

INSTRUCTIONS-PARTS LIST



308-531

Rev A

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

HYDRA-CLEAN® 2545, 3040, 3235 Pressure Washers

HYDRA-CLEAN 2545

P/N 800-701, Series A, 11 HP I/C ENGINE
P/N 800-702, Series A, 12.5 HP OHV ENGINE

2500 psi (172 bar) OPERATING PRESSURE
2900 psi (200 bar) MAXIMUM WORKING PRESSURE

HYDRA-CLEAN 3040

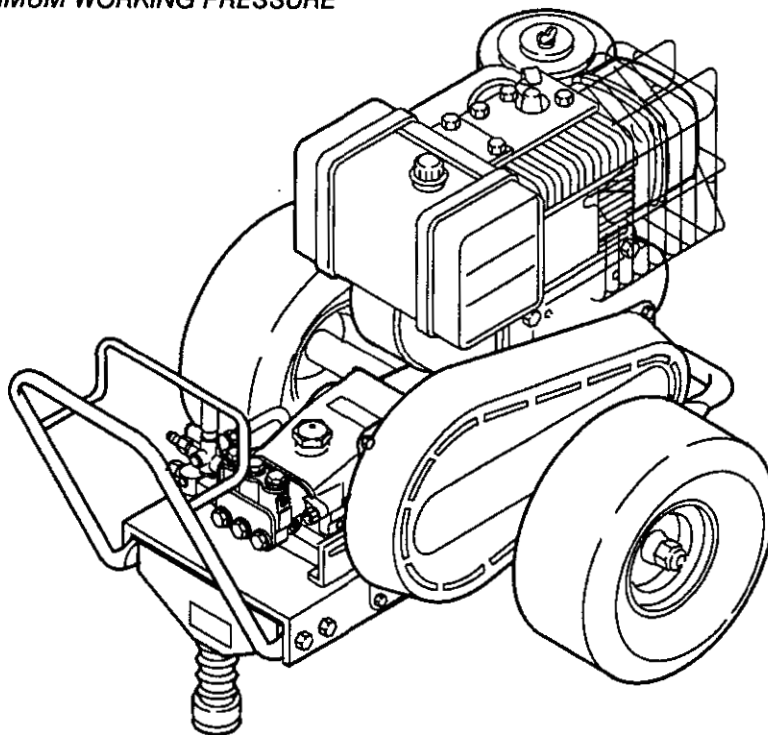
P/N 800-703, Series A, 11 HP I/C ENGINE
P/N 800-704, Series A, 12.5 HP OHV ENGINE

3000 psi (207 bar) OPERATING PRESSURE
3400 psi (234 bar) MAXIMUM WORKING PRESSURE

HYDRA-CLEAN 3235

P/N 800-705, Series A, 11 HP I/C ENGINE

3200 psi (221 bar) OPERATING PRESSURE
3600 psi (248 bar) MAXIMUM WORKING PRESSURE



GRACO INC. P.O. Box 1441 MINNEAPOLIS, MN 55440-1441

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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 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.

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.

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.

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.

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

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

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.

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).

Pressure Relief Procedure before checking or servicing the pressure washer to prevent discharging high pressure fluid from the gun.

TERMS

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

NOTE: Identifies helpful procedures and information.

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

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.

INSTALLATION

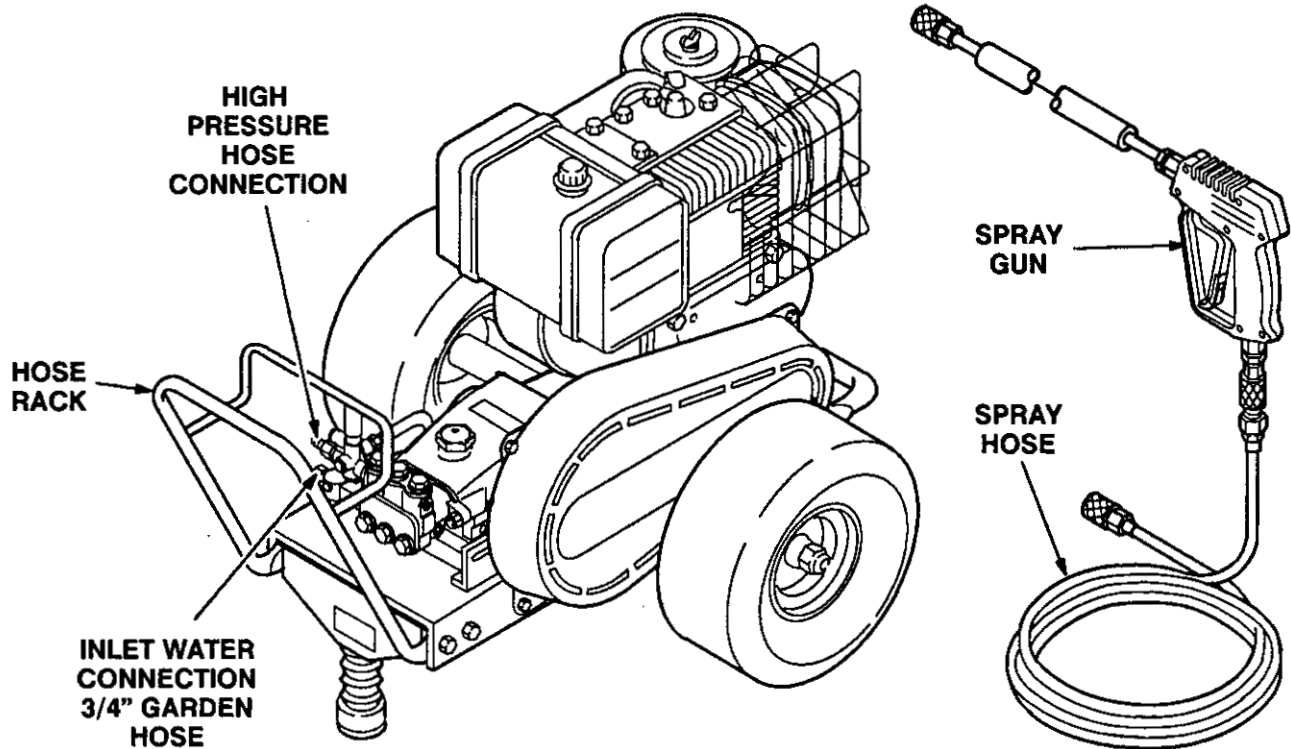


Figure 1

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 start-up 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 as necessary, or use genuine CAT® pump oil.

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.

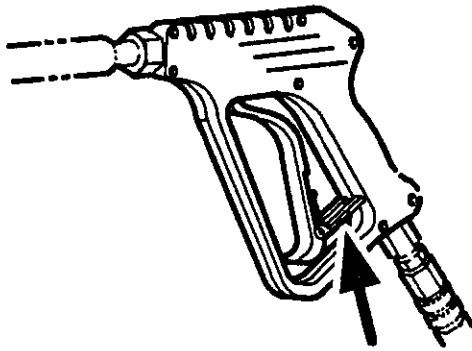
9. See the chemical injector or sandblaster kit manual for detailed cleaning information if these accessories are used.

Trigger Safety Latch

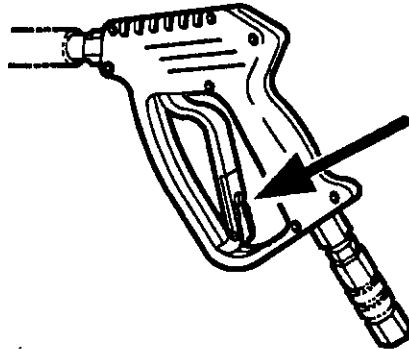
WARNING

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.

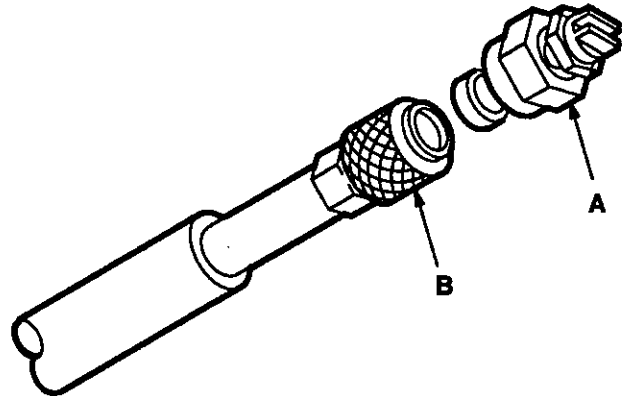


Figure 3

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.
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.

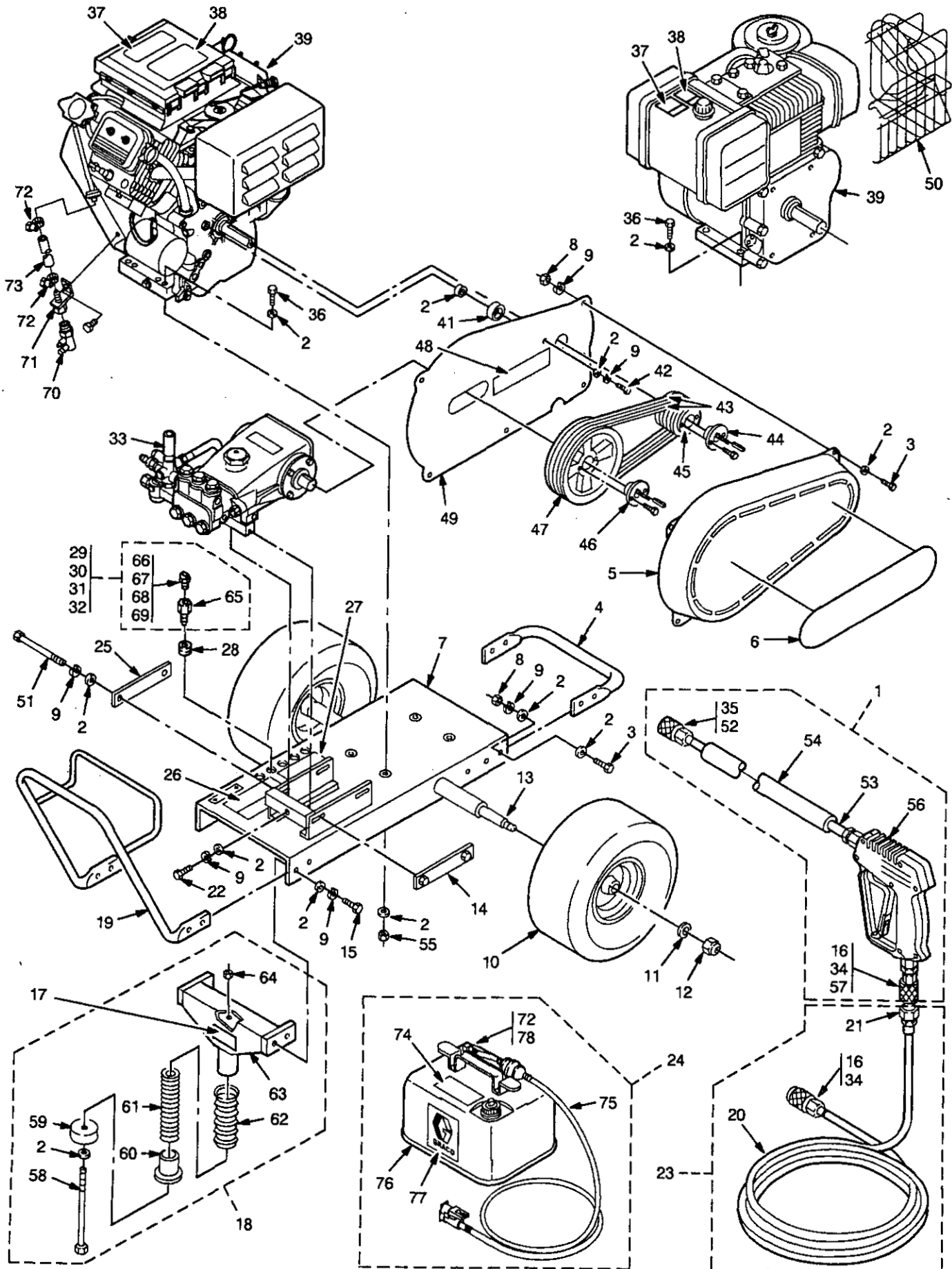
TROUBLESHOOTING CHART

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. Belt slippage. 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. Tighten or replace; use correct belts and replace both at same time. 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.

PARTS DRAWING
800-701 and 800-702 Hydra-Clean® 2545 Pressure Washer

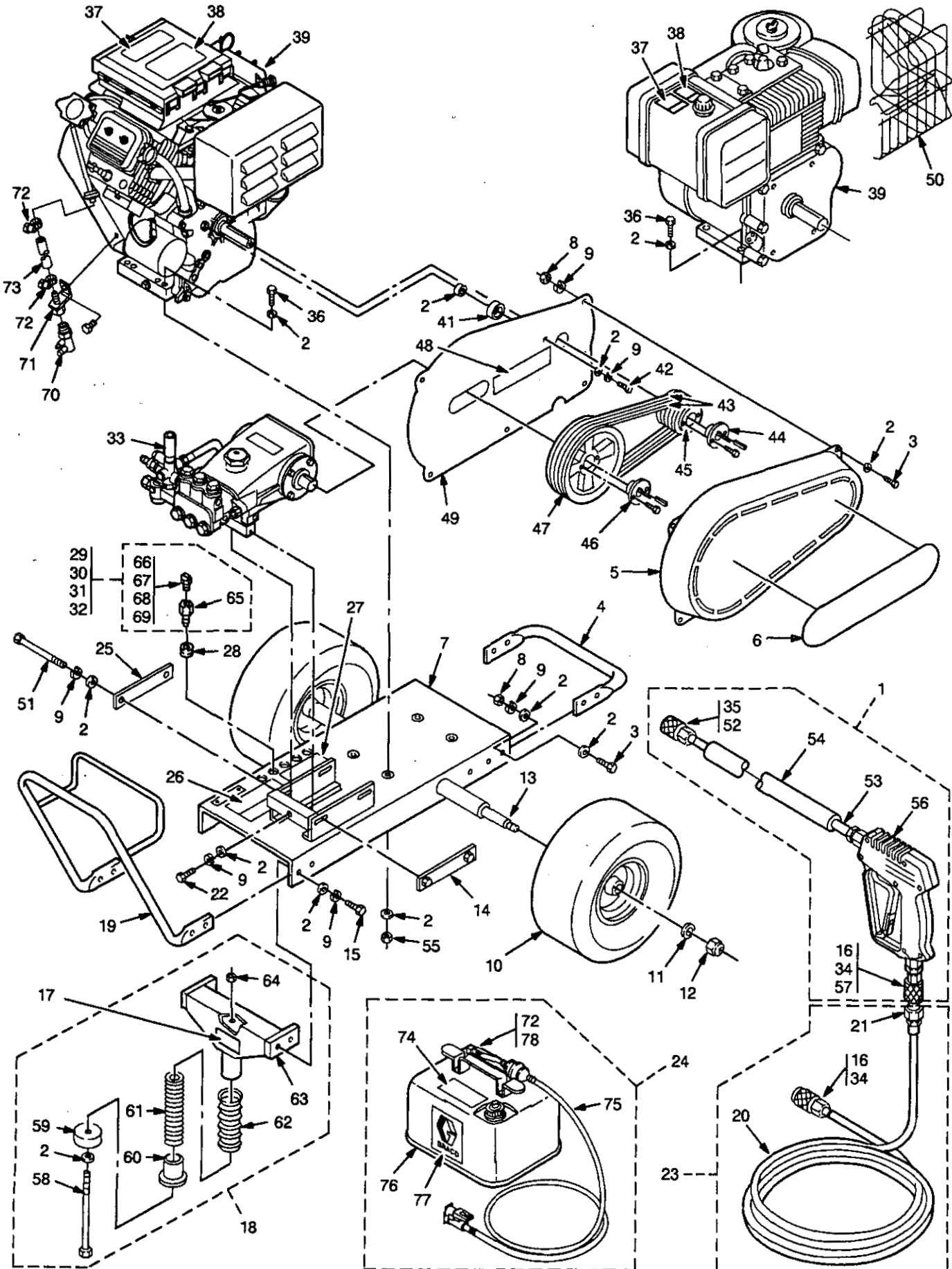


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800-701 and 800-702 Hydra-Clean® 2545 Pressure Washer

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	800-392	GUN & WAND ASSEMBLY (incl. 16, 21, 34, 35, 52, 53, 54, 56, 57)	1	41	801-217	BUMPER, Rubber	1
2	100-023	WASHER, Flat 5/16	31	42	108-842	SCREW, Cap, hex hd. (used on 800-701 only)	1
3	801-941	SCREW, Cap, hex hd. 5/16-18 x 1	9		801-210	SCREW, Cap, hex hd. (used on 800-702 only)	1
4	801-539	BUMPER	1	43	801-168	BELT, Drive	2
5	803-926	BELT GUARD	1	44	801-898	HUB, Engine	1
6	803-534	LABEL, Belt Guard	1	45	801-896	SHEAVE, Engine	1
7	800-676	CHASSIS	1	46	804-255	HUB, Pump	1
8	100-188	NUT, Hex 5/16-18	9	47	802-117	SHEAVE, Pump	1
9	100-214	WASHER, Lock 5/16	15	48	177-144	LABEL, Belt Guard	1
10	801-550	WHEEL & TIRE ASSEMBLY	2	49	803-531	BASEPLATE, Belt Guard	1
11	801-612	WASHER, Flat 1/2	2	50	803-246	GUARD, Muffler (used on 800-701 only)	1
12	801-020	NUT, Lock 1/2-13	2	51	801-522	SCREW, Cap, hex hd.	2
13	801-556	AXLE	1	52	801-009	QUICK COUPLER, Female 1/4 (incl. 35)	1
14	800-678	BRACKET, Rail Stiffener	1	53	801-134	WAND, 32"	1
15	801-546	SCREW, Cap, hex hd. 3/8-16 x 1-1/4	4	54	801-674	SLEEVE, 28"	1
16	801-569	QUICK COUPLER, Female 3/8 (incl. 34)	2	55	111-040	NUT, Lock 5/16-18	4
17	803-303	LABEL, Model 2545	1	56	803-350	GUN, Spray (see Inst. Manual 308-511)	1
18	800-160	FRONT LEG ASSEMBLY (incl. 2, 9, 17, 59, 60, 61, 62, 63, 64)	1	57	156-849	NIPPLE, Hex 3/8	1
19	803-925	HANDLE	1	58	801-531	SCREW, Cap, hex hd. 3/8-16 x 7	1
20	801-571	HOSE, High Pressure 3/8 x 50'	1	59	801-504	BUMPER, Rubber	1
21	801-568	QUICK COUPLER, Male 3/8	2	60	801-505	RETAINER, Spring	1
22	803-298	SCREW, Cap, hex hd. 5/16-18 x 3-1/2	1	61	801-593	SPRING	1
23	800-375	HOSE ASSEMBLY W/QUICK COUPLERS (incl. 16, 20, 21, 34)	1	62	801-506	BOOT	1
24	800-652	FUEL TANK ASSEMBLY (incl. 72, 74, 75, 76, 77, 78) (used on 800-702 only)	1	63	801-537	LEG, Front	1
25	802-016	BRACKET, Rail Stiffener	1	64	801-499	NUT, Lock 3/8-16	1
26	176-250	LABEL, Chassis	1	65	801-090	QUICK COUPLER, Male 1/4	4
27	172-981	LABEL, Chassis	1	66	801-730	TIP, Spray 00055	1
28	801-548	GROMMET, Rubber	5	67	801-729	TIP, Spray 15055	1
29	800-174	TIP ASS'Y, 00055 (incl. 65, 66)	1	68	803-174	TIP, Spray 25055	1
30	800-173	TIP ASS'Y, 15055 (incl. 65, 67)	1	69	803-175	TIP, Spray 40055	1
31	800-341	TIP ASS'Y, 25055 (incl. 65, 68)	1	70	802-907	CONNECTOR, Fuel (used on 800-702 only)	1
32	800-305	TIP ASS'Y, 40055 (incl. 65, 69)	1	71	801-919	BRACKET, Fuel Connector (used on 800-702 only)	1
33		PUMP ASSEMBLY (see page 16)	1	72	801-971	CLAMP, Hose (used on 800-702 only)	3
34	156-082	O-RING, Quick Coupler 3/8	2	73	801-629	LINE, Fuel (used on 800-702 only)	1
35	154-594	O-RING, Quick Coupler 1/4	1	74	801-716	LABEL, Warning (used on 800-702 only)	2
36	801-022	SCREW, Cap, hex hd. 5/16-18 x 3/4	4	75	803-881	LINE, Fuel w/Squeeze Bulb (used on 800-702 only)	1
37	802-363	LABEL, Caution	1	76	802-025	TANK, Fuel (used on 800-702 only)	1
38	181-867	LABEL, Warning	1	77	801-008	LABEL, Graco G (used on 800-702 only)	1
39	801-494	ENGINE, 11 hp, Briggs & Stratton I/C (used on 800-701 only)	1	78	802-026	BARB, Hose 1/4 x 5/16 (used on 800-702 only)	1
	803-882	ENGINE, 12.5 hp, Briggs & Stratton Vanguard OHV (used on 800-702 only)	1				

PARTS DRAWING
800-703 and 800-704 Hydra-Clean® 3040 Pressure Washer

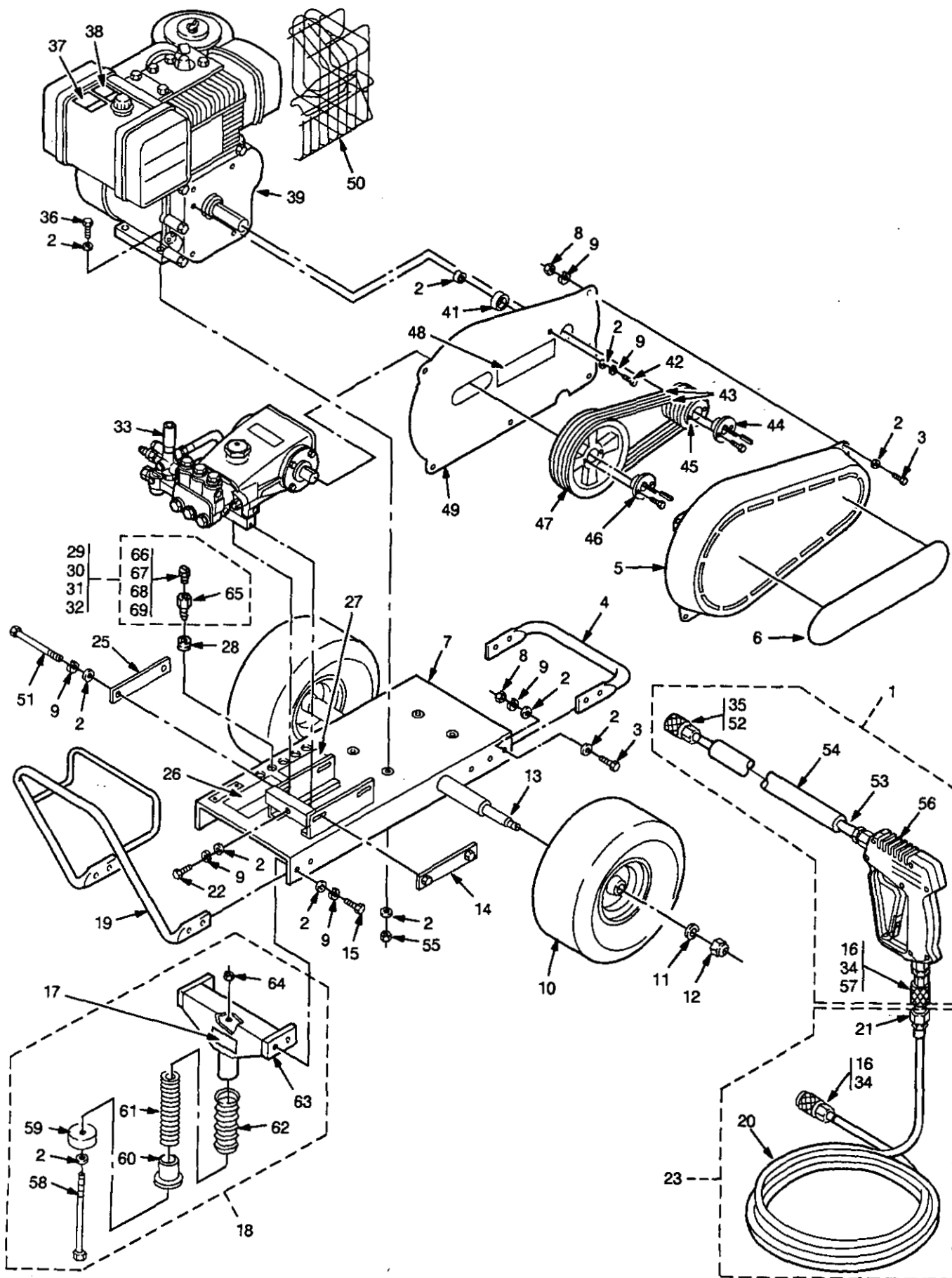


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3	801-941	SCREW, Cap, hex hd. 5/16-18 x 1	9	801-210	SCREW, Cap, hex hd. (used on 800-704 only)	1	
4	801-539	BUMPER	1	43	801-168	BELT, Drive	2
5	803-926	BELT GUARD	1	44	801-898	HUB, Engine	1
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12	801-020	NUT, Lock 1/2-13	2	51	801-522	SCREW, Cap, hex hd.	2
13	801-556	AXLE	1	52	801-009	QUICK COUPLER, Female 1/4 (incl. 35)	1
14	800-678	BRACKET, Rail Stiffener	1	53	801-134	WAND, 32"	1
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16	801-569	QUICK COUPLER, Female 3/8 (incl. 34)	2	55	111-040	NUT, Lock 5/16-18	4
17	803-161	LABEL, Model 3040	1	56	803-350	GUN, Spray (see Inst. Manual 308-511)	1
18	800-160	FRONT LEG ASSEMBLY (incl. 2, 9, 17, 59, 60, 61, 62, 63, 64)	1	57	156-849	NIPPLE, Hex 3/8	1
19	803-925	HANDLE	1	58	801-531	SCREW, Cap, hex hd. 3/8-16 x 7	1
20	801-571	HOSE, High Pressure 3/8 x 50'	1	59	801-504	BUMPER, Rubber	1
21	801-568	QUICK COUPLER, Male 3/8	2	60	801-505	RETAINER, Spring	1
22	803-298	SCREW, Cap, hex hd. 5/16-18 x 3-1/2	1	61	801-593	SPRING	1
23	800-375	HOSE ASSEMBLY W/QUICK COUPLERS (incl. 16, 20, 21, 34)	1	62	801-506	BOOT	1
24	800-652	FUEL TANK ASSEMBLY (incl. 72, 74, 75, 76, 77, 78) (used on 800-704 only)	1	63	801-537	LEG, Front	1
25	802-016	BRACKET, Rail Stiffener	1	64	801-499	NUT, Lock 3/8-16	1
26	176-250	LABEL, Chassis	1	65	801-090	QUICK COUPLER, Male 1/4	4
27	172-981	LABEL, Chassis	1	66	803-106	TIP, Spray 00045	1
28	801-548	GROMMET, Rubber	5	67	803-107	TIP, Spray 15045	1
29	800-314	TIP ASS'Y, 00045 (incl. 65, 66)	1	68	803-108	TIP, Spray 25045	1
30	800-315	TIP ASS'Y, 15045 (incl. 65, 67)	1	69	803-109	TIP, Spray 40045	1
31	800-316	TIP ASS'Y, 25045 (incl. 65, 68)	1	70	802-907	CONNECTOR, Fuel (used on 800-704 only)	1
32	800-317	TIP ASS'Y, 40045 (incl. 65, 69)	1	71	801-919	BRACKET, Fuel Connector (used on 800-704 only)	1
33		PUMP ASSEMBLY (see page 16)	1	72	801-971	CLAMP, Hose (used on 800-704 only)	3
34	156-082	O-RING, Quick Coupler 3/8	2	73	801-629	LINE, Fuel (used on 800-704 only)	1
35	154-594	O-RING, Quick Coupler 1/4	1	74	801-716	LABEL, Warning (used on 800-704 only)	2
36	801-022	SCREW, Cap, hex hd. 5/16-18 x 3/4	4	75	803-881	LINE, Fuel w/Squeeze Bulb (used on 800-704 only)	1
37	802-363	LABEL, Caution	1	76	802-025	TANK, Fuel (used on 800-704 only)	1
38	181-867	LABEL, Warning	1	77	801-008	LABEL, Graco G (used on 800-704 only)	1
39	801-494	ENGINE, 11 hp, Briggs & Stratton I/C (used on 800-703 only)	1	78	802-026	BARB, Hose 1/4 x 5/16 (used on 800-704 only)	1
	803-882	ENGINE, 12.5 hp, Briggs & Stratton Vanguard OHV (used on 800-704 only)	1				

PARTS DRAWING
800-705 Hydra-Clean® 3235 Pressure Washer

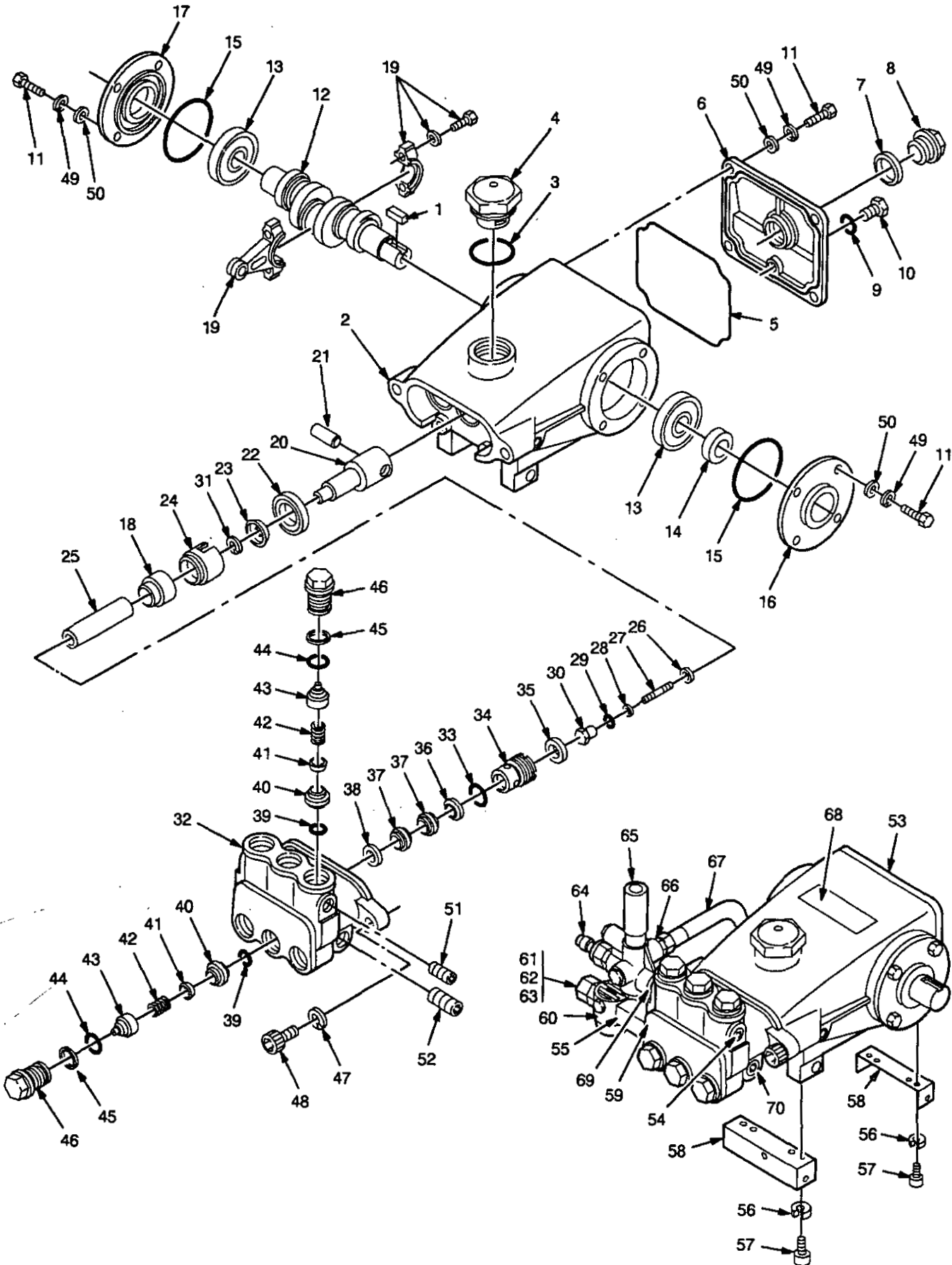


PARTS LIST

800-705 Hydra-Clean® 3235 Pressure Washer

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	800-392	GUN & WAND ASSEMBLY (incl. 16, 21, 34, 52, 53, 54, 56, 57)	1	33		PUMP ASSEMBLY (see page 16)	1
2	100-023	WASHER, Flat 5/16	31	34	156-082	O-RING, Quick Coupler 3/8	2
3	801-941	SCREW, Cap, hex hd. 5/16-18 x 1	9	35	154-594	O-RING, Quick Coupler 1/4	1
4	801-539	BUMPER	1	36	801-022	SCREW, Cap, hex hd. 5/16-18 x 3/4	4
5	803-926	BELT GUARD	1	37	802-363	LABEL, Caution	1
6	803-534	LABEL, Belt Guard	1	38	181-867	LABEL, Warning	1
7	800-676	CHASSIS	1	39	801-494	ENGINE, 11 hp, Briggs & Stratton I/C	1
8	100-188	NUT, Hex 5/16-18	9	41	801-217	BUMPER, Rubber	1
9	100-214	WASHER, Lock 5/16	15	42	803-535	SCREW, Cap, hex hd.	1
10	801-550	WHEEL & TIRE ASSEMBLY	2	43	801-285	BELT, Drive	2
11	801-612	WASHER, Flat 1/2	2	44	801-898	HUB, Engine	1
12	801-020	NUT, Lock 1/2-13	2	45	801-897	SHEAVE, Engine	1
13	801-556	AXLE	1	46	804-255	HUB, Pump	1
14	800-678	BRACKET, Rail Stiffener	1	47	801-004	SHEAVE, Pump	1
15	801-546	SCREW, Cap, hex hd. 3/8-16 x 1-1/4	4	48	177-144	LABEL, Belt Guard	1
16	801-569	QUICK COUPLER, Female 3/8 (incl. 34)	2	49	803-531	BASEPLATE, Belt Guard	1
17	803-904	LABEL, Model 3235	1	50	803-246	GUARD, Muffler	1
18	800-160	FRONT LEG ASSEMBLY (incl. 2, 9, 17, 59, 60, 61, 62, 63, 64)	1	51	801-522	SCREW, Cap, hex hd.	2
19	803-925	HANDLE	1	52	801-009	QUICK COUPLER, Female 1/4 (incl. 35)	1
20	801-571	HOSE, High Pressure 3/8 x 50'	1	53	801-134	WAND, 32"	1
21	801-568	QUICK COUPLER, Male 3/8	2	54	801-674	SLEEVE, 28"	1
22	803-298	SCREW, Cap, hex hd. 5/16-18 x 3-1/2	1	55	111-040	NUT, Lock 5/16-18	4
23	800-375	HOSE ASSEMBLY W/QUICK COUPLERS (incl. 16, 20, 21)	1	56	803-350	GUN, Spray (see Inst. Manual 308-511)	1
25	802-016	BRACKET, Rail Stiffener	1	57	156-849	NIPPLE, Hex 3/8	1
26	176-250	LABEL, Chassis	1	58	801-531	SCREW, Cap, hex hd. 3/8-16 x 7	1
27	172-981	LABEL, Chassis	1	59	801-504	BUMPER, Rubber	1
28	801-548	GROMMET, Rubber	5	60	801-505	RETAINER, Spring	1
29	800-124	TIP ASS'Y, 0004 (incl. 65, 66)	1	61	801-593	SPRING	1
30	800-125	TIP ASS'Y, 1504 (incl. 65, 67)	1	62	801-506	BOOT	1
31	800-126	TIP ASS'Y, 2504 (incl. 65, 68)	1	63	801-537	LEG, Front	1
32	800-127	TIP ASS'Y, 4004 (incl. 65, 69)	1	64	801-499	NUT, Lock 3/8-16	1
				65	801-090	QUICK COUPLER, Male 1/4	4
				66	801-599	TIP, Spray 0004	1
				67	801-600	TIP, Spray 1504	1
				68	801-601	TIP, Spray 2504	1
				69	801-602	TIP, Spray 4004	1

PARTS DRAWING
Pump Assembly



PARTS LIST

Pump Assembly

REF NO.	PART NO.	DESCRIPTION	QTY	REF NO.	PART NO.	DESCRIPTION	QTY
1	804-093	KEY	1	38	804-120	ADAPTER, Female	3
2	804-154	CRANKCASE	1	39	KIT C3	O-RING, Valve Seat	
3	801-028	O-RING, Oil Fill Cap	1	40	KIT C3	SEAT, Valve	
4	804-181	CAP, Oil Fill	1	41	KIT C3	VALVE	
5	804-189	O-RING, Crankshaft Cover	1	42	KIT C3	SPRING, Valve	
6	804-155	COVER, Crankcase	1	43	KIT C3	RETAINER, Valve Spring	
7	804-171	GASKET, Oil Sight Gauge	1	44	KIT C3	O-RING, Valve Cap	
8	804-150	GAUGE, Sight	1	45	KIT C3	RING, Backup, valve cap	
9	802-189	O-RING, Drain Plug	1	46	804-221	CAP, Valve	6
10	804-089	PLUG, Drain	1	47	802-178	WASHER, Lock, 10mm	2
11	804-237	SCREW, Cap, hex hd./cross recess (6mm x 16mm)	12	48	804-232	SCREW, Cap, socket head (10mm x 35mm)	2
12	804-224	CRANKSHAFT	1	49	804-077	WASHER, Lock, 6mm	12
13	804-080	BEARING	2	50	804-075	WASHER, Flat, 6mm	2
14	804-109	SEAL, Oil, crankshaft	1	51	101-754	PLUG, Hex Socket 3/8	1
15	804-124	O-RING, Crankshaft Cover	2	52	100-361	PLUG, Hex Socket 1/2	1
16	804-137	COVER, Crankshaft	1	53	804-246	PUMP	1
17	804-193	COVER, Crankshaft	1	54	101-754	PLUG, 3/8	1
18	804-213	RETAINER, Packing, front	3	55	800-113	FILTER (see instruction manual 801-744)	1
19	804-219	ROD, Assembly Connecting	3	56	100-214	WASHER, Lock 5/16	4
20	804-223	ROD, Plunger	3	57	108-842	SCREW, Cap, hex hd. 8mm x 16mm	4
21	804-126	PIN, Plunger Rod	3	58	800-691	BRACKET, Pump	2
22	801-031	SEAL, Oil, plunger	3	59	159-239	NIPPLE, Hex 1/2 x 3/8	1
23	804-121	WASHER, Slinger	3	60	801-106	TEE, 1/2	1
24	804-208	RETAINER, Packing, rear	3	61	801-111	NUT, Garden Hose	1
25	804-216	PLUNGER, Ceramic	3	62	801-110	ADAPTER, Garden Hose	1
26	804-220	GASKET, Plunger	3	63	801-112	STRAINER, Garden Hose	1
27	804-234	STUD, Retaining (6mm x 64,5mm)	3	64	801-568	QUICK COUPLER, Male, 3/8	1
28	801-038	RING, Backup, plunger retainer	3	65	800-323	UNLOADER, 2500 psi	1
29	KIT C21	O-RING, Plunger Retainer			800-324	UNLOADER, 3000 psi	1
30	801-040	RETAINER, Plunger	3		800-325	UNLOADER, 3200 psi	1
31	804-214	WASHER, Keyhole	3	66	803-142	NIPPLE, Hex, 3/8 NPT x 1/2 NPSM	1
32	804-222	MANIFOLD	1	67	803-141	HOSE ASSEMBLY, Bypass	1
33	KIT C21	O-RING, Packing Retainer		68	803-083	LABEL, Keep From Freezing	1
34	804-217	RETAINER, Packing	3	69	156-849	NIPPLE, Hex 3/8	1
35	KIT C21	PACKING, Low Pressure		70	100-361	PLUG, 1/2	1
36	804-118	ADAPTER, Male	3				
37	KIT C21	PACKING, High Pressure					

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

Kit No.	Repair Kit Part No.	Ref No.	Description	Qty.
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

PUMP SERVICE

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.

WATER SANDBLASTING KIT 800-120

For abrasive cleaning of stubborn dirt and paint. Requires a spray tip which is not included in kit (2545 uses 801-729, 3040 uses 803-107, 3235 uses 801-600).

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.

TECHNICAL DATA

	Model 800-701	Model 800-702	Model 800-703	Model 800-704	Model 800-705
Engine (all 4 cycle, air cooled)	11 HP Briggs & Stratton I/C	12.5 HP Briggs & Stratton OHV	11 HP Briggs & Stratton I/C	12.5 HP Briggs & Stratton OHV	11 HP Briggs & Stratton I/C
Gasoline Tank Capacity	6 quarts (5.7 liter)	24 quarts (23 liter)	6 quarts (5.7 liter)	24 quarts (23 liter)	6 quarts (5.7 liter)
Water Pump Maximum Working Pressure	2500 psi (172 bar)	2500 psi (172 bar)	3000 psi (207 bar)	3000 psi (207 bar)	3200 psi (221 bar)
Water Pump Maximum Flow	4.5 gpm (17 lpm)	4.5 gpm (17 lpm)	4 gpm (15 lpm)	4 gpm (15 lpm)	3.5 gpm (13 lpm)
Inlet Hose Connection	3/4" garden hose (f)	3/4" garden hose (f)	3/4" garden hose (f)	3/4" garden hose (f)	3/4" garden hose (f)
Weight	213 lb (97 kg)	222 lb (101 kg)	213 lb (97 kg)	222 lb (101 kg)	213 lb (97 kg)
Dimensions Length Width Height	46" (1168mm) 30" (762mm) 26" (660mm)	46" (1168mm) 30" (762mm) 26" (660mm)	46" (1168mm) 30" (762mm) 26" (660mm)	46" (1168mm) 30" (762mm) 26" (660mm)	46" (1168mm) 30" (762mm) 26" (660mm)
Maximum Inlet Water Temperature	160°F (70°C)	160°F (70°C)	160°F (70°C)	160°F (70°C)	160°F (70°C)
Wetted Parts High Pressure Hose Bypass Hose Pressure Washer (including fittings)	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, Polyamide-12 thermoplastic, PTFE, Carbon steel, Zinc with or without yellow chromate plate <i>Teflon® is a registered trademark of the DuPont Company.</i>				

THE GRACO WARRANTY

WARRANTY AND DISCLAIMERS

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.

This warranty does not cover, and Graco shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility with Graco equipment of structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

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.

DISCLAIMERS AND LIMITATIONS

THE TERMS OF THIS WARRANTY CONSTITUTE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AND ARE IN LIEU OF ANY OTHER WARRANTIES (EXPRESS OR IMPLIED), INCLUDING WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY NON-CONTRACTUAL LIABILITIES, INCLUDING PRODUCT LIABILITIES, BASED ON NEGLIGENCE OR STRICT LIABILITY. EVERY FORM OF LIABILITY FOR DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS IS EXPRESSLY EXCLUDED AND DENIED. IN NO CASE SHALL GRACO'S LIABILITY EXCEED THE AMOUNT OF THE PURCHASE PRICE. ANY ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN THREE (3) YEARS OF THE DATE OF SALE.

EQUIPMENT NOT COVERED BY GRACO WARRANTY

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

IMPORTANT PHONE NUMBERS

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you: **1-800-328-0211 Toll Free**

FOR TECHNICAL ASSISTANCE, service repair information or assistance regarding the application of Graco equipment: **1-800-543-0339 Toll Free**

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