

SAFETY INFORMATION

The following explanations are displayed in this manual, on the labeling, and on all other information provided with this product:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠ NOTICE

NOTICE is used to address practices not related to personal injury.



⚠ READ INSTRUCTIONS

- Thoroughly read and understand this manual before using.
- Save for future reference.



⚠ WARNING PINCH AND CRUSH HAZARD!

- The Eastwood Bench Mounted Metal Punch consists of heavy metal components which can present a hand/finger pinch hazard and cause potentially serious injuries if dropped. Avoid pinching hands while handling. The use of safety shoes is strongly recommended. Keep fingers and hands away from moving parts when operating.



⚠ WARNING CUT HAZARD!

- Handling sharp metal can cause serious cuts. Wear thick, well-fitting work gloves to prevent cuts from handling sharp metal.



⚠ WARNING EYE INJURY HAZARD!

- Metal particles can be ejected from the tool when punching. Sheet metal edges and corners are sharp and can injure eyes. Always wear ANSI approved eye protection when operating this tool.



⚠ WARNING

- Before beginning ANY work with this tool, it is absolutely necessary that it be securely bolted to a sturdy workbench anchored to the floor or wall.
- Strenuous physical force may need to be applied to the Manual Metal Punch during use. Failure to ensure proper footing can quickly result in a fall which could inflict serious personal injury or property damage. Always work in a clean, uncluttered environment.
- Be sure there is sufficient working room around the tool to allow for safe handling of various sizes of metal.



⚠ CAUTION

- The Eastwood Manual Metal Punch was specifically designed to be operated by one person only. Never have one person operate the Handle while another feeds the workpiece or serious injury could occur.

⚠ NOTICE

- Excessive resistance while operating could indicate a damaged or worn Metal Punch component, or a workpiece that is too thick or too hard. To avoid damaging the Metal Punch, stop work immediately and inspect workpiece for unexpected welds or excessive thickness, hardness, or scale. Inspect the Metal Punch for loose or damaged components.

SET-UP

- The Eastwood Bench Mounted Metal Punch can require substantial input force to operate and **must be securely mounted** on a heavy, solid workbench, stand, floor etc., capable of holding the static weight of the unit plus the ability to counter the high force stresses from operation.
- Place the Bench Mounted Metal Punch over the chosen location then mark mounting hole locations by tracing holes in the feet.

⚠ CAUTION

Check for the presence of electrical, air or other utility lines under the mounting surface before drilling mounting holes.

- The use of 1/2" x 4" [M13 x 100mm] through bolts & nuts or longer lag screws with substantial washers and attachment to a structural member is absolutely necessary.

ASSEMBLY

- Install Handle to the Actuating Arm with two M12 x 65mm Bolts, Washers, Lock washers and Nuts (**FIG 1**).
- The Handle Extension may be slipped over the end of the Handle if greater punching force is required (**FIG 2**).
- The Eastwood Manual Metal Punch is ready for use.



DIE-SET

⚠ NOTICE

The Die-Sets are precision machined to very close tolerances and must be carefully aligned and adjusted or the cutting surfaces will be permanently damaged.

The Lower Female Dies are each machined with two cutting surfaces. As one bore wears, simply rotate the alternate bore into position.

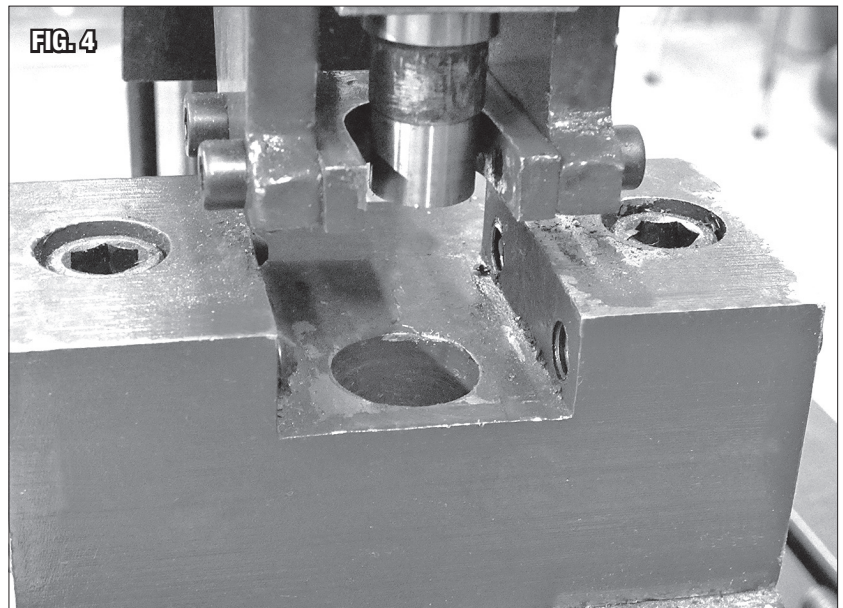
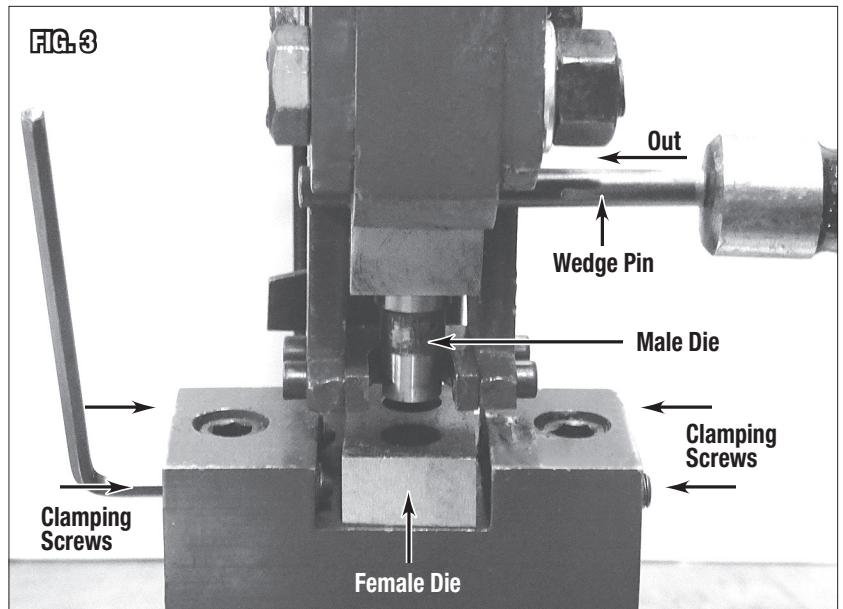
DIE REMOVAL

UPPER MALE DIE REMOVAL

- Remove the Wedge Pin by driving it out right to left. To do so: Tap firmly on the round head of the pin using a hammer (**FIG 3**).
- As the Wedge Pin pressure releases, the Upper Male Die will dislodge and slide downward out of the bore.

LOWER FEMALE DIE REMOVAL

- Using a 5mm Hex Key, loosen the four, clamping set-screws (**FIG 3**).
- Withdraw the Lower Female Die (**FIG 4**).



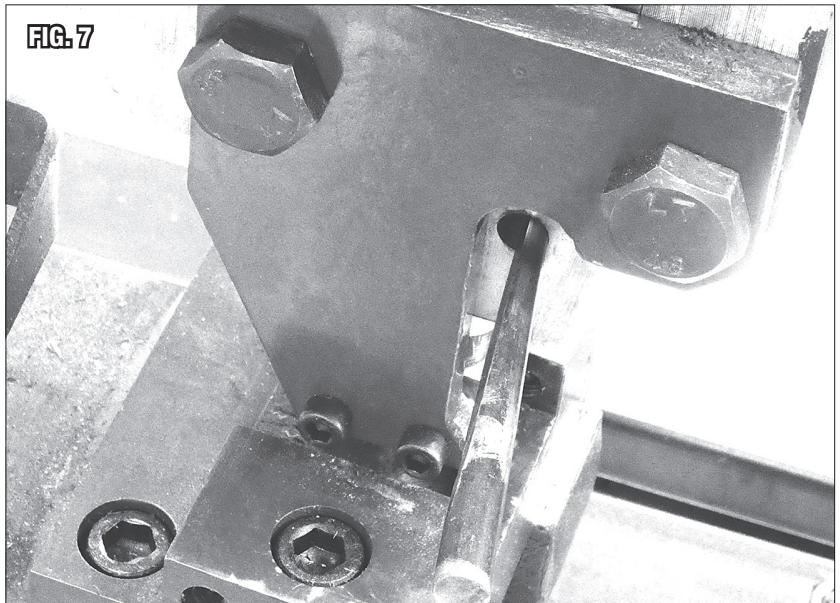
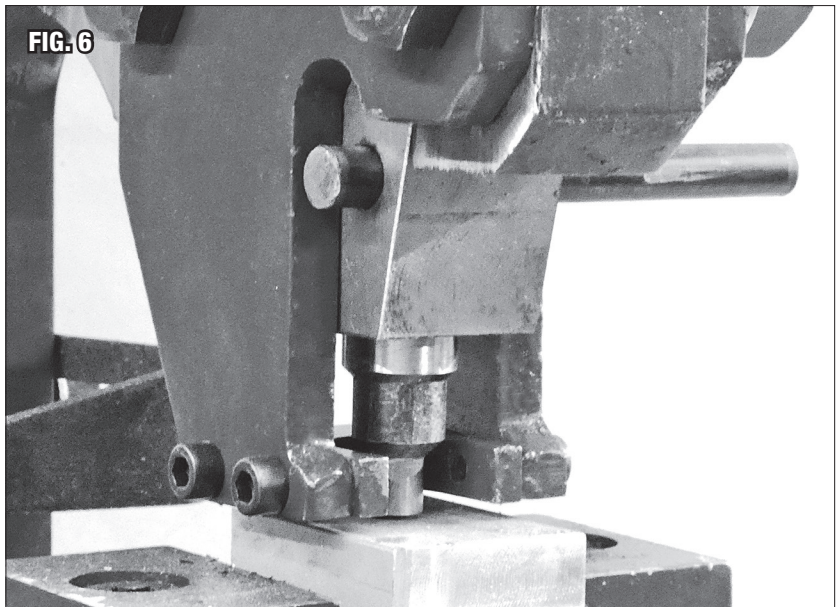
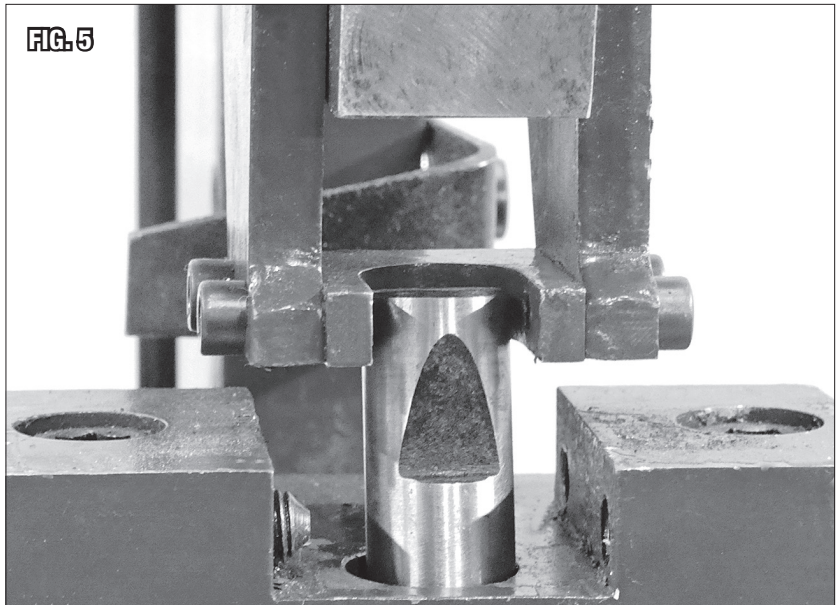
DIE INSTALLATION AND ADJUSTMENT

⚠ NOTICE

The Upper Male Die must be installed first followed by the Lower Female Die.

UPPER MALE DIE INSTALLATION

- Slide the Male Upper Die into position.
- Rotate the Male Die in the bore so that the notch faces forward (**Fig 5**). **This is critical as the flat of the Wedge Pin engages the notch of the Male Die, locking it in place.**
- Place a piece of aluminum or wood scrap material in place of the Lower Female Die (**Fig 6**).
- Pull the Handle down allowing the Male Upper Die to contact the scrap material. This allows the Male Die to seat in the bore.
- Insert the Wedge Pin into the horizontal bore **with the flat towards the rear and the Upper Die notch (Fig 7)**.
- Keep pressure on the Handle to hold the Male Die in place against scrap material while using a brass drift to drive the Wedge Pin in from the left (**Fig 8**).
- When fully seated, the Wedge Pin head will protrude approx. 1/4" on left side of the Die Drive Block.
- Release Handle and remove scrap material.



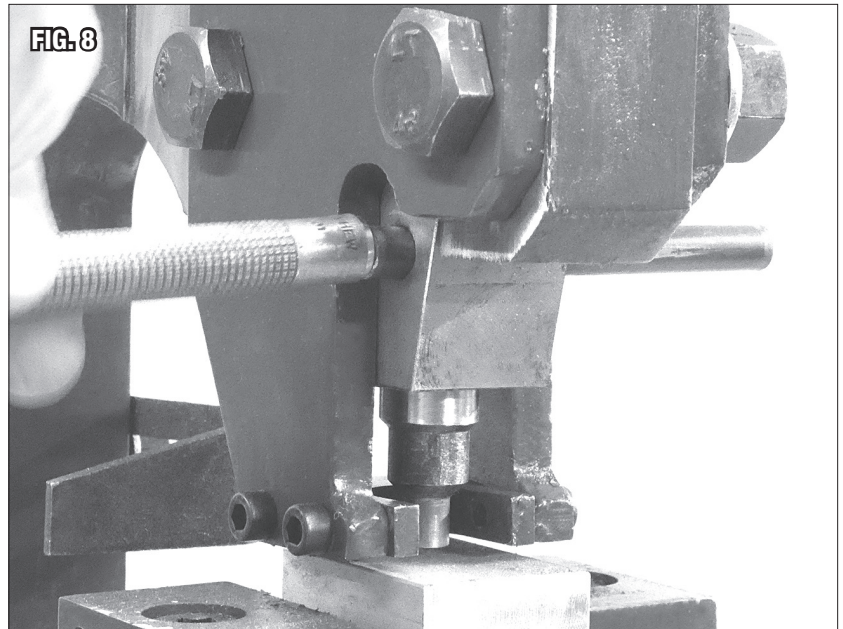
LOWER FEMALE DIE INSTALLATION

- Using a 5mm Hex Key, back out the four, clamping set-screws (**Fig 3**).
- Set the mating Lower Female Die into place under the Male Die leaving space around it to float.
- Slowly and carefully move the Handle down engaging the Male Die with the Female Die (**FIG 8**).

CAUTION

Use care not to damage the edge of the Male Die or bore of the Female Die while aligning.

- Hold the Handle down keeping the Male Die in place allowing the Female Die to float while the set screws are slowly drawn in. **NOTE:** Alternate equally among the four set screws until tight.
- Release Handle checking for binding while the Male Die is withdrawn. If any is noted, loosen set screws and repeat Die alignment procedure.



ADJUSTMENTS

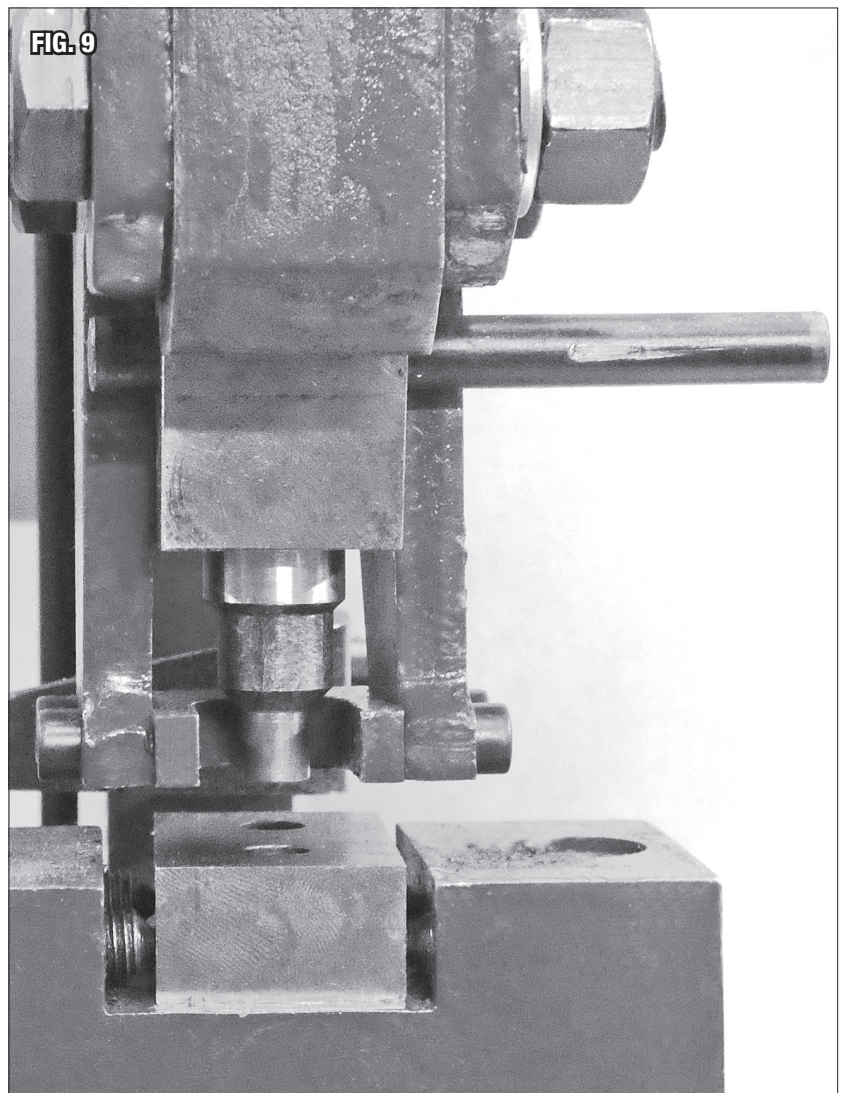
The Eastwood Bench Mounted Metal Punch features an adjustable Depth Fence which can be set for a specific depth when making repeated punches of the same dimension.

- Using an 8mm Hex Key, loosen the Clamp Screw, adjust the Fence position for the desired dimension between the center point of the Upper Male Die and the face of the Depth Fence then re-tighten Clamp Screw.

OPERATION

The Eastwood Bench Mounted Metal Punch is designed with a unique Ant-Lift Foot (**FIG 9**) preventing the workpiece from being lifted with Handle release following a punching operation.

- Mark desired hole location and place the workpiece under the center point of the Upper Male Die.
- Hold workpiece firmly then pull Handle down exerting sufficient force to allow the Upper Die to fully penetrate the material.
- Raise Handle and move workpiece to inspect the punched hole.



MAINTENANCE

- Provide several drops of a good quality motor oil to all pivot points, sliding parts and rotating components periodically to prevent binding.
- Add a good quality automotive chassis grease to the Zerk Fitting located at the top of the Pivot Shaft.
- Raise the Gear Guard and apply a good quality, thick-bodied automotive chassis grease to the mating gear teeth.
- Keep all areas of the tool clean particularly those surfaces that contact metal workpieces and support Dies. Dirt and metal chips can cause uneven punching and Die damage.
- Store in a clean & dry environment when not in use. Coat all machined surfaces with a light lubricant film of oil or suitable protectant to prevent rust formation.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Upper Die Stops at Lower Die	Dies Out of Alignment	Stop all action to avoid serious damage and check “DIE INSTALLATION AND ADJUSTMENT” in instructions.
	Metal Workpiece Too Thick or Too Hard	Stop all action to avoid serious damage. Do not exceed material limitations described in the “SPECIFICATIONS” section.
	Metal Chip Particles in Dies	Stop all action to avoid serious damage. Remove chips or particles from Dies.
Upper Die Binding at Release with Lower Die	Dies Out of Alignment	Stop all action to avoid serious damage and check “DIE INSTALLATION AND ADJUSTMENT” in instructions.
	Metal Workpiece Too Thick or Too Hard	Stop all action to avoid serious damage. Do not exceed material limitations described in the “SPECIFICATIONS” section.
	Metal Chip Particles in Dies	Stop all action to avoid serious damage. Remove chips or particles from Dies.
Dies Will Not Shear Metal	Dies Worn or Damaged	See “DIE SET” in instructions.
	Metal Workpiece Too Thick or Too Hard	Stop all action to avoid serious damage. Do not exceed material limitations described in the “SPECIFICATIONS” section.

ADDITIONAL ITEMS

- #28038 Sheet Metal Gauge
- #13475 Electric Metal Cutting Shears
- #32044 Bead Roller Kit
- #21489 Shrinker/Stretch Set
- #21491 Shrinker/Stretch Stand

If you have any questions about the use of this product, please contact

The Eastwood Technical Assistance Service Department: 800.343.9353 >> email: techelp@eastwood.com

PDF version of this manual is available at eastwood.com

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