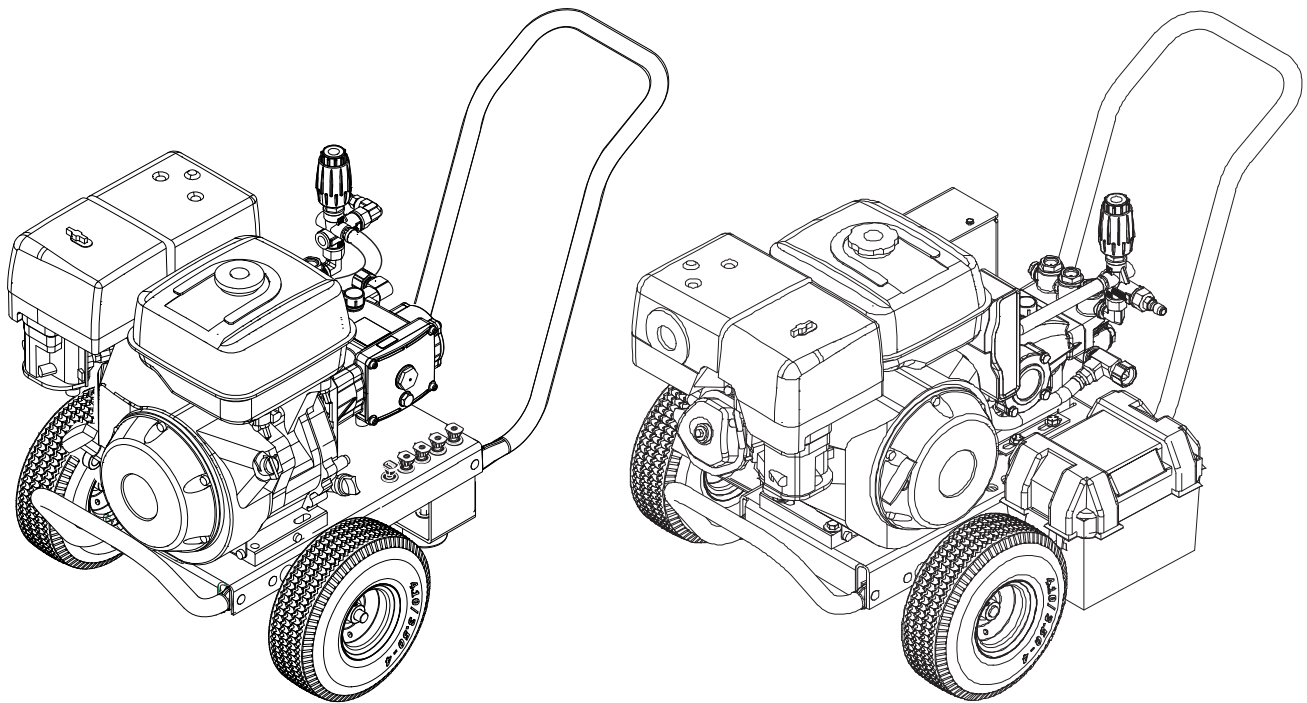


SERVICE MANUAL

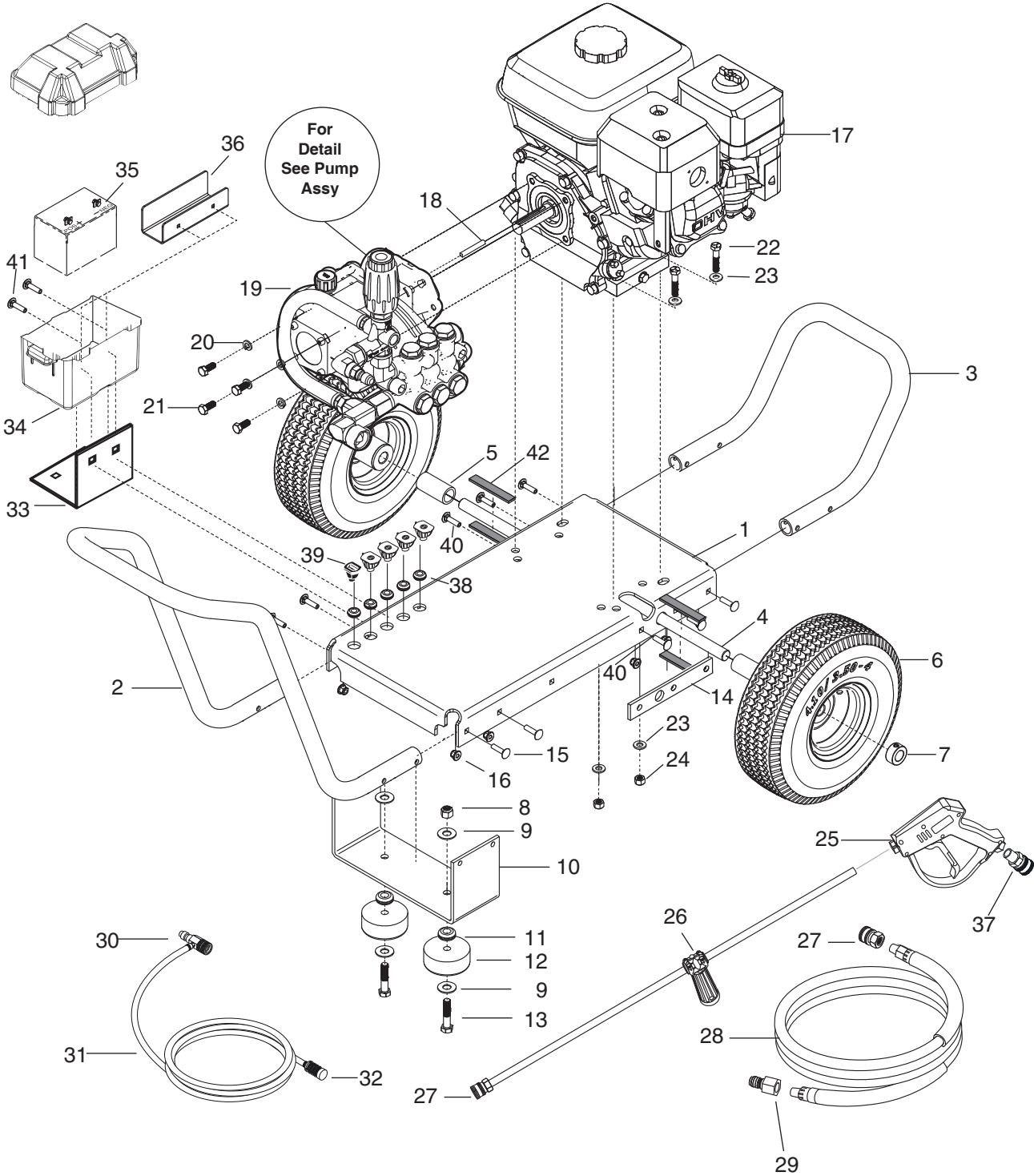


MODEL #
HD 3.0/27 G
HD3.0/27 GB
HD 3.4/35 G
HD 3.3/35 GB
HD 4.0/40 G
HD 4.0/40 GB
HD 4.0/40 Ge
HD 4.0/40 GeB

ORDER #
1.107-270.0
1.107-271.0
1.107-272.0
1.107-273.0
1.107-274.0
1.107-275.0
1.107-276.0
1.107-277.0

EXPLODED VIEW

HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge



EXPLODED VIEW PARTS LIST

HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge

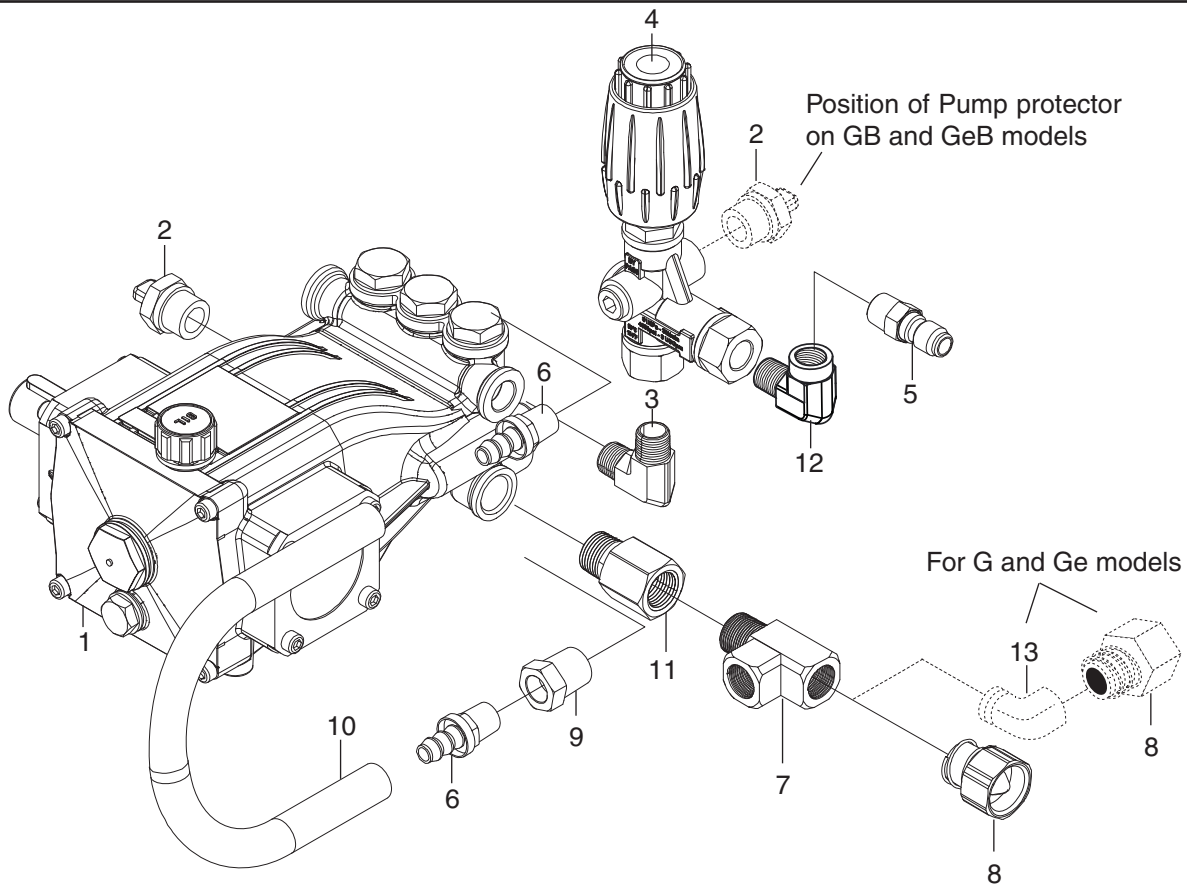
ITEM	PART NO.	DESCRIPTION	QTY
1	8.924-115.0	Al Base Direct Drive CW	1
2	8.924-394.0	Al Handle CW	1
3	8.924-393.0	Al Bumper CW	1
4	8.924-233.0	Axle, 5/8" x 21.750" Long CW (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	1
	9.803-097.0	Axle, 5/8 X 20.125 Long (HD 3.0/27 G)	1
5	8.924-072.0	AL Spacer Tube DD Frame CW (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	2
	8.924-179.0	AL Spacer Tube DD Frame (HD 3.0/27 G)	2
6	8.711-898.0	Wheel & Tire Assy, 4" Steel Rim, Flat Pro	1
7	9.802-782.0	Collar, 5/8" Bore Shaft 3010	2
8	9.197-003.0	3/8-16 Nylon Insert l/n zc 5um White	2
9	9.802-817.0	Washer, 3/8" x 1"	4
10	8.924-116.0	Foot AL DD Frame CW (All Models)	1
11	9.802-064.0	Grommet, Rubber, Nozzle Holder	2
12	9.802-066.0	Pad Soft Rubber	2
13	9.196-041.0	Hex Head Bolt 3/8-16 x 1-3/4"	2
14	8.924-074.0	Camaro Silver Axle Holder	2
15	9.802-706.0	Bolt, 1/4"-20 x 1-3/4" Carriage Zinc (HD 3.0/27 G)	8
	9.802-706.0	Bolt, 1/4"-20 x 1-3/4" Carriage Zinc (HD 4.0/40 G, HD 4.0/40 Ge)	7
16	9.197-010.0	1/4-20" Nylon Insert Lock Nut With Flange	10
17	9.802-317.0	Engine, Honda, GX200, 6.5 hp (HD 3.0/27 G)	1
	8.750-680.0	Engine, Honda GX270, 9hp (HD 3.5/35 G)	1
	8.750-580.0	Engine, Honda, GX390, 13hp (HD 4.0/40 G)	1
	8.750-581.0	Engine, Honda GX390, 13HP E/S (HD 4.0/40 Ge)	1
18	9.802-958.0	Key, 0.185 SQR X 1.75' (HD 3.0/27 G)	1
	9.802-959.0	Key, 0.247 SQR X 2.125" (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	1
19	8.754-756.0	Pump, Leuco LP3035G, 3.0@3500, 3400 RPM (HD 3.0/27 G)	1
	8.754-758.0	Pump, Leuco LP3535G1, 3.0@3500, 3400 RPM (HD 3.4/35 G)	1
	8.750-753.0	Pump, Leuco LS4040G.3, 4@4000, 3400 RPM (HD 4.0/40 G, HD 4.0/40 Ge)	1
20	9.802-813.0	Washer, 5/16" Split Ring Lock, Zinc (HD 3.0/27 G)	4
	9.802-814.0	Washer, 3/8" Split Ring Lock, Zinc (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	4
21	8.718-618.0	Bolt, 5/16-18 x 3/4", hh gr 5 Cr Zinc (HD 3.0/27 G)	4
	9.802-722.0	Bolt, 3/8 X 1-1/4", NC HH (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	4
22	9.802-713.0	Bolt, 5/16" X 1-1/2", NC HH (HD 3.0/27 G)	4
	9.196-041.0	Hex Head Bolt 3/8-16 x 1-3/4 (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	4
23	8.718-980.0	Washer, 5/16" Flat, SAE (HD 3.0/27 G)	8
	9.802-817.0	Washer, 3/8" x 1" (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	8
24	9.802-776.0	Nut, 5/16-18, ESNA (HD 3.0/27 G)	4
	9.197-003.0	3/8-16 NE Nylon Insert L/N ZC 5UM White (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	4
25	8.750-247.0	Trigger Gun Model m407 (All Models)	1
26	8.783-039.0	Wand 30" Zinc Plated, Handle & Coupler (HD 3.0/27 G)	1
	8.783-040.0	Wand 44" Zinc Plated, Handle & Coupler (HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	1
27	9.802-166.0	Coupler, 3/8" Socket, Female, Brass	2
28	8.916-740.0	Hose, 3/8" x 50', 1w, TS, SOXSW	1
29	9.802-170.0	Coupler, 3/8" Plug, Female, Steel Zinc	1
30	9.802-216.0	Injector, Chem, Non Adj, 0.083	1
31	6.388-216.0	Hose DN 5	3.2 ft.
32	5.731-652.0	Filter with weight	1
33	8.924-120.0	Al Battery Support CW (HD 4.0/40 Ge)	1
34	8.706-652.0	Battery Box, Small (HD 4.0/40 Ge)	1
35	8.755-219.0	Battery, Sealed, D18S	1

EXPLODED VIEW PARTS LIST

HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge

ITEM	PART NO.	DESCRIPTION	QTY
38	8.755-187.0	Grommet, Rubber, Nozzle Holder Base 3/16	5
39	8.712-337.0	Nozzle, SAQCMEG, 0003.5, Red (HD 3.0/27 G, HD 3.4/35 G)	1
	8.712-345.0	Nozzle, SAQCMEG 0004, Red (HD 4.0/40 G, HD 4.0/40 Ge)	1
	8.712-338.0	Nozzle, SAQCMEG 1503.5, Yellow (HD 3.0/27 G, HD 3.4/35 G)	1
	8.712-346.0	Nozzle, SAQCMEG 1504, Yellow (HD 4.0/40 G, HD 4.0/40 Ge)	1
	8.712-339.0	Nozzle, SAQCMEG, 2503.5, Green (HD 3.0/27 G, HD 3.4/35 G)	1
	8.712-347.0	Nozzle, SAQCMEG 2504, Green (HD 4.0/40 G, HD 4.0/40 Ge)	1
	8.712-340.0	Nozzle, SAQCMEG 4003.5, White (HD 3.0/27 G, HD 3.4/35 G)	1
	8.712-348.0	Nozzle, SAQCMEG 4004, White (HD 4.0/40 G, HD 4.0/40 Ge)	1
	8.712-398.0	Nozzle kpl., QCCEM-6540 Mess. (CHEM) (All Models)	1
40	8.755-187.0	Grommet, Rubber, Nozzle Holder Base 3/16	5
41	8.755-187.0	Grommet, Rubber, Nozzle Holder Base 3/16	5
42	9.802-073.0	Weatherstrip, 1/8" x 1/2"	12"

PUMP ASSEMBLY EXPLODED VIEW

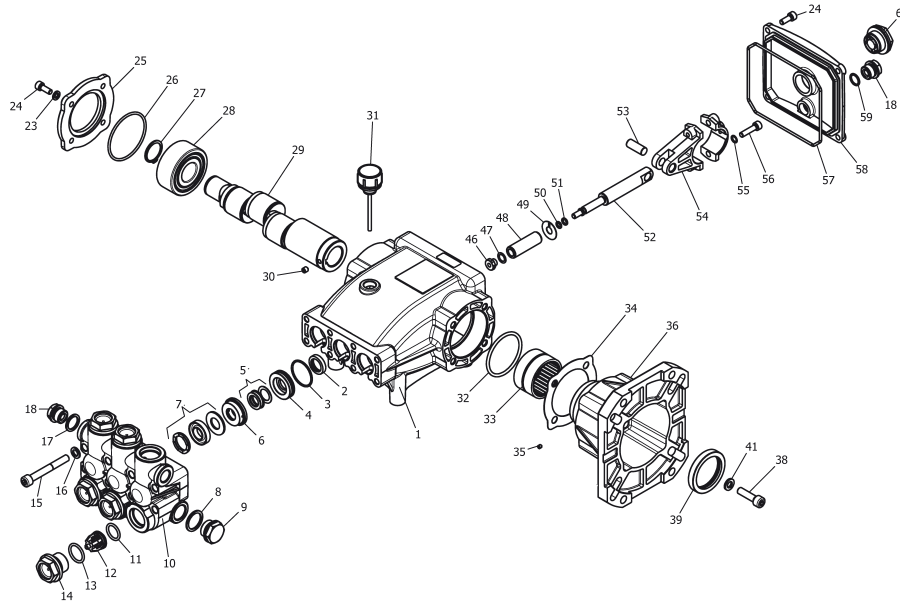


PUMP ASSY EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.754-751.0	Pump, Leuco LB3030R, 3.0@3000, 1650 RPM (HD 3.0/27 GB)	1	4	8.750-299.0	Unloader, Vrt3, 8 GPM @4500 psi (All Models)	1
	8.750-755.0	Pump, Leuco LM3540R.3 3.5@ 4000 1850RPM (HD 3.3/35 GB)	1	5	9.802-171.0	Coupler, 3/8" Clug, Male, Steel/zinc (All Models)	1
	8.755-216.0	Pump, Leuco LM3840R.3, 3.8@4000 1740 RPM (HD 4.0/40 GB)	1	6	8.706-944.0	Hose Barb, 3/8' barb x 3/8' ml pipe (All Models)	2
	8.754-756.0	Pump, Leuco LP3035G, 3.0@3500, 3400 RPM (HD 3.0/27 G)	1	7	8.706-860.0	Tee, 1/2" Street, Brass (All Models)	1
	8.754-758.0	Pump, Leuco LP3535G1, 3.5@3500, 3400RPM (HD 3.4/35 G)	1	8	9.802-146.0	Swivel, 1/2" mp x 3/4" ghf w/Strainer (All Models)	1
	8.750-753.0	Pump, Leuco LS4040G. 3, 4@4000, 3400 RPM (HD 4.0/40 G, HD 4.0/40 GE)	1	9	8.706-917.0	Bushing, 1/2" x 3/8", Brass p/n-5406 (All Models)	1
2	8.707-256.0	Pump protector, 1/2" (HD 3.0/27G, HD3.4/35G, HD4.040G, HD4.0/40Ge)	1	10	8.711-785.0	Hose, 3/8" Push on, per ft (All Models)	18"
	8.707-254.0	Pump protector, 3/8" (HD3.0/27 GB, HD3.3/35 GB, HD4.0/40GB, HD4.0/40Ge)	1	11	8.706-984.0	Adapter, 1/2" fptx 1/2" mpt, Brass (HD 3.0/27 G, HD 3.0/27GB, HD, HD 3.4/35 G)	1
3	8.706-168.0	Elbow, 3/8" NPT-p/n- tf3529x6 Steel (All Models)	1	12	8.706-207.0	Elbow, 3/8", Street 90 deg, Steel (HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40 Ge)	1
				13	8.706-829.0	Elbow, 1/2" Street, Brass (HD3.0/27G, HD 3.4/35G, HD4.0/40G, HD4.0/40Ge)	1

LS 4040G PUMP EXPLODED VIEW

8.750-753.0 LS4040G



TORQUE SPECS	
Item #	Ft.-lbs
14	75
15	30
24	7.6
38	10
46	7
56	13

LS4040G PUMP PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.751-217.0	Crankcase	1	33	9.803-161.0	Needle Roller Bearing	1
2	See Kit Below	Plunger Oil Seal	3	34	8.751-230.0	Gasket	1
3	See Kit Below	O-Ring 1.78 x 31.47	3	35	8.717-544.0	Screw, Set	1
4	See Kit Below	Pressure Ring	3	36	9.803-183.0	Engine Flange	1
5	See Kit Below	U-Seal, 15mm	3	38	9.803-240.0	Flange Screw	4
6	See Kit Below	Intermed, Ring 15mm	3	39	9.803-142.0	Crankshaft Seal	1
7	See Kit Below	U-seal, 15mm	3	41	9.803-221.0	Sprong Washer	4
8	9.803-199.0	Copper Washer 1/2"	1	46	See Below	Plunger Nut, M6	3
9	9.802-926.0	Brass Plug, 1/2"	1	47	See Below	Washer, coper, 9.2 x 13.5	3
10	8.751-218.0	Manifold Housing	1	48	See Below	Plunger, 15mm	3
11	9.803-191.0	O-Ring 2.62 x 17.13	1	49	See Below	Copper Spacer	3
12	See Kit Below	Valve Assembly	6	50	See Below	O-Ring 0.78 X 5.28	3
13	9.803-193.0	O-Ring 2.62 x 20.29	6	51	See Below	Teflon Ring	3
14	9.802-928.0	Valve Plug	6	52	8.751-225.0	Plunger Rod	3
15	9.802-938.0	Manifold Stud Bolt	8	53	8.751-228.0	Connecting Rod Pin	3
16	9.802-884.0	Washer	8	54	9.803-158.0	Connecting Rod	3
17	9.803-198.0	Copper Washer 3/8"	1	55	5.803-218.0	Spring Washer	6
18	9.802-925.0	Brass Plug 3/8"	2	56	9.803-238.0	Connecting Rod Screw	6
23	9.803-210.0	Washer, M6 x 16	4	57	8.933-016.0	O-Ring 2.62 x 126.67	1
24	9.802-939.0	Hexagonal Screw	9	58	8.751-229.0	Crankcase Cover	1
25	9.803-184.0	Closed Bearing Housing	1	59	9.803-197.0	O-Ring, 1.78 X 14	1
26	8.717-225.0	O-Ring 2.62 x 61.6	1	60	9.803-202.0	Sight Glass, G 3/4	1
27	9.802-914.0	Snap Ring	1	* Part available in Kit			
28	9.803-168.0	Double Row Ball Bearing	1				
29	9.803-152.0	Crankshaft	1				
30	9.802-945.0	Set Screw	1				
31	9.802-921.0	Oil Dip Stick	1				
32	9.804-581.0	O-Ring 3.53 x 55.56	1				

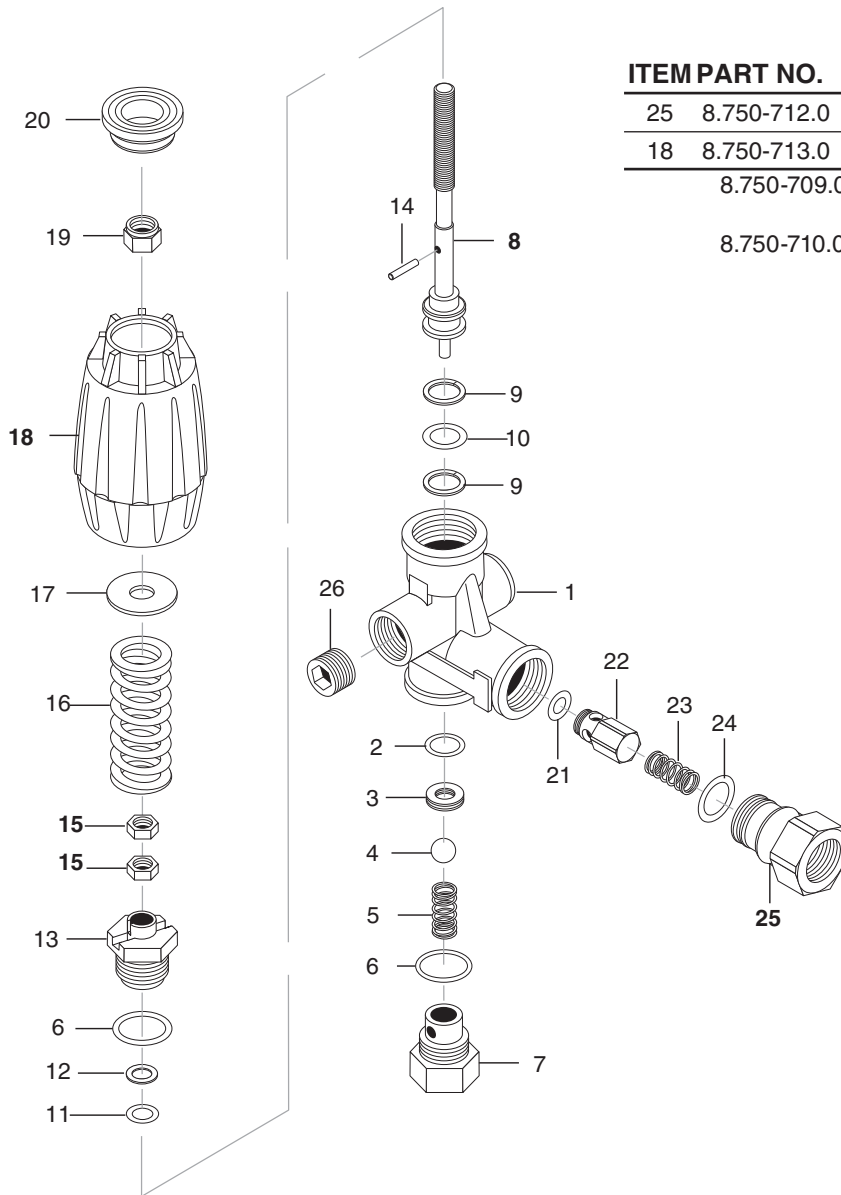
REPAIR KIT NUMBER	8.725-358.0	8.725-359.0	8.933-023.0	9.802-603.0	9.802-609.0
KIT DESCRIPTION	Plunger U-Seal 15 mm	Complete U-Seal Packing 15 mm	Plunger 15 mm	Complete Valve	Plunger Oil Seals
ITEM NUMBERS INCLUDED	3, 5, 7	3, 4, 5, 6, 7	46, 47, 48, 49, 50, 51	11, 12, 13	2
NUMBER OF CYLINDERS KIT WILL SERVICE	3	1	1	6	3

VRT3 UNLOADER EXPLODED VIEW AND PART S LIST

8.750-297.0, 8 GPM, 2320 PSI

8.750-298.0, 8 GPM, 3630 PSI

8.750-299.0, 8 GPM, 4500 PSI



ITEM	PART NO.	DESCRIPTION	QTY
25	8.750-712.0	Outlet Fitting	1
18	8.750-713.0	Knob, Unloader	1
	8.750-709.0	Repair Kit, VRT3, 2320/3630 PSI	
	8.750-710.0	Repair Kit, VRT3, 4500 PSI (Kit Items: 1, 4, 8-12, 16, 21-22)	

Unloader Adjustment Procedures

1. Remove lock nut (Item 19).
2. Remove adjustment knob (Item 18).
3. Loosen the two (2) nuts (Item 15), move them upward on stem (Item 8) until you see 4 or more threads below the nut.
4. Re-attach adjusting knob (Item 18).
5. Start machine. Open the trigger of the spray gun. Increase pressure by turning adjustment knob (Item 18) clockwise until pressure is at the desired operating pressure.
6. Remove the adjustment knob (Item 18), tighten the lower nut (Item 15) tightly against the upper nut (Item 15). Reattach adjustment knob (Item 18) and screw down until contact is made with the nuts (Items 15). Screw down lock nut (Item 19) onto the stem (Item 8) until the threads cut into the nylon insert of the lock nut (Item 19).

*If adjustment knob (Item 18) DOES NOT make contact with upper nut (Items 15), remove adjusting knob (Item 18), re-adjust (raise) nuts (Items 15) on stem (Item 8) and re-attach adjustment knob (Item 18), then repeat step #6.

**If adjustment knob (Item 18) DOES make contact with upper nut; release the trigger of the spray gun and watch the pressure gauge for the pressure increase ("spike"). This "spike" SHOULD NOT exceed 500 psi above the operating pressure. If "spike" pressure exceeds the 500 psi limit, remove the adjusting knob (Item 18) and re-adjust (lower) the nuts (Items 15) on the stem (Item 8).

Re-attach the adjusting knob (Item 18), then repeat step #6.

TROUBLESHOOTING

For Models: HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40Ge

PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW OPERATING PRESSURE	Insufficient water supply. Closed faucet. Inlet hose kinked	Use larger garden hose; clean inlet water screen. Open faucet.
	Clogged inlet hose strainer	Check plumbing system for leaks. Retape leaks with teflon tape.
	Faulty or mis-adjusted unloader valve	Adjust unloader for proper pressure. Install repair kit when needed. Call local distributor.
	Worn packing in pump	Call Dealer Customer Support.
	Machine has been stored in freezing temperatures	Thaw out machine completely, including hose, spray gun and wand.
	Slow engine RPM	Call local distributor.
FLUCTUATING PRESSURE	Worn or dirty pump valves	Call local distributor.
	Nozzle is obstructed	Blow out or remove debris with fine needle.
	Pump sucking air, inlet hose leaking	Check that all hoses and fittings are airtight. Turn off machine and trigger spray gun until a steady flow of water emerges through the nozzle.
	Insufficient water supply	Turn water on full force. Check garden hose for kinks, leaks or blockage.
PRESSURE LOW AFTER PERIOD OF NORMAL USE	Nozzle worn	Replace nozzle.
	Unloader valve worn	Replace unloader valve.
ENGINE WILL NOT START OR STOPS WHILE OPERATING	Low oil shutdown	Fill engine with oil.
	Out of gas	Fill fuel tank.
	Water in gasoline	Drain gas tank; fill with clean fuel.
ENGINE IS OVERLOADED	Nozzle partially blocked	Clean nozzle.
	Excessive pressure from high engine RPM	Adjust engine throttle to lower RPM.
WATER OR OIL LEAKING FROM BOTTOM OF PUMP	A small amount of leaking is normal	If excessive leaking occurs, call local distributor.
PRESENCE OF WATER IN PUMP OIL	Water sprayed at machine	Change oil. Direct spray away from machine.
	High humidity in air	Check and change oil twice as often.
	Piston packing worn. Oil seal worn.	Call local distributor.

TROUBLESHOOTING

For Models: HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40Ge

PROBLEM	POSSIBLE CAUSE	SOLUTION
ENGINE OPERATES FOR 15 MINUTES THEN STOPS	Not enough gas or engine oil	Fill tank with gas. Check oil level.
	Vapor lock developed by heat of day	Keep gas tank full to avoid vapor locking.
	Obstruction in fuel filter	Clean or replace fuel filter.
ENGINE LACKS POWER	Dirty air filter	Replace air filter.
ENGINE FALTERS	Choke is opened too soon	Move choke to halfway position until engine runs smoothly.
WATER DRIPPING FROM UNDER PUMP	Piston packing worn	Call local distributor.
	O-Ring plunger retainer worn	Call local distributor.
	Cracked piston	Call local distributor.
OIL DRIPPING FROM UNDER PUMP	Oil seal worn or damaged	Call local distributor.
WATER LEAKING FROM PUMP PROTECTOR	Spray gun closed with machine running 5 minutes or longer	Open spray gun or turn off machine.
	Excess water supply pressure	Place a pressure regulator at end of 50' garden hose.
NO DETERGENT	Detergent suction tube not properly connected to machine	Check connection.
	Detergent is too thick	Dilute detergent. For best results, use manufacturers detergent.
	Detergent filter valve is at lowest setting	Set detergent filter valve to a higher setting.
	Filter on detergent suction tube is clogged	Run warm water through filter to remove debris.
	Damaged or clogged detergent suction tube	Remove obstruction or replace detergent suction tube.
	A high pressure nozzle is attached.	Replace with black detergent nozzle.
	Discharge nozzle is obstructed	Blow out or remove debris with fine needle.
GARDEN HOSE CONNECTION LEAKS	Loose fittings	Tighten fittings.
	Missing/worn rubber washer	Insert new washer.
SPRAY WAND LEAKS	Spray wand not properly attached	Slide the spray wand into the gun. Turn the wand collar clockwise onto the spray gun threads until tight.
	Broken o-ring	Call local distributor and order an o-ring.
PUMP IS NOISY	Pump is sucking air	Check that hoses and fittings are air tight. Turn off machine and purge pump by squeezing trigger gun until a steady flow of water emerges through nozzle.

PREVENTATIVE MAINTENANCE

For Models: HD 3.0/27 G, HD 3.4/35 G, HD 4.0/40 G, HD 4.0/40Ge

This pressure washer was produced with the best available materials and quality craftsmanship. However, you as the owner have certain responsibilities for the correct care of the equipment. Attention to regular preventative maintenance procedures will assist in preserving the performance of your equipment. Contact your dealer for maintenance. Regular preventative maintenance will add many hours to the life of your pressure washer. Perform maintenance more often under severe conditions. Check pump oil and engine oil level before first use of your new pressure washer.

MAINTENANCE SCHEDULE

Engine Oil	Inspect	Daily
	Change	First month or 20 hours. Every 100 hours or every 6 months after first month
	Filter	Every 50 hours
Air Cleaner/Filter	Inspect	Every 50 hours
	Clean	Monthly
Engine Fuel Filter		500 hours or 6 months
Spark Plug Maintenance		300 hours or annually
Clean Fuel Tank(s)		Annually
Replace Fuel Lines		Annually
Pump Oil	Inspect	Oil level daily
	Change	After first 50 hours, then every 500 hours or annually
Replace High Pressure Nozzle		Every 6 months
Replace Quick Connects/O-Rings		Annually/As needed
Clean Water Screen/Filter		Weekly
Replace HP Hose		Annually (if there are any signs of wear)

KNA, Inc. 4555 Airport Way Denver, CO 80239

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