



# TP08 HYDRAULIC TRASH PUMP

## **⚠ WARNING**

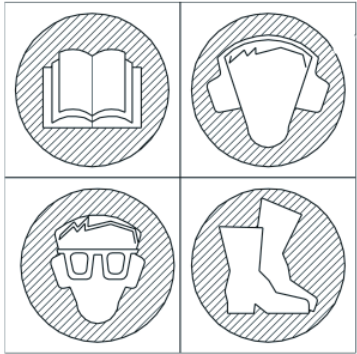
SERIOUS INJURY OR DEATH  
COULD RESULT FROM IM-  
PROPER REPAIR OR SERVICE  
OF THIS TOOL.

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



## **⚠ WARNING**

To avoid serious injury or death



## SAFETY, OPERATION AND MAINTENANCE SERVICE MANUAL

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**SERVICING THE STANLEY HYDRAULIC Trash Pump.** This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, be performed by an authorized and certified dealer. Please read the following warning.

**⚠ WARNING**

**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 the number listed on the back of this manual and ask for a Customer Service Representative.

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# SAFETY SYMBOLS

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Safety symbols and signal words, as shown below, 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.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.



This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.



This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.



This signal word indicates a situation which, if not avoided, will result in damage to the equipment.



This signal word indicates a situation which, if not avoided, may result in damage to the equipment.

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.

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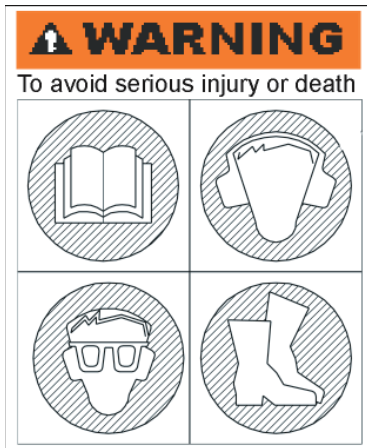
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# SAFETY PRECAUTIONS

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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 in this manual.

The models TP08 Hydraulic Trash Pump 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.
- Establish a training program for all operators to ensure safe operations.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, 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.
- Do not operate this tool without first reading the Operating Instructions.
- Do not install or remove this tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Never operate the tool near energized transmission lines. Know the location of buried or covered services before starting work.
- Do not wear loose fitting clothing when operating the tool. Loose fitting clothing can get entangled with the tool and cause serious injury.
- Supply hoses must have a minimum working pressure rating of 2500 psi/175 bar.
- Be sure all hose connections are tight.
- The hydraulic circuit control valve must be in the “OFF” position when coupling or uncoupling the tool. Wipe all couplers clean before connecting. Failure to do so may result in damage to the quick couplers and cause overheating. Use only lint-free cloths.
- Do not operate the tool at oil temperatures above 140° F/60° C. Operation at higher oil temperatures can cause operator discomfort and may cause damage to the tool.
- Do not operate a damaged, improperly adjusted, or incompletely assembled tool.

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# SAFETY PRECAUTIONS

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- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as labels and warning stickers legible.
- Always replace parts with replacement parts recommended by Stanley Hydraulic Tools.
- Check fastener tightness often and before each use daily.
- Do not put your hands or any other body part under the volute while the trash pump is running.
- Do not lift the trash pump by pulling on the hydraulic hoses. Use a suitable line fastened to the trash pump handle.
- Do not point water discharge toward bystanders.

# TOOL STICKERS & TAGS

**STANLEY**

Stanley Hydraulic tools  
Division of the Stanley Works  
3810 SE Naef Road  
Milwaukie, OR 97267

05152  
Stanley Logo Decal



**CAUTION**

7-10 GPM / 26-34 LPM  
DO NOT EXCEED 2000 PSI / 140 BAR

DO NOT EXCEED SPECIFIED FLOW OR PRESSURE  
USE CLOSED-CENTER TOOL ON CLOSED-CENTER  
SYSTEM. USE OPEN-CENTER TOOL ON OPEN-CENTER  
SYSTEM. CORRECTLY CONNECT HOSES TO TOOL "IN"  
AND "OUT" PORTS. IMPROPER HANDLING, USE OR OTHER  
MAINTENANCE OF TOOL COULD RESULT IN A LEAK, BURST  
OR OTHER TOOL FAILURE. CONTACT AT A LEAK OR BURST  
CAN CAUSE OIL INJECTION INTO THE BODY. FAILURE TO  
OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS  
PERSONAL INJURY.

03787  
GPM Decal

**STANLEY**

Stanley Hydraulic Tools  
3810 SE Naef Road  
Milwaukie, OR 97267

MODEL NO. 7-10 GPM / 26-38 LPM  
**TP08** 2000 PSI/ 140 B AR

22360  
Name Tag

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.

**DANGER**

1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.

BEFORE USING HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRICAL LINES BE SURE THE HOSE IS MAINTAINED AS NON-CONDUCTIVE. THE HOSE SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY DEPARTMENT INSTRUCTIONS.

2. A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.

A DO NOT EXCEED SPECIFIED FLOW AND PRESSURE FOR

**IMPORTANT**

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

**DANGER**

D DO NOT LIFT OR CARRY TOOL BY THE HOSES. DO NOT ABUSE HOSE. DO NOT USE KINKED, TORN OR DAMAGED HOSE.

3. MAKE SURE HYDRAULIC HOSES ARE PROPERLY CONNECTED TO THE TOOL BEFORE PRESSURING SYSTEM. SYSTEM PRESSURE HOSE MUST ALWAYS BE CONNECTED TO TOOL "IN" PORT. SYSTEM RETURN HOSE MUST ALWAYS BE CONNECTED TO TOOL "OUT" PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE TOOL OPERATION WHICH CAN RESULT IN SEVERE PERSONAL INJURY.

4. DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.

5. BYSTANDERS MAY BE INJURED IN YOUR WORK AREA. KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.

**IMPORTANT**

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

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

# HYDRAULIC HOSE REQUIREMENTS

## HOSE TYPES

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

- 1 Certified non-conductive
- 2 Wire-braided (conductive)
- 3 Fabric-braided (not certified or labeled non-conductive)

Hose 1 listed above is the only hose authorized for use near electrical conductors.

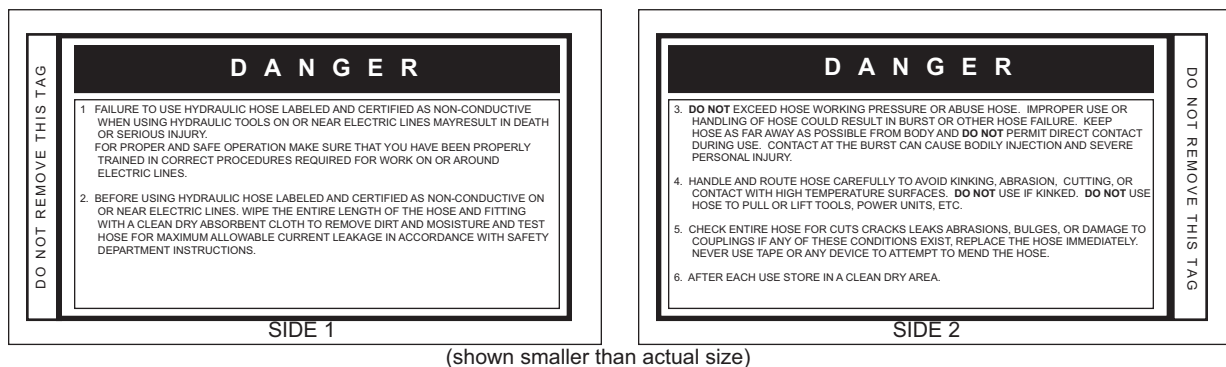
Hoses 2 and 3 listed above are **conductive** and **must never** be used near electrical conductors.

## HOSE SAFETY TAGS

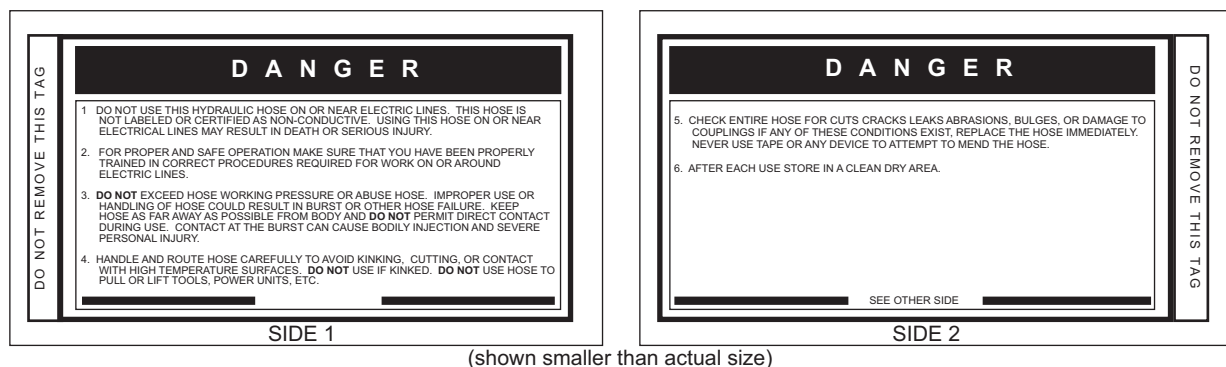
To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. **DO NOT REMOVE THESE TAGS.**

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

### THE TAG SHOWN BELOW IS ATTACHED TO “CERTIFIED NON-CONDUCTIVE” HOSE



### THE TAG SHOWN BELOW IS ATTACHED TO “CONDUCTIVE” HOSE.



## HOSE PRESSURE RATING

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



# HTMA REQUIREMENTS

## TOOL CATEGORY



## HYDRAULIC SYSTEM REQUIREMENTS

**TYPE I**

**TYPE II**

**TYPE III**

**TYPE RR**

FLOW RATE	4-6 gpm (15-23 lpm)	7-9 gpm (26-34 lpm)	11-13 gpm (42-49 lpm)	9-10.5 gpm (34-40 lpm)
TOOL OPERATING PRESSURE (at the power supply outlet)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)
SYSTEM RELIEF VALVE SETTING (at the power supply outlet)	2100-2250 psi (145-155 bar)	2100-2250 psi (145-155 bar)	2100-2250 psi (145-155 bar)	2200-2300 psi (152-159 bar)
MAXIMUM BACK PRESSURE (at tool end of the return hose)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)
Measured at a max. fluid viscosity of: (at min. operating temperature)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)
TEMPERATURE Sufficient heat rejection capacity to limit max. fluid temperature to: (at max. expected ambient temperature)	140° F (60° C)	140° F (60° C)	140° F (60° C)	140° F (60° C)
Min. cooling capacity at a temperature difference of between ambient and fluid temps	3 hp (2.24 kW) 40° F (22° C)	5 hp (3.73 kW) 40° F (22° C)	7 hp (4.47 kW) 40° F (22° C)	6 hp (5.22 kW) 40° F (22° C)
<b>NOTE:</b> Do not operate the tool at oil temperatures above 140° F (60° C). Operation at higher temperatures can cause operator discomfort at the tool.				
FILTER Min. full-flow filtration Sized for flow of at least: (For cold temp. startup and max. dirt-holding capacity)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)
HYDRAULIC FLUID Petroleum based (premium grade, anti-wear, non-conductive) VISCOSITY (at min. and max. operating temps)	100-400 ssu*	100-400 ssu* (20-82 centistokes)	100-400 ssu*	100-400 ssu*
<b>NOTE:</b> When choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.				

\*SSU = Saybolt Seconds Universal

### NOTE:

These are general hydraulic system requirements. See tool Specification page for tool specific requirements.

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# OPERATION

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## PREOPERATION PROCEDURES

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### CHECK POWER SOURCE

1. Using a calibrated flow meter and pressure gauge, make sure the hydraulic power source develops a flow of 7-10 gpm/26-38 lpm at 2000 psi/140 bar.
2. Make certain that the power source is equipped with a relief valve set to open at 2100-2250 psi/145-155 bar maximum.
3. Make certain that the power source return pressure does not exceed 250 psi/17 bar.
4. Make sure the trash pump inlet is clear of debris. Remove any obstruction before operating.

### CONNECT HOSES

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

#### **IMPORTANT**

Do not connect pressure to the return port. Motor shaft seal limit is 250 psi/17 bar.

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

#### **Note:**

**If uncoupled hoses are left in the sun, pressure increase inside the hoses might make them difficult to connect. Whenever possible, connect the free ends of the hoses together.**

3. Observe the arrow on the couplers to ensure that the flow is in the proper direction. The female coupler on the trash pump is the inlet (pressure) coupler.

## PUMP OPERATION

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1. Observe all safety precautions.
2. Attach a 4-inch/102 mm diameter fire hose to the trash pump outlet. For best performance, keep the fire hose as short as possible and lay it out to avoid sharp bends or kinks.

Do not attach a nozzle to the outlet end of the fire hose. For high-pressure water pumping, use a Stanley SM20 or SM50 and nozzle. The TP08 is designed for high GPM water flow at low water pressure (head).

3. Attach a rope or cable to the trash pump's handle. Lower the trash pump into the liquid to be pumped. Do not raise or lower the trash pump by its hoses or couplers to avoid damage to the hoses or couplers.

#### **IMPORTANT**

Never point the hose at bystanders.

4. Turn on the hydraulic power source. Watch for solids in the liquid being pumped. If solids are excessive, the discharge flow might decrease. If this happens, stop the trash pump and check for the cause of the problem.

Under some conditions, the liquid being pumped might be slowed enough so it can no longer push particles in the liquid. If this happens, particles can accumulate in the pumping chamber, causing further restriction. The impeller then acts as a "grinding wheel" which causes accelerated trash pump wear. Reduced liquid flow can be caused by the following:

- The trash pump sinks into solids at the bottom of the hole.
- The end of the outlet hose is too high, causing an excessive lift height for the column of liquid being pushed by the trash pump. This slows the flow of liquid to a level where it can no longer carry solids.
- The flow and pressure of hydraulic fluid to the trash pump is too low, which reduces impeller speed. A 20 percent decrease in hydraulic fluid flow can reduce pump performance by 50 percent. When operating at reduced hydraulic flow and pressure, the end of the outlet hose should not be more than 30 ft/9 m above the liquid.

#### **Note:**

**It will not damage the pump to operate it "dry."**

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# OPERATION

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5. When pumping is complete, set the hydraulic control valve to the “OFF” position. Lift the trash pump from the work area using the rope or cable to avoid damage to the hoses or couplers.

## **IMPORTANT**

Observe the following for trash pump protection and care.

6. The trash pump must maintain a minimum impeller speed in order to move solid particles through the pump. While pumping liquids containing large solids, monitor the flow from the outlet of the fire hose. If it begins to slow, turn off the hydraulic power source and lift the trash pump from the work area. Disconnect the hydraulic hoses and clean at the water hose and the pumping chamber.

## **IMPORTANT**

Pumping liquids with a solids-to liquid ratio greater than 30 percent solids to 70 percent liquid will cause accelerated impeller wear.

7. To maintain optimum performance, it is good practice to periodically inspect the impeller for wear or damage. This is especially important following the pumping of liquids containing sharp, abrasive solids.

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## **COLD WEATHER OPERATION**

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If the trash pump is to be used during cold weather, preheat the hydraulic fluid at low power source speed. When using the normally recommended fluids, fluid should be at or above 50°F/10° C (400 ssu/82 centistokes) before use. Damage to the hydraulic system or pump motor seals can result from use with fluid that is too viscous or thick.

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# EQUIPMENT PROTECTION & CARE

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## NOTICE

In addition to the Safety Precautions in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the “OFF” position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the “IN” port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- 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/172 bar.
- Do not exceed the rated flow or pressure (refer to Specifications in this manual for correct flow rate and pressure). If specifications are exceeded, rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags legible.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.

# 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 make sure the hydraulic power source is supplying the correct hydraulic flow and pressure as listed in the table. Use a flowmeter know to be accurate. check the flow with the hydraulic fluid temperature at least 80° F/27° C.

PROBLEM	CAUSE	SOLUTION
Pump will not start.	No hydraulic fluid flow or pressure.	Turn on power unit and check that 7-10 gpm/26-38 lpm at 2000 psi/140 bar is available at the trash pump.
	Defective couplers.	Check the couplers by connecting them together with the hydraulic power supply operating and with the control valve in the "ON" position. The power supply should operate without "loading" from the couplers.
	Impeller jammed with debris.	Clean the pumping chamber.
	Impeller rubbing against wear plates.	Check and adjust the impeller clearance.
	Defective power module.	Repair or replace the power module.
Poor pump performance.	Hydraulic flow reversed.	Check that the hoses are correctly connected to the pump motor ports. The female coupler should be connected to the "IN" port. The return fluid must never flow through a reversing valve.
	Improper hydraulic fluid flow.	Check that 7-10 gpm/26-38 lpm at 2000 psi/140 bar is available at the trash pump. A 20% decrease in flow can result in a 50% decrease in pump performance. 8 gpm/30 lpm is the best circuit flow.
	Trash pump submersed in sediment.	Lift the pump from the bottom of the hole or chamber. Use a flat support under the pump if necessary.
	Trash pump inlet restricted.	Remove restriction and thoroughly clean.
	Discharge hose kinked or restricted.	Straighten the hoses. If the hose must bend at the top of the hole, use a piece of split rigid conduit with large diameter of the expanded hose. This keeps the hose from kinking. Use a 90° 4-inch pipe elbow on the trash pump outlet if necessary.
	Discharge hose too small.	Use a 4-inch diameter fire hose.
	Water lift too high.	Lower the outlet end of the discharge hose.
	Impeller worn or damaged.	Check impeller for damage and excessive wear. Replace if necessary.
Wear plates worn or damaged.	Check wear plates for damage and excessive wear. Replace if necessary.	
Hydraulic fluid in discharge flow.	Motor shaft seal failure.	Replace the motor shaft seal.  Ensure power unit is delivering 7-10 gpm/26-38 lpm

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# SPECIFICATIONS

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Capacity .....	800 gpm/3028 lpm
Weight .....	59 lbs/26.7 kg
Height (over handle) .....	16.5 in./42 cm
Length .....	19 in./48.3 cm
Width .....	15 in./38.1 cm
Pressure .....	2000 psi/140 bar
Flow Range .....	7-10 gpm/26-38 lpm
Maximum Flow .....	10 gpm/38 lpm
Porting .....	#10 SAE (pressure) #12 SAE (return)
Connect Size and Type .....	1/2 in. Male Pipe (pressure) 1/2 in. Male Pipe (return)
Discharge Diameter .....	4 in./100 mm Camlock
Inlet Diameter .....	4 in./100 mm

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# ACCESSORIES

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<b>Description</b>	<b>Part No.</b>
Adapter, 3 in. NPT/3 in. Camlock Male .....	52720
Lay-Flat Discharge Hose, 3 in. x 25 ft with Camlock Fittings .....	56761
Lay-Flat Discharge Hose, 4 in. x 25 ft with Camlock Fittings .....	65624

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# SERVICE

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## INTRODUCTION

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Good maintenance practice keeps the trash pump on the job and increases its service life.

The most 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 trash pump.

Never disassemble the trash pump motor unless proper troubleshooting procedures have isolated the problem to an internal part. Then, disassemble the trash pump only 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 assembly. Further wear and trash pump failure can result if the original cause is not corrected.

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## TRASH PUMP CLEANING, ADJUSTMENT, AND INSPECTION

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### WATER HOSE AND PUMPING CHAMBER CLEANING

Debris such as weeds, sand and other solids might become trapped in the pumping chamber. This can reduce pumping performance. It is important that the pumping chamber be kept clean at all times.

Clean out the debris and then determine whether or not the fire hose is clogged or the power source is not providing adequate flow/pressure to properly drive the trash pump. If the trash pump is not cleared, heavy solids will not be removed from the trash pump, eventually damaging or destroying the impeller.

To clean the water hose and pumping chamber:

1. Remove the water hose from the trash pump. If it is clogged, lift near the outlet end of the hose and then shake it to loosen any debris. Continue shaking while working toward the inlet end until the entire water hose is free of all debris.

2. Look into the pump outlet and inlet (bottom) and remove any debris. If you are unable to clear the debris, you must open the trash pump.

To open the trash pump:

Disconnect the hydraulic hoses from the pump.

2. Remove the six 1/4-20 wing nuts securing the handle and volute/motor mount plate to the volute weldment. Lift the volute/motor mount plate from the volute weldment and place it on a clean, flat work surface.

3. Remove the shim(s) from the top of the volute weldment.

4. Clean out the pumping chamber.

5. Remove any debris from the water outlet and inlet.

### IMPELLER INSPECTION

1. Check the impeller blades for cracks, chips and signs of excessive wear. Also, see if it has been rubbing against the bottom wear plate. If the impeller is excessively worn, it must be replaced. Refer to the TRASH PUMP DISASSEMBLY PROCEDURES in this section.

**Note:**

**There should be a close fit between the impeller and the bottom wear plate, however, there should not be any drag.**

2. If there is excessive drag, add a shim between the volute weldment and the volute/motor mount plate.

3. If the clearance between the volute weldment and the bottom wear plate exceeds 1/16 of an inch, remove a shim to achieve a closer fit.

4. If hydraulic fluid appears above the impeller, then the motor shaft seal has failed. Refer to the MOTOR SHAFT SEAL DISASSEMBLY PROCEDURES later in this section.

### BOTTOM WEAR PLATE INSPECTION

1. Check the bottom wear plate for cracks, deep scratches and signs of excessive wear. Scratches deeper than 1/16-inch/ 2 mm might affect pump performance.

2. If the wear plate is not damaged, add or remove shim(s) as required to achieve a proper fit.

3. If the wear plate is damaged, it must be replaced.

### PREPARING THE TRASH PUMP FOR OPERATION AFTER CLEANING AND INSPECTION

If no other trash pump servicing is required, prepare it for normal operation:

1. Remove the grease fitting cap and inject two pumps of underwater grease into the lip excluder housing.

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# SERVICE

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2. Replace the grease fitting cap.
3. Replace the shim(s) onto the top of the volute weldment.
4. Place the volute/motor mount plate onto the volute weldment.
5. Secure the volute/motor mount plate to the volute weldment using the six 1/4-20 wing nuts.

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## TRASH PUMP DISASSEMBLY & ASSEMBLY

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The following procedures should be performed only if:

It is determined (after a complete inspection) that the trash pump power module (motor) is malfunctioning.

Hydraulic fluid is leaking between the motor cap assembly and the bearing carrier assembly.

Hydraulic fluid leaking from the motor shaft.

The shafts and gears need to be replaced.

### PRIOR TO DISASSEMBLY

Clean the exterior of the trash pump.

Obtain Seal Kit, part number 22546 to replace all seals exposed during disassembly. Note the orientation of the seals before removing them. Install new seals the same way they were removed.

### PRIOR TO ASSEMBLY

Clean all parts with a degreasing solvent.

Make sure all seals that were exposed have been replaced with new parts.

Apply clean underwater grease to all parts during assembly.

### IMPELLER REMOVAL

1. Open the trash pump. Refer to the WATER HOSE AND PUMPING CHAMBER CLEANING procedures provided earlier in this section.
2. Place the motor in a soft vise with the impeller facing up.
3. Remove the nut and washer securing the impeller to the motor shaft.
4. Carefully pull the impeller off of the motor shaft.

#### Note:

**The woodruff key might fall out of the motor shaft keyway. Make sure it is not lost.**

5. Check the impeller blades for cracks, chips and signs of excessive wear which can affect pump performance. Replace the impeller if damaged, seriously worn or out of balance.

### IMPELLER REPLACEMENT

1. Grease the woodruff key, impeller bore and motor shaft with underwater grease.
2. Replace the woodruff key and then slip the impeller onto the motor shaft.
3. Secure the impeller to the motor shaft using the washer and nut.

### MOTOR SHAFT SEAL REPLACEMENT

1. Remove the impeller. Refer to the IMPELLER REMOVAL procedures provided earlier in this section.
2. Remove the six 1/4-20 x 1/2.inch/13 mm flat head capscrews securing the top wear plate to the volute/motor mount plate.
3. Remove the three 3/8 x 1-3/4 inch/44.5 mm flat hex head capscrews securing the volute/motor mount plate to the power module.
4. Check the top wear plate for cracks, deep scratches and signs of excessive wear. Scratches deeper than 1/16 inch/2 mm might effect pump performance.
5. If the wear plate is damaged, it must be replaced.
6. Remove the excluder, v-ring and seal anvil from the bottom of the housing lip excluder.
7. Remove the two 3/8-16 x 1-1/4 inch/32 mm socket head capscrews securing the housing lip excluder to the bearing carrier assembly.
8. Hold the motor shaft in (to prevent bearing damage) while removing the housing lip excluder and enclosed parts from the bearing carrier housing and the motor shaft.
9. Remove the retainer ring, seal and o-ring from the seal carrier.



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# SERVICE

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10. If the seal anvil has been damaged, it can be pressed out from the inside and then replaced.

11. Inspect the motor shaft surface where the bronze seal carrier was installed. If the motor shaft is damaged, then it must be replaced. Refer to the MOTOR DISASSEMBLY procedures provided later in this section.

12. Using clean underwater grease and new seals from Seal Kit (part number 22546), lubricate the seal carrier, seal and o-ring, then install into the seal carrier. The greased seal will squeeze into the seal carrier and **MUST NOT BE TWISTED** or it will not seal.

13. Grease the motor shaft, then place the seal carrier with O.D. o-ring side going on first over the motor shaft.

14. Place the seal carrier (with seal anvil) over the motor shaft.

15. Push the seal retainer up against the bearing carrier assembly.

16. Secure the seal carrier housing to the bearing carrier assembly using two 3/8-16 x 1-1/4 inch/32 mm socket head capscrews. Tighten the capscrews to a torque value of 18 ft lb/24.3 Nm.

17. Secure the top wear plate to the volute/motor mount plate using the six 1/4-20 x 1/2 inch/13 mm flat head capscrews.

18. Lubricate and install the excluder lip seal over the motor shaft with the lip pressed against the anvil pocket.

19. Replace the impeller. Refer to the IMPELLER REPLACEMENT procedures provided earlier in this section.

## MOTOR DISASSEMBLY

1. Remove the two 1/2-13 x 2-3/4 inch/70 mm and the three 1/2-13 x 2-1/4 inch/ 57 mm capscrews securing the motor cap assembly to the bearing carrier assembly.

2. Carefully lift the motor cap assembly away from the bearing carrier assembly.

### Note:

**The key might fall out of the motor shaft keyway.**

Make sure it is not lost. Also, the gears and idler shaft might remain in the motor cap assembly. Do not drop or damage them.

3. Remove the o-ring from inside the motor cap assembly.

## MOTOR CHAMBER AND PARTS CLEANING AND INSPECTION

Inspect and clean all parts as follows:

### CLEANING

Clean all parts with a degreasing solvent.

Blow dry all parts with compressed air and wipe clean. Use only lint-free cloths.

### GEARS

The gears should have straight tips without nicks, square tooth ends and smooth even polish on the teeth and end surfaces. Check for cracks at the groove in the drive gear bore.

## MOTOR CAP ASSEMBLY

The surface near the gears should show two overlapping polished circles without a step. The bottom of the o-ring groove should be smooth as should the rest of the flat surface.

## MOTOR SHAFT

The diameter should be smooth on each side of the keyway, signs of polishing are normal. Grooves, roughness or a reduced diameter are indications of fluid contamination. Replace the seals if the motor shaft requires replacement.

If the motor shaft must be removed refer to the MOTOR SHAFT SEAL REPLACEMENT procedures to remove the needle bearing. In addition, the key must also be removed from the motor shaft keyway before removing the motor shaft.

### Note:

**The motor shaft and needle bearing are separated by removing the retaining ring. When separating, make sure you do not scratch any seal areas.**

Check the hydraulic system for excess contamination in the fluid and for filter condition. Operating conditions might require changing from a 25 micron filter to an oversized 10 micron filter.

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# SERVICE

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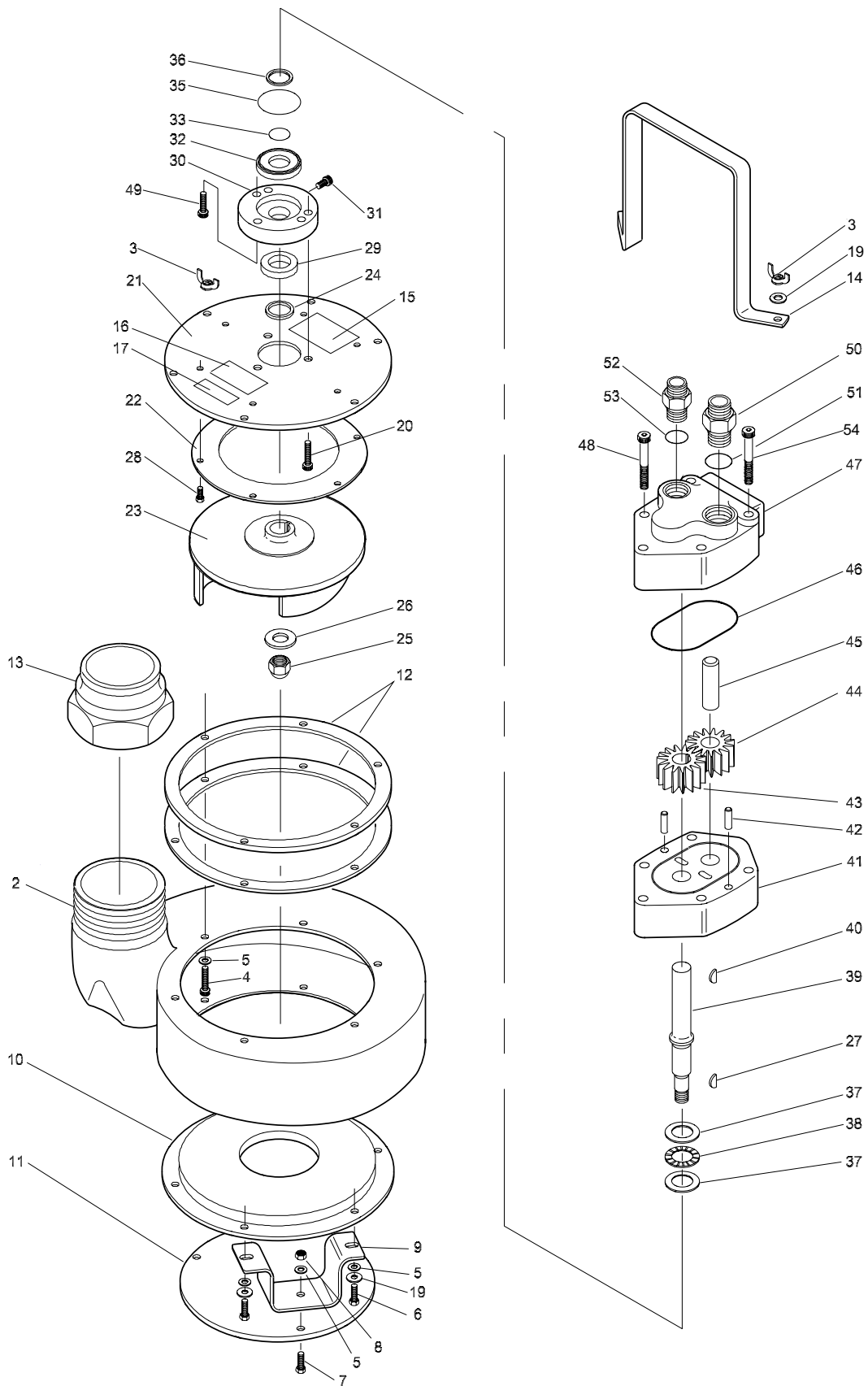
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## MOTOR ASSEMBLY

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1. If the motor shaft was replaced, install the two bearing races and thrust bearing onto the motor shaft.
2. Using clean underwater grease, grease the motor shaft and then insert it through the lower end of the bearing carrier assembly.
3. Replace the motor shaft seal parts. Refer to the MOTOR SHAFT SEAL REPLACEMENT procedures provided earlier in this section.
4. Using clean underwater grease, grease the keyway and motor shaft. Replace the key and then place the drive gear over the key.
5. Install the idler shaft and idler gear assembly onto the flat motor surface of the bearing carrier.
6. Lubricate and install the o-ring into the motor cap assembly groove.
7. Slide the motor cap assembly over the gears and shafts until completely down flat. DO NOT TIP CAP OR FORCE IT OVER GEARS.
8. Secure the motor cap assembly to the bearing carrier assembly using the two greased 1/2-13 x 2-3/4 inch/70 mm and the three greased 1/2-13 x 2-1/4 inch/ 57 mm capscrews. Tighten each capscrew to a torque value of 60 ft lb/81.4 Nm.
9. Secure the top wear plate to the volute/ motor mount plate using the six 1/4-20 x 1/2 inch/13 mm flat head capscrews.
10. Grease the woodruff key, impeller bore and motor shaft with underwater grease.
- 11 . Replace the woodruff key and then slip the impeller onto the motor shaft.
12. Secure the impeller to the motor shaft using the washer and nut.
13. Prepare the trash pump for normal operation. Refer to the PREPARING THE TRASH PUMP FOR OPERATION procedures provided earlier in this section.

# TP08 PARTS ILLUSTRATION



# TP08 PARTS LIST

Item No.	Part No.	Qty	Description
1	31505	1	Motor Assy (Incl 20, 24, 29-48)
2	21960	1	Volute Weldment
3	21961	6	Wing Nut
4	65783	6	Capscrew
5	01324	12	Lockwasher
6	08937	6	Capscrew (TP08013 Only)
6	15476	6	Capscrew (TP0801302 Only)
7	15476	3	Capscrew
8	00788	3	Hex Nut
9	21963	3	Brace
10	21964	1	Wear Plate
11	21965	1	Base
12	21966	A/R	Shim
13	21967	1	Male Camlock
14	21968	1	Handle
15	05152	1	Decal, Stanley
16	03787	1	Sticker, GPM
17	22360	1	Sticker, Name Tag
18	15875	1	Warning Tag (Not Shown)
19	15664	8	Washer
20	21978	3	Capscrew
21	21977	1	Plate - Volute/Motor Mount
22	21993	1	Wear Plate Top
23	21979	1	Impeller
24	06311	1	V-Ring
25	21988	1	Acorn Nut
26	03827	1	Washer
27	00600	1	Woodruff Key
28	21989	6	Capscrew
29	21981	1	Seal Anvil
30	21976	1	Housing Lip Excluder
31	01220	1	Grease Fitting
32	31266	1	Seal Carrier

Item No.	Part No.	Qty	Description
33	21021	1	Seal
34	-----	--	NO ITEM
35	01872	1	O-Ring
36	26812	1	Retaining Ring
37	20680	2	Bearing Race
38	08020	1	Thrust Bearing
39	21971	1	Motor Shaft
40	21985	1	Key
41	20691	1	Bearing Carrier
42	22065	2	Dowel Pin
43	21974	1	Drive Gear
44	21983	1	Idler Gear
45	21984	1	Idler Shaft
46	15385	1	O-Ring
47	21972	1	Motor Cap Assy
48	21986	3	Capscrew
49	10793	2	Capscrew
50	06264	1	Adapter
51	06891	1	O-Ring (Supplied with Item 50)
52	07882	1	Adapter
53	01604	1	O-Ring (Supplied with Item 52)
54	21987	2	Capscrew
	22546	1	SEAL KIT

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# WARRANTY

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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 manner 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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