

OPERATORS' GUIDE



REL-SPP HYDRAULIC SIGN POST PULLER

The REL-SPP Hydraulic Sign Post Puller from **RELIABLE** has been designed to remove a variety of sign post styles **FAST!**

NOTICE

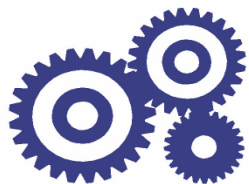
Sizes, weights and tool specifications listed in this manual are subject to change without notice. Please consult factory for information and updates.

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.

DISTRIBUTED BY

REGISTRATION

UPON RECEIPT OF THIS TOOL, COMPLETE THE REGISTRATION BELOW.

COMPANY _____

ADDRESS _____

PHONE _____ FAX _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

DEALER NAME _____



THIS SYMBOL INDICATES ITEMS OF EXTREME IMPORTANCE.

Safety of user and others may be in jeopardy if these instructions are not read and understood.



CAUTION

The information in this manual is intended to guide the user in the use and application of this tool. It is not intended as a substitute for proper training and experience in safe work practices for this type of equipment.

Consult your supervisor or safety personnel if you have any questions regarding the safe operation of this tool.

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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.



WARNING

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.



Dust Mask

WARNING

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



Hard Hat

WARNING

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



Foot Protection

WARNING

Always wear foot protection. 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.



Protective Gloves

WARNING

Always wear protective gloves. Failure to do so can result in serious personal injury.



WARNING

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.



WARNING

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.



WARNING

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.



WARNING

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.



WARNING

Electrical Shock Hazard

Certified non-conductive hoses and fittings are recommended. Always wear and use the necessary clothing, equipment and safety practices to protect against electrical shock.

Failure to observe rules may result in serious injury or death.



CAUTION

Dangerous Terrain

The operator must be aware of dangerous work areas and unsafe conditions. (i.e. excessive slopes, loose/soft soil, etc.)

Failure to observe this warning could result in serious personal injury and/or damage to the tool.



CAUTION

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.



CAUTION

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/or severe injury to the operator.

TOOL SPECIFICATIONS

CAPACITY

Gripping Jaw	Flanged Type	U Post
Chain Operation	Up to 8 in.	Pole Diameter
Pulling Force	9,800 lbs.	@ 2,000 psi

SPECIFICATIONS

Overall Height	18.75 in.	(Retracted)
Length	12.75 in.	
Width	14.00 in.	
Weight	70 lbs.	

HYDRAULIC POWER SOURCE SPECIFICATIONS

The following requirements are essential for the safe operation of this tool.

Flow Range	3 gpm	Minimum
.....	5-6 gpm	Optimum
.....	9 gpm	Maximum
Operating Pressure	1,800 - 2,200 psi	
Filtration	10 Micron	Nominal
Back Pressure	200 psi	Maximum *
Pressure Port Thread	3/8" NPT	Female
Return Port Thread	3/8" NPT	Female

* 200 psi (1,379 kPa) is the maximum agreed standard for the HTMA (Hydraulic Tool Manufacturers Association).

If you have any questions regarding the information in this manual contact **RELIABLE EQUIPMENT** at the address, phone or fax numbers on the cover.



WARNING

These specifications must be strictly adhered to for the safe and effective operation of this tool.

HYDRAULIC FLOW MUST NOT EXCEED 9 GPM

LIMIT RELIEF SETTINGS TO 2,000 PSI (13,790 kPa)

Any deviation may result in tool damage, severe injury or death to the operator and or extraneous personnel.

HOSES AND FITTINGS

Care must be exercised in the use of hose and fittings for use on hydraulic tools, especially in confined areas. Any obstruction or abrasive surrounding could damage the hose and cause a serious accident. Always use the recommended hose for the tool that is being used. Always consult the dealer or distributor for the correct hoses and purchase from him to ensure, from a safety standpoint that the materials used in the manufacture of the hoses is to the correct specification for the application. Fittings must meet the standards established by the industry to adequately assure safety. Poor quality or low rated fittings are not to be used. They invite a serious accident.

Length: Hose must be the correct length for the general use of the tool or for the specific function it is to provide. Pressure surge is an important factor in the selection of hoses. The hose should be rated above the expected surge pressure to ensure adequate safety. Hoses that are too long will have a tendency to coil, kink, or move in multiple directions creating a safety hazard. Hoses that are too long will rub or chafe against the ground or projecting objects, seriously shortening the life of the hose. It may be advisable to carefully restrain a hose which is temporarily too long for the current application. Pressure surge can cause whipping, and seriously damage the hose. Always keep the hose length as short as possible for the operation which is it intended.

Size: The hose must be large enough to carry the pressurized flow of fluid to the end application without creating undue heat generation or excessive turbulence. These factors could cause excessive wear to the hose from any or all of the above reasons.

Pressure: Hose selection must be made so that the *recommended maximum operating pressure is greater than the system pressure*. A surge or sudden drop in pressure will cause the hose to deteriorate faster if the maximum pressure of the hose is significantly below the surge pressure. A hose with a top rate of pressure as the line pressure of the installation is not an accepted safety practice. Always err on the side of safety.

Temperature: Hose can be seriously damaged by passing over or near hot objects. Avoid any situation that will heat the hose. Serious damage and/or failure will occur.

Unusual Applications: Careful thought and research should precede installation of hoses. Thorough and protected testing, with appropriate safety guards, must be done to avoid injury before general use.

Connections: Hoses must have the proper end fittings in order to mate correctly with connectors. Worn or damaged connectors and worn end fittings on the ends of the hose can cause a failure. Pressure surge can cause a slow or sudden failure at the connection causing serious damage or injury.

Safety Check: Before using any installation, perform a thorough checkout to determine if any of the above or unforeseen problems occur. Initial testing with safety guards is an invaluable safety precaution.

Always consult the distributor or manufacturer for the correct specifications regarding any of the items discussed above. **The correct hoses and fitting are available from your supplier.**



WARNING

There exists the potential for **SHOCK** in using anything other than certified non-conductive 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** recommended practice for selection, installation, and maintenance of hose assemblies.



WARNING

UNIT/HOSE CONNECTIONS

ALWAYS SHUT OFF pump/power source and move flow selector to **OFF** before connecting or disconnecting system 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.



CAUTION

HOSE INSTALLATION

Care must be taken to assure the correct connection of the hoses to the pressure “P” and return “R” ports.

Connect the return hose to the return port on the power source, then to the return “R” port on the tool.

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

Operation with hydraulic flow reversed can cause malfunction. Failure to fully comply can result in tool damage, injury, or death.



WARNING

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.

OPERATIONAL SAFETY WARNINGS

SHOCK, ELECTRICAL: This is a non-insulated tool. The need for keeping the tool dry and clean is imperative. Using this tool in an energized electrical environment could be dangerous to the user. Failure to take this into account could result in electrocution.

NEVER CONNECT components or fittings to this unit unless power/pump source is turned off or disconnected.

ALWAYS INSPECT hydraulic hoses and fittings for wear or deterioration every day. Replace all parts that show signs of leaking, wear, or damage.

KEEP ALL PARTS OF THE BODY AWAY from moving parts of the tool when connected to the power source for the tool.

MAKE SURE there is no person in close proximity to you or the tool who could be injured by any operation being performed with the tool.

DO NOT overextend your position by overreaching or unbalancing the footing necessary to maintain physical control of your body and the tool.

ALWAYS MAINTAIN a firm grip on the tool to avoid having the tool slip out of the hands during an set-up and installation, causing a serious injury.

DEPRESSURIZE THE UNIT before attempting to disassemble, connect, or disconnect any of the components. Check oil temperature before disconnecting or disassembling this unit. A serious burn could result from this exposure.

SEE A DOCTOR IMMEDIATELY, if a hot oil injury should occur.

SEE A DOCTOR IMMEDIATELY, if a pressurized oil injury should occur.

Infection or serious reaction could result from any hydraulic pressure injury.

USE THIS TOOL FOR THE MANUFACTURERS' INTENDED PURPOSE ONLY.

USE ALL APPROPRIATE AND APPLICABLE PERSONAL SAFETY EQUIPMENT as required by the operating company.

OBSERVE CLOSELY ALL SAFETY RULES FOR A PARTICULAR JOB CLASS

THE PURCHASER/OWNER of this unit must be certain that all the users of this unit are properly trained in it's use and in compliance with all appropriate industrial codes and/or practices.

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN
SERIOUS PERSONAL INJURY AND/OR PROPERTY DAMAGE.**



WARNING

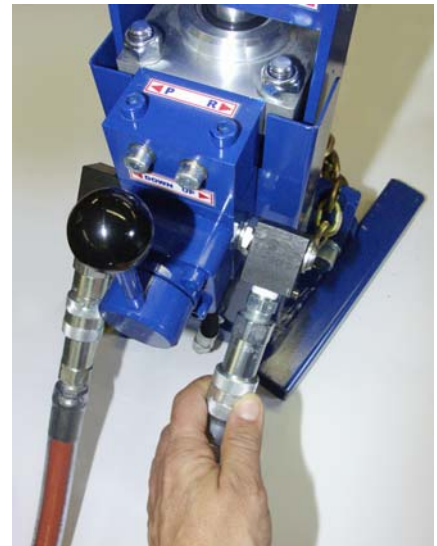
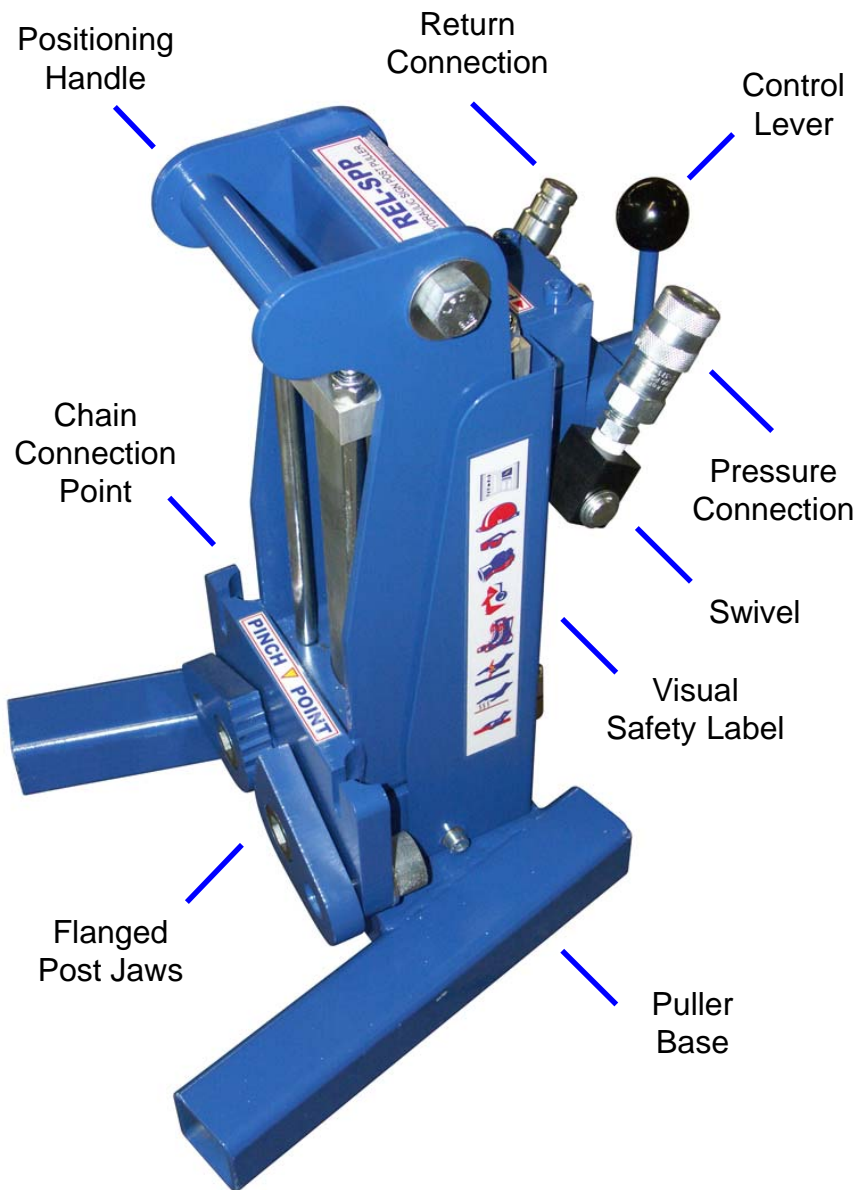
Never stand directly behind the Post Puller during operation.

In the event of kick out the puller may move away from post with considerable force.

Failure to comply with this warning can result in severe injury or death.

REL-SPP

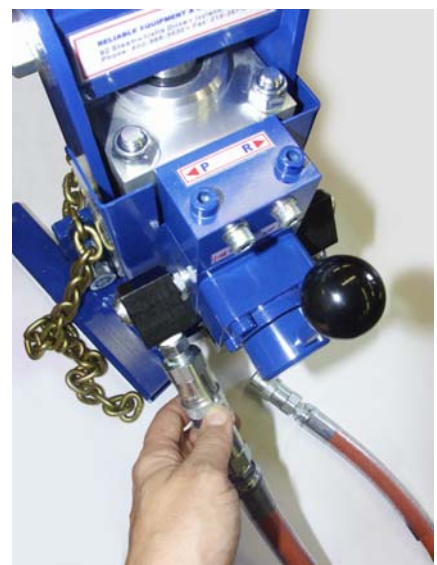
Hydraulic Sign Post Puller



Connect Return Hose.



Swivel reduces hose strain and simplifies tool positioning .



Connect Pressure Hose

When used properly the REL-SPP will save valuable time and reduce strain and fatigue related to the removal of a variety of sign post styles.

Familiarize yourself with the tool, connection and operation. Understand the capabilities and limits to safe operation.

If you have any questions regarding the information in this manual contact **RELIABLE EQUIPMENT** at the address, phone or fax numbers on the cover.

PRE-OPERATION OF TOOL

DO NOT connect hoses or fittings to this unit before completing all of the instructions in this section.

Ensure power source is **OFF**, and hydraulic flow is lever is turned **OFF**.

WARNING Failure to comply with this warning can result in severe injury or death.

Read and understand this manual, all Safety Information, Labels and Instructions.

All these items are crucial to the safe operating procedure of the **REL-SPP**.

Before attempting to use the tool, check all connections, including hoses, and couplings.

Ensure that control valve is moving freely.

Wear all safety items required and make sure that the working area is satisfactory (Refer to ALL Warnings) and clear of obstructions and non essential personnel.

Connect return and pressure hoses from source to “P” and “R” ports on tool. (see page 12)

SIGN POST PULLER OPERATION

Observe ALL safety precautions as outlined by your employer, Local, State, and Federal guidelines, and as described in this manual,

Operation of this tool should be performed by trained or supervised personnel ONLY.

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 of the tool.

Some basic hazards are easily overcome by knowing the rules of operation.

Make sure that the puller is correctly installed.

Be aware of dangerous or unsafe conditions. (i.e. excessive slopes, loose/soft soil, etc.)

Inspect, set-up and connect the tool as described on the previous pages.

Move control valve into DOWN direction before inserting post or chain.

Move the puller into position around the post. (Refer to page 14 - Figures 1-4)

Flanged Posts: Engage between jaws. (Refer to photo # 1 on page 14)

Solid or Square Posts: Install and secure with supplied chain. (Refer to page 14 - Fig. 2-4)

WARNING: **DO NOT stand directly behind the Post Puller during operation.**

In the event of kick out the puller may move away from post with considerable force.

Start the hydraulic power source.

Cold Weather: Allow power source to run for a few minutes to warm the hydraulic fluid.

Actuate the control lever in the “UP” direction allowing the post to raise. (Approx. 8 inches)

Move control lever in the “DOWN” direction. allowing the Chain or Lift Frame to return to the tool base or bottom of the post.

Repeat the operation above as required to fully remove the post.





Slide flanged post between jaws.



For square and solid posts place base around post and insert chain end into connection point as shown.



Wrap chain around post.



Insert chain section securely into second connection point as shown.

WARNING

Keep hands and ALL body parts away from jaws, moving parts, and pinch points.

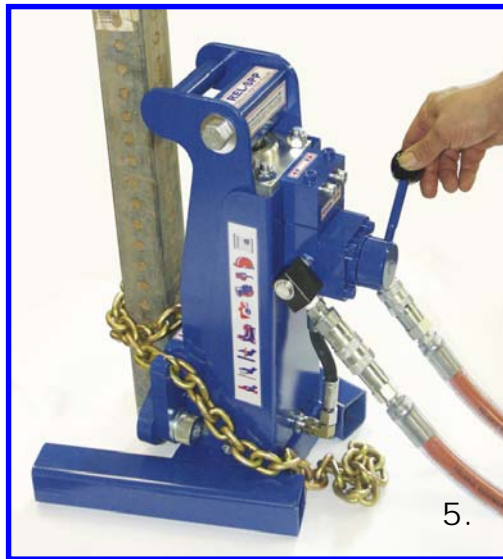


Be aware of unsafe conditions.

(i.e. excessive slopes, loose or soft soil, etc.)



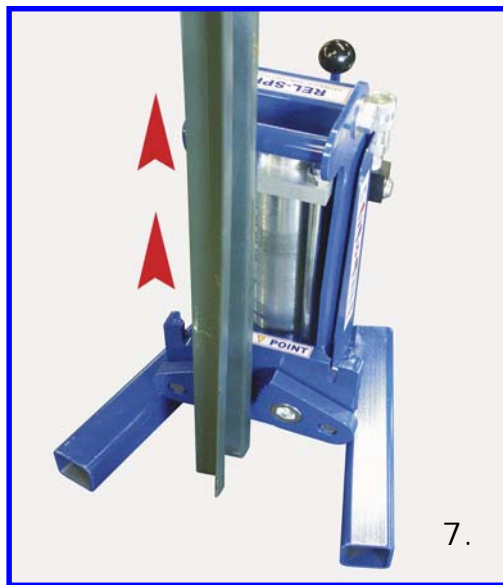
Move control valve into DOWN direction before inserting post or chain.



Move control valve into the UP direction to begin lifting post.



Move control valve in the DOWN direction and repeat process as required



When operation is complete the pole will lift and drop back into the hole. The post should rest within loosened soil.

CAUTION

Pay attention to post to avoid post movement or falling which may cause injury.



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

DISCONNECT HOSES

Move the flow lever on the power source to the **OFF** position.

Stop hydraulic power source. (Operate valve several times to relieve any residual pressure)

Disconnect the pressure hose from the pressure “P” port on the power source, 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 port on the power source.

Install dust caps on all connectors to prevent dirt and contaminants from entering the hydraulic system.

MAINTENANCE

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

Clean all surfaces including body, handle, valve, fittings, hoses and adaptors

Inspect tool and adaptors for wear and/or damage.

Worn or damaged parts can cause malfunction during operation.

Inspect for cracked hoses and leaking fittings.

Check fluid level of the power source reservoir frequently.

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

FLUID CONTAMINATION: Cover the ends of fittings with a dust cap when disconnected. This will help keep the fluid from contamination.

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.



WARNING

Failure to observe all warnings and instructions could result in property damage, severe personal injury, and/or death.

BEFORE USING THIS PRODUCT READ THE SAFETY WARNINGS and recommended practices described in the manual. Failure by the operator to read and fully understand the warnings will leave this person unqualified to use and operate the tool.



WARNING

Failure to observe all warnings could result in property damage, severe injury, and/or death. Connect return and pressure from power source to the CC ports on valve.

This tool is factory configured for Open-Center Tool Systems. Convert for Closed-Center Use

Rotate the valve 180°. Connect from tamper to OC ports on valve.

CAUTION

Operation and safety methods may vary in accordance with the guidelines established by each utility. For your safety, ensure that you fully comply with all safe operation guidelines established by your respective power utility. REL-SM

DANGER

The user should be properly trained in the correct procedures required for work on or around electrical lines.

More SPP labels and their locations are referenced on the product drawings found later in this Manual.



WARNING

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.

READ BEFORE DISASSEMBLY

Before any disassembly, disconnect hoses from the Puller! 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 to the body!

Complete disassembly is not recommended.

Return the unit to an authorized dealer for total disassembly and/or repair.

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 parts.

Use only factory specified parts when repairing and/or replacing. Severe damage to the tool can occur with non-specified 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.

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

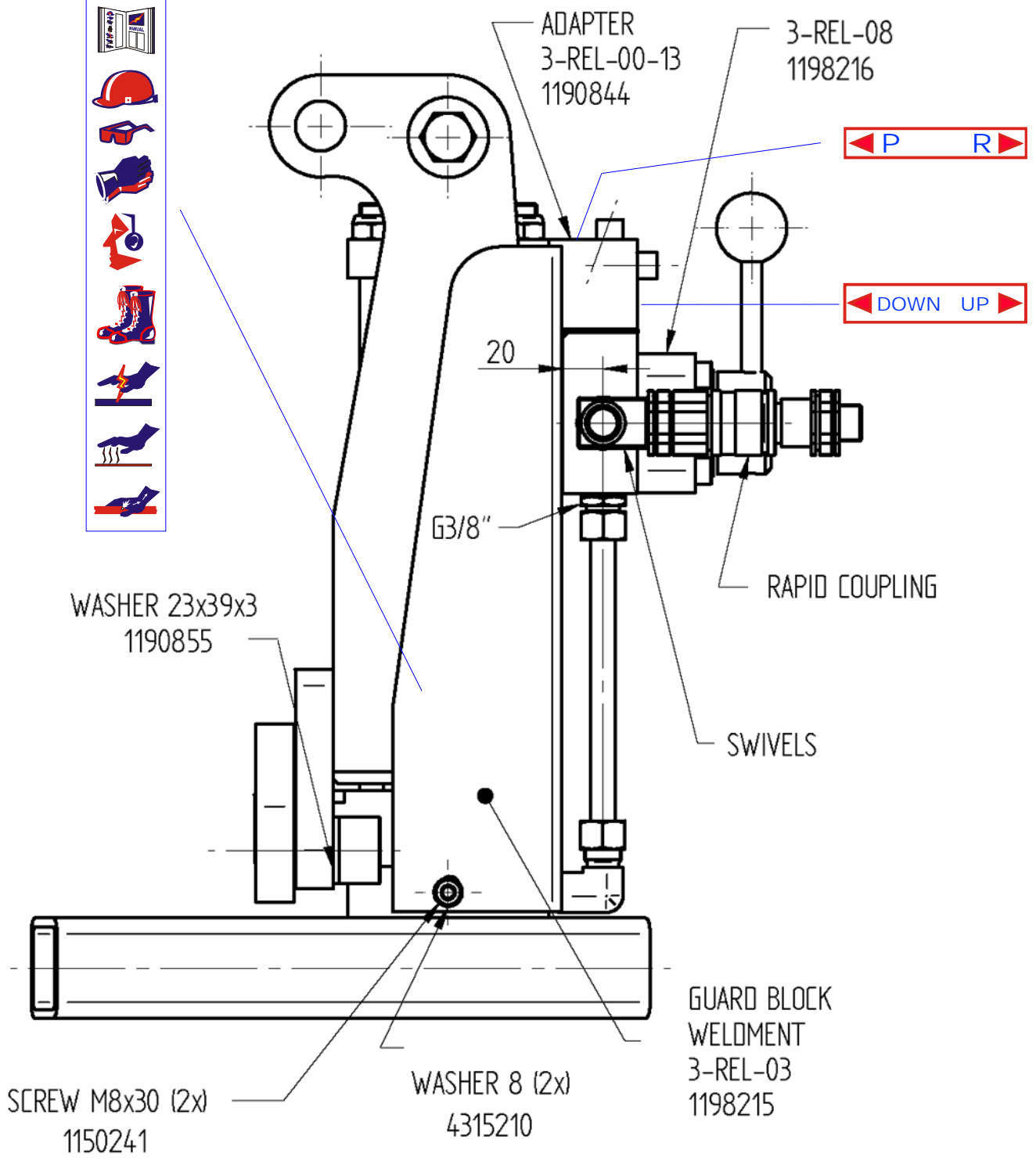
@ 210° F (99° C) 40 minimum

FLASH POINT 340° F min. (170° C min.)

POUR POINT -30° F min. (-34° C min.)

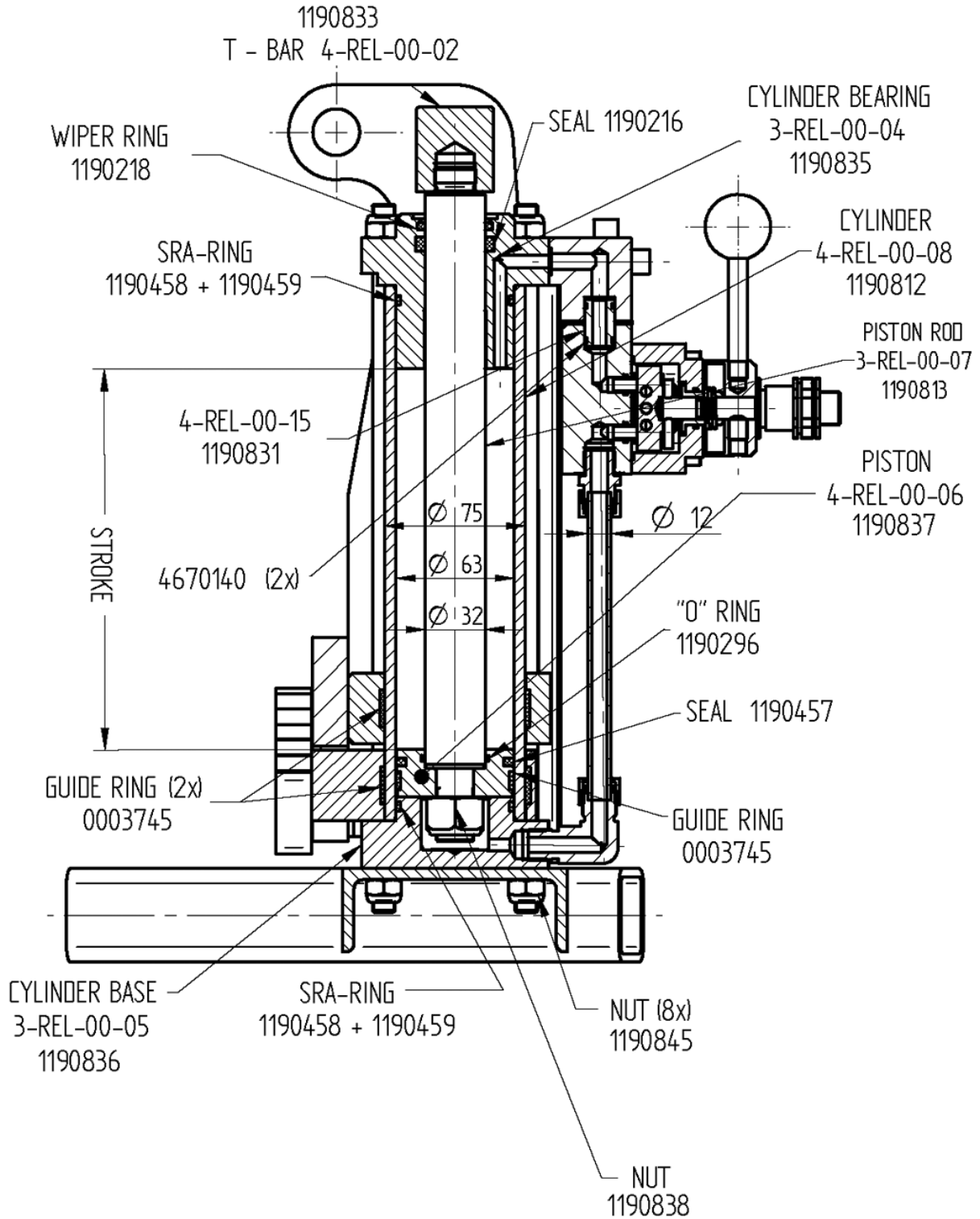
If you have any questions regarding the information in this manual contact **RELIABLE EQUIPMENT** at the address, phone or fax numbers On page 3 or the back cover of this manual.

REL-SPP PARTS DRAWING # 1



1198250

REL-SPP PARTS DRAWING # 2

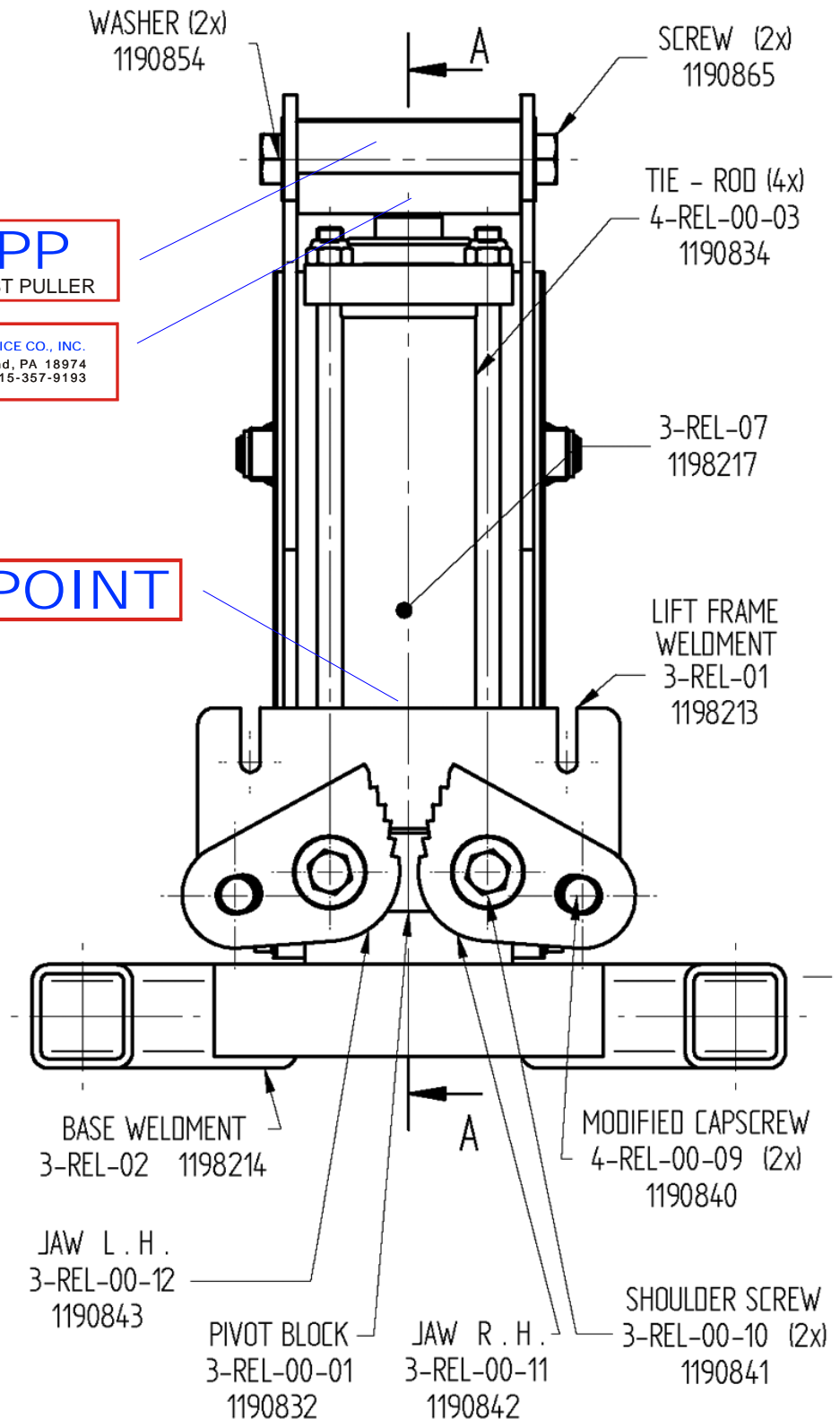


REL-SPP PARTS DRAWING # 3

REL-SPP
HYDRAULIC SIGN POST PULLER

RELIABLE EQUIPMENT & SERVICE CO., INC.
92 Steamwhistle Drive • Ivyland, PA 18974
Phone: 800-966-3530 • Fax: 215-357-9193

PINCH ▼ **POINT**



REL-SPP REPAIR PARTS LIST

SERVICE PARTS

#	PART	DESCRIPTION	QTY	DWG #
	0003745	GUIDE RING	4	2
	1150241	SCREW	2	1
	1190218	WIPER RING	1	2
	1190458	SRA RING (Incl. Part # 1190459)	2	2
	1190812	CYLINDER	1	2
	1190813	PISTON ROD	1	2
	1190831	CONNECTING PIPE	1	2
	1190832	PIVOT BLOCK	1	3
	1190833	T-BAR	1	2
	1190834	TIE - ROD	4	3
	1190835	CYLINDER BEARING	1	2
	1190837	PISTON	1	2
	1190838	NUT	1	2
	1190840	MODIFIED CAPSCREW	2	3
	1190841	SHOULDER SCREW	2	3
	1190842	JAW R . H .	1	3
	1190843	JAW L . H .	1	3
	1190844	ADAPTER	1	1
	1190845	NUT	1	2
	1190854	WASHER	2	2
	1190855	WASHER	1	1
	1190836	CYLINDER BASE	1	2
	1190865	SCREW	2	2
	1198213	LIFT FRAME WELDMENT	1	3
	1198214	BASE WELDMENT	1	3
	1198215	GUARD BLOCK WELDMENT	1	1
	1198216	VALVE ASSEMBLY	1	1
	1198217	CYLINDER COMPLETE	1	3
	1198250	SWIVEL	2	1
	4670140	O-RING	2	2

SEAL KIT FOR CYLINDER

	0003745	GUIDE RING	1	2
	1190216	SEAL	1	2
	1190218	WIPERRING	1	2
	1190296	O-RING	1	2
	1190457	SEAL	1	2
	1190458	O-RING	2	
	1190459	SRA-RING	2	

MAINTENANCE RECORDS

Date	Parts or Service Required

USER NOTES

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.**

Ivyland 5RDG :DUPLQWHU, PA 18974
Phone: 800-966-3530 • Fax: 215-357-9193
Visit us on the web at www.Reliable-Equip.com



Read Manual



Protective Head Wear



Protective Eye Wear



Protective Clothing



Hearing Protection



Protective Foot Wear



Electrical Shock



Hot Surfaces



Hydraulic Injection