

This manual contains **IMPORTANT WARNINGS** and **INSTRUCTIONS READ AND RETAIN FOR REFERENCE**

HYDRA-CLEAN® 1535, 2040, 2540 Pressure Washers

HYDRA-CLEAN 1535, 5 HP ENGINE

P/N 800-698, Series A

1500 psi (103 bar) OPERATING PRESSURE

1900 psi (131 bar) MAXIMUM WORKING PRESSURE

HYDRA-CLEAN 2040, 8 HP ENGINE

P/N 800-699, Series A

2000 psi (138 bar) OPERATING PRESSURE

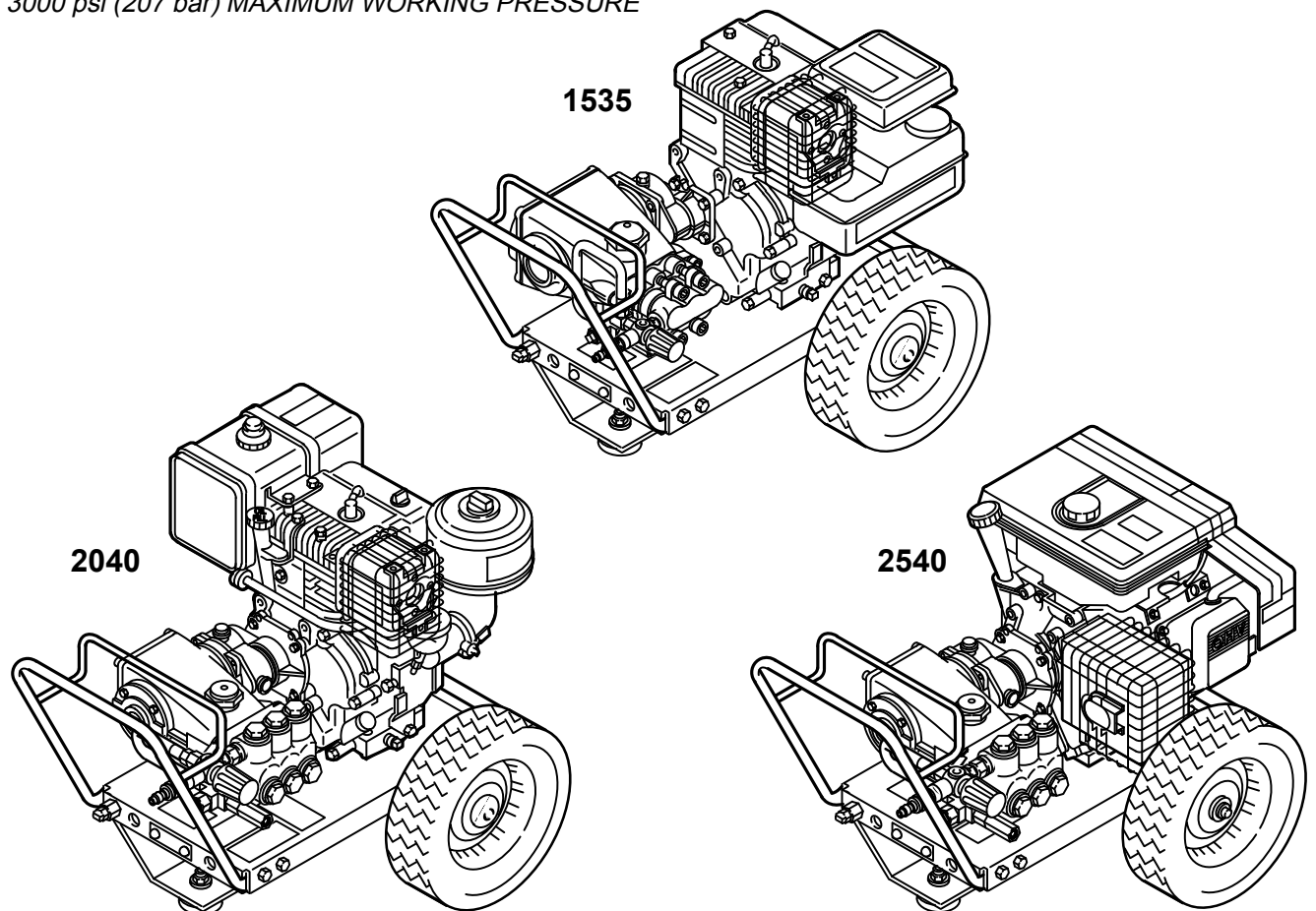
2400 psi (165 bar) MAXIMUM WORKING PRESSURE

HYDRA-CLEAN 2540, 9 HP ENGINE

P/N 800-700, Series A

2500 psi (172 bar) OPERATING PRESSURE

3000 psi (207 bar) MAXIMUM WORKING PRESSURE



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TERMS

WARNING: Alerts user to avoid or correct conditions that could cause bodily injury.

CAUTION: Alerts user to avoid or correct conditions that could cause damage to the equipment.

NOTE: Identifies helpful procedures and information.

WARNING

**HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY.
FOR PROFESSIONAL USE ONLY. OBSERVE ALL WARNINGS.**

Read and understand all instruction manuals before operating equipment.

FLUID INJECTION HAZARD

General Safety

This pressure washer generates very high fluid pressure. Spray from the gun, leaks or ruptured components can inject fluid through your skin and into your body and cause extremely serious bodily injury including the need for amputation. Also, fluid injected or splashed into the eyes or on the skin can cause serious damage.

NEVER point the spray gun or wand at anyone or at any part of the body. *NEVER* put hand or fingers over the spray tip.

ALWAYS follow the **Pressure Relief Procedure**, before cleaning or servicing any part of the sprayer.

NEVER try to stop or deflect leaks with your hand or body.

Be sure equipment safety devices are operating properly before each use.

Medical Treatment

If any fluid appears to penetrate your skin, get **EMERGENCY MEDICAL TREATMENT AT ONCE. DO NOT TREAT AS A SIMPLE CUT.** Tell the doctor exactly what fluid was injected.

NOTE TO PHYSICIAN: *Injection in the skin is a traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.*

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection and splashing in the eyes or on the skin, always follow this procedure whenever you stop spraying for more than 10 minutes, when shutting down, and before checking or repairing any part of the system.

1. Engage the trigger safety latch.
2. Turn the sprayer off.
3. Remove the ignition cable from the spark plug.
4. Shut off the water supply.
5. Disengage the trigger safety latch and trigger the gun to relieve pressure, and then engage the trigger safety latch again.
6. Before long-term (overnight) storage or transporting of the unit, disconnect the water supply and turn off the fuel supply valve.

Spray Gun Safety Devices

Be sure all gun safety devices are operating properly before each use. Do not remove or modify any part of the gun; this can cause a malfunction and result in serious bodily injury.

SAFETY LATCH: Whenever you stop spraying for a moment, always set the gun safety latch in the engaged or "safe" position, making the gun inoperative. Failure to properly set the safety latch can result in accidental triggering of the gun.

SPRAY TIP SAFETY : Use extreme caution when cleaning or changing spray tips. If a spray tip clogs while spraying, engage the gun safety latch immediately. *ALWAYS* follow the **Pressure Relief Procedure** and then remove the spray tip to clean it.

MOVING PARTS HAZARD

Moving parts can pinch or amputate fingers or other body parts. *KEEP CLEAR* of moving parts when starting or operating the pressure washer.

NEVER operate the pressure washer without all guards and interlocks installed and functioning. Follow the **Pressure Relief Procedure** before checking or

servicing the pressure washer to prevent discharging high pressure fluid from the gun.

Warnings continued on page 4.

EQUIPMENT MISUSE HAZARD

General Safety

Any misuse of the pressure washer or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture and result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, fire, explosion or property damage.

NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.

CHECK all spray equipment regularly and repair or replace worn or damaged parts immediately.

ALWAYS wear protective eyewear and appropriate clothing. If using a chemical injector, read and follow the chemical manufacturer's literature for recommendations on additional protective equipment, such as a respirator.

System Pressure

This sprayer can develop high operating pressures. Be sure that all spray equipment and accessories are rated to withstand the maximum working pressure of this sprayer. *DO NOT* exceed the maximum working pressure of any component or accessory used in the system.

Chemical Compatibility

BE SURE that all chemicals used in the chemical injector are compatible with the wetted parts of the hose, gun, wand and tip, as given in the Technical Data (inside back cover). Always read the chemical manufacturer's literature before using any chemical in this pressure washer.

HOSE SAFETY

High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause a fluid injection injury or other serious bodily injury or property damage.

ALL FLUID HOSES MUST HAVE STRAIN RELIEFS ON BOTH ENDS. The strain reliefs help protect the hose from kinks or bends at or close to the coupling, which can result in hose rupture.

TIGHTEN all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

NEVER use a damaged hose. Before each use, check entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately. *DO NOT* try to recouple high pressure hose or mend it with tape or any other device. A repaired hose cannot contain the high pressure fluid.

HANDLE AND ROUTE HOSES CAREFULLY. Do not pull on hoses to move the pressure washer. Do not use chemicals which are not compatible with the inner tube and cover of the hose. *DO NOT* expose Graco hose to temperatures above 200° F (93° C) or below -40° F (-40° C).

FUEL AND EMISSION HAZARDS

NEVER fill the fuel tank while the unit is running or hot. The fuel used in this unit is combustible and when spilled on a hot surface can ignite and cause a fire. *ALWAYS* fill tank slowly to avoid spilling.

NEVER operate the unit in a closed building. The exhaust contains carbon monoxide, a poisonous, odorless,

invisible gas which can cause serious injury or death if inhaled.

NEVER alter the throttle setting, which is factory set. Tampering with this adjustment can damage the pressure washer and will void the warranty.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards—particularly the General Standards, Part 1910, and the Construction Standards, Part 1926—should be consulted.

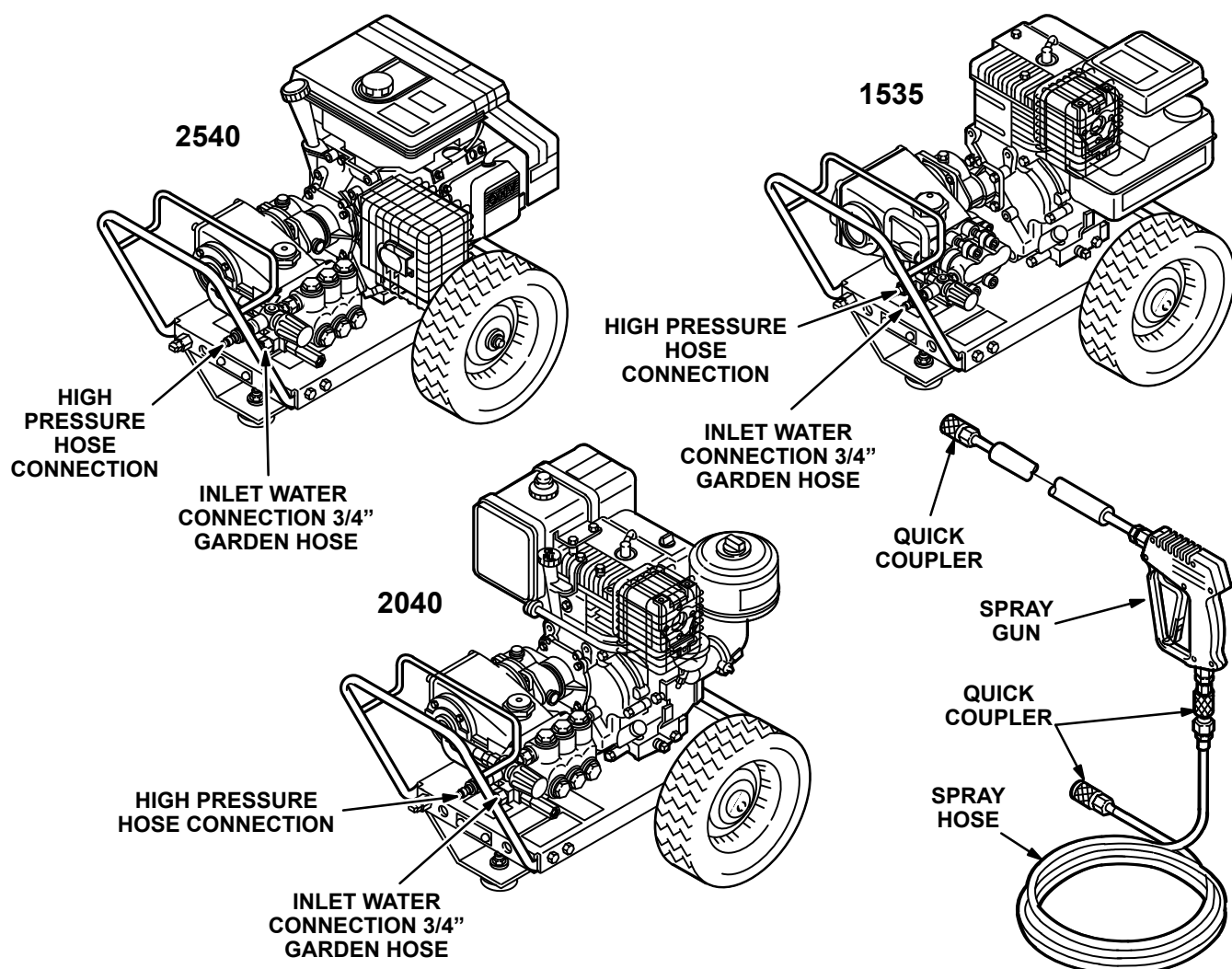


Figure 1

Check for Shipping Damage

Check the unit for any damage that may have occurred in shipping. **Notify the carrier immediately** if there is any damage.

Set Up

If you are using a downstream chemical injector, install it between the pump unloader and the high pressure hose, using the quick couplers provided.

Connect the high pressure hose between the pump outlet and the gun inlet. Both of these connections are made with quick couplers.

CAUTION

Up to 100 ft (30 m) of high pressure hose may be used. Longer hoses may affect sprayer performance, and chemical injector performance, if used.

Install the appropriate spray tip on the wand. See *Installing and Changing Spray Tips*. If you are using a sandblaster kit, see its separate manual for installation instructions.

Connect to Water Supply

CAUTION

Before attaching to the water supply, check your local plumbing code regarding cross-connection to the water supply. A backflow preventer, P/N 801-133, is available to prevent backflow of contaminated water into the fresh water supply. Install it upstream from the pump.

If inlet water pressure is over 60 psi (4.1 bar) a regulating water valve, P/N 800-258, must be installed at the garden hose connection.

Do not exceed 160 ° F (70 ° C) inlet water temperature.

Connect a hose with at least a 3/4 inch (19 mm) ID from the water supply to the unit's 3/4 inch garden hose inlet. The supply hose should not be more than 50 ft (15 m) long.

NOTE: The water source at the unit *must* have a minimum flow rate equal to that of the unit (see Technical Data, inside back cover).

STARTUP

Always use this startup procedure to ensure that the unit is started safely and properly.

1. Check oil levels.

Engine: Add SAE 30 or 10W–30 weight detergent oil as necessary.

Pump: Add SAE 20 or 30 weight non–detergent oil or genuine Cat® pump oil as necessary.

Gear Reducer (2040 and 2540): Add SAE 90 gear oil as necessary. The 1535 uses the oil in pump crankcase.

NOTE: All units are equipped with a low–oil sensor that shuts the engine off if the oil level falls below a certain level. If the unit stops unexpectedly, check both the oil and the fuel levels. Check the oil level each time the unit is refueled.

2. Check fuel level.

WARNING

DO NOT refuel a hot engine. Refueling a hot engine could cause a fire. Use only fresh, clean regular or unleaded gasoline. Close the fuel shutoff valve during refueling.

3. Turn on the water supply.

CAUTION

Never run the unit dry. Costly damage to the pump will result. Always be sure the water supply is completely turned on before operating.

4. Trigger the gun until water sprays from the tip indicating that the air is purged from the system.

5. Open the fuel shutoff valve. Be sure the spark plug ignition cable is pushed firmly onto the spark plug. On those units equipped with an ignition shutoff switch, put the switch in the “on” position and put the throttle in the “run” position.

6. Start the engine.

NOTE: For easier starting, have one person start the pressure washer while another person triggers the spray gun.

If the engine is cold, completely close the engine choke. Grasp the starter rope, brace one foot on the pressure washer chassis and pull rope rapidly and firmly. Continue holding the rope as it returns. Pull and return the rope until the engine starts. In cool weather, the choke may have to be kept closed for 10 to 30 seconds before opening it to keep the engine running. Otherwise, open the choke as soon as the engine starts.

If the engine is warm, leave the choke open, or just partly close it. Start the engine as described in the preceding paragraph. When it starts, be sure to open the choke completely.

CAUTION

On recoil start engines, never let the starter rope return by itself. It could jam the recoil system.

7. *ALWAYS* engage the gun’s trigger safety latch whenever you stop spraying, even for a moment, to reduce the risk of fluid injection or splashing in the eyes or on the skin if the gun is bumped or triggered accidentally.

8. *ALWAYS* observe the following **CAUTIONS** to avoid costly damage to the pressure washer.

CAUTION

DO NOT allow the pressure washer to idle for more than 10 minutes. Doing so may cause the recirculating water to overheat and seriously damage the pump. Turn off the pressure washer if it will not be spraying or cleaning at least every 10 minutes. If heated inlet water is used, reduce this time further.

DO NOT run the pump dry, which will quickly damage the pump. Be sure the water supply is fully turned on before starting the pump.

DO NOT operate the pressure washer with the inlet water screen removed. This screen helps keep abrasive sediment out of the pump, which could clog or scratch the pump. Keep this screen clean.

DO NOT pump caustic materials; such materials may corrode the pump components.

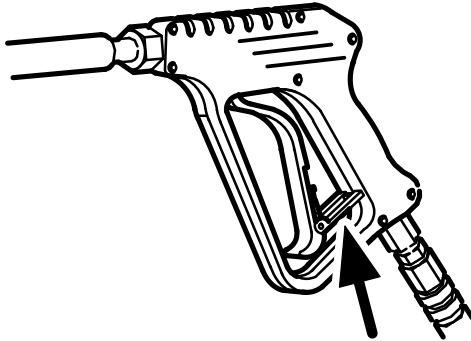
9. See the chemical injector or sandblaster kit manual for detailed cleaning information if these accessories are used.

Trigger Safety Latch

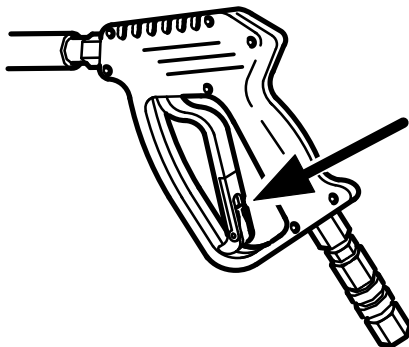
WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, **ALWAYS** engage the trigger safety latch whenever spraying stops, even for a moment.

In the engaged position, the trigger safety latch prevents the gun from being triggered accidentally by hand or if it is dropped or bumped. Be sure the latch is pushed fully down when engaging it or it cannot prevent the gun from being triggered. See Figure 2.



TRIGGER SAFETY LATCH SHOWN ENGAGED



TRIGGER SAFETY LATCH SHOWN
DISENGAGED

Figure 2

Installing and Changing Spray Tips

WARNING

To reduce the risk of serious bodily injury, including fluid injection or splashing in the eyes or onto the skin, use extreme caution when changing spray tips. **ALWAYS** follow the procedure below.

1. Follow the **Pressure Relief Procedure**.
2. Point the gun and wand away from yourself and anyone else.
3. Without holding your hand over the spray tip (A), pull back the quick coupler ring (B). Remove the old tip and/or install a new one, and then release the ring. See Figure 3.
4. Be sure the tip is secure before starting to spray again.
5. Tip holding holes are provided on the chassis.

CAUTION

To avoid blowing the o-ring out of the quick coupler, due to the high pressure in the system, never operate the pressure washer without a tip securely mounted in the quick coupler.

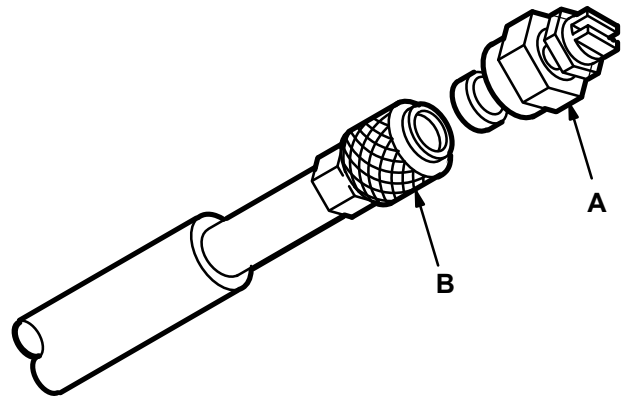


Figure 3

SHUTDOWN, FLUSHING AND STORAGE

WARNING

Pressure Relief Procedure

To reduce the risk of serious bodily injury, including fluid injection and splashing in the eyes, or on the skin, always follow this procedure whenever you stop spraying for more than 10 minutes, when shutting down, and before checking or repairing any part of the system.

1. Engage the trigger safety latch.
2. Turn the sprayer off.
3. Remove the ignition cable from the spark plug.
4. Shut off the water supply.
5. Disengage the trigger safety latch and trigger the gun to relieve pressure, and then engage the trigger safety latch again.
6. Before long-term (overnight) storage or transporting of unit, disconnect the water supply, and turn off the fuel supply valve.

1. If the pressure washer will be exposed to freezing temperatures, drain all water out of the pump. If it must be stored in freezing temperatures, flush the unit with a 50% anti-freeze solution. Relieve pressure. Flush the pressure washer before using it again to remove the anti-freeze.

NOTE: An anti-freeze flush kit, P/N 802-327, is available to make flushing easier.

CAUTION

If water does freeze in the pressure washer, thaw it in a warm room before trying to start it. *DO NOT* pour hot water on or into the pump; it may crack the ceramic plungers!

2. After each use, wipe all surfaces of the pressure washer with a clean, damp cloth.
3. Perform the appropriate maintenance. See maintenance chart.

MAINTENANCE

Observing regular maintenance intervals helps ensure that you get maximum performance and life from the pressure washer.

There is a break-in period for the engine, pump and gear reducer (if used). After changing the oil in these components following their respective break-in periods, the interval between required changes is longer.

If the unit is operating in dusty conditions, these maintenance checks should be made more often.

WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin or injury from moving parts, always follow the **Pressure Relief Procedure Warning** before proceeding.

Interval	What to do
Daily	Clean water inlet screen and filter. Check engine and pump oil levels. Fill as necessary. Check gasoline level. Fill as necessary.
After first 5 hours of operation	Change engine break-in oil. Drain oil when warm. Use SAE 30 or 10W-30 detergent oil.
Each 25 hours of operation	Clean and remove air cleaner foam. Wash with water and detergent. Dry thoroughly. Rub with oil and squeeze to distribute oil.
After first 50 hours of operation	Change pump break-in oil. Use SAE 20 or 30 non-detergent oil or genuine Cat® pump oil. Change gear reducer oil. Use SAE 90 gear oil on 2040 and 2540. The 1535 uses the oil in pump crankcase.
Each 100 hours of operation or 3 months	Clean or replace paper air cleaner cartridge. Tap gently to remove dirt. Change engine oil. Use SAE 30 or 10W-30 detergent oil.
Each 500 hours of operation or 6 months	Change pump oil. Use SAE 20 or 30 non-detergent oil or genuine Cat® pump oil. Change gear reducer oil on 2040 and 2540. Use SAE 90 gear oil. The 1535 uses the oil in pump crankcase.

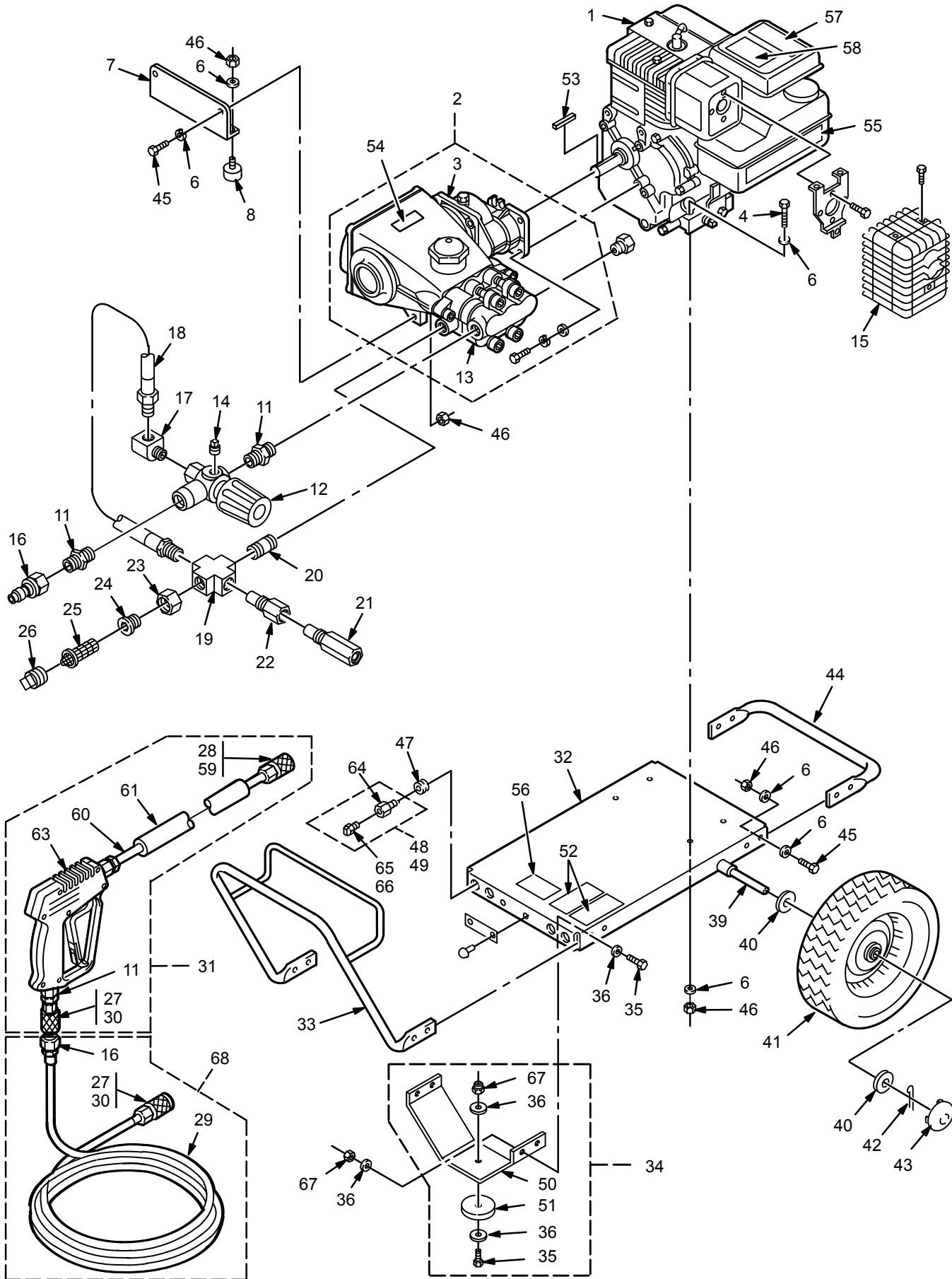
TROUBLESHOOTING CHART

WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin or injury from moving parts, always follow the **Pressure Relief Procedure Warning** before proceeding.

PROBLEM	CAUSE	SOLUTION
Engine will not start or is hard to start	No gasoline in fuel tank or carburetor. Low oil Start/Stop switch in Stop position. Water in gasoline or old fuel. Choked improperly. Flooded engine. Dirty air cleaner filter. Spark plug dirty, wrong gap or wrong type. Spray gun closed.	Fill the tank with gasoline, open fuel shut off valve. Check fuel line and carburetor. Add to proper level. Move switch to start position. Drain fuel tank and carburetor. Use new fuel and dry spark plug. Open choke and crank engine several times to clear out gas. Remove and clean. Clean, adjust the gap or replace. Trigger spray gun.
Engine misses or lacks power	Partially plugged air cleaner filter. Spark plug dirty, wrong gap or wrong type.	Remove and clean. Clean, adjust the gap or replace.
Low pressure and/or pump runs rough	Worn or wrong size tip. Inlet filter clogged. Worn packings, abrasives in water or natural wear. Inadequate water supply. Fouled or dirty inlet or discharge valves. Even a small particle can cause the valve to stick. Restricted inlet. Worn inlet or discharge valves. Leaking high pressure hose.	Replace with tip of proper size. Clean. Check more frequently. Check filter. Replace packings. See PUMP SERVICE. Check water flow rate to pump. Clean inlet and discharge valve assemblies. Check filter. Check garden hose, may be collapsed or kinked. Replace worn valves. Replace high pressure hose.
Water leakage from under pump manifold	Worn packings.	Install new packings. See PUMP SERVICE.
Water in pump	Humid air condensing inside crankcase. Worn packings. Oil seals leaking.	Change oil as specified in MAINTENANCE. Install new packings. See PUMP SERVICE. Install new oil seals. See PUMP SERVICE.
Frequent or premature failure of the packings	Scored, damaged or worn plungers. Abrasive material in the fluid being pumped. Inlet water temperature too high. Overpressurizing pump. Excessive pressure due to partially plugged or damaged tip. Pump running too long without spraying. Running pump dry.	Install new plungers. See PUMP SERVICE. Install proper filtration on pump inlet plumbing. Check water temperature; may not exceed 160°F. Do not modify any factory-set adjustments. See EQUIPMENT MISUSE HAZARD. Clean or replace tip. See Installing and Changing Spray Tips. Never run pump more than 10 minutes without spraying. Do not run pump without water.
Strong surging at the inlet and low pressure on the discharge side	Foreign particles in the inlet or discharge valve or worn inlet and/or discharge valves.	Clean or replace valves. See PUMP SERVICE.
Oil leakage between the gear reducer cover and case	Worn gasket.	Replace the gasket. See SERVICE SECTION.
Oil leakage between the gear reducer cover and the pump	Worn oil seals and/or o-ring.	Replace oil seals and/or o-ring. See SERVICE SECTION.
Oil leakage between the gear reducer case and the engine	Worn oil seal.	Replace oil seal. See SERVICE SECTION.

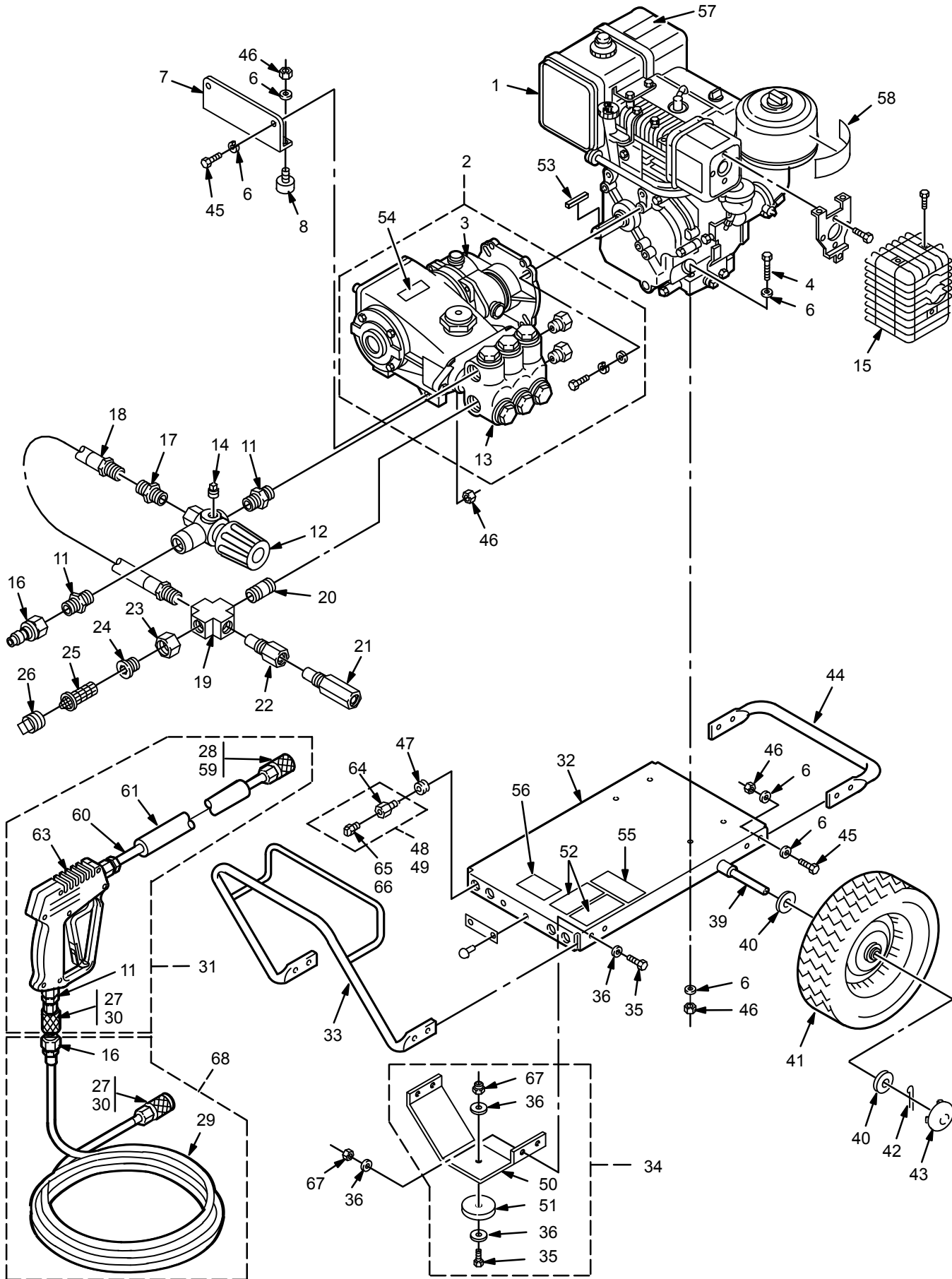
PARTS DRAWING
800-698 Hydra-Clean® 1535 Pressure Washer



PARTS LIST
800-698 Hydra-Clean® 1535 Pressure Washer

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	802-239	ENGINE, 5 hp, Briggs & Stratton I/C	1	35	801-546	SCREW, Cap, hex hd. 3/8-16 x 1-1/4	5
2	800-695	PUMP & GEAR REDUCER ASSEMBLY (incl. 3, 13)	1	36	100-023	WASHER, Flat 3/8	10
3	804-248	GEAR REDUCER (see page 17)	1	39	802-139	AXLE	1
4	802-127	SCREW, Cap, hex hd. 5/16-18 x 1-3/4	4	40	154-636	WASHER, Flat 5/8	4
6	100-527	WASHER, Flat 5/16	20	41	106-062	WHEEL & TIRE ASSEMBLY	2
7	804-250	BRACKET, Support	1	42	101-545	PIN, Cotter 1/8 x 1-1/2	2
8	801-367	BUMPER, Rubber	2	43	104-811	HUB CAP	2
11	156-849	NIPPLE, Hex 3/8	3	44	801-539	BUMPER	1
12	802-316	UNLOADER, Preset 1500 psi	1	45	801-941	SCREW, Cap, hex hd. 5/16-18 x 1	6
13	804-244	PUMP ASSEMBLY, 1500 psi (see page 20)	1	46	111-040	NUT, Lock 5/16-18	12
14	801-709	PLUG, Square hd. 1/4	1	47	801-012	GROMMET, Rubber	4
15	803-245	GUARD, Muffler	1	48	800-174	TIP ASSEMBLY, 00055 (incl. 64, 65)	1
16	801-568	QUICK COUPLER, Male 3/8	2	49	800-173	TIP ASSEMBLY, 15055 (incl. 64, 66)	1
17	801-620	ELBOW, Street 1/4 x 90°	1	50	801-858	BRACKET, Front Leg	1
18	801-866	HOSE, Bypass	1	51	801-504	BUMPER, Rubber	1
19	801-622	CROSS, 1/2	1	52	179-885	LABEL, Chassis	1
20	801-523	NIPPLE, 1/2 x 2	1	53	802-781	KEY, Square 3/16 x 2	1
21	800-115	VALVE, Thermal Relief	1	54	803-083	LABEL, Keep From Freezing	1
22	804-073	ADAPTER, 1/2	1	55	804-274	LABEL, Graco Cleaning Systems	1
23	801-111	NUT, Garden Hose	1	56	801-723	LABEL, Model 1535	1
24	801-110	ADAPTER, Garden Hose	1	57	802-363	LABEL, Caution	1
25	804-051	STRAINER/FILTER	1	58	181-867	LABEL, Warning	1
26	402-278	PLUG, Plastic	1	59	801-009	QUICK COUPLER, Female 1/4 (incl. 28)	1
27	156-082	O-RING, Quick Coupler 3/8	2	60	801-134	WAND, 32"	1
28	154-594	O-RING, Quick Coupler 1/4	1	61	801-674	SLEEVE, 28"	1
29	802-579	HOSE, High Pressure, 3/8 x 50'	1	63	803-350	GUN, Spray (see Instruction Manual 308-511)	1
30	801-569	QUICK COUPLER, Female 3/8 (incl. 27)	2	64	801-090	QUICK COUPLER, Male 1/4	4
31	800-392	GUN & WAND ASSEMBLY (incl. 11, 59, 60, 61, 63)	1	65	801-730	TIP, Spray 00055	1
32	800-661	CHASSIS	1	66	801-729	TIP, Spray 15055	1
33	803-925	HANDLE	1	67	101-566	NUT, Lock 3/8-16	5
34	800-175	FRONT LEG ASSEMBLY (incl. 35, 36, 50, 51, 67)	1	68	800-377	HOSE ASSEMBLY w/Quick Couplers (incl. 16, 29, 30)	1

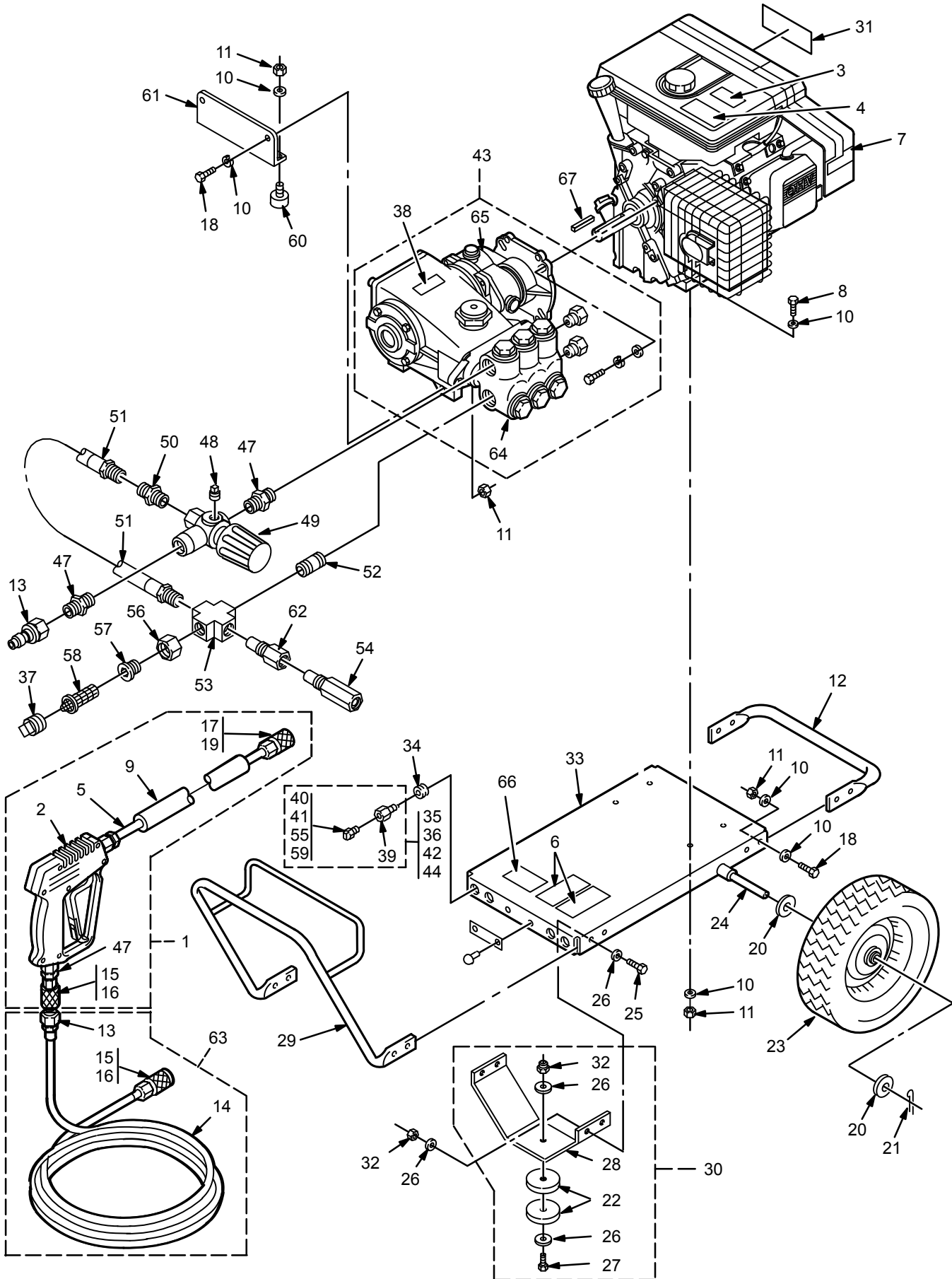
PARTS DRAWING
800-699 Hydra-Clean® 2040 Pressure Washer



PARTS LIST
800-699 Hydra-Clean® 2040 Pressure Washer

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
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2	800-696	PUMP & GEAR REDUCER ASSEMBLY (incl. 3, 13)	1	36	100-023	WASHER, Flat 3/8	10
3	804-249	GEAR REDUCER (see page 19)	1	39	802-139	AXLE	1
4	802-127	SCREW, Cap, hex hd. 5/16-18 x 1-3/4	4	40	154-636	WASHER, Flat 5/8	4
6	100-527	WASHER, Flat 5/16	20	41	106-062	WHEEL & TIRE ASSEMBLY	2
7	804-251	BRACKET, Support	1	42	101-545	PIN, Cotter 1/8 x 1-1/2	2
8	801-367	BUMPER, Rubber	2	43	104-811	HUB CAP	2
11	156-849	NIPPLE, Hex 3/8	3	44	801-539	BUMPER	1
12	802-315	UNLOADER, Preset 2000 psi	1	45	801-941	SCREW, Cap, hex hd. 5/16-18 x 1	6
13	804-245	PUMP ASSEMBLY, 2000 psi (see page 22)	1	46	111-040	NUT, Lock 5/16-18	12
14	801-709	PLUG, Square hd. 1/4	1	47	801-012	GROMMET, Rubber	4
15	802-257	GUARD, Muffler	1	48	800-174	TIP ASSEMBLY, 00055 (incl. 64, 65)	1
16	801-568	QUICK COUPLER, Male 3/8	2	49	800-173	TIP ASSEMBLY, 15055 (incl. 64, 66)	1
17	802-627	NIPPLE, Hex 3/8 NPSM x 1/4 NPT	1	50	801-858	BRACKET, Front Leg	1
18	803-869	HOSE, Bypass	1	51	801-504	BUMPER, Rubber	1
19	801-622	CROSS, 1/2	1	52	179-885	LABEL, Chassis	1
20	801-523	NIPPLE, 1/2 x 2	1	53	801-137	KEY, Square 1/4 x 2	1
21	800-115	VALVE, Thermal Relief	1	54	803-083	LABEL, Keep From Freezing	1
22	804-073	ADAPTER, 1/2	1	55	181-867	LABEL, Warning	1
23	801-111	NUT, Garden Hose	1	56	804-272	LABEL, Model 2040	1
24	801-110	ADAPTER, Garden Hose	1	57	802-363	LABEL, Caution	1
25	804-051	STRAINER/FILTER	1	58	804-274	LABEL, Graco Cleaning Systems	1
26	402-278	PLUG, Plastic	1	59	801-009	QUICK COUPLER, Female 1/4 (incl. 28)	1
27	156-082	O-RING, Quick Coupler 3/8	2	60	801-134	WAND, 32"	1
28	154-594	O-RING, Quick Coupler 1/4	1	61	801-674	SLEEVE, 28"	1
29	802-579	HOSE, High Pressure, 3/8 x 50'	1	63	803-350	GUN, Spray (see Instruction Manual 308-511)	1
30	801-569	QUICK COUPLER, Female 3/8 (incl. 27)	2	64	801-090	QUICK COUPLER, Male 1/4	4
31	800-392	GUN & WAND ASSEMBLY (incl. 11, 59, 60, 61, 63)	1	65	801-730	TIP, Spray 00055	1
32	800-661	CHASSIS	1	66	801-729	TIP, Spray 15055	1
33	803-925	HANDLE	1	67	101-566	NUT, Lock 3/8-16	5
34	800-175	FRONT LEG ASSEMBLY (incl. 35, 36, 50, 51, 67)	1	68	800-377	HOSE ASSEMBLY w/Quick Couplers (incl. 16, 29, 30)	1

PARTS DRAWING
800-700 Hydra-Clean® 2540 Pressure Washer



PARTS LIST
800-700 Hydra-Clean® 2540 Pressure Washer

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	800-392	GUN & WAND ASSEMBLY (incl. 2, 5, 9, 15, 17, 47)	1	34	801-012	GROMMET, Rubber	4
2	803-350	GUN, Spray (see Instruction Manual 308-511)	1	35	800-131	TIP ASSEMBLY, 0005 (incl. 39, 40)	1
3	181-867	LABEL, Warning, ventilation	1	36	800-137	TIP ASSEMBLY, 1505 (incl. 39, 41)	1
4	802-363	LABEL, Caution	1	37	402-278	PLUG, Plastic	1
5	801-134	WAND, 32"	1	38	803-083	LABEL, Keep From Freezing	1
6	179-885	LABEL, Warning, chassis	1	39	801-090	COUPLER, Male 1/4	4
7	803-901	ENGINE, 9 hp, Briggs & Stratton OHV	1	40	801-640	TIP, Spray 0005	1
8	802-127	SCREW, Cap, hex hd. 5/16-18 x 1-3/4	4	41	801-667	TIP, Spray 1505	1
9	801-674	SLEEVE, 28"	1	42	800-128	TIP ASSEMBLY, 2505 (incl. 39, 55)	1
10	100-527	WASHER, Flat 5/16	20	43	800-697	PUMP & GEAR REDUCER ASSEMBLY (incl. 64, 65)	1
11	111-040	NUT, Lock 5/16-18	12	44	800-129	TIP ASSEMBLY, 4005 (incl. 39, 59)	1
12	801-539	BUMPER	1	45	801-907	WASHER, Flat	1
13	801-568	COUPLER, Male 3/8	2	46	801-905	ADAPTER, 3/8 G x 3/8 NPT	1
14	802-579	HOSE, High Pressure, 3/8 x 50'	1	47	156-849	NIPPLE, Hex 3/8	3
15	801-569	COUPLER, Female 3/8 (incl. 16)	2	48	801-709	PLUG, Square	1
16	156-082	O-RING, Female Coupler 3/8	2	49	800-655	UNLOADER, 2500 psi	1
17	801-009	COUPLER, Female 1/4 (incl. 19)	1	50	802-627	NIPPLE, Hex 3/8 x 1/4	1
18	801-941	SCREW, Cap, hex hd. 5/16-18 x 1	6	51	803-869	HOSE, Bypass	1
19	154-594	O-RING, Female Coupler 1/4	1	52	801-523	NIPPLE, 1/2 x 2	1
20	154-636	WASHER, Flat 5/8	4	53	801-622	CROSS, 1/2	1
21	101-545	PIN, Cotter 1/8 x 1-1/2	2	54	800-115	VALVE, Thermal Relief	1
22	801-504	BUMPER, Rubber	2	55	801-614	TIP, Spray 2505	1
23	803-740	WHEEL & TIRE ASSEMBLY	2	56	801-111	NUT, Garden Hose	1
24	803-741	AXLE	1	57	801-110	ADAPTER, Garden Hose	1
25	801-546	SCREW, Cap, hex hd. 3/8-16 x 1-1/4	4	58	804-051	FILTER/STRAINER	1
26	100-023	WASHER, Flat 3/8	10	59	801-615	TIP, Spray 4005	1
27	801-819	SCREW, Cap, hex hd. 3/8-16 x 3	1	60	801-367	BUMPER, Rubber	2
28	801-858	BRACKET, Front Leg	1	61	804-251	BRACKET, Support	1
29	803-925	HANDLE	1	62	804-073	ADAPTER, 1/2	1
30	800-641	FRONT LEG ASSEMBLY (incl. 22, 26, 27, 28, 32)	1	63	800-377	HOSE ASSEMBLY, w/Couplers (incl. 13, 14, 15)	1
31	804-273	LABEL, Graco Cleaning Systems	1	64	804-246	PUMP ASSEMBLY (see page 24)	1
32	101-566	NUT, Lock 3/8-16	3	65	804-249	GEAR REDUCER ASSEMBLY (see page 19)	1
33	800-661	CHASSIS	1	66	803-301	LABEL, Model 2540	1
				67	801-137	KEY, Square 1/4 x 2	1

WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin or injury from moving parts, always follow the **Pressure Relief Procedure Warning** on page 2 before proceeding.

Replacing the O-Ring (5)

1. Remove the four bolts, lockwashers and washers. Pull the pump and gear reducer assembly off the engine.
2. Drain the gear reducer oil by placing a container under it and removing the drain plug with a 22 mm wrench. Replace the o-ring (16) if damaged.
3. Remove the four screws and lockwashers with a 6 mm wrench and pull the gear case off the gear cover.
4. Remove the old o-ring (5). Clean the gear cover and case surface. Lightly coat the new o-ring with grease and install it in the gear case.
5. Follow steps 4 through 6 under Assembling the Gear Reducer if this is all the service required.

Replacing the Gasket (1)

1. Follow steps 1 through 3 under Replacing the O-Ring.
2. Using a 4 mm wrench, remove retaining bolt, lockwasher, flat washer and pull the gear (4) off the pump with a gear puller.
3. Remove the four screws and lockwashers from the gear cover.
4. Remove the gear cover and gasket (1) from the pump. Clean the gear cover and pump surface. Lightly coat both sides of the gasket with grease and install it on the gear cover.
5. Follow the instructions under Assembling the Gear Reducer if this is all the service required.

Replacing the Oil Seal (10)

NOTE: The oil seal **MUST** be replaced if removed.

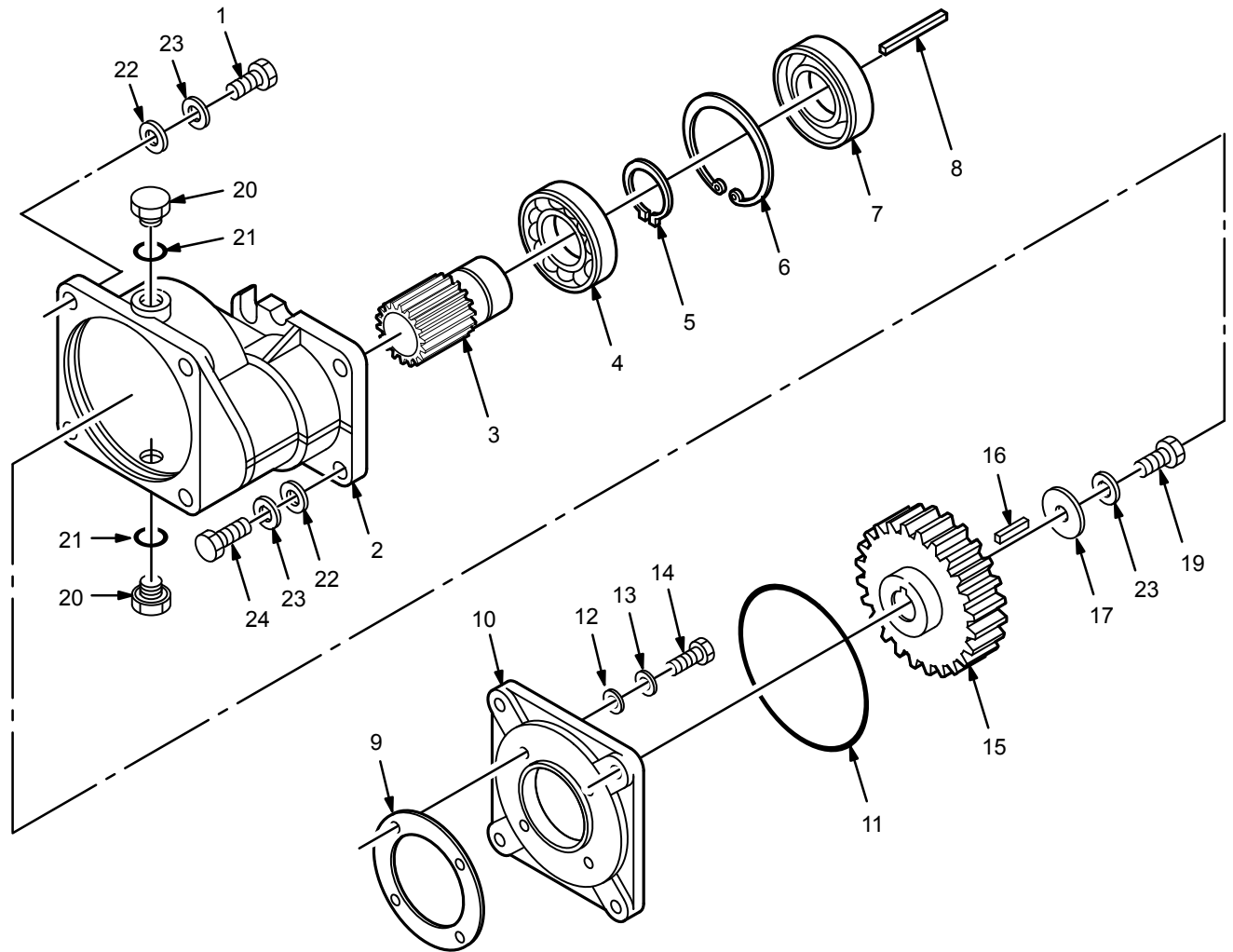
1. Follow steps 1 and 2 under Replacing the O-Ring.
2. Pry the oil seal out of the gear case. Be careful not to damage the gear case.
3. Wipe the inner surface of the gear case clean, then lightly coat it with grease. Place the oil seal into the gear case. Use a socket, placed against the surface of the seal, to push the seal into the case until its top surface is past the ridge in the bore.
4. Follow steps 4 through 6 under Assembling the Gear Reducer if this is all the service required.

Assembling the Gear Reducer

1. Make sure the gasket is properly placed on the gear cover. Refer to step 4 under Replacing the Gasket. Then, install the gear cover on the pump shaft.
2. Align the holes in the gear cover with the holes in the pump. Apply low strength Loctite[®] (blue) on the screw threads and secure the cover with the four screws and lockwashers. Tighten them oppositely and evenly.
3. Align the gear's slot with the key on the pump shaft and slide the gear onto the shaft, up to the pump's shoulder. Tighten the retaining bolt, lockwasher and flat washer to lock the gear on the shaft.
4. Make sure the o-ring is in place. Refer to step 4 under Replacing the O-Ring. Install the gear case on the cover, aligning the holes, and secure it with the four screws and lockwashers. Tighten them oppositely and evenly.
5. Grease the engine shaft. Align the gear's slot with the key on the engine shaft and slide the gear reducer onto the shaft, up to the engine's shoulder.
6. Secure the gear reducer to the engine with the four bolts and lockwashers.

PARTS DRAWING

Gear Reducer (Model 1535)



PARTS LIST

Gear Reducer (Model 1535)

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	804-236	SCREW, Cap, hex hd./cross recess	4	14	804-231	SCREW, Cap, hex hd./cross recess	4
2	804-201	HOUSING, Gear Reducer	1	15	804-166	GEAR, Driven, spur	1
3	804-202	GEAR, Pinion, 3/4	1	16	804-229	KEY, Square, 3/16 x 13/16	1
4	804-082	BEARING	1	17	804-090	WASHER, Flat, retaining	1
5	804-225	RING, Retaining, internal	1	19	804-230	SCREW, Cap, hex hd. (8mm x 20mm)	1
6	804-226	RING, Retaining, external	1	20	804-188	PLUG, Oil Drain	1
7	804-203	SEAL, Oil, pinion	1	21	802-189	O-RING, Drain Plug	1
8	804-165	KEY, Square, 3/16 x 1-3/4	1	22	804-134	WASHER, Flat, 8mm	4
9	804-167	GASKET, Flange	1	23	802-175	WASHER, Lock, 8mm	9
10	804-176	FLANGE, Housing	1	24	804-168	SCREW, Cap, hex hd. 5/16-18 x 25 mm	4
11	804-177	O-RING, Housing	1				
12	804-075	WASHER, Flat, 6mm	4				
13	804-077	WASHER, Lock, 6mm	4				

WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin or injury from moving parts, always follow the **Pressure Relief Procedure Warning** on page 2 before proceeding.

Replacing the Gasket (9)

NOTE: To maintain a good seal, the gasket must be replaced whenever the gear reducer is disassembled.

1. Remove the four bolts, lockwashers and washers. Pull the pump and gear reducer assembly off the engine.
2. Drain the gear reducer oil by placing a container under it and removing the drain plug with a 22 mm wrench. Replace the o-ring (15) if damaged.
3. Remove the nine screws with a 6 mm wrench and pull the gear case off the gear cover.
4. Remove the old gasket (9). Clean the gear cover and case surface. Lightly coat the new gasket with grease and install it in on the gear case.
5. Follow steps 5 through 7 under Assembling the Gear Reducer if this is all the service required.

Replacing the Oil Seals (21)

1. Follow steps 1 through 3 under Replacing the Gasket.
2. Loosen the setscrew, using a 4 mm wrench, and pull the gear (4) off the pump with a gear puller.
3. Using a 6 mm wrench, remove the four screws. Keep them separate from the other nine screws removed previously.
4. Remove the four oil seals (21) and replace them.
5. Follow steps 2 through 7 under Assembling the Gear Reducer if this is all the service required.

Replacing the O-Ring (1)

1. Follow the instructions under Replacing the Gasket and Replacing the Oil Seals to disassemble the gear reducer.
2. Pull the gear cover off the pump and replace the o-ring (1).
3. Follow instructions under Assembling the Gear Reducer if this is all the service required.

Replacing the Oil Seal (14)

NOTE: The oil seal **MUST** be replaced if removed.

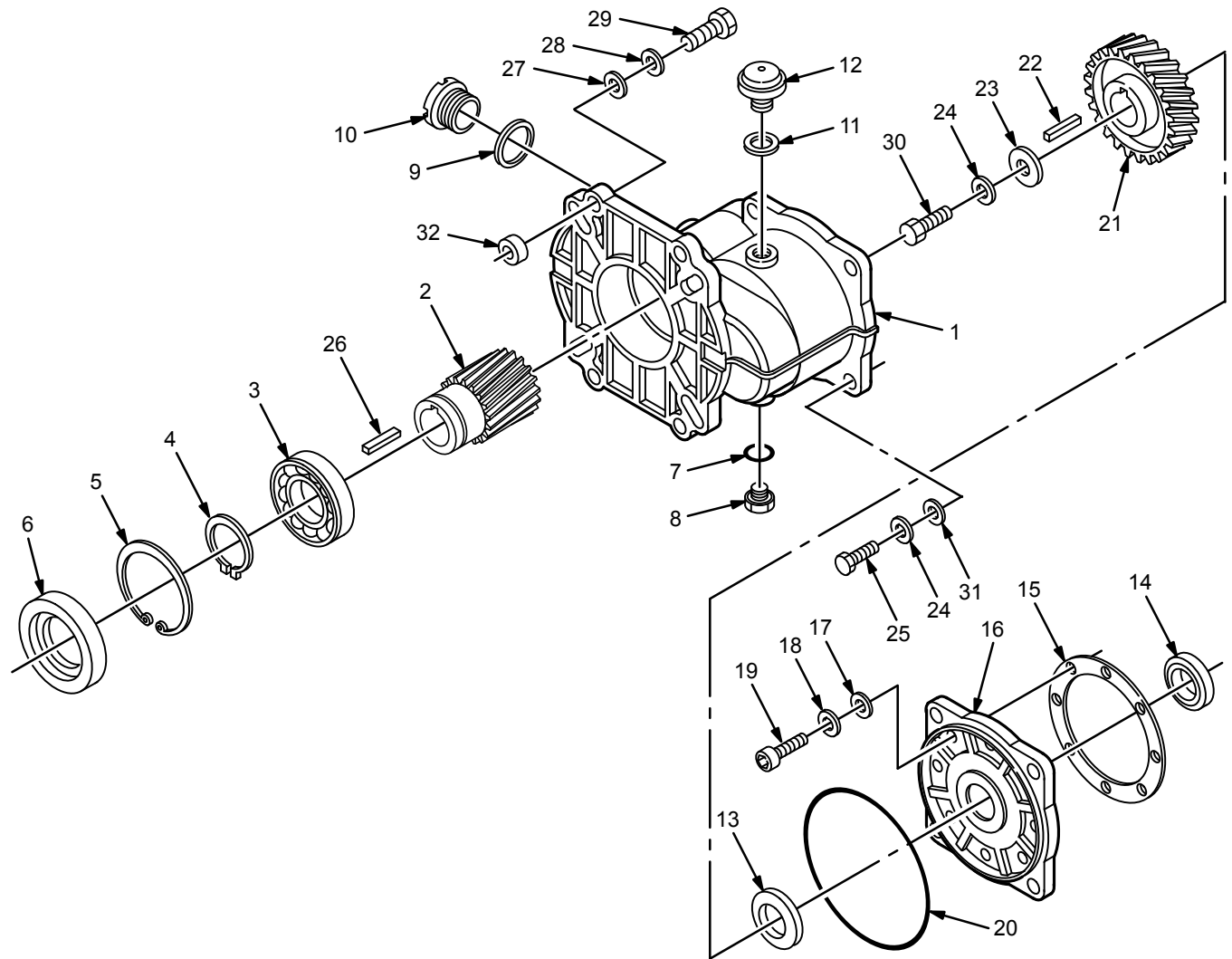
1. Follow steps 1 and 3 under Replacing the Gasket.
2. Remove the snap ring (6) from the gear case, using a snap ring pliers. Pull the gear and bearing.
3. Push the seal from the inside to the outside of the gear case by placing screwdriver against the seal and lightly tapping it with hammer.
4. Wipe the inner surface of the case clean, then lightly coat it with grease. Place the oil seal into the gear case. Use a socket, placed against the surface of the seal, to push the seal into the case until its top surface is past the ridge in the bore.
5. Place the gear and bearing back into the gear case and install the snap ring (6).
6. Follow steps 4 through 7 under Assembling the Gear Reducer if this is all the service required.

Assembling the Gear Reducer

1. Grease the o-ring and make sure it's properly placed on the gear cover.
2. Place the four oil seals and screws in the gear cover. Place the o-ring on the screw to hold it in the cover.
3. Apply low strength Loctite® (blue) on the screw threads, align the screws with the holes in the pump, and tighten the screws oppositely and evenly.
4. Grease the pump shaft. Align the gear's slot with the key on the pump shaft and slide the gear onto the shaft, up to the pump's shoulder. Apply low strength Loctite® on the setscrew threads and tighten the setscrew to lock the gear on the shaft.
5. Make sure the gasket is in place (refer to step 4 under Replacing the Gasket). Install the gear cover on the case, aligning the holes, and secure it with the nine screws and lockwashers. Tighten the screws evenly in a crisscross pattern.
6. Grease the engine shaft. Align the gear's slot with the key on the engine shaft and slide the gear reducer onto the shaft, up to the engine's shoulder.
7. Secure the gear reducer to the engine with the four bolts, lockwashers and washers.

PARTS DRAWING

Gear Reducer (Models 2040 & 2540)

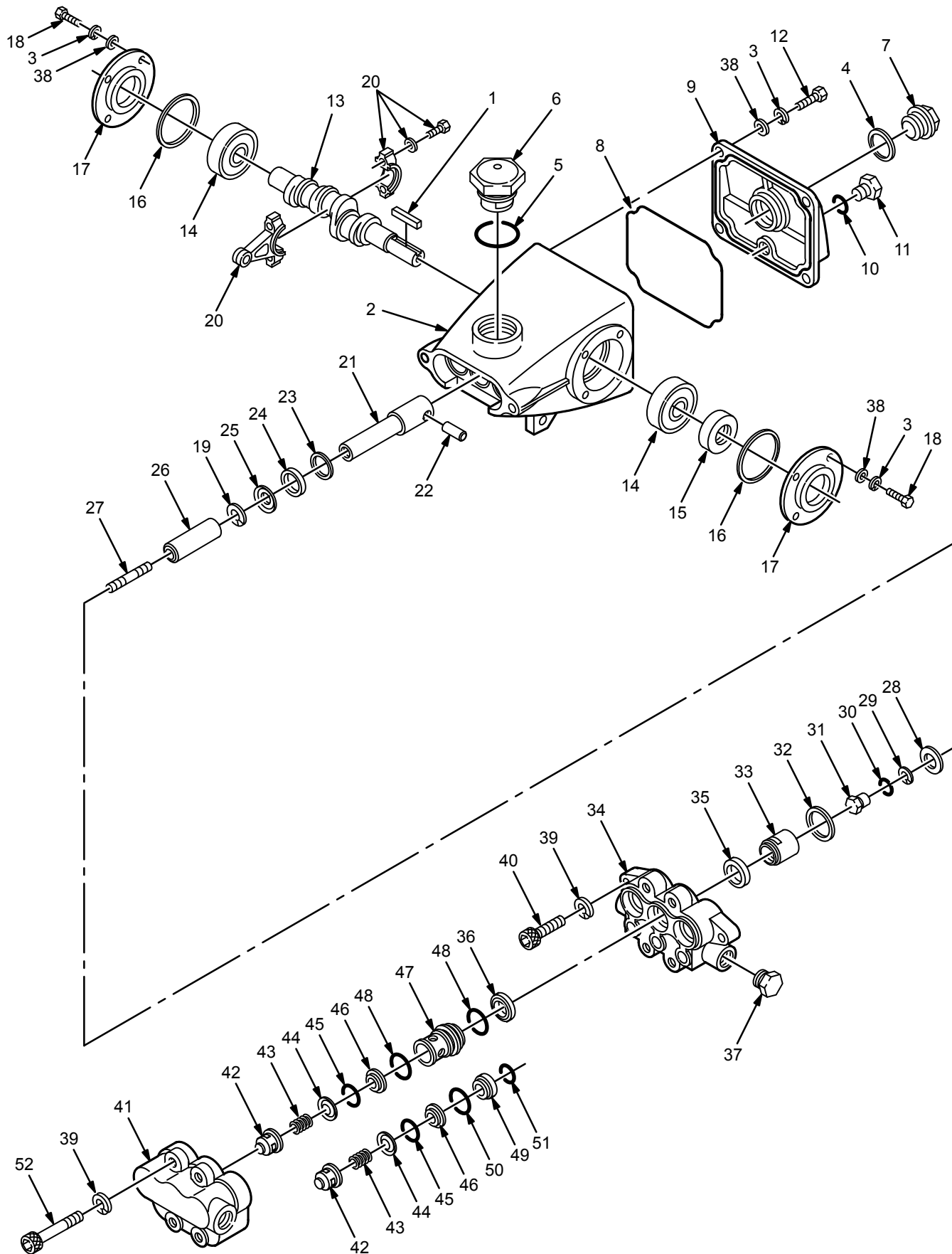


PARTS LIST

Gear Reducer (Models 2040 & 2540)

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	804-182	HOUSING, Gear Reducer	1	19	804-231	SCREW, Cap, socket head, 6mm x 20mm	4
2	804-183	GEAR, Pinion, 1"	1	20	804-078	O-RING, Housing	1
3	804-228	BEARING	1	21	804-187	GEAR, Driven, helical	1
4	804-227	RING, Retaining, internal	1	22	804-242	KEY, Square, (6mm x 27mm)	1
5	804-243	RING, Retaining, external	1	23	804-090	WASHER, Flat, retaining	1
6	804-184	SEAL, Oil, pinion	1	24	802-175	WASHER, Lock, 8mm	5
7	802-189	O-RING, Drain Plug	1	25	804-240	SCREW, Cap, hex hd./cross recess	4
8	804-089	PLUG, Oil Drain	1	26	804-172	KEY, Square, 1/4 x 55mm	1
9	804-171	GASKET, Oil Sight Gauge	1	27	804-076	WASHER, Flat, M10	4
10	804-150	GAUGE, Sight, oil level	1	28	804-178	WASHER, Lock, 10mm	4
11	804-170	GASKET, Oil Filler Cap	1	29	804-107	SCREW, Cap, hex hd., 3/8-16 x 35mm	4
12	804-169	CAP, Oil Filler	1	30	804-239	SCREW, Cap, hex hd./cross recess	1
13	802-206	WASHER, Shim (used on Model 2540 only)	1	31	804-134	WASHER, Flat, 8mm	4
14	804-185	SEAL, Oil, housing	1	32	804-106	SPACER	4
15	804-215	GASKET, Flange	1				
16	804-186	FLANGE, Housing	1				
17	804-082	WASHER, Flat, 6mm	4				
18	804-077	WASHER, Lock, 6mm	4				

PARTS DRAWING
804-244 Pump Assembly, 1500 psi

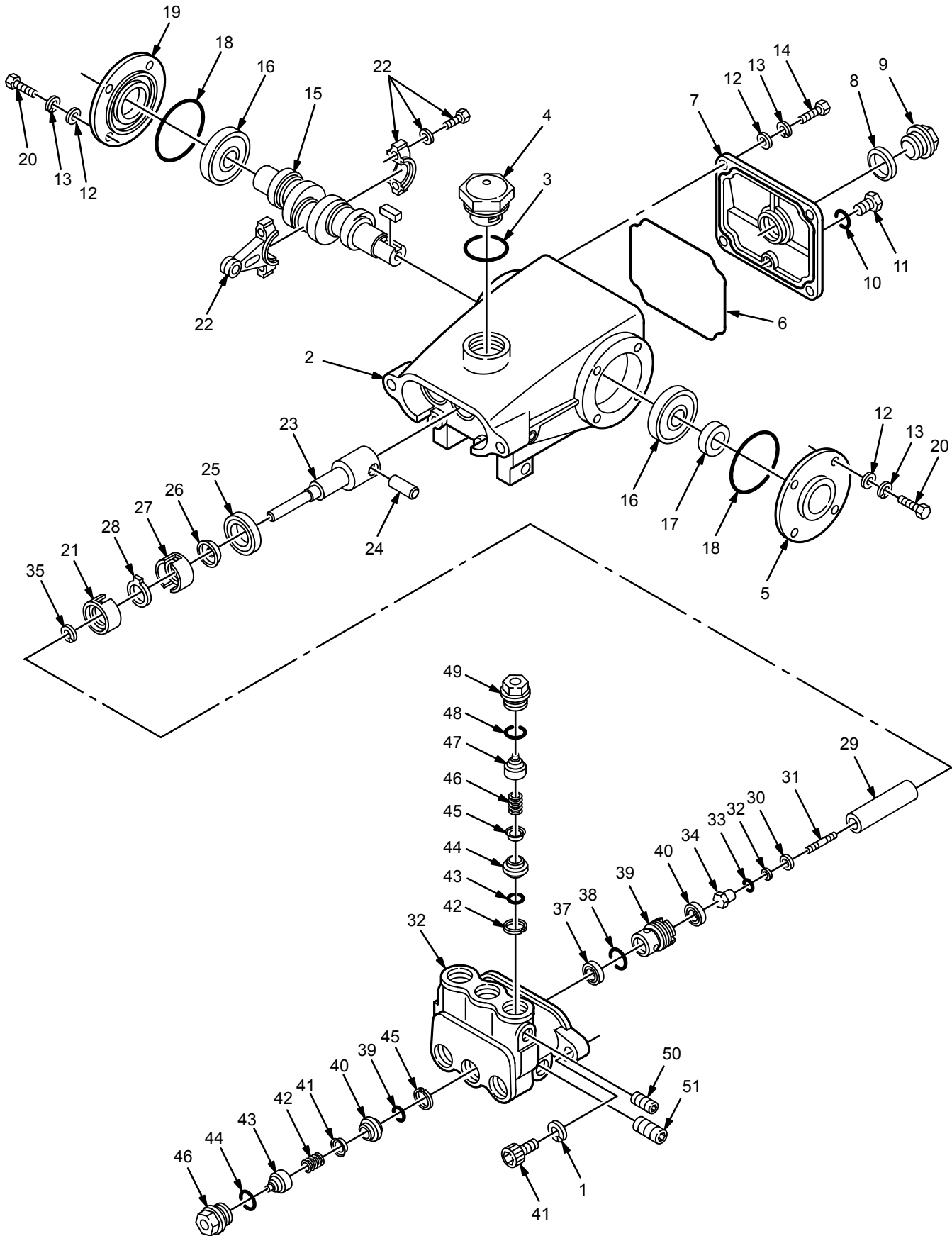


PARTS LIST
804-244 Pump Assembly, 1500 psi

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	802-312	KEY, Square	1	28	804-133	GASKET, Copper	3
2	804-180	CRANKCASE	1	29	801-038	RING, Backup	3
3	804-077	WASHER, Lock	12	30	801-039	O-RING, Retainer	3
4	804-171	GASKET, Oil Sight Gauge	1	31	801-040	RETAINER, Plunger	3
5	801-028	O-RING, Oil Fill Cap	1	32	802-206	WASHER, Flat	3
6	801-027	CAP, Oil Fill	1	33	804-092	RETAINER, Seal	3
7	804-150	GAUGE, Sight	1	34	804-145	MANIFOLD, Inlet	1
8	804-123	O-RING, Crankcase Cover	1	35	KIT C19	PACKING, Low Pressure	
9	804-122	COVER, Crankcase	1	36	KIT C19	PACKING, High Pressure	
10	802-189	O-RING, Drain Plug	1	37	804-088	PLUG, Hex Hd., 1/2	1
11	804-089	PLUG, Oil Drain	1	38	804-075	WASHER, Flat, 6mm	12
12	804-238	SCREW, Cap, hex hd./cross recess (6mm x 20mm)	4	39	802-178	WASHER, Lock, 10mm	6
13	804-198	CRANKSHAFT	1	40	804-232	SCREW, Cap, socket head (10mm x 35mm)	2
14	804-081	BEARING	2	41	804-146	MANIFOLD, Discharge	1
15	802-193	SEAL, Oil, crankshaft	1	42	KIT C1	RETAINER, Valve Spring	
16	802-201	O-RING, Crankshaft Cover	2	43	KIT C1	SPRING, Valve	
17	804-197	COVER, Crankshaft	1	44	KIT C1	VALVE	
18	804-237	SCREW, Cap, hex hd./cross recess (6mm x 16mm)	8	45	KIT C1	O-RING, Valve Seat	
19	804-214	WASHER, Lock, 18mm	3	46	KIT C1	SEAT, Valve	
20	804-241	ROD, Assembly Connecting	3	47	801-148	SPACER, Discharge Valve	3
21	804-142	ROD, Plunger	3	48	KIT C1 or KIT C19	O-RING, Spacer	
22	804-083	PIN, Rod	3	49	804-147	ADAPTER, Inlet Valve	3
23	802-185	WASHER, Flat	3	50	KIT C1 or KIT C19	O-RING, Adapter	
24	802-194	SEAL, Oil Plunger	3	51	KIT C1 or KIT C19	O-RING, Adapter	
25	804-143	WASHER, Slinger	3	52	804-128	SCREW, Cap, socket head, 10mm x 55mm	4
26	804-144	PLUNGER, Ceramic	3				
27	804-127	STUD, Retaining, SST (6mm x 40mm)	3				

Kit No.	Repair Kit Part No.	Ref No.	Description	Qty.
C1	804-102 Valve	42	RETAINER, Valve Spring	6
		43	SPRING, valve	6
		44	VALVE	6
		45	O-RING, Valve Seat	6
		46	SEAT, Valve	6
		48	O-RING, Spacer	3
		50	O-RING, Adapter	3
C19	804-101 Packing	35	PACKING, Low Pressure	3
		36	PACKING, High Pressure	3
		48	O-RING, Spacer	3
		50	O-RING, Adapter	3
		51	O-RING, Adapter	3

PARTS DRAWING
804-245 Pump Assembly, 2000 psi



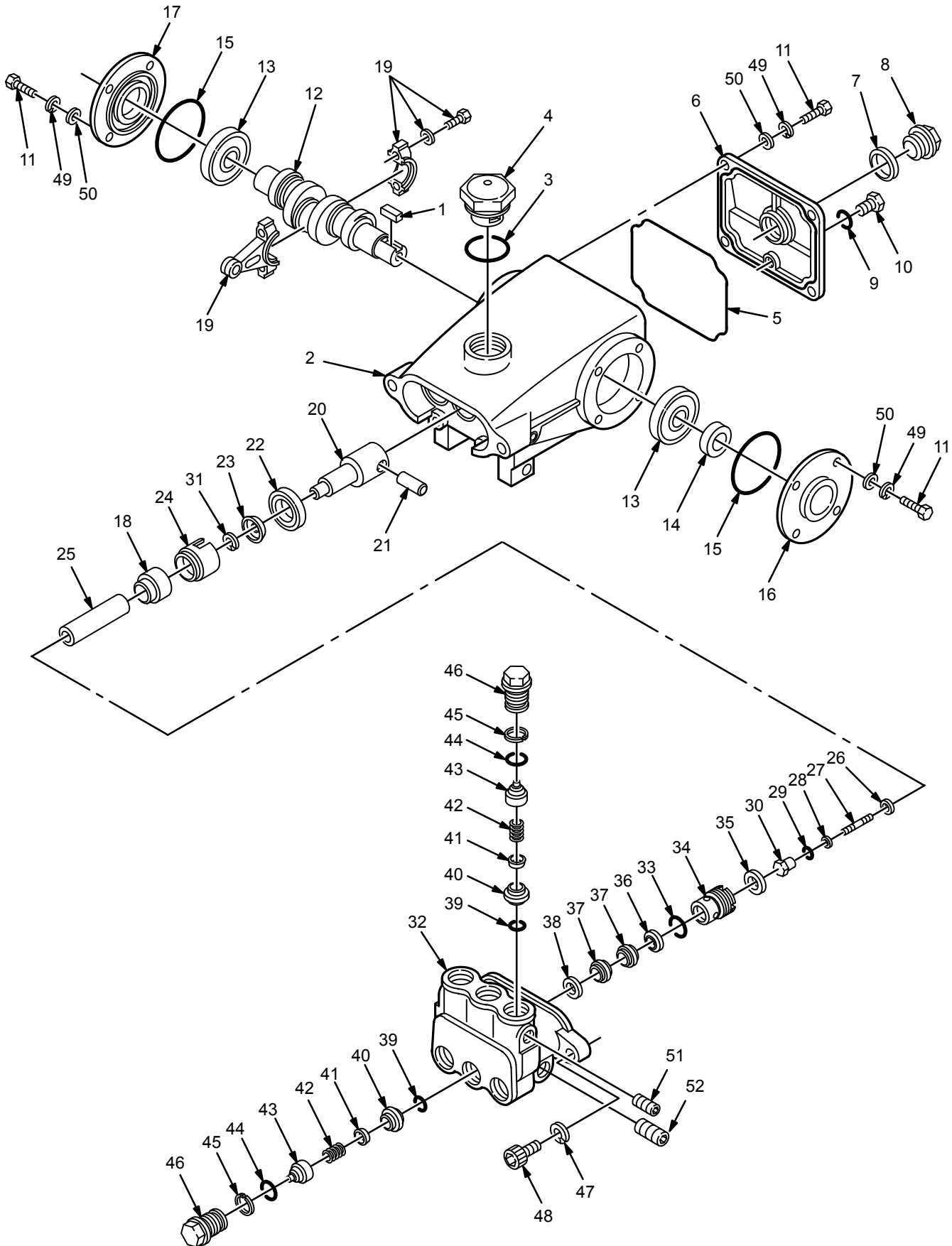
PARTS LIST

800-245 Pump Assembly, 2000 psi

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	802-178	WASHER, Lock, 10mm	2	26	804-121	WASHER, Slinger	3
2	804-154	CRANKCASE	1	27	804-208	RETAINER, Packing, rear	3
3	801-028	O-RING, Oil Fill Cap	1	28	804-157	WICK, Round	3
4	801-027	CAP, Oil Fill	1	29	804-129	PLUNGER, Ceramic	3
5	804-137	COVER, Crankshaft	1	30	804-133	GASKET, Copper	3
6	804-123	O-RING, Crankcase Cover	1	31	804-234	STUD, Retaining	3
7	804-155	COVER, Crankcase	1	32	801-038	RING, Backup	3
8	804-171	GASKET, Oil Sight Gauge	1	33	801-039	O-RING, Plunger	3
9	804-150	GAUGE, Sight	1	34	801-040	RETAINER, Plunger	3
10	802-189	O-RING, Drain Plug	1	35	804-214	WASHER, Split, SST	3
11	804-089	PLUG, Drain	1	36	804-200	MANIFOLD	1
12	804-075	WASHER, Flat, 6mm	12	37	KIT C20	PACKING, High Pressure	
13	804-077	WASHER, Lock, 6mm	12	38	KIT C20	O-RING, Packing Retainer	
14	804-238	SCREW, Cap, hex hd./ cross recess (6mm x 20mm)	4	39	804-207	RETAINER, Packing	3
15	804-194	CRANKSHAFT	1	40	KIT C20	PACKING, Low Pressure	
16	804-080	BEARING	2	41	804-232	SCREW, Cap, socket head (10mm x 35mm)	2
17	804-109	SEAL, Oil, crankshaft	1	42	KIT C2	RING, Backup, valve seat	
18	804-124	O-RING, Crankshaft Cover	2	43	KIT C2	O-RING, Valve Seat	
19	804-193	COVER, Crankshaft	1	44	KIT C2	SEAT, Valve	
20	804-237	SCREW, Cap, hex hd./ cross recess (6mm x 16mm)	8	45	KIT C2	VALVE	
21	804-209	RETAINER, Packing, front	3	46	KIT C2	SPRING, Valve	
22	804-125	ROD, Assembly Connecting	3	47	KIT C2	RETAINER, Valve Spring	
23	804-156	ROD, Plunger	3	48	KIT C2	O-RING, Cap	
24	804-126	PIN, Rod	3	49	804-153	CAP, Valve	6
25	801-031	SEAL, Oil, plunger	3	50	101-754	PLUG, Hex socket 3/8	1
				51	100-361	PLUG, Hex socket 1/2	1

Kit No.	Repair Kit Part No.	Ref No.	Description	Qty.
C2	804-100 Valve	42	RING, Backup, valve seat	3
		43	O-RING, Valve Seat	3
		44	SEAT, Valve	3
		45	VALVE	3
		46	SPRING, Valve	3
		47	RETAINER, Valve Spring	3
		48	O-RING, Cap	3
C20	804-096 Packing	37	PACKING, High Pressure	3
		38	O-RING, Packing Retainer	3
		40	PACKING, Low Pressure	3

PARTS DRAWING
804-246 Pump Assembly, 2500 psi



PARTS LIST
804-246 Pump Assembly, 2500 psi

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	804-093	KEY	1	27	804-234	STUD, Retaining (6mm x 64,5mm)	3
2	804-154	CRANKCASE	1	28	801-038	RING, Backup, plunger retainer	3
3	801-028	O-RING, Oil Fill Cap	1	29	KIT C21	O-RING, Plunger Retainer	3
4	804-181	CAP, Oil Fill	1	30	801-040	RETAINER, Plunger	3
5	804-189	O-RING, Crankshaft Cover	1	31	804-214	WASHER, Keyhole	3
6	804-155	COVER, Crankcase	1	32	804-222	MANIFOLD	1
7	804-171	GASKET, Oil Sight Gauge	1	33	KIT C21	O-RING, Packing Retainer	3
8	804-150	GAUGE, Sight	1	34	804-217	RETAINER, Packing	3
9	802-189	O-RING, Drain Plug	1	35	KIT C21	PACKING, Low Pressure	3
10	804-089	PLUG, Drain	1	36	804-118	ADAPTER, Male	3
11	804-237	SCREW, Cap, hex hd./cross recess (6mm x 16mm)	12	37	KIT C21	PACKING, High Pressure	3
12	804-224	CRANKSHAFT	1	38	804-120	ADAPTER, Female	3
13	804-080	BEARING	2	39	KIT C3	O-RING, Valve Seat	3
14	804-109	SEAL, Oil, crankshaft	1	40	KIT C3	SEAT, Valve	3
15	804-124	O-RING, Crankshaft Cover	2	41	KIT C3	VALVE	3
16	804-137	COVER, Crankshaft	1	42	KIT C3	SPRING, Valve	3
17	804-193	COVER, Crankshaft	1	43	KIT C3	RETAINER, Valve Spring	3
18	804-213	RETAINER, Packing, front	3	44	KIT C3	O-RING, Valve Cap	3
19	804-219	ROD, Assembly Connecting	3	45	KIT C3	RING, Backup, valve cap	3
20	804-223	ROD, Plunger	3	46	804-221	CAP, Valve	6
21	804-126	PIN, Plunger Rod	3	47	802-178	WASHER, Lock, 10mm	2
22	801-031	SEAL, Oil, plunger	3	48	804-232	SCREW, Cap, socket head (10mm x 35mm)	2
23	804-121	WASHER, Slinger	3	49	804-077	WASHER, Lock, 6mm	12
24	804-208	RETAINER, Packing, rear	3	50	804-075	WASHER, Flat, 6mm	12
25	804-216	PLUNGER, Ceramic	3	51	101-754	PLUG, Hex socket 3/8	1
26	804-220	GASKET, Plunger	3	52	100-361	PLUG, Hex socket 1/2	1

Kit No.	Repair Kit Part No.	Ref No.	Description	Qty.
C3	804-098 Valve	39	O-RING, Valve Seat	3
		40	SEAT, Valve	3
		41	VALVE	3
		42	SPRING, Valve	3
		43	RETAINER, Valve Spring	3
		44	O-RING, Valve Cap	3
		45	RING, Backup, valve cap	3
C21	804-097 Packing	29	O-RING, Plunger Retainer	3
		33	O-RING, Packing Retainer	3
		35	PACKING, Low Pressure	3
		37	PACKING, High Pressure	6

Servicing the Valves

Disassembly:

1. Remove the four (4) socket head bolts and spring washers from end of manifold.
2. Support the discharge manifold from the underside and tap with a soft mallet to separate from the inlet manifold.
3. Carefully place discharge manifold on working surface with valve chambers up.
4. From the three (3) smaller diameter and shallow inlet chambers remove the inlet valve adapters with inner and outer o-rings. These adapters are not held securely in position and may fall out as the discharge manifold is removed.
5. Next remove the valve seats, valves, springs and retainers from the inlet chambers.
6. From the three (3) larger diameter and deeper discharge chambers remove the discharge valve spacers with o-rings. These brass spacers generally remain with the discharge manifold as it is removed. A reverse pliers fitted into the center bore and hooked onto the side ports of the spacer will assist the removal.
7. Next remove the valve seats, valves, springs and retainers from the discharge chambers.

NOTE: The inlet and discharge use the same retainers, springs, valve seats and valves. The o-rings and valve spacers/adapters are different. Keep parts in order as they are removed.

Reassembly: (DISCHARGE)

1. With crankcase side of discharge manifold facing up, insert the springs into the retainers over the plastic center guide.
2. Place valve spring retainers in deeper valve chambers. They will rest on the machined ridge in each chamber.
3. Examine the valves for wear or pitting and replace if necessary. Install valves over the springs with recessed (dish) side down.
4. Examine valve seat o-rings for wear and replace. Lubricate and place o-rings on lip of retainers. Carefully square o-rings in valve chamber to avoid cutting o-ring when valve seat is installed.
5. Examine valve seats for pitting, scale or ridges and replace if necessary. Install valve seat with grooved side down, so o-ring fits snugly into groove on seat.

6. Examine both o-rings on the discharge valve spacer and replace if necessary. Lubricate o-rings and fit into grooves on outside of spacer.
7. Lubricate spacer and carefully press into valve chambers with small diameter side down until spacer snaps tightly into position.

Reassembly: (INLET)

1. Place valve spring retainers into the shallow valve chambers. They will rest on the machined ridge in each chamber.
2. Insert valve springs into retainers over plastic center guide.
3. Inspect the valves for wear, ridges or pitting and replace if necessary. Insert valves over the springs with recessed (dish) side down.
4. Examine valve seat o-rings for wear and replace. Lubricate and place o-rings on lip of retainers. Carefully square o-rings in valve chamber to avoid cutting o-ring when valve seat is installed.
5. Examine valve seats for pitting, scale or ridges and replace if necessary. Install valve seat with grooved side down, so o-ring fits snugly into groove on seat.
6. Examine the adapter inner o-rings and replace if worn. Lubricate and install o-rings into inlet valve adapters.
7. Examine the adapter outer o-rings and replace if worn. Lubricate and install o-rings onto inlet valve adapters.
8. Lubricate inlet valve adapter and press into chamber. Carefully square inlet valve adapter into chamber to avoid cutting or extruding o-ring.
9. Replace discharge manifold over plunger ends matching discharge valve spacers with inlet chambers and press into position. Tap with a soft mallet until completely seated in chambers.
10. Replace all four (4) washers and socket head bolts. Hand tighten each. Then torque per chart.

Servicing the Seals

Disassembly:

1. With discharge manifold removed from the pump remove the two (2) socket head bolts and spring washers from end of inlet manifold.
2. Rotate crankshaft to loosen inlet manifold.
3. Support inlet manifold from underside and tap with a soft mallet to separate manifold from crankcase.

4. With crankcase side of manifold down remove hi–pressure seals using a reverse pliers.
5. Invert manifold so crankcase side is up and with reverse pliers remove low pressure seals.

Reassembly:

1. Examine low pressure seal for seal wear or spring failure and replace if necessary. With crankcase side of inlet manifold up, lubricate seal and press into valve chamber with garter spring down. Carefully square seal into position.
2. Examine hi–pressure seal for wear and replace if necessary. Invert inlet manifold with crankcase side down, lubricate seal and press into chamber with v–side up. Carefully square into position.
3. Rotate shaft so the two (2) outside plungers are extended and lined–up.
4. Lubricate plungers and discharge valve adapter o–rings.
5. Carefully line–up and join the inlet and discharge manifolds by pressing the protruding discharge valve adapters into the inlet manifold seal chambers.
6. Replace all four (4) discharge manifold socket head bolts and washers and hand tighten.
7. Then carefully slip manifold assembly onto plungers and tap with soft mallet until flush with crankcase.
8. Replace the two (2) inlet manifold socket head bolts and washers and hand tighten. Then torque per chart.
9. Then torque the four (4) discharge manifold socket head bolts per chart.

Servicing the Plungers

Disassembly:

1. Remove discharge and inlet manifold as described.
2. Using a wrench loosen plunger retainers approximately three (3) to four (4) turns.
3. Grasp ceramic plunger and push towards crankcase until plunger retainers with stud pop out.
4. Remove plunger retainer and copper gasket.
5. Remove ceramic plunger from plunger rod.
6. Remove barrier slinger from plunger rod.

Reassembly:

1. Replace barrier slinger if necessary and position onto plunger rod.
2. Carefully examine ceramic plunger for scoring or cracks and replace if worn. Slip onto rod.

NOTE: Ceramic plunger can only be installed one direction (front to back). Do not force onto rod.

3. Examine o–ring and back–up ring on plunger retainer and replace if worn or cut. Lubricate o–ring for ease of installation and to avoid damage to o–rings.

NOTE: First install NEW copper gaskets on plunger retainers, then back–up rings and o–rings.

4. Install short threaded end of stud into plunger retainer.
5. Thread plunger retainer and stud assembly into plunger rod and torque per chart. (Long threaded end of stud into plunger rod.)

NOTE: Exercise caution not to over torque the plunger retainer.

6. Rotate shaft so the two (2) outside plungers are extended and lined–up. Then lubricate plungers.
7. Replace all four (4) discharge manifold socket head bolts and washers and hand tighten.
8. Then carefully slip manifold assembly onto plungers and tap with soft mallet until flush with crankcase.
9. Replace the two (2) inlet manifold socket head bolts and washers and hand tighten. Then torque per chart.
10. Then torque the four (4) discharge manifold socket head bolts per chart.

Servicing Crankcase Section

1. While inlet manifold, plungers and seal retainers are removed, examine crankcase seals for wear.
2. Check oil level and for evidence of water in oil.
3. Rotate crankshaft by hand to feel for smooth bearing movement.
4. Examine crankshaft oil seal externally for drying, cracking or leaking.
5. Consult factory or your local distributor if crankcase service is required.

Torque Chart

Pump Part	Thread	Tool Size	Torque
Plunger Retainer	M5	11 mm hex	80 in. lbs.
Inlet Manifold Bolts	M10	8 mm allen	132 in. lbs.
Discharge Manifold Bolts	M10	8 mm allen	180 in. lbs.

Servicing the Valves

1. Remove the hex valve plug.
2. Examine the o-ring under the plug for cuts or distortion and replace if worn. Lubricate new o-ring before installing.
3. Grasp valve retainer by tab at the top with pliers and remove from valve chamber. Valve parts usually separate during removal.

Note: A special tool will be needed to remove the seat from the manifold. A reverse pliers or a standard vise grip and a 1/4" x 3" bolt to fit I.D. of seat inserted under the edge of the seat, will pry the valve seat out easily.

4. Examine all valve parts for wear and replace with preassembled valve assembly in service kit containing retainer, spring, valve, valve seat, o-ring, and back-up ring.
5. Grasp new valve assembly by tab at top with pliers, immerse in oil and push into valve chamber. Be certain valve assembly is square in valve chamber.
6. Apply Loctite 242 to valve plug, thread into manifold port and torque per chart.

Note: Corrosion Resistant models require the coil spring installed in the Valve Plug.

Servicing the Pumping Section

Disassembly:

1. Remove the four (4) hex nuts or two (2) bolts from the manifold (varies with model).
2. Rotate crankshaft by hand to start separation of manifold from crankcase. Support the underside of the manifold and tap lightly with a mallet to remove the manifold assembly.

CAUTION

Keep manifold properly aligned with ceramic plungers when removing to avoid damage to either plungers or seals.

3. Remove oil pan and slide out seal retainer with wicks.
4. Using a wrench, loosen the plunger retainer. Grasp ceramic plunger and push toward crankcase until plunger retainer pops out.
5. Remove plunger retainer with copper gasket, back-up Ring and o-ring.
6. Remove plunger from plunger rod.

Reassembly:

1. Carefully examine each ceramic plunger for scoring or cracks, replace if worn and slip onto plunger rod.

Note: Ceramic plunger can only be installed one direction (front to back). Do not force onto rod.

2. Examine plunger retainer and stud and replace if worn.

Note: Thread stud into plunger retainer.

3. Examine o-ring, back-up ring and gasket on plunger retainer and replace if worn or cut. Lubricate o-ring for ease of installation and to avoid damaging o-rings.

Note: First install gasket, then back-up ring and o-ring.

4. Thread plunger retainer and stud assembly into plunger rod. Exercise caution not to over torque.
5. Saturate new oil wick by soaking in oil, place in seal retainer and slip retainer over ceramic plunger.
6. Replace oil pan.
7. Turn shaft by hand to line up plungers so end plungers are parallel.
8. Carefully slip manifold onto plungers, keeping manifold level, and tap with mallet to bring manifold flush with crankcase.
9. Replace washers and nuts or bolts and torque per chart.

Servicing the Seals and V-Packings

Disassembly:

1. Remove the manifold as described.
2. With crankcase side of manifold facing up, unscrew the seal case from the manifold using a special key wrench.
3. Remove o-ring from seal case.
4. Remove snap ring and low pressure seal from the seal case. Seals are generally removed easily without any tools.
5. **High Pressure Seal Models:** The high pressure seal is generally easily removed from the manifold without any tools. If extremely worn a reverse pliers may be used.
6. **V-Packing Models:** The female adapter, two v-packings and male adapter are easily removed from manifold without tools. If extremely worn a reverse pliers may be used.

Reassembly:

V-Packing Models:

1. Lubricate high pressure packing area in manifold.
2. Insert male adapter with notches down and "v" side up.
3. Lubricate v-packings and install one-at-a-time with grooved side down.
4. Next install female adapter with grooved side down.
5. Examine seal case o-ring and replace if worn. Lubricate new o-ring before installing.
6. Thread seal case into manifold and tighten with key wrench.

High Pressure Seal Models:

1. Lubricate seal area in manifold.
2. Carefully square seal into position by hand with the metal grooved side up.
3. Examine seal case o-ring and replace if worn. Lubricate new o-ring before installing.
4. Next secure high pressure seal into position by threading seal case into manifold. Tighten seal case with key wrench.

Low Pressure Seal-All Models:

1. Examine seal for wear or broken spring and lace if necessary.
2. Install low pressure seal in seal case with garter spring down.
3. Reinstall snap ring. Be certain snap ring is a tight fit. Replace if it can be easily turned.
4. Replace manifold on pump as described and torque per chart.

Servicing Crankcase Section

1. While manifold, plungers and seal retainers are removed, examine crankcase seals for wear.
2. Check oil level and for evidence of water in oil.
3. Rotate crankshaft by hand to feel for smooth bearing movement.
4. Examine crankshaft oil seal externally for drying, cracking or leaking.
5. Consult factory or your local distributor if crankcase service is evidenced.

Torque Chart

Pump Part	Thread	Tool Size	Torque
Plunger Retainer	M5	11 mm hex	80 in. lbs.
Manifold	M8 x 1.25	13 mm hex	125 in. lbs.
	M10 x 1.25	17 mm hex	217 in. lbs.
	M10	17 mm hex	217 in. lbs.
Valve Covers	—	24 mm	75 ft. lbs.
		27 mm	75 ft. lbs.

ACCESSORIES

(Must be purchased separately)

DOWNSTREAM CHEMICAL INJECTOR KIT 800-117 & 800-649

For injecting harsh cleaning chemicals downstream from the pump. 800-649 is stainless steel construction.

UPSTREAM CHEMICAL INJECTOR KIT 800-257

For injecting mild cleaning chemicals upstream into the pump.

BACKFLOW PREVENTOR 801-133

Prevent back-up of contaminated water into fresh supply. Install upstream of pump.

ANTI-FREEZE FLUSH KIT 802-327

For flushing system with 50% anti-freeze solution prior to transporting or storing pressure washer in below freezing temperatures.

INLET PRESSURE REGULATOR 800-258

Regulates inlet water pressure to 60 psi (4 bar) maximum.

WATER SANDBLASTING KIT 800-120

For abrasive cleaning of stubborn dirt and paint. Requires a spray tip which is not included in kit (2040 uses 801-729, 2540 uses 801-667).

TECHNICAL DATA

	Model 800-698	Model 800-699	Model 800-700
Engine (air-cooled, 4 cycle)	5 hp Briggs & Stratton I/C	8 hp Briggs & Stratton I/C	9 hp Briggs & Stratton OHV
Gasoline Tank Capacity	3 quarts (2.8 liter)	6 quarts (5.7 liter)	5 quarts (4.8 liter)
Water Pump Maximum Working Pressure	1500 psi (103 bar)	2000 psi (138 bar)	2500 psi (172 bar)
Water Pump Maximum Flow	3.5 gpm (13 lpm)	4 gpm (15 lpm)	4 gpm (15 lpm)
Inlet Hose Connection	3/4" garden hose (f)	3/4" garden hose (f)	3/4" garden hose (f)
Weight	105 lb (48 kg)	152 lb (68 kg)	158 lb (70 kg)
Dimensions			
Length	37" (940 mm)	36" (914 mm)	36" (914 mm)
Width	19" (483 mm)	21" (533 mm)	21" (533 mm)
Height	20" (508 mm)	22.5" (572 mm)	23" (584 mm)
Maximum Inlet Water Temperature	160° F (70° C)	160° F (70° C)	160° F (70° C)
Wetted Parts	<p>High Pressure Hose Bypass Hose Pressure Washer (including fittings)</p> <p>Acrylonitrile and Buna-N cover and tube Synthetic yarn and EPDM Anodized aluminum, Aluminum or bronze alloys, Brass Copper, Nylon-PTFE® composite, Ceramic, Buna-N, Cotton phenolic, 303, 304, and 316 Stainless steel, Polyimide-12 thermoplastic, PTFE®, Carbon steel, Zinc with or without yellow chromate plate</p> <p>PTFE is a registered trademark of the DuPont Company.</p>		

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Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twenty four months from date of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

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This warranty is conditioned upon the prepaid return of the equipment claimed to be defective for examination by Graco to verify the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

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