IRONWORKER OPERATION & SAFETY

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POTENTIAL RISK

There are a number of particular hazards associated with the operation and use of ironworkers.

Crushing and Shear Points

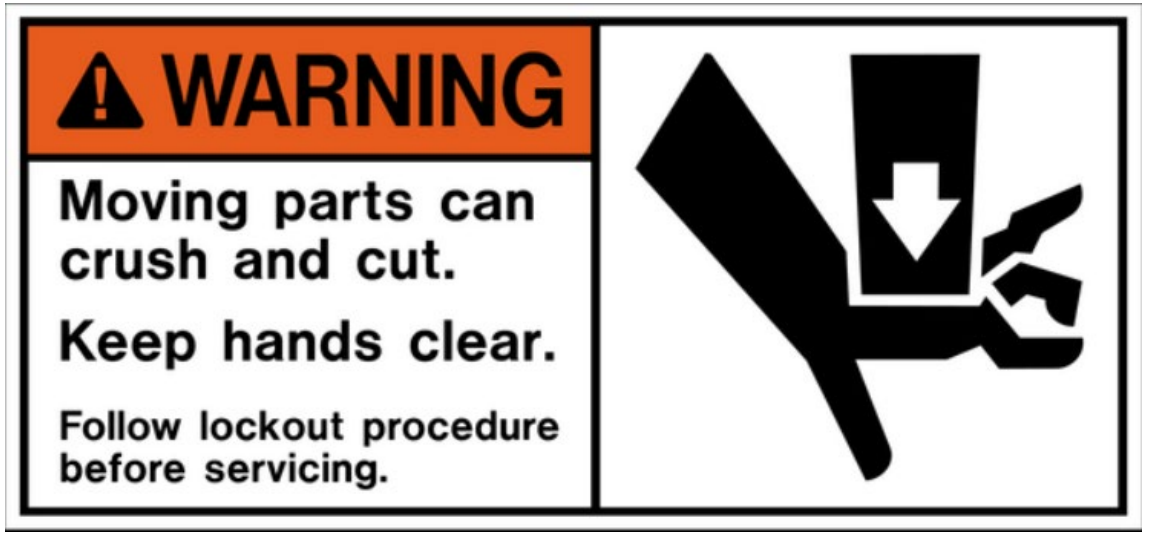
- Shear point hazard exists when the edges of two machine parts move across each other or move closely enough together to cut another object or move a relatively soft material. In a typical shear point hazard, one part moves while the other part is either stationary or moving.

- **Crushing hazards** exist when workers may be caught in or between two hazards.

Flying and Moving Parts

Flying or ejected parts from either the stock or the tooling can strike operators and other workers in the area. Furthermore, punches are hardened and will not bend as they collide with dies. If a punch is out of alignment, it is more likely to flake, fracture, or even explode, causing serious harm to the operator.

- Ensure proper alignment of the punch and dies.
- Stay within rated punching capacities and applications (mild steel).
- When bending, ensure proper clearance is available and people are clear of the path.



AVOIDING POTENTIAL RISK

- Identify the areas of crushing and shear point hazards
- Make sure all guards are in place and in working condition
- Wear clothing that fits well because close-fitting clothing is less likely to be pulled into moving parts
- Never reach across a shear or cutting point hazard
- Never have another person behind shear when operating
- Always wear safety glasses and protective gloves when operating the iron worker

HOW TO OPERATE THE IRONWORKER - 1

- Push to Start – This button energizes the machine. When energized this recessed button is internally illuminated and will glow “green”. If the machine does not start when pressed, an emergency palm stop button may have been previously pressed and will need to be reset to allow for the start button to energize the machine.

HOW TO OPERATE THE IRONWORKER - 2

- Emergency Palm Stop - This button de-energizes the machine and contains a manual, safety reset function. The projecting “red” palm stop style button is set within a safety yellow bezel and is pushed to de-energize the machinery. Once de-energized the machine requires the palm stop to be re-set prior to energizing the machine. Simply rotate the emergency palm stop button clockwise. The button will retract and the machine will be available for powered operation.

HOW TO OPERATE THE IRONWORKER - 3

- Operations Control – This three-position switch allows the ironworker operation to shuttle between Ironworker, hydraulic accessory or auto-cut mode.
- Ironworker Power – Power on the Ironworker by rotating the three position switch counterclockwise. This function allows for operations of the Ironworker only.
- Accessory – This function allows for operations of Edwards* hydraulic accessories only. The four, female, M12 plug connections coordinate with accessory controls when power is shifted from the Ironworker operation to Hydraulic Accessory tool operation. An additional M12 connection allows for an optional, auxiliary light.
- Auto cut – This function allows for operations of the Auto-Cut function only.
- Important – *Each make and model will vary in their switch design or layout.

HOW TO OPERATE THE IRONWORKER - 4

- Lockout/Tagout – This “red” round, safety switch is set within a square safety yellow housing. The switch allows for proper procedures to be followed when de-energizing, isolating, and ensuring the energy isolation of the Ironworker. The Lockout/Tagout switch is used in conjunction with operator safety and maintenance programs to ensure that equipment and machinery is de-energized and isolated from unexpected start-up by physically locking machinery in a state of zero energy. To lockout the Ironworker turn the red switch counterclockwise until the black tagout bar is horizontal. Pull the black, spring-loaded tagout mechanism to install the maintenance/safety lock and tag provided by the owner of the machinery. The machine is now de-energized and is available for authorized personnel to safely maintain and service the machinery.

HOW TO USE THE SHEAR ON THE IRONWORKER

1. Clear bar shear station of any tools or debris prior to powering the machine on.

2. Turn machine on. The shear blades will be in their neutral position. Place bar stock on the feed table and push the material under the material hold-down. Position your desired cut mark adjacent to the moving shear blade.

3. Secure the bar stock in the material hold-down by engaging the hand-screw into the material.

4. **IMPORTANT!** - Clear your hands from the working area and loudly shout, “Clear!” Those around the machine are to reply in the like, “Clear!” Repeat this for the second time, and wait for your second response before pressing the foot pedal to activate the shear station.

5. When the cut is complete, release the foot pedal to automatically return the shear blades to their neutral position. Reverse the hand screw to raise the manual material hold-down and remove your material.

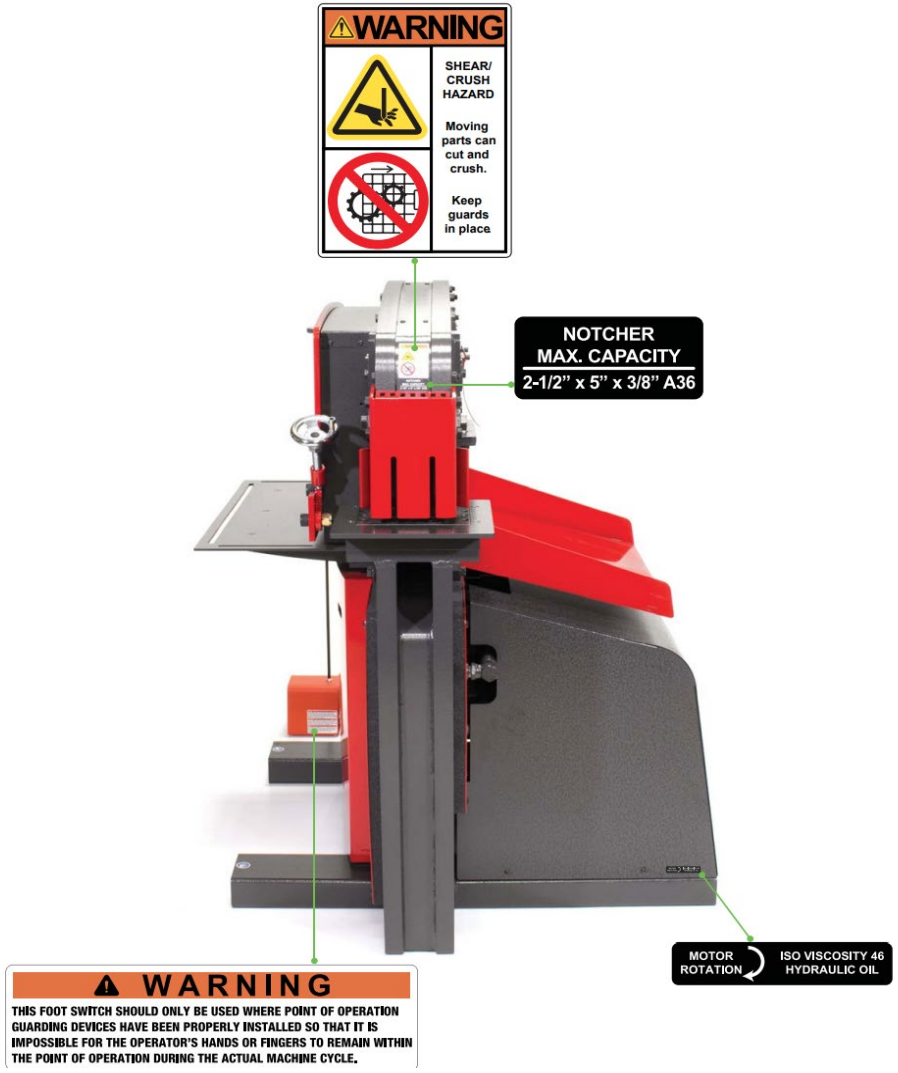
WHILE OPERATING THE SHEAR ON THE IRONWORKER

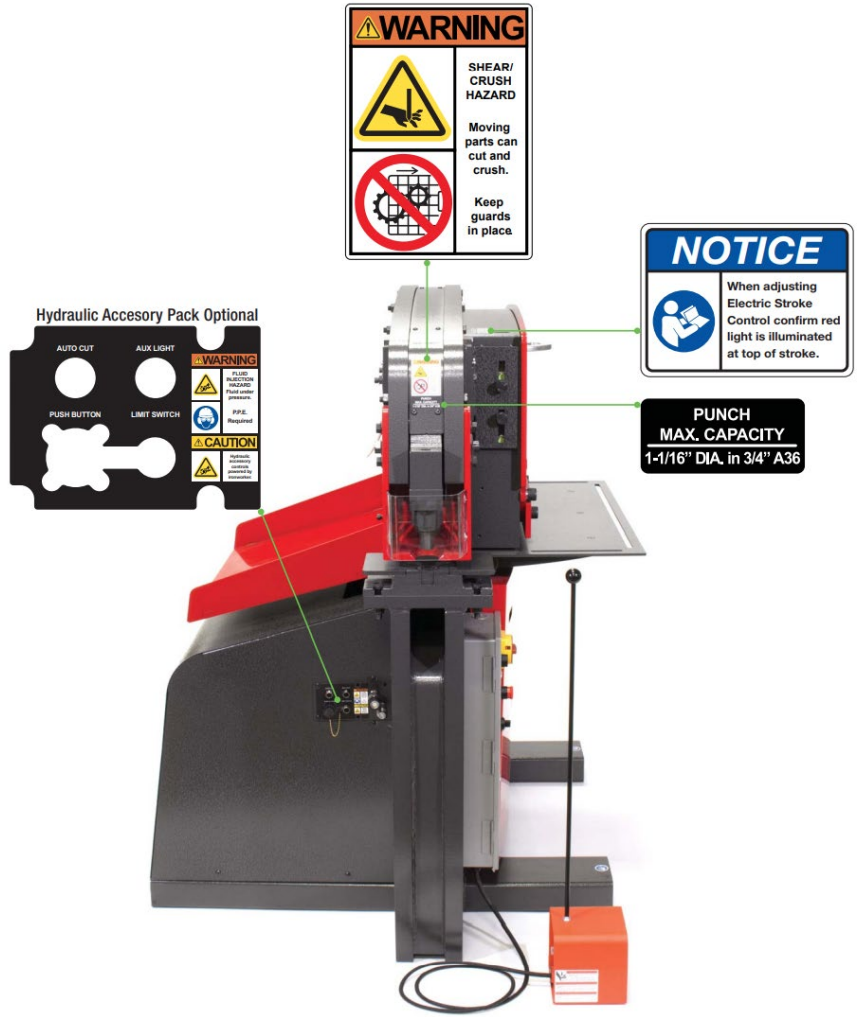
- Never exceed the capacities of the machine or tooling as described in the Ironworker specifications
- Check shear blade clearance at every tooling change or extended shear operation Maintain correct operating clearance at bar shear and angle shear stations
- Tighten the clamp handle to fully clamp the material hold-down on the material being cut, there shall be no more then ¼” between hold down and material being cut
- Do not stack material to cut in the shear station, material too short to reach the hold shall not be cut in iron worker
- Perform complete shear operations only, partial shear cuts may jam the drop off side of the frame and could result in breakage and operator injury
- **IMPORTANT -No student shall operate the Ironworker without completing this training and the Ironworker safety sign-off sheet.**

WARNING STICKER LOCATIONS

The next few slides will show you all locations of warning labels on the Edward ironworker. Manufacturers and models vary.

WARNING STICKER LOCATIONS





Danger Panel

⚠DANGER

Electrical Hazard

This is the electrical hazard symbol. It indicates there are dangerous high voltages present inside the enclosure of this product. ONLY qualified, authorized, maintenance, service or Certified Electricians should gain access to electrical panel. Do not operate this equipment from any power source that does not match the voltage rating stamped on the equipment. Refer to the Manufacturer's Identification Label for operational requirements.

Lockout Power

Danger circuits are live. Lockout/Tagout the upstream power source. Lockout/Tagout machinery according to Employer procedures.

230 V **Voltage** (Varies by consumer requirement)

Indication of operating power requirements. This product should be operated only from the type of source indicated on the manufacturer's identification label Installation should be in compliance with applicable sections of the National Electric Code. Consult your local building code before installing.

3~ **Phase** (Varies by consumer requirement)

Indication of electrical phase requirements. This product should be operated only from the type of source indicated on the manufacturer's identification label Installation should be in compliance with applicable sections of the National Electric Code. Consult your local building code before installing.

7.5 hp **Horsepower** (Varies by model)

Indication of horsepower requirements. This product should be operated only from the type of source indicated on the manufacturer's identification label Installation should be in compliance with applicable sections of the National Electric Code. Consult your local building code before installing.

60 Hz **Hertz** (Varies by consumer requirement)

Indication of electrical cycles per second. This product should be operated only from the type of source indicated on the manufacturer's identification label Installation should be in compliance with applicable sections of the National Electric Code. Consult your local building code before installing.

Warning Panel

⚠WARNING

Shear/Crush Hazard

Moving parts can cut and crush. Keep hands clear while operating. Lockout power before servicing. Immediately replace guards after adjustment, repair or service.

Wear Personal Protective Equipment

To avoid physical hazard, always wear personal protective equipment. Wear protective eyewear, clothing, gloves, footwear, head-gear and hearing protection while operating or servicing this machinery.

Fluid Injection Hazard

Hydraulic hoses and cylinders are under pressure. Pressurized fluid can pierce skin and cause severe injury. To avoid physical hazard, always wear personal protective equipment. Keep hands clear while operating. Lockout power before servicing. Immediately replace guards after adjustment, repair or service.

Do Not Operate With Guard Removed

Physical barriers and guards have been designed and installed to protect the operator from moving parts that can pinch, cut and crush. Keep hands clear while operating. Lockout power before servicing. Immediately replace guards after adjustment, repair or service to moving parts.

Heat Hazard

To avoid physical burn hazard, always wear personal protective equipment. Wear protective clothing and gloves while working adjacent to or on the affected surface.

Notice Panel

NOTICE

Ironworker Operation

This manual outlines the basic functions associated with typical Ironworker operations and is neither intended to create a comprehensive list of, nor describe every operation possible with an Ironworker tool. Ironworker machines are designed to punch, shear and notch mild steel (A36) plate, barstock and angle. A wide range of accessories are available to fabricate rod, square stock, sheet metal and pipe. **DO NOT USE THIS EQUIPMENT FOR ANY PURPOSE NOT DESCRIBED IN THE MANUALS. Ironworker machines are dangerous and require extreme care and caution in the safe installation, operation and maintenance of the machinery. Edwards Manufacturing Company strongly suggests reading and understanding all manuals associated with the machinery as well as obtaining certified, technical, industrial machinery operations and maintenance training to reduce the risk of injury. Regardless of the contents of the machinery manuals Edwards Manufacturing Company will not be held liable for accidents caused by lack of training.**

Refer to Manuals: Safety, Installation, Operations and Maintenance

Manuals contain critical instructions regarding proper procedures for your machinery. Understand the contents of all manuals thoroughly. Failure to follow proper procedures may result in serious operator injury, machine damage and will void your machine warranty. Keep manuals close to the machine for easy reference.

Wear Personal Protective Equipment

To avoid physical hazard, always wear personal protective equipment. Wear protective eyewear, clothing, gloves, footwear, head-gear and hearing protection while operating or servicing this machinery.

Forklift Location

This machine is equiped with rated forklift movement points. Do not attempt to lift the machinery by any other means. Inappropriate movement of the machinery may result in serious operator injury, machine damage and will void machine warranty. Consult the installation manual for equipment weight ratings. Provide rated forklift and certified forklift operator to move machinery to appropriate location.

Additional Graphic Information

PE

'Protective earth', electrical grounding location.

Safety Ground

Safety earth ground location.

Do Not Use Non-Approved Lubricants

This machine requires lubrication of moving mechanical parts (grease) and the maintenance of hydraulic fluids. Consult maintenance manual for specific lubrication requirements and application or maintenance schedules.

Electric Motor Rotation (Above)

Identification of proper electrical motor rotation.

Hydraulics

Hydraulic fluids must be recycled as required by local environmental law. Do not dispose of by adding to the municipal waste stream.

Metal Pro MP5000FS Ironworker Safety Stickers