

# MOUSER ELECTRONICS®

## Metal Working Press

### INSTRUCTIONS & TECHNICAL DATA

The Mouser Electronics Metal Working Press is a bench mounted, manually operated, rack and pinion press. When coupled with the variety of punching, cutting, and forming accessories (available separately) provides invaluable services for the sheet materials workshop or production plant. The press has a flame-cut, high tensile steel frame of substantial strength which in conjunction with the rack and pinion is capable of constant forces of 3000 ft/lb. over the full stroke. The press and accessories are very straightforward to set up and operate. This data sheet describes their range of suitable functions with sufficient detail for the users to adapt the press to their own custom tooling if required.

#### Basic Dimensions (in)

Frame size L x W x H \_\_\_\_\_ 10.6 x 1.9 x 7.5  
 Overall width (including mounting brackets) \_\_\_\_\_ 6.5  
 Maximum height (excluding handle) \_\_\_\_\_ 13.2  
 Handle length \_\_\_\_\_ 22  
 Bench mounting holes (4 x 10 clear) \_\_\_\_\_ 6 x 3.7 centers

#### Specifications

Ram diameter \_\_\_\_\_ 1.25  
 Maximum pressure at ram \_\_\_\_\_ 3,000 lb.  
 Depth of throat \_\_\_\_\_ 6  
 Throat clearance (daylight) \_\_\_\_\_ 3.25  
 Stroke length (stop fitted) \_\_\_\_\_ .25 to 2.5  
 Max stroke length (stop removed) \_\_\_\_\_ 3.0  
 Punch and die fittings

Ram spigot hole 0.866 deep x .708 diameter

Central die hole (through) 2.16 diameter

Dieholder fixing holes (4 x M8) \_\_\_\_\_ 1.50 x 1.38 centers  
 Weight (net) \_\_\_\_\_ 32 lb.

#### Maximum allowable sheet material thickness for accessories unless otherwise specified

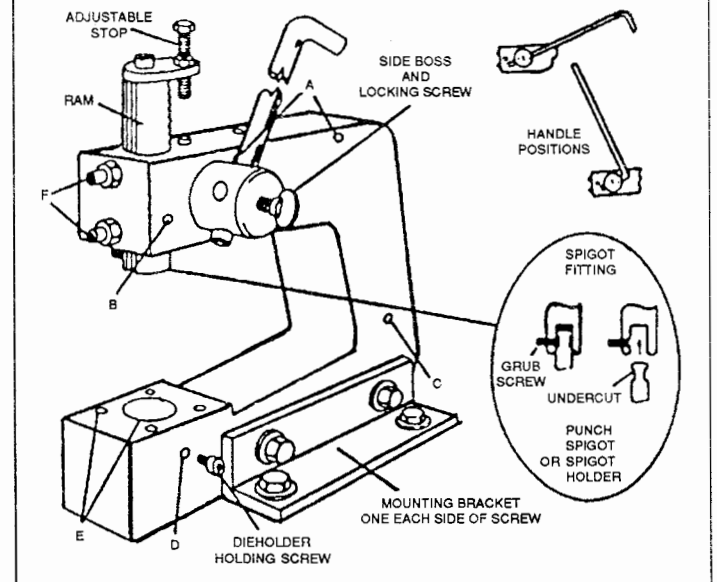
Fiberglass board \_\_\_\_\_ 0.08  
 S.R.B.P. board \_\_\_\_\_ .125  
 Aluminum \_\_\_\_\_ 0.10  
 Mild steel (16 s.w.g. - 28 tons/in<sup>2</sup> u.t.s.) \_\_\_\_\_ .063

#### List of Accessories

Circular punches and dies  
 3mm to 12mm \_\_\_\_\_ 38RA131 to 38RA143  
 1/8 in to 7/16 in \_\_\_\_\_ 38RA261 to 38RA266  
 12.5 mm to 27.5 mm \_\_\_\_\_ 38RA171 to 38RA177  
 1/2 in to 1 in \_\_\_\_\_ 38RA281 to 38RA285  
 Rectangle hole punches and dies \_\_\_\_\_ 38RA202 to 38RA208  
 Dieholders \_\_\_\_\_ ME381-7006, 38RA181, 38RA191, & 38RA201  
 Punch stripper \_\_\_\_\_ ME381-7003 & 38RA402  
 Slot Guillotine \_\_\_\_\_ 38RA515  
 Corner notching tool \_\_\_\_\_ 38RA015  
 V bending tool \_\_\_\_\_ 38RA115  
 Louvre tool \_\_\_\_\_ 38RA215  
 Nibbling tool \_\_\_\_\_ 38RA035  
 Crop and shear tool \_\_\_\_\_ 38RA525  
 Side and back stops \_\_\_\_\_ 38RA700 & 38RA300  
 Centering point \_\_\_\_\_ 38RA800

Domed foot tool \_\_\_\_\_ ME381-7005  
 Circle cutter \_\_\_\_\_ 38RA425  
 PCB guide tool \_\_\_\_\_ ME381-7004  
 Din punch \_\_\_\_\_ ME381-7301  
 BNC punch (round) \_\_\_\_\_ ME381-7401  
 BNC insulator punch \_\_\_\_\_ ME381-7402  
 UHF socket punch \_\_\_\_\_ ME381-7501  
 TO-3 transistor punch \_\_\_\_\_ ME381-7801  
 Toggle switch punch \_\_\_\_\_ ME381-7701  
 D-Sub punch \_\_\_\_\_ ME381-7601 to ME381-7610

Figure 1: Rack and Pinion Lever Press  
 Stock No.: 38RA005



#### Key to Fig. 1

- A Two mounting holes for the crop and shear tool 38RA525.
- B Two mounting holes (one each side of press) for stripper 38RA402.
- C Two mounting holes (one on each side of press) for back stop 38RA300.
- D Two mounting holes (one on each side of press) for side stop 38RA700 and the holding screw for dieholder 38RA180.
- E Five base mounting holes to accept and locate dieholders and tool accessories.
- F Ram set screws. These have been set for correct ram alignment. No further adjustment is required.

#### Press Assembly and Operation

The press is supplied with a handle, 2 bench mounting brackets (with mounting hardware), an adjustable stop screw, nut washer, a dieholder holding screw, a grub screw, plus a set of hexagon keys for all fittings.

## Bench Mounting

Mount the press on a rigid, stable surface, taking into account the overall weight, handle length and pressure specified. Typical mounting surfaces would include mechanical engineering benches and heavy woodworking style benches. Bolt the brackets, one to each side of the press, (as shown in Fig. 1) with two bolts M10 x 80mm long. Drill the bench with 4 holes M10 clearance 150 x 94mm centers. Ensure that the central die hole in the press base overlaps the edge of the bench to permit metal cut-outs and off-cuts (also tools, etc.) to pass through. (Alternatively drill a hole greater than 38mm diameter through the bench.) Secure the press to the mounting surface with 4 bolts M10 x 100mm long.

## Handle and Adjustable Stop

The handle may be fitted into the side boss in the various positions, (as shown in Fig. 1). Orientate the handle so that its movement is *easily controlled* and *safe* to operate.

Always lock the handle with the screw provided to prevent accidental slippage.

**IMPORTANT:** Fit the adjustable stop screw, locknut and washer as shown, using the stop to limit ram downward movement. Uncontrolled overreach of the ram may cause injury, damage to tools and working materials.

Set the handle movement and adjustable stop so that the ram downward stroke gives full closure of any punch and die fitting. Also ensure that there is sufficient clearance (with the ram in the up position) for material feeding, punch adjustment and tool dismantling.

When the press is operated initially there will be a degree of resistance to ram movement due to the lubricant grease in the rack and pinion mechanism. This is quite normal and the ram will run more easily with use.

## Spigot Fitting

The spigots on all Mouser punches and spigot holders have an undercut as shown in Fig. 1 under 'spigot fitting'. Fix the punch into the undercut of the spigot. This gives a positive hold on the punch during operation and also prevents damage to the spigot/ram mating surfaces during the life of the punch.

## General Points of Safety and Information

When operating the press always hold the handle so that the ram movement is controlled at all times. Ensure tool punches and dies are aligned correctly, otherwise they may be damaged, considerably shortening life.

## Lubrication

Use a multipurpose machine oil or non-melting multipurpose grease to lubricate and protect all running surfaces of the press.

For easier punching, shearing and forming use a light coat of multipurpose machine oil or non-melting multipurpose grease on cutting and folding edges of tools.

## Punching Small Circular Holes (also nibbling and stripping)

### Accessories Required

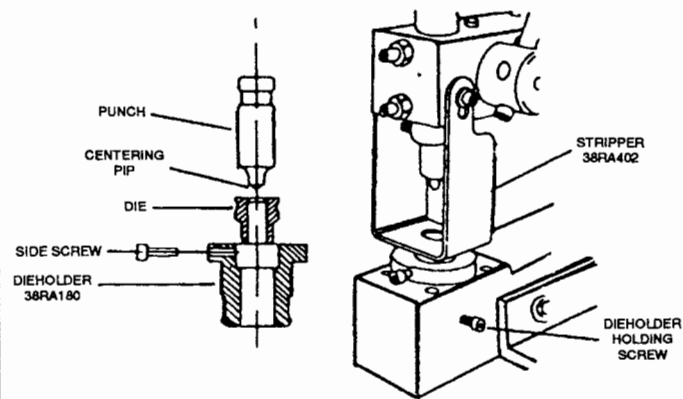
Metric punches and dies 3mm to 12mm diameter  
Imperial punches and dies 1/8 to 7/16 inches diameter.  
Nibbling tool 38RA035 (with .2 x .2 in. square section for cutting into corners, etc.)  
Dieholder 38RA180  
Stripper 38RA402

### Setting Procedure

When setting punches and dies in the press, it is essential to follow the procedure below so that punch and die alignment is true,

otherwise tools may be permanently damaged. The essence of setting is to tighten down punch - die - dieholder in that order. Use hexagon keys provided with the press.

Figure 2: Setting for Small Circular Hole Punches



1. Raise the ram to the 'up' position.
2. Fit the punch as described under 'spigot fitting'.
3. Locate dieholder 38RA180 into the central base mtg. hole of the press and drop the die into the dieholder.
4. Bring the punch slowly down into the die.
5. With the punch in the die, lock the punch in the ram and the die in the die holder using the side screw.
6. Lock the dieholder using the holding screw as shown in Fig.2.
7. Raise and lower the punch in the die several times to ensure that they align and do not foul each other.
8. Make sure all locking screws are tightened firmly. Do not over tighten.
9. Set the adjustable stop (see Fig. 1) to limit ram throw. It is recommended that the punch enters the die by 1/16 inch approximately.

### Punching Procedure

10. Feed the working material under the punch, aligning the punch centering pip\* against the workpiece in the required position.
11. Pull the handle down firmly to pierce the material, then raise the punch.
12. Carefully separate the material from the punch. Always use stripper 38RA402 for smaller punches.
13. For a stripping operation fit stripper 38RA402 as shown in Fig. 2 (reference mounting holes B Fig. 1) so that the hole in the stripper allows full closure of the punch and die yet gives sufficient clearance for material to feed freely between die and stripper.
14. Operate the punch as in 10 and 11. The stripper will hold the material down as the punch is raised thus automatically separating the material from the punch.
15. Repeated punching can now be made in rapid succession.

This applies to all metric punches up to 12mm diameter inclusive and imperial punches up to 1/16 inches diameter inclusive, plus nibbling tool 38RA035.

\* The nibbling tool 38RA035 does not have a centering pip. Use the back and end stops for references.

### Points of Caution and Information

16. Use materials up to the thickness specified on page 1.
17. The dies and dieholder are undercut to prevent damage by locking screws.
18. Dies are counterbored to prevent material build up, allowing

natural fall away of cutouts through the press base.

19. When cutting edges wear with use, punches may be ground down.
20. For easier material punching, larger punches have a special profile (patent pending).
21. Protect the punch and die surfaces and edges from damage by storing safely.

## Punching Large Circular Holes

### Accessories Required:

Metric punches and dies 20mm to 27.5mm diameter.  
Imperial punches and dies 3/4 inches to 1 inch diameter.  
Dieholder 38RA181.

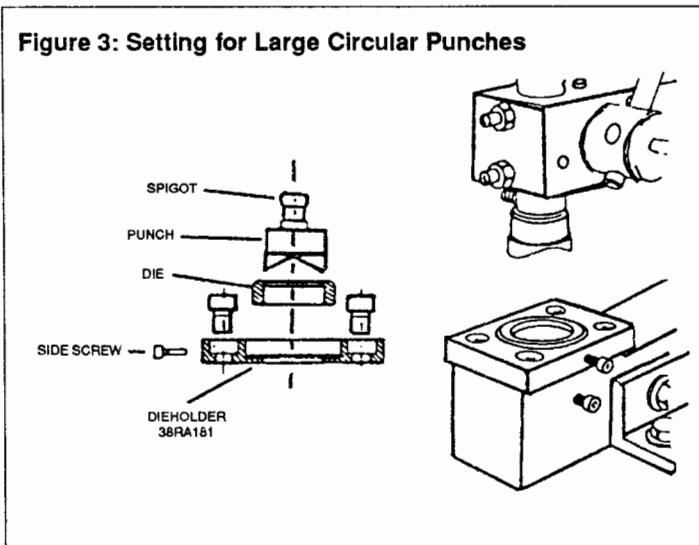
### Setting Procedure

Following the setting procedure as described on page 2 in "Punching small circular holes" with the exceptions as below. Items 1 and 2 as page 2.

3 locate and retain dieholder 38RA181 using the four dieholder mounting screws provided Fig. 3. Drop the die into the die holder but do not tighten locking screws at this point.

Items 4 and 5 as on page 2. 6 lock the punch in the spigot with the four base screws. Items 7 to 9 as on page 2.

Figure 3: Setting for Large Circular Punches



### Punching Procedure

These punches do not require a stripper and should be used as follows.

10. Feed the working material under the punch and center on a mark or use the end and back stops as described on page 8.
11. Pull the handle down firmly to pierce the material.
12. Loosen the locking screw in the ram and pass the punch through the workpiece, die and through the base of the press.
13. Before punching the next hole raise the ram and refit the punch (see spigot fitting) and bring it down into the die to ensure correct alignment.
14. Lock the punch and repeat the punching procedure.

Note the points of caution and information items 16 to 18 and 21 on page 2.

## Punching Rectangular Holes (also medium sized circular holes)

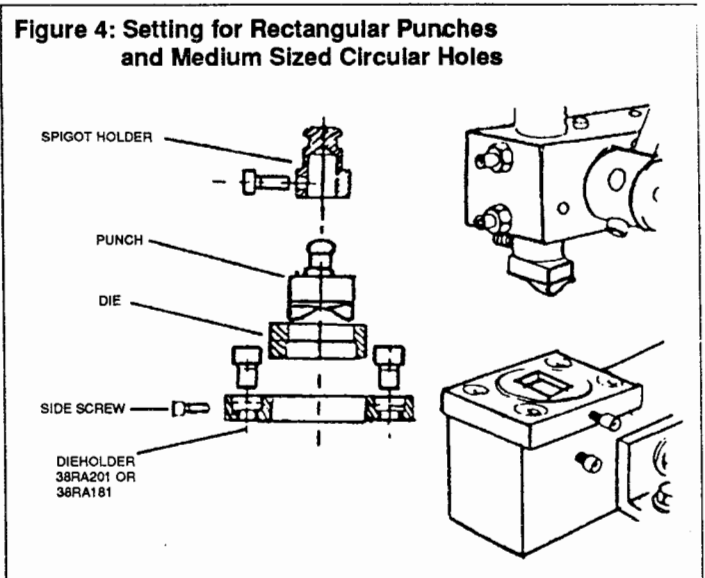
### Accessories Required:

Rectangular punches and dies.  
Circular punches and dies 12.5mm to 16.5mm diameter.  
Circular punches and dies 1/2 inches and 5/8 inches diameter.  
Dieholders 38RA201, 38RA181.

### Setting Procedure

1. Raise the ram to the up position.
2. Fit spigot holder into ram and secure as under so got fitting page 1.
3. Fit and retain the punch lightly in the spigot holder.
4. Locate and retain dieholder using the four dieholder holes and screws provided Fig. 4. Drop the die into the dieholder but do not tighten locking screws at this point.

Figure 4: Setting for Rectangular Punches and Medium Sized Circular Holes



5. Ensure that die orientation is correctly positioned for location on the workpiece. If necessary use the back and end stops (page 8) as references.
6. Bring the punch slowly down to give correct alignment and clearance when in the die.
7. In this set position, lock the punch in the spigot holder, lock the die in the dieholder and secure the dieholder with the four screws.
8. Raise and lower the punch in the die several times to ensure that they align and do not foul each other.
9. Make sure all locking screws are tightened firmly. Do not overtighten.
10. Set adjustable stop (see Fig. 1) to limit ram throw.

### Punching Procedure

Follow items 10 and 11 under 'large circular holes' then:

11. After the punch has pierced the workpiece, loosen the locking screw in the spigot holder to release the punch.
12. Pass the punch through the workpiece, die and through the base of the press. Leave the spigot holder on the ram.
13. Before punching the next hole raise the ram and refit the punch into the spigot holder.
14. Re-align punch in the die and lock, repeating the punching procedure.

Note the points of caution and information items 16 to 18 and 21 on page 2.

## Cutting and Slotting

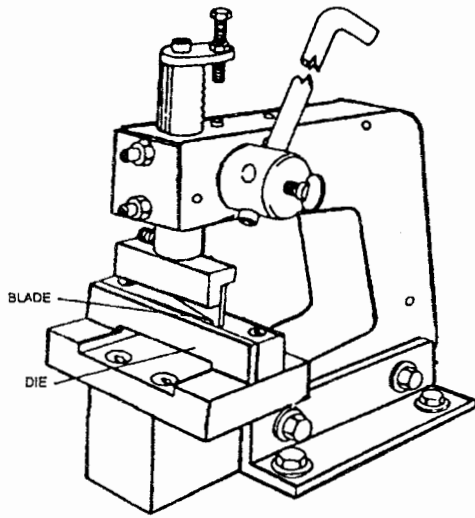
### Accessory Required:

Cutting tool 38RA515

Used in conjunction with press 38RA005 this guillotine style tool has a 1/8 inch width blade with toe for accurate cutting alignment (overall length 2.75 inches).

The blade cuts a 2.5 inch length by 1/8 inch width slot with every full stroke. It will cut and slot sheet material (see table page 1 for maximum thickness) without material distortion. This feature optimizes material usage with minimum waste. It can also be used for trimming corners.

**Figure 5: Setting for Cutting Tool**  
Stock No.: 38RA515



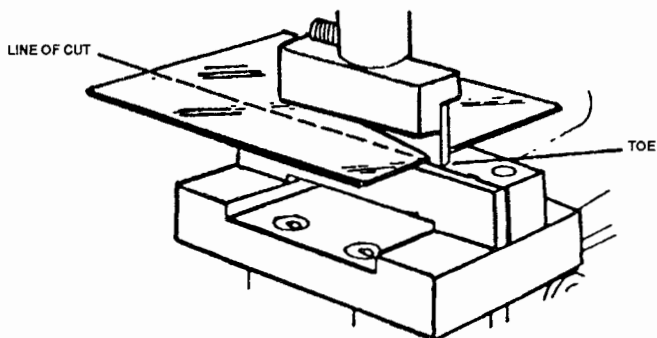
**Setting Procedure**

1. Raise the ram to the up position.
2. Set the die down on the press base and retain with the four screws provided. Do not lock at this point.
3. Fit the blade into the ram as shown in Fig. 5, ensuring that the locking screw in the ram holds the blade spigot at the undercut. Do not lock at this point.
4. Bring the ram slowly down and locate the complete length of the blade into the die slot.
5. Lock the blade in the ram and then the die down to the base.
6. Raise the ram up and down several times to ensure free alignment of blade and slot.
7. Set the adjustable stop (see Fig. 1) to limit ram throw. It is recommended that the stop is set so that the blade enters the slot along its full length during operation but does not 'bottom' onto the die body.

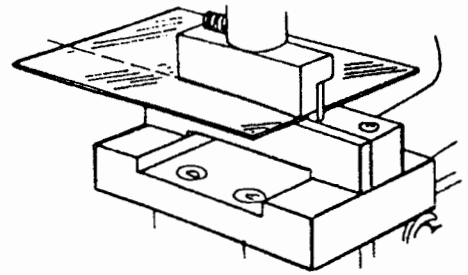
**Operating Procedure**

8. Lower the blade so that the toe just enters the slot, then feed the workpiece (flat against the die face) up to the position as shown in Fig. 6(a).
9. Holding the workpiece steady, pull the handle down firmly following the line of cut with the blade edge to the position as shown in Fig. 6(b).
10. Raise the blade, feeding the workpiece along, keeping the toe in the slot as shown in Fig. 6(c).
11. With the workpiece flat on the die face repeat as in 9 and 10 until the line of cut is complete.  
The tool may also be used to crop edges and corners.

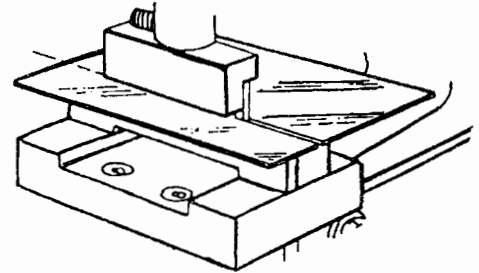
**Figure 6 (a)**



**Figure 6 (b)**



**Figure 6 (c)**



**Points of Caution and Information**

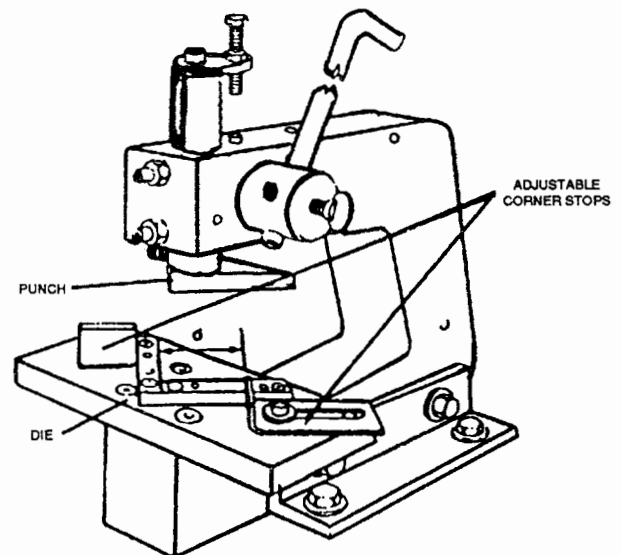
12. Use materials up to the maximum thicknesses as specified on page 1.
13. To prevent material build up ensure that the slot does not get jammed with cutouts.
14. Always ensure that the tool is free of waste material and is lightly oiled before storage.
15. Protect the tool surfaces and edges from damage by storing (with the blade held seated in the slot) in the packaging supplied.
16. Do not use the toe for punching or cutting.

**Corner Notching**

**Accessory Required:**

Notching tool 38RA015

**Figure 7: Setting for Corner Notching**



A corner notching tool used in conjunction with press 38RA005 having a 90° corner punch with 2.1 inch length cutting edges (tapered for easier cutting) and a compatible die base with adjustable corner stops to set corner lengths independently between 0 and 2.56 inches.

## Setting Procedure

1. Raise the ram to the up position.
2. Set the die down onto the base as shown in Fig. 7. Retain with the four screws provided but do not lock at this point.
3. Place the punch in the die.
4. Slowly lower the ram, locating the hole in the ram onto the punch spigot.
5. Using the adjustable stop (see Fig. 1) to hold the ram in position, set the 90° corner of the punch squarely in the 'V' of the die, locking the punch in the ram at the spigot undercut.
6. Raise and lower the punch in the die so that there is a clearance between cutting edges.
7. Lower the punch into the die and lock the die base.
8. Raise and lower the punch again to ensure free movement in the die.
9. Set the adjustable stop (Fig. 1) to limit ram throw.

Figure 8 (a)

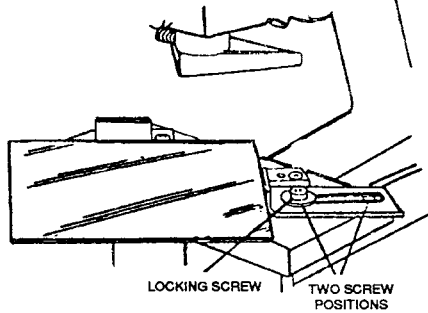
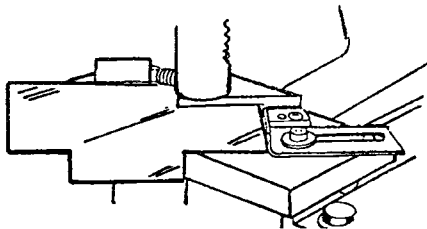


Figure 8 (b)



## Adjustable Corner Stops

10. Two stops Fig. 7 have slots for adjusting their position with respect to the die cutting edges.
11. Set distance 'd' (see Fig. 7) to give a repeatable corner notch of that dimension. Lock the stop.
12. Locking screws can be used in two positions see Fig. 8(a) to give set corner dimensions adjustable up to 2.56 inches.
13. Note that the punch sides are 2.1 inches in length, being the maximum corner which can be cut at one stroke.
14. The stops may be removed completely for larger notching.

## Operating Procedure

15. It is important to note that the workpiece reference edges should be at 90° so that true right angle corners can be cut by the tool.
16. Set the stops to the required distance.
17. Place the workpiece up against the stops and flat against the die face, see Fig. 8(a).
18. Holding the workpiece, pull the handle firmly down in one stroke, to punch a corner notch as shown in Fig. 8(b).
19. For corners in excess of 2.1 inches per side use the punch to nibble away smaller corner pieces until the full corner has been cut.

## Points of Caution and Information

Follow the points as described under cutting and slotting (cutting tool 38RA515).

## Bending and Box Forming

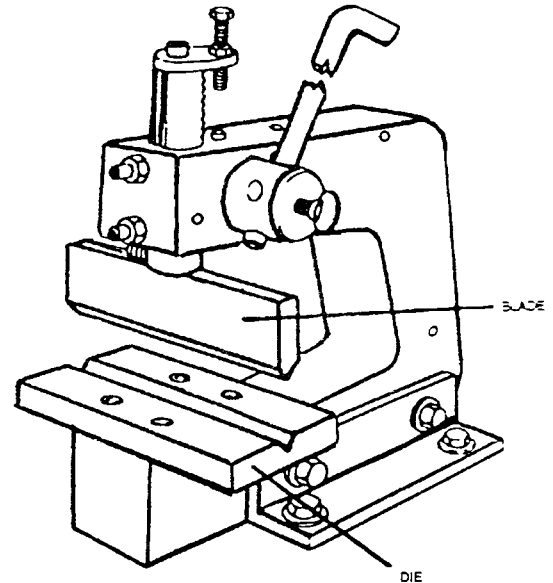
### Accessories Required:

'V' bending tool 38RA115.

Corner notching tool 38RA015.

A 'V' bending tool for forming up to 90° bends, comprising a 6.3 inch 'V' groove die and 5 blades 1.9, 2.95, 3.94, 4.92 and 5.90 inch length. Blades are not hardened so that they can be cut (with H.S.S. hacksaw) or machined to required length. Use in conjunction with corner notching tool 38RA015 to form small boxes as described in this instruction.

Figure 9: Setting for Metal Bending



## Setting Procedure

1. Raise the ram to the up position.
2. Set the die down onto the base and retain by the four screws provided. Do not lock at this point.
3. Fit the appropriate blade to the ram, see Fig. 9, ensuring that the locking screw in the ram holds the blade spigot at the undercut. Do not lock at this point.
4. Lower the ram slowly and locate the 'V' of the blade into 'V' groove of the die.
5. In this position, lock the blade in the ram and the die to the press base.
6. Raise and lower the blade ensuring that it seats fully and squarely into the groove.

Figure 10 (a)

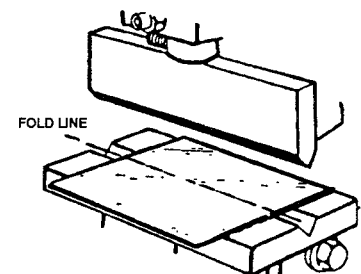
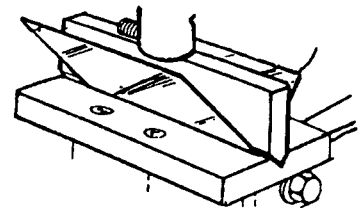


Figure 10 (b)



## Bending Procedure

7. For good forming, the length of fold should be no more than .2 inch longer than the blade.
  8. After marking the material with a fold line, place the work piece flat on the die face centered under the blade, Fig. 10(a).
  9. Lower the blade slowly and align it centered on the fold line.
  10. Pull the handle down firmly in one stroke, to form a bend up to 90°.
  11. With the blade pressed fully home, a 90° bend is formed as shown in Fig. 10(b) see note †.
  12. Raise the blade and extract the workpiece clear of the press.
- † Note: For softer materials an overbend >90° may be obtained. Adjustment to 90° may be made using the adjustable stop, see Fig. 1, to limit blade throw.

## Box Making

- Please note the limitations on box size given in table 1.
13. Preparation will require sheet material cut as shown in Fig. 11.
  14. For depth of box 'D' cut corner notches as described under corner notching.
  15. The width 'W' and length 'L' of the box will determine blade lengths. Naturally, for a square box only one blade is needed.
  16. For good forming the blade length should be slightly shorter than the length of fold, but NOT more than .2 inch shorter.
  17. With all fold lines clearly marked as shown in Fig. 11, follow items 7 to 11 for each of the four box sides, Fig. 11.
  18. To attain the box sizes listed in table 1, always bend with the main body of the box away from the press.

Figure 11: Box Formation

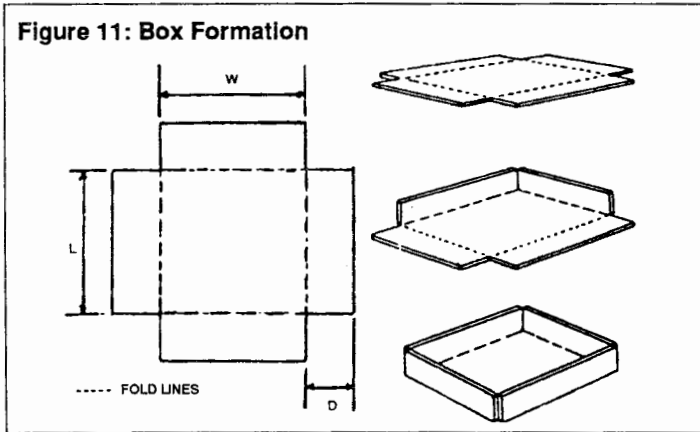


Table 1: Range of Possible Box Sizes

For lengths 'L' or widths 'W' between:	maximum depth of box 'D' is:
.8 and 1.2 in. 1.2 and 1.8 in.	.3937 to .8 in. increasing pro rata .8 in.
1.8 and 2.95 in. 2.95 and 3.54 in.	.8 in. to 1.96 in. increasing pro rata 1.96 in.
3.54 and 3.75 in. 3.75 and 4.13 in. 4.13 and 4.33 in.	1.96 in. to 2.36 in. increasing pro rata 2.36 in. to 2.75 in. increasing pro rata 2.75 in.
4.33 and 4.52 in. 4.52 and 4.75 in.	2.75 in. to 2.95 in. increasing pro rata 2.95 in.
4.75 and 5.31 in. 5.31 and 6.1 in.	3.937 in. to 4.33 in. increasing pro rata 4.33 in. to 5.12 in. increasing pro rata

Note: For rectangular shaped boxes, depth should be determined by the shortest side dimension L or W.

## Points of Caution and Information

19. Use materials up to the maximum thickness as specified on page 1.
20. When cutting blades to required length ensure that the spigot remains at the center line of the blade length.

(Note, the maximum and minimum blade lengths are 6.0 inches and .75 inches respectively).

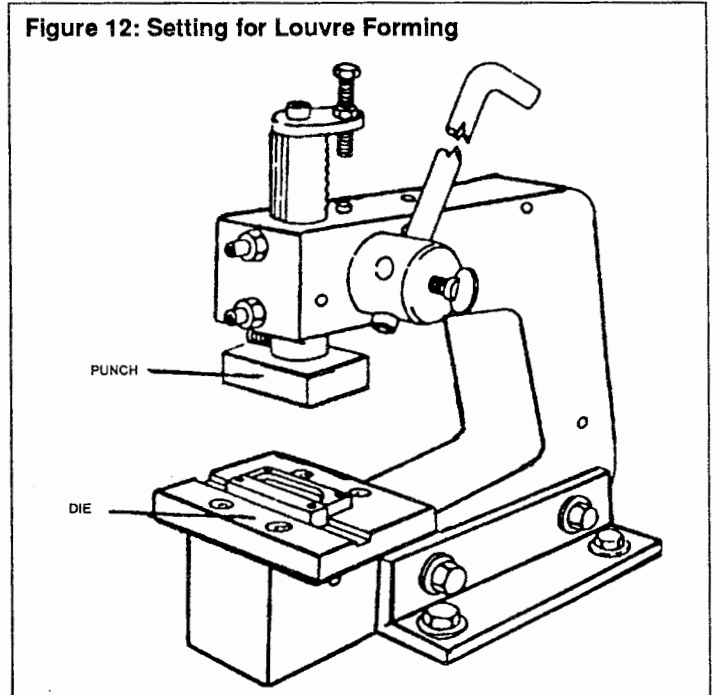
21. When bending, always center the workpiece under the blade.
22. Protect the tool surfaces and edges from damage by safe storage.

## Louvre Forming

### Accessory Required:

Louvre tool 38RA215.

Figure 12: Setting for Louvre Forming

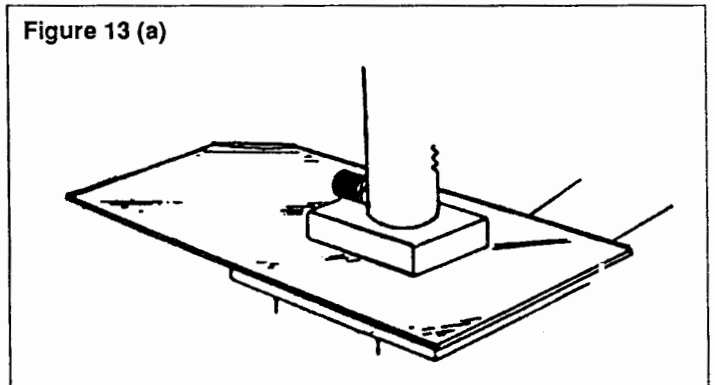


A louvre forming tool 1.75 inch length by .40 inch width to form ventilation apertures. Minimum spacing between adjacent louvres .216 inch, see Fig. 13 (b).

### Setting Procedure

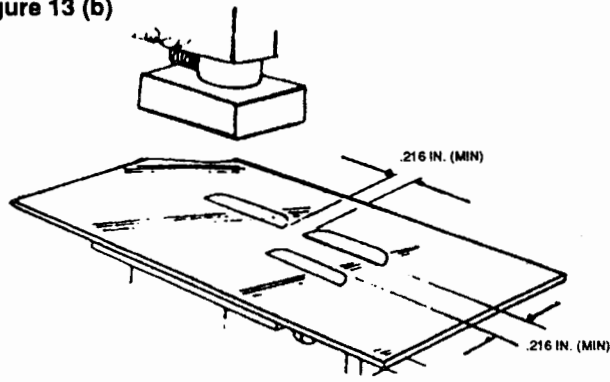
1. Raise the ram to the up position.
2. Set the die down on the press base with the 'D' shape of the louvre facing either inwards or outwards as required. Fig. 12 shows the 'D' facing inwards.
3. Retain the die with four screws provided but do not lock at this time.
4. Fit the punch into the ram and hold with the locking screw in the undercut of the spigot.
5. Lower the punch, slowly locating it into the die.
6. With the punch set fully into the die, lock the punch in the ram, then the die to the base.
7. Raise and lower the punch in the die to ensure free movement and no fouling.

Figure 13 (a)





**Figure 13 (b)**



**Louvre Forming Procedure**

8. With the ram raised, place the workpiece flat on the dieface.
9. Lower the ram, aligning the punch against the workpiece in the required position. Use a reference line on the workpiece or the end and back stops as described on page 8.
10. Holding the workpiece, pull the handle down firmly in one stroke until the punch pierces the material and seats fully into the die, see Fig. 13(a).
11. Raise the ram and re-position the workpiece ready for the next louvre, Fig. 13(b).
12. Spacing between louvres is limited to .216 inch (min) top to bottom and side to side.

**Points of Caution and Information**

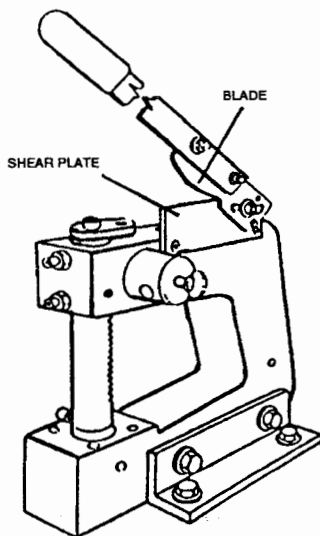
13. Use materials up to the maximum thickness as specified on page 1.
14. Protect the tool surfaces and edges from damage by safe storage.

**Cropping and Shearing**

**Accessory required:**

Crop and shear tool 38RA525

**Figure 14: Setting for Cropping and Shearing**



A tool for shearing sheet material and cropping rod, which can be mounted to press 38RA005 see Fig. 14, or independently mounted using the bracket supplied with the tool, see Fig 16. Lever length is 22 inches, blade length 2.93 inches.

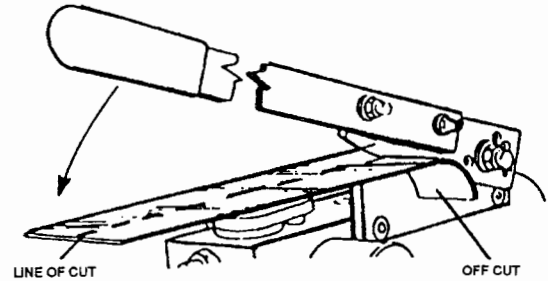
**Setting Up Procedure**

1. When using press 38RA005 ensure that it is securely mounted

to a rigid surface (see Bench mounting, page 1).

2. Remove the adjustable stop from the press, lower the ram, then remove the handle.
3. Mount the shear plate, using the two countersunk head screws provided, as shown in Fig. 14 (see also mounting holes B, Fig. 1, page 1).
4. For independent mounting, bolt the 'L' shaped bracket, supplied with the tool, to a suitable rigid bench surface (2 mtg. holes M10 clear, 5.9 inch centers), then mount the tool to the bracket using the two countersunk head screws provided as shown in Fig. 16.

**Figure 15**



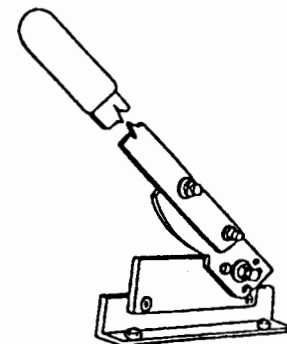
**Sheet Material Cutting Procedure**

5. Use sheet material to the maximum thickness as given in table 2.
6. With the blade up, slide the workpiece horizontally up to the blade.
7. With forward pressure on the workpiece, pull the lever down so that the blade bites into and shears along the line of cut, Fig. 15.
8. Continue to feed the material, cutting with a scissor action.
9. Note that the offcut as indicated in Fig. 15 will bend naturally during cutting.

**Table 2: Maximum thickness of sheet material**

MATERIAL	MAXIMUM THICKNESS
Aluminum	14 swg (.08 in.)
Mild Steel	18 swg (.047 in.)
Fiber Glass and Paper PCB's	.06 inch

**Figure 16: Bench Mounting**



**Rod Cropping**

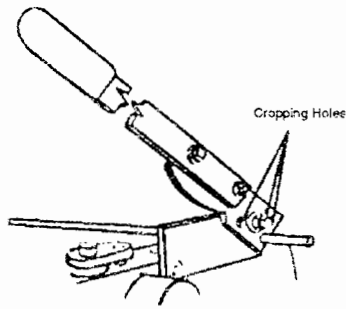
This tool is also capable of cropping brass, copper and mild steel and studding. The tool has 4 cropping holes - diameters .12, .157, .2, and .236 inch clear.

10. Mount the tool as described under items 1 to 4. Position the

lever so that the cropping holes in the blade align with those in the shear plate.

11. Insert a rod of the appropriate diameter as shown in Fig. 17 and holding it steady, bring the lever down, cropping to the required length.

Figure 17: Rod Cropping



#### Points of Caution and Information

12. When handling smaller size materials, keep hands well clear of the cutting edges, by gripping the material with pliers.
13. Lightly oil the cutting and cropping edges for easier shearing and longer blade life.
14. Store the tool with the blade closed protecting the cutting edges from damage.

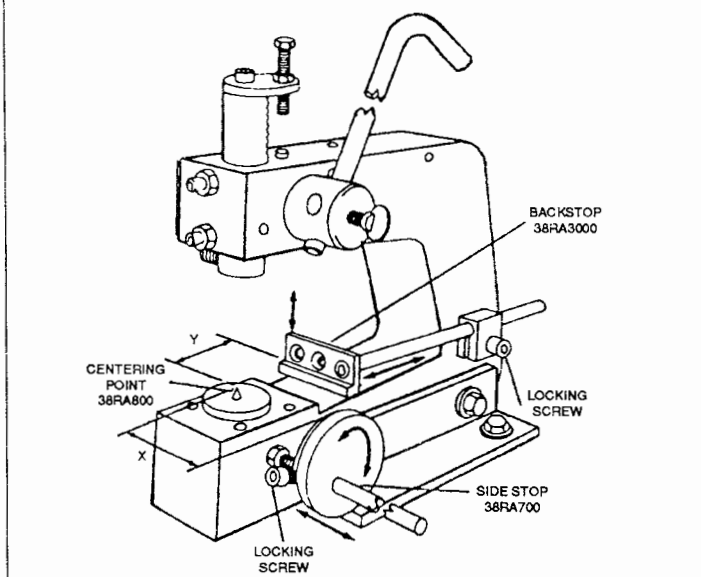
#### Job Alignment Aids

##### Accessories Required:

- Side stop 38RA700
- Back stop 38RA300
- Centering point 38RA800

Three alignment accessories for use in conjunction with press 38RA005 for accurate and repeatable dimensional reference.

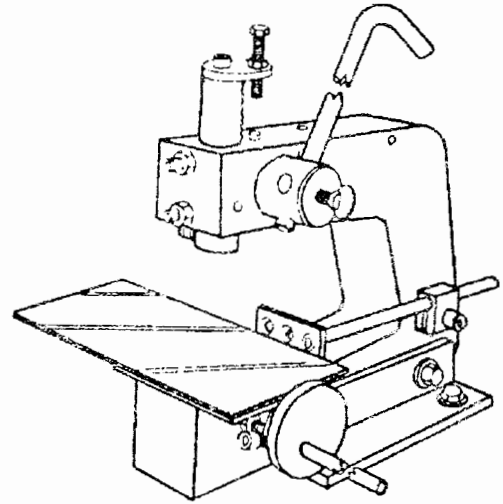
Figure 18: Setting of Alignment Aids



#### Side Stop 38RA700

1. Side stop 38RA700 can be fitted on either side of the press frame at holes D, see Fig. 1, page 1.
2. Consists of a circular shaped stop (with a step rest) mounted 'off center' to a bar which screws into the press frame with a locknut.
3. The stop slides along the bar to give side reference dimension 'x', (see Fig. 18), and also revolves on the bar in a cam fashion giving variation in rest height.
4. Fit the stop as shown, tighten the bar locking nut and locking the stop with screw indicated.

Figure 19: Alignment of Workpiece Against Stops



5. Maximum range of adjustment from ram center 1.6 to 8.6 in.
6. Maximum vertical adjustment .8 in. above the dieholding face.

#### Back Stop 38RA300

7. Back stop 38RA300 can be fitted to either side of the press frame at holes C, (see Fig. 1, page 1).
8. Consists of a bar and clamp with an 'L' shaped rest.
9. The bar slides in the clamp until it is tightened to give back reference dimension 'y', (see Fig. 18).
10. The stop can also be moved up and down to give a degree of vertical adjustment.
11. The rest can be screwed to the end of the bar in three positions.
12. Maximum adjustment from ram center 5.9 inches.
13. With both the stops fitted and set for correct distance and height, sheet material can be positioned for repeated accurate centering.

#### Centering Point 38RA800

14. Consists of a circular plug which fits into the central hole of the press base, having a center point, which represents the center line of the ram.
15. Dimensions 'x' and 'y', (see Fig. 18), may be accurately referenced from the centering point used in conjunction with the side and back stops.

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