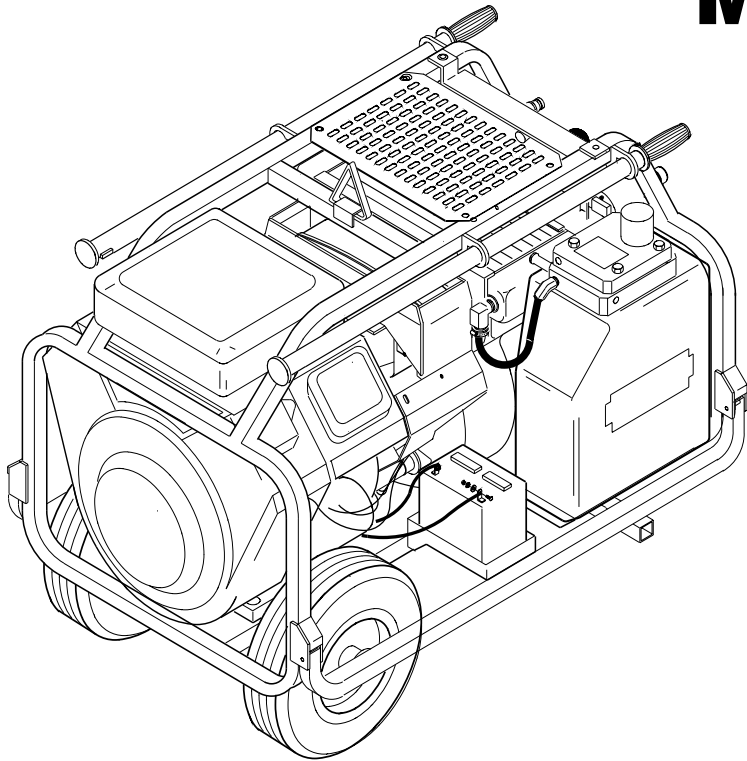




HP1

COMPACT POWER UNIT

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.**

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DANGER

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

REPAIRS AND / OR SERVICE TO THIS EQUIPMENT 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 locations listed on the back of this manual.

SAFETY PRECAUTIONS

⚠ DANGER

Do not operate this equipment or associated equipment until the following safety instructions have been thoroughly read and understood! Read this manual before installing, operating or maintaining this equipment.

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 equipment.

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 5.

In addition to this manual, read and understand safety and operating instructions in the Engine Operation Manual furnished with the power unit.

GENERAL SAFETY PRECAUTIONS

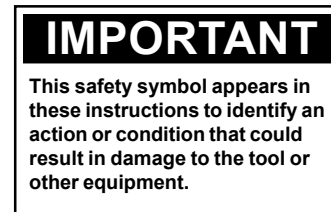
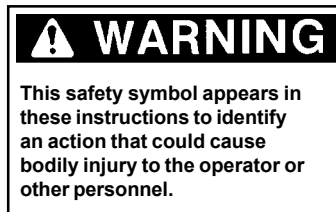
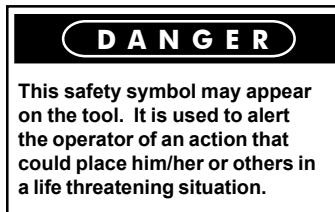
The HP1 Compact Hydraulic Power Unit will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the Power Unit. Failure to do so could result in personal injury or equipment damage.

- Operators 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 operation.
- Do not operate the power unit 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 power unit and a hydraulic tool.
- Do not inspect or clean the power unit while the unit is running.
- Always use hoses and fittings rated at 2500 psi/172 bar with a 4 to 1 safety factor. Be sure all hose connections are tight.
- Make sure all hoses are connected for correct flow direction to and from the tool being used.
- Do not inspect hoses and fittings for leaks by using bare hands. "Pin-hole" leaks can penetrate the skin.
- **Never operate the power unit in a closed space.** Inhalation of engine exhaust can be fatal.
- Do not operate a damaged or improperly adjusted power unit.
- Never wear loose clothing that can get entangled in the working parts of the power unit.
- Keep all parts of your body away from the working parts of the power unit.

- Always wear appropriate safety equipment such as goggles, ear protection, and toe guards. Certain tools used in conjunction with the power unit may require other safety equipment such as breathing filters.
- Keep clear of hot engine exhaust.
- Do not add fuel to the power unit while the power unit is running or is still hot.
- Do not operate the power unit if gasoline odor is present.
- Do not use flammable solvents around the power unit engine.
- Do not operate the power unit within 3.3 ft/1 m of buildings, obstructions, or flammable objects.
- Do not reverse grinding wheel rotation direction by changing fluid flow direction.
- Allow the engine to cool before storing the power unit in an enclosure.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.

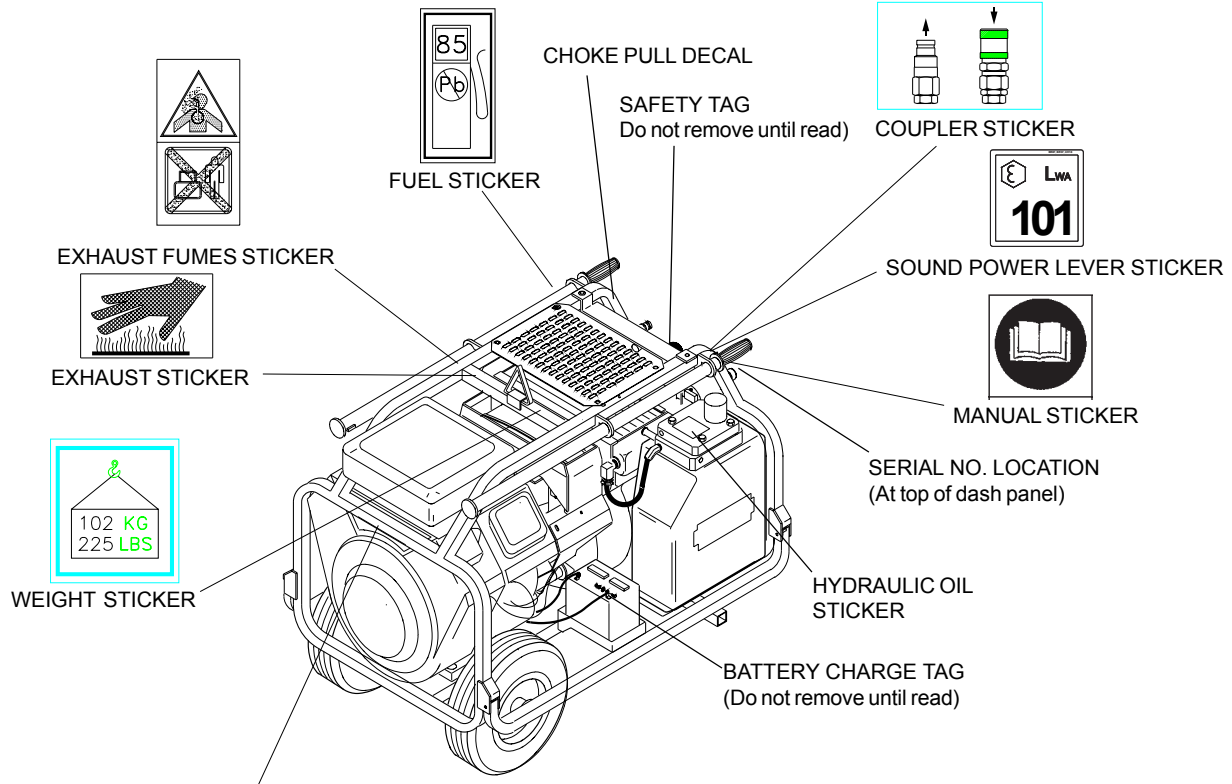
SAFETY SYMBOLS

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.



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

SAFETY STICKERS & TAGS



CAUTION
DO NOT OPERATE THE PUMP WITHOUT WATER. OPERATING THE PUMP WITHOUT WATER WILL SEVERELY DAMAGE THE PUMP.

CAUTION STICKER
(If Equipped with Water Pump Kit)

The safety tag at right is attached to the power unit 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 THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST.

B. **DO NOT EXCEED RATED WORKING PRESSURE** OF HYDRAULIC HOSE USED WITH THIS TOOL. EXCESS PRESSURE MAY CAUSE A LEAK OR BURST.

C. CHECK TOOL HOSE COUPLERS AND CONNECTORS DAILY FOR LEAKS. **DO NOT FEEL FOR LEAKS** WITH YOUR HANDS. CONTACT WITH A LEAK MAY RESULT IN SEVERE PERSONAL INJURY.

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.

SEE OTHER SIDE 15875

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.

6. WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.

7. TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.

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.

SEE OTHER SIDE 15875

SAFETY TAG (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.

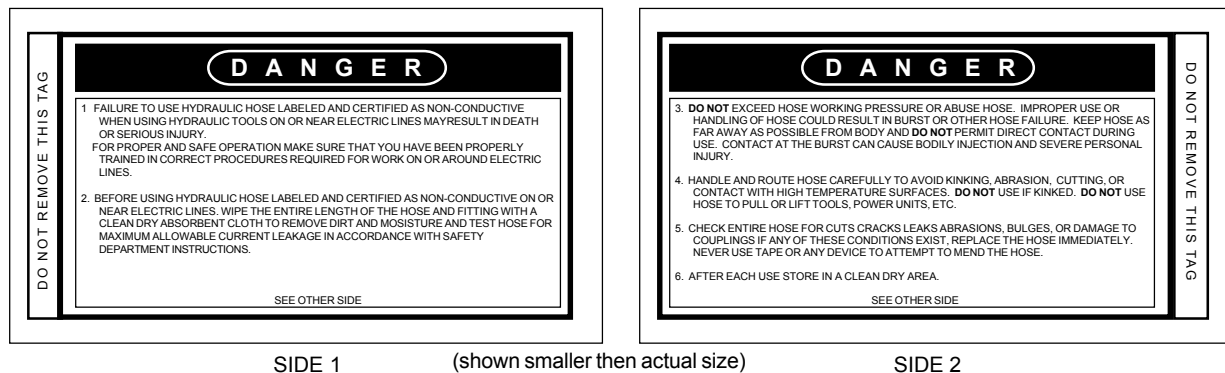
Hoses 2 and 3 listed above are **conductive** and **must never** be used near electrical conductors.

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley. **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.

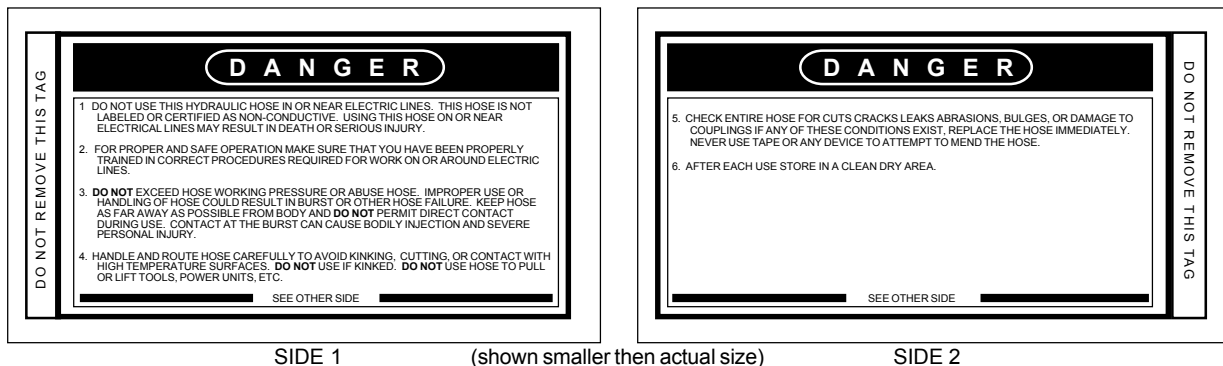
1 CERTIFIED NON-CONDUCTIVE HOSE

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



2 AND 3 WIRE-BRAIDED AND FABRIC-BRAIDED (NOT CERTIFIED OR LABELED NON-CONDUCTIVE) HOSE

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



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.

OPERATING INSTRUCTIONS

PREPARATION FOR USE

Do not operate the power unit until you have read the *engine* operating and maintenance instructions manual furnished with the unit.

1. ENGINE CRANKCASE OIL LEVEL

IMPORTANT

Do not start the Engine with the throttle control set at 5 or 8 gpm/ 19 or 30 lpm.

Always check the oil level before starting the engine. Make sure the oil level is at the FULL MARK on the dipstick. Do not overfill. Use detergent oil classified "For Service SE, SF, SG" as specified in the engine operating and maintenance manual.

2. ENGINE FUEL LEVEL

Check the fuel level. If low, fill with un-leaded gasoline with a minimum of 85 octane.

3. HYDRAULIC FLUID

Check the sight pipe in the hydraulic fluid reservoir for the proper fluid level. Proper fluid level is indicated when the center section of the sight pipe is dark. If the center section of the sight pipe is not dark, add hydraulic fluid. Use fluids meeting the following specifications.

Viscosity (Fluid Thickness)

U.S.	METRIC
50°F 450 SSU Maximum	10°C 95 Centistokes
100°F 130-200 SSU	38°C 27-42 C.S.
140°F 85 SSU Minimum	60°C 16.5 C.S. Minimum

PourPoint -10°F/-23°C Minimum (for cold startup)

Viscosity Index (ASTM D-2220) 140 Minimum

Demulsibility (ASTM D-1401) 30 Minutes Maximum

Flash Point (ASTM D-92) 340°F/171°C Minimum

Rust Inhibition (ASTM D-665 A & B) Pass

Oxidation (ASTM D-943) 1000 Hours Minimum

Pump Wear Test (ASTM D-2882) 60 mg Maximum

The following fluids work well over a wide temperature range, allow moisture to settle out and resist biological growth that may occur in cool operating hydraulic circuits. These fluids are recommended by Stanley. Other fluids that meet or exceed the specifications of these fluids may also be used.

Chevron AW-MV-32

Exxon "Univis" J-26

Mobil D.T.E. 13

Gulf "Harmony" AW-HVI-150-32

Shell "Tellus" T-32

Texaco "Rando" HD-AZ

Union "Unax" AW-WR-32

4. HYDRAULIC CONNECTIONS

Facing the panel control valve, the far right-hand male quick disconnect fitting is the pressure (FLUID OUT) fitting. The left-hand female quick disconnect fitting is the return (FLUID IN) fitting.

The recommended hose length is 25 ft/8 m with a 1/2 inch/12.7 mm inside diameter. The hoses must have a working pressure rating of at least 2500 psi/175 bar. Each hose end must have male thread ends compatible with H.T.M.A. (HYDRAULIC TOOL MANUFACTURERS ASSOCIATION)

5. BATTERY

The supplied 12 Volt DC battery has been partially dry charged. Before using, it must first be filled with battery electrolyte at a specific density of 1.240 to 1.260. Fill each cell to its upper level indicator and then charge at a 2 Amp rate for at least 12 to 15 hours. After charging, check the electrolyte level and fill as required.

Also, make sure the battery cables are tight and charging circuit functions are operating properly.

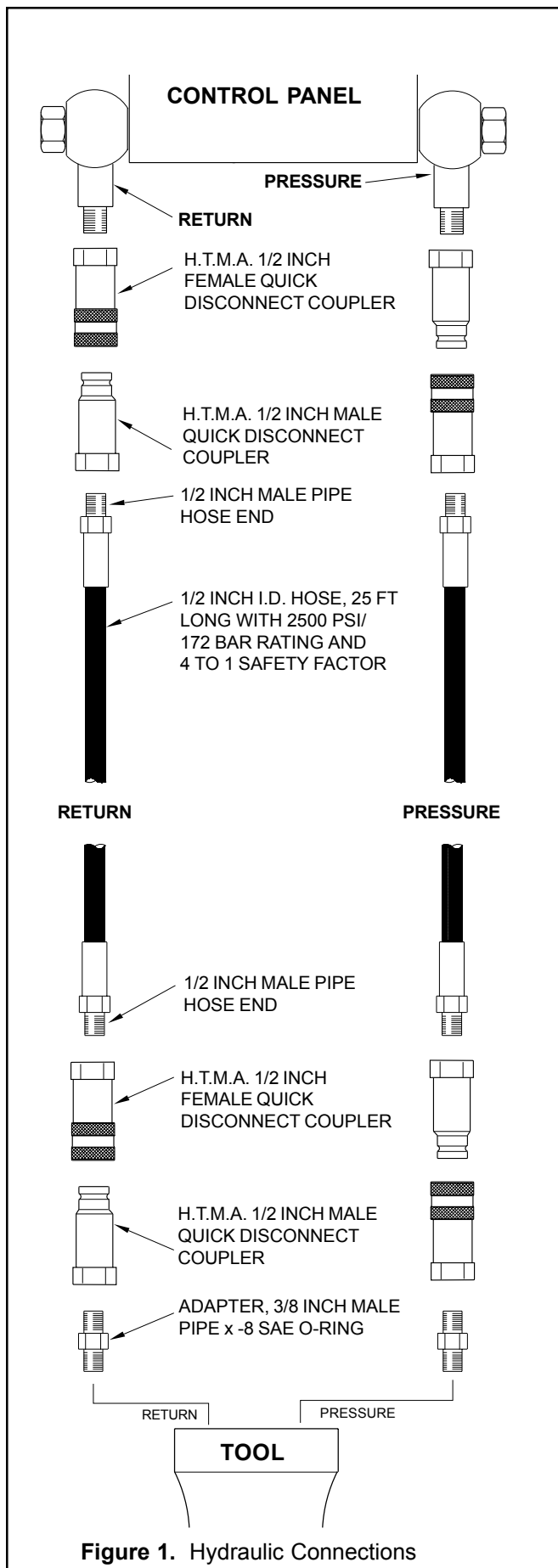


Figure 1. Hydraulic Connections

quick disconnect fittings (NPT type threads). (See Figure 1.)

Longer hoses may be used when necessary, but can effect the operation of the engine automatic throttle due to fluid resistance in the hose. If small diameter or long hoses are used, or if restrictive fittings are connected to the supply and return ports, the pressure required to push the fluid through the system and back to the hydraulic tank will be higher. If the pressure is too high, this will cause the engine RPM to remain at full load if "AUTO" is selected on the automatic throttle. Also see "HYDRAULIC HOSE REQUIREMENTS" earlier in this manual.

QUICK DISCONNECT COUPLERS

H.T.M.A. approved quick disconnect couplings are installed to hydraulic hoses so that the direction of oil flow is always from the male to the female quick disconnect as shown in figure 1. Quick disconnect couplings and hose fittings are selected so that additional fittings such as reducer or adapter fittings are not required.

If adapter fittings are used, they must be approved steel hydraulic fittings meeting a minimum operating pressure rating of 2500 psi/172 bar. Do not use galvanized pipe fittings or black pipe fittings.

Use thread tape or pipe joint compound when installing quick disconnect couplings to hose or tool fittings. Follow the instructions furnished with the selected thread sealant. **DO NOT OVERTIGHTEN THE FITTINGS.**

CAUTION

Do not charge the battery with a standard automotive battery charger. This type of charger produces a charging amperage higher than 2 amps. Charging the battery with amperage higher than 2 amps will damage the battery.

6. THROTTLE CONTROL (See Figure 2)

The throttle control permits the operator to select one of 3 operating modes after the engine has warmed up. For startup, the throttle control should be set on "AUTO".

- a. **AUTO** - Engine speed varies with hydraulic circuit pressure to maintain a constant 8.5 gpm/32 lpm. When a tool is not being used the engine will return to idle automatically.
- b. **5** - Engine speed is held at part throttle to maintain 5 gpm/19 lpm. When a tool is not being used the engine will not return to idle until the faspin is removed.
- c. **8** - Engine speed is held at full throttle to maintain 8.5 gpm/32 lpm. When a tool is not being used the engine will not return to idle until the faspin is removed.

Typical conditions requiring the "8" position are:

- When operating an alternator, fluid flow must be constant to produce the required voltage and frequency, even when load requirements are light.
- When operating drills or grinders or diamond saws, tool rpm must be maintained even when load requirements are light.

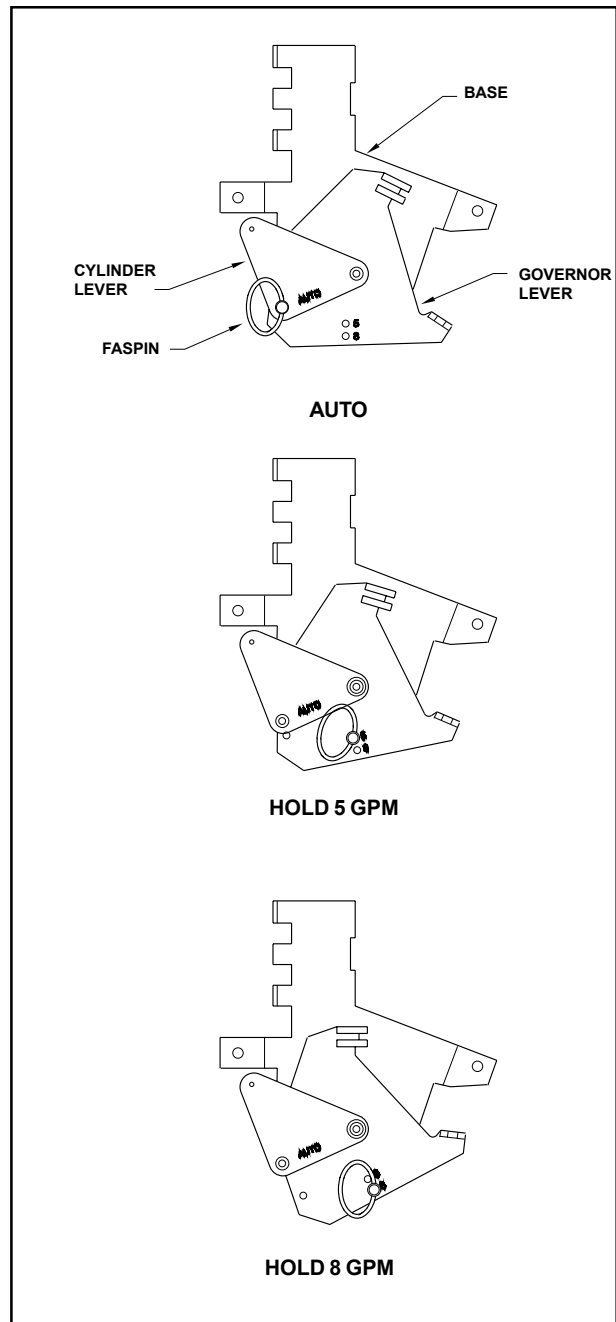


Figure 2. Throttle Control Settings

STARTUP - See "PANEL CONTROLS" - Figure 3

1. Assure the circuit control lever is in the "OFF" position.
2. Select the "AUTO" throttle operating mode by positioning the governor lever to the cylinder lever and inserting the faspin as shown in figure 2.

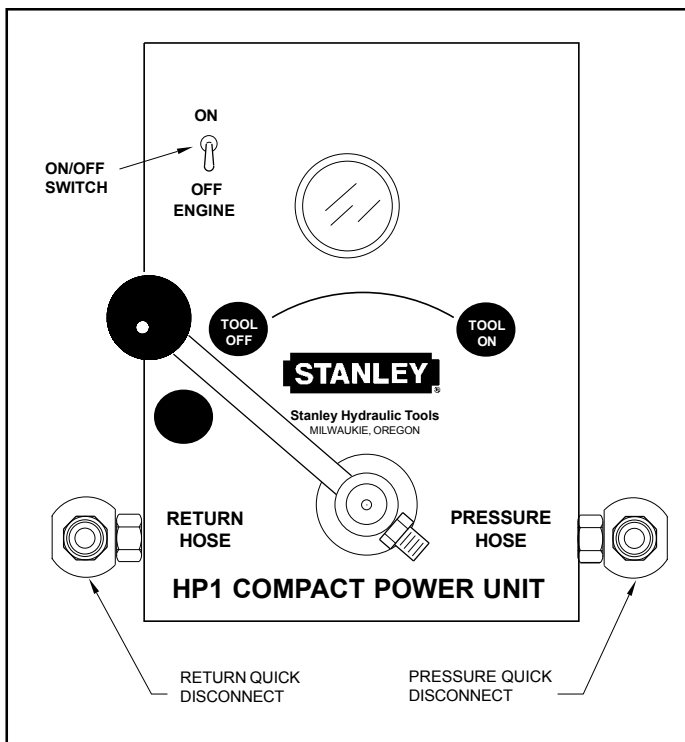


Figure 3. Control Panel

3. Position the ON/OFF switch to the "ON" position.
4. Pull the choke lever out.
5. Push the circuit control lever to the "START" position.
6. After the engine starts, allow the engine to warm up until it runs smoothly with the choke released.

IMPORTANT

Do not start the Engine with the throttle control set at 5 or 8 gpm/ 19 or 30 lpm.

COLD WEATHER STARTUP

1. Use the procedures described under "STARTUP" and then follow the procedure below.
2. Hydraulic fluids are thicker in cold weather, therefore, it is recommended that the engine be run at low idle long enough to bring the fluid temperature up to a minimum of 50°F/10°C or until the top of the hydraulic filter feels warm.

3. If the tools and tool hoses are cold, it is recommended to allow hydraulic fluid to circulate through the tool hoses until warm before using the tool.

TOOL OPERATION

1. With the engine running smoothly, move the control lever to the "ON" position.
2. Activate the tool. The automatic throttle will increase engine speed to permit proper tool operation. When the tool is deactivated, the automatic throttle allows the engine to return to idle.
3. If automatic throttle operation is not desired, change the throttle control to "5 or 8".

SHUTDOWN

1. Place the circuit control lever in the "OFF" position.
2. If the throttle control is in the "5" or "8" position, change it to the "AUTO" position.
3. Allow the engine to idle for approximately one minute and then switch the ON/OFF switch to the "OFF" position.

OPTIONAL WATER PUMP KIT

CAUTION

DO NOT OPERATE THE PUMP WITHOUT WATER. OPERATING THE PUMP WITHOUT WATER WILL SEVERLY DAMAGE THE PUMP.

If the power unit will be operated without need of the water pump, unpin the water pump and remove it.

ROUTINE MAINTENANCE

ENGINE MAINTENANCE

Follow the maintenance schedule and general maintenance instructions in the engine maintenance and operation manual furnished with the power unit. Normal maintenance includes:

- Service foam air pre-cleaner every 25 hours of operation.
- Service air paper cartridge every 100 hours of operation.
- Replace in-line fuel filter every 100-300 hours or sooner if required.
- Replace spark plugs every 100 hours of operation.
- Change engine oil after first 5 hours of operation, then after every 50 hours of operation. If engine has been operating under heavy load or in high ambient temperature, change the oil every 25 hours of operation.
- Change oil filter when engine oil is changed.
- Check oil level daily.
- Remove dirt and debris from engine with a cloth or brush daily. Do not use water spray.
- Clean air cooling system every 100 hours of operation.

HYDRAULIC SYSTEM MAINTENANCE

- Check hydraulic fluid level daily. The center of the sight pipe on the reservoir must be dark. If it is not dark, fluid must be added. Add fluid per specifications in this manual. (See "HYDRAULIC FLUID" under the section titled "OPERATING INSTRUCTIONS".)
- Remove condensed moisture from the hydraulic fluid by pumping the hydraulic fluid into a 5 gal/20 ltr container through the pressure hose. Make sure the engine is at idle when performing this procedure. When the hydraulic reservoir is empty turn the engine off immediately.
- Allow the fluid to sit long enough for the water to settle to the bottom of the container. Slowly pour the fluid back into the hydraulic tank,

avoiding the water at the bottom of the container.

- Each day, check hydraulic lines and fittings for leaks, kinks, etc. Do not use your hand to perform this check.
- Change the hydraulic filter element every 200 hours of operation. Change more often if cold, moist or dusty conditions exist.
- Check oil cooler for debris. Remove debris with air pressure.

STORAGE

- Clean the unit thoroughly before storage. Do not use water pressure.
- Always store the unit in a clean and dry facility.
- If the unit will be stored for a prolonged period (over 30 days), add a fuel additive to the fuel tank to prevent the fuel from gumming. Run engine for a short period to circulate the additive.
- Replace crankcase oil with new oil.
- Remove spark plugs and pour approximately 1 ounce (30 ml) of engine oil into each cylinder. Replace spark plugs and crank the engine slowly to distribute the oil.
- Check hydraulic reservoir for water. If water is found, change the oil and circulate it through the tool hose and tool. (See "HYDRAULIC SYSTEM MAINTENANCE" earlier in this section).
- Disconnect tool hoses.

SERVICE INSTRUCTIONS

GENERAL

Service instructions in this section are limited to parts and components other than the engine and hydraulic pump. Other major components should be serviced by representatives of the respective manufacturers as follows:

ENGINE -

Briggs and Stratton Vanguard OHV
Model 350447-0084-01

The engine should be serviced only by *Briggs & Stratton Industrial and Construction Equipment Dealers*. *Lawn and Garden Dealers* may not be able to offer warranty work for this application. It is recommended to contact a *Central Sales & Service Distributor* for the nearest authorized Briggs and Stratton representative or contact Briggs and Stratton at 1-800-233-3723.

HYDRAULIC PUMP -

John S. Barnes (Vickers) 65-5-5-A13R9-23-R
or
Commercial Intertech
P5B193BECASPL97CAC SPL1

DASH PANEL & CONTROL BLOCK ASSEMBLY

If it is necessary to remove the valve assembly, the fuel tank must first be removed in order to gain access to the hose fittings and wiring located on the back of the panel. Otherwise, many components of the panel and valve can be serviced by removing the grille (13, fig. 2).

NOTE: Disconnect the battery terminals before servicing the control block assembly or any dash panel components.

VALVE SPOOL (See figure 5)

1. To service the valve spool first remove the control rod (8).
2. Remove the grille (18).
3. Remove the elbow swivels (1).

4. Remove the retaining ring (6) and the spool washer (5).

5. Remove the capscrews which hold the panel (3) in place and then lift the panel forward away from the control block.

6. The valve spool is removed from the control block by removing the retaining ring (23) and pulling the spool out of the valve block.

5. Inspect the finish of the valve spool and bore of the control block. If scored or scratched, replace the part(s).

6. Reverse the above procedure to reinstall the above components.

RELIEF VALVE (See figure 5).

DESCRIPTION: The relief valve allows oil to by-pass to the reservoir when the system pressure reaches a pre-set setting. The relief valve is set to by-pass at a "cracking" pressure of 2100-2300 psi/145-158 bar.

While adjustments can be made to the relief setting (see TESTING and TROUBLESHOOTING), the parts of the relief valve are not serviceable.

To adjust or remove the relief valve, follow steps 1 through 5 under VALVE SPOOL found earlier in this section. Then follow the steps under TESTING and TROUBLE SHOOTING (found later in this manual) to adjust the relief valve.

ENGINE & RELATED COMPONENTS

ENGINE (See figure 1 and 2).

Most engine servicing can be performed without removing the engine. Consult with your Briggs and Stratton Dealer regarding engine repairs.

1. Remove both battery connections and the battery strap (42, fig. 2) and remove the battery.
2. To remove the engine, the fuel tank and wheels must first be removed. See instructions in this section for removing the fuel tank.

3. Remove the five screws (14, fig. 1) holding the cooler mount (18, fig. 1) to the blower housing.
4. Remove the throttle cable connection (50, fig. 2) at the engine.
5. Remove the choke cable (15, fig. 1) connection at the engine.
6. Detach wires from the engine and move them away from the engine.
7. Detach the fuel line from the fuel filter.
8. Remove the four capscrews (30, fig. 1 & 45, fig. 2) holding the engine to the frame and then push the engine forward.
9. Remove the coupling sleeve (31, fig. 2).
10. Slide the engine, with exhaust and blower housing attached, out the fuel tank side of the frame.
11. Reverse the procedure to reinstall the above components.
12. After installing the engine, adjust the coupling so the sleeve has 1/32-1/16 inch end play.
13. Adjust the actuator cylinder by loosening the cylinder clamps and sliding the cylinder forward or back.

IMPORTANT

Switch connections must not be changed. The Magtronic Ignition system will be damaged if wires are not connected correctly. Refer to the wiring diagrams for the appropriate model.

EXHAUST SYSTEM (See figure 1).

The muffler (9) cannot be removed without first removing the air duct weldment (25). Removal of the air duct weldment requires engine removal.

ELECTRICAL

Refer to the wiring diagram for the correct connections, wire sizes and colors.

BLOWER HUB & SHAFT EXTENSION, BLOWER WHEEL, INLET RING, & BLOWER HOUSING (See figure 1).

1. Remove the engine as described earlier in this section.
2. To remove the blower wheel, remove the five screws (38) around the housing inlet ring (39) and remove the ring.
3. Remove the blower wheel (35) with the blower hub and shaft extension (33) by loosening the two set screws (32).
4. Remove the four capscrews (19) holding the blower housing (21) to the engine. Remove the housing.
5. Reverse the procedure to reinstall the above components and observe the following added procedures.
 - Install capscrews (19) which hold the blower housing to the engine using Loctite™ 242.
 - Install capscrews (36) which hold the blower wheel to the blower hub and shaft extension using Loctite™ 680 and torque to 80-100 lb. in.

OIL COOLER (See figure 1, 2 and 7).

1. Remove the grille (11, fig. 2).
2. Remove the hoses (1 & 15, fig 7)
3. Remove the two capscrews (41, fig. 1) and lift the cooler out.
4. Reverse the procedure to reinstall the above components.

HYDRAULIC PUMP (See figure 2).

1. Remove the grille (18).
2. Disconnect the pressure and supply hoses at the pump and tie them in a position to minimize fluid loss.
3. Remove the 2 capscrews (24) and then remove the pump.
4. Reverse the above procedure to reinstall the pump and observe the following step.

- Insure the coupling sleeve has 1/32-1/16 inch end play.

FRAME ASSY & RELATED COMPONENTS

FUEL TANK (See Figure 2).

1. If the fuel tank contains fuel, take extreme precautions to remove the fuel into approved containers. Do not attempt to service the fuel tank in unventilated areas or in areas containing electric or natural gas appliances which may start-up unexpectedly or in shop areas where grinding or welding is present, all of which can ignite the fuel vapors.

1. Remove the grille (18) by removing the 4 capscrews (10).
2. Remove the fuel line from the tank by pulling it out.
3. The fuel tank can now be removed by removing the 3 capscrews (1) and the tank support tab (4).
4. Thoroughly clean the tank and replace the fuel filter.
5. Use the reverse procedure to reinstall the fuel tank.

HYDRAULIC TANK (See Figure 2, 6 & 7).

1. First remove the hydraulic fluid from the tank by either pumping it out with a portable drill pump or draining it into a container.
2. Remove the grille (18, fig. 2) by removing the 4 capscrews (10, fig. 2).
2. Remove the hoses 6, 8 & 12, fig. 7) by loosening the hose clamps.
4. The hydraulic tank can now be removed by removing the 3 capscrews (1, fig. 2) and the tank support tab (33, fig. 2).

HYDRAULIC FILTER (See figure 6).

5. The filter can be removed from the filter block (13) by removing 4 capscrews (2), lifting off the filter top (4), and then lifting out the oil filter (6).
6. The gasket (17) can be serviced by removing 4

capscrews (12) while holding the filter grip plate (18) in place and then lifting off the filter block (13). Lift out the filter grip plate and set aside.

7. Reinstall the grip plate, gasket, filter block, oil filter and filter top by reversing the removal procedure.
8. Reinstall the hydraulic tank by reversing the removal procedure.

CHOKE CABLE ASSY (See figure 1 & 3).

1. The choke cable assembly is removed by removing the sheet metal screws (14, fig. 1) and the choke cable anchor capscrew.

ACTUATOR ASSY (See figure 2 & 4).

1. Remove the screen (18, fig. 2).
2. Unscrew the hose fitting on the hose (11, fig. 4) at the valve.
3. Remove the throttle cable (50, fig. 2) at the carburetor.
4. Remove the screen 11, fig. 2).
5. Remove the capscrew (8, fig. 2) and lift the actuator assembly out.
6. Inspect the piston and cylinder for scratches. If any are present, replace the parts. Replace all seals.
7. Reverse the above procedures to reinstall the actuator assembly.
8. Adjust the actuator cylinder by loosening the cylinder clamps and sliding the cylinder forward or back.

TESTING and TROUBLESHOOTING

GENERAL

Tests and adjustments should be performed periodically to ensure the power unit is operating at maximum efficiency. A hydraulic circuit tester is recommended for use in isolating problems in both the engine and hydraulic system prior to any power unit disassembly.

TESTING THE HYDRAULIC CIRCUIT.

The following tests can be performed to ensure that the hydraulic pump is supplying the correct flow and pressure and that the system relief valve is operating properly.

During these tests, make sure the engine is warm and operating smoothly. If test results are not as specified, refer to the troubleshooting table given in this section for possible causes. Also, refer to the section on service instructions for repair or replacement of defective parts.

TESTING H.T.M.A. (Hydraulic Tool Manufacturers Association) TYPE I CIRCUITS

An **H.T.M.A. Type I Circuit** is a circuit that produces 5 gpm/19 lpm at 2000 psi/140 bar. When the throttle actuator is set in the "5" position, the power unit produces 5 gpm/19 lpm at 2000 psi/140 bar.

1. Set the circuit control lever to the OFF position.
2. Connect the circuit tester across the tool hose ends.
3. Fully open the tester restrictor valve.
4. Start the engine and allow it to run until warm.
5. Set the engine Throttle Control to the "5" position.
6. Place the circuit control lever to the ON position. With the engine at medium speed, the test flow gauge should read 5-6 gpm/19-23 lpm.
7. Slowly close the restrictor valve while watching the pressure gauge. The flow rate should begin at

5 gpm/19 lpm and will drop slightly as the pressure gauge rises. At a pressure of 1900 psi/133 bar the flow rate should read 5 gpm/19 lpm. If it does not, the throttle governor may require adjustment. If a pressure of 1900 psi/133 bar cannot be obtained, the relief valve may require adjustment.

Since the engine is not operating at full rpm, testing or adjusting the relief valve setting is not recommended. Test the relief valve according to the instructions located later in this manual.

TESTING H.T.M.A. (Hydraulic Tool Manufacturers Association) TYPE II CIRCUITS

An **H.T.M.A. Type II Circuit** is a circuit that produces 8 gpm/30 lpm at 2500 psi/172 bar. When the throttle actuator is set in the "8" position, the power unit produces 8 gpm/30 lpm at 2500 psi/172 bar. If the throttle actuator is set in the "AUTO" position, 8 gpm/30 lpm at 2500 psi/172 bar can also be obtained.

1. Set the circuit control lever to the OFF position.
2. Connect the circuit tester across the tool hose ends.
3. Fully open the tester restrictor valve.
4. Start the engine and allow it to run until warm.
5. Set the engine Throttle Control to the "8" position.
6. Place the circuit control lever to the ON position. With the engine at high speed, the test flow gauge should read 8-9 gpm/30-34 lpm.
7. Slowly close the restrictor valve while watching the pressure gauge. The flow rate should begin at 8 gpm/30 lpm and will drop slightly as the pressure gauge rises. At a pressure of 1900 psi/133 bar the flow rate should read 8 gpm/30 lpm. If it does not, the throttle governor may require adjustment. If a pressure of 1900 psi/133 bar cannot be obtained, the relief valve may require adjustment.

Test the relief valve according to the instructions located later in this manual.

TESTING THE THROTTLE ACTUATOR

1. Set the circuit control lever to the OFF position.
2. Connect the circuit tester across the tool hose ends.
3. Set the engine Throttle Control to the "AUTO" position.
4. Fully open the tester restrictor valve.
5. Start the engine and allow it to run until warm.
6. Place the circuit control lever to the ON position.
7. Slowly close the restrictor valve while watching the pressure gauge. As the gauge reaches 600 psi/42 bar, the engine should start to SPEED up.
8. Open the tester restrictor valve while watching the pressure gauge. The engine speed should start to SLOW as the pressure drops below 150 psi/11 bar.

If the engine speed does not react as indicated above, the throttle control or linkage may require adjustment. Check for free movement. Make sure the lever movement near the actuator cylinder is sliding correctly. Movement of the actuator lever can be tested by manually pushing the actuator lever. Notice if the linkage feels sticky or the engine fails to speed up. If neither problem is evident, the actuator cylinder or pressure line from the control valve to the cylinder must be faulty. Repair as required.

ADJUSTING SPEED ACTUATOR CONTROL

1. Without changing the engine rpm, loosen the hose clamp on the actuator cylinder and slide the cylinder back or forward until the AUTO hole in the cylinder lever aligns with the corresponding hole in the actuator control weldment. Remove the faspin and set the actuator control weldment to AUTO.
2. While the engine is idling, use a long phillips screwdriver to turn the engine governor adjustment screw about one-quarter turn clockwise to increase engine rpm or counter-clockwise to decrease engine rpm.

TESTING & SETTING THE RELIEF VALVE

The relief valve is set to "crack" open at approximately 2100-2300 psi/145-158 bar and should be

fully open at 2500 psi/172 bar. These settings are tested as follows:

1. Set the circuit control lever to the OFF position.
2. Connect the circuit tester across the tool hose ends.
3. Set the engine Throttle Control to the "AUTO" position.
4. Fully open the tester restrictor valve.
5. Start the engine and allow it to run until warm.
6. Place the circuit control lever to the ON position.
7. Slowly close the restrictor valve while watching the pressure gauge. When the gauge reaches 2000 psi, continue to close the restrictor and watch closely for a small drop in pressure. This small drop in pressure should occur between 2100-2300 psi/145-158 bar and indicates the pressure at which the relief valve "cracks" open. Continue to close the restrictor. The pressure should not exceed 2500 psi/172 bar when the restrictor is fully closed. If the above settings are incorrect, the relief valve requires adjustment or replacement as follows:

- a. Remove the top grille.
- b. Remove the capscrews holding the dash panel in place and tilt the dash panel forward to gain access to the relief valve.
- c. Remove the cap to the relief valve and note the screw slot. The relief valve is adjusted by turning the screw clockwise to increase pressure or counter-clockwise to decrease pressure. Adjust the relief valve until a cracking pressure of approximately 2100-2300 psi/145-158 bar is achieved and then repeat the test.
- d. If "cracking" pressure between 2100-2300 psi/145-158 bar cannot be achieved, and/or if a maximum pressure of 2500 psi/172 bar cannot be achieved, replace the relief valve and repeat the test.

TROUBLESHOOTING

If symptoms of poor performance develop, use the chart on the following page to help isolate the problem.

TROUBLE SHOOTING CHART

PROBLEM	CAUSE	REMEDY
Engine will not run.	Ignition switch off.	Set the switch to "ON" before pushing control lever to the left.
	Battery not connected.	Attach battery cables, check wires.
	Weak battery.	Test battery, charge or replace.
	No fuel.	Add Fuel.
	Fuel filter plugged.	Replace fuel filter.
	Defective spark plugs.	Remove plugs, check gap, clean or replace.
Fluid blowing out of fluid reservoir vent.	Defective pump seal.	Replace pump seal.
	Hydraulic tank overfilled.	Correct the fluid level.
Hydraulic tool won't operate.	Control lever setting incorrect.	Set control lever to "TOOL ON".
	Incorrect hose connection to tool.	Make sure the tool hose circuit goes from right (pressure) fitting to tool and back to the left fitting (return). Fluid always flows from the male to female fittings.
	Quick disconnect fittings defective.	Detach from hose, connect set together and check for free flow.
	Hydraulic fluid level low.	Check for correct fluid level. Fill using the recommended fluid.
	Pump coupling defective.	Check power unit between pump and cooler. The coupler should slide only .150 inches between blower and pump.
	Relief valve stuck open.	Adjust or replace valve.
	Suction hose kinked.	Make sure suction hose from fluid reservoir to pump inlet has a smooth curve.
	Automatic throttle not working	If tool operates at low engine rpm, set throttle control manually, to 5 or 8 (per tool rating). Later, have the throttle control serviced.

SPECIFICATIONS

Engine: 18 hp Vanguard IC V-twin (OHV)

Engine Lube System: Pressure Lube

Capacity 8 gpm @ 2500 psi / 30 lpm @ 172 bar

Length: 33 in. / 84 cm

Width: 21 1/2 in. / 55 cm

Height: 29 in. / 73.6 cm



Weight (Dry): 216 lbs / 100 kg

Fuel Tank Capacity: 4.2 gal. / 15 ltr

Estimated Gas Consumption Per Hour 1.3 gal / 4 ltr

Hydraulic Reservoir Capacity: 2.7 gal. / 11 ltr

Relief Valve "crack" setting 2100-2300 psi / 145-158 bar

Full relief setting 2500 psi / 172 bar



EHTMA Category "D" (30 lpm @ 138 bar)



Noise Level Lwa 101

Vibration Level N/A

HP1 COMPACT POWER UNIT PARTS LIST

Item No	P/N	Qty	Description
FIG. 1 - ENGINE ASSY			
1	23332	1	Engine, Briggs & Stratton
2	18384	1	Oil Filter
3	08667	4	Self Tapping Screw, #10-24 x 3/8 in.
4	23814	1	Air Duct, Back
5	04539	6	Washer
6	01298	8	Lockwasher
7	23846	6	Capscrew, M6 x 1 x 16 mm
8	-----	4	Capscrew (Incld with Engine)
9	23772	1	Muffler, modified
10	-----	1	Heat Shield (incld w/item 14)
11	-----	1	Washer (Incld with Engine)
12	-----	1	Capscrew (Incld with Engine)
13	-----	2	Screw (incld w/item 14)
14	08668	12	Sheet Metal Screw
15	23722	1	Choke Cable Assy (See Fig. 3)
16	44946	1	Oil Cooler Kit
17	-----	-	No Item
18	23662	1	Cooler Mount Weldment
19	31242	4	Locknut, 7/16-14
20	-----	-	NO ITEM
21	07783	1	Blower Housing
22	05694	4	Washer, 7/16 in.
23	23778	4	Standoff
24	07752	1	Cooler Mount
25	23812	1	Air Duct Weldment
26	03906	2	ESNA Nut, 5/16 in. -18
27	12175	A/R	Washer, 5/16 (as required)
28	23788	4	Spacer
29	03031	5	Lockwasher
30	04637	2	Capscrew, 5/16 in.-18 x 2-1/2
31	07818	1	Key
32	01397	2	Set Screw
33	23781	1	Blower Hub & Shaft Extension
34	07819	1	Key
35	08035	1	Blower Wheel
36	00899	4	Capscrew
37	23719	1	Coupling Assy (incld set screws, item 30 & 31 in fig. 2)
38	08669	1	Inlet Ring Gasket
39	07809	1	Inlet Ring
40	08667	5	Screw, Self Tapping
41	31241	2	Screw
FIG. 2 FRAME ASSEMBLY			
1	31241	5	Screw, 5/16 in.-18, slotted pan head
2	23401	1	Fuel Tank
3	07810	1	Fuel Tank Cap
4	21688	1	Tank Support
5	04416	2	Capscrew, 5/16 in.-18 x 1/2
6	23774	1	Actuator Assy (See Fig. 4)
7	00719	1	Nut
8	00035	1	Capscrew, 1/4 in.-20 x 1-1/4
9	04539	7	Washer, 1/4 in.
10	03907	8	Capscrew, 1/4 in.-20 x 1-1/2
11	27759	2	Top Grille
12	08080	2	Handle Grip
13	23775	1	Dash Panel Assy (See Fig. 5)
14	02072	2	Capscrew, 5/16 in.-18 x 3/4
15	03031	9	Lockwasher, 5/16 in.
16	12175	15	Flatwasher, 5/16 in.
17	08201	2	Capscrew, 5/16 in.-18 x 1-1/2
18	29133	1	Proposition 65 Sticker (California)
19	04530	2	Washer, 1/4 in.
20	07757	4	Capscrew, 7/16 in.-14 x 1-1/2
21	05967	1	Inlet Flange
22	08045	1	O-ring, 1-1/2 in. x 1-3/4 x 1/8 R17
23	-----	1	Key (Incld with item 26)
24	07860	2	Capscrew, 3/8 in.-16 x 1-1/4
25	01459	2	Lockwasher, 3/8 in.
26	04134	1	Hydraulic Pump
27	-----	1	Retaining Ring (Incld with item 30)
28	07803	1	Hydraulic Tank Assy (See Fig. 6)
29	-----	1	Washer, (Incld with item 30)
30	23719	1	Coupling Assy (Incld item 31)
31	-----	1	Coupling Sleeve (Incld with item 30)

Item No	P/N	Qty	Description
32	10499	1	Battery Pad
33	07758	1	Tank Support Tab
34	04303	1	Battery
35	00429	2	Nut
36	03031	2	Lockwasher, 5/16
37	28983	1	Weight Sticker
38	05227	2	Carriage Bolt, 5/16 in. x 3/4
39	31240	2	Retaining Ring
40	01918	2	Washer
41	16310	2	Wheel
42	04566	1	Battery Strap
43	03906	4	Nut, ESNA, 5/16 in.-18
44	-----	2	Incld with item 47
45	370504	2	Capscrew, 5/16 in.-18 x 2-3/4
46	370513	4	Capscrew, 5/16 in.-18 x 1-3/4
47	28091	1	Frame Weldment
48	16363	2	Axle
49	28093	2	Handle
50	56687	1	Throttle Cable Kit
51	07764	1	Choke Pull Decal
52	28985	1	Exhaust Sticker (CE models only)
53	28988	1	Exhaust Fumes Sticker (CE models only)
54	28323	1	CE Sticker (CE models only)
55	28788	1	Manual Sticker (CE models only)
56	28984	1	Fuel Sticker (CE models only)
57	29036	1	Sound Power Level Sticker (CE models only)
58	28786	1	Coupler Sticker (CE models only)
FIG.3 CHOKE CABLE ASSY - P/N 23722			
1	NSS	1	Choke Cable Anchor
2	NSS	1	Choke Cable Assy
3	NSS	1	Bracket
FIG. 4 ACTUATOR ASSY			
1	04913	1	Cable Stop
2	23717	1	Cylinder Pull Wire
3	-----	1	Screw (incld with item 1)
4	15161	1	Gland Cap
5	06891	1	O-ring
6	02838	2	Back-up Ring
7	23370	1	O-ring
8	15160	1	Keeper
9	20550	1	Spring
10	15148	1	Piston
11	360009	1	Hose Assy
12	15158	1	Cylinder
13	05931	1	Hose Clamp
14	23785	1	Base Weldment
15	23784	1	Control Weldment
16	23783	1	Cylinder Lever Weldment
17	04539	1	Washer, 1/4 in.
18	15162	1	Fast Pin
19	00769	1	Capscrew, 1/4 in.-20 x 3/4
FIG. 5 DASH PANEL & VALVE ASSY			
1	25633	1	Swivel Fitting
2	24061	1	Male Coupler Body - 1/2 in.
3	24237	1	Panel Weldment Assy (incld item 12)
4	20606	1	Hour Meter
5	07760	1	Spool Washer
6	07820	1	Retaining Ring
7	00147	1	Nut
8	05849	1	Control Rod
9	02633	1	Knob
10	-----	1	Incld with item 14
11	-----	1	Incld with item 14
12	07766	1	Decal
13	24060	1	Female Coupler Body - 1/2 in.
14	07808	1	ON/OFF Switch
15	07793	1	Steel Ball
16	07754	1	Spring
17	01212	1	Pipe Plug
18	07968	1	Starter Switch
19	00899	2	Capscrew

Item No	P/N	Qty	Description
FIG. 5 DASH PANEL & VALVE ASSY Continued . . .			
20	01298	2	Lock Washer
21	07792	1	Elbow Fitting
22	01539	1	Elbow Fitting
23	07745	2	Dowel Pin
24	05551	1	Capscrew
25	01459	1	Lock Washer
26	07753	1	Bar
27	07771	1	Valve Spool
28	06988	1	Backup Ring
29	06989	1	O-ring
30	07781	1	Valve Block
31	04312	1	Relief Valve
32	00955	1	Pipe Plug
33	04868	1	Elbow Hose Barb
34	-----	1	Inclcd with item 4
35	-----	2	Inclcd with item 4
36	-----	1	Inclcd with item 4
37	00140	1	Quad Ring

FIG. 6 TANK ASSY			
1	07763	1	Filler Cap
2	03760	4	Capscrew, 5/16 in.-18 x 1-1/2
3	28987	1	Hydraulic Oil Sticker
4	07772	1	Filler Top
5	06989	1	O-ring
6	07795	1	Oil Filter (Baldwin PT-289)
7	04708	1	Spring
8	07799	1	O-ring
9	08643	1	Hydraulic Filter Enclosure
10	07792	1	45 Degree Elbow
11	04867	1	Hose End Barb
12	08253	4	Capscrew, 1/4 in.-20 x 1-1/2
13	07780	1	Filter Block
14	01603	1	Steel Ball
15	07754	1	Spring
16	01271	1	Pipe Plug
17	09590	1	Gasket
18	09591	1	Filter Grip Plate
19	05535	1	Breather
20	07748	1	Sight Pipe
21	07784	1	Hydraulic Tank

FIG. 7 HOSES, FITTINGS, and CLAMPS			
1		2	90 Degree Elbow
2	04889	6	Hose Clamp
3	08226	1	Hose
4		1	Hose Assy
5		1	Hose Assy
6	08044	1	Hose
7	08045	2	Hose Clamp
8	06715	1	Suction Hose
9	11179	2	Hose Clamp
10	07747	1	Suction Sleeve
11	07749	1	Suction Tube
12	24389	1	Hose
13	04321	1	Elbow Fitting

15	23779	1	Hose Clamp
16	23777	1	Fuel Hose
17	19947	1	Fuel Filter & Hose Assy
18	31243	1	Wire Tie

Item No	P/N	Qty	Description
1	372067	3	Double Spade Connector
2	23715	1	Diode Wire Assy
3	09153	1	Wire Assy (14 gauge, black)
4	16320	1	Wire Assy (14 gauge, red)
5	23685	1	Wire Assy (14 gauge, yellow)
6	16321	1	Wire Assy (14 gauge, white)
7	08720	1	Wire Assy (6 gauge, black)
8	28898	1	Wire Assy (6 gauge, red)
9	-----	1	Wire, 14 gauge, red, inclcd w/engine
10	23681	1	Wire Assy (14 gauge, green)
11	23684	1	Wire Assy (14 gauge, black)
12	08724	1	Wire Assy (14 gauge, black)
13	23682	1	Wire Assy (14 gauge, green)

NOTE: Use Figure Number and Item Number when ordering.

MODEL DESCRIPTIONS

HP18294 Compact Power Unit - U.S.A.
HP1829401 Compact Power Unit - CE (European Communities)
HP18299 Compact Power Unit with Hose Basket - U.S.A.

NOTES

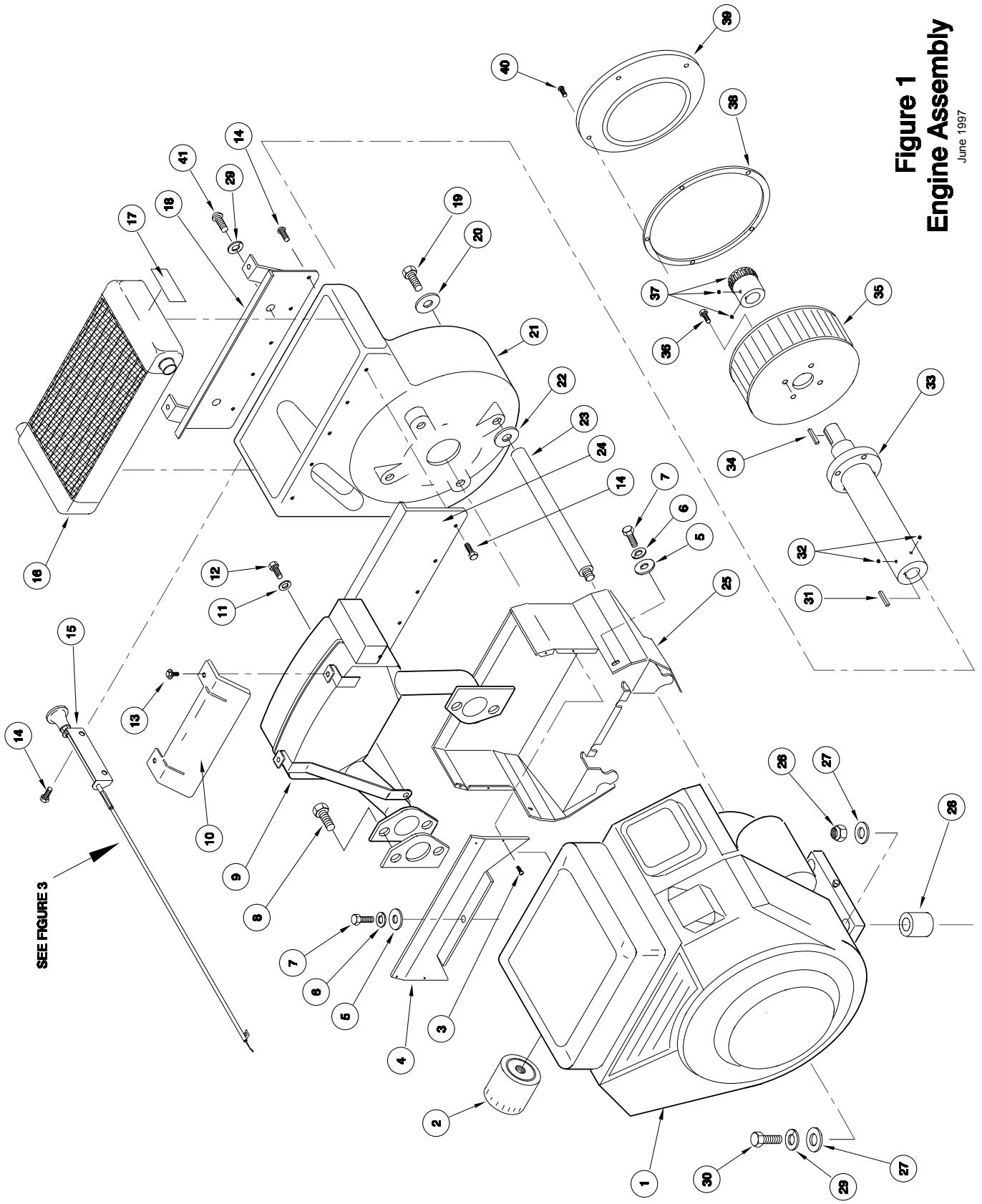


Figure 1
Engine Assembly
 June 1997

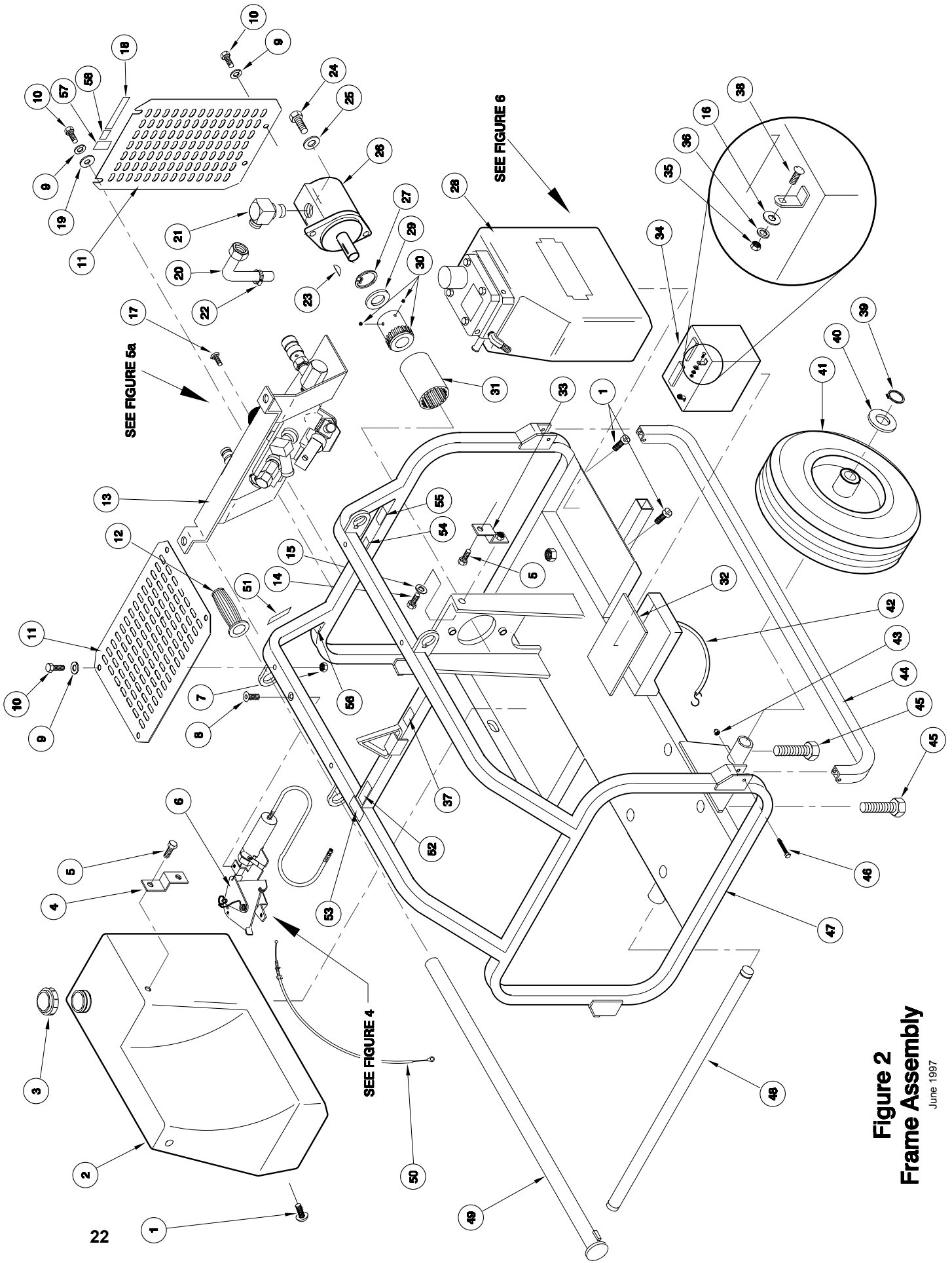


Figure 2
Frame Assembly

June 1997

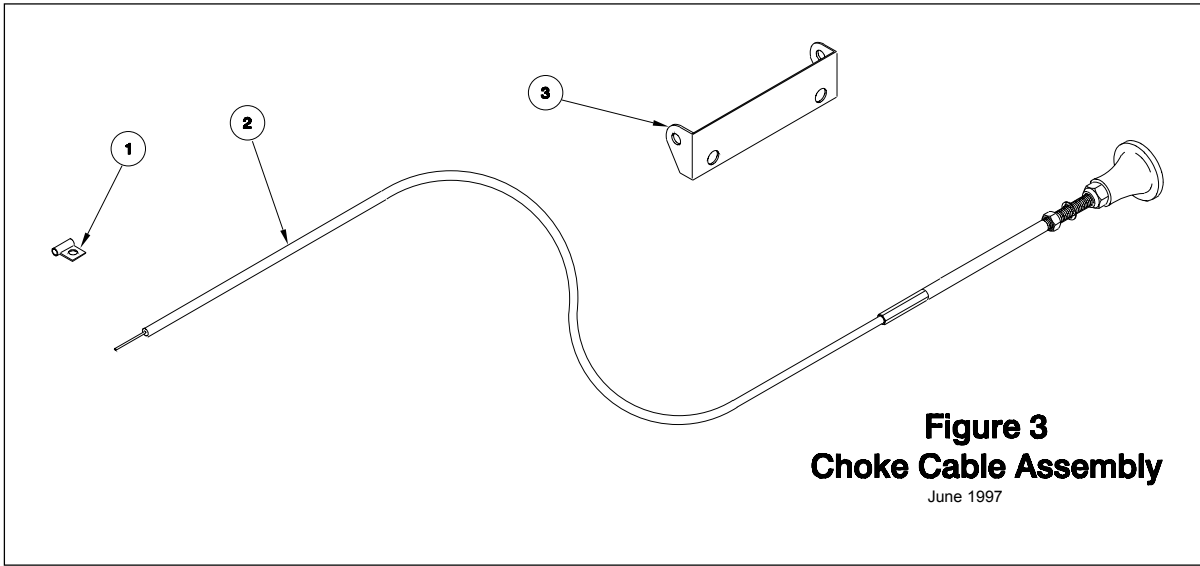


Figure 3
Choke Cable Assembly
June 1997

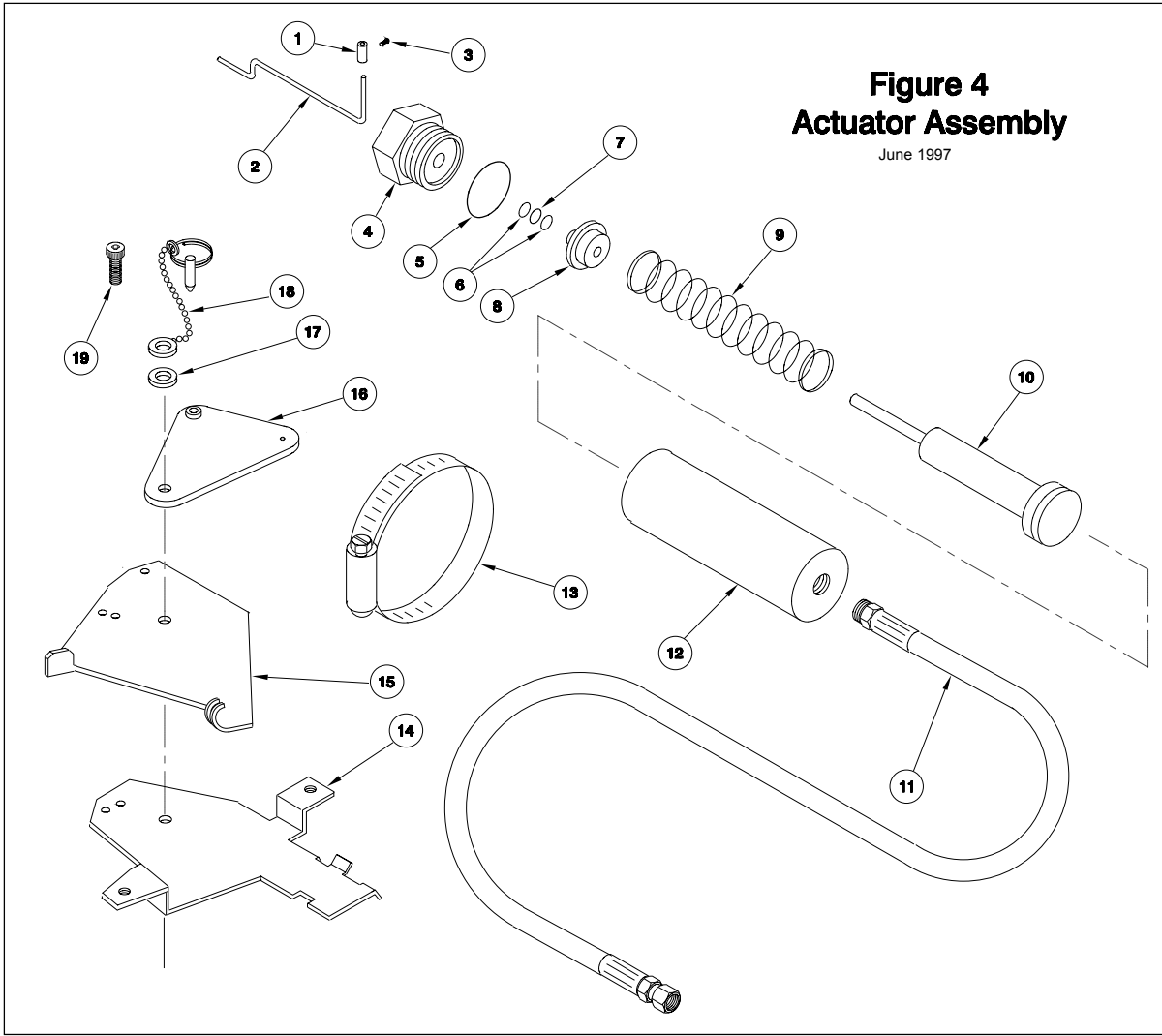


Figure 4
Actuator Assembly
June 1997

Figure 5
Dash Panel & Valve Assembly

June 1997

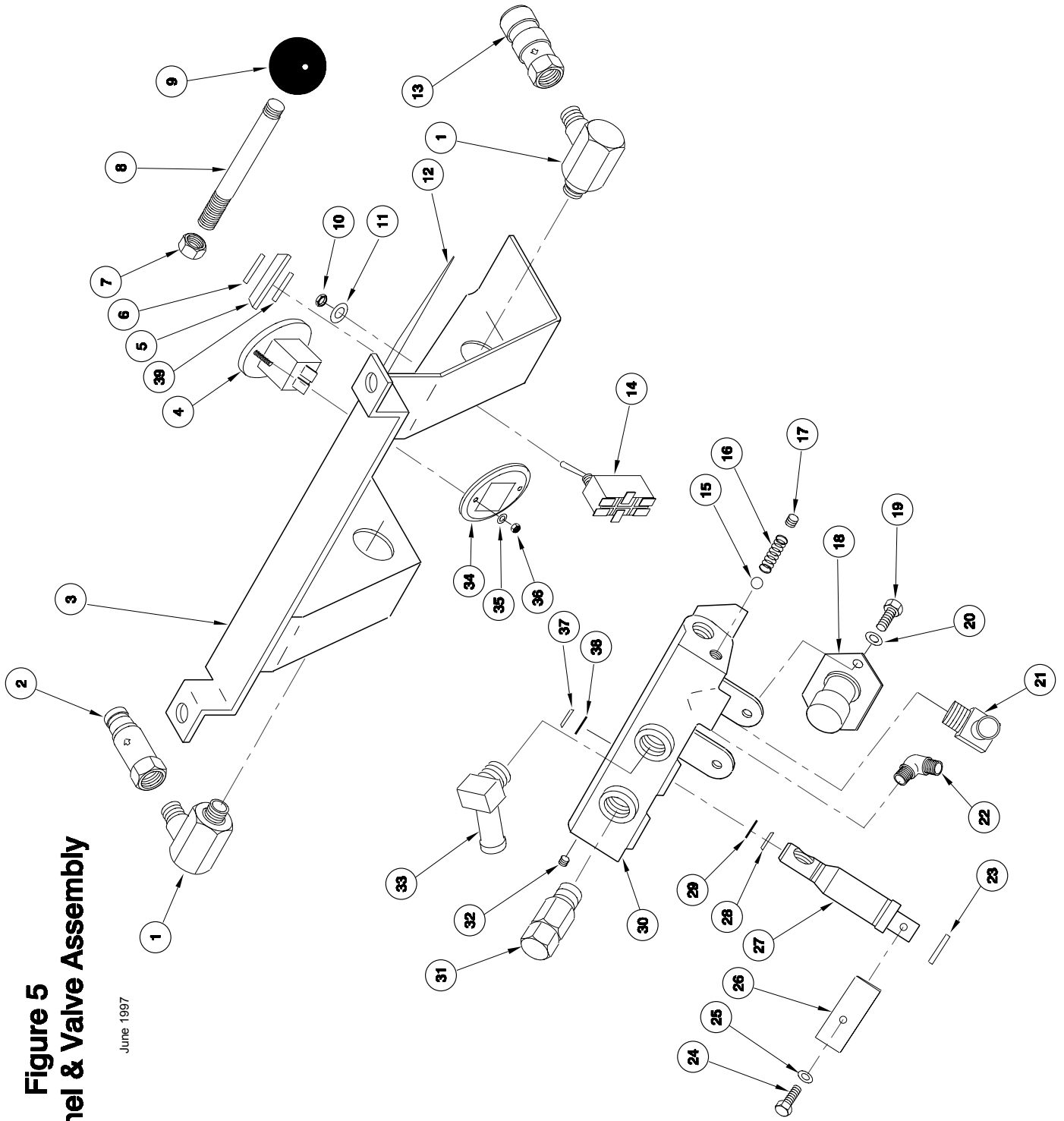


Figure 6 Tank Assembly

June 1997

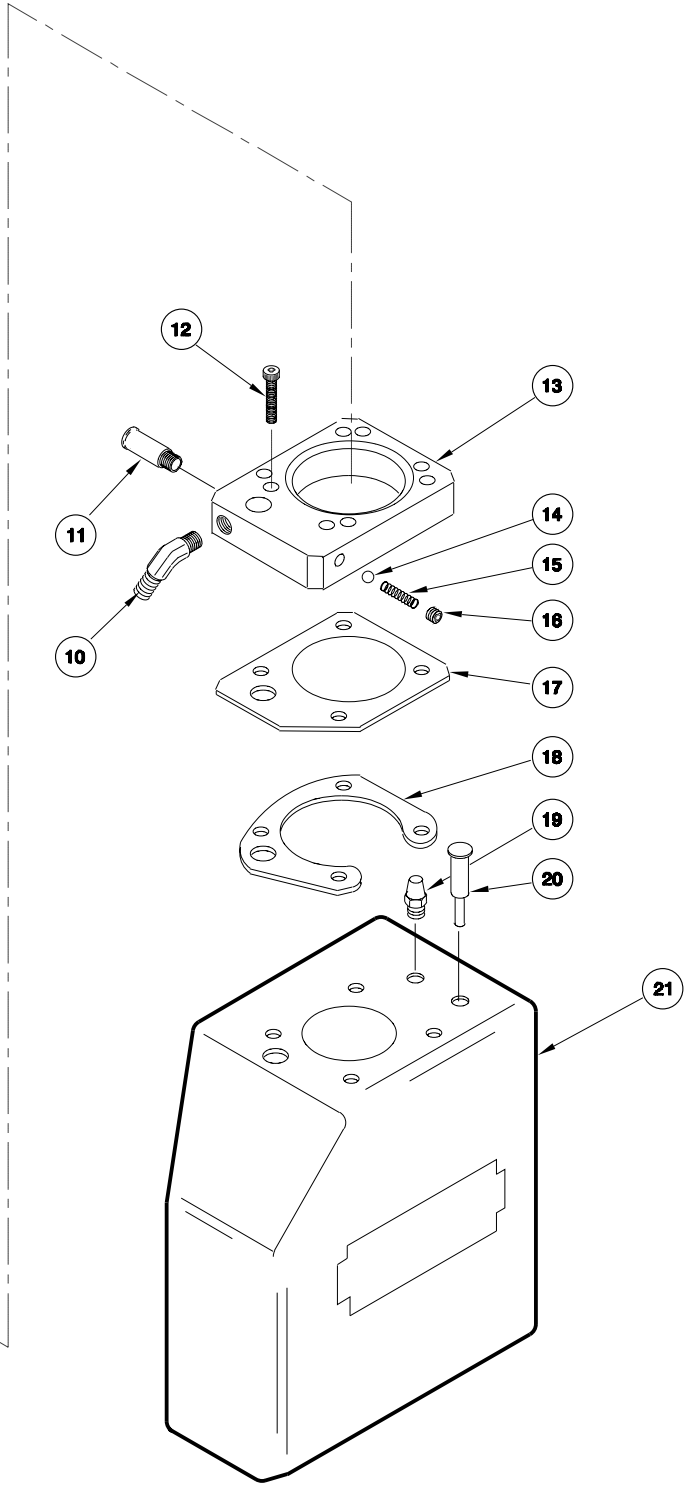
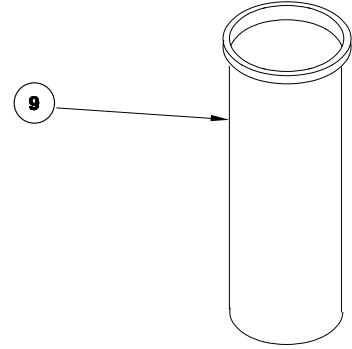
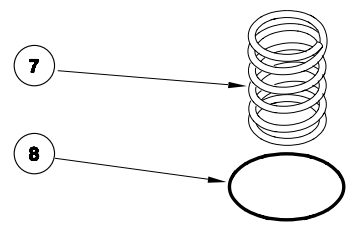
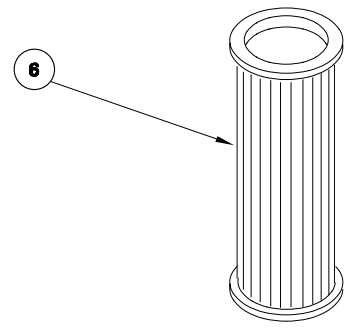
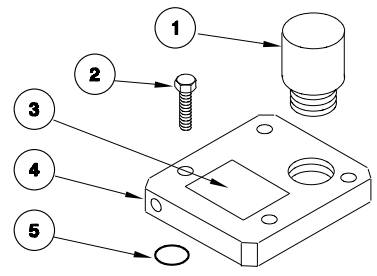
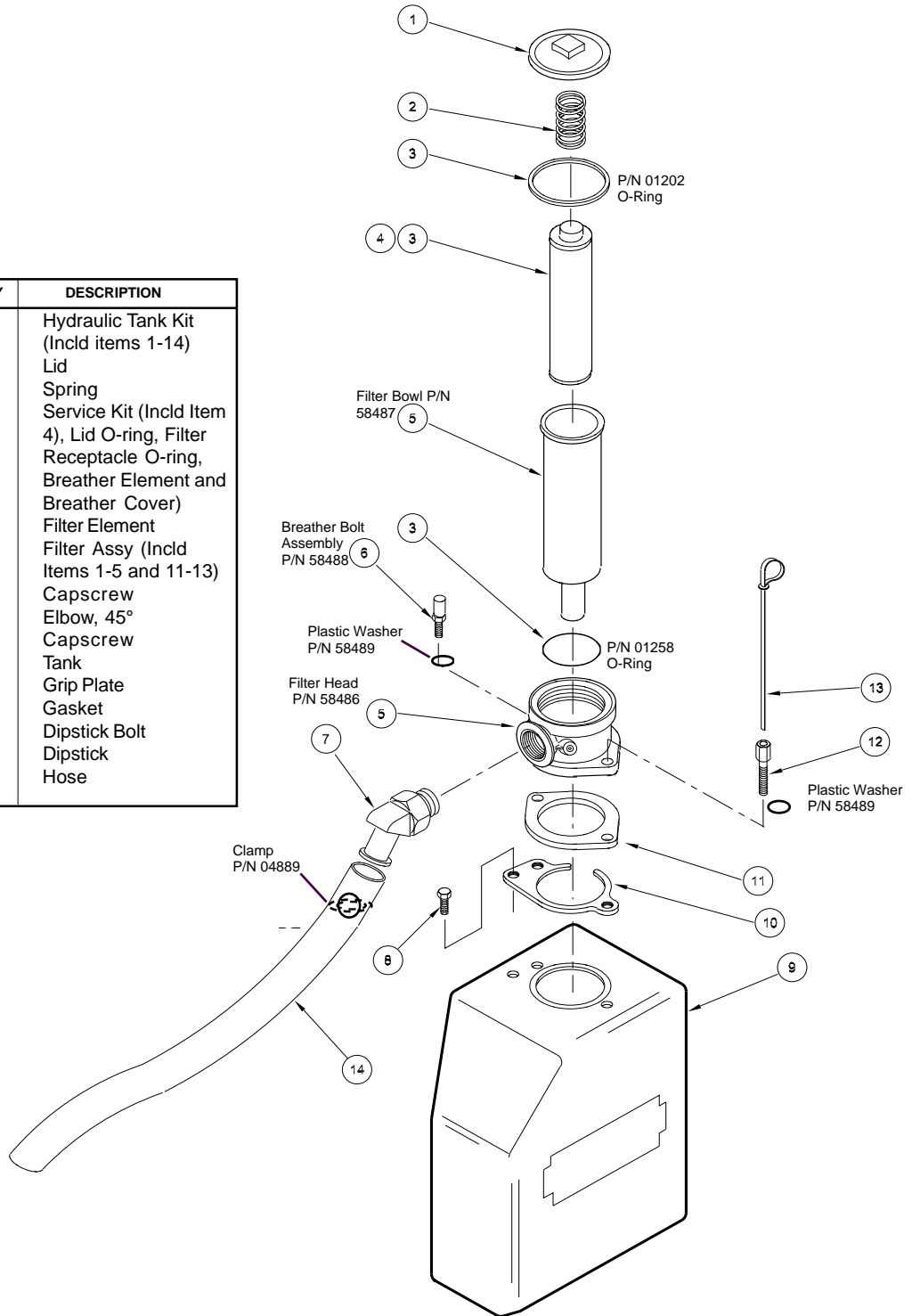


Figure 6A Hydraulic Tank Parts

05/22/02

ITEM	P/N	QTY	DESCRIPTION
	52754	1	Hydraulic Tank Kit (Incl items 1-14)
1	52774	1	Lid
2	52775	1	Spring
3	43592	1	Service Kit (Incl Item 4), Lid O-ring, Filter Receptacle O-ring, Breather Element and Breather Cover)
4	40408	1	Filter Element
5	40080	1	Filter Assy (Incl Items 1-5 and 11-13)
6		1	Capscrew
7	40364	1	Elbow, 45°
8		1	Capscrew
9	40389	1	Tank
10	40133	1	Grip Plate
11	52782	1	Gasket
12	52773	1	Dipstick Bolt
13	52772	1	Dipstick
14	04306	1	Hose



NOTE: Wiring from the engine to the dash panel is secured to the standoffs with plastic wire ties.

Wire ties are used as required to keep wires bundled and secure.

SEE THE WIRING DIAGRAM (Fig. 8) FOR WIRE CONNECTIONS AND COLORS.

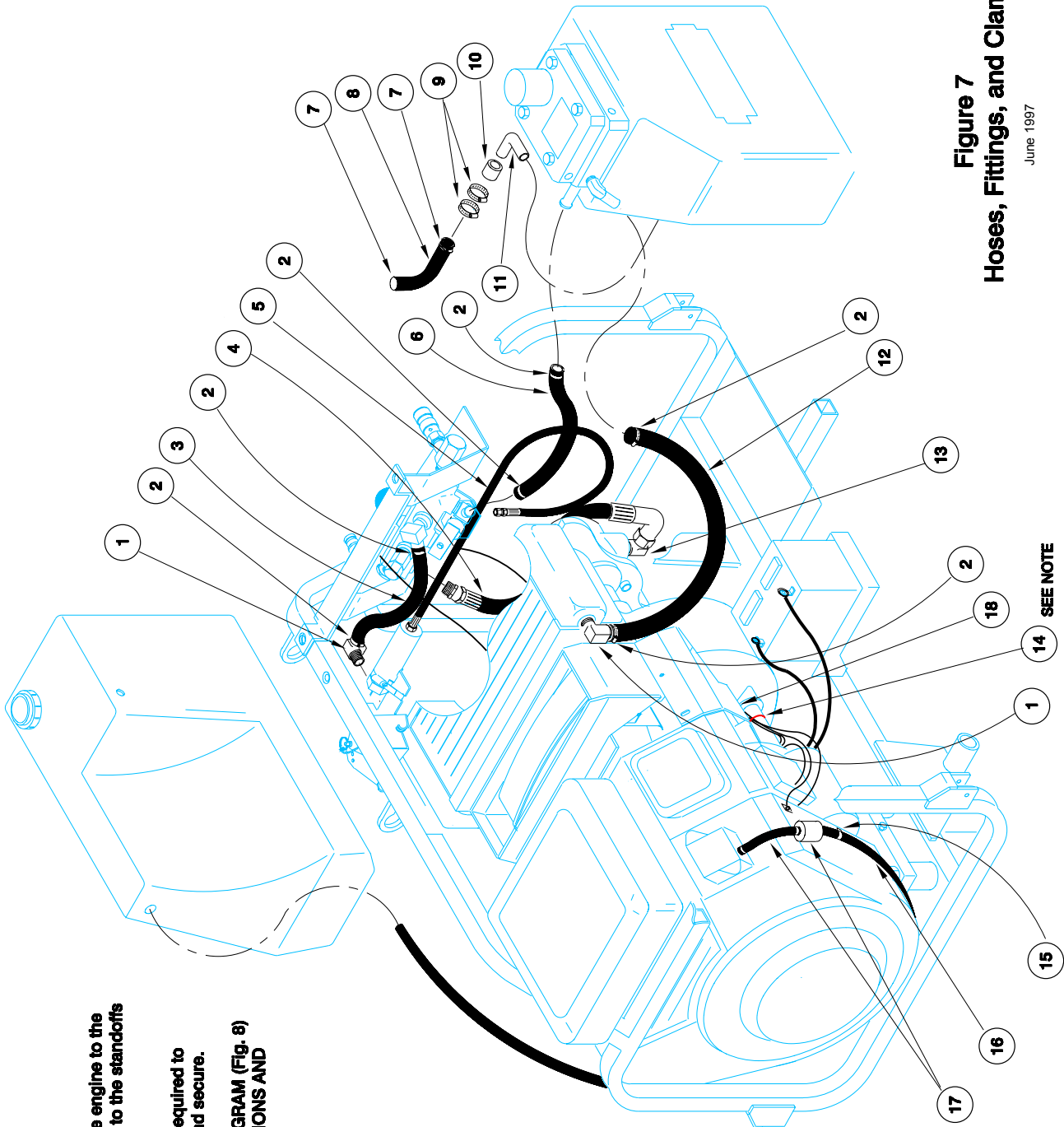


Figure 7
Hoses, Fittings, and Clamps

June 1997

14 SEE NOTE

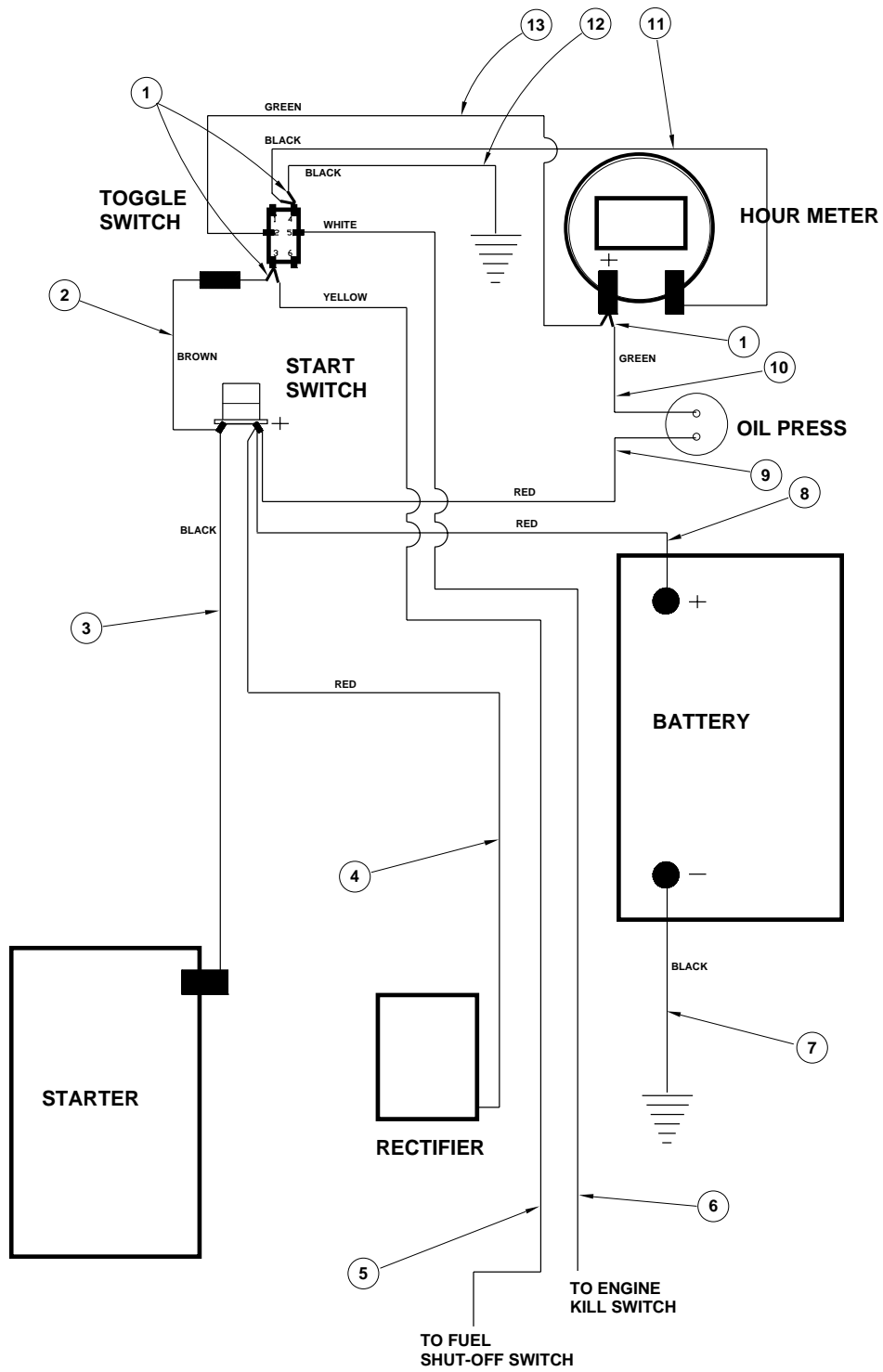
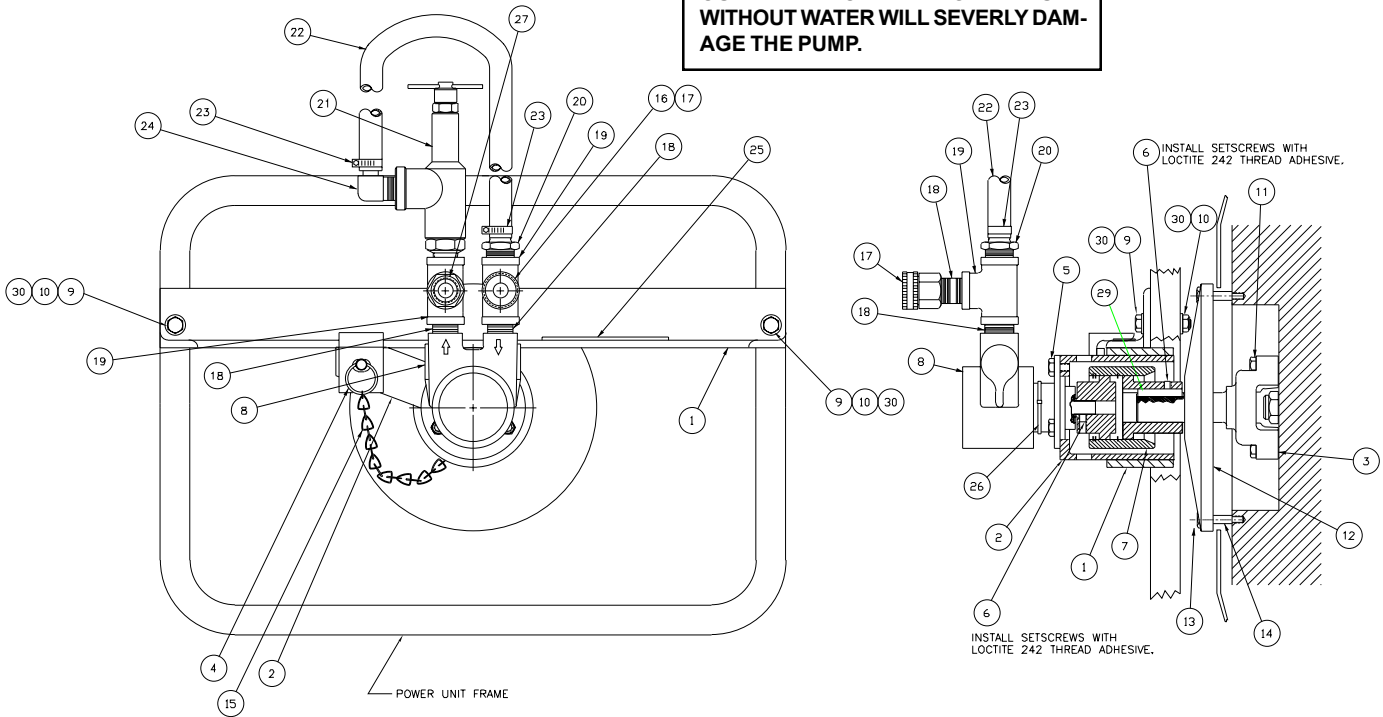


Figure 8. Wiring Diagram
 Sept 1998

P/N 29361 WATER PUMP KIT (Optional Accessory)

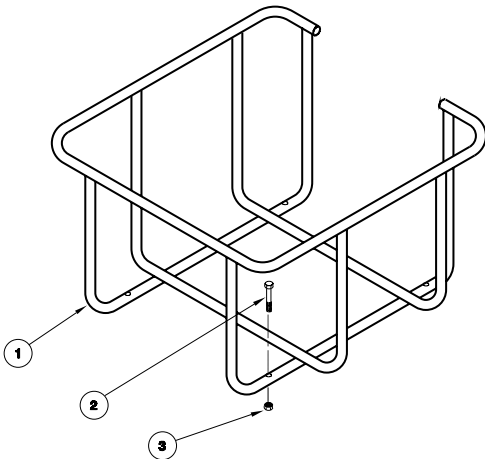
CAUTION

DO NOT OPERATE THE PUMP WITHOUT WATER. OPERATING THE PUMP WITHOUT WATER WILL SEVERLY DAMAGE THE PUMP.



Item No.	Part. No.	Qty.	Description	Item No.	Part. No.	Qty.	Description	Item No.	Part. No.	Qty.	Description
1	29360	1	Pump Bracket	11	26055	2	Hex Sem Screw	21	30950	1	Regulator Assy
2	30246	1	Adapter	12	26053	1	Rotating Screen	22	04875	1	Hose
3	25720	1	Stub Shaft	13	26054	4	Hex Screw	23	04889	2	Hose Clamp
4	26040	1	Faspin	14	26052	4	Screen Spacer	24	07821	1	Hose Barb
5	01213	3	Capscrew	15	29393	1	Chain	25	29394	1	Caution Sticker
6	01607	4	Setscrew	16	24441	1	Mesh Filter Washer	26	02395	1	Cable Tie
7	30521	1	Drive Coupling	17	03577	1	Garden Hose Conn.	27	26015	1	Adapter
8	26011	1	Water Pump	18	07369	3	Nipple	28	29397	1	Instruction Sheet
9	370502	2	Capscrew	19	26060	2	Pipe Tee	29	07819	1	Key
10	03906	2	ESNA Locknut	20	07822	1	Hose Barb	30	15482	4	Washer

P/N 13360 HOSE BASKET KIT (Optional Accessory)



Item No.	Part. No.	Qty.	Description
1	24187	1	Hose Basket Assy
2	370100	4	Capscrew
3	00719	3	Nut

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 Milwaukee, 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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