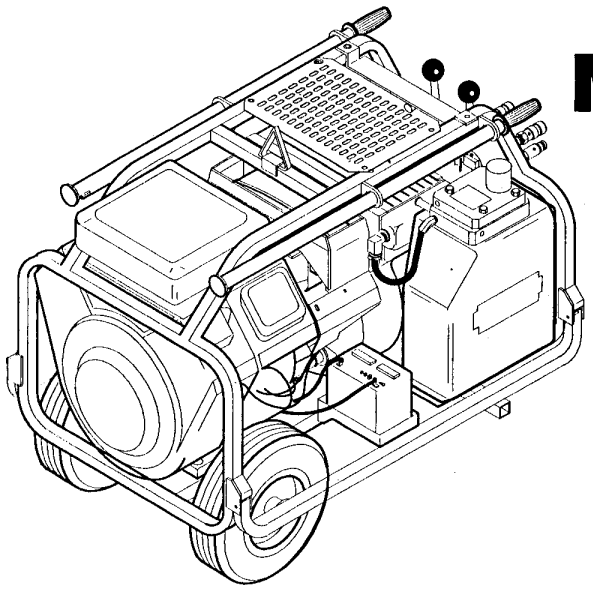
HPR1 & HPR2

COMPACT HYDRAULIC POWER UNITS

with Vanguard Engine

Safety, Operation and Maintenance Manual



⚠ DANGER

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

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

Focused on performance™

STANLEY® Hydraulic Tools

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Printed in U.S.A.
31219 4/96 Ver 2

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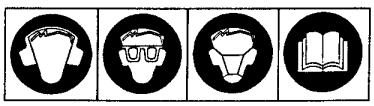


NOTICE

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

⚠ DANGER

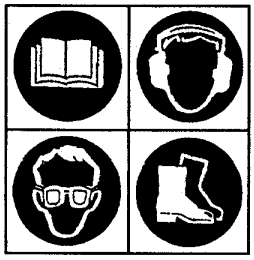
SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

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

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools, 1-800-549-0517 and ask for a Customer Service Representative.

INDEX

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 3.

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

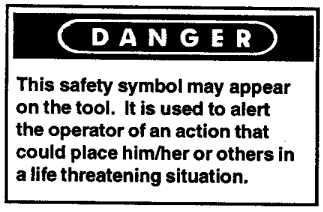
The HPR Hydraulic Power Unit will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the Power Unit. Read and understand the engine manual furnished with the unit. Failure to do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

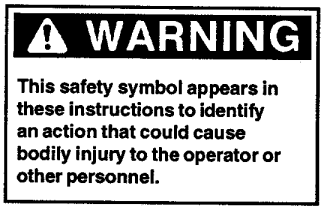
- Operators must start in a work area without bystanders. The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Establish a training program for all operators to ensure safe operation.
- Do not operate the power unit unless thoroughly 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.
- 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.

LOCAL SAFETY REGULATIONS

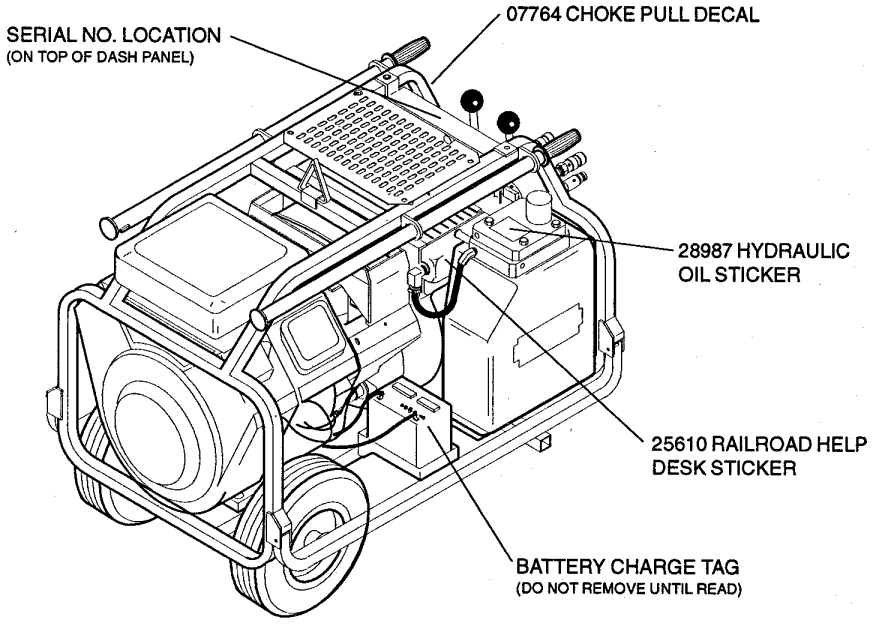
Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

TOOL STICKERS & TAGS

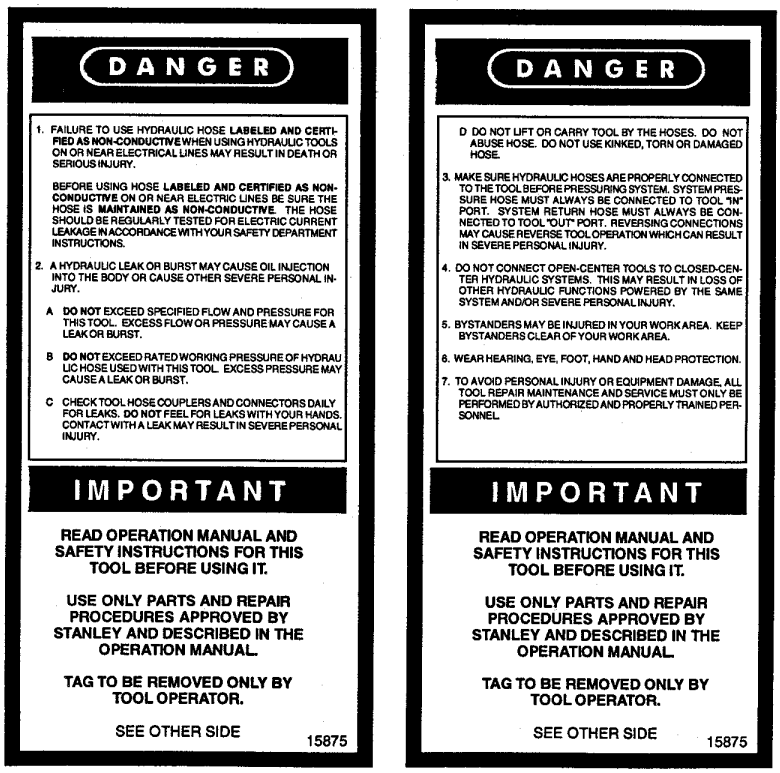
The safety related stickers and tags attached to the saw prior to shipment from the factory are shown below and on the next page.

The pressure and flow rates specified must never be exceeded. All stickers and tags must be read and understood prior to operating the tool.

The information listed on these stickers and tags must be legible at all times. Always replace those that have become worn or damaged. Replacements are available from your Stanley distributor.



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



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

HYDRAULIC HOSE REQUIREMENTS

HOSE TYPES

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

❶ Certified non-conductive

❷ Wire-braided (conductive)

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

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

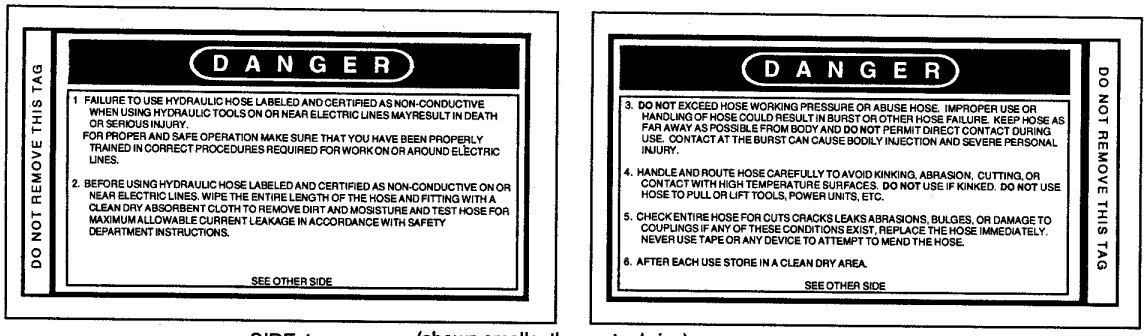
Hoses ❷ and ❸ listed above are **conductive** and **must never** be used near electrical conductors.

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

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

❶ CERTIFIED NON-CONDUCTIVE HOSE

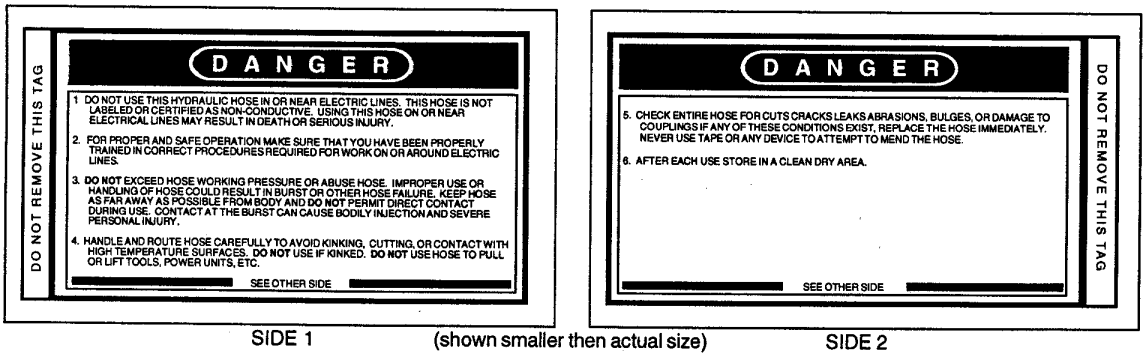
This tag is attached to all certified **non-conductive** hose.



SIDE 1 (shown smaller then actual size) SIDE 2

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

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



SIDE 1 (shown smaller then actual size) SIDE 2

HOSE PRESSURE RATING

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

OPERATING INSTRUCTIONS

PREPARATION FOR USE

ENGINE

Do not operate the power unit until you have read the engine operating and maintenance instructions manual furnished in addition to this manual.

1. ENGINE CRANKCASE OIL LEVEL.

IMPORTANT

The engine oil sump must never be overfilled. Overfilling can cause the engine to overheat and cause crankshaft seal damage.

Always check the oil level before starting tne 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.

⚠ DANGER

Shut the engine off before attempting to add fuel to the fuel tank. Do not remove the fuel cap while the engine is running. Do not add fuel to the engine while the engine is hot. Do not fill the fuel tank to a point of overflowing.

HYDRAULIC FLUID

Check the sight pipe in the hydraulic fluid reservoir for the proper fiuid 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)

Vicsosity 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 at starup, allow moisture to settle out and resist biological growth that may occur in cool operating hydraulic circuits. These fluids are recommended by Stanley Hydraulic Tools. 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

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 the terminals are clean to ensure the engine charging circuit functions properly.

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.

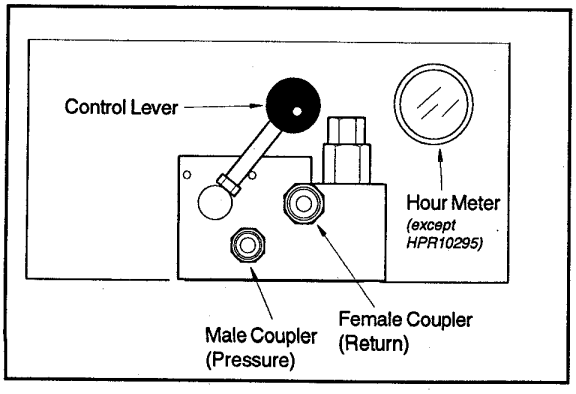
HYDRAULIC CONNECTIONS

GENERAL INFORMATION - ALL MODELS

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. quick disconnect fittings.

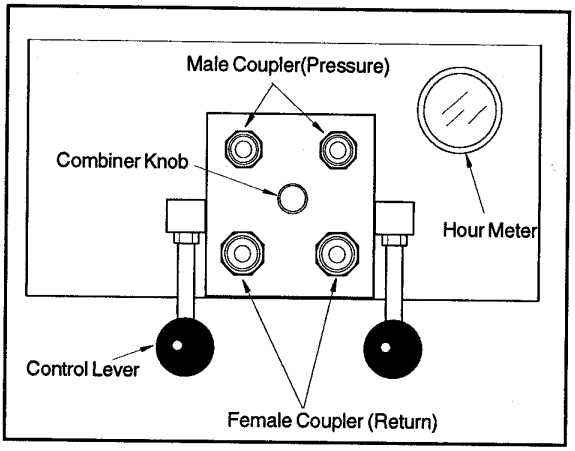
Longer hoses may be used when necessary, but can effect the operation of the engine automatic throttle (not all units contain automatic throttles) due to fluid resistance in the hose. If small diameter or long hoses are used, or if restrictive fittings are connected to the supply and return ports, the 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.

HYDRAULIC CONNECTIONS MODELS HPR10292, HPR10293, & HPR10295



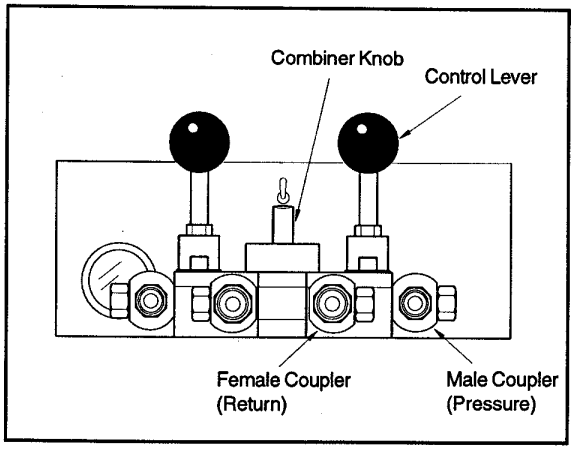
Facing the panel control valve, the left-hand quick disconnect fitting (male quick disconnect) is the pressure (FLUID OUT) fitting. The right-hand quick disconnect fitting (female quick disconnect) is the return (FLUID IN) fitting.

HYDRAULIC CONNECTIONS MODELS HPR20290, HPR20291, & HPR20296



Facing the panel control valve, the top quick disconnect fittings (male quick disconnect) are the pressure (FLUID OUT) fittings. The bottom quick disconnect fittings (female quick disconnect) are the return (FLUID IN) fittings.

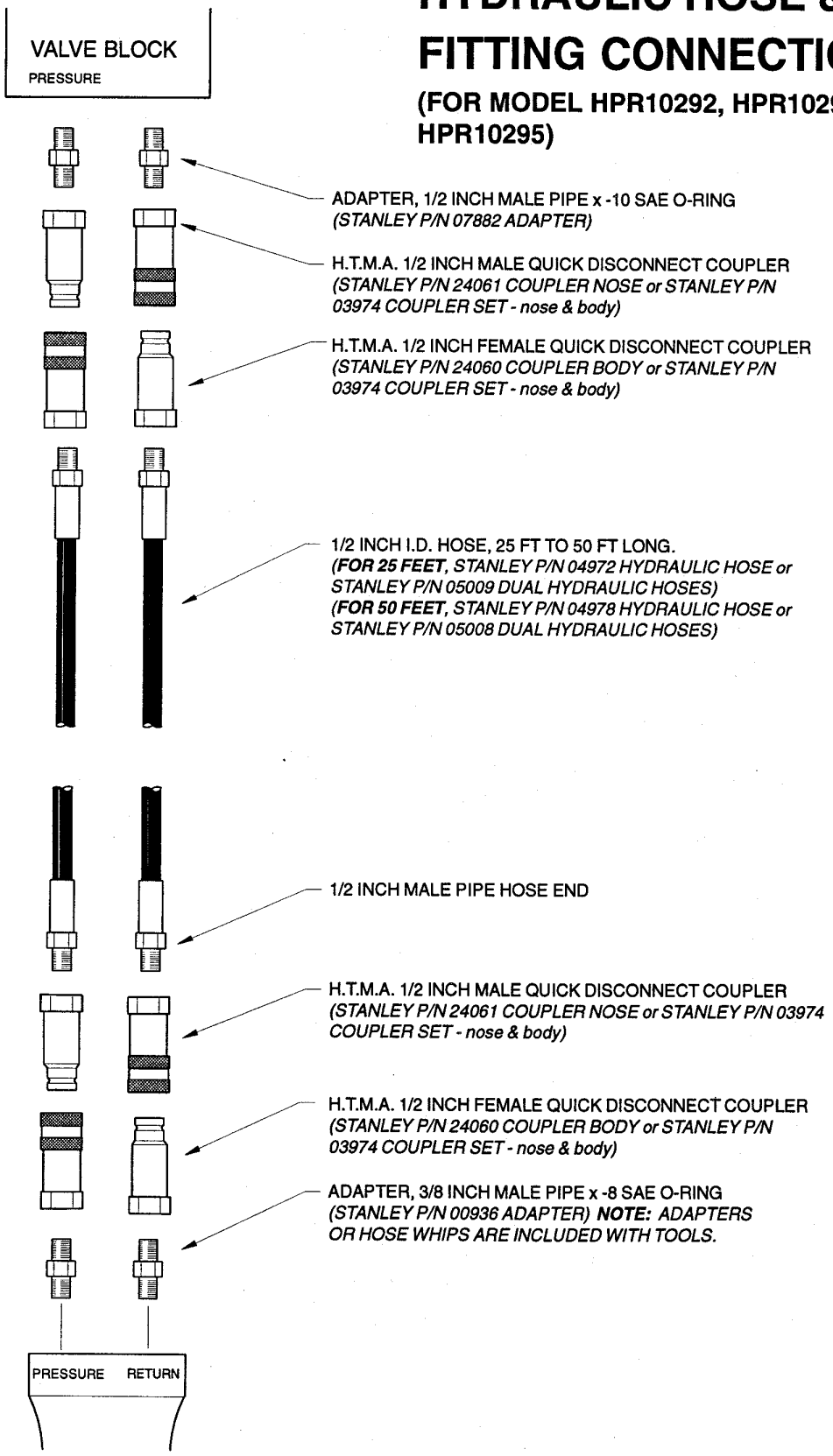
HYDRAULIC CONNECTIONS MODEL HPR20294



Facing the panel control valve, the far right-hand and far left-hand quick disconnect fittings (male quick disconnects) are the pressure (FLUID OUT) fittings. The two inside quick disconnect fittings (female quick disconnects) are the return (FLUID IN) fittings.

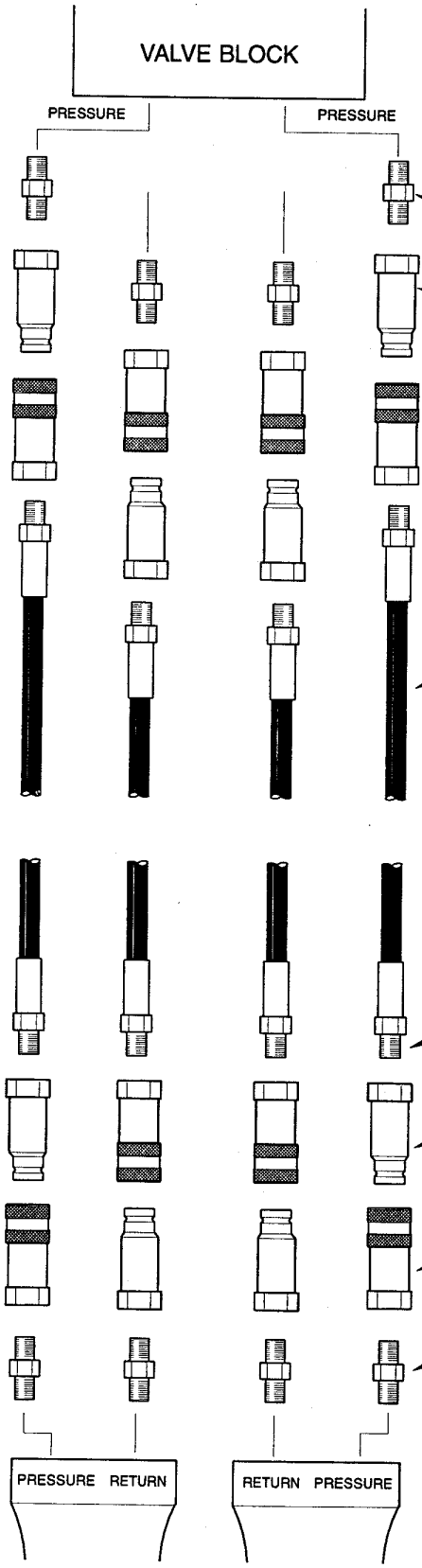
HYDRAULIC HOSE & FITTING CONNECTIONS

(FOR MODEL HPR10292, HPR10293 & HPR10295)



HYDRAULIC HOSE & FITTING CONNECTIONS

(FOR MODEL HPR20290, HPR20291 & HPR20296)



ADAPTER, 1/2 INCH MALE PIPE x -10 SAE O-RING
(STANLEY P/N 07882 ADAPTER)

H.T.M.A. 1/2 INCH MALE QUICK DISCONNECT COUPLER
(STANLEY P/N 24061 COUPLER NOSE or STANLEY P/N 03974 COUPLER SET - nose & body)

H.T.M.A. 1/2 INCH FEMALE QUICK DISCONNECT COUPLER
(STANLEY P/N 24060 COUPLER BODY or STANLEY P/N 03974 COUPLER SET - nose & body)

1/2 INCH I.D. HOSE, 25 FT TO 50 FT LONG.
***(FOR 25 FEET,** STANLEY P/N 04972 HYDRAULIC HOSE or STANLEY P/N 05009 DUAL HYDRAULIC HOSES)*
***(FOR 50 FEET,** STANLEY P/N 04978 HYDRAULIC HOSE or STANLEY P/N 05008 DUAL HYDRAULIC HOSES)*

1/2 INCH MALE PIPE HOSE END

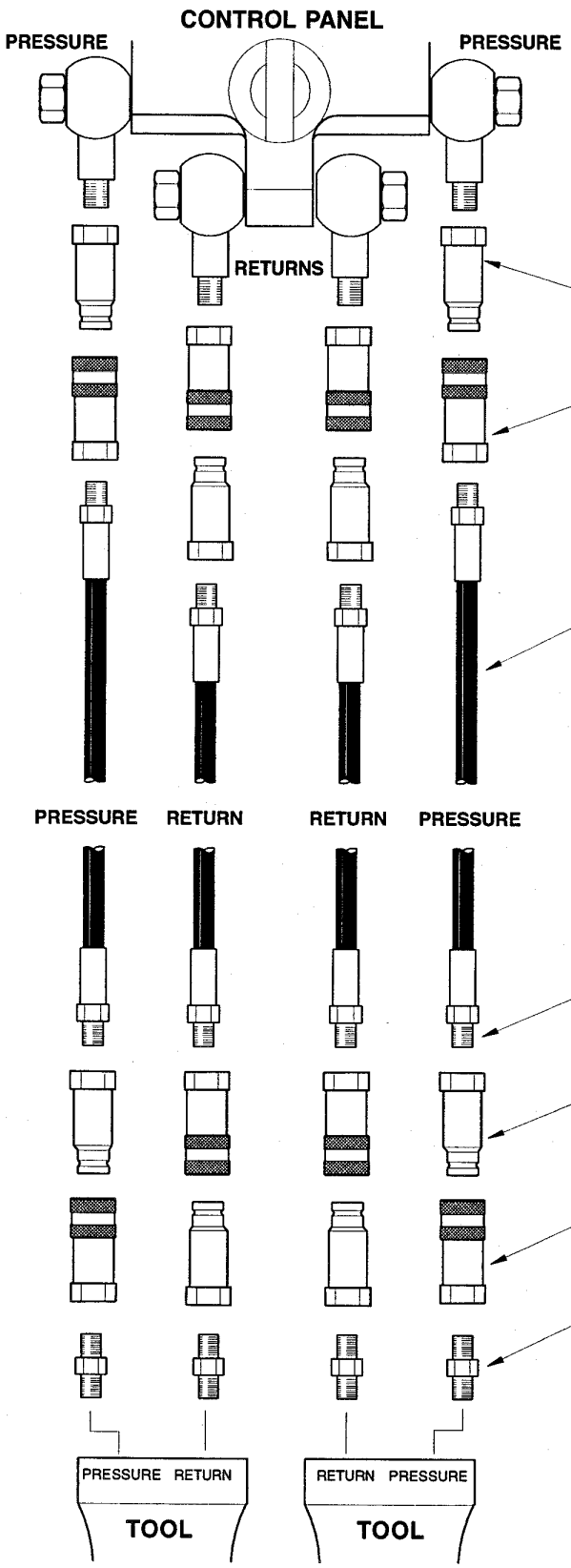
H.T.M.A. 1/2 INCH MALE QUICK DISCONNECT COUPLER
(STANLEY P/N 24061 COUPLER NOSE or STANLEY P/N 03974 COUPLER SET - nose & body)

H.T.M.A. 1/2 INCH FEMALE QUICK DISCONNECT COUPLER
(STANLEY P/N 24060 COUPLER BODY or STANLEY P/N 03974 COUPLER SET - nose & body)

ADAPTER, 3/8 INCH MALE PIPE x -8 SAE O-RING
(STANLEY P/N 00936 ADAPTER) ***NOTE:** ADAPTERS OR HOSE WHIPS ARE INCLUDED WITH TOOLS.*

HYDRAULIC HOSE & FITTING CONNECTIONS

(FOR MODEL HPR20294)



H.T.M.A. 1/2 INCH MALE QUICK DISCONNECT COUPLER *(STANLEY P/N 24061 COUPLER NOSE or STANLEY P/N 03974 COUPLER SET - nose & body)*

H.T.M.A. 1/2 INCH FEMALE QUICK DISCONNECT COUPLER *(STANLEY P/N 24060 COUPLER BODY or STANLEY P/N 03974 COUPLER SET - nose & body)*

1/2 INCH I.D. HOSE, 25 FT TO 50 FT LONG.
***(FOR 25 FEET**, STANLEY P/N 04972 HYDRAULIC HOSE or STANLEY P/N 05009 DUAL HYDRAULIC HOSES)*
***(FOR 50 FEET**, STANLEY P/N 04978 HYDRAULIC HOSE or STANLEY P/N 05008 DUAL HYDRAULIC HOSES)*

1/2 INCH MALE PIPE HOSE END

H.T.M.A. 1/2 INCH MALE QUICK DISCONNECT COUPLER *(STANLEY P/N 24061 COUPLER NOSE or STANLEY P/N 03974 COUPLER SET - nose & body)*

H.T.M.A. 1/2 INCH FEMALE QUICK DISCONNECT COUPLER *(STANLEY P/N 24060 COUPLER BODY or STANLEY P/N 03974 COUPLER SET - nose & body)*

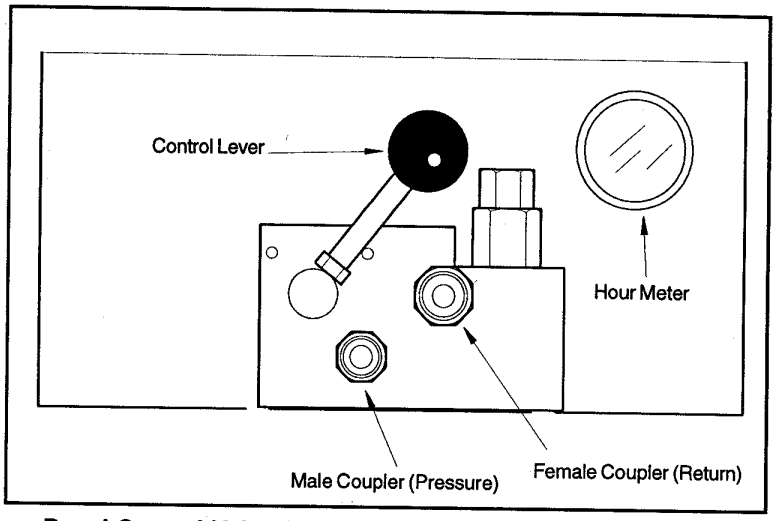
ADAPTER, 3/8 INCH MALE PIPE x -8 SAE O-RING *(STANLEY P/N 00936 ADAPTER)* ***NOTE:** ADAPTERS OR HOSE WHIPS ARE INCLUDED WITH TOOLS.*

CONTROLS

Models HPR10292, HPR10293 and HPR10295

The HPR10292, HPR10293 and HPR10295 Power Units provide one circuit with an oil flow of 10 gpm/37.5 lpm up to 2000 psi/140 bar.

Oil flow is regulated by sliding the throttle lever to the full throttle position. This setting will produce 10 gpm/37.5 lpm up to 2000 psi/140 bar.



Panel Control Valve for HPR10292, HPR10293 and HPR10295 Power Units

STARTING

Before starting the engine make sure the hydraulic control lever is in the "OFF" position. Move the choke control to the "CHOKE" position and turn the key to "START". (On pull start models, grasp the starter grip and pull rapidly.) When the engine starts, open the choke gradually. When the engine is warmed up the throttle may be advanced. After the engine is warm and running, the tool and hoses are connected correctly and the throttle control is set to "FAST" setting, the circuit can be activated by pushing the control lever to the right.

ENGINE SHUTDOWN

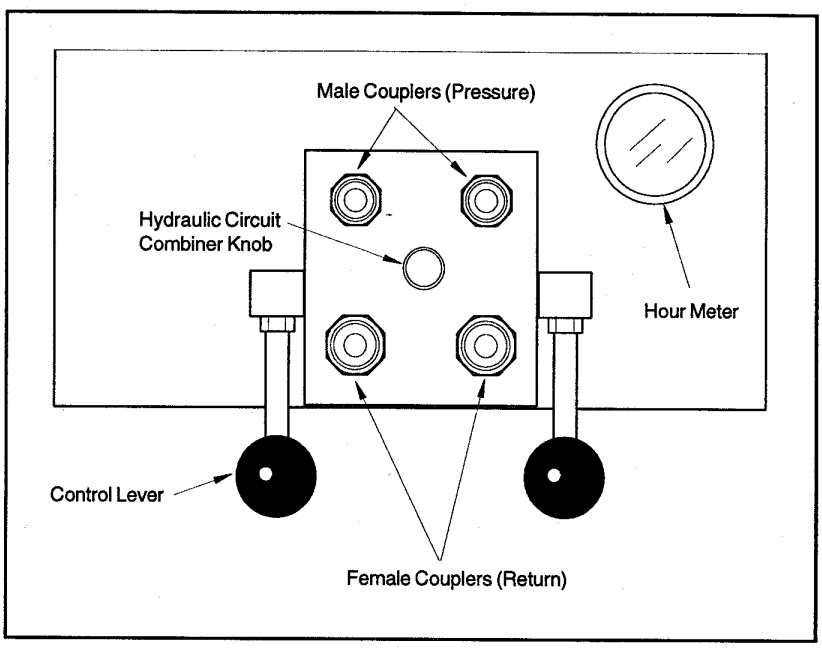
1. Place the circuit control lever in the "OFF" position. Move the throttle control to the "SLOW" position. Allow the engine to idle for approximately one minute and then move the throttle control to the "OFF" position. If the engine is equipped with a key, turn the key to "OFF".

For more detailed information on starting and stopping the engine, consult the engine manual.

CONTROLS

Models HPR20290, HPR20291 and HPR20296

The HPR20290, PR20291 and HPR20296 Power Units provide two circuits, each with an oil flow of 5 gpm/19 lpm up to 2000 psi /140 bar. Or, - the two circuits may be combined into one circuit providing 10 gpm/37.5 lpm up to 2000 psi/140 bar.



Panel Control Valve for HPR20290, HPR20291 and HPR20296 Power Units

HPR20290, PR20291 and HPR20296 Power Units contain a hydraulic pump with two sections. Each pump section will provide 5 gpm/19 lpm at the maximum, governed engine throttle. The output (5 gpm/19 lpm) of each pump section is directed to the panel control valve assembly. It is the position of the hydraulic circuit combiner knob on the panel control valve assembly which keeps the output of each pump section separated or combined.

When the hydraulic circuit combiner knob is pulled **out,** the two circuits are combined into **one 10 gpm/ 37.5 lpm circuit.** One hydraulic tool may be connected to one circuit. The other circuit must not have a tool connected to it or have the hoses connected. The circuit is activated by pushing **both** circuit levers up.

When the hydraulic circuit combiner knob is pushed **in,** the two circuits are not combined and each circuit provides **5 gpm/19 lpm.** One hydraulic tool may be connected to each circuit. Each circuit is activated by pushing the circuit lever up.

Oil flow is regulated by sliding the throttle lever to the full throttle position. This setting will produce 10 gpm/ 37.5 lpm up to 2000 psi/140 bar.

STARTING

Before starting the engine make sure the hydraulic control levers are in the "OFF" position. Move the choke control to the "CHOKE" position and turn the key to "START". When the engine starts, open the choke gradually. When the engine is warmed up the throttle may be advanced.

ENGINE SHUTDOWN

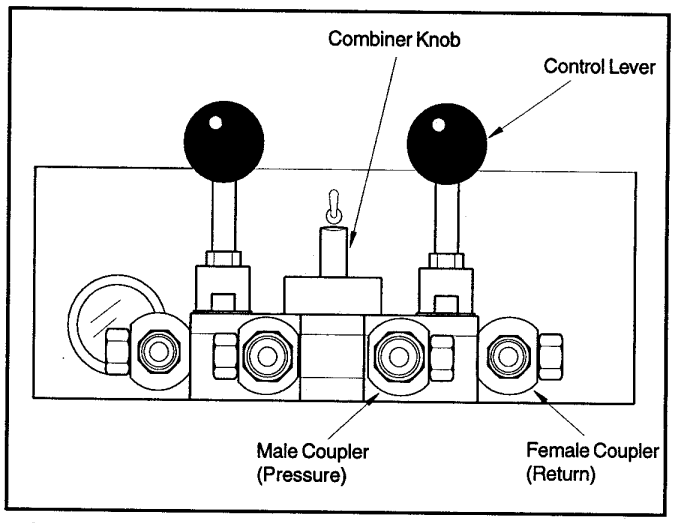
Place the circuit control levers in the "OFF" position. Move the throttle control to the "SLOW" position. Allow the engine to idle for approximately one minute and then move the throttle control to the "OFF" position. If the engine is equipped with a key, turn the key to "OFF".

For more detailed information on starting and stopping the engine, consult the engine manual.

CONTROLS
Model HPR20294

The HPR20294 Power Unit provides two circuits, each with an oil flow of 5 gpm/19 lpm up to 2000 psi/140 bar. Or, - the two circuits may be combined into one circuit providing 10 gpm/37.5 lpm up to 2000 psi/140 bar.

The HPR20294 Power Unit contains a hydraulic pump with two sections. Each pump section will provide 5 gpm/19 lpm at the maximum, governed engine throttle. The output (5 gpm/19 lpm) of each pump section is directed to the panel control valve assembly. It is the position of the hydraulic circuit combiner knob on the panel control valve assembly which keeps the output of each pump section separated or combined.



Panel Control Valve for the HPR20294 Power Unit

When the hydraulic circuit combiner knob is turned crosswise (*knob cap is not in line with tool hoses*), the two circuits are combined into **one 10 gpm/37.5 lpm circuit**. One hydraulic tool may be connected to one circuit. The other circuit must not have a tool connected to it or have the hoses connected. The circuit is activated by pushing **both** circuit levers down.

When the hydraulic circuit combiner knob is turned so that the knob cap is in line with the tool hoses, the two circuits are not combined and each circuit provides **5 gpm/19 lpm**. One hydraulic tool may be connected to each circuit. Each circuit is activated by pushing the circuit lever down.

The oil flow of the HPR20294 is regulated by an automatic throttle control. See the following pages for details on operating the automatic throttle control.

STARTING

Before starting the engine make sure the automatic throttle control is in the "AUTO" position and the hydraulic control levers are in the "OFF" position. Toggle the "ON"/"OFF" switch to the "ON" position. Pull the choke knob fully out and push the start button. When the engine starts, gradually push the choke knob until fully in. When the engine is warmed up the automatic throttle control may be set as desired.

THROTTLE CONTROL (Only Found on Model HPR20294)

The throttle control permits the operator to select one of two 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 5 gpm/19 lpm flow to the two circuits or a constant 10 gpm/38 lpm flow when circuits are combined. When tools are not being used the engine will return to idle automatically.

b. HOLD - Engine speed is held at full throttle to maintain each 5 gpm/19 lpm circuit or the combined 10

gpm/38 lpm circuit. When tools are not being used the engine will not return to idle until the faspin is removed.

Typical conditions requiring the hold position are:

• When operating an alternator, fluid flow must be constant to produce the required voltage and frequency, even when load requirements are light.

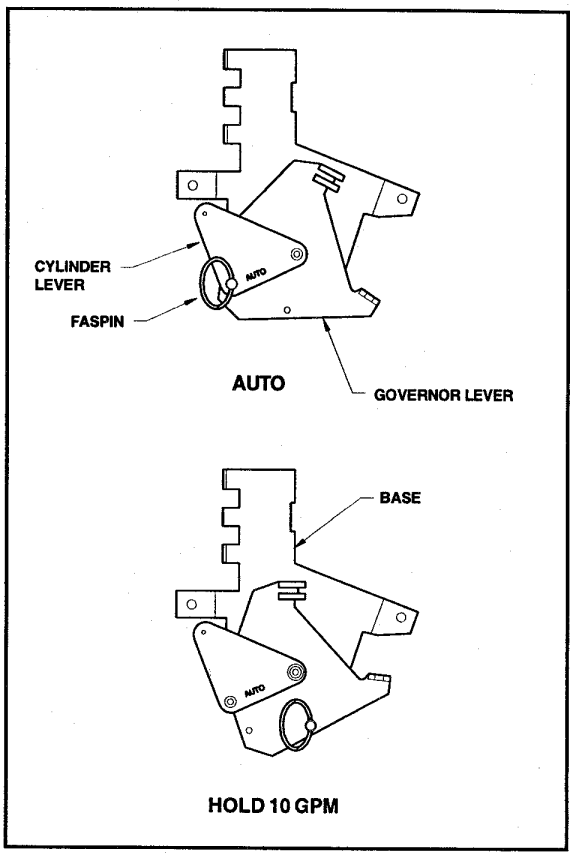
• When operating drills or grinders, tool rpm must be maintained even when load requirements are light.

TOOL OPERATION WITH THE AUTOMATIC THROTTLE

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 "HOLD".



ENGINE SHUTDOWN

Place the circuit control levers in the "OFF" position. If the throttle control is in the "HOLD" position, change it to the "AUTO" position. Allow the engine to idle for approximately one minute and then switch the ON/OFF switch to the "OFF" position.

COLD WEATHER OPERATION

COLD WEATHER STARTUP

1. Use the procedures described under "STARTING" for the HPR model you are using and then follow the procedures 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 tools.

GENERAL 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

Observe the following for maximum performance and service life from the hydraulic system.

- Always keep hydraulic system and fluids clean.
- Keep water out of fluid. (See paragraph b. below.)
- Keep air out of hydraulic lines. Hydraulic system overheating and foam at the hydraulic tank breather indicate air is present in the lines. Keep all suction line fittings and clamps tight.
- Hydraulic system wear is noted by increased heat during tool operation, reduced tool performance and eventual system breakdown.
- Operate with the fluid temperature at 50 - 140 F/10 - 60 C for improved seal and hose life, and maximum efficiency.

a. FILLING THE RESERVOIR

Make sure the engine is stopped before opening the filter cap. Fill slowly with the recommended fluid as listed in Section 1. Fluid must be visible in the sight pipe gauge at all times. Add fluid as needed. Stop filling when the sight pipe changes from center dark to full dark. Secure the filter cap before restarting the engine.

b. REMOVING CONDENSED MOISTURE FROM HYDRAULIC FLUID

Condensation is a frequent problem with cool mobile hydraulic circuits. This condition occurs in moist or cold climates. When warm air in the hydraulic tank draws moisture from the cooler air outside, water accumulates in the tank.

To remove water from the hydraulic system, use the "PRESSURE" hose without the quick-disconnect coupler attached. Remove the faspin from the throttle control. Start the engine and pump the fluid into a clean 5 gal./20 ltr container.

Turn the engine "OFF" as soon as the hydraulic tank (reservoir) is empty. DO NOT operate the

engine with an empty hydraulic tank as pump damage may occur.

- 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.

- Check hydraulic lines and fittings for leaks, kinks, etc. daily. 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.

c. CHECKING SUCTION HOSE

Make sure the suction hose (from the hydraulic tank to the pump inlet) is not kinked and is clamped securely. This reduces the risk of pump cavitation and sucking air into the system. All pump fittings should be tight.

d. CHECKING HYDRAULIC LINES AND FITTINGS

Check for loose fittings, leaks, etc., throughout the hydraulic circuit.

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.

Allow the water to settle from the fluid overnight. Install a new filter (if dirty).

SERVICE INSTRUCTIONS

GENERAL

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

IMPORTANT

NOTE: FOR SIMPLICITY, SOME SERVICE INSTRUCTIONS REFER TO A EXPLODED PARTS VIEW CONTAINING MORE PARTS THAN OTHER MODELS. FOR EXAMPLE; THE PROCEDURES FOR REMOVING THE ENGINE ARE BASICALLY THE SAME FOR ALL MODELS BUT ONE MODEL REQUIRES ADDITIONAL PROCEDURES. THEREFORE, FIGURE 1 (The figure showing the engine assembly containing more parts than other models) IS USED FOR REFERENCE. HOWEVER, FIGURE REFERENCES VARY THROUGHOUT THESE INSTRUCTIONS. KNOW THE MODEL NUMBER ON WHICH YOU ARE WORKING AND PAY PARTICULAR ATTENTION TO THE INSTRUCTIONS AND REFERENCED FIGURES.

ENGINE - All Models

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 PUMPS

HPR10292, HPR10293 and HPR10295 Power Units

Commercial Intertech
P5A193BESPL1197

HPR20290, HPR20291 and HPR20296 Power Units

Commercial Intertech
P5B193BECASPL97CACSPL1

HPR20294 Power Unit

John S. Barnes (Vickers) 65-5-5-A13R9-23-R
or
Commercial Intertech
P5B193BECASPL97CACSPL1

SERVICING THE ENGINE and RELATED COMPONENTS

ENGINE

All Models - (Refer to figure 1 and 2 only for the following procedures).

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

1. On units with batteries, 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 (19, fig. 1) holding the cooler mount (28, fig. 1) to the blower housing.

4. On the HPR20294 model, remove the throttle cable connection (49, fig. 2) at the engine.

5. On the HPR20294 model, remove the choke cable (20, 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 (43, 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 above procedure to reinstall the above components.

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.

12. After installing the engine, adjust the coupling so the sleeve has 1.32-1/16 inch end play.

13. On the HPR20294 model, adjust the actuator cylinder by loosening the cylinder clamps and sliding the cylinder forward or back.

EXHAUST SYSTEM

HPR10292, HPR10293, HPR10295, HPR20290, HPR20291 and HPR20296 Models - (Refer to figure 1a).

Remove the capscrews (3 & 8, fig 1a) and lift the muffler out.

EXHAUST SYSTEM

HPR20294 Model - (Refer to figure 1).

The muffler (14, fig. 1) cannot be removed without first removing the air duct weldment (29). Removal of the air duct weldment requires engine removal.

ELECTRICAL

Refer to the wiring diagrams for the appropriate model power unit.

BLOWER HUB & SHAFT EXTENSION, BLOWER WHEEL, INLET RING, & BLOWER HOUSING (All models - Refer to figure 1 only for the following procedures).

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 (41) with the blower hub and shaft extension (42) by loosening the two set screws (34).

4. Remove the four capscrews (23) holding the blower housing (25) to the engine. Remove the housing.

5. Reverse the procedure to reinstall the above components and observe the following added procedures.

- Install capscrews (23) 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

HPR10292, HPR10293 and HPR10295 Models - Refer to figure 1a, 2a and 7a)

1. Remove the capscrews (7, fig. 2a) and remove the grille (8, fig. 2a).

2. Remove the hoses (2 & 10, fig 7a).

3. Remove the two capscrews (12, fig. 1a) and lift the cooler out.

4. Reverse the procedure to reinstall the above components.

OIL COOLER

HPR20290, HPR20291 and HPR20296 Models - Refer to figure 1a, 2b and 7b)

1. Remove the capscrews (7, fig. 2b) and remove the grille (8, fig. 2b).

2. Remove the hoses (3 & 11, fig 7b).

3. Remove the two capscrews (12, fig. 1a) and lift the cooler out.

4. Reverse the procedure to reinstall the above components.

OIL COOLER
HPR20294 - Refer to figure 1, 2 and 7)

1. Remove the capscrews (10, fig. 2) and remove the grille (11, fig. 2).

2. Remove the hoses (1 & 15, fig 7).

3. Remove the two capscrews (45, fig. 1) and lift the cooler out.

4. Reverse the procedure to reinstall the above components.

HYDRAULIC PUMP
HPR10292, HPR10293 and HPR10295 Models - (Refer to figure 2a)

1. Remove the grille (16).

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 (23) and then remove the pump.

4. Reverse the above procedure to reinstall the pump and observe the following step.

NOTE: Insure the coupling sleeve has .03-.06 in./.80-1.60 mm end play.

HYDRAULIC PUMP
HPR20290, HPR20291 and HPR20296 Models - (Refer to figure 2b).

1. Remove the grille (16).

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 (25) and then remove the pump.

4. Reverse the above procedure to reinstall the pump and observe the following step.

NOTE: Insure the coupling sleeve has .03-.06 in./.80-1.60 mm end play.

HYDRAULIC PUMP
HPR20294 - (Refer to 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.

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

FRAME ASSEMBLY COMPONENTS

FUEL TANK
All Models - (Refer to 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 unexpectantly or in shop areas where grinding or welding is present, all of which can ignite the fuel vapors.

1. Remove the grille (11) 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
HPR10292, HPR10293 and HPR10295 Models - (Refer to figure 2a, 6a and 7a)

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 (16, fig. 2a) by removing the 4 capscrews (7, fig. 2a).

3. Remove the hoses (6 & 10, fig. 7a) by loosening the hose clamps.

4. The hydraulic tank can now be removed by removing the 3 capscrews (1, fig. 2a) and the tank support tab (31, fig. 2a).

5. The filter can be removed from the filter head (6, fig. 6a) by spinning it off counter clockwise.

6. The filter block (4, fig. 6a) is removed by first removing the capscrews (2, fig. 6a). Hold the grip plate in place with your fingers to prevent it from falling into the tank.

7. Reinstall the grip plate, gasket, filter block and filter by reversing the removal procedure.

8. Reinstall the hydraulic tank by reversing the removal procedure.

HYDRAULIC TANK
HPR20290, HPR20291 and HPR20296 Models - (Refer to figure 2b, 6a and 7b).

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 (16, fig. 2b) by removing the 4 capscrews (7, fig. 2b).

3. Remove the hoses (7 & 11, fig. 7b) by loosening the hose clamps.

4. The hydraulic tank can now be removed by removing the 3 capscrews (1, fig. 2b) and the tank support tab (31, fig. 2b).

5. The filter can be removed from the filter head (6, fig. 6a) by spinning it off counter clockwise.

6. The filter block (4, fig. 6a) is removed by first removing the capscrews (2, fig. 6a). Hold the grip plate in place with your fingers to prevent it from falling into the tank.

7. Reinstall the grip plate, gasket, filter block and filter by reversing the removal procedure.

8. Reinstall the hydraulic tank by reversing the removal procedure.

HYDRAULIC TANK
HPR20294 - (Refer to figure 2, 6 and 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).

3. Remove the hoses (3, 2 and 15, 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).

5. The filter can be removed from the filter block (13, fig. 6) 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.

DASH PANEL & VALVE ASSY
HPR10292, HPR10293 and HPR10295 Models - (Refer to figure 2a, 5a and 7a)

1. 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.

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

2. After the hoses are removed, the valve assembly may be removed by first removing the capscrews (32, fig. 2a and 25, fig. 5a).

VALVE SPOOL
(See figure 5a)

1. To remove the valve spool, first remove the control lever rod (15, fig. 5a).

2. Remove the retaining rings (13 & 22, fig. 5a) and push the valve spool out the back of the valve body.

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

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

RELIEF VALVE (See figure 5a).

DESCRIPTION: The relief valve allows oil to by-pass to the reservoir when the system pressure reaches a pre-set value. The relief valve is set to by-pass at a "cracking" pressure of 2100-2200 psi/ 148-155 bar.

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

DASH PANEL & VALVE ASSY
HPR20290, HPR20291 and HPR20296 Models - (Refer to figure 2b, 5b and 7b)

1. 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.

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

2. After the hoses are removed, the valve assembly may be removed by first removing the capscrews (32, fig. 2b and 31, fig. 5b).

VALVE SPOOLS & COMBINER SPOOL
(See figure 5b)

1. To remove the valve spools, remove the retaining rings (14, fig. 5b) and pull the valve spools out of the valve body.

2. The combiner spool is removed by first unscrewing the knob (24, fig. 5b) and then pushing the valve spool out.

3. Inspect the finish of the valve spools and bores of the valve block. If scored or scratched, replace the part(s).

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

RELIEF VALVES (See figure 5b).

DESCRIPTION: The relief valves allow oil to by-pass to the reservoir when the system pressure reaches a pre-set value. The relief valves are set to by-pass at a "cracking" pressure of 2100-2200 psi/148-155 bar.

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

DASH PANEL & VALVE ASSY
HPR20294 Model - (Refer to figure 2, 5 and 7)

1. 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.

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

2. After the hoses are removed, the valve assembly may be removed by first removing the capscrews (10 & 32, fig. 2) and lifting the entire dash panel and valve assembly off of the power unit.

VALVE SPOOLS & COMBINER SPOOL
(See figure 5)

1. To remove the valve spools, remove the retaining rings (14, fig. 5b) and pull the valve spools out of the valve body.

2. The combiner spool is removed by removing the retaining ring (33, fig. 5) and pulling the spool and knob out as an assembly.

3. Inspect the finish of the valve spools and bores of the valve block. If scored or scratched, replace the part(s).

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

PRESSURE SHUTTLE (See figure 5).

DESCRIPTION: The pressure shuttle controls oil pressure to the actuator. When one or the other or both of the control levers are engaged, the pressure shuttle directs oil pressure from that circuit to the actuator cylinder so that the engine will throttle up when a tool or tools are engaged.

Remove the pressure shuttle fitting (47) and then make sure the two side-by-side ball check seats (inside the control block) are smooth and round. If nicked or worn, repair them by pushing a steel ball into each seat.

NOTE: The ball must be free enough to roll from one seat to the other when the shuttle keeper is installed with the offset hole on the spring pin.

RELIEF VALVES (See figure 5).

DESCRIPTION: The relief valves allow oil to by-pass to the reservoir when the system pressure reaches a pre-set value. The relief valves are set to by-pass at a "cracking" pressure of 2100-2200 psi/148-155 bar.

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

ACTUATOR ASSY

HPR20294 Model - (Refer to figure 4)

!. 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 carburator.

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. Stanley Circuit Tester (Part Number 04182) is recommended. This tester can be used to isolate 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 Section 6 for repair or replacement of defective parts.

TESTING 5 gpm EHTMA TYPE C CIRCUITS

To test either of the two circuits, proceed as follows:

1. Set both Circuit Control Levers to the OFF (up) position. Set the Combine Knob with the ridge aligned front-to-back to separate the circuits.

2. Connect the Stanley Circuit Tester across the two hose ends of the first circuit to be tested.

3. Set the engine Throttle Control to the AUTO position.

4. Fully open the tester restrictor valve (counter clockwise).

5. Start the engine and allow it to run until warm.

6. Place the applicable Circuit Control Lever to the ON (down) position.

7. Slowly turn the restrictor valve clockwise while watching the pressure gauge. As the gauge reaches 400-600 psi/28-42 bar, the engine should start to SPEED up.

8. Open the tester restrictor valve turning it fully counter-clockwise while watching the pressure gauge.The engine speed should start to slow as the pressure drops below 425-725 psi/30-51 bar. If not, the fault may be with the throttle control or linkage. Check for free movement

9. With the engine at high speed, the test flow gauge should read 4-5 gpm/15-19 lpm. At this point, slowly turn the restrictor valve further to the right. The flow rate should stay at 4-5 gpm/15-19 lpm as the pressure gauge reaches 2100-2200 psi/148-155 bar. At this time the flow rate should start to drop while the engine remains at high speed. The relief valve is set at cracking pressure or less when fluid flows through it. If the pressure is not within the above range, the relief valve must be reset as follows:

a. Remove the grille at the front end of the unit.

b. Remove the relief valve below the side of the hoses with the tester connected. The relief valve is adjusted using a screw inside the cap. Turn the screw clockwise to raise the pressure and counterclockwise to reduce the pressure.

c. Replace the relief valve and test it for 2100-2200 psi/148-155 bar as described above. Secure the setting using the valve cap.

d. Repeat the above test with the hoses and tester connected to the relief valve on the other side. When both relief valves read correctly, replace the grille.

TESTING 10 gpm EHTMA TYPE D CIRCUITS

The 10 gpm circuit is formed when the Combiner Knob is rotated to the Horizontal position and both Circuit Control Levers are set to the ON (down) position. This allows the output of both pump sections to be combined at one set of fittings to provide 10 gpm/38 lpm flow to a single tool. To test circuit, proceed as follows:

1. Warm up the engine and hydraulic fluid.

2. Set the governor Faspin to AUTO.

3. Raise both control levers to the OFF position.

4. Set the combiner knob to the horizontal position, disconnect the quick disconnect couplers on one side and lower the lever for that circuit to the ON position.

5. Connect the circuit tester to the other quick disconnect couplers and lower the lever for that circuit to the ON position.

6. Adjust the circuit tester so the pressure reads approximately 2000 psi/140 bar. Flow should be 9.5-10 gpm/36-38 lpm.

7. Raise the control lever on the circuit tester side. Engine speed should slow down. When the engine is at idle speed, lower the control lever. Engine speed should speed up. If the engine does not speed up, either the engine is not running correctly or the governor actuator is not functioning correctly. Make sure the lever movement near the actuator cylinder is sliding correctly. Movement of the actuator lever can be tested by raising the control lever to the OFF position and then 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. Install a circuit tester across the hoses at the tool end.

2. Set the combiner knob in the crosswise position for combined circuit operation.

3. Set the actuator control weldment to HOLD 10.

4. Place both of the circuit control levers in the ON position.

5. Slowly turn the restrictor valve on the circuit tester until the gauge indicates 2000 psi./140 bar and check the flow rate. If the flow rate is not 9.5-10 gpm/36-38 lpm, then the engine governor requires adjustment.

6. Return the actuator control weldment to AUTO and raise both control levers to the OFF position.

7. 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.

8. Set the actuator control weldment to the 10 gpm/38 lpm position and lower both control levers to the ON position. Recheck the flow rate as described previously. Repeat these processes until 9.5-10 gpm/36-38 lpm at 2000 psi/140 bar is achieved.

9. 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.

TROUBLESHOOTING

If symptoms of poor performance develop, use the chart on page 25 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 coupling between pump and blower. The coupler should slide only ..03-.06 in./.80-1.60 mm 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). Have the throttle control serviced as soon as pratical.

SPECIFICATIONS

HPR10292, HPR10293 and HPR10295 Power Units

Capacity ..... One 38 lpm / 10 gpm circuit
Pressure Range ..... 70-140 bar / 1000-2000 psi
Couplers ..... HTMA Flush Face Type Male & Female

Weight ..... 108.2 kg / 239 lbs
Overall Length ..... 88.9 cm / 35 in.
Overall Width ..... 53.3 cm / 21 in.
Overall Height ..... 75.5 cm / 29.75 in.
Engine ..... Vanguard 18 Hp
Fuel Tank Capacity ..... 15 ltr / 4.2 gal
Oil Reservoir Capacity ..... 11 ltr / 2.7 gal

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

Sound Power Level ..... 101 Lwa

Noise Level ..... 81 dba @ 4 m

HPR20290, HPR20291, HPR20294 and HPR20296 Power Units

Capacity ..... Two 19 lpm / 5 gpm circuits **or** One 38 lpm / 10 gpm circuit
Pressure Range ..... 70-140 bar / 1000-2000 psi
Couplers ..... HTMA Flush Face Type Male & Female

Weight ..... 108.2 kg / 239 lbs
Overall Length ..... 88.9 cm / 35 in.
Overall Width ..... 53.3 cm / 21 in.
Overall Height ..... 75.5 cm / 29.75 in.
Engine ..... Vanguard 18 Hp
Fuel Tank Capacity ..... 15 ltr / 4.2 gal
Oil Reservoir Capacity ..... 11 ltr / 2.7 gal

or EHTMA Category ..... "C" (20 lpm @ 138 bar) **or** "D" (30 lpm @ 138 bar)

Sound Power Level ..... 101 Lwa

Noise Level ..... 81 dba @ 4 m

PARTS LIST & PARTS DRAWINGS

SECTION 1 (Starts on Page 28)

Model HPR10292, HPR10293 and HPR10295 Power Units

SECTION 2 (Starts on Page 38)

Model HPR20290, HPR20291 and HPR20296 Power Units

SECTION 3 (Starts on Page 48)

Model HPR20294 Power Unit

SECTION 1

HPR10292, HPR10293 & HPR10295 PARTS LIST & PARTS DRAWINGS

NOTE: HPR10292, HPR10293 and HPR10295 power units all contain similiar basic components such as the engine, hydraulic pump and control valve. But, beyond these basic components, there are differences in the features of each model. The basic features of each model are listed below. For simplicity, the parts drawings show the features of all models. Refer to the itemized parts lists for more specific information.

HPR10292 Power Unit

The HPR10292 is a skid type unit containing the track wheel kit as standard equipment. The hydraulic circuit is a single circuit producing 10 gpm/37.8 ltr. A panel located on the engine contains a key type start switch and engine throttle and choke. It does not contain rubber tires, frame carring handles, or the wheel barrow type handles shown in the parts drawings. None of the models listed in this section contain automatic throttle actuators or choke cable assemblies. The hose basket kit is only available as optional equipment.

HPR10293 Power Unit

The HPR10293 contains rubber tires, carrying handles and wheel barrow type handles as shown in the parts drawings. The hydraulic circuit is a single circuit producing 10 gpm/37.8 ltr. A panel located on the engine contains a key type start switch and engine throttle and choke. The track wheel kit and hose basket are available only as optional equipment. None of the models listed in this section contain automatic throttle actuators or choke cable assemblies.

HPR10295 Power Unit

The HPR10295 contains rubber tires and wheel barrow type handles as shown in the parts drawings. The hydraulic circuit is a single circuit producing 10 gpm/37.8 ltr. A panel located on the engine contains engine throttle and choke. The engine is started with a pull cord. The base unit does not contain frame carrying handles, a battery, or an hour meter. The track wheel kit and hose basket are available only as optional equipment. None of the models listed in this section contain automatic throttle actuators or choke cable assemblies.

Figure 1a
ENGINE ASSY
HPR10292, HPR10293
& HPR10295 Model Power Units

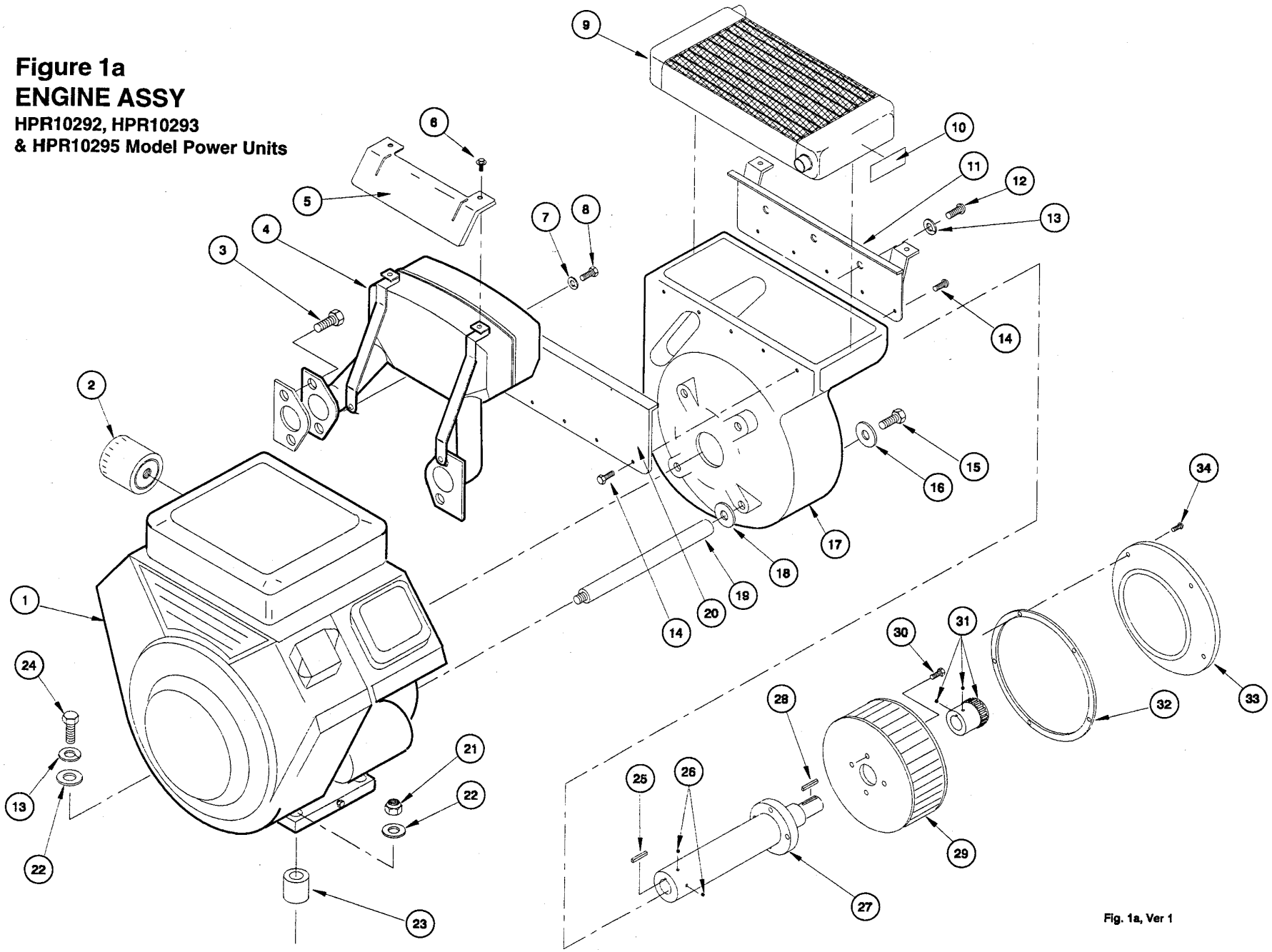


Fig. 1a, Ver 1

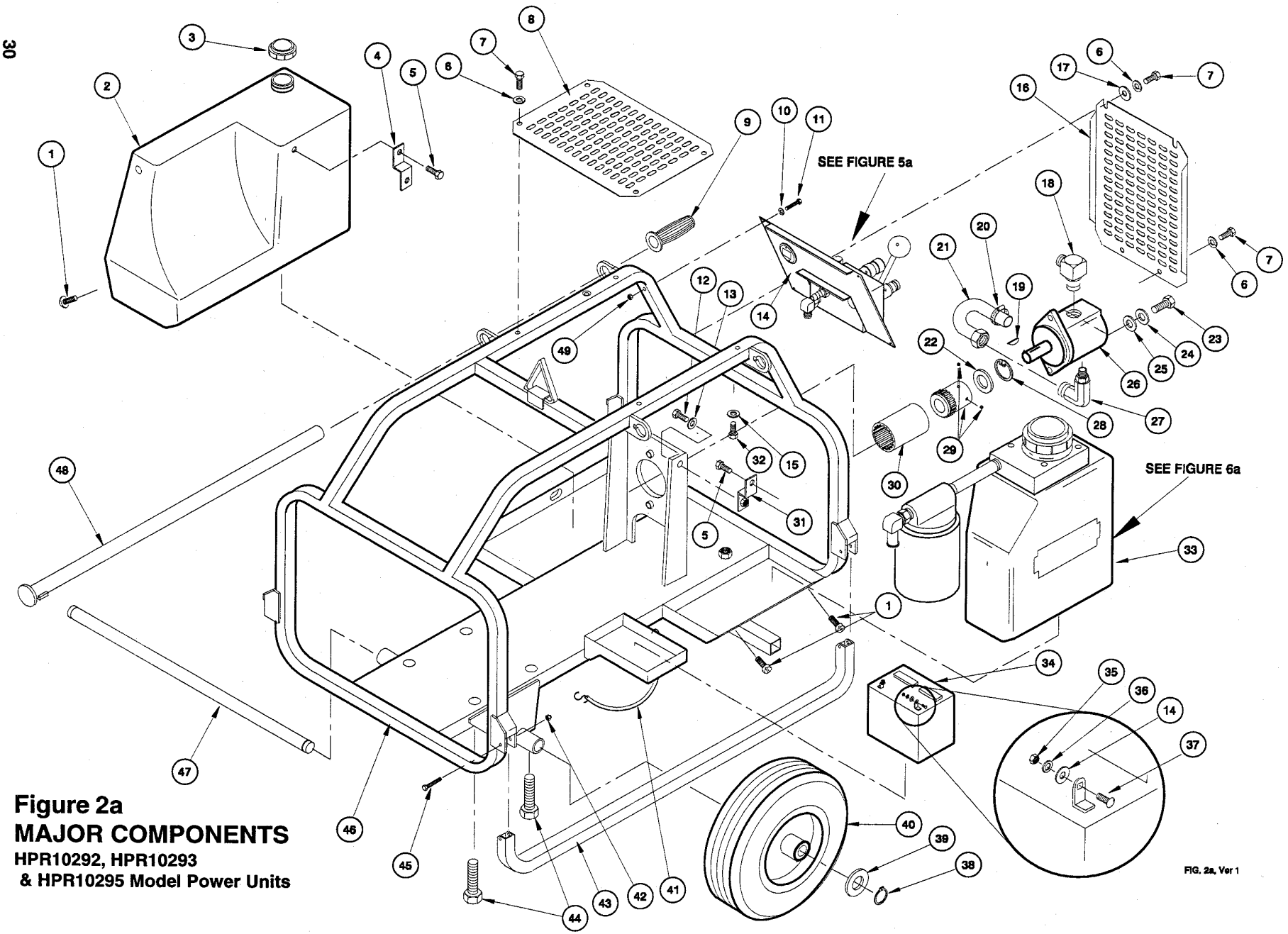


Figure 2a
MAJOR COMPONENTS
HPR10292, HPR10293
& HPR10295 Model Power Units

Figure 5a
VALVE & DASH PANEL ASSY
HPR10292, HPR10293
& HPR10295 Model Power Units

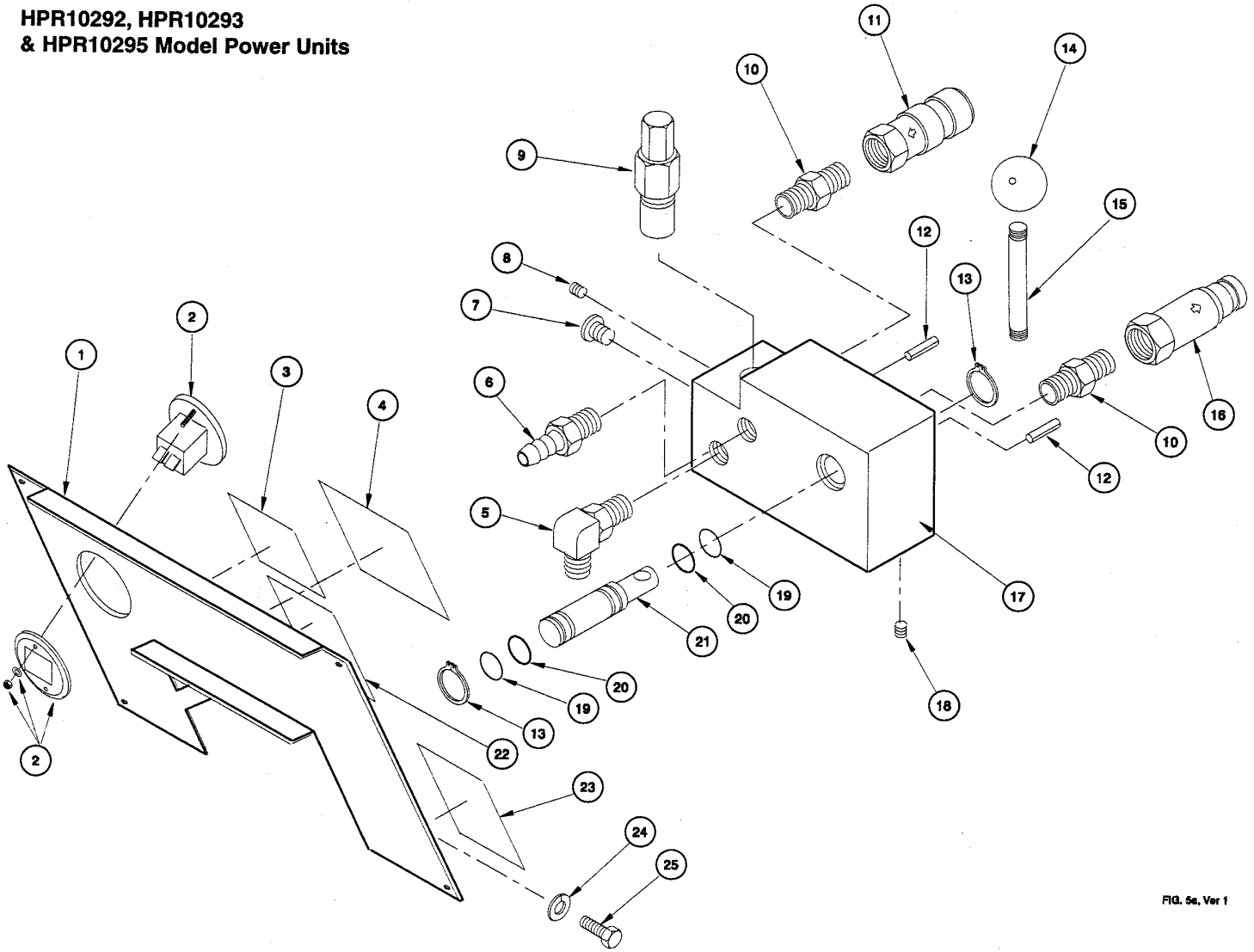


FIG. 5a, Ver 1

Figure 6a
HYDRAULIC TANK
HPR10292, HPR10293
& HPR10295 Model Power Units

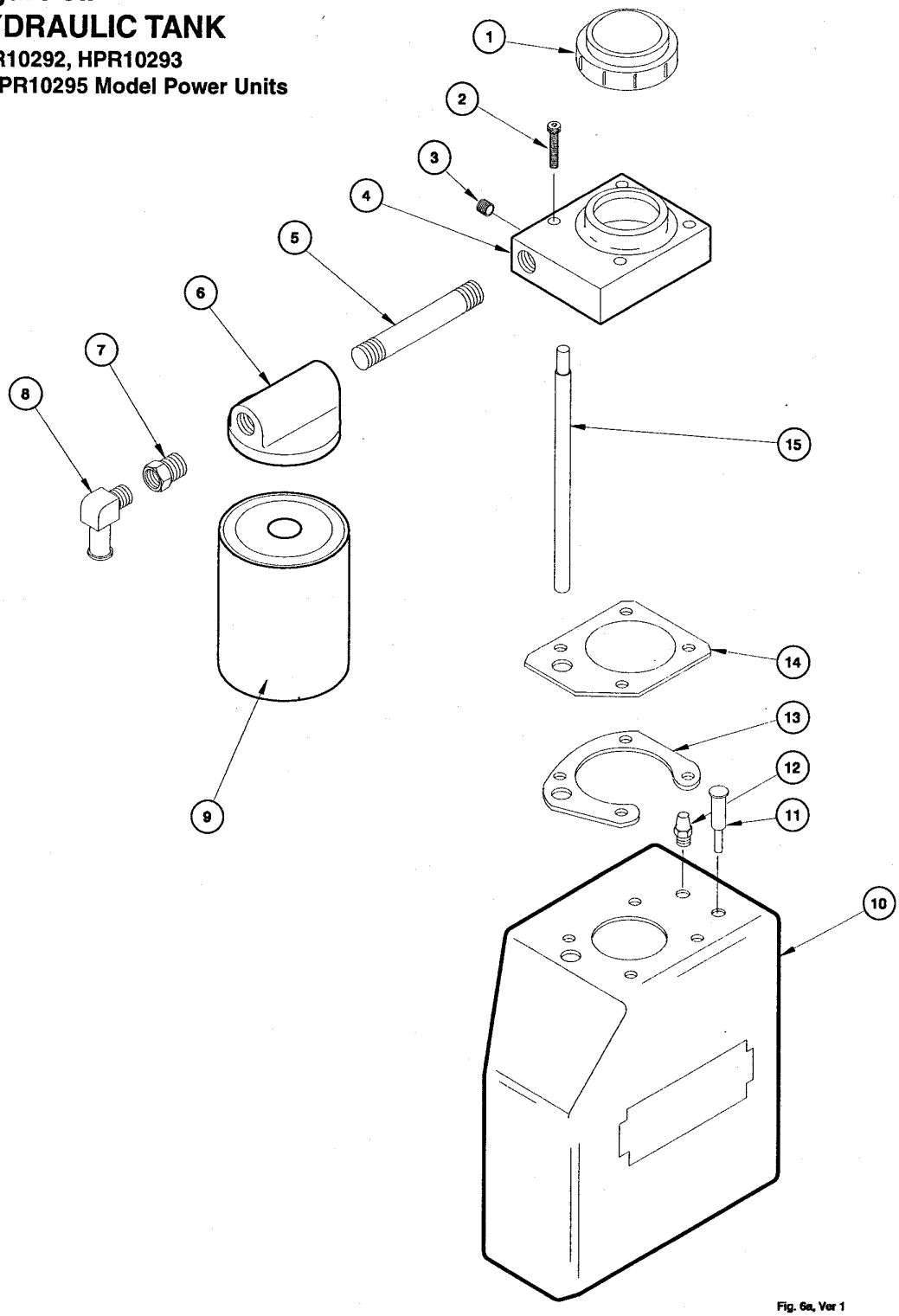


Fig. 6a, Ver 1

Figure 7a
HOSES, FITTINGS & CLAMPS

HPR10292, HPR10293 & HPR10295 Model Power Units

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

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

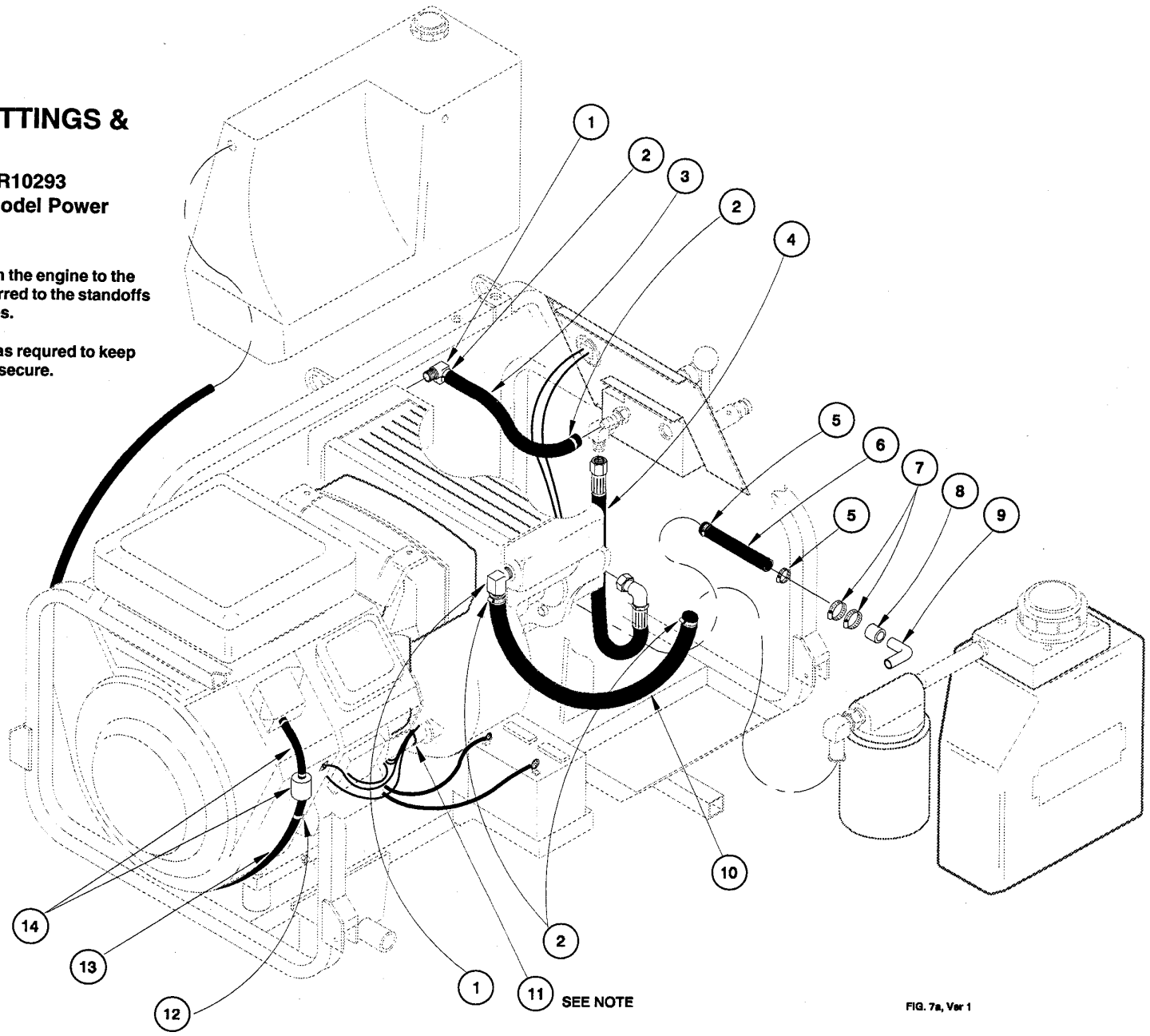


FIG. 7a, Ver 1

Figure 8a
WIRING DIAGRAM
HPR10292, HPR10293
& HPR10295 Model Power Units

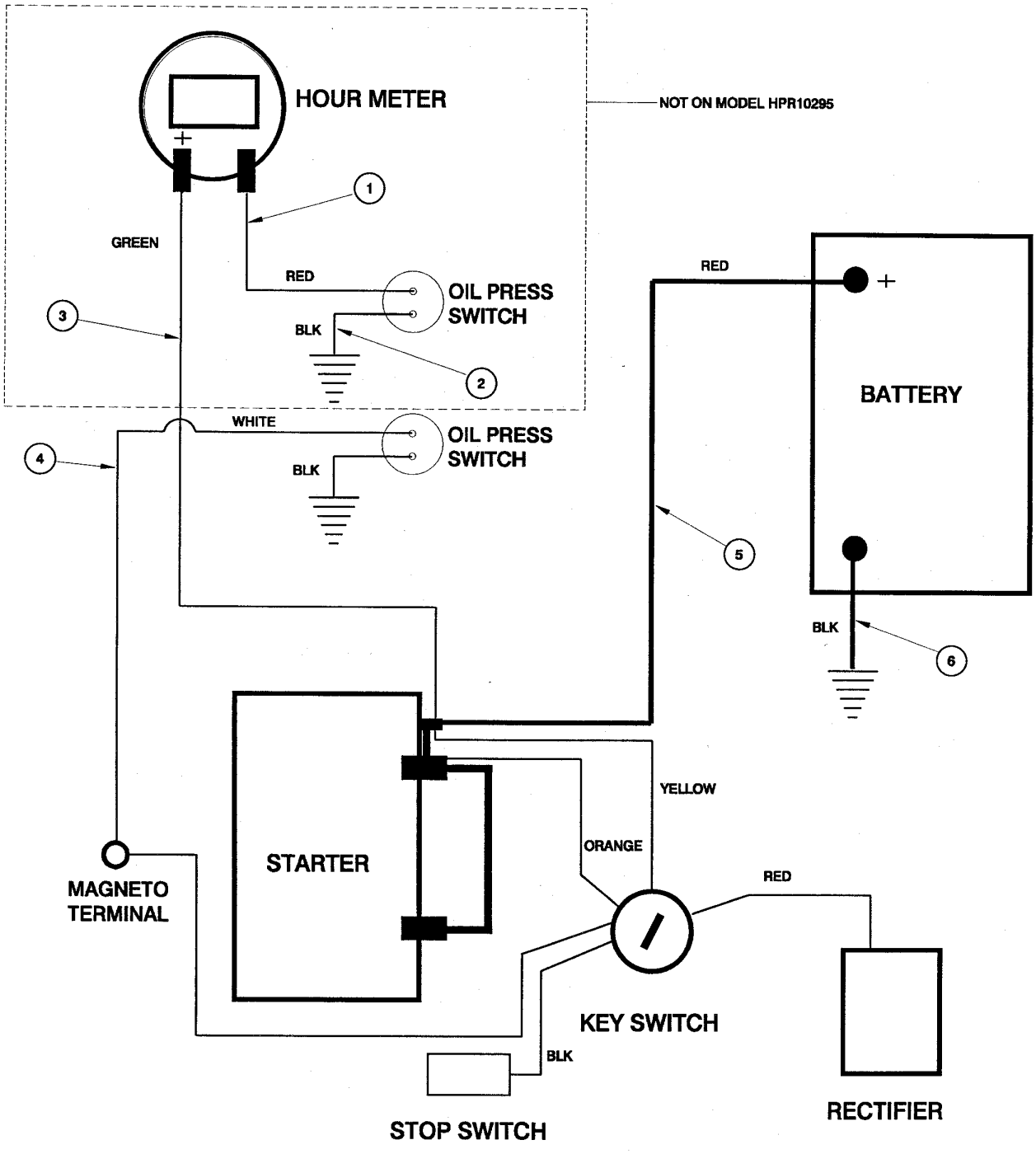
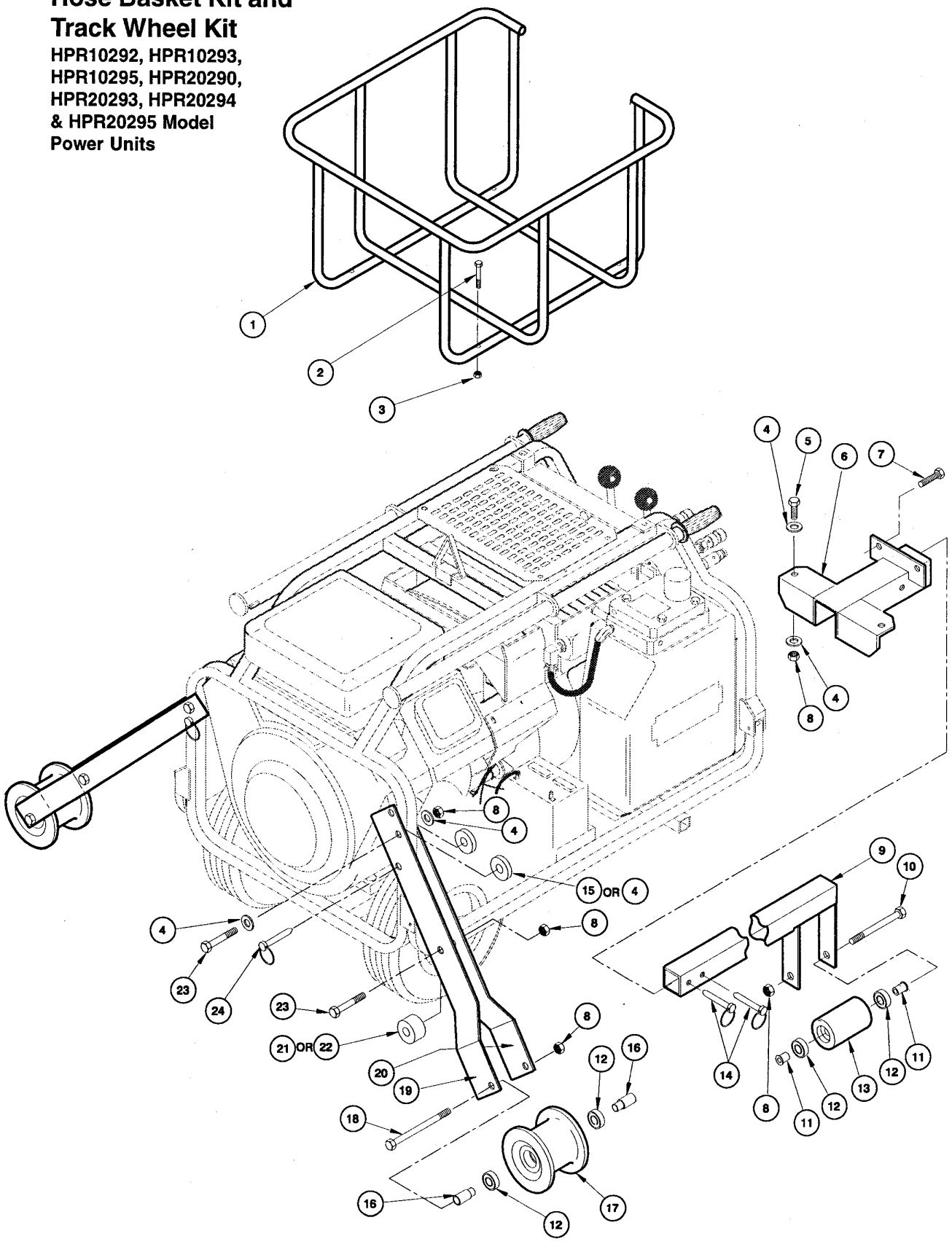


Figure 9
Hose Basket Kit and Track Wheel Kit

HPR10292, HPR10293, HPR10295, HPR20290, HPR20293, HPR20294 & HPR20295 Model Power Units



HPR10292, HPR10293 & HPR10295 POWER UNIT PARTS LIST

Item No	Part No	Qty	Description
			FIG. 1a - ENGINE ASSY
1	28634	1	Engine, Briggs & Stratton (HPR10295 ONLY)
	27645	1	Engine, Briggs & Stratton (HPR10292 & HPR10293 ONLY)
2	18384	1	Oil Filter
3	-----	4	Capscrew (Incld with Engine)
4	23772	1	Muffler
5	-----	1	Heat Shield (incld w/item 14)
6	-----	2	Screw (incld w/item 14)
7	-----	1	Washer (Incld with Engine)
8	-----	1	Capscrew (Incld with Engine)
9	24390	1	Oil Cooler
10	25610	1	Railroad Help Desk Sticker
11	23662	1	Cooler Mount Weldment
12	07817	3	Machine Screw
13	03031	3	Washer
14	08668	10	Sheet Metal Screw
15	02474	4	Capscrew, 7/16-14 x 1-1/4 in. Hex Hd.
16	02477	4	Washer, 7/16 in.
17	07783	1	Blower Housing
18	05694	4	Washer, 7/16 in.
19	23778	4	Standoff
20	07752	1	Cooler Mount
21	03906	2	ESNA Nut, 5/16 in. -18
22	02634	A/R	Washer, 5/16 (as required)
23	23788	4	Spacer
24	04637	2	Capscrew, 5/16 in.-18 x 2-1/2
25	07818	1	Key
26	01397	2	Set Screw
27	23781	1	Blower Hub & Shaft Extension
28	07819	1	Key
29	08035	1	Blower Wheel
30	00899	4	Capscrew
31	23199	1	Coupling Assy (incld set screws, item 29 & 30 in fig. 2a)
32	08669	1	Inlet Ring Gasket
33	07809	1	Inlet Ring
34	08667	5	Screw, Self Tapping
			FIG. 2a FRAME ASSEMBLIES
1	07817	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	04539	7	Washer, 1/4 in.
7	03907	8	Capscrew, 1/4 in.-20 x 1-1/2
8	27759	1	Top Grille
9	08080	2	Handle Grip (Not used on HPR10292)
10	04539	4	Flat Washer
11	21319	4	Capscrew
12	02072	2	Capscrew, 5/16 in.-18 x 3/4
13	03031	9	Lockwasher, 5/16 in.
14	23989	1	Dash Panel Assy (SEE FIG. 5a)
15	01298	2	Lockwasher
16	07768	1	Grille
17	04539	2	Washer, 1/4 in.
18	04860	1	Elbow, 90 Degree Adjustable
19	-----	1	Key (Incld with item 26)
20	08045	1	Hose Clamp
21	27782	1	Inlet Tube Assy
22	-----	1	Washer, (Incld with item 29)
23	07860	2	Capscrew, 3/8 in.-16 x 1-1/4
24	01459	2	Lockwasher, 3/8 in.
25	371056	2	Washer
26	28051	1	Hydraulic Pump
27	21335	1	Elbow. 90 Degree Adjustable Long
28	-----	1	Retaining Ring (Incld with item 29)
29	23199	1	Coupling Assy (Incld item 30)
30	23200	1	Coupling Sleeve (Incld with item 29)
31	07758	1	Tank Support Tab
32	03760	1	Capscrew, 5/16 in.-18 x 1-1/2
33	27653	1	Hydraulic Tank Assy (See Fig. 6a)
34	04303	1	Battery

Item No	Part No	Qty	Description
35	00429	2	Nut
36	03031	2	Lockwasher, 5/16
37	05227	2	Carriage Bolt, 5/16 in. x 3/4
38	08016	2	Retaining Ring (Not used on HPR10292)
39	01918	2	Washer (Not used on HPR10292)
40	16310	2	Wheel (Not used on HPR10292)
41	04566	1	Battery Strap
42	03906	4	Nut, ESNA, 5/16 in.-18
43	-----	2	Incld with item 48 (Not used on HPR10292)
44	370504	2	Capscrew, 5/16 in.-18 x 2-3/4
45	370513	4	Capscrew, 5/16 in.-18 x 1-3/4 (Not used on HPR10292)
46	27678	1	Frame Weldment (HPR10292
	28091	1	Frame Weldment (HPR10293 & HPR10295)
47	16363	2	Axle (Not used on HPR10292)
48	28093	2	Handle (Not used on HPR10292)
49	00719	4	Nut, ESNA, 1/4 in.-20
			FIG. 5a DASH PANEL & VALVE ASSY
1	28637	1	Dash Panel (HPR10295 ONLY)
	28050	1	Dash Panel (HPR10292 & HPR10293 ONLY)
2	20606	1	Hour Meter (Not used on HPR10295)
3	28046	1	Decal, "DANGER - CARBON MONOXIDE"
4	28087	1	Decal, "TO START"
5	04860	1	Adapter, 90 Degree Adjustable
6	07822	1	Adapter, Hose Barb
7	350237	1	O-ring Boss Plug
8	28108	1	Pipe Plug
9	05043	1	Relief Valve
10	00936	2	Adapter, -8 SAE x 3/8 NPT
11	24060	1	Female Coupler Body - 1/2 in.
12	05965	2	Roll Pin
13	07820	2	Retaining Ring
14	02633	1	Knob
15	11405	1	Rod
16	24061	2	Male Coupler Body - 1/2 in.
17	28056	1	Valve Block
18	01212	1	Pipe Plug
19	21307	2	Back-up Ring
20	19095	2	O-ring
21	21305	1	ON/OFF Spool
22	28089	1	Decal, "CAUTION - HOT PARTS"
23	28088	1	Decal, "CHECK HYDRAULIC"
24	01298	2	Lockwasher
25	27931	2	Capscrew
			FIG. 6a TANK ASSY
1	21323	1	Filler/Breather Cap
2	08253	4	Capscrew, 1/4 in.-20 x 1-1/2
3	01271	1	Pipe Plug
4	27652	1	Filter Block
5	27654	1	Pipe Nipple
6	21326	1	Spin-on Filter Head
7	350219	1	Reducer
8	07821	1	Elbow
9	25417	1	Filter, Zinga AE-25
10	07784	1	Hydraulic Tank
11	07748	1	Sight Pipe
12	05535	1	Breather
13	09591	1	Filter Grip Plate
14	09590	1	Gasket
15	27655	1	Oil Tube
			FIG. 7a HOSES, FITTINGS, and CLAMPS
1	07821	2	90 Degree Elbow
2	04889	4	Hose Clamp
3	08226	1	Hose
4	28055	1	Hose

Item No	Part No	Qty	Description
	FIG. 7a HOSES, FITTINGS, and CLAMPS CONT.		
5	08045	1	Hose Clamp
6	27783	1	Suction Hose
7	11179	2	Hose Clamp
8	07747	1	Suction Sleeve
9	27781	1	Suction Tube
10	27998	1	Hose
11	-----	A/R	Wire Tie
12	23779	3	Tube Clamp
13	23777	1	Fuel Hose
14	19947	1	Fuel Filter
	FIG. 8a WIRING DIAGRAM		
1	28213	1	Wire Assy (14 gauge, red) (Not used on HPR10295)
2	------	1	Wire Assy (14 gauge, black)
3	27764	1	Wire Assy (14 gauge, green)
4	23714	1	Wire Assy (14 gauge, white)
5	08721	1	Wire Assy (6 gauge, red)
6	08720	1	Wire Assy (6 gauge, black)
	FIG. 9 HOSE BASKET & TRACK WHEEL KITS		
	13360	**1**	**HOSE BASKET KIT (Incld items 1 thru 3)**
1	24187	1	Hose Basket Assy
2	370100	4	Capscrew, 1/4-20
3	00719	3	Nut, ESNA, 1/4-20
	28704	**1**	**TRACK WHEEL KIT (Incld items 4 thru 23)**
4	04585	12	Flat Washer
5	02099	2	Capscrew
6	28679	1	Tongue Mount
7	02068	2	Capscrew
8	04353	9	Nut, ESNA, 3/8-16
9	28681	1	Tongue
10	27634	1	Capscrew
11	27588	2	Roller Spacer
12	00335	6	Ball Bearing
13	27587	1	Roller
14	27763	2	Faspin
15	28684	4	Strut Spacer
16	28677	4	Wheel Spacer, Long ***OR*** ↓
	27578	4	Wheel Spacer, Short ***OR*** ↑
17	19784	2	Track Wheel
18	28678	2	Capscrew
19	28676	2	Strut, Left Hand
20	28675	2	Strut, Right Hand
21	29541	2	Strut Block, Long ***OR*** ↓
22	29542	2	Strut Block, Short ***OR*** ↑
23	23800	4	Capscrew
24	28685	2	Faspin

NOTE: Use Part Number and Part Name when ordering.

SECTION 2

HPR20290, HPR20291 & HPR20296 PARTS LIST & PARTS DRAWINGS

NOTE: HPR20290, HPR20291 and HPR20296 power units all contain similiar basic components such as the engine, hydraulic pump and control valve. But, beyond these basic components, there are differences in the features of each model. The basic features of each model are listed below. For simplicity, the parts drawings show the features of all models. Refer to the itemized parts lists for more specific information.

HPR20290 Power Unit

The HPR20290 is a skid type unit containing the track wheel kit as standard equipment. The hydraulic circuit is a dual circuit producing two 5 gpm/19 lpm circuits or one combined circuit of 10 gpm/37.8 ltr. A panel located on the engine contains a key type start switch and engine throttle and choke. It does not contain rubber tires, frame carring handles, or the wheel barrow type handles shown in the parts drawings. None of the models listed in this section contain automatic throttle actuators or choke cable assemblies. The hose basket kit is only available as optional equipment.

HPR20291 Power Unit

The HPR20291 contains rubber tires, carrying handles and wheel barrow type handles as shown in the parts drawings. The hydraulic circuit is a dual circuit producing two 5 gpm/19 lpm circuits or one combined circuit of 10 gpm/37.8 ltr. A panel located on the engine contains a key type start switch and engine throttle and choke. The track wheel kit and hose basket are available only as optional equipment. None of the models listed in this section contain automatic throttle actuators or choke cable assemblies.

HPR20296 Power Unit

The HPR20296 contains rubber tires and wheel barrow type handles as shown in the parts drawings. The track wheel kit is included as standard equipment. A panel located on the engine contains a key type start switch, engine throttle and choke. The base unit does not contain frame carrying handles. The hose basket is available only as optional equipment. None of the models listed in this section contain automatic throttle actuators or choke cable assemblies.

Figure 1b
ENGINE ASSY
HPR20290, HPR20291
& HPR20296 Model Power Units

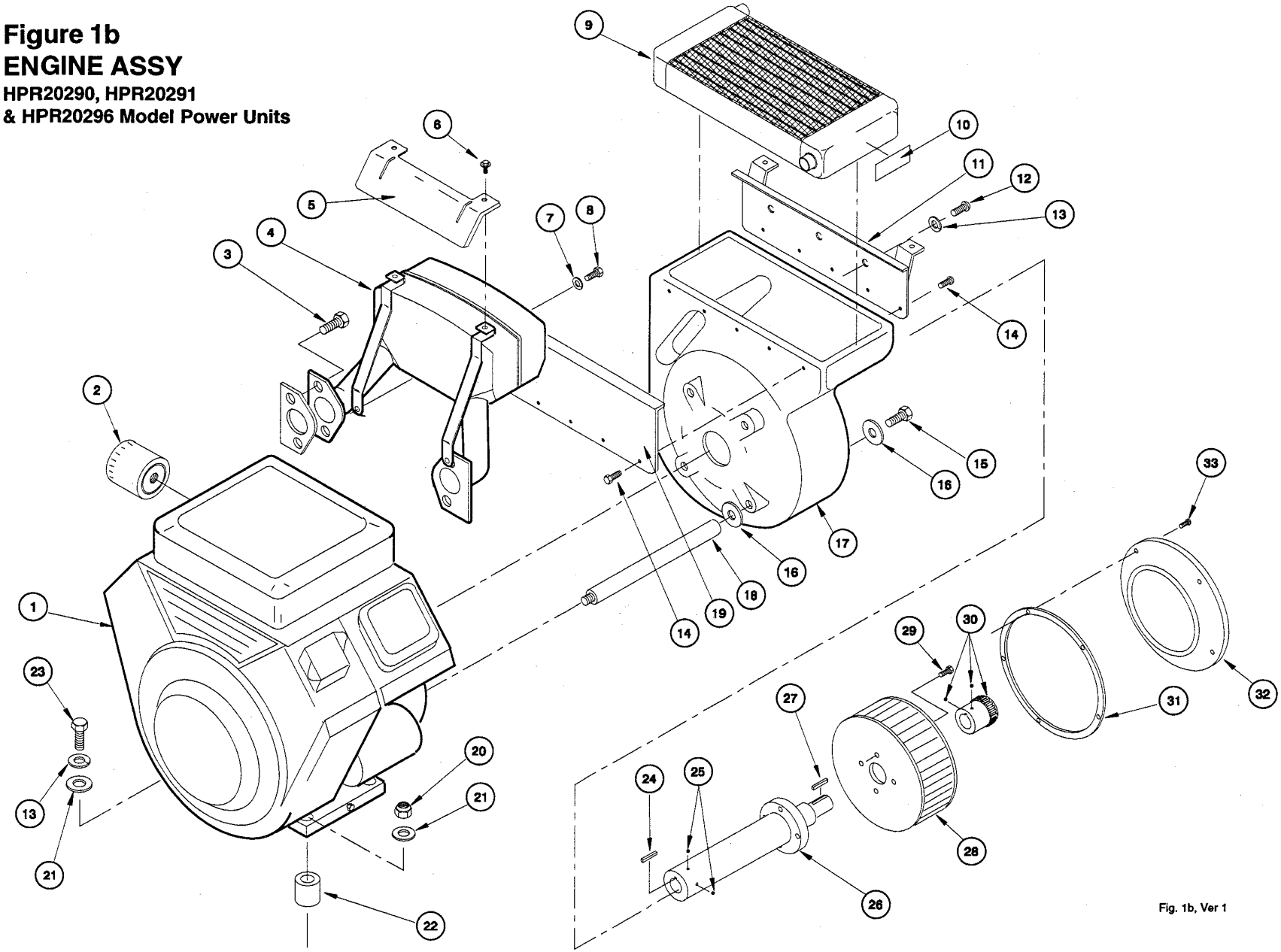


Fig. 1b, Ver 1

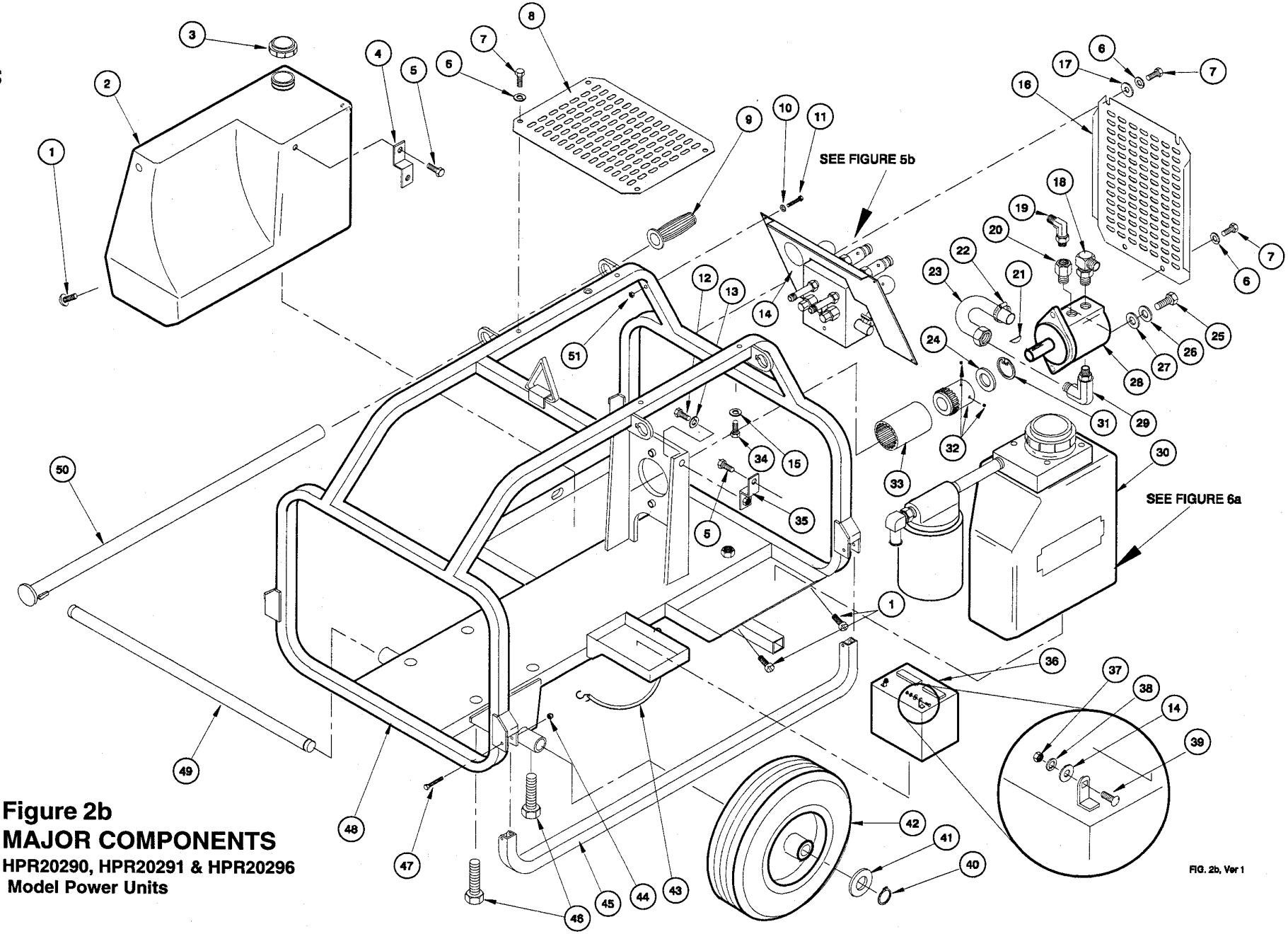


Figure 2b
MAJOR COMPONENTS
HPR20290, HPR20291 & HPR20296
Model Power Units

Figure 5b
VALVE & DASH PANEL ASSY
HPR20290, HPR20291 & HPR20296 Model Power Units

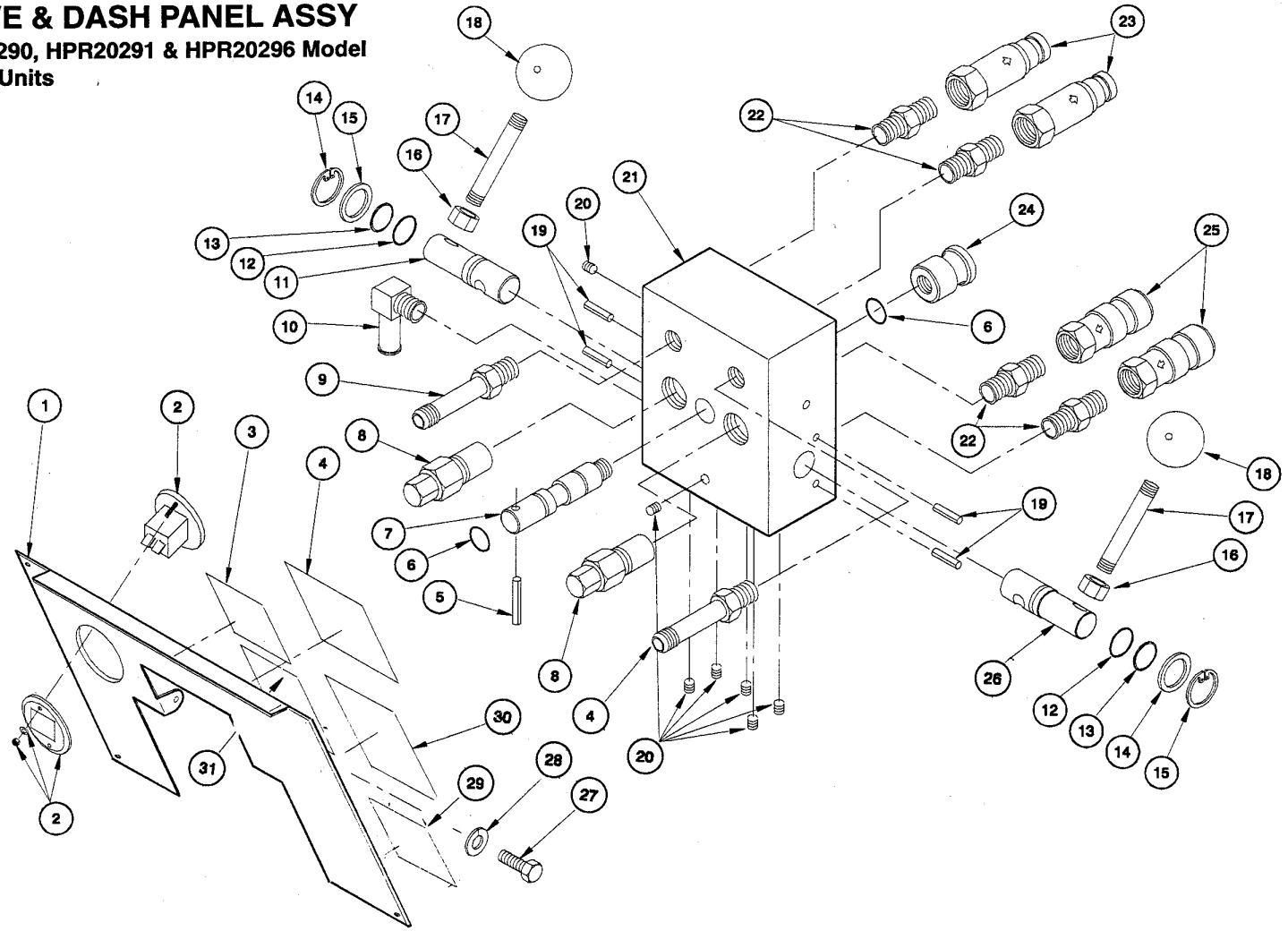


FIG. 5b, Ver 1

Figure 6b
HYDRAULIC TANK
HPR20290, HPR20291
& HPR20296 Model Power Units

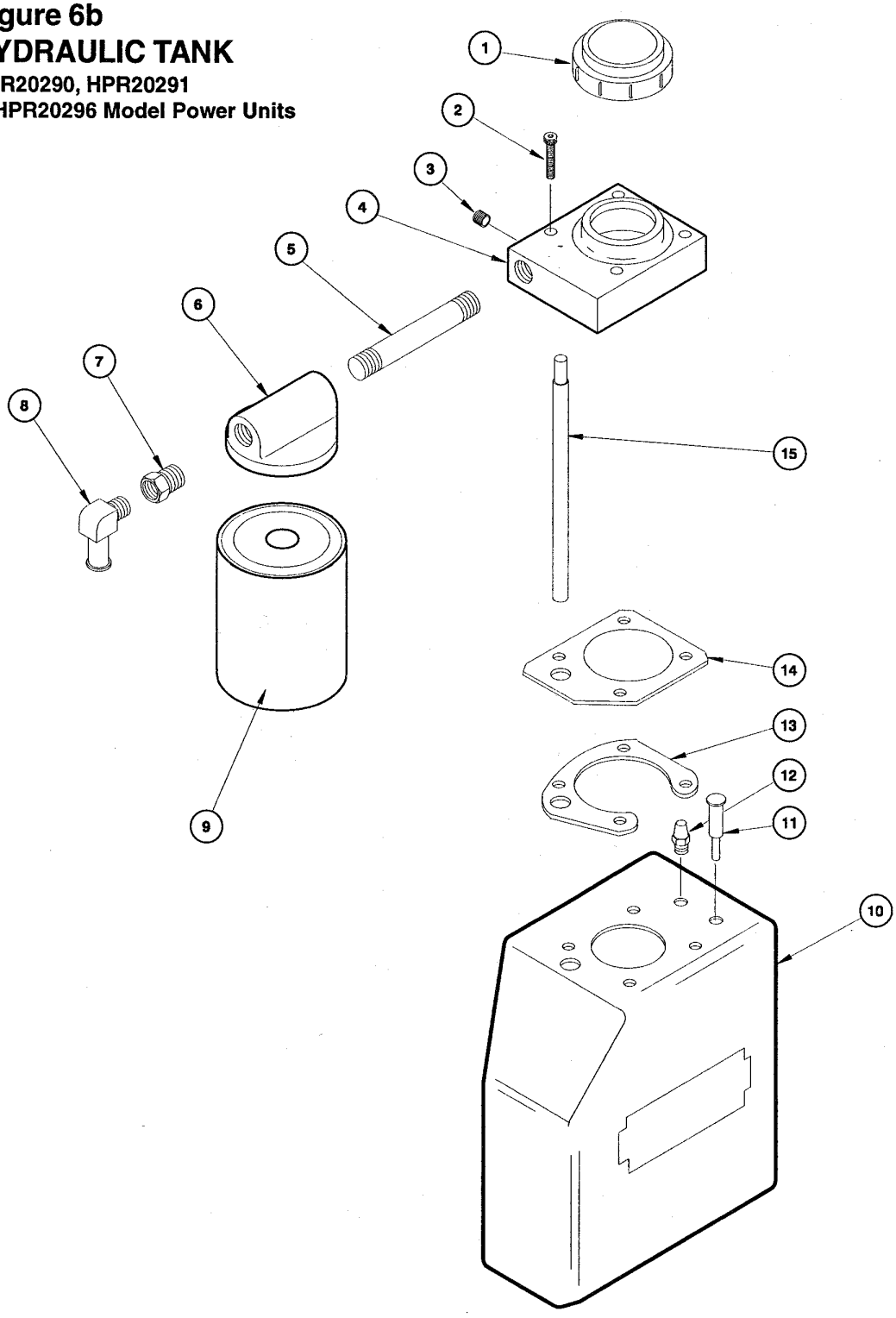


Fig. 6b, Ver 1

Figure 7b
HOSES, FITTINGS & CLAMPS

HPR20290, HPR20291 & HPR20296 Model Power Units

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

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

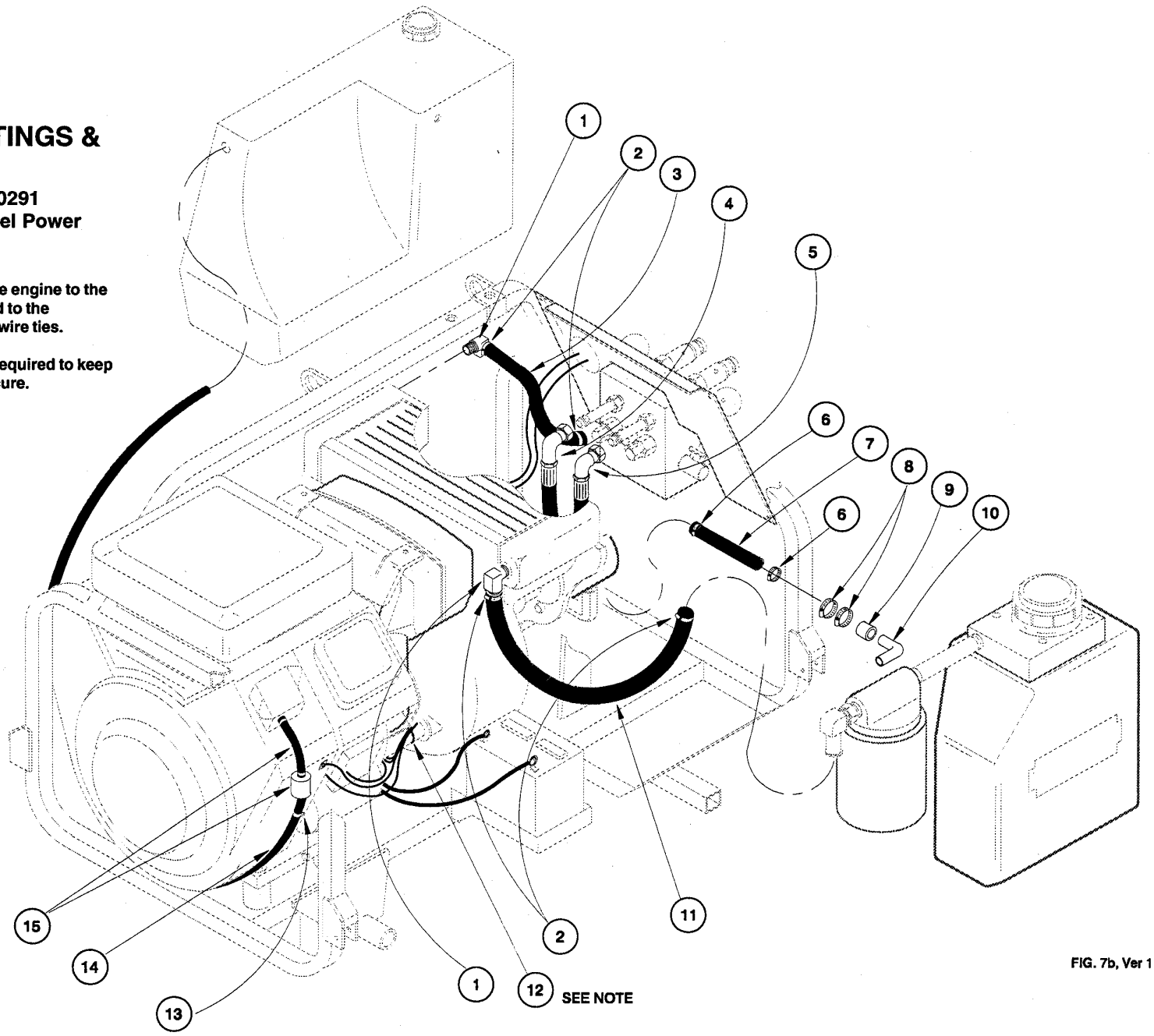


FIG. 7b, Ver 1

Figure 8b
WIRING DIAGRAM
HPR20290, HPR20291
& HPR20296 Model Power Units

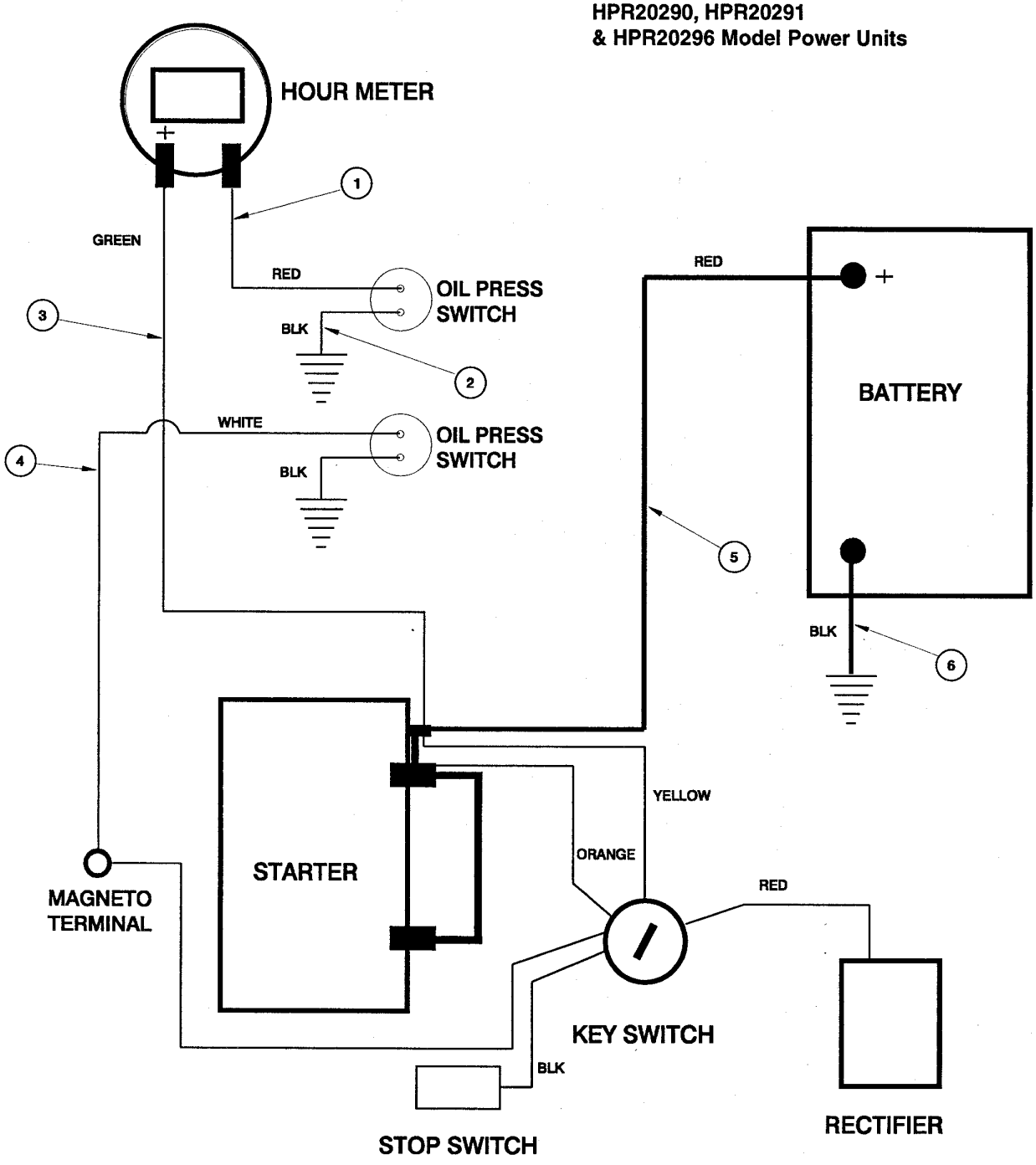
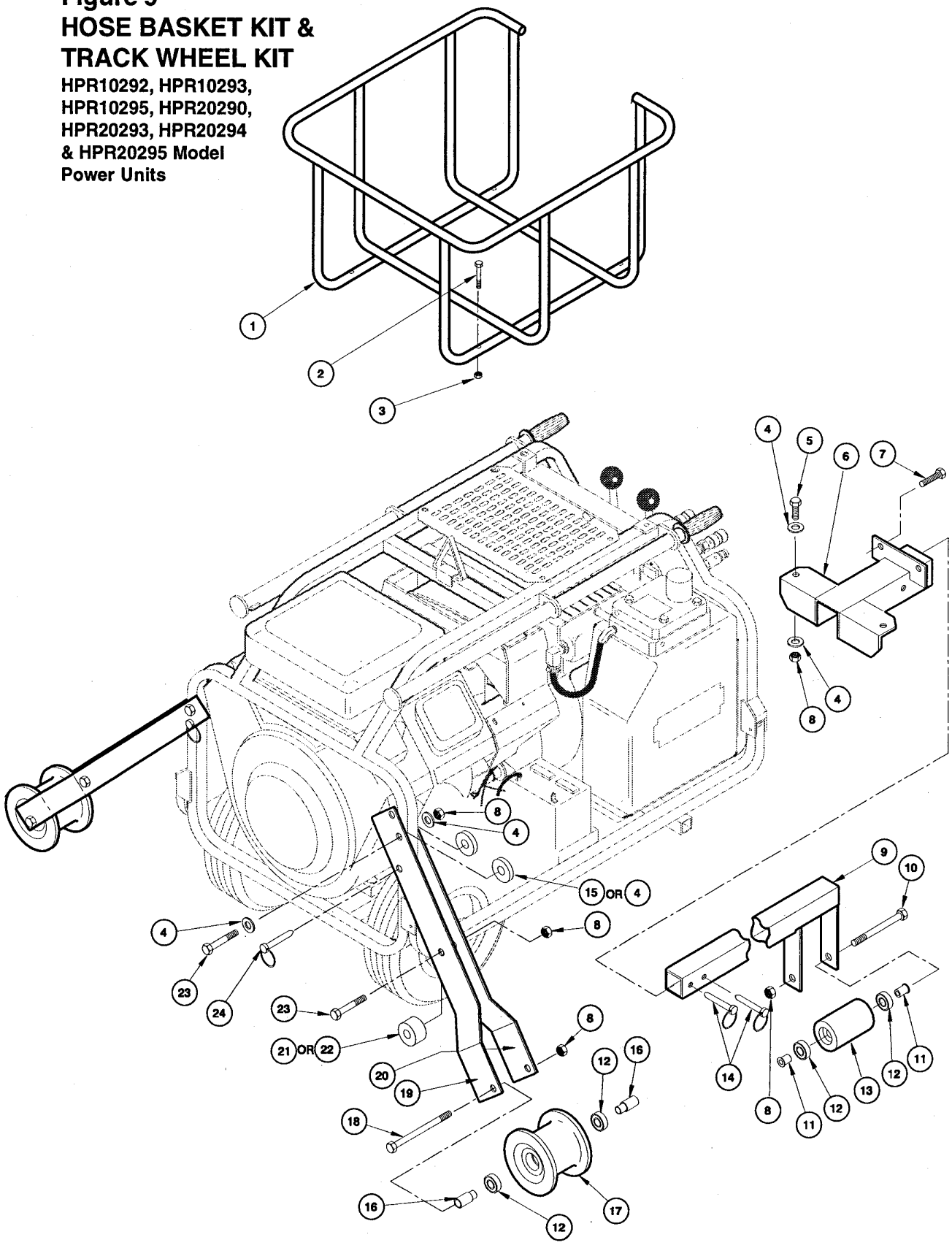


Figure 9
HOSE BASKET KIT & TRACK WHEEL KIT

HPR10292, HPR10293, HPR10295, HPR20290, HPR20293, HPR20294 & HPR20295 Model Power Units



HPR20290, HPR20291 & HPR20296 POWER UNIT PARTS LIST

Item No	Part No	Qty	Description
			FIG. 1b - ENGINE ASSY
1	27760	1	Engine, Briggs & Stratton
2	18384	1	Oil Filter
3	-----	4	Capscrew (Incld with Engine)
4	23772	1	Muffler
5	-----	1	Heat Shield (incld w/item 14)
6	-----	2	Screw (incld w/item 14)
7	-----	1	Washer (Incld with Engine)
8	-----	1	Capscrew (Incld with Engine)
9	24390	1	Oil Cooler
10	25610	1	Railroad Help Desk Sticker
11	23662	1	Cooler Mount Weldment
12	07817	3	Machine Screw
13	03031	3	Washer
14	08668	10	Sheet Metal Screw
15	02474	4	Capscrew, 7/16-14 x 1-1/4 in. Hex Hd.
16	02477	4	Washer, 7/16 in.
17	07783	1	Blower Housing
18	05694	4	Washer, 7/16 in.
19	23778	4	Standoff
20	07752	1	Cooler Mount
21	03906	2	ESNA Nut, 5/16 in. -18
22	02634	A/R	Washer, 5/16 (as required)
23	23788	4	Spacer
24	04637	2	Capscrew, 5/16 in.-18 x 2-1/2
25	07818	1	Key
26	01397	2	Set Screw
27	23781	1	Blower Hub & Shaft Extension
28	07819	1	Key
29	08035	1	Blower Wheel
30	00899	4	Capscrew
31	23199	1	Coupling Assy (incld set screws, item 29 & 30 in fig. 2a)
32	08669	1	Inlet Ring Gasket
33	07809	1	Inlet Ring
34	08667	5	Screw, Self Tapping
			FIG. 2b MAJOR COMPONENTS
1	07817	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	04539	7	Washer, 1/4 in.
7	03907	8	Capscrew, 1/4 in.-20 x 1-1/2
8	27759	1	Top Grille
9	08080	2	Handle Grip (Not used on HPR20290)
10	04539	4	Flat Washer
11	21319	4	Capscrew
12	02072	2	Capscrew, 5/16 in.-18 x 3/4
13	03031	9	Lockwasher, 5/16 in.
14	23989	1	Dash Panel Assy (SEE FIG. 5b)
15	01298	2	Lockwasher
16	07768	1	Grille
17	04539	2	Washer, 1/4 in.
18	27767	1	Elbow, 90 Degree Adjustable
19	04860	1	Elbow, 90 Degree Adjustable
20	27997	1	Adapter
21	-----	1	Key (Incld with item 28)
22	08045	1	Hose Clamp
23	27782	1	Inlet Tube Assy
24	-----	1	Washer, (Incld with item 32)
25	07860	2	Capscrew, 3/8 in.-16 x 1-1/4
26	01459	2	Lockwasher, 3/8 in.
27	371056	2	Washer
28	28051	1	Hydraulic Pump
29	21335	1	Elbow. 90 Degree Adjustable Long
31	-----	1	Retaining Ring (Incld with item 32)
32	23199	1	Coupling Assy (Incld item 33)
33	23200	1	Coupling Sleeve (Incld with item 32)
35	07758	1	Tank Support Tab
34	03760	1	Capscrew, 5/16 in.-18 x 1-1/2
30	27653	1	Hydraulic Tank Assy (See Fig. 6a)
36	04303	1	Battery

Item No	Part No	Qty	Description
37	00429	2	Nut
38	03031	2	Lockwasher, 5/16
39	05227	2	Carriage Bolt, 5/16 in. x 3/4
40	08016	2	Retaining Ring (Not used on HPR20290)
41	01918	2	Washer (Not used on HPR20290)
42	16310	2	Wheel (Not used on HPR20290)
43	04566	1	Battery Strap
44	03906	4	Nut, ESNA, 5/16 in.-18 (Not use on HPR20290)
45	-----	2	Incld with item 48 (Not used on HPR20290)
46	370504	2	Capscrew, 5/16 in.-18 x 2-3/4
47	370513	4	Capscrew, 5/16 in.-18 x 1-3/4 (Not used on HPR20290)
48	27678	1	Frame Weldment (HPR20290)
	28091	1	Frame Weldment (HPR20291 & HPR20296)
49	16363	2	Axle (Not used on HPR20290)
50	28093	2	Handle (Not used on HPR20290)
51	00719	4	Nut, ESNA, 1/4 in.-20
			FIG. 5b DASH PANEL & VALVE ASSY
1	27660	1	Dash Panel
2	20606	1	Hour Meter
3	28046	1	Decal, "DANGER - CARBON MONOXIDE"
4	28045	1	Decal, "FOR ONE OR TWO"
5	07492	4	Spirol Pin
6	00016	2	O-ring
7	05848	1	Combiner Spool
8	22549	2	Relief Valve
9	07161	2	Adapter, Long
10	07821	1	Elbow, Hose Barb
11	05844	1	ON/OFF Spool, LH
12	06989	2	O-ring
13	06988	2	Back-up Ring
14	04313	2	Retaining Ring
15	04216	2	Washer
16	00147	2	Nut
17	05849	2	Rod
18	02633	2	Knob
19	07492	4	Spirol Pin
20	01545	7	Pipe Plug
21	27661	1	Control Block
22	07882	2	Adapter, -10 SAE x 1/2 Male NPT
23	24061	2	Male Coupler Nose
24	05847	1	Combiner Knob
25	24060	2	Female Coupler Body
26	05843	1	ON/OFF Spool, RH
27	27931	2	Capscrew
28	01298	2	Lockwasher
29	28044	1	Decal, "CHECK HYDRAULIC"
30	28008	1	Decal, "TO START"
31	28047	1	Decal, "CAUTION-HOT PARTS"
			FIG. 6b TANK ASSY
1	21323	1	Filler/Breather Cap
2	08253	4	Capscrew, 1/4 in.-20 x 1-1/2
3	01271	1	Pipe Plug
4	27652	1	Filter Block
5	27654	1	Pipe Nipple
6	21326	1	Spin-on Filter Head
7	350219	1	Reducer
8	07821	1	Elbow
9	25417	1	Filter, Zinga AE-25
10	07784	1	Hydraulic Tank
11	07748	1	Sight Pipe
12	05535	1	Breather
13	09591	1	Filter Grip Plate
14	09590	1	Gasket
15	27655	1	Oil Tube

Item No	Part No	Qty	Description
			FIG. 7b - HOSES, FITTINGS & CLAMPS
1	07821	2	90 Degree Elbow
2	04889	4	Hose Clamp
3	16326	1	Hose
4	27771	1	Hose Assy
5	27770	1	Hose Assy
6	08045	1	Hose Clamp
7	27783	1	Suction Hose
8	11179	2	Hose Clamp
9	07747	1	Suction Sleeve
10	27781	1	Suction Tube
11	27998	1	Hose
12	-----	A/R	Wire Tie
13	23779	3	Tube Clamp
14	23777	1	Fuel Hose
15	19947	1	Fuel Filter
			FIG. 8b WIRING DIAGRAM
1	28213	1	Wire Assy (14 gauge, red)
2	------	1	Wire Assy (14 gauge, black)
3	27764	1	Wire Assy (14 gauge, green)
4	23714	1	Wire Assy (14 gauge, white)
5	08721	1	Wire Assy (6 gauge, red)
6	08720	1	Wire Assy (6 gauge, black)
			FIG. 9 HOSE BASKET & TRACK WHEEL KITS
	13360	**1**	**HOSE BASKET KIT (Incld items 1 thru 3)**
1	24187	1	Hose Basket Assy
2	370100	4	Capscrew, 1/4-20
3	00719	3	Nut, ESNA, 1/4-20
	28704	**1**	**TRACK WHEEL KIT (Incld items 4 thru 23)**
4	04585	12	Flat Washer
5	02099	2	Capscrew
6	28679	1	Tongue Mount
7	02068	2	Capscrew
8	04353	9	Nut, ESNA, 3/8-16
9	28681	1	Tongue
10	27634	1	Capscrew
11	27588	2	Roller Spacer
12	00335	6	Ball Bearing
13	27587	1	Roller
14	27763	2	Faspin
15	28684	4	Strut Spacer
16	28677	4	Wheel Spacer, Long ***OR*** ↓
	27578	4	Wheel Spacer, Short ***OR*** ↑
17	19784	2	Track Wheel
18	28678	2	Capscrew
19	28676	2	Strut, Left Hand
20	28675	2	Strut, Right Hand
21	29541	2	Strut Block, Long ***OR*** ↓
22	29542	2	Strut Block, Short ***OR*** ↑
23	23800	4	Capscrew
24	28685	2	Faspin

NOTE: Use Part Number and Part Name when ordering.

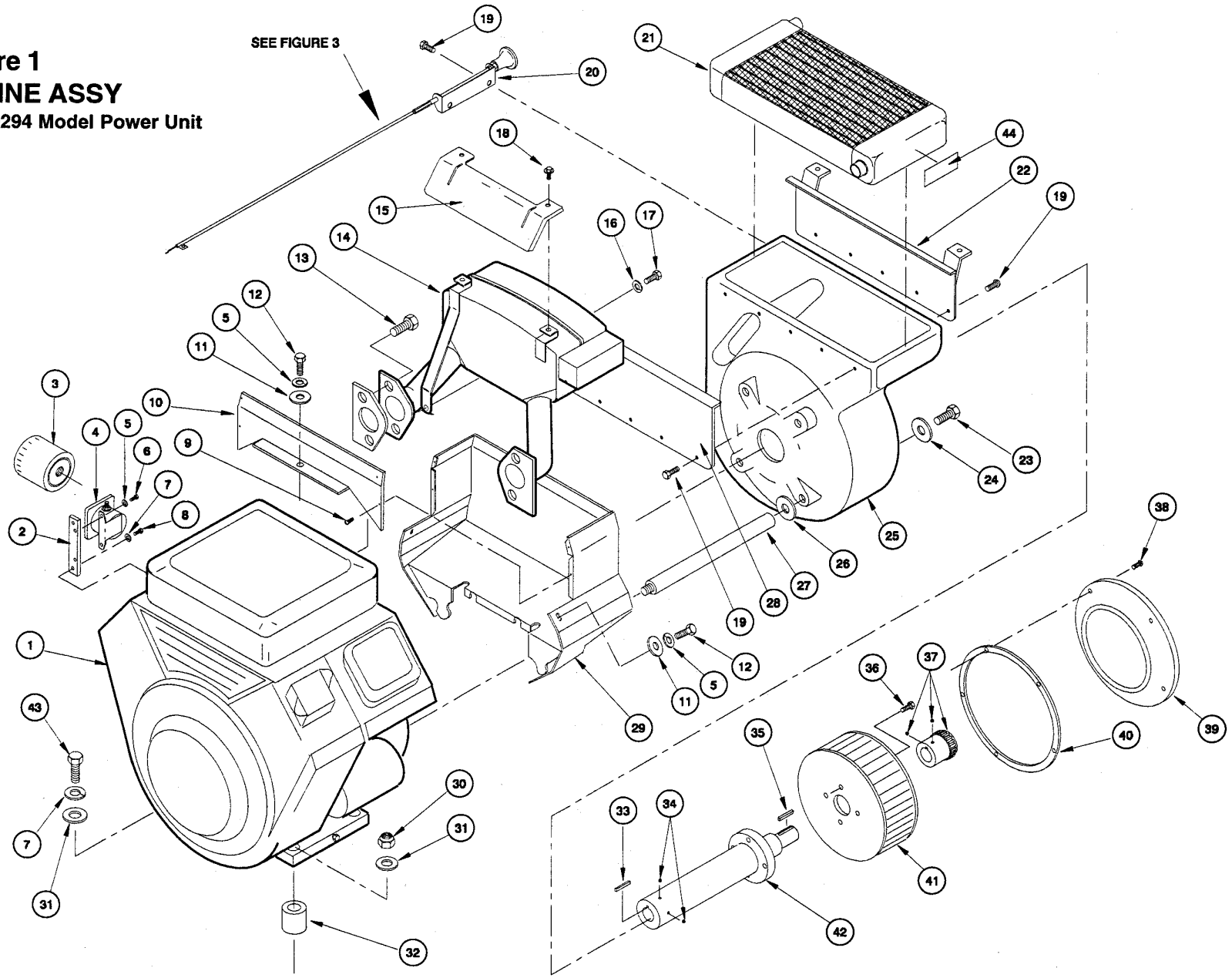
SECTION 3

HPR20294 PARTS LIST & PARTS DRAWINGS

HPR20294 Power Unit

The HPR20294 contains rubber tires, carrying handles and wheel barrow type handles as shown in the parts drawings. The hydraulic circuit is a dual circuit producing two 5 gpm/19 lpm circuits or one combined circuit of 10 gpm/37.8 ltr. A ON/OFF switch, push button start switch and hour meter are located on a panel behind the hydraulic control levers. A automatic throttle actuator and a manual choke cable are located on one side of the unit. The track wheel kit and hose basket are available only as optional equipment.

Figure 1
ENGINE ASSY
HPR20294 Model Power Unit



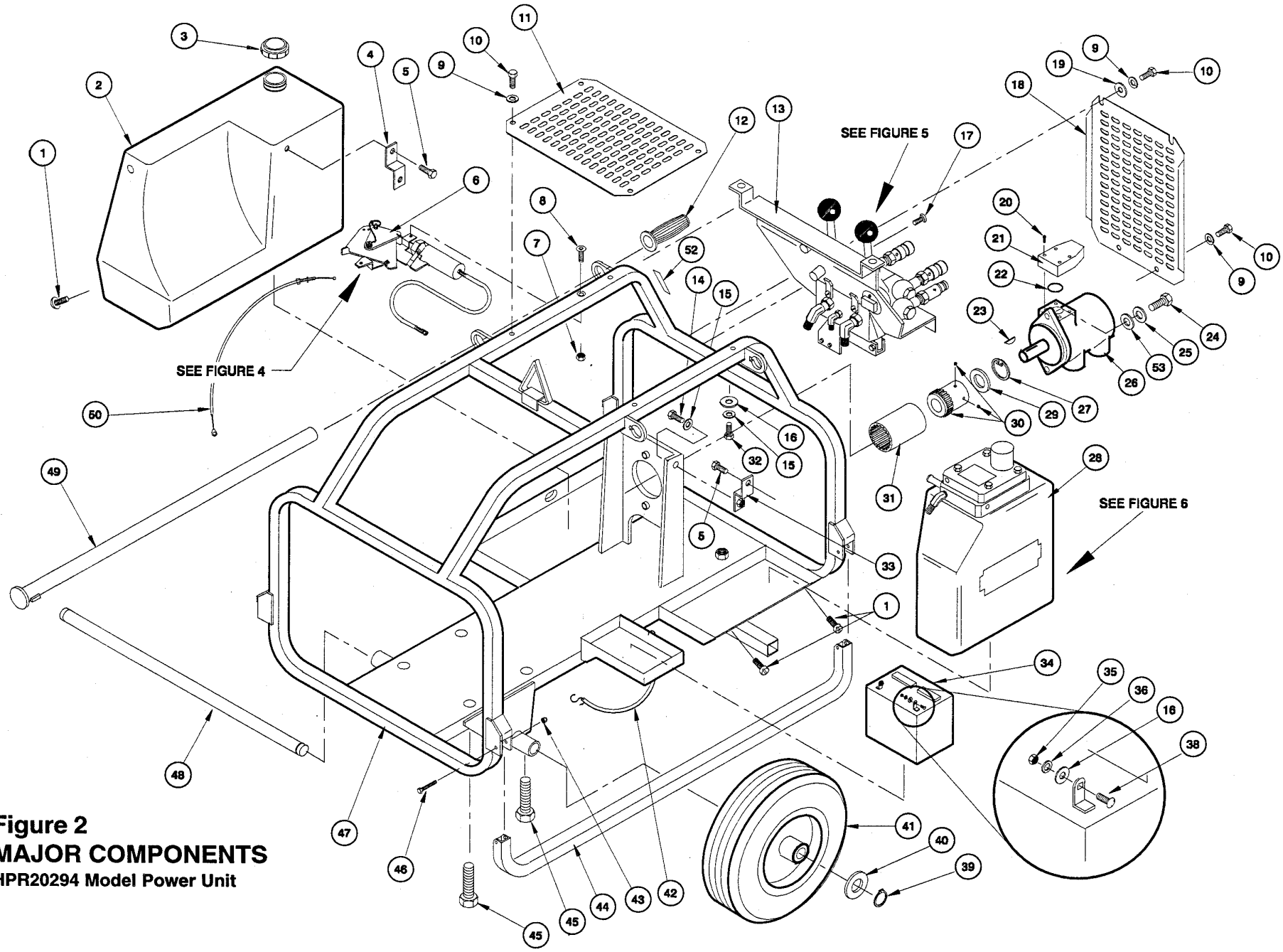


Figure 2
MAJOR COMPONENTS
HPR20294 Model Power Unit

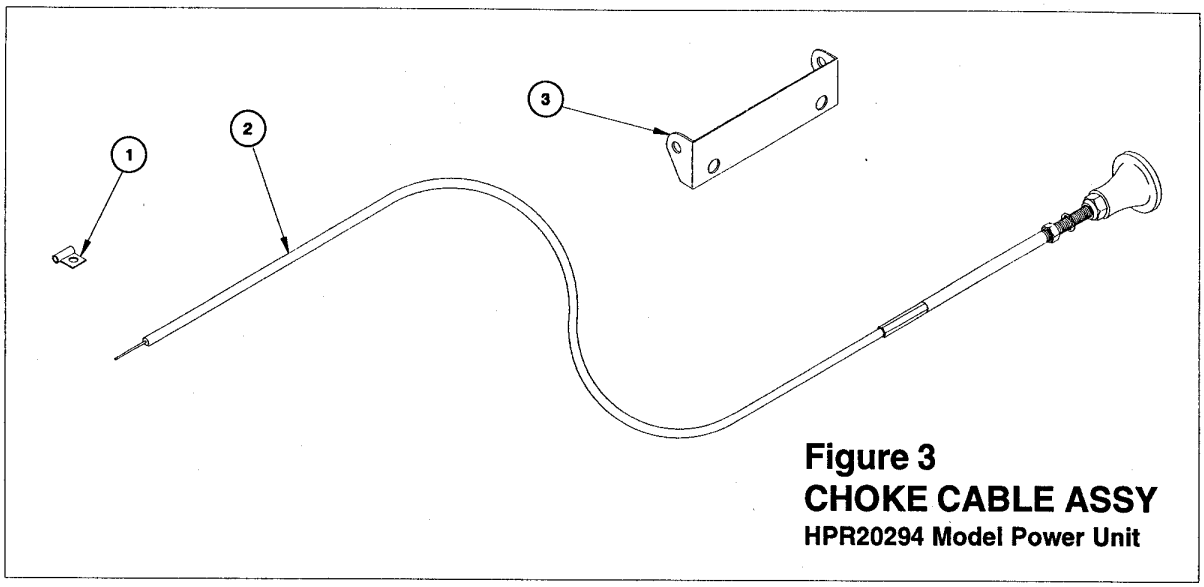


Figure 3
CHOKE CABLE ASSY
HPR20294 Model Power Unit

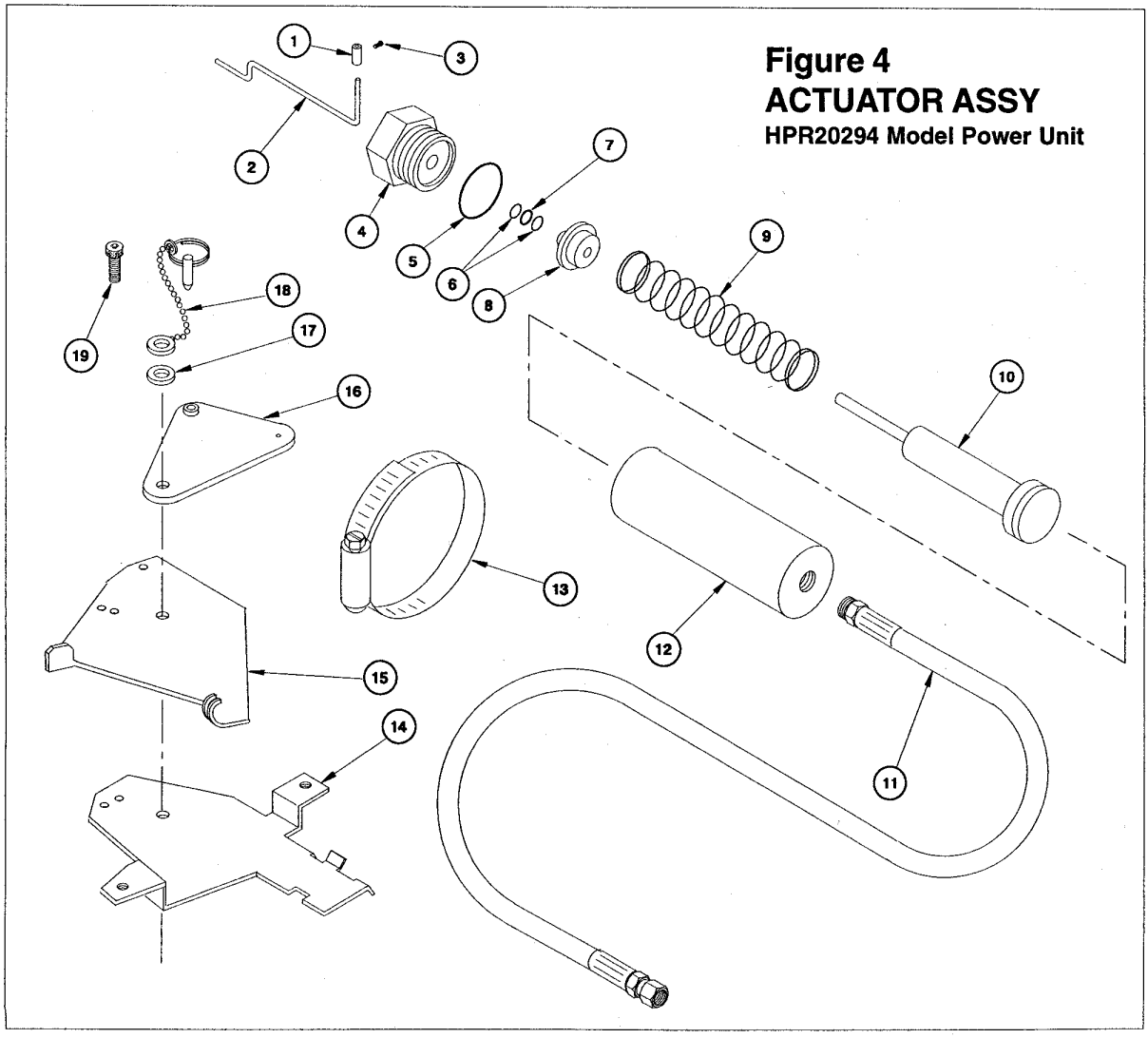


Figure 4
ACTUATOR ASSY
HPR20294 Model Power Unit

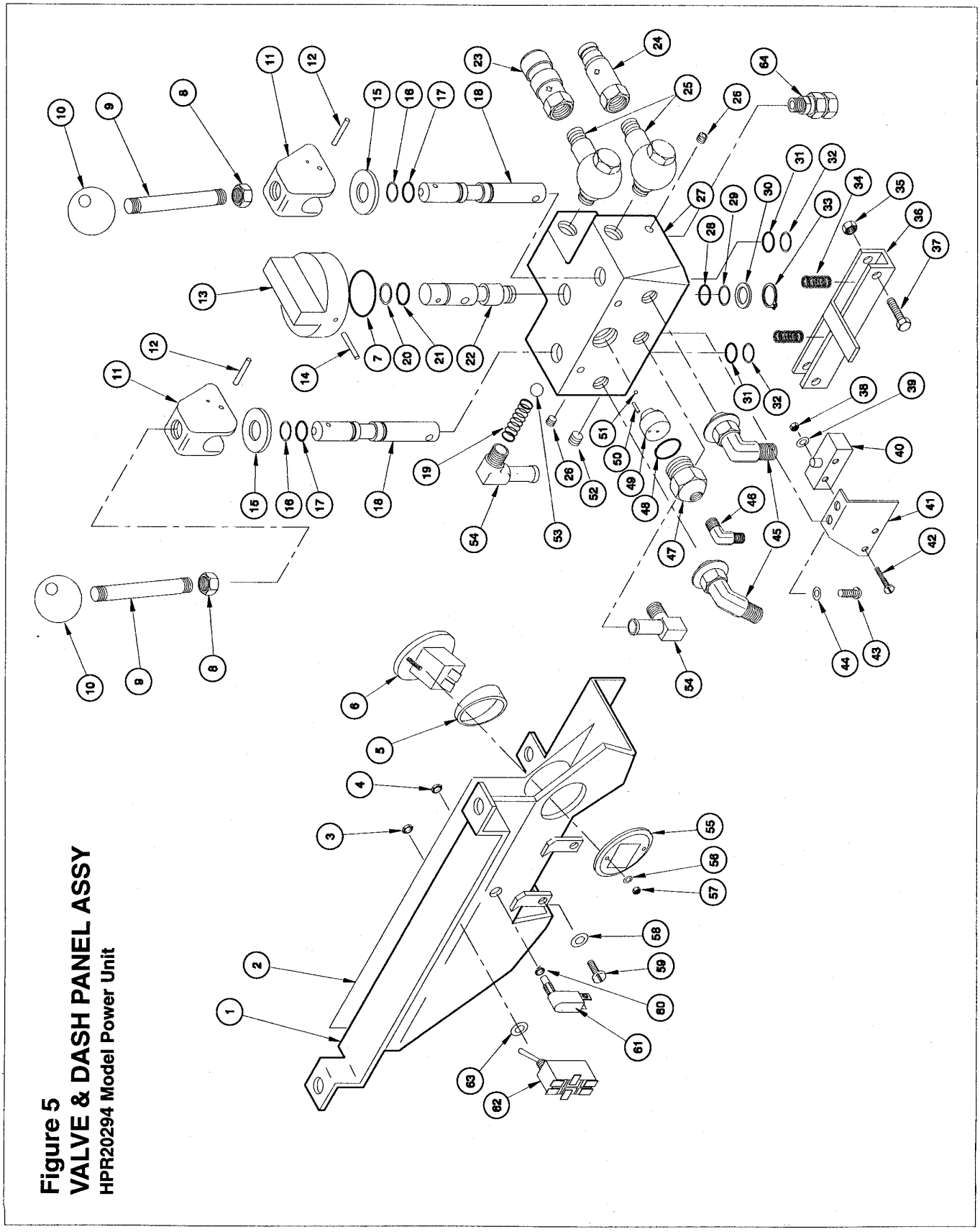


Figure 5
VALVE & DASH PANEL ASSY
HPR20294 Model Power Unit

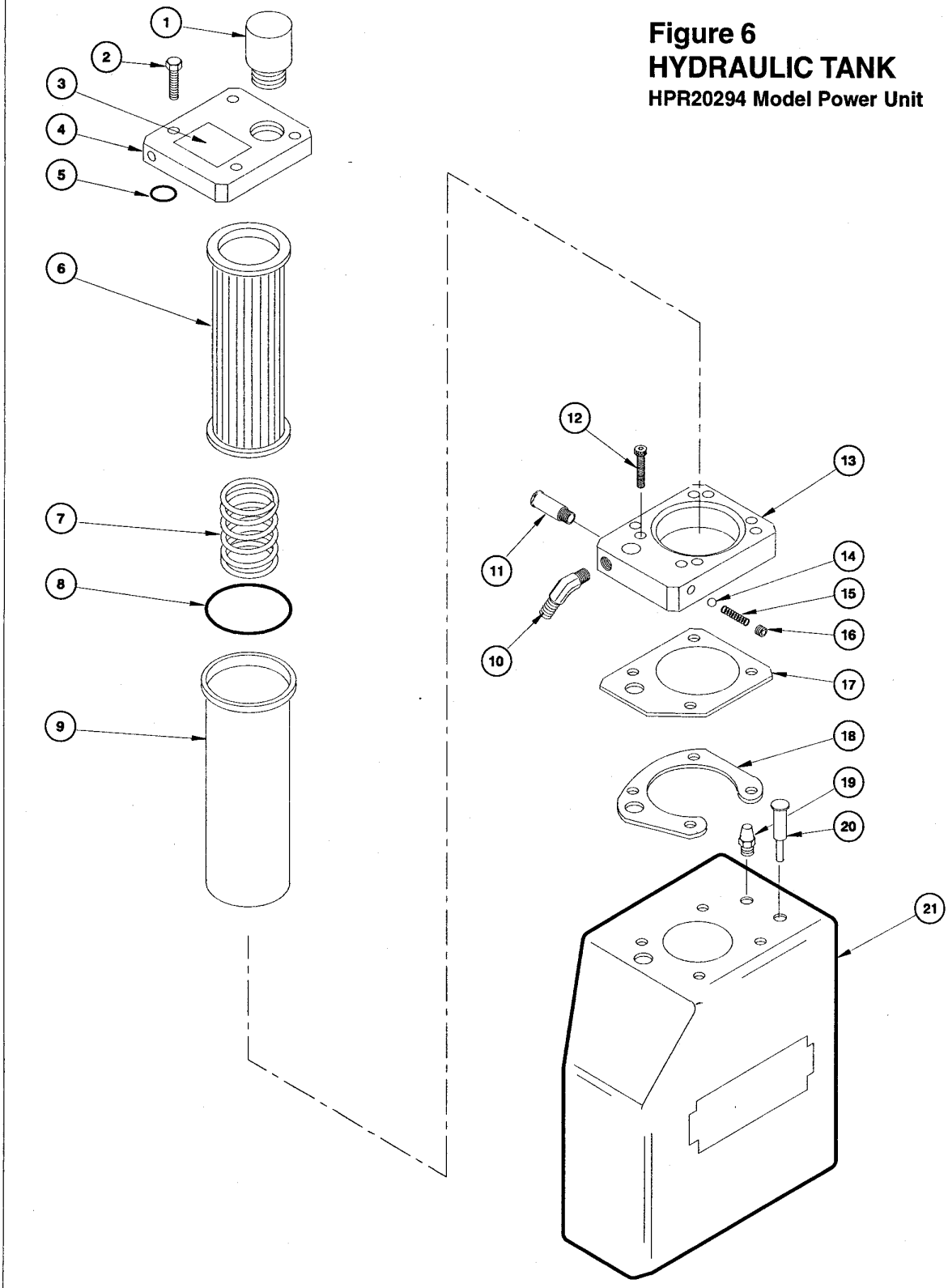


Figure 6
HYDRAULIC TANK
HPR20294 Model Power Unit

Figure 7
HOSES, FITTINGS & CLAMPS
HPR20294 Model Power Unit

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

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

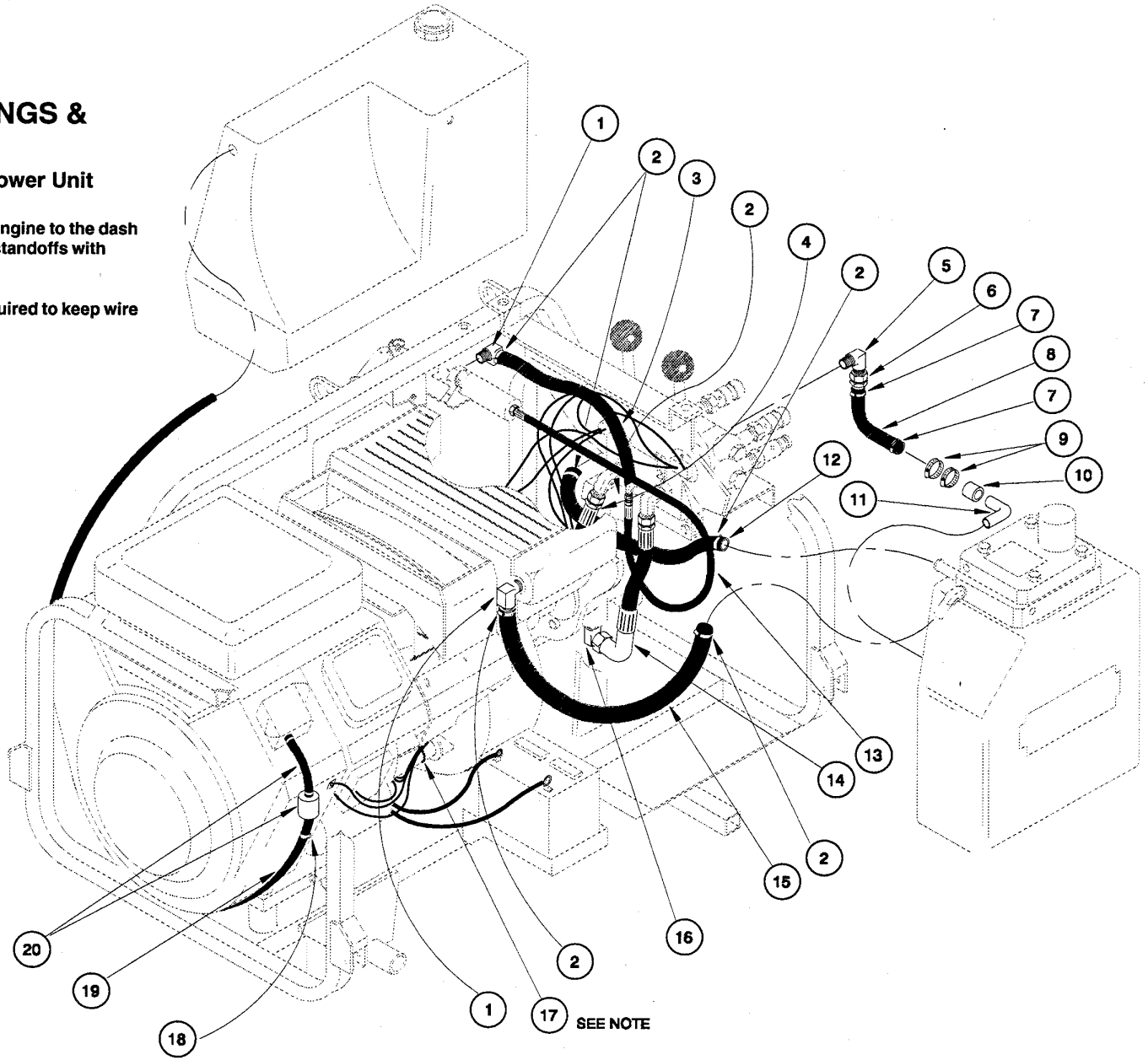


Figure 8
WIRING DIAGRAM
HPR20294 Model Power Unit

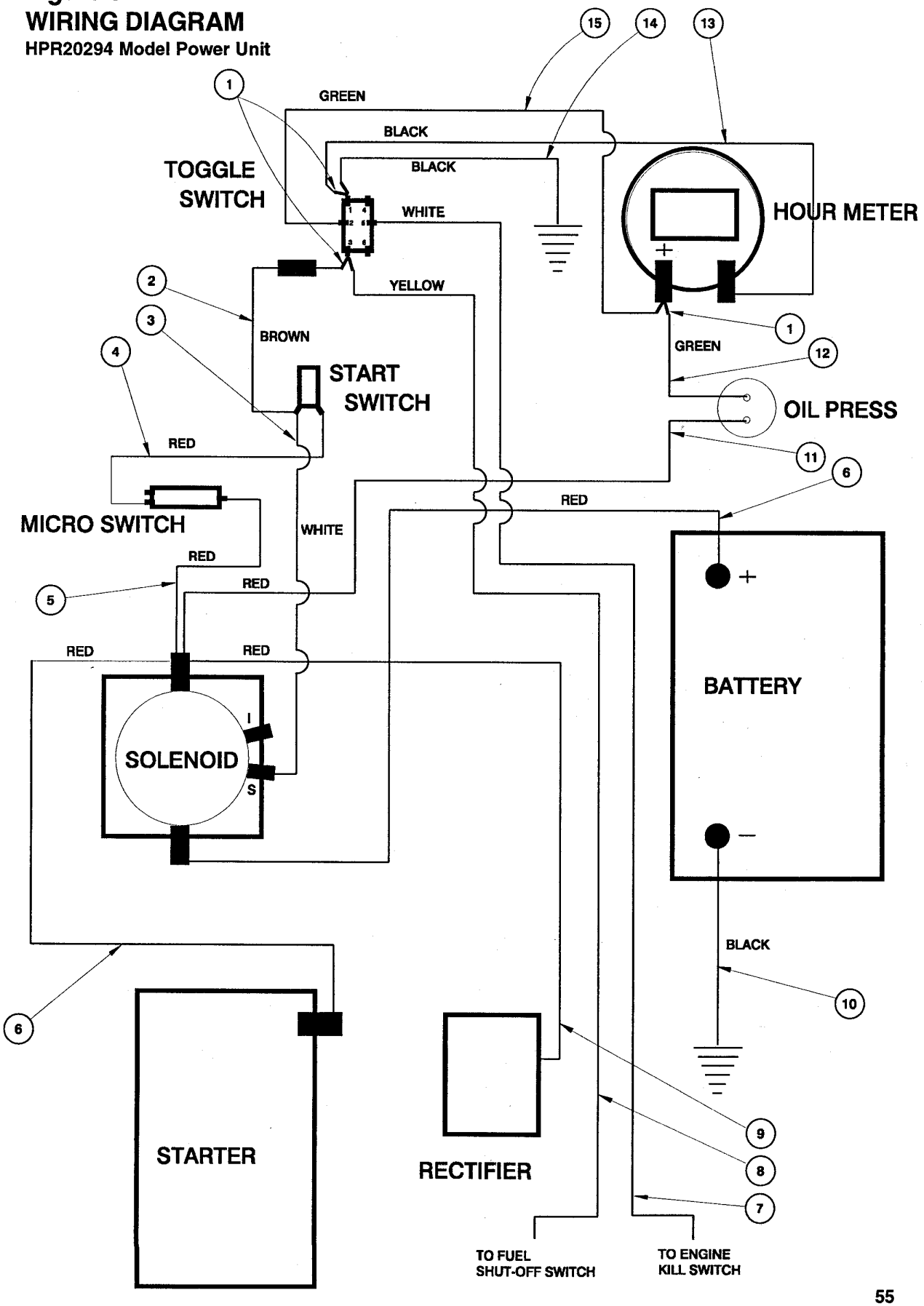
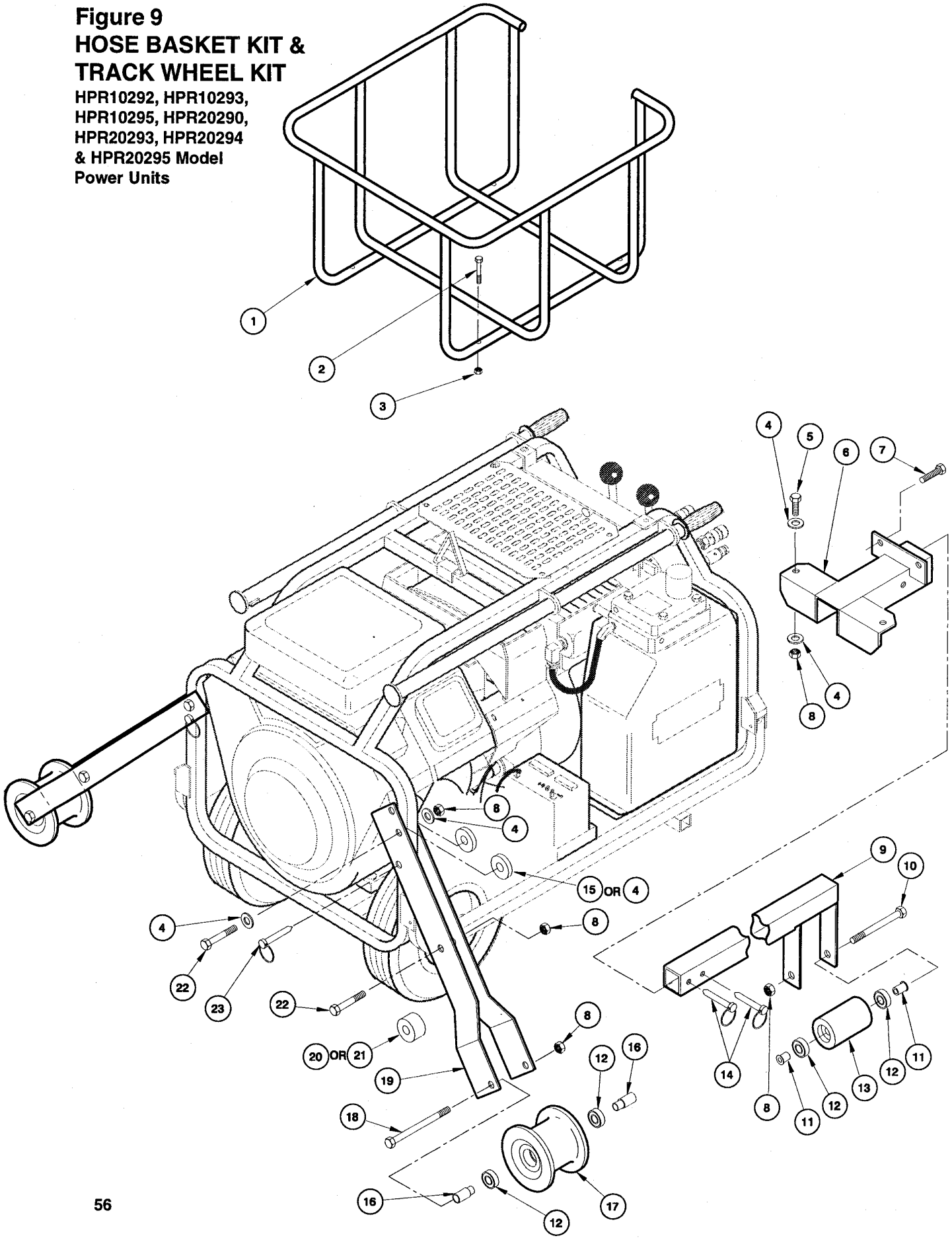


Figure 9
HOSE BASKET KIT & TRACK WHEEL KIT

HPR10292, HPR10293, HPR10295, HPR20290, HPR20293, HPR20294 & HPR20295 Model Power Units



HPR20294 POWER UNIT PARTS LIST

Item No	Part No	Qty	Description
			FIG. 1 - ENGINE ASSY
1	23332	1	Engine, Briggs & Stratton
2	16315	1	Plate
3	18384	1	Oil Filter
4	02195	1	Starter Solenoid
5	01298	8	Lockwasher
6	00899	2	Capscrew, 1/4-20 x 1/2 in.
7	03031	3	Lockwasher
8	03877	2	Capscrew, 5/16-24 x 3/4 in.
9	08667	4	Self Tapping Screw, #10-24 x 3/8 in.
10	23814	1	Air Duct, Back
11	04539	6	Washer
12	23846	6	Capscrew, M6 x 1 x 16 mm
13	-----	4	Capscrew (Incld with Engine)
14	23764	1	Muffler, modified
15	-----	1	Heat Shield (incld w/item 14)
16	-----	1	Washer (Incld with Engine)
17	-----	1	Capscrew (Incld with Engine)
18	-----	2	Screw (incld w/item 14)
19	08668	12	Sheet Metal Screw
20	23722	1	Choke Cable Assy
21	24390	1	Oil Cooler
22	23662	1	Cooler Mount Weldment
23	02474	4	Capscrew, 7/16-14 x 1-1/4 in. Hex Hd.
24	02477	4	Washer, 7/16 in.
25	07783	1	Blower Housing
26	05694	4	Washer, 7/16 in.
27	23778	4	Standoff
28	07752	1	Cooler Mount
29	23812	1	Air Duct Weldment
30	03906	2	ESNA Nut, 5/16 in. -18
31	02634	A/R	Washer, 5/16 (as required)
32	23788	4	Spacer
33	07818	1	Key
34	01397	2	Set Screw
35	07819	1	Key
36	00899	4	Capscrew
37	23199	1	Coupling Assy (incld set screws, item 30 & 31 in fig. 2)
38	08667	5	Screw, Self Tapping
39	07809	1	Inlet Ring
40	08669	1	Inlet Ring Gasket
41	08035	1	Blower Wheel
42	23781	1	Blower Hub & Shaft Extension
43	04637	2	Capscrew, 5/16 in.-18 x 2-1/2
44	25610	1	Railroad Help Desk Sticker
			FIG. 2 MAJOR COMPONENTS
1	07817	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
7	00719	1	Nut, 1/4 in.-20
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	1	Top Grille
12	08080	2	Handle Grip
13	23989	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	07768	1	Grille
19	04539	2	Washer, 1/4 in.
20	16386	4	Capscrew, 7/16 in.-14 x 1-1/2
21	16362	1	Inlet Flange
22	13997	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	16725	1	Hydraulic Pump
27	-----	1	Retaining Ring (Incld with item 30)
28	07803	1	Hydraulic Tank Assy (See Fig. 6)

Item No	Part No	Qty	Description
29	-----	1	Washer, (Incld with item 30)
30	23199	1	Coupling Assy (Incld item 31)
31	23200	1	Coupling Sleeve (Incld with item 30)
32	03760	1	Capscrew, 5/16 in.-18 x 1-1/2
33	07758	1	Tank Support Tab
34	04303	1	Battery
35	00429	2	Nut
36	03031	2	Lockwasher, 5/16
37	-----	-	No Item
38	05227	2	Carriage Bolt, 5/16 in. x 3/4
39	08016	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 48
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	23720	1	Throttle Cable
50	28093	2	Handle
51	07764	1	Choke Pull Decal
52	372056	2	Washer
			FIG.3 CHOKE CABLE ASSY - P/N 23722
1	11041	1	Choke Cable Anchor
2	10894	1	Choke Cable Assy
3	10893	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	15159	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	24048	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	24240	1	Dash Panel
2	16366	1	Panel Decal
3	-----	1	Incld with item 62
4	-----	1	Incld with item 61
5	16327	1	Hour Meter Bracket
6	20606	1	Hour Meter
7	01403	1	O-ring
8	00147	2	Nut
9	16333	2	Control Rod
10	02633	2	Knob
11	16368	2	Cam
12	16384	2	Roll Pin
13	16361	1	Combiner Knob
14	10762	1	Roll Pin
15	16339	2	Plastic Washer
16	07224	2	Back-up Ring
17	07626	2	O-ring
18	16330	2	On-Off Spool
19	16335	1	Spring
20	06988	1	Back-up Ring
21	06989	1	O-ring
22	16365	1	Combiner Spool

Item No	Part No	Qty	Description
FIG. 5 DASH PANEL & VALVE ASSY (Continued)			
23	24060	2	Female Coupler Body - 1/2 in.
24	24061	2	Male Coupler Body - 1/2 in.
25	25633	2	Swivel Fitting
26	00961	2	Pipe Plug
27	16370	1	Valve Block
28	00940	1	O-ring
29	07794	1	Back-up Ring
30	01922	1	Washer
31	07627	2	O-ring
32	08015	2	Back-up Ring
33	07820	1	Retaining Ring
34	16336	2	Spring
35	06971	2	Lock Nut
36	16359	1	Bridge Assy
37	17687	2	Capscrew
38	00959	1	Nut
39	03014	1	Washer
40	16388	1	Switch
41	16328	1	Switch Bracket
42	16390	1	Machine Screw
43	16389	2	Machine Screw
44	04420	2	Lockwasher
45	04860	2	Straight Thread Elbow, -8 SAE
46	01539	1	Male Elbow, 4CTX
47	16360	1	Pressure Shuttle Fitting
48	01604	1	O-ring
49	16329	1	Shuttle Keeper
50	00757	1	Roll Pin
51	02436	1	Steel Ball
52	01219	1	Pipe Plug
53	07793	1	Steel Ball
54	04868	1	Elbow, 90 Degree
55	-----	1	Incld with item 6
56	-----	2	Lockwasher (Incld with item 6)
57	-----	2	Nut (Incld with item 6)
58	02634	2	Washer
59	07817	2	Machine Screw, Pan Head
60	-----	1	Washer (Incld with item 61)
61	07808	1	Toggle Switch
62	16387	1	Starter Switch
63	-----	1	Washer (Incld with item 62)
64	22549	1	Relief Valve
FIG. 6 HYDRAULIC 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	26238	1	Filter Block Assy
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	07821	2	90 Degree Elbow
2	04889	6	Hose Clamp
3	16326	1	Hose
4	16391	1	Hose
5	02608	1	90 Degree Elbow
6	16314	1	Inlet Tube Assy
7	08045	2	Hose Clamp
8	04332	1	Suction Hose
9	11179	2	Hose Clamp
10	07747	1	Suction Sleeve
11	07749	1	Suction Tube
12	16325	1	Hose
13	360009	1	Hose Assy
14	16391	1	Pressure Hose
15	24389	1	Hose (Cooler Return)
16	04860	2	90 Degree Elbow
17	02395	A/R	Cable Tie
18	23779	3	Tube Clamp
19	23777	1	Fuel Hose
20	19947	1	Fuel Filter
FIG. 8 WIRING DIAGRAM			
1	372067	3	Double Spade Connector
2	23990	1	Diode Wire Assy
3	16321	1	Wire Assy (14 gauge, white)
4	16320	1	Wire Assy (14 gauge, red)
5	23681	1	Wire Assy (14 gauge, red)
6	08721	2	Wire Assy (6 gauge, red)
7	23714	1	Wire Assy (14 gauge, white)
8	23685	1	Wire Assy (14 gauge, yellow)
9	-----	1	Wire, 14 gauge, red, incld w/engine
10	08720	1	Wire Assy (6 gauge, black)
11	23681	1	Wire Assy (14 gauge, red)
12	23683	1	Wire Assy (14 gauge, green)
13	23684	1	Wire Assy (14 gauge, black)
14	08724	1	Wire Assy (14 gauge, black)
15	23682	1	Wire Assy (14 gauge, green)
FIG. 9 HOSE BASKET & TRACK WHEEL KITS			
	13360	1	**HOSE BASKET KIT (Incld items 1 thru 3)**
1	24187	1	Hose Basket Assy
2	370100	4	Capscrew, 1/4-20
3	00719	3	Nut, ESNA, 1/4-20
	28704	1	**TRACK WHEEL KIT (Incld items 4 thru 23)**
4	04585	12	Flat Washer
5	02099	2	Capscrew
6	28679	1	Tongue Mount
7	02068	2	Capscrew
8	04353	9	Nut, ESNA, 3/8-16
9	28681	1	Tongue
10	27634	1	Capscrew
11	27588	2	Roller Spacer
12	00335	6	Ball Bearing
13	27587	1	Roller
14	27763	2	Faspin
15	28684	4	Strut Spacer
16	28677	4	Wheel Spacer, Long ***OR*** ↓
	27578	4	Wheel Spacer, Short ***OR*** ↑
17	19784	2	Track Wheel
18	28678	2	Capscrew
19	28676	2	Strut, Left Hand
20	28675	2	Strut, Right Hand
21	29541	2	Strut Block, Long ***OR*** ↓
22	29542	2	Strut Block, Short ***OR*** ↑
23	23800	4	Capscrew
24	28685	2	Faspin

NOTE: Use Part Number and Part Name when ordering.

WARRANTY

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

EXCEPTIONS FROM WARRANTY

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: Any failure or performance deficiency attributable to excess hydraulic pressure, excess hydraulic back-pressure, or excess hydraulic flow.

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

MIS-APPLICATION: Any failure or performance deficiency attributable to mis-application. "Mis-application" is defined as usage of products for which they were not originally intended or usage of products in such a matter which exposes them to abuse or accident, without first obtaining the written consent of Stanley.

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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