

### **OPERATOR'S MANUAL**



METAL BEAD ROLLER MODEL: BR-16E-36 (B8790)

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### INTRODUCTION

The quality and reliability of the components assembled on a Baileigh Industrial machine guarantee near perfect functioning, free from problems, even under the most demanding working conditions. However if a situation arises, refer to the manual first. If a solution cannot be found, contact the distributor where you purchased our product. Make sure you have the serial number and production year of the machine (stamped on the nameplate). For replacement parts refer to the assembly numbers on the parts list drawings.

Our technical staff will do their best to help you get your machine back in working order.

### In this manual you will find: (when applicable)

- Safety procedures
- Correct installation guidelines
- Description of the functional parts of the machine
- Capacity charts
- Set-up and start-up instructions
- Machine operation
- Scheduled maintenance
- Parts lists

### **GENERAL NOTES**

After receiving your equipment remove the protective container. Do a complete visual inspection, and if damage is noted, **photograph it for insurance claims** and contact your carrier at once, requesting inspection. Also contact your distributor and inform them of the unexpected occurrence. Temporarily suspend installation.

Take necessary precautions while loading / unloading or moving the machine to avoid any injuries.

Your machine is designed and manufactured to work smoothly and efficiently. Following proper maintenance instructions will help ensure this. Try and use original spare parts, whenever possible, and most importantly; **DO NOT** overload the machine or make any unauthorized modifications.





**Note:** This symbol refers to useful information throughout the manual.



### IMPORTANT PLEASE READ THIS OPERATORS MANUAL CAREFULLY

It contains important safety information, instructions, and necessary operating procedures. The continual observance of these procedures will help increase your production and extend the life of the equipment.

### **SAFETY INSTRUCTIONS**

### LEARN TO RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, **BE ALERT TO THE POTENTIAL FOR PERSONAL INJURY!** 



Follow recommended precautions and safe operating practices.

### **UNDERSTAND SIGNAL WORDS**

A signal word – **DANGER**, **WARNING**, or **CAUTION** is used with the safety alert symbol. **DANGER** identifies a hazard or unsafe practice that will result in severe **Injury or Death**.



Safety signs with signal word **DANGER** or **WARNING** are typically near specific hazards.

General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.





### SAVE THESE INSTRUCTIONS. Refer to them often and use them to instruct others.



### **PROTECT EYES**

Wear safety glasses or suitable eye protection when working on or around machinery.





### **PROTECT AGAINST NOISE**

Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protective devices such as ear muffs or earplugs to protect against objectionable or uncomfortable loud noises.





### **HIGH VOLTAGE**

**USE CAUTION IN HIGH VOLTAGE AREAS. DO NOT** assume the power to be off.

FOLLOW PROPER LOCKOUT PROCEDURES.





### **BEWARE OF PINCH POINTS**

Keep hands and fingers away from the rolls when the machine is in operation.





### BEWARE OF PINCH POINTS AND CRUSH HAZARD

Keep hands and fingers from between the roller and die when bending materials to avoid possible injury.

**NEVER** place your hands, fingers, or any part of your body in the die area of this machine.





### **SAFETY PRECAUTIONS**



Metal working can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

Safety equipment such as guards, hold-downs, safety glasses, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. **Always use common sense** and exercise **caution** in the workshop. If a procedure feels dangerous, don't try it.

REMEMBER: Your personal safety is your responsibility.



### WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

- 1. Only trained and qualified personnel can operate this machine.
- 2. Make sure guards are in place and in proper working order before operating machinery.
- 3. **Remove any adjusting tools.** Before operating the machine, make sure any adjusting tools have been removed.
- 4. **Keep work area clean.** Cluttered areas invite injuries.
- 5. **Overloading machine.** By overloading the machine you may cause injury from flying parts. **DO NOT** exceed the specified machine capacities.
- 6. **Dressing material edges.** Always chamfer and deburr all sharp edges.
- 7. **Do not force tool.** Your machine will do a better and safer job if used as intended. **DO NOT** use inappropriate attachments in an attempt to exceed the machines rated capacity.
- 8. **Use the right tool for the job. DO NOT** attempt to force a small tool or attachment to do the work of a large industrial tool. **DO NOT** use a tool for a purpose for which it was not intended.
- 9. **Dress appropriate. DO NOT** wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
- 10. **Use eye and ear protection**. Always wear ISO approved impact safety goggles. Wear a full-face shield if you are producing metal filings.



- 11. **Do not overreach**. Maintain proper footing and balance at all times. **DO NOT** reach over or across a running machine.
- 12. **Stay alert**. Watch what you are doing and use common sense. **DO NOT** operate any tool or machine when you are tired.
- 13. **Check for damaged parts**. Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
- 14. **Observe work area conditions**. **DO NOT** use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well lighted. **DO NOT** use electrically powered tools in the presence of flammable gases or liquids.
- 15. **Keep children away**. Children must never be allowed in the work area. **DO NOT** let them handle machines, tools, or extension cords.
- 16. **Store idle equipment**. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.
- 17. **DO NOT operate machine if under the influence of alcohol or drugs**. Read warning labels on prescriptions. If there is any doubt, **DO NOT** operate the machine.
- 18. **DO NOT** touch live electrical components or parts.
- 19. Turn off power before checking, cleaning, or replacing any parts.
- 20. Be sure all equipment is properly installed and grounded according to national, state, and local codes.
- 21. Inspect power and control cables periodically. Replace if damaged or bare wires are exposed. **Bare wiring can kill!**
- 22. **DO NOT** bypass or defeat any safety interlock systems.
- 23. Keep visitors a safe distance from the work area.



### **TECHNICAL SPECIFICATIONS**

This bead roller is power driven and will form sheet metal up to 16 Gauge thickness mild steel (or equivalent). Available die sets allow for the following operations to be performed: wiring, edging, ogee bead, single bead, and elbow edging.

Capacity	16ga. (.0598") (1.52mm) mild steel 14ga. (.064") (1.62mm) mild steel
Throat Depth	36" (914mm)
Arbor Diameter	.875" (22mm)
Standard Roll Diameter	2.5" (63.5mm)
Power	240VAC, 50hz
Motor HP	1/2hp (.37kw)
Shipping Dimensions (L x W x H)	60" x 44" x 68" (1524 x 1118 x 1727mm)
Weight	300lbs. (137kg)

- Inverter driven variable speed foot pedal control
- Forward and reverse rotation
- Left or right hand operator controls
- Quick release top roll
- Adjustable depth on bottom roll
- Depth stop included

**Note**: The photos and illustrations used in this manual are representative only and may not depict the actual color, labeling or accessories and may be intended to illustrate technique only.

**Note:** The specifications and dimensions presented here are subject to change without prior notice due to improvements of our products.



### **UNPACKING AND CHECKING CONTENTS**

Your Baileigh machine is shipped complete in one crate. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

WARNING: If any parts are missing, do not plug in the power cable, or turn the power switch on until the missing parts are obtained and installed correctly.

### **Cleaning**

Your machine may be shipped with a rustproof waxy oil coating and grease on the exposed unpainted metal surfaces. To remove this protective coating, use a degreaser or solvent cleaner. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces. Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.

WARNING: DO NOT USE gasoline or other petroleum products to clean the machine. They have low flash points and can explode or cause fire.

CAUTION: When using cleaning solvents work in a well-ventilated area. Many cleaning solvents are toxic if inhaled.









### **INSTALLATION**

### **IMPORTANT:**

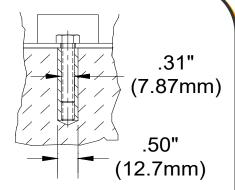
Consider the following when looking for a suitable location to place the machine:

- Overall weight of the machine.
- Weight of material being processed.
- Sizes of material to be processed through the machine.
- Space needed for auxiliary stands, work tables, or other machinery.
- Clearance from walls and other obstacles.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Keep the floor free of oil and make sure it is not slippery.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.
- **LEVELING:** The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.
- **FLOOR:** This tool distributes a large amount of weight over a small area. Make certain that the floor is capable of supporting the weight of the machine, work stock, and the operator. The floor should also be a level surface. If the unit wobbles or rocks once in place, be sure to eliminate by using shims.
- **WORKING CLEARANCES:** Take into consideration the size of the material to be processed. Make sure that you allow enough space for you to operate the machine freely.
- **POWER SUPPLY PLACEMENT:** The power supply should be located close enough to the machine so that the power cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and/or outlets.



### Anchoring the Machine

Once positioned, anchor the machine to the floor, as shown in the diagram, using bolts and expansion plugs or sunken tie rods that connect through holes in the base of the stand.



### **ELECTRICAL**

ATTENTION: HAVE ELECTRICAL UTILITIES CONNECTED TO MACHINE BY A **CERTIFIED ELECTRICIAN!** 

Your Baileigh Machine is Certified



Check if the available power supply is the same as required by the machine (consult nameplate on machine)

WARNING: Make sure the grounding wire (green) is properly connected to avoid electric shock. DO NOT switch the position of the green grounding wire if any electrical plug wires are switched during hookup.

### **Motor Specifications**

Your tool is wired for 240 volt, 50Hz alternating current. Before connecting the tool to the power source, make sure the machine is cut off from power source.

### **Considerations**

- Observe local electrical codes when connecting the machine.
- The circuit should be protected with a time delay fuse or circuit breaker with a amperage rating slightly higher than the full load current of machine.
- A separate electrical circuit should be used for your tools. Before connecting the motor to the power line, make sure the switch is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the tool.
- All line connections should make good contact. Running on low voltage will damage the motor.
- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged



into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING: In all cases, make certain the receptacle in question is properly grounded. If you are not sure, have a qualified electrician check the receptacle.

- Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.
- Repair or replace damaged or worn cord immediately.

### **Extension Cord Safety**

Extension cord should be in good condition and meet the minimum wire gauge requirements listed below:

	LENGTH		
AMP RATING	25ft	50ft	100ft
0-6	16	16	16
7-10	16	16	14
11-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No
	WIRE GAUGE		

An undersized cord decreases line voltage, causing loss of power and overheating. All cords should use a ground wire and plug pin. Replace any damaged cords immediately.



### **GENERAL BEAD ROLLING**

The primary purpose is to "roll form" into sheet metal, primarily "Beads". A multitude of tools are available for just about any profile you can think of. Bead rolling is both functional and artistic. The functional portion of this operation will add strength and rigidity to sheet material. The artistic portion will add aesthetic appeal to the design. Both operations require practice and experience to perfect. When safety and machine capacity are taken into account, the remaining is open to the imagination and creativity of the metal worker.

- Never exceed the machines capacity. Keeping in mind items like seams and hems increase the material thickness which may exceed the machines capacity.
- Never handle material larger than you are able to comfortably control. Keep in mind that
  when the material is being rolled, the forces of the rolls will cause the material to move and
  twist. Use additional equipment such as back gauges, tables, and additional persons to
  support and secure materials as needed.
- Take several passes. Most beads will require several passes to obtain the desired depth. Planning and practice will assist with this. Practice on similar material to become familiar with how the material will react and to predict the number of passes and the depth of each pass.



### **ROLLER INSTALLATION AND REMOVAL**

- 1. Use the handwheel to open the roll gap enough for the rolls to clear each other.
- 2. Loosen the retaining bolt enough to remove the slotted washer.
- Remove the rolls.
- 4. Select and install the die set required for the desired bead type. Either roller can be top or bottom depending on your application.
- 5. Install the slotted washer and secure with the retaining bolts.
- 6. The adjustable lower shaft makes it very easy to align tools perfectly, as well as setting tool gaps between step dies.



### **OPERATION**

CAUTION: Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.

CAUTION: Keep hands and fingers clear of the rolling dies. Be aware of how the material moves as it is being formed. Normally the operator should stand in front of the bead roller to avoid getting hit with the material as it is being formed. When handling large heavy materials make sure they are properly supported.

### **Controls**

• The main electrical box houses the majority of the electronics which controls the machine.



- To power machine, connect it into a standard 240V wall outlet.
- Activate the power toggle switch to the "ON" position. It takes approx. 20-30 seconds before the motor drive is ready to run.
- On the main electrical box there is a selection of either side 1 or side 2. These correspond to the remote control panels out at the front end of the machine. Choose which side you plan to operate the machine from.
- Once your selection is made, only the controls of the chosen side will work.
- The remote control panels have a speed pot control and a selector for FWD/REV direction.
- The top roll will begin to rotate as the foot pedal is depressed and will gradually increase rotational speed until it reaches the maximum speed set on the potentiometer.



### **Rolling**

- 1. Unplug the power cord whenever changing dies.
- 2. To operate the machine, a set of tooling needs to be selected and installed. Either roller can be on top or bottom depending on your application.
- 3. With a set of tooling installed, the tool gap can be set with the top hand wheel. Clockwise (cw) is down, counterclockwise (ccw) is up.
- 4. Set the back gauge as desired to assist in positioning the material between the dies. This also assists in repeatability.
- 5. The guick release is very handy because it will always return to the same depth setting.
- 6. When the material is positioned as desired, closed the toggle closes the gap between the rolls to start to impress the rolls into the material. This step may require some experimentation to get the proper depth so it is recommended that you use a scrap piece of the same material you want to bead roll.



**Note:** Most beading operations will need to be done in several steps, increasing the depth on each pass. Trying to bead too deep will flex the machine, so take your time with multiple passes.

- Do not start with the rolls completely closed as you may find that the rolls are too close together and find it difficult to feed the material.
- 7. Place the Forward/Reverse switch in the desired position based upon direction of feed. Forward will feed material from right to left. Reverse will feed material from left to right.
- 8. Step down on the foot pedal while feeding the work-piece through the die set. Check the work-piece. It may be necessary to fine tune the adjustment to the depth of the bead to reach the desired bead depth.
- 9. When doing beads, you can feed the panel from one end to the other, increase pressure, and switch the machine to reverse, to back it up
- 10. When the material has been fed through the rolls for one pass, release the foot pedal and then, either remove the material if the bead is complete, or toggle the switch to the opposite directions and feed the material back in the opposite direction increasing the pressure on the rolls.
- 11. This may be repeated until the desired bead is achieved.

### **MATERIAL SELECTION**

CAUTION: It must be determined by the customer that materials being processed through the machine are NOT potentially hazardous to operator or personnel working nearby.

When selecting materials keep these instructions in mind:

- Material must be clean and dry. (without oil)
- Material should have a smooth surface so it processes easily.
- Dimensional properties of material must be consistent and not exceed the machine capacity values.
- Chemical structure of material must be consistent.
- Buy certificated steel from the same vendor when possible.



### **UNDERSTANDING SPRINGBACK**

Springback, also known as elastic recovery, is the result of the metal wanting to return to its original shape after undergoing compression and stretch. After the bending leaf is removed from the metal and the load is released, the piece part relaxes, forcing the bent portion of the metal to return slightly to its original shape. The key to obtaining the correct bend angle is to over bend the metal a little and allow it to spring back to the desired angle. All metals exhibit a certain amount of spring back.



### **LUBRICATION AND MAINTENANCE**

WARNING: Make sure the electrical disconnect is <u>OFF</u> before working on the machine.

Maintenance should be performed on a regular basis by qualified personnel.

Always follow proper safety precautions when working on or around any machinery.



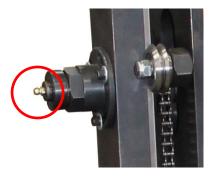
**Note**: Proper maintenance can increase the life expectancy of your machine.

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- On a weekly basis clean the machine and the area around it.
- Lubricate threaded components and sliding devices.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- The adjusting block should be greased.
- Oil the driving shaft through the oil ports monthly.
- 1. The upper chain tension should be checked periodically. To tighten the chain, loosen the (3) compensator bolts on the upper sprocket hub (shown at right) and rotate until the chain is free from slack. Retighten the (3) bolts.
- 2. Once a year, remove the rear gear guards, and apply fresh grease to the gears.
- 3. Check for any worn or damaged parts and replace immediately.
- 4. The gearbox is oiled for life and does not require service.





5. Grease the zerk fittings on the main shaft bearings for the top axle and the lower sprocket axle after every (8) hours of use. (see below)





6. The VEE rollers may need adjusting throughout the life of your machine. The 2 rollers with the hex are the adjusters and the 2 with the round mounts are fixed. To adjust, loosen the lock bolts with a 1/2" wrench, using a 13/16" wrench rotate the hex mount until the desired tension is achieved between the rollers and retighten while holding the 13/16" wrench. Do this to both the top and lower roller.

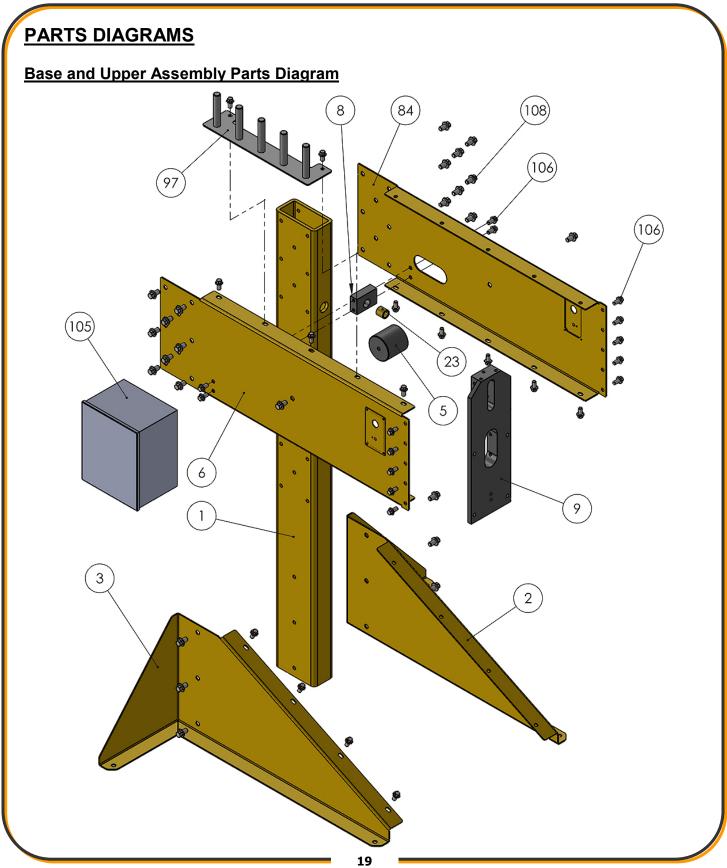




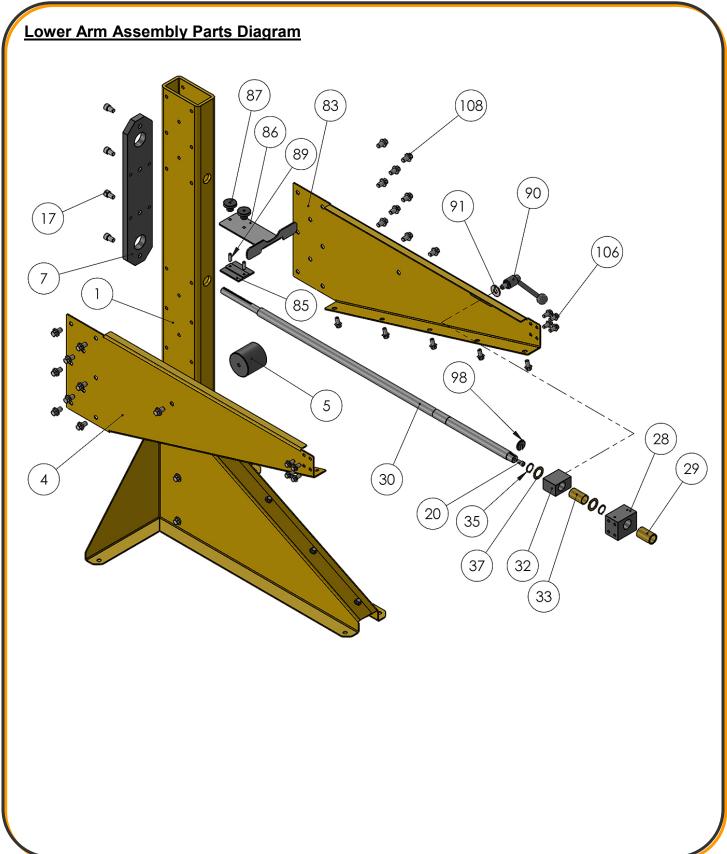
### **AVAILABLE TOOLING**

OPTIONAL TOO	LING
SKU	Description
1008519	0.25" Step Roll Set, 3" dia.
1000843	.032" Step Roll Set, 3" dia.
1000844	.050 Step Roll Set, 3" dia.
1000845	.062" Step Roll Set, 3" dia.
1000846	.125" Bead Roll Set, 3" dia.
1000847	.1875" Bead Roll Set, 3" dia.
1000848	.250" Bead Roll Set, 3" dia.
1000849	.3125" Bead Roll Set, 3" dia.
1000850	.375" Bead Roll Set, 3" dia.
1000851	0.5" Bead Roll Set, 3" dia.
1000852	3" Blank Roll Set, 3" dia.
1000853	3" Flat Roll Set, 3" dia.
1000854	30 degree Roll Set, 3" dia.
1000855	45 degree Roll Set, 3" dia.
1000856	Tipping Roll Set, 3" dia.
1000857	.120" Step Roll Set, 3" dia.
1000858	.25" Flat Bead Roll Set,3" dia.
1000859	0.5" Flat Bead Roll Set,3" dia.
1000860	5/32" Radius Tank Roll Set, 3" dia.
1008517	1/8" Step Roll Set, 3" dia.
1008518	.1875" Step Roll Set, 3" dia.
1000861	3/4" Round Bead Roll, 3" dia.

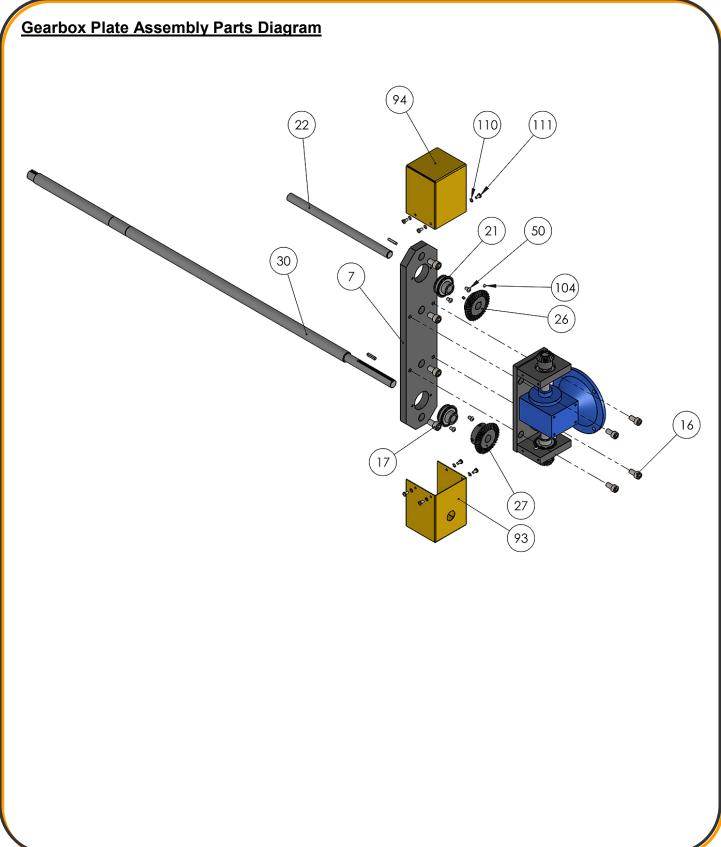




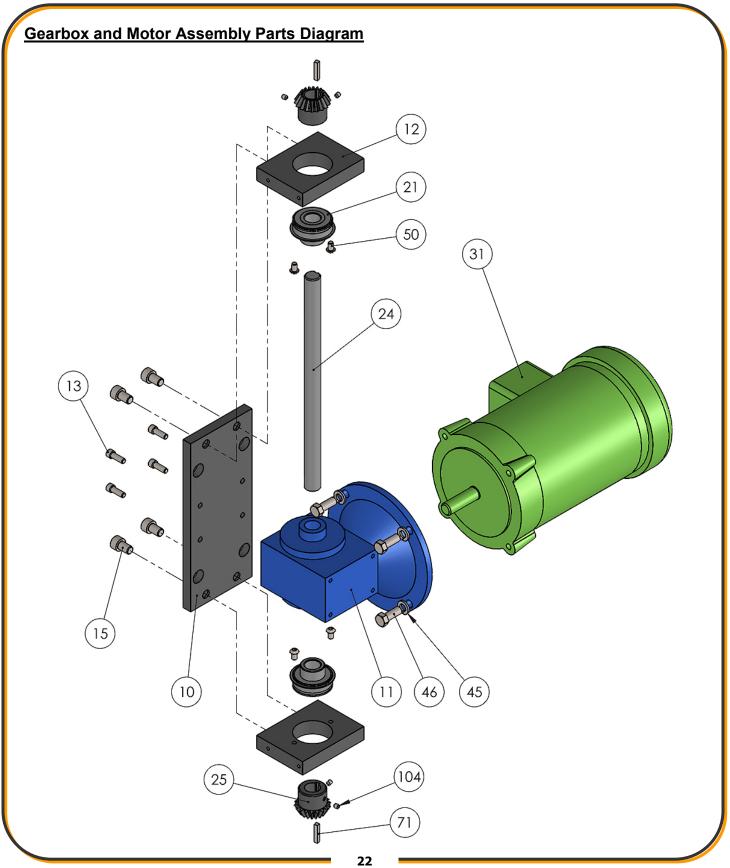




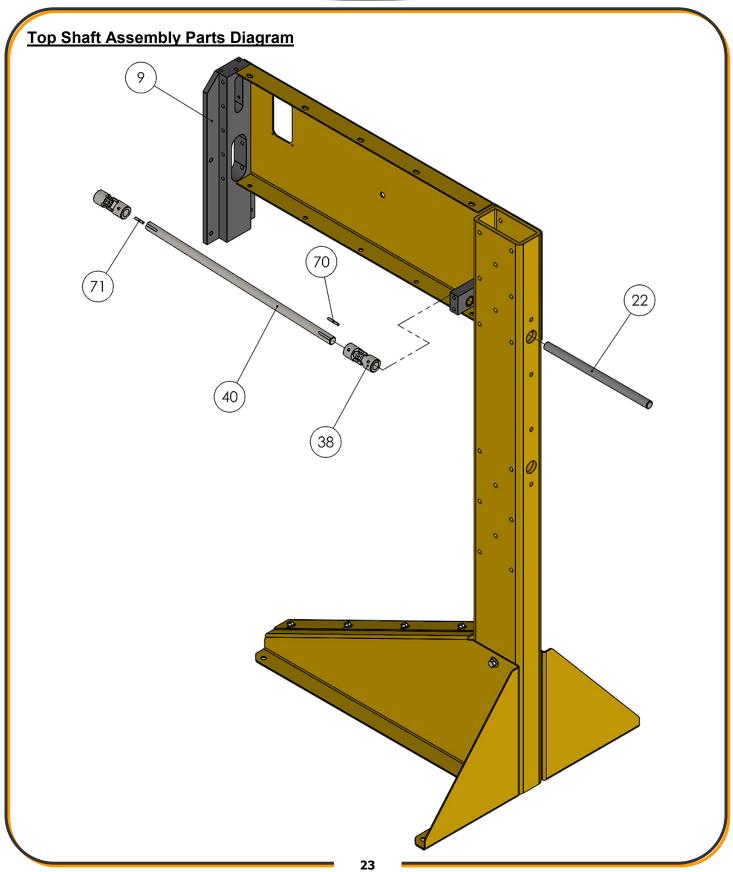




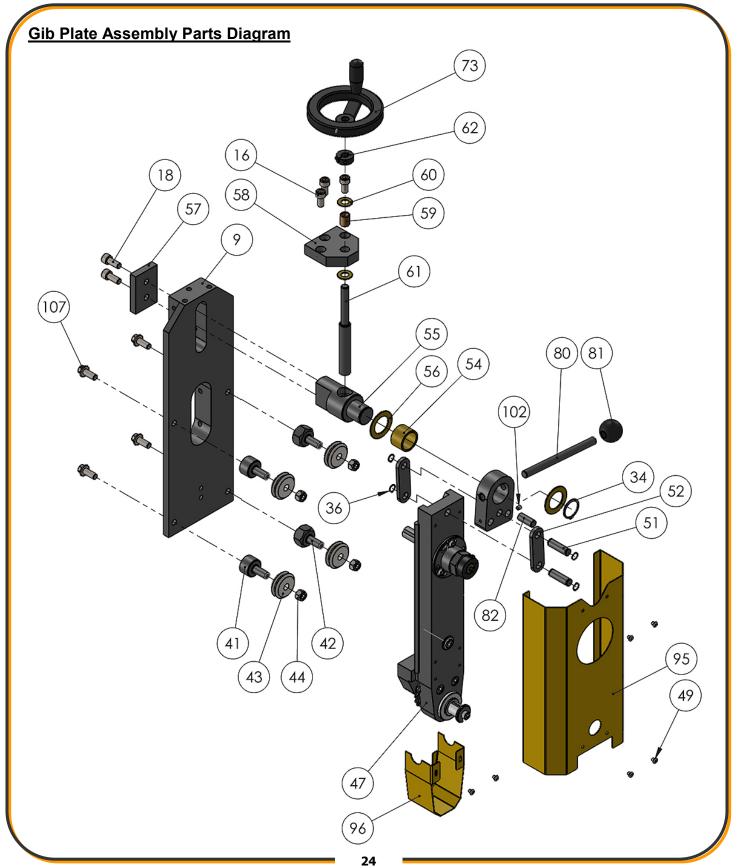




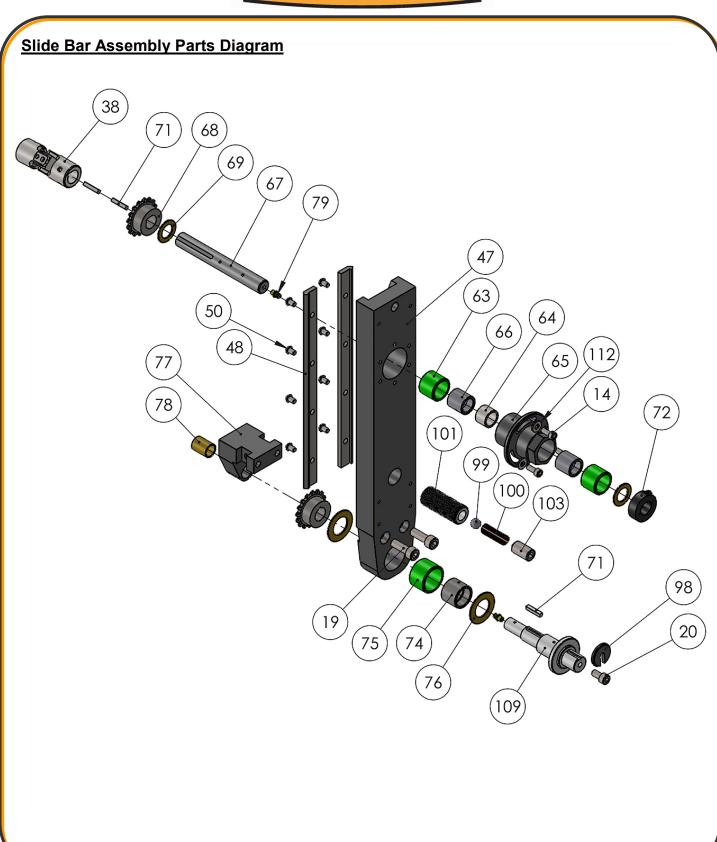














### Parts List

Item	Part Number	Description	Qty.
1	ME-BR36-6A051	MAIN TUBE	1
2	BR36-6A065	BASE PLATE (R.H.)	1
3	BR36-6A066	BASE PLATE (L.H.)	1
4	BR36-6A049	SIDE PLATE (L.H.)	1
5	ME-BR36-7A024	PLATE SPACER	2
6	BR36-6A052	TOP PLATE LH	1
7	ME-BR36-6A069	GEARBOX PLATE	1
8	ME-BR36-6A063	BEARING BLOCK	1
9	ME-BR36-6A057	MAIN GIB PLATE	1
10	ME-BR36-6A055	REAR BEARING PLATE	1
11	PP-1167	GEARBOX	1
12	ME-BR36-6A068	SHAFT MTG. BLOCK	2
13	.25-20 X .75	SHCS	4
14	M6 X 1.0 X 14	SHCS	3
15	M10 X 1.5 X 14	SHCS	4
16	M10 X 1.5 X 20	SHCS	7
17	M12 X 1.75 X 20	SHCS	4
18	M10 X 1.5 X 25	SHCS	2
19	M10 X 1.5 X 30	SHCS	2
20	M8 X 1.25 X 16	SHCS	2
21	PP-1172	.75" ER BEARING	4
22	BR36-7A022	INTERMEDIATE SHAFT	1
23	PP-0838	.75 ID X 1.0 OD X 1.0 LNG BUSHING	1
24	BR36-7A027	GEAR SHAFT	1
25	ME-BR36-7A036	18T BEVEL GEAR .75 BORE	2
26	ME-BR36-7A033	36T BEVEL GEAR (TOP)	1
27	ME-BR36-7A034	36T BEVEL GEAR (BOTTOM)	1
28	ME-BR36-6A054	FRONT BEARING BLOCK	1
29	PP-0142	1.0 ID X 1.25 OD X 2 LNG BUSHING	1
30	ME-BR36-7A017	LOWER SHAFT	1
31	PP-1229	1/2 HP 3 PHASE MOTOR	1
32	BR36-6A059	SLIDE FORK	1
33	PP-1228	1.0 ID X 1.128 OD X 2 LNG BUSHING	1



34         IMPERIAL         1.25" EXT. RETAINING RING         1           35         IMPERIAL         1" EXT. RETAINING RING         2           36         IMPERIAL         .5" EXT. RETAINING RING         4           37         PP-0935         1.0 ID X 1.5 OD X .0625 THK         2           38         BR36-7A019         U JOINT HALF         4           39         BR36-6A056         U JOINT BLOCK         2           40         BR36-7A018         TOP SHAFT         1           41         ME-BR36-7A028         STAND OFF BUSHING         2           42         ME-BR36-7A032         ADJUSTABLE BUSHING         2           43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         .376 LOCK WASHER         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2	Item	Part Number	Description	Qty.
36         IMPERIAL         .5" EXT. RETAINING RING         4           37         PP-0935         1.0 ID X 1.5 OD X .0625 THK         2           38         BR36-7A019         U JOINT HALF         4           39         BR36-6A056         U JOINT BLOCK         2           40         BR36-7A018         TOP SHAFT         1           41         ME-BR36-7A028         STAND OFF BUSHING         2           42         ME-BR36-7A032         ADJUSTABLE BUSHING         2           43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         .378 LOCK WASHER         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A058         ROLLER SLIDE BAR         1           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53	34	IMPERIAL		
37         PP-0935         1.0 ID X 1.5 OD X .0625 THK         2           38         BR36-7A019         U JOINT HALF         4           39         BR36-6A056         U JOINT BLOCK         2           40         BR36-7A018         TOP SHAFT         1           41         ME-BR36-7A028         STAND OFF BUSHING         2           42         ME-BR36-7A032         ADJUSTABLE BUSHING         2           43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         .375 LOCK WASHER         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842 <td>35</td> <td>IMPERIAL</td> <td>1" EXT. RETAINING RING</td> <td>2</td>	35	IMPERIAL	1" EXT. RETAINING RING	2
38         BR36-7A019         U JOINT HALF         4           39         BR36-6A056         U JOINT BLOCK         2           40         BR36-7A018         TOP SHAFT         1           41         ME-BR36-7A028         STAND OFF BUSHING         2           42         ME-BR36-7A032         ADJUSTABLE BUSHING         2           43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         .375 LOCK WASHER         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME	36	IMPERIAL	.5" EXT. RETAINING RING	4
39         BR36-6A056         U JOINT BLOCK         2           40         BR36-7A018         TOP SHAFT         1           41         ME-BR36-7A028         STAND OFF BUSHING         2           42         ME-BR36-7A032         ADJUSTABLE BUSHING         2           43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         3/8-16 X 1 HHCS         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-6A072         SLIDE CAP         1           56         PP-	37	PP-0935	1.0 ID X 1.5 OD X .0625 THK	2
40         BR36-7A018         TOP SHAFT         1           41         ME-BR36-7A028         STAND OFF BUSHING         2           42         ME-BR36-7A032         ADJUSTABLE BUSHING         2           43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         3/8-16 X 1 HHCS         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         M	38	BR36-7A019	U JOINT HALF	4
41       ME-BR36-7A028       STAND OFF BUSHING       2         42       ME-BR36-7A032       ADJUSTABLE BUSHING       2         43       PP-0201       V ROLLER       4         44       M10 X 1.5       NYLON LOCK NUT       4         45       IMPERIAL       .375 LOCK WASHER       4         46       IMPERIAL       3/8-16 X 1 HHCS       4         47       ME-BR36-6A058       ROLLER SLIDE BAR       1         48       BR36-6A080       GUIDE TRACK       2         49       M5 X 0.8 X 6       BUTTON HEAD       6         50       M6 X 1.0 X 10       BUTTON HEAD       16         51       BR36-7A030       PIVOT PIN       2         52       BR36-6A011       LINK       2         53       ME-BR36-6A061       TOGGLE       1         54       PP-0842       1.25 ID X 1.50 OD X 1.0 LNG BUSHING       1         55       ME-BR36-7A023       ADJUSTER       1         56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-005	39	BR36-6A056	U JOINT BLOCK	2
42       ME-BR36-7A032       ADJUSTABLE BUSHING       2         43       PP-0201       V ROLLER       4         44       M10 X 1.5       NYLON LOCK NUT       4         45       IMPERIAL       .375 LOCK WASHER       4         46       IMPERIAL       3/8-16 X 1 HHCS       4         47       ME-BR36-6A058       ROLLER SLIDE BAR       1         48       BR36-6A080       GUIDE TRACK       2         49       M5 X 0.8 X 6       BUTTON HEAD       6         50       M6 X 1.0 X 10       BUTTON HEAD       16         51       BR36-7A030       PIVOT PIN       2         52       BR36-6A011       LINK       2         53       ME-BR36-6A061       TOGGLE       1         54       PP-0842       1.25 ID X 1.50 OD X 1.0 LNG BUSHING       1         55       ME-BR36-7A023       ADJUSTER       1         56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR	40	BR36-7A018	TOP SHAFT	1
43         PP-0201         V ROLLER         4           44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         3/8-16 X 1 HHCS         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A061         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61	41	ME-BR36-7A028	STAND OFF BUSHING	2
44         M10 X 1.5         NYLON LOCK NUT         4           45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         3/8-16 X 1 HHCS         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61	42	ME-BR36-7A032	ADJUSTABLE BUSHING	2
45         IMPERIAL         .375 LOCK WASHER         4           46         IMPERIAL         3/8-16 X 1 HHCS         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62 <td>43</td> <td>PP-0201</td> <td>V ROLLER</td> <td>4</td>	43	PP-0201	V ROLLER	4
46         IMPERIAL         3/8-16 X 1 HHCS         4           47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62         PP-0037         1/2" CLAMP COLLAR         1           63 <td>44</td> <td>M10 X 1.5</td> <td>NYLON LOCK NUT</td> <td>4</td>	44	M10 X 1.5	NYLON LOCK NUT	4
47         ME-BR36-6A058         ROLLER SLIDE BAR         1           48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62         PP-0037         1/2" CLAMP COLLAR         1           63         PP-1224         1" NEEDLE BEARING         2           64 </td <td>45</td> <td>IMPERIAL</td> <td>.375 LOCK WASHER</td> <td>4</td>	45	IMPERIAL	.375 LOCK WASHER	4
48         BR36-6A080         GUIDE TRACK         2           49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62         PP-0037         1/2" CLAMP COLLAR         1           63         PP-1224         1" NEEDLE BEARING         2           64         BR36-7A020         ECCENTRIC ADJUSTER         1           65 <td>46</td> <td>IMPERIAL</td> <td>3/8-16 X 1 HHCS</td> <td>4</td>	46	IMPERIAL	3/8-16 X 1 HHCS	4
49         M5 X 0.8 X 6         BUTTON HEAD         6           50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62         PP-0037         1/2" CLAMP COLLAR         1           63         PP-1224         1" NEEDLE BEARING         2           64         BR36-7A020         ECCENTRIC ADJUSTER         1           65         BR36-7A020         ECCENTRIC ADJUSTER         1 <t< td=""><td>47</td><td>ME-BR36-6A058</td><td>ROLLER SLIDE BAR</td><td>1</td></t<>	47	ME-BR36-6A058	ROLLER SLIDE BAR	1
50         M6 X 1.0 X 10         BUTTON HEAD         16           51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62         PP-0037         1/2" CLAMP COLLAR         1           63         PP-1224         1" NEEDLE BEARING         2           64         BR36-7A020         ECCENTRIC ADJUSTER         1           65         BR36-7A021         TOP SHORT SHAFT         1	48	BR36-6A080	GUIDE TRACK	2
51         BR36-7A030         PIVOT PIN         2           52         BR36-6A011         LINK         2           53         ME-BR36-6A061         TOGGLE         1           54         PP-0842         1.25 ID X 1.50 OD X 1.0 LNG BUSHING         1           55         ME-BR36-7A023         ADJUSTER         1           56         PP-1279         1.25" THRUST WASHER         2           57         ME-BR36-6A072         SLIDE CAP         1           58         ME-BR36-6A062         SCREW BLOCK         1           59         PP-0051         0.5 ID X 0.625 OD X 0.75 LG         1           60         PP-0055         0.5 ID X 1.0 OD X .0625 THK         2           61         BR36-7A026         JACK SCREW         1           62         PP-0037         1/2" CLAMP COLLAR         1           63         PP-1224         1" NEEDLE BEARING         2           64         BR36-7A035         BRG SPACER         1           65         BR36-7A020         ECCENTRIC ADJUSTER         1           66         PP-1173         1" INNER RACE         2           67         BR36-7A021         TOP SHORT SHAFT         1	49	M5 X 0.8 X 6	BUTTON HEAD	6
52       BR36-6A011       LINK       2         53       ME-BR36-6A061       TOGGLE       1         54       PP-0842       1.25 ID X 1.50 OD X 1.0 LNG BUSHING       1         55       ME-BR36-7A023       ADJUSTER       1         56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A072       SLIDE CAP       1         58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	50	M6 X 1.0 X 10	BUTTON HEAD	16
53       ME-BR36-6A061       TOGGLE       1         54       PP-0842       1.25 ID X 1.50 OD X 1.0 LNG BUSHING       1         55       ME-BR36-7A023       ADJUSTER       1         56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A072       SLIDE CAP       1         58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	51	BR36-7A030	PIVOT PIN	2
54       PP-0842       1.25 ID X 1.50 OD X 1.0 LNG BUSHING       1         55       ME-BR36-7A023       ADJUSTER       1         56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A072       SLIDE CAP       1         58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	52	BR36-6A011	LINK	2
55       ME-BR36-7A023       ADJUSTER       1         56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A072       SLIDE CAP       1         58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	53	ME-BR36-6A061	TOGGLE	1
56       PP-1279       1.25" THRUST WASHER       2         57       ME-BR36-6A072       SLIDE CAP       1         58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	54	PP-0842	1.25 ID X 1.50 OD X 1.0 LNG BUSHING	1
57       ME-BR36-6A072       SLIDE CAP       1         58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	55	ME-BR36-7A023	ADJUSTER	1
58       ME-BR36-6A062       SCREW BLOCK       1         59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	56	PP-1279	1.25" THRUST WASHER	2
59       PP-0051       0.5 ID X 0.625 OD X 0.75 LG       1         60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	57	ME-BR36-6A072	SLIDE CAP	1
60       PP-0055       0.5 ID X 1.0 OD X .0625 THK       2         61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	58	ME-BR36-6A062	SCREW BLOCK	1
61       BR36-7A026       JACK SCREW       1         62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	59	PP-0051	0.5 ID X 0.625 OD X 0.75 LG	1
62       PP-0037       1/2" CLAMP COLLAR       1         63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	60	PP-0055	0.5 ID X 1.0 OD X .0625 THK	2
63       PP-1224       1" NEEDLE BEARING       2         64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	61	BR36-7A026	JACK SCREW	1
64       BR36-7A035       BRG SPACER       1         65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	62	PP-0037	1/2" CLAMP COLLAR	1
65       BR36-7A020       ECCENTRIC ADJUSTER       1         66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	63	PP-1224	1" NEEDLE BEARING	2
66       PP-1173       1" INNER RACE       2         67       BR36-7A021       TOP SHORT SHAFT       1	64	BR36-7A035	BRG SPACER	1
67 BR36-7A021 TOP SHORT SHAFT 1	65	BR36-7A020	ECCENTRIC ADJUSTER	1
	66	PP-1173	1" INNER RACE	2
68 PP-1171 16T #35 .75" BORE SPROCKET 2	67	BR36-7A021	TOP SHORT SHAFT	1
	68	PP-1171	16T #35 .75" BORE SPROCKET	2

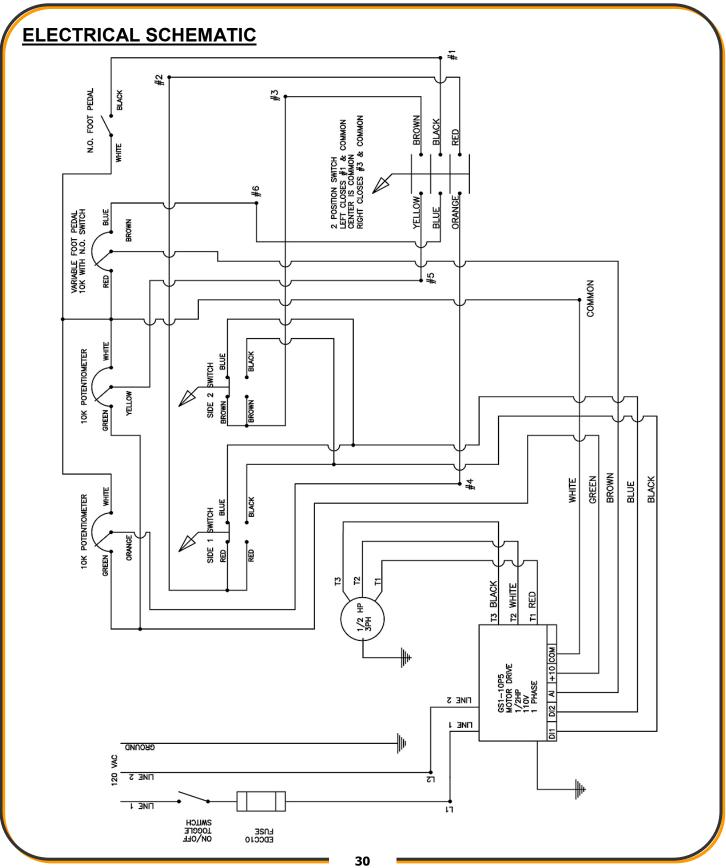


Item	Part Number	Description	Qty.
69	PP-0101	0.75 ID X 1.25 OD X .0625 THK	2
70	IMPERIAL	.1875 X 1.25 KEYSTOCK	1
71	IMPERIAL	.1875 X 1 KEYSTOCK	9
72	PP-0090	3/4" SPLIT COLLAR	1
73	PP-0170	5.0 HANDWHEEL	1
74	PP-1171	16T #35 .75 BORE SPROCKET	1
75	PP-1141	NEEDLE BEARING	1
76	BR36-7A037	1.0 ID X 1.75 OD X .065 THRUST WASHER	2
77	ME-BR36-6A060	SHAFT SUPPORT	1
78	PP-1226	.625 ID X .75 OD X 1.0 LNG	1
79	.25-28 GREASE ZERK	STRAIGHT GREASE ZERK	2
80	M150-7A013	QUICK RELEASE SHAFT	1
81	PP-0133	BLACK BALL KNOB	1
82	BR36-7A040	STOP	1
83	BR36-6A050	RIGHT BOTTOM SIDE PLATE	1
84	BR36-6A053	TOP PLATE RH	1
85	BR36-6A071	FENCE SLIDE	1
86	BR36-6A070	GUIDE FENCE	1
87	PP-0533	KNURLED LOCKNUT	2
89	IMPERIAL	0.3125-18 X 1 SET SCREW	2
90	PP-0570	RELEASE HANDLE	1
91	IMPERIAL	1/2" FLAT WASHER	1
92	BR36-6A075	SWITCH COVER	2
93	BR36-6A074	GEAR GUARD	1
94	BR36-6A073	GEAR GUARD	1
95	BR36-6A076	FRONT GUARD	1
96	BR36-6A077	EDGE GUARD	1
97	BR36-5A011	TOOL HOLDER	1
98	BR36-7A038	RETAINING WASHER	2
99	PP-1192	1/2" STEEL BALL	1
100	PP-1186	.5 X 1.5 SPRING	1
101	ME-BR36-7A016	RELEASE PIN SHAFT	1
102	M6 X 1.0 X 8	SET SCREW	1
103	IMPERIAL	M16 X 2.0 X 30 SET SCREW	1
104	M5 X 0.8 X 6	SET SCREW	6
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Item	Part Number	Description	Qty.
105	PP-1213	ELECTRICAL BOX	1
106	M10 X 1.5 X 20	HEX FLANGE	41
107	M10 X 1.5 X 25	HEX FLANGE	4
108	M12 X 1.75 X 20	HEX FLANGE	42
109	ME-BR36-7A025	TOP SHAFT	1
110	IMPERIAL	M5 STAR WASHER	8
111	M5 X 0.8 X 10	PPMS	8
112	IMPERIAL	1/4" FLAT WASHER	3







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### **General Machinery Safety Instructions**

Machinery House requires you to read this entire Manual before using this machine.

- Read the entire Manual before starting machinery. Machinery may cause serious injury if not correctly used.
- **2. Always use correct hearing protection when operating machinery.** Machinery noise may cause permanent hearing damage.
- Machinery must never be used when tired, or under the influence of drugs or alcohol. When running machinery you must be alert at all times.
- **4. Wear correct Clothing.** At all times remove all loose clothing, necklaces, rings, jewelry, etc. Long hair must be contained in a hair net. Non-slip protective footwear must be worn.
- **5. Always wear correct respirators around fumes or dust when operating machinery.** Machinery fumes & dust can cause serious respiratory illness. Dust extractors must be used where applicable.
- **6. Always wear correct safety glasses.** When machining you must use the correct eye protection to prevent injuring your eyes.
- Keep work clean and make sure you have good lighting. Cluttered and dark shadows may cause accidents.
- 8. Personnel must be properly trained or well supervised when operating machinery. Make sure you have clear and safe understanding of the machine you are operating.
- Keep children and visitors away. Make sure children and visitors are at a safe distance for you work area.
- Keep your workshop childproof. Use padlocks, Turn off master power switches and remove start switch keys.
- 11. Never leave machine unattended. Turn power off and wait till machine has come to a complete stop before leaving the machine unattended.
- **12. Make a safe working environment.** Do not use machine in a damp, wet area, or where flammable or noxious fumes may exist.
- 13. Disconnect main power before service machine. Make sure power switch is in the off position before re-connecting.

- 14. Use correct amperage extension cords. Undersized extension cords overheat and lose power. Replace extension cords if they become damaged.
- **15. Keep machine well maintained.** Keep blades sharp and clean for best and safest performance. Follow instructions when lubricating and changing accessories.
- Keep machine well guarded. Make sure guards on machine are in place and are all working correctly.
- **17. Do not overreach.** Keep proper footing and balance at all times.
- **18. Secure workpiece.** Use clamps or a vice to hold the workpiece where practical. Keeping the workpiece secure will free up your hand to operate the machine and will protect hand from injury.
- 19. Check machine over before operating. Check machine for damaged parts, loose bolts, Keys and wrenches left on machine and any other conditions that may effect the machines operation. Repair and replace damaged parts.
- **20. Use recommended accessories.** Refer to instruction manual or ask correct service officer when using accessories. The use of improper accessories may cause the risk of injury.
- **21. Do not force machinery.** Work at the speed and capacity at which the machine or accessory was designed.
- 22. Use correct lifting practice. Always use the correct lifting methods when using machinery. Incorrect lifting methods can cause serious injury.
- 23. Lock mobile bases. Make sure any mobile bases are locked before using machine.
- 24. Allergic reactions. Certain metal shavings and cutting fluids may cause an ellergic reaction in people and animals, especially when cutting as the fumes can be inhaled. Make sure you know what type of metal and cutting fluid you will be exposed to and how to avoid contamination.
- **25. Call for help.** If at any time you experience difficulties, stop the machine and call you nearest branch service department for help.





## Swage & Jenny Machine Safety Instructions

### Machinery House

requires you to read this entire Manual before using this machine.

- Maintenance. Make sure the Swage & Jenny is turned off and disconnect from the main power supply and make sure all moving parts have come to a complete stop before any inspection, adjustment or maintenance is carried out.
- 2. Swage & Jenny Condition. A Swage & Jenny must be maintained for a proper working condition. Never operate a Swage & Jenny that has damaged or worn parts. Scheduled routine maintenance should performed on a scheduled basis.
- **3. Roll Condition.** Never operate a Swage & Jenny with a damaged or badly worn rolls. Replace if required. Rolls should never be greased or lubricated as rolls will slip the material and will not bend.
- **4. Roll Direction.** Be aware of the correct rotational axis of the motor when a qualified electrician connects the Machine.
- 5. Hand Hazard. Keep hands and fingers clear from moving parts. Serious injury can occur if hand or finger tips get pinched by rolls and can be dragged into machine.
- **6. Personal Protection.** Gloves, safety glasses and safety hat are recommended during operation.
- 7. Avoiding Entanglement. Swage & Jenny guards must be used at all times. Tie up long hair and use the correct hair nets to avoid any entanglement with the Swage & Jenny moving parts.
- **8. Understand the machines controls.** Make sure you understand the use and operation of all controls.
- **9. Trained Operator.** This machine must be operated by authorized and trained personnel.
- 10. Power outage. In the event of a power failure during use of the machine, turn off all switches to avoid possible sudden start up once power is restored

- 11. Work area hazards. Keep the area around the Swage & Jenny clean from oil, tools, chips. Pay attention to other persons in the area and know what is going on around the area to ensure unintended accidents.
- 12. Guards. Do not operate Swage & Jenny without the correct guards in place. Necessary guards protect you from injuries by gearbox, motors and other moving gears & parts. The only other area which needs to be carefully monitored during use is the rotational area of the rolls.
- **13. Material condition.** Material must be clean of oil and dry. Oily material can slip and will not bend.
- **14. Material hardness.** Make sure your hardness is the same throughout the material, we recommend that you use certified material. Never bend hard steel, glass or fragile material on this machine.
- **15. Feeding material.** Making a tight bend in one pass is not possible. So you need several passes before you can achieve a certain radius. Tighter curves and full radius always need more passes.
- **16. Stopping the Rolls.** Do not stop or slow the rolls with your hand or workpiece. Allow the Swage & Jenny to stop on its own.
- **17. Emergency stop.** Use the emergency stop button in case of any emergency.
- **18. Hearing protection and hazards.** Always wear hearing protection as noise generated from machine and workpiece can cause permanent hearing loss over time.
- **19. Call for help.** If at any time you experience difficulties, stop the machine and call you nearest branch service department for help.



## PLANT SAFETY PROGRAM

# **NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL**

## Swage & Jenny Machine

Developed in Co-operation Between A.W.I.S.A and Australia Chamber of Manufactures
This program is based upon the Safe Work Australia, Code of Practice - Managing Risks of Plant in the Workplace (WHSA 2011 No10)





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Authorised and signed by: Safety officer:..

Manager:....

Revised Date: 12th March 2012