



HYDRAULIC POLE TAMPER INSTRUCTIONS

REIMANN & GEORGER CORPORATION
CONSTRUCTION PRODUCTS
P/N 6122200

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TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
1	SAFETY	1
1.1	Introduction	1
1.2	Safety Definitions	1
1.3	Safety Labels	1
1.4	Safety Rules.....	1
2	SPECIFICATIONS	3
2.1	Introduction	3
2.2	Technical Data.....	3
2.3	Hydraulic Power Source Requirements.....	3
2.4	Recommended Hydraulic Oil	4
2.5	Nameplate and Serial Number Tag.....	4
3	OPERATION.....	5
3.1	Before Operating The Pole Tamper.....	5
3.2	Connection to Hydraulic Power Source	5
3.3	Tamping Procedure	6
3.4	Preparing Tamper For Shutdown	6
4	INSPECTION AND MAINTENANCE	9
4.1	General Maintenance Rules.....	9
4.2	Recommended Maintenance Schedule	9
4.2.1	Daily Maintenance.....	9
4.2.2	Monthly Maintenance.....	10
4.2.3	Semi-Annual Maintenance	10
5	TROUBLESHOOTING.....	11
5.1	Locating the Problem Area.....	11
5.2	Troubleshooting the Tool	11
6	PARTS LIST.....	15

LIST OF FIGURES

FIGURE	DESCRIPTION	PAGE
2-1	Typical Pole Tamper Product Nameplate.....	4
6-1	Pole Tamper Assembly.....	16

1 SAFETY

1.1 INTRODUCTION

Your Reimann & Georger Corporation Pole Tamper has been engineered to provide dependable service for compacting around poles, posts, footings and other objects, with long term economics and safety advantages that no other type can match. However, even a well-designed and well-built pole tamper can malfunction or become hazardous in the hands of an inexperienced and/or untrained user. Therefore, read this manual and related equipment manuals thoroughly before operating your pole tamper to provide maximum safety for all operating personnel, and to get the maximum benefit from your equipment.

1.2 SAFETY DEFINITIONS

A safety message alerts you to potential hazards, which could injure you or others or cause property damage. The safety messages or signal words for product safety signs are **DANGER**, **WARNING**, and **CAUTION**. Each safety message is preceded by a safety alert symbol and is defined as follows:

DANGER: Indicates an imminently hazardous situation which, if not avoided, **will** cause death or serious injury. This safety message is limited to the most extreme situations.

WARNING: Indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury. It may also be used to alert against unsafe practices that may result in property-damage-only accidents.

1.3 SAFETY LABELS

These labels on the pole tamper and hydraulic power source warn you of potential hazards that could cause injury. Read them carefully. If a label comes off or becomes illegible, contact Reimann & Georger Corporation for replacement information.

1.4 SAFETY RULES

1. Only trained personnel shall operate the pole tamper or do repairs. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures.
2. Construction area is to be kept clear of unauthorized personnel at all times. Place barricades or secure the area in such a manner that no personnel would be injured.
3. Use all personal protective equipment as defined by the employer. As a minimum, safety shoes, hard hat, eye and ear protection, and work gloves should be worn.
4. Never use the pole tamper in an explosive atmosphere and/or near combustible material that could be ignited by a spark.
5. Do not use near energized conductors without adequately insulating operator and surroundings.
6. Do not lift or carry the pole tamper by the hydraulic hoses.
7. Do not use a pole tamper, shoe, or hydraulic hose that shows any signs of damage.
8. Use only the properly sized shoes for which the pole tamper was designed.
9. Only use the pole tamper in accordance with the manufacturer specifications.

10. Keep clothing and all body parts away from moving parts of the pole tamper when connected to a hydraulic power source or when being used.
11. Keep the pole tamper dry, clean, and free of oil or fuel.
12. Always hold the pole tamper with both hands during operation.
13. Do not over-reach while operating the pole tamper. Move closer to the work area and securely support yourself and your work. Always keep proper footing and balance.
14. Never lock the pole tamper trigger in the power-on position.
15. Never adjust or service the pole tamper during operation or while connected to a hydraulic power source.
16. Never operate the pole tamper under the influence of drugs, alcohol, or medication.
17. Do not use the pole tamper when you are tired or fatigued.
18. Always connect the return (tank) hose connections before the supply (pressure) connections.
19. Always stop the hydraulic power source, depressurize the hydraulic system, and allow the system and hydraulic fluid to cool before connecting or disconnecting hydraulic hoses or servicing the pole tamper.
20. Always shut off the hydraulic power source when not using the equipment.

2 SPECIFICATIONS

2.1 INTRODUCTION

The Reimann & Georger Corporation PT60 and PT72 hydraulic pole tampers have innovative features that provide lightweight, quiet, and efficient use. The unique valving of the pole tamper provides low maintenance, long life, and superior handling characteristics because there is no mechanical impacting of the ram within the tamper. The oil reverses the stroke before bottoming out, preventing the tamper from hammering itself when running free between compaction strokes. This feature provides superior compaction while virtually eliminating kickback to the operator's hand.

As with most hydraulic tools, the hydraulic system requirements detailed in the following sections must be met but not exceeded to support tool performance and longevity of equipment.

2.2 TECHNICAL DATA

Flow requirement:	3-10 gpm 4-8 gpm optimum
Operating pressure:	
Minimum	1000 psi (69 bar)
Maximum	2000 psi (137.9 bar)
Pressure relief setting	2000 psi (137.9 bar)
Back pressure, maximum	200 psi (13.8 bar)
Type of hydraulic system	Open center
Overall length:	
PT60	60 in. (1.52 meters)
PT72	72 in. (1.83 meters)
Weight:	
PT60	29 lbs. (13 kg)
PT72	30 lbs. (14 kg)
Tamper shoe:	
Kidney	3 x 8 in.
Round	6 in. diameter
Stroke amplitude	1-5/8 in.
Stroke frequency	1375 per minute @ 5gpm
Both models equipped with ON/OFF valve, spring loaded to the OFF position for complete safety	

2.3 HYDRAULIC POWER SOURCE REQUIREMENTS

1. The hydraulic power source must meet the following design criteria. **Failure to comply could cause excessive speed and/or system overpressurizing, resulting in equipment damage and/or personal injury.**
2. The hydraulic power source flow rate must conform to the technical specifications of Section 2.2.
3. The system pressure relief must be set at 2000 psi (137.9 bar). The system pressure relief valve must be located in the supply circuit between the hydraulic power source and the tool to limit the pressure to the tool.
4. System back pressure must not exceed 200 psi (13.8 bar).
5. The system must be equipped with nominal 149-micron filtration.
6. The system fluid temperature must not exceed 140° F (60° C).

2.4 RECOMMENDED HYDRAULIC OIL

Viscosity	140-225 SUS @ 100°F	(28-45 cSt @ 38°C)
	40 min. SUS @ 210°F	(8 min. cSt @ 99°C)
Flash Point	340°F min.	(170°C min.)
Pour Point	-30°F min.	(-34°C min.)

Many types of compatible hydraulic oil are available through your local dealer/distributor. As an original equipment manufacturer, RGC supplies a Grade ISO VG 32 hydraulic oil.

Extreme weather conditions or operating environments may require using a different viscosity oil or fluid type than what is provided. Hydraulic oil types are too numerous to list in this manual. If you have any question concerning the type of oil suitable for tool operation, please consult your local supplier or Reimann & Georger Corporation for details.

2.5 NAMEPLATE AND SERIAL NUMBER TAG

It is important to identify your pole tamper completely and accurately whenever ordering spare parts or requesting assistance in service. The pole tamper has a product nameplate that states the model and serial numbers. The pole tamper label should appear as the sample nameplate shown in Figure 2-1. Record the model and serial numbers for future reference.

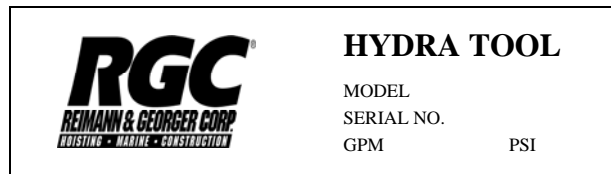


Figure 2-1.
Typical Pole Tamper Product Nameplate

MODEL _____

SERIAL NUMBER _____

3 OPERATION

3.1 BEFORE OPERATING THE POLE TAMPER

1. Every tool has a maximum operating flow and pressure which, if exceeded, is a potential cause of damage to the tool or hydraulic power source. Check the power supply's flow and pressure output against the tool's requirements.
2. Read and fully understand the operating manual for the hydraulic power source being used.



CAUTION:

THE HYDRAULIC POWER SOURCE MUST BE COMPATIBLE WITH OPEN CENTER TOOLS.

3. Clear the working area of all unauthorized personnel. Place barricades or secure the area in such a manner that no personnel would be injured by the use of the tool or by equipment failure.
4. Ensure all personnel are using the appropriate safety equipment as defined by the employer.
5. Use caution when refueling a gasoline driven hydraulic power source. Make sure the gas caps on the hydraulic power source and fuel can are properly tightened. Move the hydraulic power source at least 10 feet from the fueling point before starting the engine.
6. Before using the pole tamper, check for live electrical wiring near or imbedded in the work site.

3.2 CONNECTION TO HYDRAULIC POWER SOURCE

1. The recommended hose diameter for the supply and return line is 3/8 to 1/2 inch I.D. The hose must have a minimum working pressure rating of 2500 psi (175 bar).
2. To protect the tool from excessively high pressure, the pressure relief valve of the hydraulic power source must be set at 2000 psi (137.9 bar). If this is not possible, connection can be made by installing a separate pressure relief valve set at 2000 psi (137.9 bar). If in doubt, contact your dealer.
3. The back pressure (return line pressure) of the tool should be as low as possible and must not exceed 200 psi (13.8 bar) measured at the tool. If this pressure is exceeded, the tool will not operate properly.
4. Always stop the hydraulic power source flow, depressurize the system, and allow the system and hydraulic fluid to cool before making any connections.
5. Before making any hydraulic connections, inspect all hoses for leaks and risks of rupture as follows:
 - a. Inspect each hose for breaks, cracks, worn spots, bulges, chemical attack, kinks or any other damage. Never stop any detected leak with your hand or fingers. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil.
 - b. Replace a damaged hose immediately. Never repair the hose.
6. The return (tank) hose connection should always be made before the supply (pressure) hose connection to prevent pressure build-up inside the tool that could cause personal injury.
7. Flush-face quick-release couplings that are durable and very easy to clean are provided as an option. To prevent contamination, wipe the mating surfaces of the couplings with a clean rag before connecting. They are always fitted such that the male part gives oil and the female part receives oil.
8. Connect the return (tank) hose from the power source (port "T") to the tool OUT port

9. Connect the supply (pressure) hose from the power source (port “P”) to the tool IN port
10. If the oil flow cannot be adjusted by lowering the gpm, a flow divider must be installed. This will insure the tool receives the correct oil flow and excess oil is returned to the tank.
11. The hydraulic power source must be fitted with a return line oil filter with a nominal filter rating of 10 - 25 microns.

3.3 TAMPING PROCEDURE



WARNING:

DO NOT USE THE POLE TAMPER AS A PRY BAR, CANTHOOK, OR ANYTHING ELSE NOT IN ACCORDANCE WITH THE MANUFACTURER’S SPECIFICATIONS. THIS WILL VOID THE WARRANTY AND CAUSE PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

1. When installing a tamper shoe, insure that neither the shoe or the tool is hot. Remove any accumulated dirt or contamination before installation. Check that the shoe is properly installed and in good condition.
2. Insure the hydraulic hoses are connected from the power supply to the tool as described in Section 3.2.
3. When lifting the pole tamper to start the procedure, observe the following precautions:
 - a. Be sure of your footing.
 - b. Keep hands off trigger to avoid accidental operation.
 - c. Bend your knees and lift with your legs.
 - d. Hold pole tamper close to your body when lifting.
4. Grasp the trigger handle with one hand. Place your opposite hand midway down the hydraulic pole tamper shaft.
5. Start the hydraulic power source. Allow it to run idle for a few minutes to warm hydraulic reservoir fluid.
6. Place the tamper shoe in the area to be compacted. Start the tool by squeezing the trigger. NEVER lock the trigger in the ON position. Keep all body parts away from all moving parts of the tool.
7. Allow the tamper to perform the work without exerting downward pressure.
8. To stop the tool, release the trigger.

3.4 PREPARING TAMPER FOR SHUTDOWN

1. After the tamper ram has stopped, lay the tool on a flat surface. Do not lay the tool with the trigger downwards.
2. When not using the tamper, stop the power source flow to reduce heat and wear on the tool components and avoid accidental starting of the tamper.
3. Always stop the hydraulic power source, depressurize the hydraulic system, and allow the system and hydraulic fluid to cool before disconnecting hydraulic hoses.



WARNING:

NEVER DISCONNECT OR REMOVE HYDRAULIC COMPONENTS, HOSES, LINES, OR FITTINGS WHILE THE POWER SOURCE IS RUNNING, PRESSURIZED OR WHENEVER THE HYDRAULIC FLUID IS HOT.

LIQUID UNDER HIGH PRESSURE CAN PIERCE THE SKIN, CAUSING SERIOUS INJURY OR DEATH. HOT LIQUID CAN CAUSE SERIOUS PERSONAL BURNS. IF AN INJURY OCCURS, GET IMMEDIATE MEDICAL ATTENTION.

4. Always disconnect the supply (pressure) hose from the tool before disconnecting the return (tank) hose connection to prevent pressure build-up inside the tool. Remove lines, fittings, or components slowly to release any trapped pressure.
 - a. Disconnect the supply (pressure) hose to the hydraulic power source (port “P”) from the tool (“IN” port).
 - b. Disconnect the return (tank) hose to the hydraulic power source (port “T”) from the tool (“OUT”) port.
 - c. To prevent contamination, always install dust caps over the hydraulic ports of the tool when disconnected.
5. Secure the tool and hydraulic power source to prevent unauthorized use.
6. Store the tool away from excessive heat or moisture. Store in a clean, dry area away from exposure to high humidity, liquids, or freezing temperatures.

4 INSPECTION AND MAINTENANCE

4.1 GENERAL MAINTENANCE RULES

Hydraulic fluid can become contaminated after extended periods of use, which can cause restrictions in the system. Check to see that the fluid is clean, and change at recommended intervals to extend tool's life. Refer to the respective manual for maintenance information on the hydraulic power source.

1. Proper maintenance of the pole tamper and related equipment requires timely adhering to all the guidelines given in this chapter. Proper maintenance is required to maintain the system in good condition and free of defects.
2. Review and follow all the safety rules given in Chapter 1 before attempting any maintenance.
3. Only authorized personnel should be allowed in the maintenance area. Authorized personnel are the trained people as defined below and their supervision.
4. Repairs must be made only by trained personnel. A trained person is one who has read and thoroughly understands this instruction manual and related equipment manuals and, through training and experience, has shown knowledge regarding the safe operational procedures.



WARNING:

BEFORE STARTING ANY MAINTENANCE, STOP THE HYDRAULIC POWER SOURCE, DEPRESSURIZE THE HYDRAULIC SYSTEM, AND ALLOW THE SYSTEM AND FLUID TO COOL DOWN. THEN DISCONNECT THE TOOL FROM THE POWER SOURCE TO PREVENT ACCIDENTAL STARTUP.

NEVER SERVICE OR ADJUST THE TOOL DURING OPERATION OR WHILE CONNECTED TO A HYDRAULIC POWER SOURCE.

4.2 RECOMMENDED MAINTENANCE SCHEDULE

Proper care and maintenance will maximize the service life of the tool. The maintenance schedule in the following sections is recommended.



WARNING:

FAILURE TO PERFORM REGULARLY SCHEDULED MAINTENANCE CAN LEAD TO EQUIPMENT FAILURE AND POSSIBLE PERSONAL INJURY.



CAUTION:

DO NOT PERFORM A COMPLETE DISASSEMBLY OF THIS TOOL, AS THIS WILL VOID THE WARRANTY. CONTACT REIMANN & GEORGER CORPORATION OR YOUR AUTHORIZED DEALER FOR SERVICE AND REPAIRS.

4.2.1 Daily Maintenance

1. Wipe all tool surfaces and fittings free of grease, dirt, and foreign material.
2. Clean off any accumulation of particles from beneath the trigger area. Spray with a light oil and wipe off excess.
3. Before each use, insure that all broken, worn or defective parts are repaired or replaced.
4. Inspect hydraulic hoses and couplings every day. Replace a damaged hose immediately. Never repair the hose.
5. Check that all hardware on the tool is tight.

6. Disconnect hydraulic hoses and wipe couplings clean, especially before a connection is made. This is the single most common point of entry for foreign particles which can cause premature wear of hydraulic components in the system.
7. Check the attachment of the tamper shoe to the tool. Tighten the retaining bolt if the attachment is loose or improper.

4.2.2 Monthly Maintenance

The pole tamper has exposed moving parts. Contact and pivot points of the ON/OFF actuator should be lubricated with a lithium based grease that also acts as a rust inhibitor.

4.2.3 Semi-Annual Maintenance

1. Check the function and performance of the tool.
2. Drain the hydraulic system fluid. Flush out the hydraulic system and fill with new, clean fluid. However, if the fluid turns dark or becomes milky colored before the semi-annual inspection, change it as soon as possible.
3. The lower seal and wiper are exposed to accumulation of abrasive particles of dirt, sand, and gravel chips. Replacement of seals and wipers before leakage occurs will prevent foreign particles from damaging the output shaft, extending the shaft's life.

5 TROUBLESHOOTING

5.1 LOCATING THE PROBLEM AREA

If the tool does not operate, the problem is either in the tool, the hoses, or the hydraulic power source. Locate the problem area as follows:

1. Stop the hydraulic power source.
2. Disconnect the existing tool from the hoses and hydraulic power source.
3. Connect a known working tool to the hoses and hydraulic power source.
 - a. If the known working tool operates, the problem is in the disconnected tool. See the troubleshooting chart in Section 5.2.
 - b. If the known working tool does not operate, the problem is probably in the hose or hydraulic power source. Proceed to Step 4.
4. Stop the hydraulic power source.
5. Disconnect the existing hoses from the known working tool and hydraulic power source.
6. Connect a different set of hoses to the known working tool and hydraulic power source.
 - a. If the known working tool operates with the different set of hoses, the problem is in the disconnected hoses.
 - b. If the known working tool does not operate, the problem is in the hydraulic power source. See the hydraulic power source operating manual for troubleshooting.

5.2 TROUBLESHOOTING THE TOOL

The following chart is intended to assist with troubleshooting the tool. While not all inclusive, the chart outlines the most common causes of a problem and the recommended course of action.



WARNING:

NEVER SERVICE OR ADJUST THE TOOL DURING OPERATION OR WHILE CONNECTED TO A HYDRAULIC POWER SOURCE.



WARNING:

BEFORE STARTING ANY MAINTENANCE, STOP THE HYDRAULIC POWER SOURCE, DEPRESSURIZE THE HYDRAULIC SYSTEM, AND ALLOW THE SYSTEM AND FLUID TO COOL DOWN. THEN DISCONNECT THE TOOL FROM THE POWER SOURCE TO PREVENT ACCIDENTAL STARTUP.



CAUTION:

DO NOT PERFORM A COMPLETE DISASSEMBLY OF THIS TOOL, AS THIS WILL VOID THE WARRANTY. CONTACT REIMANN & GEORGER CORPORATION OR YOUR AUTHORIZED DEALER FOR SERVICE AND REPAIRS.

SYMPTOM	CAUSE	CORRECTIVE ACTION
Tool inoperative	<p>Tool connected to improper hydraulic system.</p> <p>Tool not properly connected.</p> <p>No hydraulic fluid in system or fluid level low.</p> <p>Tool parts loose.</p> <p>Shuttle spool not shifting.</p> <p>Piston jammed.</p>	<p>See Chapter 2 for type of hydraulic system required. Verify hydraulic power system.</p> <p>Check type of hydraulic power source which must be open center.</p> <p>Check pressure and return connects and disconnects.</p> <p>Check fluid level. Fill to full mark. Check system for leaks.</p> <p>Tighten component hardware.</p> <p>Shuttle spool may be sticking. Do not disassemble tool. Contact Reimann & Georger Corporation or your authorized dealer for assistance.</p> <p>Tool will require disassembly to see if piston is free. Contact Reimann & Georger Corporation or your authorized dealer for assistance.</p>
Tamper extends, but will not retract.	<p>Tamper connected in reverse.</p> <p>Low fluid volume and pressure.</p>	<p>Check hydraulic power source connections as described in Section 3.2.</p> <p>Inlet pressure must be above 700 psi.</p>
Tamper hits out and bangs on down stroke, or extends out.	Fluid supply too high.	See chapter 2 for requirements.
Tool operates erratically.	Leak in system.	Tighten fittings. Inspect all hoses for leaks as described in Section 3.2. REPLACE A LEAKING HOSE IMMEDIATELY. NEVER TRY TO REPAIR IT.
Tool operates slowly.	<p>Low flow or pressure</p> <p>Hydraulic fluid level low.</p> <p>Hydraulic fluid viscosity too heavy.</p> <p>Tool parts loose.</p> <p>Contaminated hydraulic system.</p> <p>Inappropriate hydraulic system.</p>	<p>Refer to hydraulic power source operator's manual for recommended flow, pressure, and proper conditions.</p> <p>Check fluid level. Fill to full mark. Check system for leaks.</p> <p>Use fluid viscosity recommended. See Section 2.4.</p> <p>Tighten component hardware.</p> <p>Remove contamination and clean hydraulic system.</p> <p>Check type of hydraulic power source which must be open center.</p>

Tool runs too fast.	Relief valve blocked or contaminated. Excessive pressure or flow.	Check relief valve. Clean or replace as necessary. Check that correct hydraulic power source is being used. Adjust hydraulic power supply as described in its manual.
Tool feels hot.	Inefficient cooling. Power source heat exchanger malfunctioning. Hydraulic fluid level low. Hydraulic fluid dirty. Excessive flow Relief valve cracking point set too low.	Increase reservoir size and/or add oil cooler. Refer to hydraulic power source operator's manual. Check fluid level. Fill to full mark. Check system for leaks. Drain reservoir, flush and fill with clean fluid. Change filter. Refer to hydraulic power source operator's manual for proper adjustment of flow. Set relief valve to crack at 100 psi minimum over the operating pressure of the tamper.
Actuation trigger sticks.	Excessive flow. Broken spring. Contamination present.	Check trigger and sleeve spool for binding. Replace spring. Clean sleeve and spool. Check hydraulic system.
Tool trigger plunger sticks or works hard.	Check for dirt or deposits. Trigger binding (trigger bent, trigger pivot pin too tight).	Clean components. Inspect-adjust trigger where binding occurs.
Oil leaks from trigger area.	Damaged O-rings in spool.	Replace O-rings.
Tool leaks hydraulic fluid.	Tool parts loose. Loose or damaged O-rings or gaskets.	Tighten component hardware. Replace worn or damaged O-rings or gaskets.

6 PARTS LIST

The following parts list applies to the Pole Tamper only. The parts list for the hydraulic power source is in the separate manual supplied for this item. Each item number on the following parts list can be matched with the item number shown on the Figure 6-1 assembly drawing.

Item Number	Part Number	Quantity	Description
1	LPHT709009	1	VALVE BODY
2	LPHT456977	1	TRIGGER
3	LPHT456886	1	O-RING 017
4	LPHT456966	1	CAP-RETAINER
5	LPHT272067	1	SPOOL
6	LPHT401273	2	O-RING 010
7	LPHT456967	1	RETAINING RING
8	LPHT456969	1	NUT
9	LPHT456010	1	SPRING
10	LPHT456008	1	PIN
11	LPHT272064	1	RING
12	LPHT456965	1	TUBE, 5' TAMP
	LPHT456976		TUBE, 6' TAMP
14	LPHT711023	2	TUBE, 5' TAMP
	LPHT711024		TUBE, 6' TAMP
15	LPHT456978	2	GROMMET
16	LPHT456963	1	CONNECTOR, TUBE
17	LPHT456004	3	SCREW SHS 5/16 X 24 X 1-1/4
18	LPHT455942	4	O-RING 113
19	LPHT401272	8	O-RING 012
	LPHT456968	1	MANIFOLD (SEE ITEMS #14 & #15)
20	LPHT455998	1	O-RING 021
21	LPHT458289	1	CYLINDER LINER
22	LPHT458290	1	SPOOL REVERSING
23	LPHT458291	1	PISTON
24	LPHT383053	1	BODY
25	LPHT458292	1	CAP
26	LPHT456005	1	SPRING
27	LPHT710575	1	HOUSING VALVE (SEE ITEM #29)
28	LPHT458293	1	CAP
29	LPHT255999	4	O-RING 018
30	LPHT383063	1	ROD
31	LPHT456000	1	O-RING 932
32	LPHT458294	1	HEAD, ROD SEAL
33	LPHT458295	1	SEAL, U-CUP, ROD
34	LPHT383059	1	PACKING NUT
35	LPHT456296	1	WIPER, ROD
36	LPHT456001	1	RETAINING RING
37	2355897	1	KIDNEY SHOE
	2355898	1	ROUND SHOE
	2355899	1	RECTANGLE SHOE
38	LPHT401621	1	3/8 WASHER
39	LPHT455326	1	SCREW HHCS 7/16 X 20 X 1-1/2
40	LPHT400783	4	SCREW SHCS 1/4 X 20 X 7/8
41	LPHT456973	1	CAP (VALVELESS MODEL)
42	LPHT457040	1	SET SCREW
43	LPHT458297	1	SNUBBER
44	LPHT458298	6	O-RING 112
	LPHT790236		SEAL AND WIPER KIT
	7490248		SEAL KIT WITH VALVE

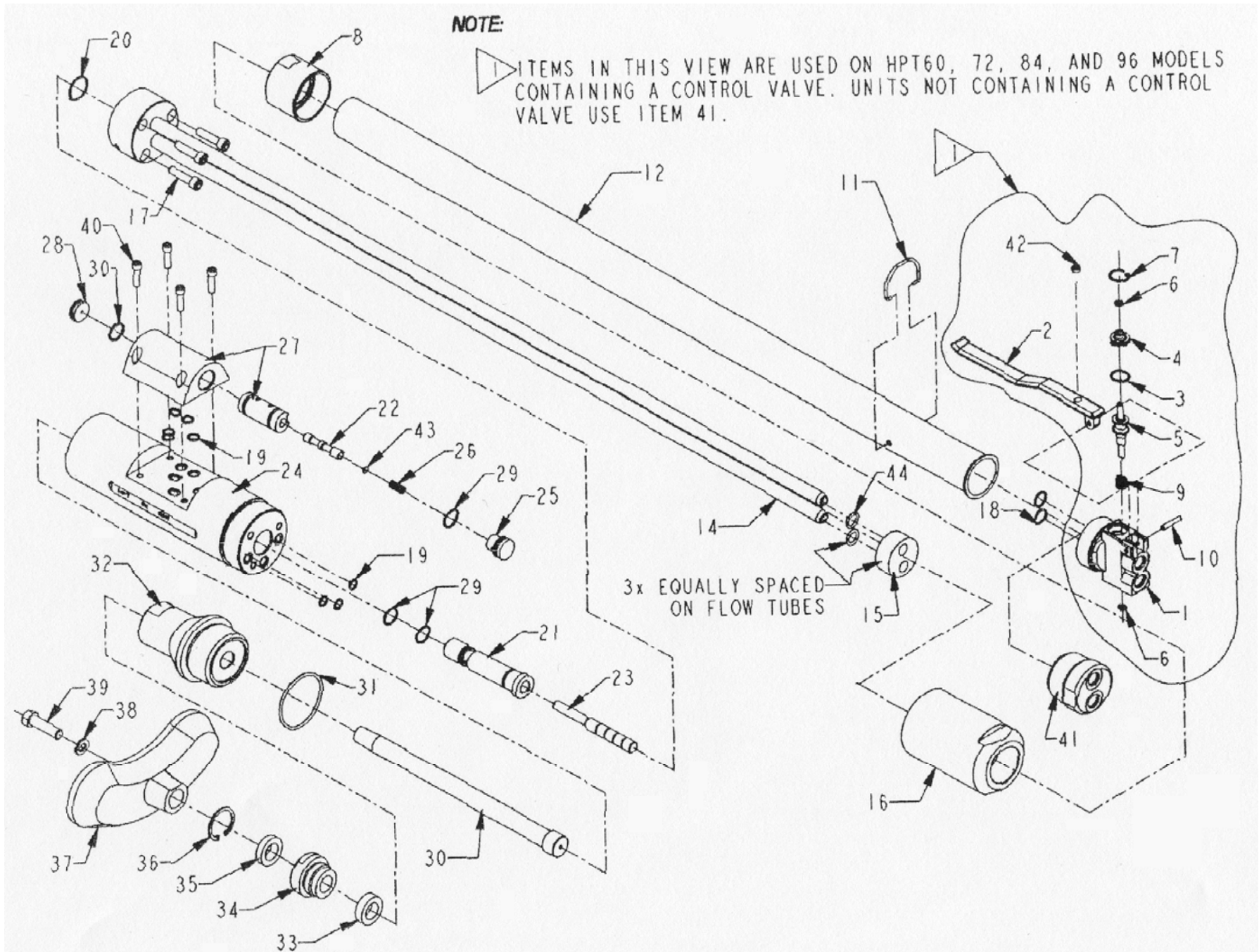


Figure 6-1.
Pole Tamper Assembly

LIMITED PRODUCT WARRANTY

**Reimann & Georger Corporation
Hoisting and Construction Products**

A. LIMITED WARRANTY

Reimann & Georger Corporation (the "Manufacturer") warrants to the original purchaser (the "Buyer") that all Reimann & Georger Hoisting and Construction products shall be free of defects in material and workmanship for a period of one (1) year from date of original purchase.

B. MANUFACTURER'S OBLIGATIONS

The Manufacturer's sole obligation under this Limited Warranty is the repair or, at the Manufacturer's discretion, the replacement of parts found to be defective. Parts and equipment must have authorization from the Manufacturer prior to return to the Manufacturer or repair by an authorized service person. Costs of transportation and other expenses connected with replacing or repairing parts are not covered under this Limited Warranty.

C. PARTS MANUFACTURED BY OTHERS

This Limited Warranty does not cover any parts manufactured by others. Such parts are subject to the warranty, if any, of their respective manufacturers, and are to be repaired only by a respective authorized service person for such parts. The Manufacturer shall have no obligation to undertake repairs of parts manufactured by others.

D. NO SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES

IN NO EVENT SHALL THE MANUFACTURER BE LIABLE TO THE BUYER OR ANY OTHER PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSSES OR DAMAGES CONNECTED WITH THE USE OF THE PRODUCT UNDER THIS LIMITED WARRANTY. SUCH DAMAGES FOR WHICH THE MANUFACTURER SHALL NOT BE RESPONSIBLE INCLUDE, BUT ARE NOT LIMITED TO, LOST TIME AND CONVENIENCE, LOSS OF USE OF THE PRODUCT, THE COST OF A PRODUCT RENTAL, COSTS OF GASOLINE, TELEPHONE, TRAVEL, OR LODGING, THE LOSS OF PERSONAL OR COMMERCIAL PROPERTY, AND THE LOSS OF REVENUE.

E. NO LIABILITY IN EXCESS OF PURCHASE PRICE

IN NO EVENT SHALL THE MANUFACTURER'S OBLIGATIONS UNDER THIS LIMITED WARRANTY EXCEED THE PURCHASE PRICE OF THE PRODUCT.

F. NO EXTENSION OF STATUTE OF LIMITATIONS

ANY REPAIRS PERFORMED UNDER THIS WARRANTY SHALL NOT IN ANY WAY EXTEND THE STATUTES OF LIMITATIONS FOR CLAIMS UNDER THIS LIMITED WARRANTY.

G. WAIVER OF OTHER WARRANTIES

THE EXPRESS WARRANTIES SET FORTH IN THIS LIMITED WARRANTY ARE IN LIEU OF AND EXCLUDE ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

H. PROCEDURE FOR WARRANTY PERFORMANCE

If the product fails to perform to the Manufacturer's specifications, the Buyer must provide the Manufacturer with the applicable model and serial numbers, the date of purchase, and the nature of the problem.

I. ADDITIONAL EXCLUSIONS FROM THIS LIMITED WARRANTY. THIS LIMITED WARRANTY DOES NOT COVER ANY OF THE FOLLOWING:

1. Equipment which has been abused, damaged, used beyond rated capacity, or repaired by persons other than authorized service personnel.
2. Damage caused by acts of God which include, but are not limited to, hailstorms, windstorms, tornadoes, sandstorms, lightning, floods, and earthquakes.
3. Damage under conditions caused by fire or accident, by abuse or by negligence of the user or any other person other than the Manufacturer, by improper installation, by misuse, by incorrect operation, by "normal wear and tear", by improper adjustment or alteration, by alterations not completed by authorized service personnel, or by failure of product parts from such alterations.
4. Costs of repairing damage caused by poor or improper maintenance, costs of normally scheduled maintenance, or the cost of replacing any parts unless done as the result of an authorized repair covered by the one (1) year Limited Warranty.
5. Costs of modifying the product in any way once delivered to the Buyer, even if such modifications were added as a production change on other products made after the Buyer's product was built.

J. NO AUTHORITY TO ALTER THIS LIMITED WARRANTY

No agent, representative, or distributor of the Manufacturer has any authority to alter the terms of this Limited Warranty in any way.