



Instruction Sheet

Hydraulic Rail Puller with Brake Kit Model RP120UP

L3091 Rev. A 12/11

Applicable to products with date code of July 1, 2008 or later.

To Protect Your Warranty, Use Only ENERPAC Hydraulic Oil.

Enerpac recommends that all kit components be installed to insure optimum performance of the repaired product.

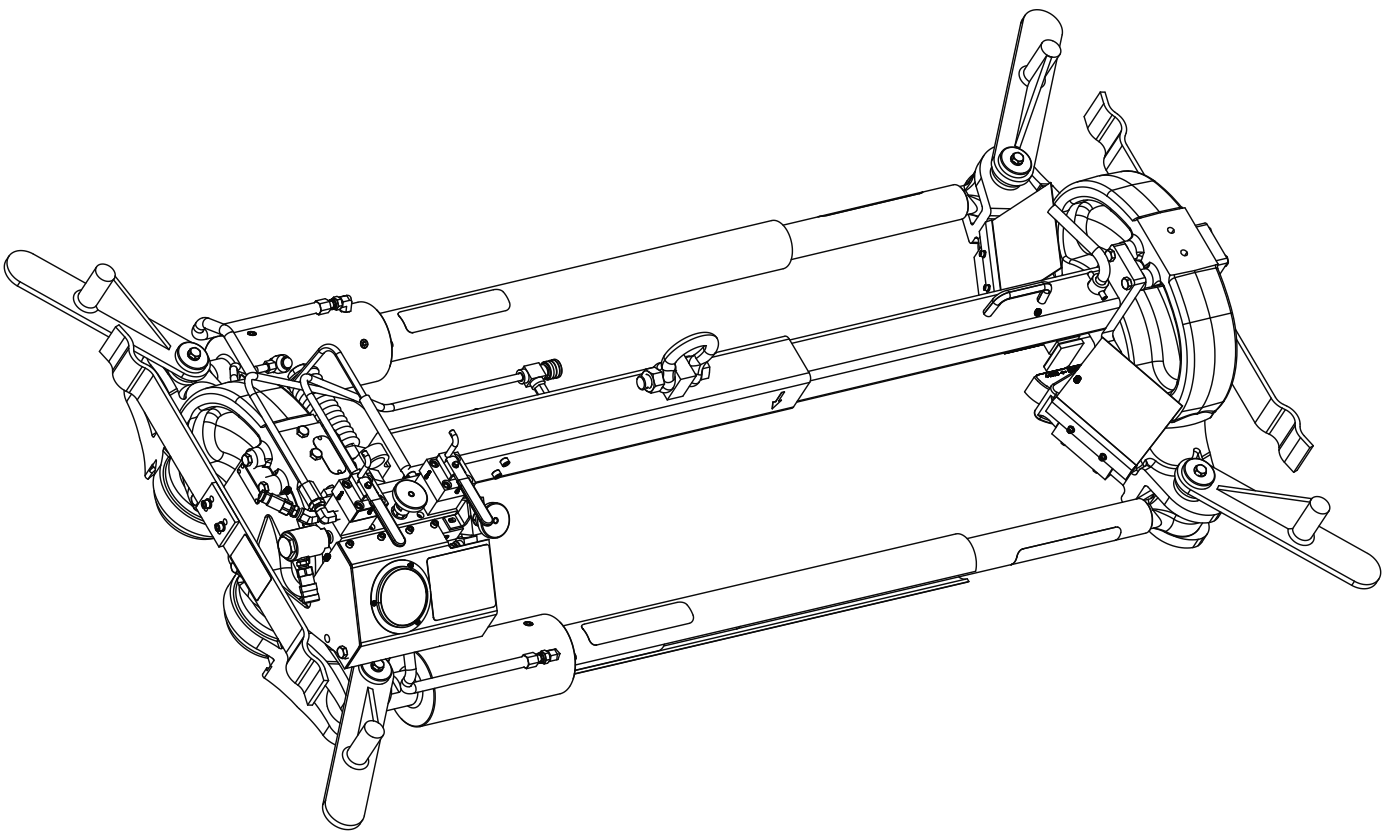


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IMPORTANT - READ CAREFULLY

This manual contains important information for the correct installation, operation and maintenance of this equipment. All persons involved in the installation, operation and maintenance of this equipment must be thoroughly familiar with the contents of this manual. To safeguard against the possibility of personal injury or property damage, follow the recommendations and instructions of this manual. Keep this manual for reference.

WARRANTY STATEMENT

ENERPAC products are warranted to be free of defects in materials and workmanship under normal use for as long as the original purchaser owns them, subject to the guidelines and limitations listed. This warranty does not cover: normal wear & tear, cosmetic items, abuse, overloading, alterations, improper fluid, or use in a manner for which they are not intended. If the customer believes a product is defective, the product must be delivered, or shipped freight prepaid, to the nearest ENERPAC Authorized Service Center for evaluation and repair.

1.0 RECEIVING INSTRUCTIONS

Important! Make sure inspect all of the components for shipping damage. If damage is found, notify carrier at once. Shipping damage will not be covered by warranty. The carrier is responsible for all loss associated to shipping damage.

SAFETY

Make sure to read the instructions, warning and precautions carefully. Follow any recommended safety precautions to avoid personal injury or damage to the unit. ENERPAC cannot be responsible for any damage or injury from unsafe use, lack of maintenance or incorrect operation. In the event any questions or concerns may arise, contact ENERPAC or a local Distributor for clarification.

The pump's maximum working pressure is 10,000 PSI (700kg/cm²) Make sure that all hydraulic equipment such as rams, hoses, etc. used with this pump are rated at 10,000 PSI (700kg/cm²) operating pressure.

Read all instructions, warnings, and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation. ENERPAC cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact ENERPAC when in doubt as to the safety precautions and operations. If you have never been trained on high-pressure hydraulic safety, consult your distributor or service center for a free ENERPAC Hydraulic safety course.

Failure to comply with the following cautions and warnings could cause equipment damage and personal injury.

CAUTION is used to indicate correct operating or maintenance procedures and practices to prevent damage to, or destruction of equipment or other property.

WARNING indicates a potential danger that requires correct procedures or practices to avoid personal injury.

DANGER is only used when your action or lack of action may cause serious injury or even death.

WARNING: Wear proper personal protective gear when operating hydraulic equipment.

WARNING: Stay clear of loads supported by hydraulics. A cylinder, when used as a load lifting device, should never be used as a load holding device. After the load has been raised or lowered, it must always be blocked mechanically.

DANGER: To avoid personal injury keep hands and feet away from cylinder and work-piece during operation.

WARNING: Do not exceed equipment ratings. Never set the relief valve to a higher pressure than the maximum rated pressure of the intensifier. Higher settings may result in equipment damage and/or personal injury.

CAUTION: Avoid damaging hydraulic hose. Avoid sharp bends and kinks when routing hydraulic hoses. Using a bent or kinked hose will cause severe back-pressure. Sharp bends and kinks will internally damage the hose leading to premature hose failure. Do not drop heavy objects on hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.

IMPORTANT: Do not lift hydraulic equipment by the hose or couplers. Use the lifting point on beam to position.

CAUTION: Keep hydraulic equipment away from flames and heat. Excessive heat will soften packing and seals, resulting in fluid leaks. Heat also weakens hose materials and packing. For optimum performance do not expose equipment to temperatures of 650 C (1700 F) or higher. Protect hoses and cylinders from weld spatter.

DANGER: Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, see a doctor immediately.

WARNING: Only use hydraulic cylinders in a coupled system. Never use a cylinder with unconnected couplers. If the cylinder becomes extremely overloaded, components can fail catastrophically causing severe personal injury.

SAFETY FIRST!

- **NEVER** exceed the rated 2000 PSI input pressure.
- **ALWAYS** inspect before each use all system parts for wear, distortion, cracks or improper fit.
- **NEVER** use a puller that is leaking oil, replace the leaking component before use.
- **CAUTION** non operating personnel should stand clear of the direction of force (directly in front of or behind the pullers) during the pull.
- **ALWAYS** be aware of pulling force & system pressure during the pull by monitoring the integrated tonnage (pressure) gauge while operating the system.
- Re-apply dust caps to quick couplers when not in use.
- Relieve any trapped pressure from puller by shifting the control valves before connecting or disconnecting PTO lines.
- **WARNING:** Never disconnect any other hydraulic connections on the rail puller to release trapped pressure. See Troubleshooting Guide for correct procedure to release trapped pressure in the rail puller hydraulic circuit.
- Review and understand proper use of all safety equipment before attempting to operate the rail puller.

2.0 INTRODUCTION

The new RP120UP Rail Puller is designed to provide and hold up to 120 tons off puller force during the weld process. Your new Puller is shipped with the rail clamps in the open position. Care should be taken during the unpacking of the rail puller from the shipping carton. Be sure to completely un-band the rail puller from the shipping carton before attaching the boom to the lifting hook.

Key Specifications:

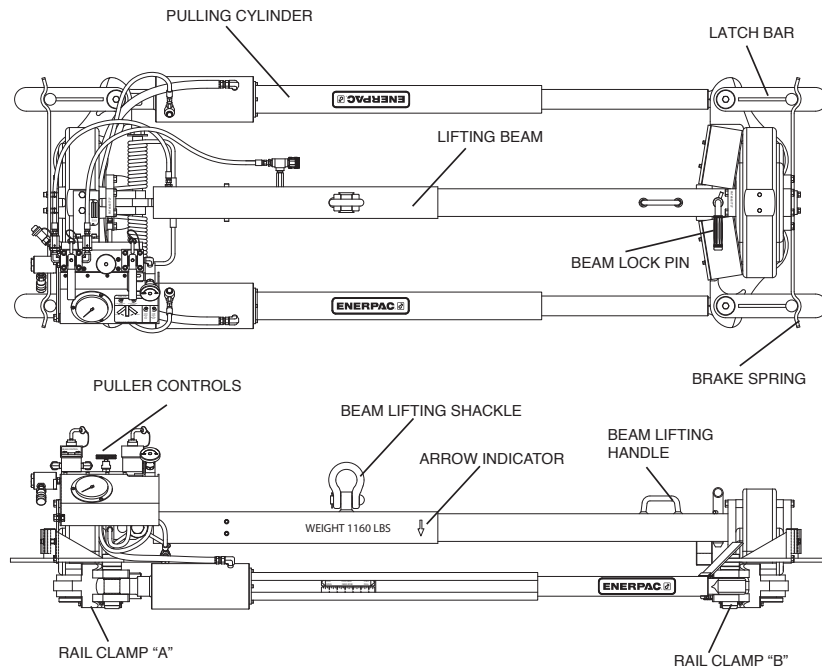
Rated Pull Capacity: 120 tons

Input power requirement: 5 GPM @ 2000 PSI

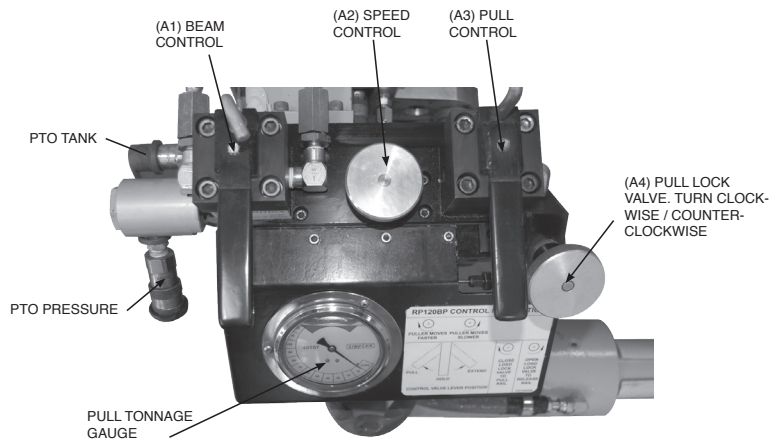
Output Force after intensification: 10,000 PSI (700kg/cm²)

Refer to the Diagrams to become familiar with the terminology and location of components to provide you of a better understanding of using this manual.

PULLER DIAGRAM



PULLER CONTROL DIAGRAM



3.0 OPERATING INSTRUCTIONS

The puller should be stored and transported with the swing arm in the open position (pull cylinders fully extended and carrying beam fully retracted). This allows the puller to be hoisted directly off the weld truck and over the ball of the rail at the next weld without adjustment or repositioning of the swing arm. When lowering the puller on the rail center the red indicator arrow over the rail gap for optimum positioning.

Connect the PTO pressure and tank lines to the couplers provided on the puller and turn on the PTO.

Now that the puller is in position on the rail take the following steps to operate the puller.

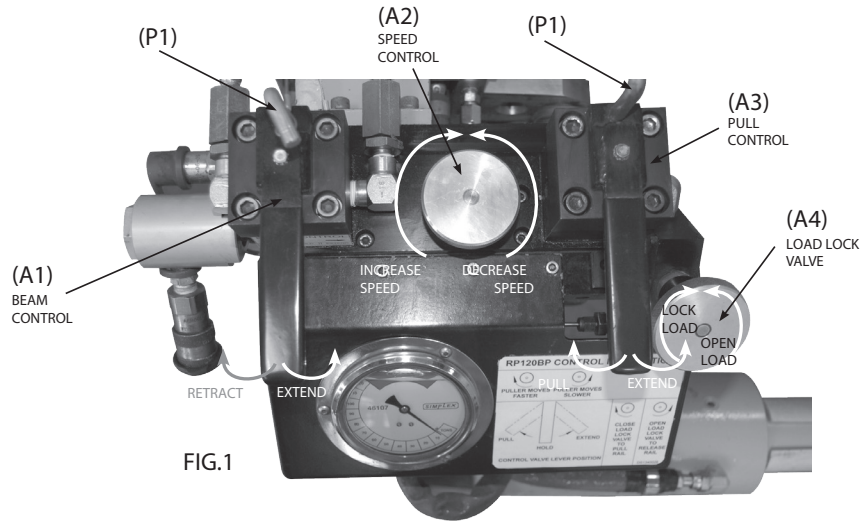


FIG. 1

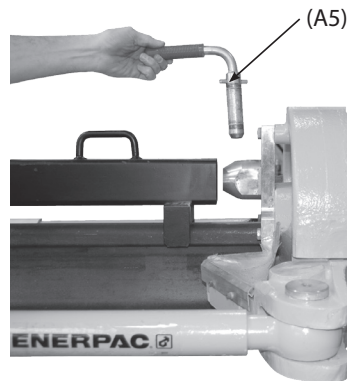


FIG. 2

Note: remove the LOCK PIN (A1) when shifting control handle for safety, replace when valve is not in use.

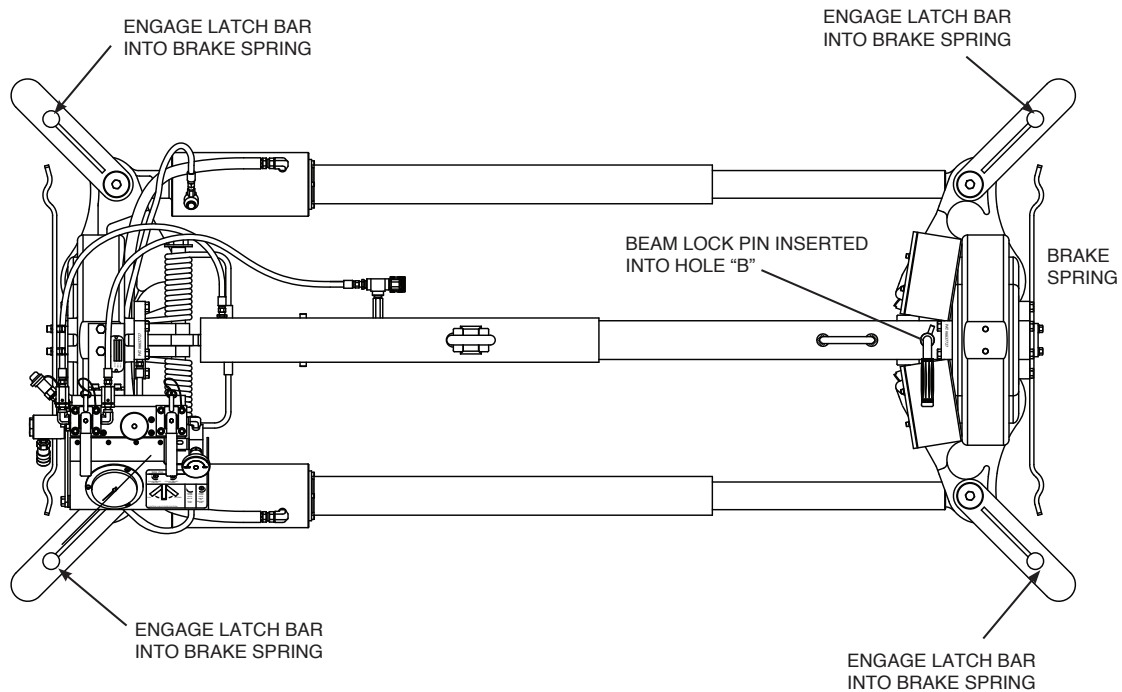
3.0 OPERATING INSTRUCTIONS

TO CLAMP THE RAIL WEB:

1. Shift the beam control valve **{(A1) IN FIGURE 1}** to the extend position.
2. Turn the speed control valve **{(A2) IN FIGURE 1}** clockwise until the beam extends to close and set the swing arms.
As soon as the swing arms are closed, open the control valve by turning counter clockwise.
3. Close the load lock valve **{(A4) IN FIGURE 1}** by turning the knob clockwise.

Engage **LATCH BARS** with **BRAKE SPRING** at all four corners.

LATCH BAR ENGAGEMENT



TO CLEAR THE BEAM:

4. Remove the beam lock pin **{(A5) IN FIGURE 2}**.
5. Shift the beam control valve **{(A1) IN FIGURE 1}** to the retract position, and turn the speed control valve **{(A2) IN FIGURE 1}** clockwise until the beam begins to retract.
6. When the beam stops, shift the beam control valve **{(A1) IN FIGURE 1}** back to the center position, and open the speed control valve **{(A2) IN FIGURE 1}** by turning counter clockwise.

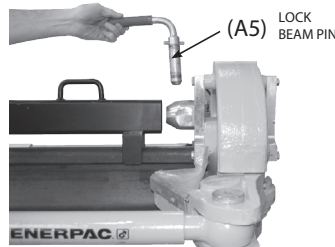


FIG.2

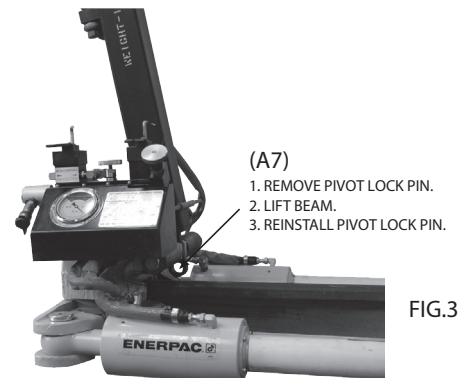


FIG.3

7. Remove the beam pivot lock pin **{(A7) IN FIGURE 3}**, and lift the beam to the upright position. Lock the beam in the upright position by replacing the beam pivot lock pin **{(A7) IN FIGURE 3}** in the pivot lock hole.

3.0 OPERATING INSTRUCTIONS

PULLING THE GAP

Note: remove the lock pins {(P1) IN FIGURE 1} when shifting control handles for safety, replace when valves are not in use.

TO CLAMP THE RAIL WEB:

1. Shift the beam control valve {(A1) IN FIGURE 1} to the extend position.
2. Turn the speed control valve {(A2) IN FIGURE 1} clockwise until the beam extends to close and set the swing arms. As soon as the swing arms are closed, reopen the control valve by turning counter clockwise.
3. Close the load lock valve {(A4) IN FIGURE 1} by turning the knob clockwise.

TO CLEAR THE BEAM:

4. Remove the beam lock pin {(A5) IN FIGURE 2}.
5. Shift the beam control valve {(A1) IN FIGURE 1} to the retract position, and turn the speed control valve {(A2) IN FIGURE 1} clockwise until the beam begins to retract.
6. When the beam stops, shift the beam control valve {(a1) IN FIGURE 1} back to the center position, and reopen the speed control valve {(A2) IN FIGURE 1} by turning counter clockwise.
7. Remove the beam pivot lock pin {(A7) IN FIGURE 3}, and lift the beam to the upright position. Lock the beam in the upright position by replacing the beam pivot lock pin {(A7) IN FIGURE 3} in the pivot lock hole.

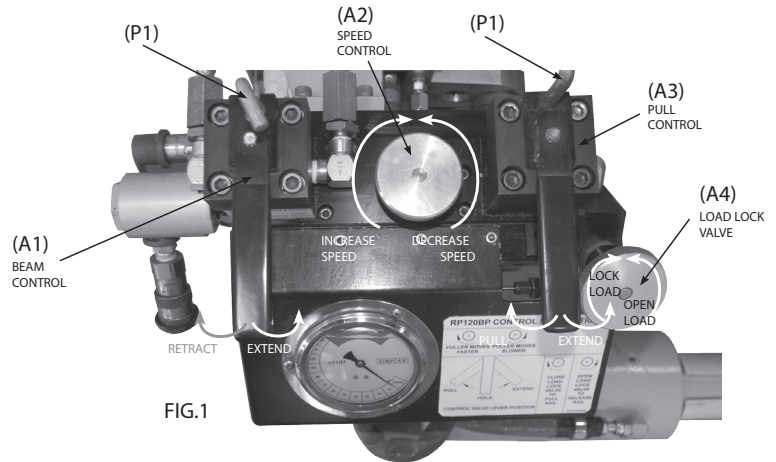


FIG.1

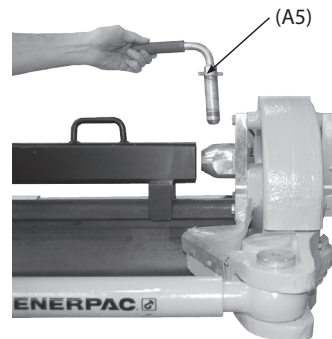


FIG.2

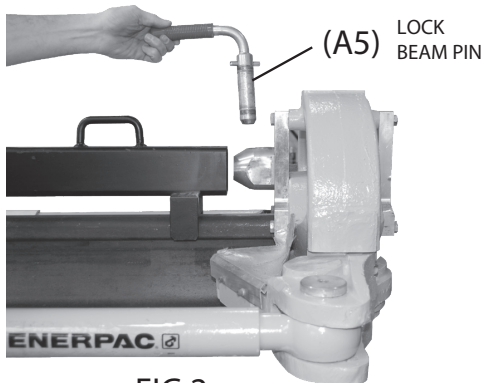


FIG.2

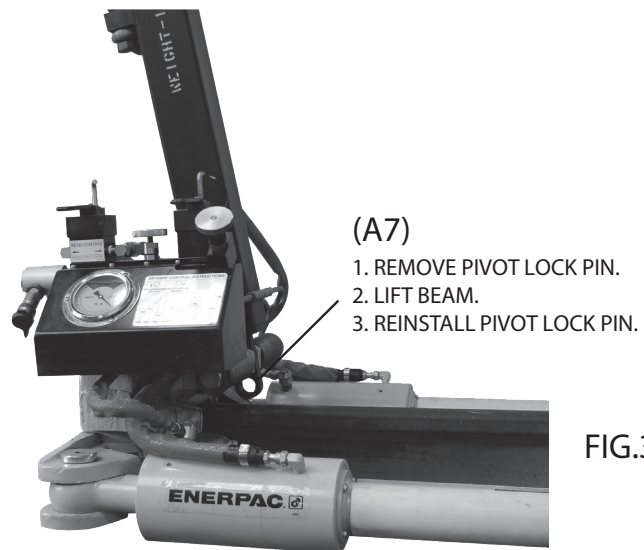


FIG.3

3.0 OPERATING INSTRUCTIONS

TO PULL THE GAP:

- Shift the pull control valve **{(A3) IN FIGURE 1}** to the pull position and begin turning the speed control valve **{(A2) IN FIGURE 1}** clockwise until the puller begins closing the gap, monitor the tonnage gauge for pull force.

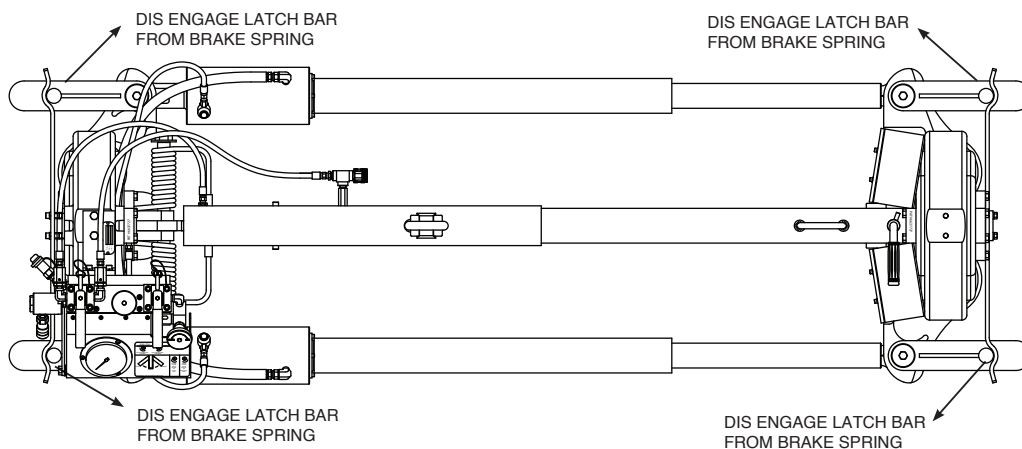
Note: continuing to turn the speed control **{(A2) IN FIGURE 1}** clockwise increases the speed and force of the pull. Turn the speed control valve **{(A2) IN FIGURE 1}** counter clockwise to slow down the pull for measuring and controlling the gap in the final stages of pull.

- As soon as the gap is made, shift the pull control valve **{(A3) IN FIGURE 1}** back to the center position, and turn the speed control valve **{(A2) IN FIGURE 1}** counter clockwise.

RELIEVING PRESSURE

With the PTO centered and off, shift the **(a3)** control valve to the right (extend beam and cylinders) position. Open the **(a4)** load lock valve by turning the knob counter clockwise. The pressure reading on the tonnage gauge should be zero. Shift the pull control back to center. Once the pulling force is released from puller, disengage the latch bars from all four corners of the puller.

LATCH BAR DISENGAGEMENT



SWING DOWN AND RE-ATTACH THE CARRYING BEAM, DISCONNECTING, HOISTING:

- Remove the **(A8)** beam lock pin and lower the beam back onto the rail.
- Restart the PTO. Shift the **(A3)** control valve to the right (extend beam & cylinder) position, push down on the **(A2)** speed control until the beam is reattached to the clamp and the main cylinders are completely extended.
- When the beam is reattached to the clamp, replace the **(A5)** beam lock pin back into the beam. With the control valve **(a3)** in the center (retract beam) position, push down on the **(A2)** speed control throttle to fully retract the beam.
- With the PTO off, shift control valve back and forth to release any trapped pressure. Shift control valve back to center and replace the lock pin **(P1)**.
- Disconnect the hydraulic lines for the PTO at the quick disconnect couplers. (see troubleshooting guide if there are problems disconnecting the PTO lines).
- Remove the puller by hoisting at the lifting shackle.

Note: if puller becomes hydraulically locked onto the rail, repeat steps 4 & 5 and follow the procedure for “trapped oil in the rail puller hydraulic circuit” from the troubleshooting guide.

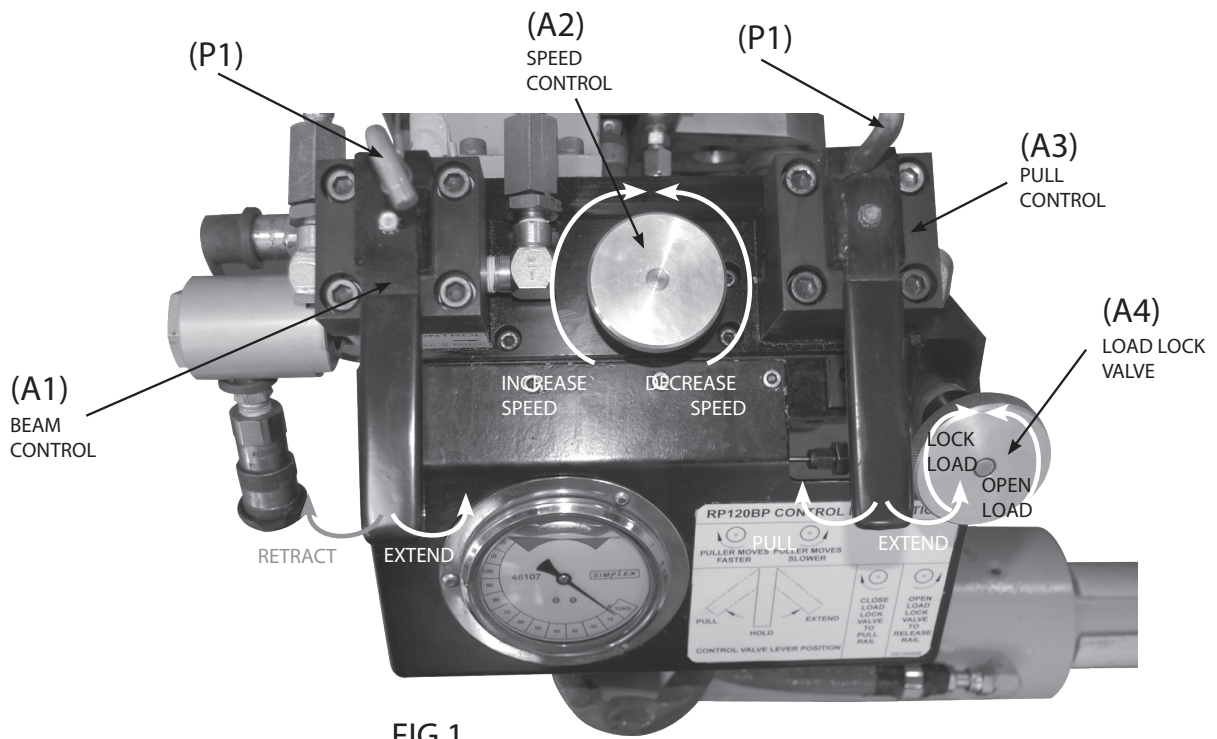


FIG.1

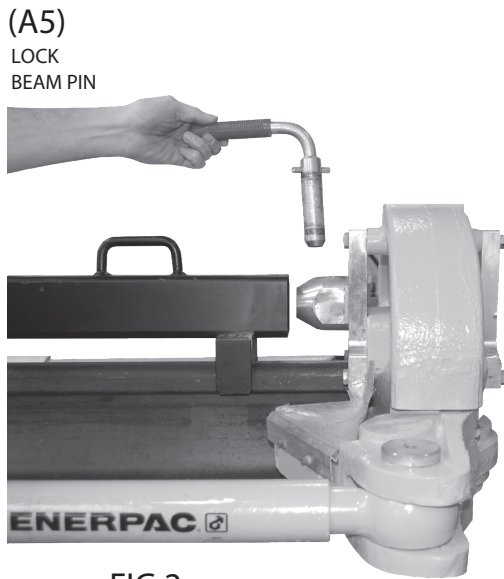


FIG.2

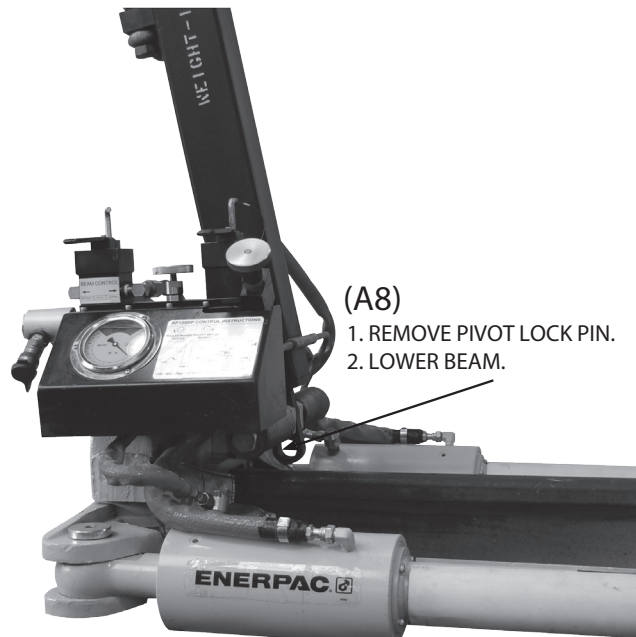


FIG.4

4.0 TROUBLESHOOTING GUIDE

If the procedures listed below do not remedy the problem - the equipment will require service and should be taken to an authorized ENERPAC Service Center for repair.

Puller Fails to Operate.	<ol style="list-style-type: none">1. Check pressure and tank connections for PTO.2. Make sure PTO is turned on.3. Check PTO for required pressure 2000 psi and flow 5 GPM minimum.4. Close speed control valve.5. Check cylinder hose connections.6. Check for external leaks.7. Take unit to ENERPAC Authorized Service Center for repairs
Puller Operates But Fails to Build Full 120 Tons of Pulling Force.	<ol style="list-style-type: none">1. Check for required pressure 2000 psi and flow 5 GPM minimum.2. Close speed control valve.3. Check cylinder hose connections.4. Check for external leakages.5. Check for faulty gauge.6. Take unit to ENERPAC Authorized Service Center for repairs.
Puller Beam Will Not Retract to Open Puller.	<ol style="list-style-type: none">1. Check pull indicator. If pull cylinders are at maximum extension, it will be necessary to operate the puller through several load cycles until clamps have some play on the rail. Rocking the unit up and down is effective to shake the puller loose. Then retract the beam.
Unable to Connect or Disconnect PTO Lines. Trapped Hydraulic Pressure in the Rail Puller Hydraulic Circuit. Rail Puller Hydraulically Locked on the Rail.	<ol style="list-style-type: none">1. Make sure the PTO is off.2. Remove the lock pins. Shift both control valves through all positions.3. Open the speed control valve all the way turning the knob counterclockwise.4. Open the release screw valve{(A6) on Pg. 4} on the back of the intensifier manifold by turning counter clockwise 1 to 1.5 turns using pliers and a rag to protect yourself from possible oil spray. Shift both control valves{(A1) & (A3) in Fig. 1 on Pg. 7} through all positions to release remaining trapped pressure.

5.0 MAINTENANCE

1. Lubricate all pivot points annually with anti-seize compound.

Lubricate more often with frequent usage.

2. Keep contact surfaces of swing arms and clamp brackets clean and oiled so swing arms move freely.

3. Inspect and clean grip teeth before each use.

To retrieve technical part sheet documentation

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