REL-EP-115/230
SINGLE / DOUBLE ACTING
10,000 PSI CONTINUOUS DUTY
ELECTRIC HYDRAULIC PUMP

The REL-EP-115/230 single and double acting hydraulic pump features manual lever operation, continuous duty performance, and a two stage pumping system, to ensure rapid tool advance. The manual lever control valve, and factory installed couplers are ready to run your single or double acting crimping, cutting and spearing tools.

REL-EP-115/230
SINGLE/DOUBLE ACTING 10,000 PSI
CONTINUOUS DUTY ELECTRIC HYDRAULIC PUMP

WARNING
All information found in this guide must be read and understood before use or testing of this tool. Failure to read and understand these warnings and safe handling instructions could result in severe personal injury and or death.

RELIABLE EQUIPMENT & SERVICE CO., INC.
301 Ivyland Road • Warminster, PA 18974 • USA
Phone: 215-357-3500 • Fax: 215-357-9193

MODEL: ________________
SERIAL NO.: ___________
YEAR: ___________
REGISTRATION

UPON RECEIPT OF THIS TOOL, COMPLETE THE REGISTRATION BELOW.

COMPANY __________________________________________________________

ADDRESS ___________________________________________________________
_____________________________________________________________________

PHONE _____________________  FAX __________________________________

SERIAL NUMBER ____________________________________________________

DATE OF PURCHASE ________________________________________________

DEALER NAME ______________________________________________________

NOTICE

Sizes, weights and tool specifications listed in this manual are subject to change without notice. Consult factory for information and updates.
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**WARNING**

This symbol indicates items of extreme importance.
Safety of user and others may be in jeopardy if these instructions are not read and understood.

**WARNING**

Operation/Safety methods may vary in accordance with the working guidelines established by each utility or contractor.
For your own safety, ensure that you fully comply with all safe operation guidelines required by your employer.
The REL-GB-10 and REL-EP-115 single and double acting hydraulic pumps feature manual lever operation, continuous duty performance, and a two stage pumping system, to ensure rapid tool advance. The manual lever control valve, and factory installed couplers are ready to run your single or double acting crimping, cutting and spearing tools.

**REL-GB-10** or **REL-EP-115**

4 CYCLE GASOLINE or ELECTRIC SINGLE AND DOUBLE ACTING

10,000 PSI HYDRAULIC PUMPS

REL-GB-10 - 8.75 ft./lb. torque, 190cc Briggs & Stratton OHV 4 stroke engine.

**FEATURES:**

- 10,000 PSI high pressure pump.
- Fast, two stage pumping system.
- Factory filled 2 gallon fluid reservoir with recessed sight glass.
- High-pressure relief valve.
- NO CONVERSION NECESSARY
  - Single/Double selector knob.
  - Integral manual lever control valve.
  - Designed for use with high pressure single & double-acting, hydraulic tools.

REL-GB-10 has a steel support frame.
REL-EP-___ has a balanced carry handle.
BEFORE USING THIS TOOL, READ THE WARNINGS and the recommended practices described in this manual. Failure by the operator to read and fully understand these warnings will leave this person unqualified to use and operate this tool. Property damage, severe personal injury, and/or death could result by not following these warnings.

These warnings will appear in appropriate locations when they are pertinent to the particular subject being shown. Read each one carefully and follow them strictly.

**Eye Protection**

**WARNING**
Always wear eye protection to avoid injury from flying debris or hydraulic oil leaks. Failure to do so can result in serious personal injury.

**Hard Hat**

**WARNING**
Always wear a hard hat to avoid injury from falling debris. Failure to do so can result in serious personal injury.

**Hearing Protection**

**WARNING**
Always wear hearing protection, to avoid hearing loss due to long term exposure to high noise levels.

**Foot Protection**

**WARNING**
Always wear foot protection. Failure to do so can result in serious personal injury.

**Dust Mask**

**WARNING**
Always wear a Mask. Failure to observe this warning may result in serious health issues and/or breathing difficulty.

**Protective Gloves**

**WARNING**
Always wear protective gloves. Failure to do so can result in serious personal injury.
Safe Operation & Care

USE THIS TOOL FOR ITS INTENDED PURPOSE ONLY
Any other use can result in injury or property damage.

INSPECT TOOL BEFORE USE. Replace any worn, damaged or missing parts. A damaged or improperly assembled tool may malfunction, injuring operator and/or nearby personnel.

INSPECT HYDRAULIC HOSES AND COUPLINGS before each use. Repair or replace if any cracking, leakage, wear or damage is found. Worn or damaged hoses may fail resulting in personal injury or property damage.

CLEAR WORK AREA of all bystanders and unnecessary personnel before operating this tool.

KEEP ALL PARTS OF THE BODY AWAY FROM MOVING PARTS.
Failure to observe this warning could result in serious injury.

Safety

DO NOT attempt to make any changes to any of the component parts or accessories when connected to the power source.

DO NOT adjust, inspect, or clean tool while the tool is connected to the power source. The tool could accidentally start up and cause serious injury.

DO NOT lock the tool in the On Position. In an emergency, serious damage or injury could occur during the time required to stop the tool.

Oil Injection Injury

Hydraulic oil or fluid under the skin is a serious injury. Oil under pressure can penetrate the skin and may cause dismemberment or loss of life. Seek medical assistance immediately if such an injury should occur.

Always wear safety gloves, eye protection and all required safety equipment when operating or handling this tool.

DO NOT use fingers or hands to attempt to locate a leak.

DO NOT handle hoses or couplers while system is pressurized.

NEVER open or service the system before depressurizing.
Burn Hazard

Do Not connect or disconnect tool, hoses or fittings while power source is running or while hydraulic fluid is hot.
Hot hydraulic fluid may cause serious burns.
Failure to observe this warning could result in serious injury.

Electrical Shock Hazard

Use only certified non-conductive hoses and fittings.
Always wear and use the necessary clothing, equipment and safety practices to protect against electrical shock. Failure to follow these rules can result in serious personal injury or death.

Safe Handling

HYDRAULIC FLUID MAY CAUSE SKIN IRRITATION.
Prevent hydraulic fluid from making contact with skin.
IN THE EVENT OF SKIN CONTACT immediately wash thoroughly.
Failure to observe this warning could result in injury.

General Safety

Ensure that all fellow employees and bystanders are clear and protected from possible injury caused by this tool or the operations being performed. Persons in close proximity could be injured and property damaged if the tool were to malfunction.
This tool should always be used within the limits and purposes stated by the product manufacturer. Abuse or usage beyond the manufacturers’ intended purposes could cause damage to the tool and severe injury to the operator.

NOTICE

If you have any questions regarding the information found in this manual please contact RELIABLE EQUIPMENT before continuing.
Phone: 215-357-3500 Toll Free: 800-966-3530 Fax: 215-357-9193
HOSES AND FITTINGS

There exists the potential for shock in using anything other than certified nonconductive hoses and hydraulic oil with dielectric properties, when using system components near energized electrical lines. Failure to recognize these conditions could cause electrocution.

Hoses and fittings used with this tool must comply with S.A.E. J1273 which covers recommended practice for selection, installation, and maintenance of hose and hose assemblies. The correct hoses and fittings are available from your supplier.

WARNING: Failure to comply with these warnings could result in severe bodily injury.

UNIT/HOSE CONNECTIONS

ALWAYS DISCONNECT pump/power source and move toggle switch to OFF before connecting or disconnecting any components.

ALWAYS DEPRESSURIZE hydraulic system, before slowly disconnecting this unit or any of the systems components.

ALWAYS TIGHTEN couplings completely. Loose or improperly tightened couplings will not allow fluid to pass through the hose creating a blockage in the supply or return line.

ALWAYS INSPECT HOSES AND CONNECTORS before connection to tool. Replace or repair if any leakage is evident. Leakage is a sign of deterioration in component parts. Worn or leaking parts must be repaired or replaced, or tool damage or severe injury could result.

HOSE INSTALLATION

ALWAYS ENSURE CONNECTORS ARE CLEAN

SINGLE ACTING - Connect the hose to the pressure port on the power source, then connect to the port on the tool.

DOUBLE ACTING - Care must be taken to assure the correct connection of the hoses to the pressure and return (tank) ports. Connect the return hose to the return (tank) port on the power source, then to the return port on the tool.

Connect the pressure hose to the pressure port on the tool, then to the “P” pressure port on the power source.

Operation with hydraulic flow reversed can cause malfunction. Failure to fully comply can result in severe injury or death.
PRE-OPERATION OF TOOL

DO NOT connect hoses or fittings to pump before reading all of the instructions in this Manual completely.
Ensure power source is OFF, and hydraulic flow is turned OFF.
Failure to comply with warnings can result in severe injury or death.

Before attempting to run or use the REL-SERIES pump, check all connections, including hoses, and couplings. (See WARNINGS on page 8)

Wear all safety items required and make sure that the working area is clear of obstructions and non-essential personnel.

HYDRAULIC FLUIDS

All hydraulic fluids that meet these listed specifications or the listed HTMA specifications may be used for this tool.

S. U. S.

@ 100°F (38°C) ................................................................. 140 TO 225
@ 210°F (99°C) ................................................................. 40 minimum
FLASH POINT ............................................. 340°F min. (170°C min.)
POUR POINT ................................................... -30°F min. (-34°C min.)

DISCONNECTING HOSES

WARNING: DO NOT disconnect the tool, hoses, or fittings while the tool is running, hot, or under pressure. Serious injury or burns could result.

Turn pump OFF and disconnect from power source.

NOTE: It is advised that control valves be cycled with the power off to relieve any residual pressure trapped within the line before disconnecting the hoses.

Ensure valve lever is in the RIGHT (RET.) position and remove hose(s).

Disconnect the pressure hose from the pressure “P” port on the pump, then disconnect the hose from the pressure port on the tool.

Disconnect the return hose from the return “T” port on the tool, then disconnect the hose from the return (tank) port on the pump.

Install dust caps on all connectors to prevent dirt and contaminants from entering the hydraulic system.
REL-EP-115 TOOL SPECIFICATIONS

Height ...................................................................................................... 24 in.
Depth ..................................................................................................... 16 in.
Width ...................................................................................................... 12 in.
Weight ................................................................................................ 100 lbs.
Electric Motor ........................................................................ 115V/230V AC
............................................................................................................... 2.0 hp
Pump System ........................................................................... 4 High Pressure Piston Style
Tool Operation ........................................................................... Single or Double Acting
Operating Pressure (Factory Pre-set Relief Valve) ......................... 10,000 psi
Return Relief Setting (Factory Pre-set) ........................................... 3,500 psi
Oil Reservoir .................................................................................... 2 Gallons
Oil Delivery Per Minute ..................................... 160 cubic inches at 100 psi
........................................................................ 60 cubic inches at 10,000 psi

IMPORTANT: THE GREATEST CAUSE OF HYDRAULIC PUMP FAILURE IS DIRT.
Prevent the introduction of foreign matter into the unit via hydraulic fluid, dirty connections or accumulation of sediment.
Single Acting - Connect to FWD (left) female coupler. Double Acting - Connect Pressure to FWD (L) & Return to REV (R). (or S.A. when a Control Valve is used)

Check sight glass to ensure that the pump has proper fluid volume as shown. Remove vent valve to add proper fluid as needed.

Turn dial to S.A. for single acting applications. **Note:** For ALL Single Acting and Double Acting Remote Valve Applications set selector to S.A.

Turn dial to D.A. for double acting applications. Valve will control both forward and reverse action of the tool virtually eliminating hang-up.

Lift vent lever before operating.

Close vent lever after use and prior to transporta-
Plug pendant switch shown below into the receptacle.
Toggle switch is not required when using pendant.

Toggle switch may be used in place of pendant switch for single acting operations.
Turn toggle switch ON for remote valve operations.

Press and hold button down to operate tool.
S.A. - Ram will retract upon release.
D.A. - Move valve handle to desired action and activate switch to perform operation.

Optional: **REL-C-FS-1** - Foot Control Switch is also available. Consult your RELIABLE representative for additional information.

ADV. - ADVANCE / FORWARD
HOLD / NEUTRAL
RET. - RETRACT / RETURN
**SINGLE ACTING PUMP OPERATION**

**NOTE:** This is a 10,000 psi hydraulic power source.  
**DO NOT USE** with standard low pressure hydraulic tools. (i.e. Impact Wrench, Tamper, Ground Rod Diver, etc…) Consult Reliable or the tool manufacturer if you have questions.  
There are a number of safety items that need to be addressed when using the tool. Seek out the supervisor for basic instruction in handling the tool. Some basic problems are easily overcome by knowing the rules of operation.  
Inspect, set-up and connect the tool as described on the previous pages.  
Refer to photos and diagrams on the previous pages as needed.  
Plug remote hand control “Pendant” switch (included) into pump if required for current operation.  
**NOTE:** REMOTE PENDANT CONTROL IS AVAILABLE FOR SINGLE ACTING OPERATION ONLY.

1) Open reservoir vent. (Lift Lever \(^\text{Vertical}\))  
2) Connect tool Pressure hose to the LEFT (Female) FWD valve block coupling.  
   A Single Acting In-line Control Valve may also be used for remote applications.  
   Connect Connect Return (Tank) hose to RIGHT (Male) REV valve block coupling.  
   **ENSURE THAT ALL CONNECTIONS ARE TIGHT AND SECURE**

3) Set D.A./S.A. selector knob to the S.A. position.  
   **NOTE:** D.A./S.A. selector knob is located on the right side of the lever valve block.  
4) Ensure that the valve lever is in the RETURN (RET.) position.  
5) Ensure that motor switch is in the “OFF” position.  
7) Turn motor on when ready to begin tool operation.  
   *If a pendant switch is to be used continue to next instruction.*

---

**WARNING**

**Turning on toggle switch may prematurely begin tool operation.**  
Remote Hand Control (Pendant) Switch will operate pump *without* turning on manual toggle switch located on motor housing.  
Toggle switch may be used in place of pendant switch for single acting operation. Note: A 4-way valve may also be used for added control options.

6) Move lever to the left to advance the tool ram, blade or spear.  
   *If pendant switch is used activate control to begin tool operation.*  
   Once the crimp/cut has been completed, an audible “POP” will be heard.  
   This signals that the full pressure/tonnage has been achieved.  
7) Move lever to the RIGHT to allow the ram to retract.  
   **NOTE:** Lever can be moved to the CENTER (HOLD) position at any time during the Advance or Retract cycle.  
   **REPEAT OPERATION AS REQUIRED BY THE CONNECTION OR APPLICATION.**

8) Once task has been completed: Turn motor OFF.  
9) Unplug power cord  
   **NOTE:** It is advised that control valves be cycled with the power OFF to relieve any residual pressure trapped within the line before disconnecting the hoses.  
10) Ensure that valve lever is in the RIGHT (RET.) position and remove hose(s).  
11) Close Reservoir Vent (Turn Lever Clockwise) and secure pump for future use.
DOUBLE ACTING PUMP OPERATION

There are a number of safety items that need to be addressed when using the tool. Seek out the supervisor for basic instruction in handling the tool. Some basic problems are easily overcome by knowing the rules of operation.

Inspect, set-up and connect the tool as described on the previous pages. Refer to photos and diagrams on the following pages as needed.

Plug remote hand control “Pendant” switch (included) into pump if required for current operation. Connect to 115V electric power source. (Connect to 230V for REL-EP-230)

**NOTE:** Remote pendant switch may not be used with remote in-line control valves.

1) Open reservoir vent. (Lift Lever \(^\uparrow\) vertical)
2) Connect tool hose(s) to the valve block couplings.
   A Double Acting In-line Control Valve may also be used for remote applications.
   Connect ADVANCE (Forward) hose from tool to the LEFT (female) coupling.
   Connect the RETRACT (Reverse) hose to the RIGHT (Male) coupling.
   **ENSURE THAT ALL CONNECTIONS ARE TIGHT AND SECURE**
3) Set D.A./S.A. selector knob to the D.A. position for your tool assembly.
   Set D.A./S.A. selector knob to the S.A. position if an In-line Control Valve is to be used.
   **NOTE:** D.A./S.A. selector knob is located on the right side of the lever valve block.
4) Ensure that the valve lever is in the RETURN (RET.) position.
5) Start motor when ready to begin tool operation.
   *If a pendant switch is to be used continue to next instruction.*
6) Move the valve lever to the Left (ADV.) to advance the tool ram, blade or spear.
   Once the crimp/cut has been completed an audible “POP” will be heard.
   This signals that the full pressure (tonnage) has been reached.
   Move lever to the RIGHT (RET.) to retract the tool ram.
7) Move lever to the RIGHT to allow the ram to retract.
   **NOTE:** Lever can be moved to the CENTER (HOLD) position at any time during the Advance or Retract cycle.
   **REPEAT OPERATION AS REQUIRED BY THE CONNECTION OR APPLICATION.**
8) Once task has been completed: Turn motor OFF.
   **NOTE:** It is advised that control valves be cycled with the power off to relieve any residual pressure trapped within the line before disconnecting the hoses.
9) Ensure that valve lever is in the RIGHT (RET.) position. Remove hose(s).
   See *Disconnecting Hoses.*

**WARNING:** DO NOT disconnect the tool, hoses, or fittings while the tool is running, hot, or under pressure. Serious injury or burns could result.

10) Close Reservoir Vent (Turn Lever Clockwise) and secure pump for future use.

**IF YOU HAVE QUESTIONS REGARDING THE USE AND/OR OPERATION OF THIS TOOL CONTACT RELIABLE EQUIPMENT AT 800-966-3530**
SCHEDULED MAINTENANCE

DAILY MAINTENANCE - The life, reliability, and safety of the tool is dependent on proper maintenance.

Clean all surfaces including, hand control, fittings, hoses and housing.

Inspect tool for wear and damage. Worn or damaged parts can cause malfunction.

Inspect for cracked hoses and leaking fittings.

Check fluid level of the power source reservoir frequently.

Remove Vent to add hydraulic fluid as needed. Replace vent immediately. (see page 12)

All the above items must be replaced with new parts if signs of wear are evident.

IMPORTANT: The greatest cause of hydraulic pump failure is dirt. Prevent the introduction of foreign matter into the unit via hydraulic fluid, dirty connections or accumulation of sediment.

FLUID CONTAMINATION: Cover the ends of fittings with a dust cap when disconnected. This will help keep the fluid from becoming contaminated. (See Reservoir Clean & Fill on pg 15)

MONTHLY MAINTENANCE: Inspect per Appendix A, SAE Standard J1273, 5/86 for hose or fitting damage such as wear, cracks or leakage; replace the necessary parts.

NOTE: Keep Label Set clean and legible. Replace decals when necessary. Part #RL22400
**TROUBLESHOOTING**

**Determine the source** (i.e. tool or hydraulic system) **of the problem before trouble shooting.**

**Will not run**

- Improper power source (REL-EP-115) .................... Verify power source meets specifications 115V AC

**Motor runs but pump will not operate**

- Low hydraulic fluid ............................ Check fluid level
- Incorrect viscosity .............................. Use recommended fluid
- Pump damaged ............................... Repair by authorized technician
- Hoses incorrectly connected ............... Switch hoses (see hose connection in this manual)
- Dirt in pump .................................. Disassemble, clean and repair

**Pump runs slow**

- Power supply not functioning correctly ............. Reset to operator manual specs.
- Fluid not warmed to correct temp ........................ Allow a warm-up period
- Fluid viscosity too high .......................... See recommended viscosity
- Air in hydraulic system .......................... Check hoses for breaks, leaks, or loose connections
- Hydraulic fluid level low ........................ Fill to level. Check for leaks
- Worn or damaged components .................... Replace worn or damaged components

**Pump operation is erratic**

- Hydraulic fluid not warm ........................ Allow oil to warm up
- Dirt or contaminants in tool ......................... Clean and reassemble
- Air in system .................................. Check hoses for breaks, leaks, or loose connections

**Pump runs continuously**

- Tool locked in “ON” position ...................... Release toggle switch
- Unplug unit from power source........................

**Pump runs hot**

- Low fluid level ................................ Fill pump reservoir to correct level
- Fluid viscosity incorrect ........................ Use recommended fluid
- Fluid dirty .................................. Drain tank, flush, and replace fluid
- Worn or damaged O-rings or gaskets ............ Replace worn or damaged components

**Pump leaks hydraulic fluid**

- Worn or damaged seals .......................... Disassemble and replace worn or damaged seals
- Components loose ................................ Tighten component hardware

**Pump lacks power**

- Control valve leaking .......................... Worn part or seal rings

---

**NOTICE**

If you have any questions regarding the information found in this manual please contact RELIABLE EQUIPMENT before continuing.

Phone: **215-357-3500**  Toll Free: **800-966-3530**  Fax: **215-357-9193**
READ BEFORE DISASSEMBLY

Safety

**WARNING**

DO NOT attempt to make any changes to any of the component parts or accessories when connected to the power source. DO NOT adjust, inspect, or clean tool while the tool is connected to the power source. The tool could accidentally start up and cause serious injury.

Before disassembly, disconnect hoses as described in this manual. Any residual pressure within the unit can and will spray at high velocity, injuring the person doing the disassembly. Hot or pressurized hydraulic fluid will cause serious injury or death.

Complete disassembly is not recommended. Return the unit to an authorized dealer for total disassembly and/or repair.

RESERVOIR CLEAN AND FILL

**ALWAYS DISCONNECT** pump/power source and move toggle switch to OFF before connecting or disconnecting system components.

**ALWAYS DEPRESSURIZE** hydraulic system before slowly disconnecting this unit or any of the system’s components.

Disconnect pump from any hoses or tools.

Remove the screws holding the motor housing and pump assembly to reservoir.

Carefully lift assembly out of reservoir, taking care not to damage gasket.

Dump out old oil from reservoir, clean out ALL sludge and sediment. DO NOT RUN DRY

Clean inlet screen of dirt and debris.

Fill with **CLEAN HYDRAULIC FLUID** as specified.

Reference hydraulic fluid sight glass for appropriate level, as shown on page 12.

Check gasket for damage, replace if necessary. Re-assemble completely.

Test thoroughly prior to field use.

**NOTE:** For units with serial # s after SN # 2158A remove drain plug located on front (Sight Glass Side) from pump reservoir and drain oil into a suitable container.

Please dispose of hydraulic fluids within the guidelines established by your Safety Guidelines and observe ALL Local, State and Federal Regulations.
If you have any questions regarding the information found in this manual please contact RELIABLE EQUIPMENT at 800-966-3530 or FAX 215-357-9193.
FIGURE 2
INNER PUMP ASSEMBLY

Items indicated with an * on the parts list are included in Seal Kit Part # R40200.
### FIGURE 1  MAJOR COMPONENTS, ELECTRIC PUMP

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### FIGURE 2  INNER PUMP ASSEMBLY

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<td>12257</td>
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It is highly recommended that this unit be returned to RELIABLE EQUIPMENT or a factory trained and authorized service center for all repair and maintenance.

Complete disassembly is not recommended.

**ELECTRIC MOTOR** - Refer to the manufacturers (supplied) motor Operators Manual for Operation, Care & Maintenance information.

All maintenance or disassembly should take place on a flat, clean work surface covered with towels or wipers so as to have a clean space for the disassembled parts.

Inspect each part during disassembly for wear, scratches, and cuts. Discard the worn or damaged parts and replace with new factory authorized parts.

O-rings are sensitive to sharp edges. Inspect closely for cuts or damage. A small cut will cause a leak. When assembling or disassembling O-rings, use hydraulic fluid as a lubricant to help disassembly or installation.
FIGURE 3
VALVE BLOCK ASSEMBLY

Items indicated with an * on the parts list are included in Seal Kit Part # R40200.
FIGURE 4
HIGH PRESSURE PUMP BLOCK

Items indicated with an * on the parts list are included in Seal Kit Part # R40200.

FIGURE 5
MANIFOLD OUTLET BLOCK

Items indicated with an * on the parts list are included in Seal Kit Part # R40200.
### FIGURE 4  HIGH PRESSURE PUMP BLOCK

<table>
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<td>R40009</td>
<td>PISTON + BUSHING SET</td>
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<td>R40031 *</td>
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<td>SMALL BAYONET</td>
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### FIGURE 5  MANIFOLD OUTLET BLOCK

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### FIGURE 6  LOW PRESSURE PUMP ASSEMBLY

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FIGURE 6
LOW PRESSURE PUMP ASSEMBLY

Items indicated with an * on the parts list are included in Seal Kit Part # R40200

MAINTENANCE RECORDS
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</table>

If you have any questions regarding the information in this manual please contact RELIABLE EQUIPMENT at the address, phone or fax numbers shown below.

RELIABLE EQUIPMENT & SERVICE CO., INC.
301 Ivyland Road • Warminster, PA 18974
Phone: 800-966-3530 • Fax: 215-357-9193
Visit us on the web at www.Reliable-Equip.com