



Maintenance Instructions
Parts List

S4TLP and S4TLPAL Pump



167 Stock Street, Nesquehoning, PA 18240 **Phone:** 570-645-3779 **Fax:** 570-645-4061

Website: www.hydra-tech.com

E-Mail: htpump@hydra-tech.com

4" HYDRAULIC SUBMERSIBLE TRASH PUMP

MODELS

S4TLP (Ductile Iron Body)

S4TLPAL (Aluminum Body)

4" (10 cm) Discharge

The S4TLP trash pump is designed to fit into tighter spaces and can be used for tank truck mounting for direct loading/offloading using on-board hydraulics. It is well suited for operating with smaller hydraulic tool power units. Your preference of durable ductile iron or lightweight aluminum body makes this pump an all around choice.



CE

FEATURES

- Superior design & performance versus Stanley or Greenlee pumps
- 2-Vane Channel Impeller (will pass 3" (8 cm) semi-solids)
- Variable Speed hydraulic drive
- Wide Range of performance
- Can be bolted directly to a tank or truck.
- Safe Hydraulic Drive can be used where electric power is hazardous or impractical
- Dependable gear type hydraulic motor
- Operates with our HT10 to HT20 power units or other hydraulic power sources capable of flows of 5-10 GPM

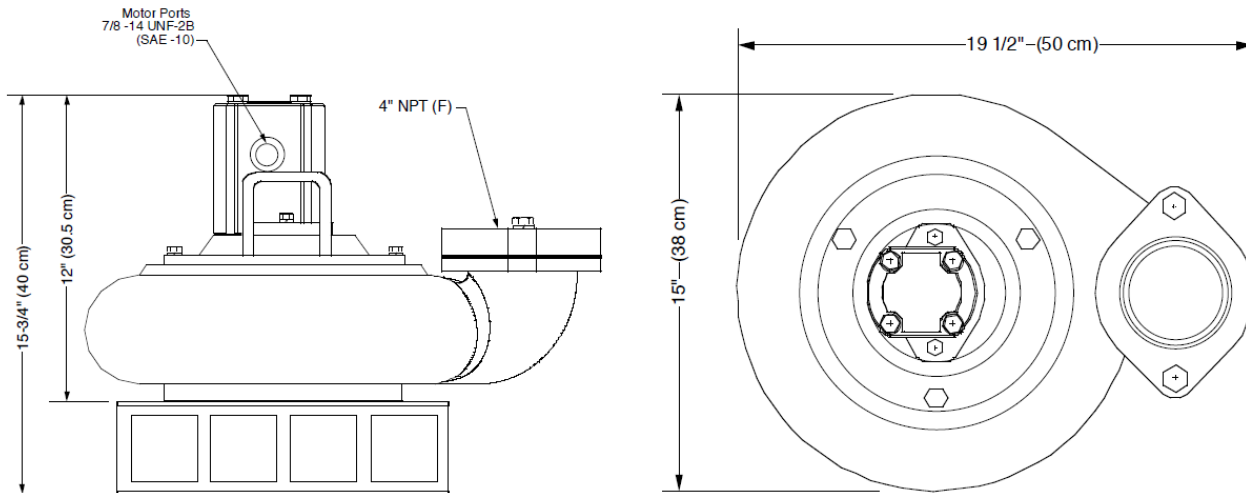
SPECIFICATIONS

WEIGHT: S4TLP.....	107 lbs. (48 kg)
S4TLPAL	68 lbs. (31 kg)
HEIGHT:.....	13-3/4" (40 cm)
WIDTH (@ widest point):.....	19-1/2" (50 cm)
DISCHARGE:.....	4" NPT(F)
INLET FLANGE:.....	4", 125# ASA
SOLIDS HANDLING:.....	3" (8 cm)
HOSE PORTS:.....	7/8-14 UNF (-10) SAE(F)
PUMP BODY: S4TLP.....	Ductile Iron
S4TLPAL.....	Aluminum
IMPELLER:.....	Ductile Iron
SHAFT SEAL:.....	Grease Lube Double Lip
ELASTOMERS:.....	Buna N (Std)
HYDRAULIC OIL:.....	214-320 s.s.u. @ 100°F (64°C)
INPUT FLOW:.....	Max. 10 GPM (38 LPM)
OPERATING PRESSURE:..	Max. 2800 PSI (190 Bar)
POWER SOURCE:...	Any Open Center Hydraulic System

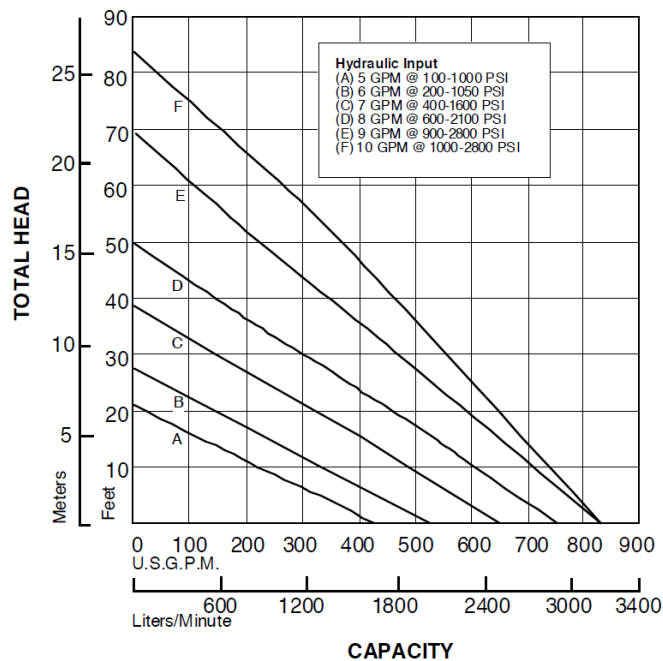
D0516

Specifications are subject to change without notice

Model S4TLP Overall Dimensions



S4TLP Typical Performance



Curves are based on pumping water at 60°F. For performance curves other than shown above, consult factory.



167 Stock Street, Nesquehoning, PA 18240 Phone: 570-645-3779 Fax: 570-645-4061
 Website: www.hydra-tech.com E-Mail: htpump@hydra-tech.com

IMPORTANT SAFETY INFORMATION



SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

⚠ DANGER

Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

⚠ WARNING

Hazards which, if not avoided, **COULD** result in severe injury or death.

⚠ CAUTION

Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.

⚠ WARNING

Before operating this tool, see the safety information and operating instructions in the Operation Manual.

⚠ WARNING

Do not operate the pump if the impeller blades are exposed. After assembly, install the inlet screen before operating the pump.

Failure to observe this warning could result in severe injury or death.

⚠ WARNING

Do not inspect, adjust, or clean tool when it is connected to a power source. Accidental startup could result in serious injury.

⚠ WARNING



Skin injection hazard:

Oil under pressure easily punctures skin causing serious injury, gangrene or death. If you are injured by escaping oil, seek medical attention immediately.

- Do not use fingers or hands to check for leaks.
- Do not hold hose or couplers while operating the power source.
- Depressurize the hydraulic system before servicing.




**HYDRA-TECH
PUMPS**

167 Stock Street, Nesquehoning, PA 18240 **Phone:** 570-645-3779 **Fax:** 570-645-4061

Website: www.hydra-tech.com

E-Mail: htpump@hydra-tech.com

IMPORTANT SAFETY INFORMATION

	⚠ WARNING
	<p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.</p>

⚠ WARNING
<p>Do not exceed the maximum hydraulic flow, pressure relief or back pressure listed in the Specifications and Parts manual.</p> <p>Failure to observe this warning could result in severe injury or death.</p>

⚠ WARNING
<p>Do not disconnect tool, hoses, or fittings while the power source is running or if the hydraulic fluid is hot. Hot hydraulic fluid could cause serious burns.</p>

⚠ CAUTION
<p>Hydraulic oil can cause skin irritation.</p> <ul style="list-style-type: none">• Handle the tool and hoses with care to prevent skin contact with hydraulic oil.• In case of accidental skin contact with hydraulic oil, wash the affected area immediately to remove the oil. <p>Failure to observe these precautions may result in injury.</p>

IMPORTANT
<p>Do not reverse hydraulic flow. Operation with hydraulic flow reversed can cause tool malfunction. Connect the supply (pressure) hose and return (tank) hose to the proper tool ports.</p>

IMPORTANT
<p>Procedure for disconnecting hydraulic hoses, fittings or components:</p> <ol style="list-style-type: none">1. Move the flow lever on the hydraulic power source to the OFF position.2. Stop the power source.3. Follow the sequence under Disconnecting Hoses to prevent pressure buildup. In case some pressure has built up, loosen hoses, fittings or components slowly.



167 Stock Street, Nesquehoning, PA 18240 Phone: 570-645-3779 Fax: 570-645-4061

Website: www.hydra-tech.com

E-Mail: hpump@hydra-tech.com

PUMP SAFETY PRECAUTIONS

Pump operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the pump and hose. These safety precautions are given for your safety. Review them carefully before operating the pump 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.

All Hydra-Tech submersible pumps 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 pump 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, dangerous terrain conditions, and confined spaces.
- Establish a training program for all operators to ensure safe operations.
- Do not operate the pump unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, head protection, hearing protection, and safety shoes at all times when operating the pump.
- Do not inspect or clean the pump while the hydraulic power source is engaged. Disconnect both hydraulic hoses before attempting to clean or inspect the pump. Accidental engagement of the pump can cause serious injury.
- Do not operate this pump without first reading the Operating Instructions.
- Do not install or remove this pump while the hydraulic power source is connected. Accidental engagement of the pump can cause serious injury.
- Never operate the pump near energized transmission lines. Know the location of buried or covered services before starting work.
- Do not wear loose fitting clothing when operating the pump. Loose fitting clothing may get entangled with the pump and cause serious injury.
- Supply hoses must have a minimum working pressure rating of 3000 psi/ 206 bar or higher depending on model.
- The hydraulic circuit control valve must be in the "OFF" position when coupling or uncoupling the pump. 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.
- Be sure all hose connections are tight.
- Do not operate the pump at oil temperatures above 140° F/60° C. Operation at higher oil temperatures can cause operator discomfort and may cause damage to the pump.
- Do not operate a damaged, improperly adjusted, or incompletely assembled pump.
- To avoid personal injury or equipment damage, all pump repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Do not exceed the rated limits of the pump or use the pump for applications beyond its design capacity.
- Always keep critical pump markings, such as labels and warning stickers legible.
- Always replace parts with replacement parts recommended by Hydra-Tech Pumps.
- Check fastener tightness often and before each daily use.
- NEVER put your hands or any other body part into the volute or discharge outlet while the pump is running. Do not operate pump without the strainer and discharge lines in place.
- Do not lift the pump by pulling on the hydraulic hoses. Use a suitable line or chain fastened to the pump handle or lifting point. Always use appropriate lifting equipment to locate or move the pump.
- Do not point water discharge toward bystanders or property.
- DO NOT PUMP FLAMABLE LIQUIDS.

OPERATION

PREOPERATION PROCEDURES

CHECK HYDRAULIC POWER SOURCE

1. Using a calibrated flow meter and pressure gauge, make sure the hydraulic power source develops flow and pressure that is appropriate for the pump.
2. Make certain that the hydraulic power source is equipped with a relief valve set to open at 10% above rated operating pressure.
3. Make certain that the power source return pressure does not exceed 100 psi/ 7 bar.
4. Make sure the pump inlet is clear of debris. Remove any obstruction before connecting the hydraulic hoses.

CONNECTING HYDRAULIC HOSES

1. Wipe all hose couplers with a clean lint free cloth before making connections. Do not connect pressure to the return port. Motor shaft seal limit is 100 psi/7 bar.
2. Connect the hoses from the hydraulic power source to the couplers on the pump or pump hoses. It is a good practice to connect return hose first and disconnect it last to minimize or avoid trapped pressure within the 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. Make sure the hydraulic hoses are connected to ensure that the flow is in the proper direction. The female coupler on the submersible pump is the inlet (pressure) coupler.

PUMP OPERATION

1. Observe all safety precautions.
2. Attach discharge hose to the pump outlet. For best performance, keep the discharge hose as short as possible and lay it out to avoid sharp bends or kinks.
3. Attach a chain or cable to the pump's handle or lifting point. Use suitable lifting equipment to lower the pump into the liquid to be pumped. Do not raise or lower the pump by its hoses or couplers to avoid damage to the hoses or couplers. Never point the discharge hose at bystanders or property.
4. Turn on the hydraulic power source. Watch for solids in the liquid being pumped. If solids or semi-solids are excessive, the discharge flow might decrease. If this happens, stop the pump and check for the cause of the problem. Under some conditions, the liquid being pumped might be slowed enough so that it can no longer push particles in the liquid. If this happens, particles can accumulate in the pumping chamber, causing further restriction and damage. The impeller then acts as a "grinding wheel" which causes accelerated pump wear.

Reduced liquid flow can be caused by the following:

- The pump sinks into solids at the bottom of the hole blocking the inlet.
- The end of the discharge hose is too high, causing an excessive lift height for the column of liquid being pushed by the pump. This slows the flow of liquid to a level where it can no longer carry solids. Kinks in the discharge line will reduce flow and increase demand on the power unit.
- The flow and pressure of hydraulic fluid to the 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, keep the end of the discharge line as low as possible.

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

5. The pump must maintain a minimum impeller speed in order to move semi-solid particles through the pump. While pumping liquids containing large semi-solids, monitor the flow from the outlet of the discharge hose. If it begins to slow, turn off the hydraulic power source and lift the pump from the work area. Disconnect the hydraulic hoses and clean at the water hose and the pumping chamber. Pumping liquids with a solids to liquid ratio greater than 30 per cent solids to 70 percent liquid will cause accelerated impeller wear.
6. When pumping is complete, set the hydraulic control valve to the "OFF" position. Lift the pump from the work area using the chain or cable to avoid damage to the hoses or couplers.
7. To maintain optimum performance, it is good practice to periodically inspect the impeller and wear components for wear or damage. This is especially important following the pumping of liquids containing sharp, abrasive solids. **ALWAYS DISCONNECT THE HYDRAULIC HOSES BEFORE ATTEMPTING INSPECTION OF THE IMPELLER.**

COLD WEATHER OPERATION

If the 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.

EQUIPMENT PROTECTION & 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 the pump. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the "IN" (female quick disconnect) port on the submersible pump. 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 Hydra-Tech Pumps. Supply hoses must have a minimum working pressure rating of 3000 psi/206 bar.
- Do not exceed the maximum rated flow or pressure for the submersible pump (refer to Specifications in this manual for correct flow rate and pressure). If specifications are exceeded, rapid failure of the internal seals will result.
- Always keep critical labels and markings, such as warning stickers and tags legible.
- Pump repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.

Operational Note S4TLP Pump



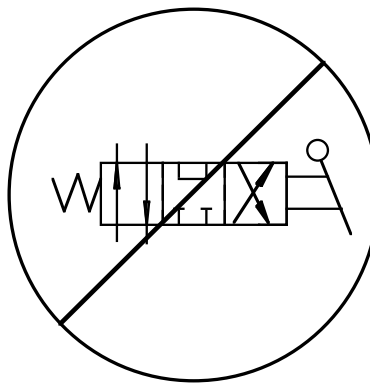
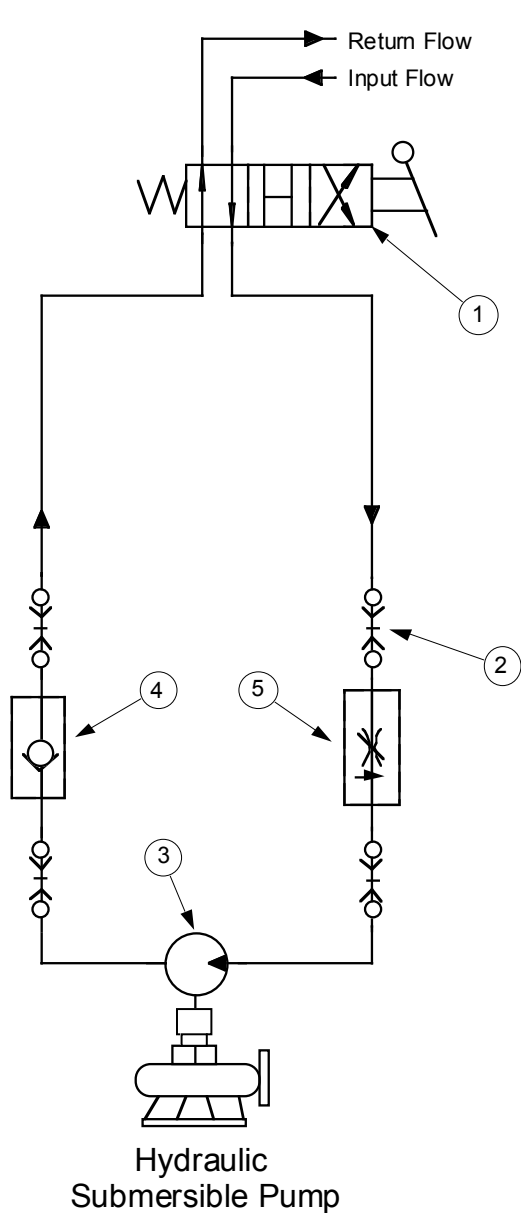
This pump is designed to operate with hydraulic input flows to 10 GPM and a maximum pressure of 2800 PSI. Hydraulic circuits must be open center, single direction and have an unrestricted return flow from the hydraulic motor to the oil reservoir.

Operating this unit at pressures or flows in excess of those listed above or connecting this unit to a closed center or reversing circuit will cause damage to the unit and will void the warranty!

Please review the enclosed hydraulic schematic(s). If you are not sure if the hydraulic power source being used to drive this pump is properly sized or connected, call Hydra-Tech Pumps.

Please read and understand this manual BEFORE you attempt to operate this pump.

TYPICAL HYDRAULIC SCHEMATIC
for Customer Supplied
Hydraulic Power Source



! Do Not use Closed Center Valves

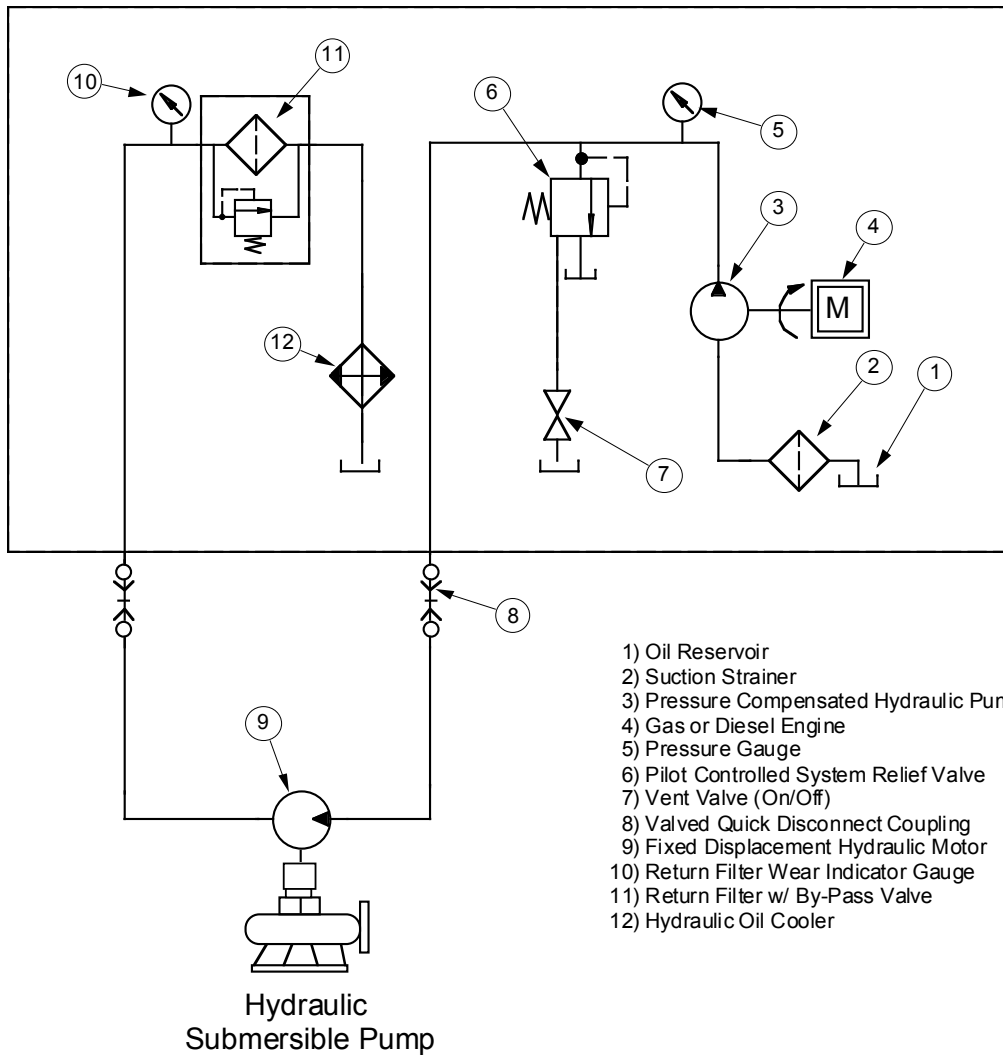
Return flow from the hydraulic motor must be allowed to return to the oil reservoir to enable the pump impeller to gradually slow to a stop.

Blocking this flow will cause damage to the hydraulic motor and pump seal!!

- 1) 4 Way Open Center Directional Valve
(Must be operated in forward direction only or use check valve (4) to prevent reversing)
- 2) Valved Quick Disconnect Coupling
- 3) Hydraulic Motor Driving Submersible Pump
- 4) Check Valve (Recommended)
- 5) Flow Control (Recommended if the hydraulic flow is greater than the flow required by submersible pump)



TYPICAL HYDRAULIC SCHEMATIC
for Hydraulic Submersible Pump
with Engine Driven Power Unit
(Fixed Displacement Hydraulic Pump)



- 1) Oil Reservoir
- 2) Suction Strainer
- 3) Pressure Compensated Hydraulic Pump
- 4) Gas or Diesel Engine
- 5) Pressure Gauge
- 6) Pilot Controlled System Relief Valve
- 7) Vent Valve (On/Off)
- 8) Valved Quick Disconnect Coupling
- 9) Fixed Displacement Hydraulic Motor
- 10) Return Filter Wear Indicator Gauge
- 11) Return Filter w/ By-Pass Valve
- 12) Hydraulic Oil Cooler



Maintenance Instructions

S4TLP and S4TLPAL Pump

PREVENTIVE MAINTENANCE:

1. Always be sure to use only clean, filtered hydraulic oil to drive the hydraulic motor. Your hydraulic system should have a filter and it should be rated at 10 micron.
2. When connecting hydraulic hoses to the pump, be sure to keep hose connections clean. Make sure quick-disconnect couplings are completely connected before operating the pump.
3. Use hydraulic oils with anti-wear additives such as these recommended oils or their equivalent:

Pennzoil	AW46 Hydraulic Oil
Texaco	Rando HDAZ
Shell	Tellas Hydraulic Oils
Mobil	D.T.E. 20 Series
Chevron	EP Hydraulic Oils
Exxon	Univis N Hydraulic Oils

Note: When using this equipment in environmentally sensitive areas we recommend using biodegradable oil such as Chevron Clarity or Exxon Univis Bio 40.

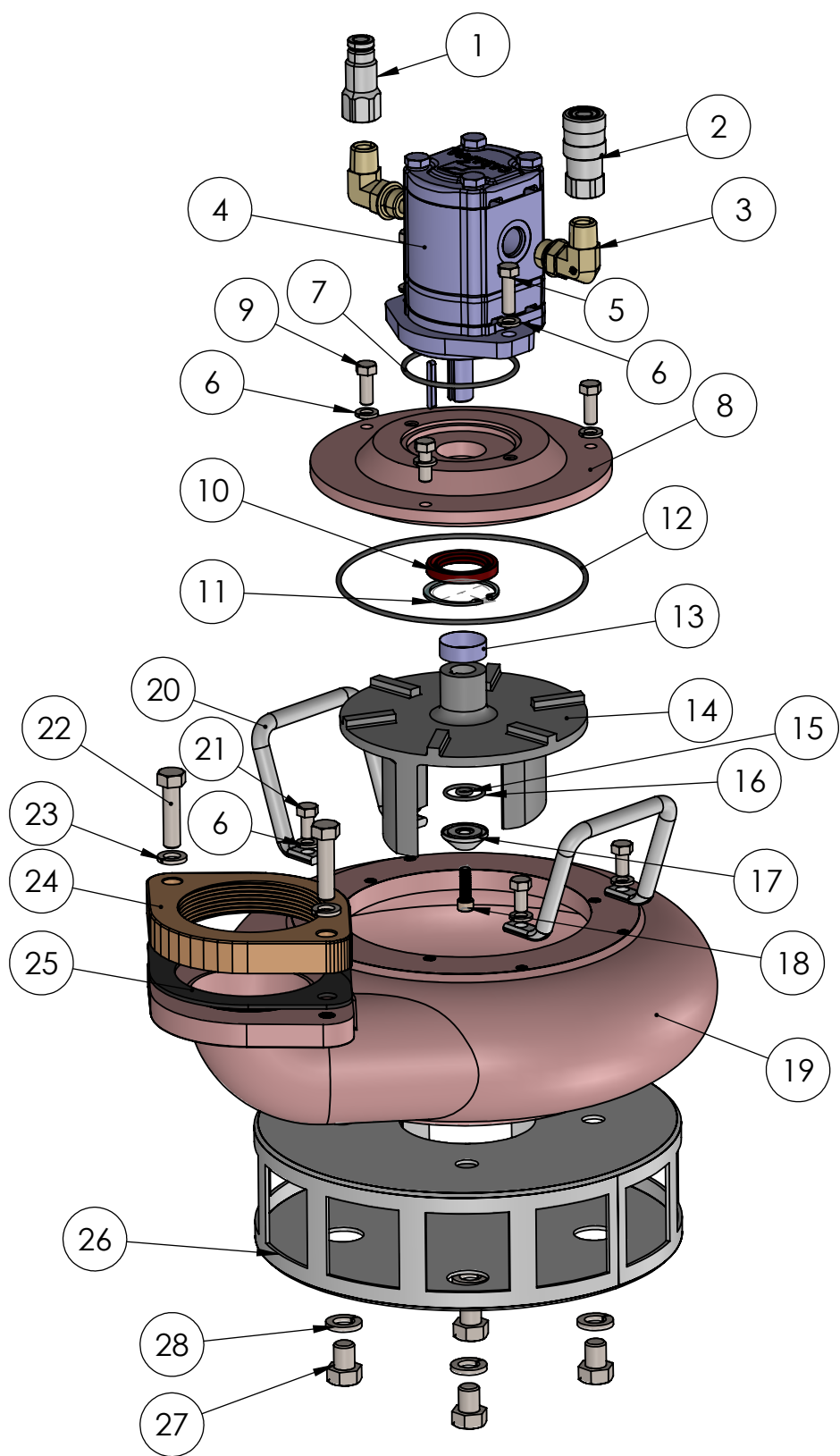
DISASSEMBLY: (Note or mark orientation of parts before disassembly)

1. Remove (3) bolts (#9) holding drive assembly to volute casing (#19).
2. Lift drive assembly out of volute and set down in horizontal position.
3. To remove impeller (#14): Secure impeller from turning by holding it with a chain wrench or pry bar.
4. Remove impeller-locking screw (#17) by turning it counter-clockwise.
5. Slide (or lightly pry) impeller from motor shaft. Inspect the impeller and seal sleeve (#13) for wear and replace if worn.
6. Remove (2) bolts (#5) holding the hydraulic motor (#4) and carefully slide the motor out of the top cover (#8).
7. Inspect the 'O' ring (#7) and replace if damaged or flattened.
8. To remove shaft seal (#10): Remove the snap ring (#11) with snap ring pliers.
9. Use seal puller or similar tool to pry out the seal. It is best to replace the seal with a new one after removal since the old seal may be distorted from being pried out.
10. Inspect 'O' ring (#12) and replace if worn.
11. Inspect volute (#19), handles (#20), strainer (#26), discharge flange (#24) and gasket (#25) for damage and replace if necessary.

ASSEMBLY: (Check for proper orientation of parts during assembly)

1. Lubricate the shaft seal (#10) with rubber lube or clean grease.
2. Carefully press the seal into cavity on bottom side of top cover (#8) making sure the lips on the seal face outward toward the snap ring groove.
3. Install the snap ring (#11) into the groove below the seal.
4. Apply clean grease to the inside of the shaft seal.
5. Install 'O' ring (#7) onto bottom step of the hydraulic motor (#4).
6. Insert the motor shaft key into motor shaft.
7. Install the motor onto the top cover, apply a light coat of anti-seize lubricant to (2) bolts with lock-washers (#5,6) and install and tighten to 25 lb-ft (33 N-m).
8. Apply a light coat of anti-seize lubricant to the bore of the impeller (#14) and slide it onto the motor shaft.
9. Install the 'O' rings (#15,16) onto the retaining washer (#17) with grease to keep them in place while assembling.
10. Insert the locking screw (#18) through the retaining washer and install this assembly onto the impeller and into the shaft.
11. Hold the impeller from turning while tightening the locking screw to 17 lb-ft (24 N-m).
12. Install the drive assembly into the volute (#19), apply a light coat of anti-seize lubricant to (3) bolts with lock-washers (#9,6) and install and tighten to 25 lb-ft (33 N-m).
13. Install discharge flange gasket (#25) and discharge flange (#24).
14. Apply a light coat of anti-seize lubricant to (2) bolts with lock-washers (#22,23) and install and tighten to 55 lb-ft (75 N-m).
15. Install handles (#20) to top-side of volute. Apply a light coat of anti-seize lubricant to (4) bolts with lock-washers (#21,6) and install and tighten to 25 lb-ft (33 N-m).

16. Install strainer (#26) to bottom side of volute. Apply a light coat of anti-seize lubricant to (4) bolts with lock-washers (#27,28) and install and tighten to 90 lb-ft (122 N-m).
17. Install hydraulic fittings (#3) and quick disconnect couplings (#1,2).
18. Connect to a hydraulic power supply and check rotation of pump. The pump should spin clockwise as viewed from the motor end or counter-clockwise as viewed from the pump inlet end.



PARTS LIST
S4TLP (Iron Body)
S4TLPAL (Aluminum Body)

Always mention serial # of unit when ordering parts

Item	Part #	Description
1	PP0000\9320	Quick-disconnect hose coupling, male
2.	PP0000\9378	Quick-disconnect hose coupling, female
3.	PP0000\9325M	Elbow, 5/8" SAE x 1/2" NPT
4.	PP0000\2288A	Hydraulic Motor 16cc
5.	PP0000\3512	Hex Head Bolt SS (2 req.) 3/8-16 x 1-1/4
6.	PP0000\9315	Lock-washer (9 req.)
7.	PP0000\3518	'O' Ring, hydraulic motor
8.	SP0167\2285	Top Cover (Iron)
	SP0164\2285AL	Top Cover (Aluminum)
9.	PP0000\9314	Hex Head Bolt SS (3 req.) 3/8-16 x 1
10.	PP0000\2286	Shaft Seal
11.	PP0000\2287	Snap Ring
12.	PP0000\2181	"O" Ring, top cover
13.	PP0000\2283	Seal Sleeve
14.	FC0042\2280	Impeller
15.	PP0000\9125	"O" Ring, retaining washer, inner
16.	PP0000\2284	"O" Ring, retaining washer, outer
17.	SP0166\2281	Retaining Washer
18.	PP0000\9307L	Socket Head Locking Screw SS
19.	FC0040\2168	Volute (Iron)
	FC0145\2168AL	Volute (Aluminum)
20.	PP0000\2164	Handle (2 req.)
21.	PP0000\9318	Hex Head Bolt w/ (4 req.) 3/8-16 x 3/4
22.	PP0000\0007	Hex Head Bolt SS (2 req) 1/2-13 x 2-1/4
23.	PP0000\0153	Lock-washer SS (2 req)
24.	FC0039\2166	Discharge Flange (Iron), 4" NPT (F)
	FC0147\2166AL	Discharge Flange (Aluminum), 4" NPT (F)
25.	PP0000\2167	Gasket, discharge flange
26.	PP0000\2178	Trash Strainer
27.	PP0000\9300	Hex Head Bolt (4 req) 5/8-11 x 3/4
28.	PP0000\9301	Lock-washer (4 req) 5/8, plated



167 Stock Street, Nesquehoning PA 18240
Phone: (570) 645-3779 Fax: (570) 645-4061
Email: htpump@hydra-tech.com
Website: www.hydra-tech.com

Hydra-Tech Pumps Limited Warranty Submersible Pumps Only

Hydra-Tech Pumps warrants to the original purchaser only that this product is free from defects in material and workmanship, and agrees to repair or replace, at Hydra-Tech's option, any submersible pump part found to be defective within **24 months from the date of purchase**.

This warranty is not transferable.

THIS WARRANTY DOES NOT COVER DAMAGES RESULTING FROM CARELESS HANDLING, IMPROPER INSTALLATION, LACK OF SERVICE, INCORRECT POWER OR FAULTY APPLICATION SUCH AS PUMPING ABRASIVES, CORROSIVES, OR FLUIDS IN EXCESS OF 160 DEGREES F. WARRANTY COVERAGE IS NORMALLY NOT AVAILABLE FOR WEAR ITEMS SUCH AS: Wear Rings; Wear Plates; Impellers, and Mechanical Seals.

Any modification or alteration of this equipment will void the warranty. Any claim for warranty damage must be accompanied by digital photos of the defective part or parts, the serial number from the equipment, and a detailed description of the defect and possible causes. All warranty claims should be emailed to htpump@hydra-tech.com or mailed to Hydra-Tech Pumps, 167 Stock Street, Nesquehoning, Pennsylvania 18240 USA.

Submersible Pumps judged by Hydra-Tech Pumps to have been defective in workmanship or materials when shipped from the factory and within the warranty period will be either repaired or replaced at Hydra-Tech's option free of charge including motor freight both ways, within the continental United States.

HYDRA-TECH MAKES NO WARRANTY EXPRESSED OR IMPLIED INCLUDING WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE EXCEPT AS STATED ABOVE. HYDRA-TECH SHALL NOT BE LIABLE FOR ANY DAMAGES, INCLUDING CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BREACH OF WARRANTY AND WHETHER OR NOT ARISING OUT OF OR BASED ON HYDRA-TECH'S NEGLIGENCE, WHETHER ACTUAL OR IMPLIED, AND FOR DAMAGES TO ANY PROPERTY OR PERSON ARISING OUT OF THE PURCHASE OR THE USE, OPERATION OR MAINTENANCE OF THE EQUIPMENT. HYDRA-TECH SHALL NOT BE RESPONSIBLE FOR REPAIRS OR ALTERATIONS MADE BY OTHERS.

No person is authorized to make any representations or warranties on behalf of Hydra-Tech and no other person is authorized to alter or extend any of the conditions contained in this warranty.

December 2016

