ROTARY MACHINE

Assembly & Operating
Instructions

DESCRIPTION

Rotary machine is hand operated and will form sheet metal up to 22 Gauge / 0.30" thickness mild steel (or equivalent). The Rotary machine is constructed of cast iron and steel ensuring minimum deflection of the workpiece during forming operations. Six die sets are included. allowing the following operations to be per-formed: large and small turning, burring, wiring, ogee beading, and crimping.

SAVE THIS MANUAL

You will need this manual for the safety instructions, operating procedures. Maintenance procedures, trouble shooting, parts list, and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep both this manual and your invoice in a safe dry place for future reference.

READ ALL INSTRUCTIONS BEFORE USING THIS TOOL!

1. **KEEP WORK AREA CLEAN.** Cluttered areas invite injuries.

2. **OBSERVE WORK AREA CONDITIONS.** Do not use tools in damp, wet, or poorly in locations. Don't expose to rain. Keep work areas well fit. Do not use electrically powered equipment in the presence of flammable gases or liquids.

3. **KEEP CHILDRED AWAY.** Children must never be allowed in the work area. Don't let them handle the benders.

4. **STORE IDLE EQUIPMENT.** When not in use, tools must be locked up in a dry location without rust. Always lock up tools and keep out or reach of children.

5. **DO NOT FORCE THE ROTARY MACHINE.** It will do the job better and more safety at the rate for which it was intended.

6. **USE EYE, EAR AND BREATHING PROTECTION.** Always wear ANSI approved impact safety goggles.

7. **DO NOT OVERREACH.** Keep proper footing and balance at all times.

8. **MAINTAIN TOOLS WITH CARE.** Keep tools clean for better and safer performance. Keep handle dry, clean, and free from oil and grease.

9. **STAY ALERT.** Watch what you are dong. Do not operate any machinery when you are tired.

10. **CHECK FOR DAMAGED PARTS.** Before using any tool, any part that appears damaged should be carefully checked to determine that it would operate properly and perform its intended function. Check for alignment and binding of moving parts, any broken parts or mounting fixtures, and any other condition

that may affect proper operation. Any part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in the instruction manual.

11. **REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Only use accessories intended for use with this tool.

12. **DO NOT OPERATE TOOL IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

UNPACKING

Refer to Figures 1 and 4.

Check for shipping damage. If damage has occurred, a claim must be filed with carrier. Check for completeness. Immediately report missing parts to dealer.

The rotary machine comes assembled as one unit with one die set attached. Additional parts which need to be fastened to the tool should be located and accounted for before assembling:

A Base assembly
B Crank handle assembly
C Adjusting handle assembly
D Wrench
E Spacers, 2 each
F Small turning die set
G Ogee bead die set
H Burring die set
I Large turning die set
J Wiring die set
K Crimping die set

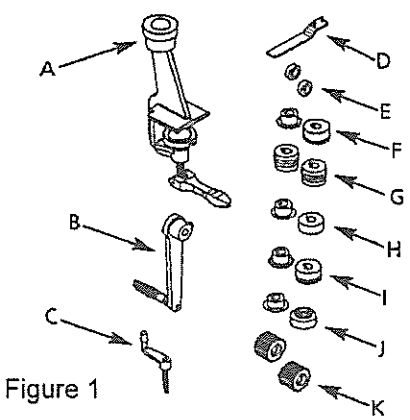

Figure 1

IMPORTANT: Rotary machine and dies are coated with a protectant. To ensure proper fit and operation, remove coating. Coating is easily removed with mild solvents, such as mineral spirits, and a soft cloth. Avoid getting cleaning solution on paint or any of the rubber or plastic parts. Solvents may deteriorate these finishes. Use soap and water on paint, plastic or rubber components. After cleaning, cover all exposed surfaces with a light coating of oil.

WARNING: Never use highly Non-flammable solvents are recommended to avoid possible fire hazard.

SPECIFICATIONS ROTARY MACHINE

Refer to Figure 2

Maximum thickness	22 GA. (.030") mild steel
Throat depth	7"
Material stop range	0-7"
Maximum thickness of mounting surface	2"
Weight	47 Lbs

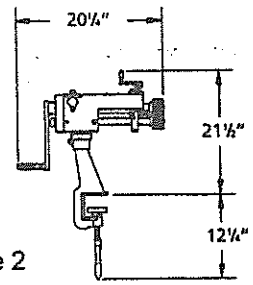

Figure 2

ASSEMBLY

Refer to Figure 4

MOUNT BASE ASSEMBLY
Mount base assembly (Ref. Nos. 1-7) to a suitable area on workbench. The thickness of the mounting surface cannot exceed 2". Secure in position using clamp handle (Ref. No. 4).

MOUNT ROTARY MACHINE TO BASE
Mount rotary machine body (Ref. No. 18) to base (Ref. No. 1). Secure with hex head bolt (Ref. No. 7).

MOUNT HANDLE TO MACHINE
Mount the crank assembly (Ref. Nos. 8-12) to the driving shaft (Ref. No. 53). Secure with hex head bolt (Ref. No. 8). Mount the adjusting handle assembly (Ref. Nos. 38-40, 60 and 61) into top of body (Ref. No.18).

INSTALLATION

Machine should be installed on a level surface, with proper lighting. Machine is to be bench mounted. Be sure to provide clearance for crank arm rotation. Area around machine should be clear of scraps, oil or dirt. Apply a suitable non-skid material to floor.

OPERATION

Refer to Figures 3 and 4.

Be sure to keep hands clear of forming dies when rotating crank handle. The maximum capacity of the machine is 22 gauge (.030") mild steel or equivalent. Below is an equivalency chart for use when working with materials other than mild steel:

EQUIVALENCY CHART

Mild steel	.030"
Stainless steel	.020"
Cold-rolled steel	.024"
Aluminum	.055"
Soft brass	.046"
1/2 Hard brass	.030"
Annealed phosphor bronze	.034"
Soft copper	.046"
Hard copper	.034"

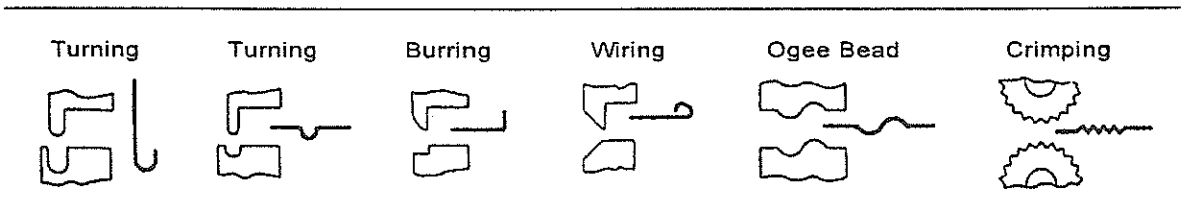

Figure 3 - Profiles of Roll Dies included with Rotary Machine

1. Select the die set required for the operation to be performed.

2. Place spacers (Ref. No. 50), dies and retaining nuts (Ref. No. 52) onto the driving and driven shafts (Ref. No. 47 and 53). Tighten the retaining nuts with wrench (Ref. No. 59) provided.

3. Adjust the position of the upper die according to thickness of the workpiece by using the adjusting handle (Ref. No. 60).

4. Adjust the horizontal position of the upper die by ratating the adjusting nut (Ref. No. 27).

5. Adjust the stop gauges (Ref. Nos. 10 and 15) or the stop plate (Ref. No. 14) to the required size. The required size is the distance the form will be from the edge of the metal. Use the stop gauge for sheet and use the stop plate for cylinders. The stop gauge can be finely adjusted using the thumb nuts (Ref. No. 13).

6. Insert metal between dies and slowly rotate the crank arm (Ref. No. 9). Check the workpiece. It may be necessary to fine tune the adjustments made in steps 3 and 4. Repeat steps 3 and 4 until the correct form is obtained.

MAINTENANCE

Refer to Figure 4.

LUBRICATION

1. All exposed iron surfaces should be coated with light oil to prevent rusting. Use a multi-purpose or bearing grease for lubrication.

2. The adjusting block (Ref. No. 35) should be greased.

3. Oil the driving shaft (Ref. No. 53) through the oil ports (Ref. Nos. 17 and 62) monthly.

TROUBLESHOOTING CHART

Symptom	Possible Cause(s)	Corrective Action
Dies cut through metal	1. Dies are too close together	1. Adjust die position using adjusting handle (Ref. No. 60)
Dies do not make the form correctly	1. Dies are improperly adjusted	1. Adjust die position using adjusting nut (Ref. No. 27)
	2. Thumb screw loose (Ref. No. 36)	2. Tighten thumb screw
	3. Workpiece material too thick	3. Do not exceed machine capacity of . 030" mild steel or equivalent, See Equivalency Chart
Crank arm difficult to turn	1. Adjusting block (Ref. No. 35) loose or not in proper position	1. Adjust set screws (Ref. No. 21) and secure by tightening lock nuts (Ref. No. 20). Loosen knob (Ref. No. 22) and adjust position of adjusting block (Ref. No. 35) by turning adjusting bolt (Ref. 33). Retighten knob (Ref. 22).
	2. Improper lubrication	2. Lubricate properly, See Lubrication, page 3

MAINTENANCE

Part#	Description	Qty
1	Base	1
2	Clamp bolt	1
3	6 x 45mm Dowel pin	1
4	Clamp handle	1
5	Clamp head	1
6	3 x 36mm Cotter pin	1
7	10-1.5 x 25mm Dog point bolt	1
8	8-1.25 x 15mm Set screw	1
9	Crank arm	1
10	Stop gauge (left)	1
11	Handle	1
12	Handle bolt	1
13	Thumb nut	4
14	Stop plate	1
15	Stop gauge (right)	2
16	Shaft sleeve	1
17	Oil port	1
18	Body	1
19	Set screw	1
20	Lock Nut	2
21	Set screw	2
22	Knob	1
23	6mm Steel ball	2
24	5 x 35mm Dowel Pin	1
25	Cover	1
26	8-1.25 x 35mm Hex head bolt	2
27	Adjusting nut	1
28	Driving gear	1
29	Driven gear	1
30	Square plate	1
31	5-0.8 x 8mm Pan head screw	3

Part#	Description	Qty
32	Round plate	1
33	Adjusting bolt	1
34	6-1.0 x 14mm Pan head screw	4
35	Adjusting block	1
36	Thumb screw	1
37	Spring	1
38	Adjusting handle	1
39	1/8 x 7/8" Dowel pin	1
40	Adjusting screw	1
41	Sleeve	1
42	Spring	1
43	Collar	1
44	Adjusting block	1
45	6 x 20mm Key	1
46	5 x 32mm Dowel pin	1
47	Driven shaft	1
48	8-1.25 x 20mm Hex head bolt	1
49	6 x 6 x 25mm Key	2
50	Spacer	4
51	Crimping roll dies (Set of 2)	1
52	Retaining nut	2
53	Driving shaft	1
54	Small turning roll dies (Set of 2)	1
55	Ogee bead roll dies (Set of 2)	1
56	Burring roll dies (Set of 2)	1
57	Large turning roll dies (Set of 2)	1
58	Wiring roll dies (Set of 2)	1
59	Wrench	1
60	Handle	1
61	Handle bolt	1
62	Oil port	1

ASSEMBLY DRAWING