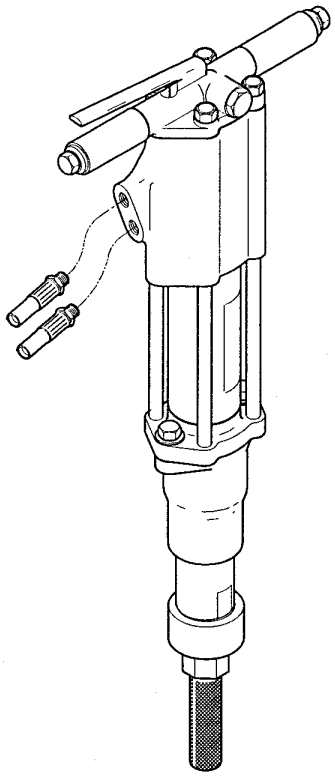
GD48

HYDRAULIC GROUND ROD DRIVER



Safety, Operation and Maintenance Manual

⚠ DANGER

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

Focused on performance™

STANLEY® Hydraulic Tools

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INDEX

SERVICING GD48 GROUND ROD DRIVERS: This manual contains safety, operation, and detailed maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

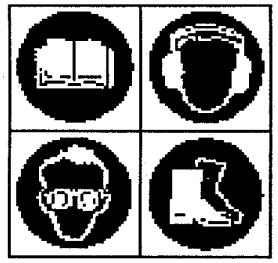
⚠ DANGER

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at one of the numbers listed on the back of this manual and ask for a Customer Service Representative.

SAFETY PRECAUTIONS



Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided on page 3.

GENERAL SAFETY PRECAUTIONS

The GD48 Hydraulic Ground Rod Driver will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hoses before operation. Failure to do so could result in personal injury or equipment damage.

- Operator must start in a work area without bystanders. The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Always check for underground utility service lines and overhead obstructions before operation. Personal injury or death may result from contact with underground services such as electrical, gas, or flammable liquid lines.
- Be aware of overhead hazards. Contact with energized electric lines may cause personal injury or death. Contact with obstructions may make handling of the tool difficult and loss of control may cause injury.
- Establish a training program for all operators to ensure safe operation.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, ear and head protection, and safety shoes at all times when operating the tool.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Always connect hoses to the tool hose couplers before energizing the hydraulic power source. Be sure all hose connections are tight.
- Do not operate the tool at oil temperatures above 140°F/60°C. Operation at higher oil temperatures can cause higher than normal temperatures at the tool which can result in operator discomfort.
- Do not operate a damaged, improperly adjusted, or incompletely assembled tool.
- Always hold the tool with both hands when the unit is running. Use a firm grip.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

SAFETY SYMBOLS

Safety symbols are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.

DANGER

This safety symbol may appear on the tool. It is used to alert the operator of an action that could place him/her or others in a life threatening situation.

⚠ WARNING

This safety symbol appears in these instructions to identify an action that could cause bodily injury to the operator or other personnel.

IMPORTANT

Always observe safety symbols. They are included for your safety and for the protection of the tool.

LOCAL SAFETY REGULATIONS

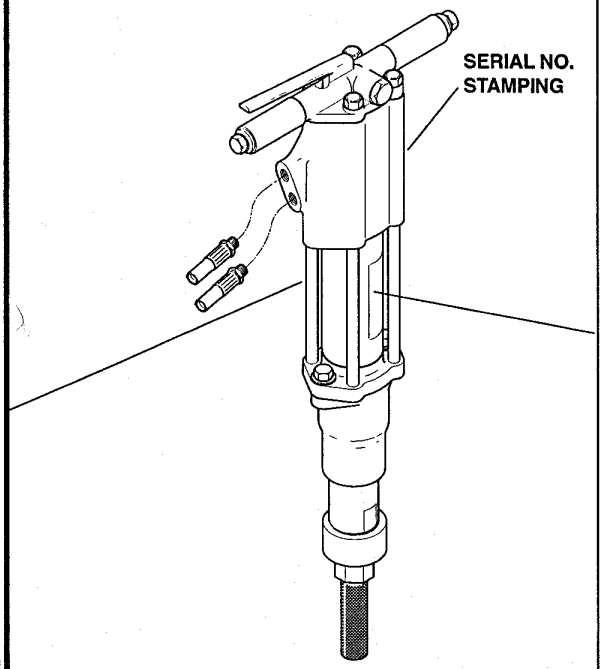
Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

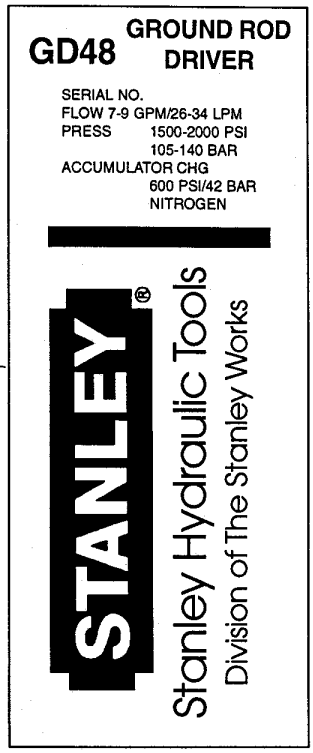
EQUIPMENT PROTECTION & CARE

- Always store an idle tool in a clean dry space, safe from damage or pilferage.
- Do not exceed the rated limits or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as lables and warning stickers legible.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/175 bar.
- Permit only experienced personnel to perform tool repair.
- Be sure to wipe all couplers clean before connecting. Use only lint-free cloths.
- The hydraulic circuit control valve must be in the "OFF" position when coupling or uncoupling the tool. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Check fastener tightness often and before each use daily.

TOOL STICKERS & TAGS

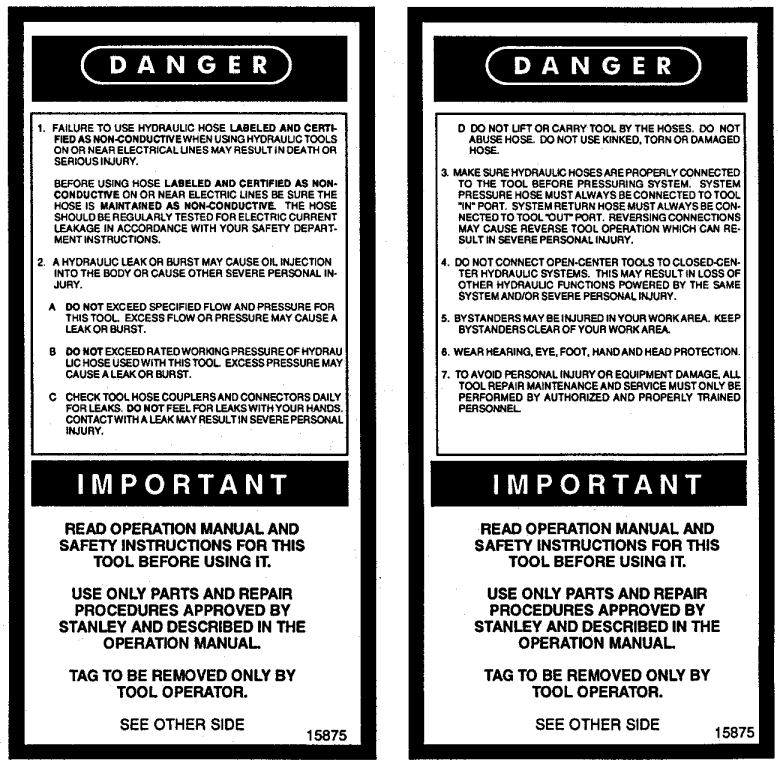
DANGER STICKER p/n 19693





NAME TAG p/n 31238

The safety tag (p/n 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.



SAFETY TAG P/N 15875(shown smaller then actual size)

HYDRAULIC HOSE REQUIREMENTS

HOSE TYPES

Hydraulic hose types authorized for use with Stanley Hydraulic Tools are as follows:

❶ Certified non-conductive

❷ Wire-braided (conductive)

❸ Fabric-braided (not certified or labeled non-conductive)

Hose ❶ listed above is the only hose authorized for use near electrical conductors.

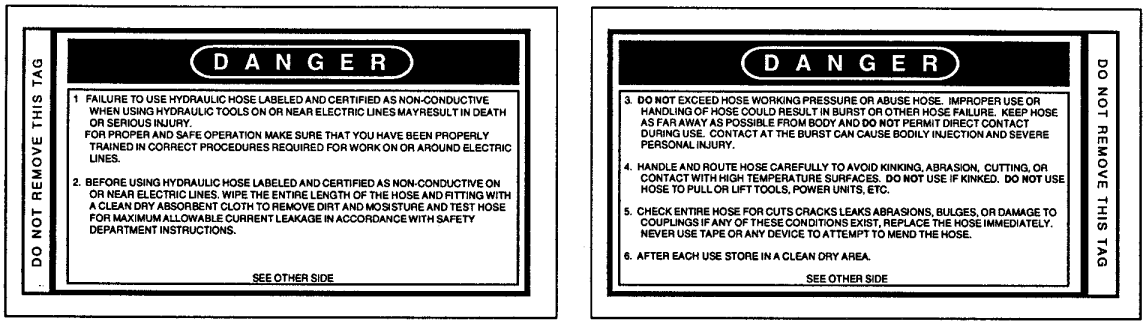
Hoses ❷ and ❸ listed above are **conductive** and **must never** be used near electrical conductors.

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. DO NOT REMOVE THESE TAGS.

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained at no charge from your Stanley Distributor.

❶ CERTIFIED NON-CONDUCTIVE HOSE

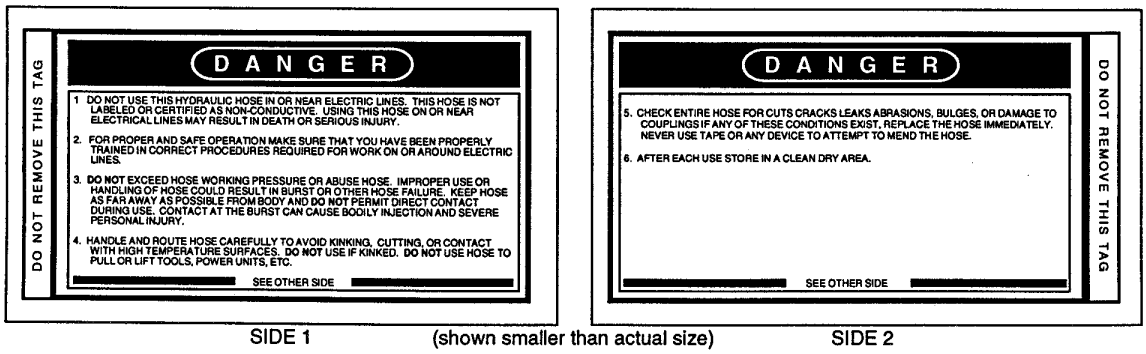
This tag is attached to all certified **non-conductive** hose.



SIDE 1 (shown smaller than actual size) SIDE 2

❷ AND ❸ WIRE-BRAIDED AND FABRIC-BRAIDED (NOT CERTIFIED OR LABELED NON-CONDUCTIVE) HOSE

This tag is attached to all **conductive** hose.



SIDE 1 (shown smaller than actual size) SIDE 2

HOSE PRESSURE RATING

The rated working pressure of the hydraulic hose **must be equal or higher than** the relief valve setting on the hydraulic system.

HYDRAULIC SYSTEM REQUIREMENTS

• The hydraulic system should provide a flow of 7-9 gpm/26-34 lpm at an operating pressure of 2000 psi/140 bar. Recommended relief valve setting is 2100-2250 psi/145-155 bar.

• The system should have no more than 250 psi/17 bar backpressure measured at the tool end of the operating hoses. The system conditions for measurement are at maximum fluid viscosity of 400 ssu/82 centistokes (minimum operating temperatures).

• The hydraulic system should have enough heat rejection capacity to limit the maximum oil temperature to 140°F/60°C at the maximum expected ambient temperature.

• The hydraulic system should have a minimum of 25 micron filtration. Recommend using filter elements sized for a flow of at least 30 gpm/114 lpm for cold temperature startup and maximum dirt holding capacity.

• The hydraulic fluid used should have a viscosity between 100 and 400 ssu/20 and 82 centistokes at the maximum and minimum expected operating temperatures. Petroleum base hydraulic fluids with antiwear properties and a viscosity index over 140 ssu/28 centistokes will meet the recommended requirements over a wide range of operating temperatures.

• The recommended hose size is .500 inch/12 mm I.D. up to 50 ft/15 m long and .625 inch/16 mm I.D. minimum up to 100 ft/30 m long.

• Quick disconnect couplings must conform to NFPA T3.20,15/EHTMA specifications.

OPERATION

PREOPERATION PROCEDURES

• PREPARATION FOR INITIAL USE

Each unit as shipped has no special unpacking or assembly requirements prior to usage. Attaching hoses and couplings and Inspection to assure the unit was not damaged in shipping and does not contain packing debris is all that is required.

• CHECK HYDRAULIC POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7-9 gpm/26-34 lpm at 1500-2000 psi/105-140 bar.

2. Make certain the hydraulic power source is equipped with a relief valve set to open at 2100-2250 psi/145-155 bar minimum.

3. Check that the hydraulic circuit matches the tool for open-center (OC) operation.

• CHECK TOOL

1. There should be no signs of leaks.

2. The tool should be clean, with all fittings and fasteners tight.

• CHECK TRIGGER MECHANISM

1. Check that the trigger operates smoothly and is free to travel between the "ON" and "OFF" positions.

• CONNECT HOSES

1. Wipe all hose couplers with a clean lint-free cloth before making connections.

2. Connect the hoses from the hydraulic power source to the hose couplers on the tool. It is a good practice to connect the return hose first and disconnect it last to minimize or avoid trapped pressure within the tool.

3. Observe flow indicators stamped on hose couplers to be sure that oil will flow in the proper direction. The female coupler is the inlet coupler.

NOTE: The pressure increase in uncoupled hoses left in the sun may result in making them difficult to connect. When possible, connect the free ends of operating hoses together.

INSTALLING GROUND ROD

4. The tool will accomodate 1/2 and 5/8 inch diameter galvanized or copper clad steel ground rod.

5. Wipe the rod clean before inserting it into the tool.

6. Insert the rod into the hole in the top of the tool and slide it down until approximately 18 inches/45 cm projects beyond the cage end of the tool. The tool is now ready to drive the rod.

NOTE: Make sure ground rod couplings are not installed on the top of the rod. Couplings are too large to pass through the tool.

7. If too much rod extends beyond the cage end of the tool, grip the knurled handle of the cage and pull it away from the tool. This releases the tools' grip on the rod and the rod may now be repositioned.

OPERATING PROCEDURES

The ground rod driver grips the ground rod with 12 steel balls contained in a cone shaped cage (*see the parts illustrations*). During operation, the cage is forced upward into the ram which, in turn, forces the steel balls against the ground rod. The force of the steel balls against the ground rod will leave impressions in the rod. These impressions do not affect the grounding properties of the rod.

1. Observe all safety precautions.

2. Move the hydraulic circuit control valve to the

"ON" position.

3. Pick the tool up and position it in a vertical position. Move the tool with the rod until the rod is positioned firmly against the ground where you want to drive it.

5. Squeeze the trigger to start the tool. Adequate down pressure is very important.

NOTE: Partially depressing the trigger allows the tool to operate at a slow speed, making it easy to start the rod into the ground surface.

6. Drive the rod down until the cage end of the tool is close to the ground level. Stop the tool by releasing the trigger and then lift the tool up (*the rod will automatically be released*) to the desired height where you can easily operate the tool and continue driving the rod.

ADDING GROUND RODS

Rods With Threaded Couplings

7. Another rod can be added to the one already driven into the ground by performing the following steps.

a. Lift the tool off of the driven rod and lay the tool on its side.

b. Install a coupling onto the top of the driven rod.

c. Slide a new, wiped clean, rod into the top of the tool until it extends approximately 3 inches/7.5 cm out the cage end of the tool.

d. Lift the tool with rod onto the driven rod and then turn the rod in the tool to thread it into the coupling on the driven rod.

e. After the new rod is threaded into the coupling, lift the tool to the desired height where you can easily operate the tool and resume driving the rods.

Rods With Pinned Joints

8. Another rod can be added to the one already driven into the ground by performing the following steps.

a. Lift the tool off of the driven rod and lay the tool on its side.

b. Insert pin into the rod in the ground.

c. Slide a new, wiped clean, rod into the top of the tool until it extends approximately 3 inches/7.5 cm out the cage end of the tool.

d. Lift the tool with rod onto the driven rod and resume driving the rod.

SOME NOTES ON DRIVING GROUND RODS

- Avoid continual driving if the rod resists movement. The rod may be against an obstruction and cannot be driven any further.
- As much as possible, avoid driving the cage end of the GD48 into the ground. Especially in extreme muddy conditions.
- Different soil conditions result in unpredictable rod driving speeds. Be prepared for unexpected downward motion of the tool which might occur in loose soils such as sand or silt.
- Avoid operating the GD48 when a rod is not installed.

COLD WEATHER OPERATION

If the tool is to be used during cold weather, preheat the hydraulic fluid at low engine speed. When using the normally recommended fluids, fluid temperature should be at or above 50° F/10° C (400 ssu/82 centistokes) before use.

SERVICE INSTRUCTIONS

Good maintenance practices will keep the tool on the job and increase its service life.

A very important maintenance practice is to keep the hydraulic fluid clean at all times. Contaminated hydraulic fluid causes rapid wear and/or failure of internal parts.

Follow the procedures contained in the HYDRAULIC SYSTEM REQUIREMENTS section of this manual to ensure peak performance from the tool. Never disassemble the tool unless proper troubleshooting procedures have isolated the problem to an internal part. Then, only disassemble it to the extent necessary to replace the defective part. KEEP CONTAMINANTS SUCH AS DIRT AND GRIT AWAY FROM INTERNAL PARTS AT ALL TIMES.

Always determine and correct the cause of the problem prior to reassembly. Further wear and tool failure can result if the original cause is not corrected.

DISASSEMBLY

PRIOR TO DISASSEMBLY

• Clean the exterior of the tool.

• Obtain a seal kit to replace all seals exposed during disassembly. Note the orientation of seals before removing them. Install new seals in the same position as original seals.

HANDLE, ACCUMULATOR VALVE BLOCK & ACCUMULATOR DISASSEMBLY

1. Secure the tool in a bench vise, with the "IN" and "OUT" ports up, clamping on the flow sleeve tube between the side rods. Soft vise jaws are recommended.

2. Remove the pigtail hose assemblies.

Note: The tool is full of fluid and will drip from the ports when the hoses are removed.

3. Remove the SAE plug (29) from the top of the handle. Discharge the accumulator completely.

4. Unscrew and remove the two capscrews (47) and washers (46). Remove the guide housing (59), ram (58), cage (63) with steel balls, spring (64) and ram nut (65) as an assembly. Remove the ram stop (56) and spring (57) and set aside.

5. Tap out the roll pin (3) and lift out the trigger (4) with ball joint (5).

6. Remove the four side rod nuts (1). Lift off the handle (6), with handle tubes (31), handle grips (32), handle plugs (33) and capscrews (30) as an assembly.

7. Inspect the bottom of the handle or the top of the accumulator for the presence of the tube coupling (26). Remove it by gripping the inside of the tube with external set retaining ring pliers.

8. Pull out the on/off valve spool (7) and then pick out the seal insert (11).

9. Using a plastic or rubber hammer, tap on the bottom edges of the accumulator valve block (24) to remove it from the flow sleeve tube. Be careful to ensure that the washer (37), automatic valve body (40), valve (40) and push pins (41) do not fall out during this step. After the valve block is removed, pick out the valve, push pins, automatic valve body and washer and set them aside.

NOTE: If the automatic valve body remains in the valve block, it and the washer can be removed in step 12. If the automatic valve body remains in the flow sleeve tube (49), it can be removed in steps under "AUTOMATIC VALVE, VALVE BODY & FLOW SLEEVE TUBE DISASSEMBLY" later in this section.

10. Remove the piston from the flow sleeve and set it aside.

11. Using a plastic or rubber hammer, tap on alternate ends of the side rods to remove the adaptor block (55).

ACCUMULATOR DISASSEMBLY

12. Clamp the valve block (24) in a vice with soft jaws and complete the following steps.

a. Obtain a 1 inch or 24 mm socket and long extension. Place an aluminum or brass disk over

the top of the accumulator chamber and tap on the extension to drive the accumulator out of the valve block. If the automatic valve body is in the valve block, it will be driven out in this step. Make sure the washer (37) is properly located in its counterbore before driving the accumulator and automatic valve body out.

b. If the accumulator cylinder (20) stays in the valve block after driving out the accumulator chamber, it can be removed using the accumulator cylinder puller (part no. 05640) which seats on the inside lower contour of the accumulator cylinder. Using a socket and extension, tap on the cylinder puller to drive the accumulator cylinder out.

c. If the cylinder, chamber and diaphragm are removed from the valve block as an assembly, the chamber and diaphragm can be removed from the cylinder by placing the assembly on special disassembly tools - split ring (part no. 19512) and flow sleeve removal tube (part no. 04910).

IMPORTANT

Use a rag in the bottom of the removal tube to protect the flow sleeve when it drops out.

Drive the chamber and diaphragm out by tapping with a plastic hammer or pushing with an arbor press on the top end of the accumulator chamber. Make sure the top of the chamber is protected with an aluminum or brass disk.

AUTOMATIC VALVE, VALVE BODY & FLOW SLEEVE TUBE DISASSEMBLY

1. If the automatic valve body (40) remains in the flow sleeve tube, complete the following steps.

a. Place the split rings (p/n 04908) between the automatic valve body and flow sleeve tube.

b. Place the flow sleeve assembly (with split rings in place) on the flow sleeve removal tube (p/n 04910) with the automatic valve body down.

c. Using an arbor press and an aluminum disc or accumulator cylinder puller (p/n 05640) to protect the flow sleeve, push on the flow sleeve (45) to remove the automatic valve body.

IMPORTANT

Use a rag in the bottom of the removal tube to protect the automatic valve body when it drops out.

e. The automatic valve body, automatic valve (35), four 5/16 x 2-inch/8 mm x 51 mm push pins (42) from the flow sleeve and two 3/16 x 1-1/4 inch/5 mm x 32 mm push pins (41) from the automatic valve body will come out.

2. Remove the flow sleeve from the flow sleeve tube (49) as follows:

a. Place the split ring (p/n 04908) on top of the flow sleeve removal tube (p/n 04910).

b. Place the flow sleeve tube assembly on top of the split rings.

c. With an arbor press, and an aluminum disc or accumulator cylinder puller (p/n 05640) to protect the flow sleeve, push the flow sleeve out of the tube.

IMPORTANT

Use a rag in the bottom of the removal tube to protect the flow sleeve when it drops out.

RAM & CAGE DISASSEMBLY

1. Place a 2-1/2 inch open end wrench over the flats on the ram and a 2 inch open end wrench over the hex flats on the ram nut (65). Unscrew the ram nut from the ram (counter clockwise). It may be necessary to use heat, a propane torch, to release the thread adhesive.

2. Pull the cage and spring (62) out of the ram being carefull to catch the steel balls (60, 61, and 62).

3. Push the ram out of the guide housing.

ASSEMBLY

PRIOR TO ASSEMBLY

- Clean all parts with a degreasing solvent.
- Ensure that all seals exposed during disassembly

are replaced with new parts.

• Apply clean grease or o-ring lubricant to all parts during assembly.

• Obtain a seal kit so that all seals exposed during disassembly can be replaced. **Note:** For orientation of parts identified in the following procedures, see the parts illustration.

HANDLE, AUTOMATIC VALVE, FLOW SLEEVE & ACCUMULATOR ASSEMBLY

1. Apply grease and install the rod wiper (54), seal washer (53), and the rod seal (52) (lips facing up) into the adaptor block (55). Apply grease and install the o-ring (51). Set this assembly aside.

2. Apply oil to the outside of the flow sleeve (45) and install it into the flow sleeve tube (49). Orientation is as shown in the parts illustration. The flow sleeve has a wide groove around the outside of one end. Install this end first.

3. Place the flow sleeve and flow sleeve tube on top of the adaptor block and push on the flow sleeve tube until the tube covers the o-ring on the adaptor block and bottoms against the step on the adaptor block.

4. Apply grease and install the o-ring (39) onto the flow sleeve tube.

5. Apply lubricant and install 4 push pins (42) into the holes in the top of the flow sleeve. One end of each push pin contains a machined surface. This surface must be facing up as each push pin is installed. Each push pin must slide freely in or out of the hole in the flow sleeve. If a push pin does not slide freely or seems to stick, the hole may contain contamination or the top edge of the hole contains a burr. Remove burrs with a deburring tool, clean the hole thoroughly and try the push pin again.

6. Tap the roll pin (43) into the hole on the automatic valve body (40).

7. Apply grease and install an o-ring (39) onto the valve body.

8. Lubricate and install 2 push pins (41) into the holes in the valve body. One end of each push pin contains a machined surface. This surface must be facing up as each push pin is installed. Each push pin must slide freely in or out of the hole in the valve body. If a push pin does not slide freely or seems to stick, the hole may contain contamination or the top edge of the hole contains a burr. Remove burrs with a deburring tool, clean the hole thoroughly and try the push pin again.

9. Lubricate the automatic valve (44) and install it into the valve body. The automatic valve must freely slide back and forth. If it does not, the valve body or valve may contain contaminants or the bore of the valve body contains burrs. Remove the push pins and scrub the bore of the valve body with emery cloth and then thoroughly clean the bore, push pin holes and valve. Reinstall the push pins and valve.

10. Grasp the automatic valve body and valve so that one or more fingers are gripping the valve to prevent it and the push pins from falling out when the valve body and valve are turned upside down (roll pin facing down). Place the assembly on top of the flow sleeve making sure the roll pin aligns with the appropriate hole in the flow sleeve.

11. Lubricate the piston (38) and install it through the top of the automatic valve body into the flow sleeve.

12. Install the washer (37), smaller diameter first, over the stem of the piston and onto the automatic valve body.

ACCUMULATOR

13. Apply a light coating of WD-40 to the accumulator diaphragm (21) and accumulator chamber (22) and slide the accumulator diaphragm onto the accumulator chamber from the tube coupling (26) end.

14. Use grease or rubber lubricant on the inside of the accumulator cylinder (20) and the outside diameter of the diaphragm. Push the accumulator chamber and diaphragm, tube coupling end first, halfway into the accumulator cylinder. The parts are assembled from the end of the cylinder with the chamfer on the outside diameter. Be sure the accumulator diaphragm is free of wrinkles and the seal bead is in its groove before completing the assembly. An arbor press is required to completely seat the assembly using short movements during the last 1/2-inch/12 mm of travel to gently seat the diaphragm.

IMPORTANT

Do not use a hammer or powered arbor press.

15. Apply grease and install a new o-ring (19) around the accumulator cylinder. Apply grease and install a new rod wiper (34), back-up washer (35) and cup seal (36) (lips facing out) in the accumulator chamber counterbore.

16. Install the accumulator assembly over the stem of the piston and down to the top of the automatic valve body.

17. Grease and install the o-ring (13) into the groove located near the bottom of the valve spool bore in the valve block.

18. Apply grease liberally to the o-ring surfaces on the accumulator, automatic valve body, flow sleeve tube and to the bore of the accumulator valve block (24).

19. Place the accumulator valve block over the top of the accumulator and then tap it down until the lower part of the valve block covers the o-ring on the flow sleeve tube.

20. Using a spanner wrench, turn the accumulator chamber until the roll pin (2) hole and tube coupling (26) port are in line with the roll pin hole and tube coupling port in the handle (6) when the handle is placed on the valve block. Do not install the handle at this time. (*Refer to the parts illustration for correct orientation of parts.*)

21. Apply grease and install two o-rings (25) onto the tube coupling. Install the tube coupling into the hole located in the accumulator chamber.

22. Install the roll pin (2) in the hole located in the accumulator chamber.

23. Grease and install the o-ring (14) onto the seal insert (11). Grease and install the back-up ring (12) and o-ring (13) into the seal insert. Install the seal insert into the valve spool bore in the valve block.

24. Install the spring washers (9), spring (10), and retaining ring (8) onto the valve spool (7) as shown in the parts illustration. Lubricate the valve spool and install it into the valve spool bore from the top.

25. Install the handle (6) being carefull to ensure the roll pin (2) and tube coupling (26) are properly aligned. Apply Kopr-Kote™ antiseize compound to the threads of the tie rods (23) and nuts (1) and install them all finger tight.

26. Grease the ball on the ball joint (5) and install the trigger with ball joint into the handle and valve spool. Secure with the roll pin (3).

27. Tighten the side rod nuts in 20 ft. lb./25 Nm increments to 75 ft. lb./100 Nm in a cross pattern.

RAM & CAGE ASSEMBLY

1. Using Kopr-Kote™ antiseize compound, coat the upper portion of the ram (58) that will be inside of the guide housing (59). Install the ram into the guide housing. (*Refer to the parts illustration for correct orientation of the parts.*)

2. Install the spring (64) over the kurled grip on the cage (63). Apply a liberal dab of grease to each steel ball slot in the cage and then install the steel balls (60, 61, & 62).

3. Install the cage, with steel balls, into the bottom of the ram.

4. Apply Loctite™ 680 to the threads on the ram and then install the ram nut (65). Tighten nut securely (*hard tighten*).

5. Install the ram stop (56) into the base of the adaptor block. Install the spring (57) through the inner diameter of the ram stop until it is against the adapter block. Place the ram, guide housing, and cage assembly against the adaptor block aligning the bolt holes on the guide housing with those in the adaptor block. Install the two washers (46) and capscrews (47). Tighten the capscrews in an alternate pattern with gradual increases in tightness until a final torque of 150 ft. lbs. is achieved.

CHARGING THE ACCUMULATOR

1. Install the charge valve (27).

2. Charge the accumulator with 600 psi/42 bar nitrogen as described in the "CHARGING THE ACCUMULATOR" section.

3. Install the plug (29).

CHARGING THE ACCUMULATOR

CHARGING THE ACCUMULATOR

To check or charge the accumulator the following equipment is required:

- Accumulator tester (Part Number 02835).
- Charging assembly (Part Number 06545) (includes a regulator, hose and fitting).
- NITROGEN bottle with a 800 psi/56 bar minimum charge.

1. Holding the chuck end of the Stanley tester (p/n 02835), turn the gauge fully counterclockwise to ensure the stem inside the chuck is completely retracted.

2. Thread the tester onto the charging valve of the tool accumulator (do not advance the gauge-end into the chuck end. Turn as a unit). Seat the chuck on the accumulator charging valve and hand tighten only.

3. Advance the valve stem by turning the gauge- end clockwise.

4. Connect the charging assembly to the valve on the tester.

5. Adjust the regulator on the nitrogen bottle to 600 psi/42 bar.

NOTE: It may be necessary to set the regulator at 650-700 psi/45-48 bar to overcome any pressure drop through the charging system.

6. Open the valve on the charging assembly hose. When the tester gauge reads 600 to 700 psi/42 to 48 bar, close the valve on the charging assembly hose and remove the charging assembly.

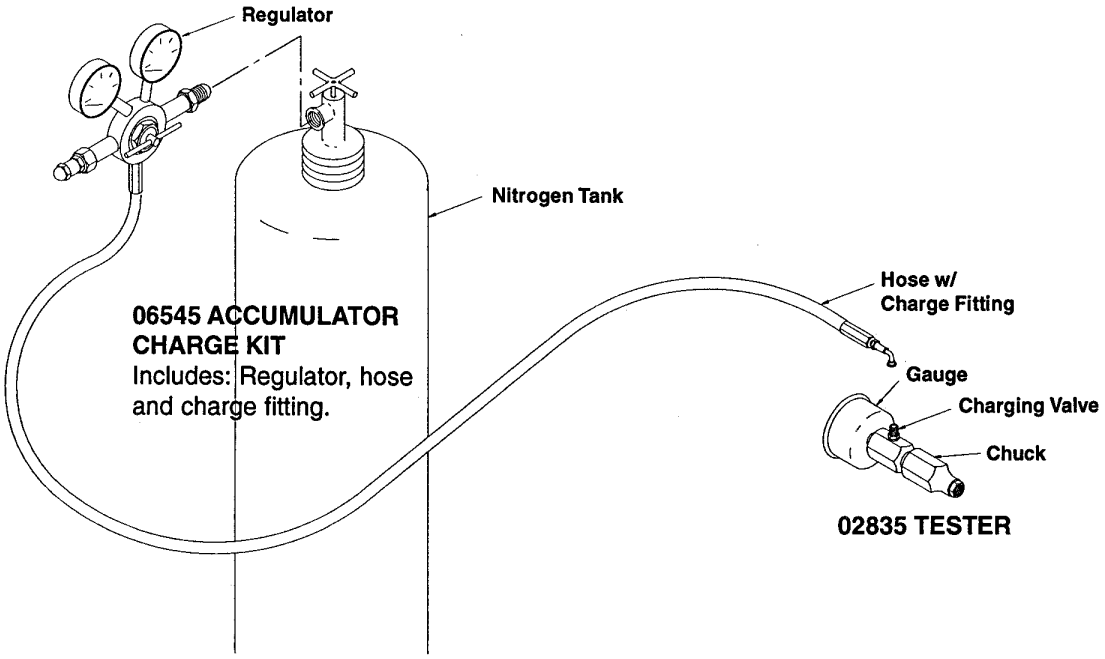
7. Turn the gauge end of the tester fully counterclockwise to retract the plunger in the chuck. Remove the tester from the charge valve.

TESTING THE ACCUMULATOR PRESSURE

1. Follow instructions 1 through 3 under "CHARGING THE ACCUMULATOR".

2. Read the pressure on the gauge (pressure should be between 500 & 600 psi/35 & 42 bar.

3. If the pressure is low, recharge the tool.



TROUBLESHOOTING

If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem.

When diagnosing faults in operation of the tool, always check that the hydraulic power source is supplying the correct hydraulic flow and pressure to the tool as listed in the table. Use a flowmeter known to be accurate. Check the flow with the hydraulic oil temperature at least 80°F/27°C.

Tool does not run.	Power unit not functioning.	Check power unit for proper flow and pressure (7-9 gpm / 26-34 lpm, 2000 psi / 140 bar).
	Couplers or hoses blocked.	Remove restriction.
	Presssure and return line hoses reversed at ports.	Be sure hoses are connected to their proper ports.
	Mechanical failure of piston or automatic valve.	Have inspected and repaired by authorized dealer.
Tool does not grip rod	Steel balls damaged.	Check steel balls. Replace as required.
	Cage is clogged with dirt.	Remove dirt.
	Cage spring broken.	Replace spring.
Tool operates slow.	Fluid too hot (above 140° F / 60° C).	Provide cooler to maintain proper fluid temperature.
	Low oil flow from power unit.	Check power source for proper flow.
	High backpressure.	Check hydraulic system for excessive backpressure and correct as required.

SPECIFICATIONS

Capacity	1/2 in. / 12.7 mm or 5/8 in / 15.9 mm. Rod
Pressure Range	1500-2000 psi/104-140 bar
Maximum Back Pressure	250 psi/17 bar
Flow Range	7-9 gpm/26-34 lpm
Porting	-8 SAE O-ring
Connect Size and Type	3/8 in. Male Pipe Adapter
Hose Whips	Yes
 Weight	82 lbs / 37 kg
Overall Length	36 in. / 91.4 cm
Overall Width	16.375 in. / 61 cm
Maximum Fluid Temperature	140° F/60° C
 EHTMA Category	30 lpm @ 138 bar

SPECIAL TOOLS

DESCRIPTION	PART NUMBER	USAGE
O-ring Tool Kit	04337	General Service of Seals
Split Ring (Auto Valve Removal)	19512	Auto Valve Removal - Requires 04910
Spacer	04909	Flow Sleeve Installation
Flow Sleeve Removal Tube	04910	Used with 19512 & 05508
Bearing Puller Kit	05064	General Bearing Pulling
Accumulator Disassembly Tool	05508	Used with 19512 & 04910
Accumulator Cylinder Puller	05640	Removal of accumulator cylinder from valve body

GD48 PARTS LIST

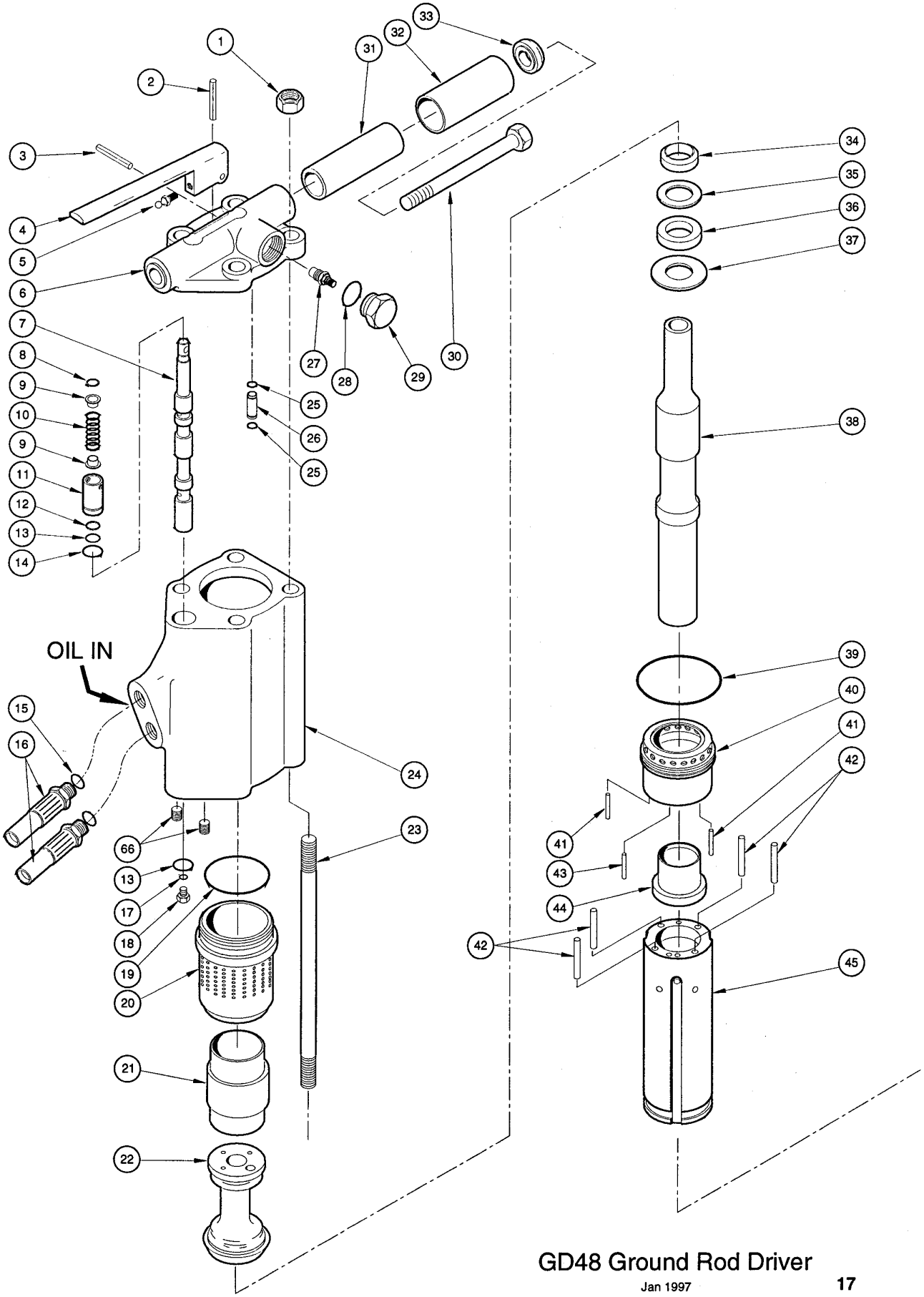
Item No	Part No	Qty	Description
1	04374	4	Locknut
2	07624	1	Roll Pin
3	07492	1	Roll Pin
4	30363	1	Tigger
5	18037	1	Ball Joint
6	18022	1	Handle
7	18002	1	On/Off Valve Spool
8	18038	1	Spirol Retaining Ring
9	18008	2	Spring Washer
10	24819	1	Spring
11	17995	1	Seal Insert
12	09396	1	Back-up Ring ●
13	08017	2	O-ring, 7/8 x 1-1/16 x 3/32 ●
14	350704	1	O-ring, 1-16 x 1-1/4 x 3/32 ●
15	01605	2	O-ring, .344 x .818 x .087 -908 ●
16	09546	2	Hose Assy (Incld item 15)
17	350770	1	O-ring, .351 x .072 x .393 -904 (Incld with item 18) ●
18	01874	1	SAE Plug, -4 (Incld item 17)
19	01202	1	O-ring, 2-13/16 x 3 x 3/32 ●
20	18004	1	Accumulator Cylinder
21	04059	1	Diaphragm
22	18003	1	Accumulator Chamber
23	31209	4	Tie Rod
24	17990	1	Accumulator Valve Block
25	09827	2	O-ring, 7/32 x 11/32 x 1/16 ●
26	18015	1	Tube Coupling
27	01650	1	Charge Valve
28	01604	1	O-ring, .755 x .949 x .097 -910 ●
29	07493	1	SAE Plug, -10 (Incld Item 28)
30	07855	2	Capscrew
31	18017	2	Handle Tube
32	18018	2	Handle Grip
33	18016	2	Handle Plug
34	04074	1	Rod Wiper ●
35	18006	1	Back-up Washer
36	04072	1	Rod Seal ●
37	18005	1	Seal Retainer Washer
38	18000	1	Piston
39	18039	2	O-ring, 3-1/4 x 3-7/16 x 3/32 ●
40	30242	1	Automatic Valve Body
41	04571	2	Push Pin
42	04067	4	Push Pin
43	07890	1	Roll Pin
44	18001	1	Automatic Valve
45	17984	1	Flow Sleeve
46	02230	2	Lockwasher
47	370352	2	Capscrew
48	19693	1	Danger Sticker
49	17993	1	Flow Sleeve Tube
50	31238	1	Name Tag
51	04054	1	O-ring, 2-7/8 x 3-1/8 x 1/8 ●
52	26231	1	Rod Seal ●
53	18010	1	Seal Washer
54	18045	1	Rod Wiper ●
55	27473	1	Adaptor Block
56	27474	1	Ram Stop
57	18011	1	Spring
58	30659	1	Ram
59	27475	1	Guide Housing
60	01603	4	Steel Ball, 1/2 in. Dia
61	18952	4	Steel Ball, 5/8 in. Dia.
62	04859	4	Steel Ball, 3/4 in. Dia.
63	31564	1	Cage
64	30662	1	Cage Spring
65	30660	1	Ram Nut
66	00955	2	Pipe Plug

SEAL KIT 32090

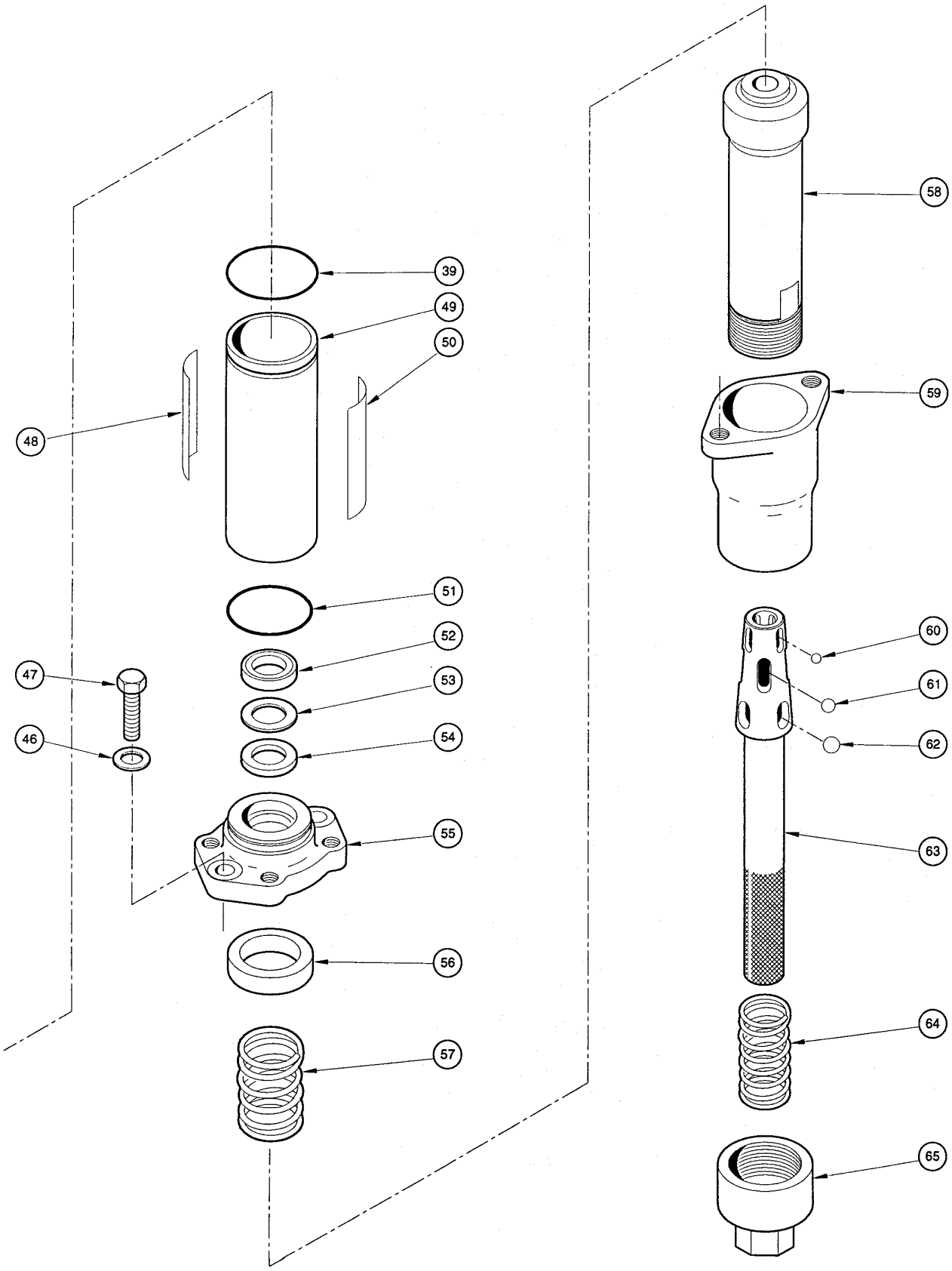
● Denotes part in seal kit

NOTE: Use Part Number and Part Name when ordering.

NOTES



GD48 Ground Rod Driver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WARRANTY

Stanley Hydraulic Tools (hereinafter called "Stanley"), subject to the exceptions contained below, warrants new hydraulic tools for a period of one year from the date of sale to the first retail purchaser, or for a period of 2 years from the shipping date from Stanley, whichever period expires first, to be free of defects in material and/or workmanship at the time of delivery, and will, at its option, repair or replace any tool or part of a tool, or new part, which is found upon examination by a Stanley authorized service outlet or by Stanley's factory in Milwaukie, Oregon to be DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP.

EXCEPTIONS FROM WARRANTY

NEW PARTS: New parts which are obtained individually are warranted, subject to the exceptions herein, to be free of defects in material and/or workmanship at the time of delivery and for a period of 6 months after the date of first usage. Seals and diaphragms are warranted to be free of defects in material and/or workmanship at the time of delivery and for a period of 6 months after the date of first usage or 2 years after the date of delivery, whichever period expires first. Warranty for new parts is limited to replacement of defective parts only. Labor is not covered.

FREIGHT COSTS: Freight costs to return parts to Stanley, if requested by Stanley for the purpose of evaluating a warranty claim for warranty credit, are covered under this policy if the claimed part or parts are approved for warranty credit. Freight costs for any part or parts which are not approved for warranty credit will be the responsibility of the individual.

SEALS & DIAPHRAGMS: Seals and diaphragms installed in new tools are warranted to be free of defects in material and/or workmanship for a period of 6 months after the date of first usage, or for a period of 2 years from the shipping date from Stanley, whichever period expires first.

CUTTING ACCESSORIES: Cutting accessories such as breaker tool bits are warranted to be free of defects in material and or workmanship at the time of delivery only.

ITEMS PRODUCED BY OTHER MANUFACTURERS: Components which are not manufactured by Stanley and are warranted by their respective manufacturers.

a. Costs incurred to remove a Stanley manufactured component in order to service an item manufactured by other manufacturers.

ALTERATIONS & MODIFICATIONS: Alterations or modifications to any tool or part. All obligations under this warranty shall be terminated if the new tool or part is altered or modified in any way.

NORMAL WEAR: any failure or performance deficiency attributable to normal wear and tear such as tool bushings, retaining pins, wear plates, bumpers, retaining rings and plugs, rubber bushings, recoil springs, etc.

INCIDENTAL/CONSEQUENTIAL DAMAGES: To the fullest extent permitted by applicable law, in no event will STANLEY be liable for any incidental, consequential or special damages and/or expenses.

FREIGHT DAMAGE: Damage caused by improper storage or freight handling.

LOSS TIME: Loss of operating time to the user while the tool(s) is out of service.

IMPROPER OPERATION: Any failure or performance deficiency attributable to a failure to follow the guidelines and/or procedures as outlined in the tool's operation and maintenance manual.

MAINTENANCE: Any failure or performance deficiency attributable to not maintaining the tool(s) in good operating condition as outlined in the Operation and Maintenance Manual.

HYDRAULIC PRESSURE & FLOW, HEAT, TYPE OF FLUID: Any failure or performance deficiency attributable to excess hydraulic pressure, excess hydraulic back-pressure, excess hydraulic flow, excessive heat, or incorrect hydraulic fluid.

REPAIRS OR ALTERATIONS: Any failure or performance deficiency attributable to repairs by anyone which in Stanley's sole judgement caused or contributed to the failure or deficiency.

MIS-APPLICATION: Any failure or performance deficiency attributable to mis-application. "Mis-application" is defined as usage of products for which they were not originally intended or usage of products in such a matter which exposes them to abuse or accident, without first obtaining the written consent of Stanley. PERMISSION TO APPLY ANY PRODUCT FOR WHICH IT WAS NOT ORIGINALLY INTENDED CAN ONLY BE OBTAINED FROM STANLEY ENGINEERING.

WARRANTY REGISTRATION: STANLEY ASSUMES NO LIABILITY FOR WARRANTY CLAIMS SUBMITTED FOR WHICH NO TOOL REGISTRATION IS ON RECORD. In the event a warranty claim is submitted and no tool registration is on record, no warranty credit will be issued without first receiving documentation which proves the sale of the tool or the tools' first date of usage. The term "DOCUMENTATION" as used in this paragraph is defined as a bill of sale, or letter of intent from the first retail customer. A WARRANTY REGISTRATION FORM THAT IS NOT ALSO ON RECORD WITH STANLEY WILL NOT BE ACCEPTED AS "DOCUMENTATION".

NO ADDITIONAL WARRANTIES OR REPRESENTATIONS

This limited warranty and the obligation of Stanley thereunder is in lieu of all other warranties, expressed or implied including merchantability or fitness for a particular purpose except for that provided herein. There is no other warranty. This warranty gives the purchaser specific legal rights and other rights may be available which might vary depending upon applicable law.

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