

INSTRUCTIONS-PARTS LIST



306-980

Rev E
SUPERSEDES D

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

VISCOUNT® HYDRAULIC MOTORS

1000 psi (69 bar) MAXIMUM HYDRAULIC INPUT PRESSURE

Model 208-270

Used in Viscount 3000 Hydraulic Pump*

Model 207-393 Series E

LESS SHIELD AND MOTOR BASE

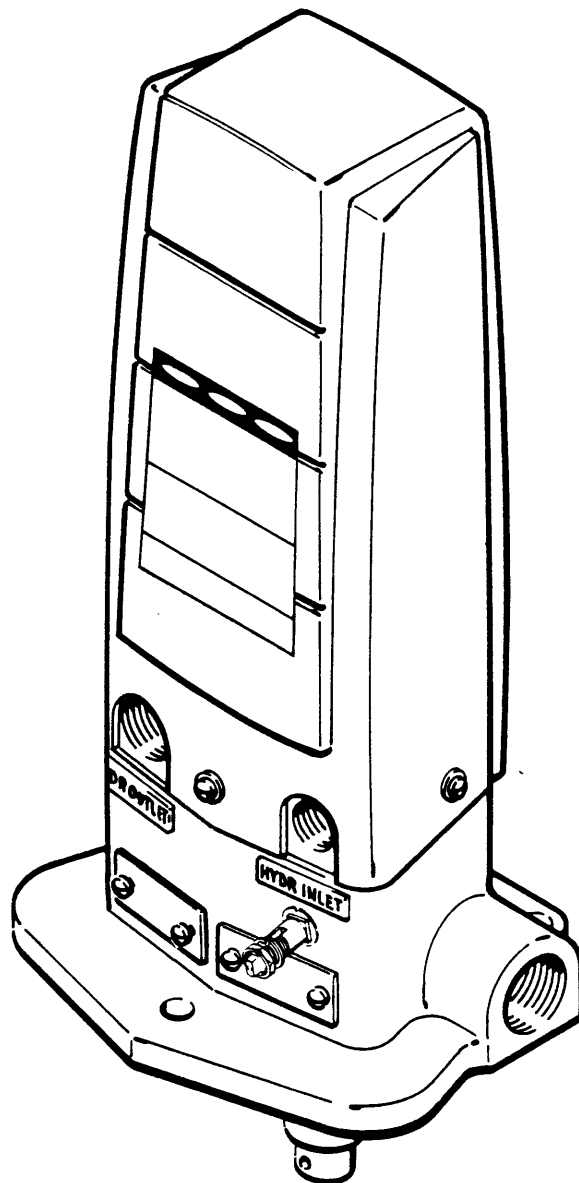
Used in EH-333 Hydra Spray Paint Sprayers

Model 208-918 Series B

LESS SHIELD AND MOTOR BASE

Used in EH-433 Hydra Spray Paint Sprayers

*Model 208-270 can be adapted to replace existing
air motors—contact Graco Fluid Systems Division,
9451 West Belmont, Franklin Park, Illinois 60131.
Phone: (312)678-7200.



WARNING

Pressure Relief Procedure

Always relieve pressure from the whole system before installing, removing or cleaning any parts **to avoid possible injury from high pressure fluid in the system.** Also use this procedure when you are done spraying for awhile.

Always follow this procedure: turn off the hydraulic fluid power source, trigger the spray gun, engage the gun safety latch and other equipment safety locks and open any drain or bleeder valves. Leave the drain and bleeder valves open until ready to pressurize the system again.

TO CHECK HYDRAULIC FLUID INPUT PRESSURE relieve pressures, remove shield (41) and plug (3) and install a pressure gauge as shown in ACCESSORIES. Turn on hydraulic power pack and compare the readings of the power pack and test gauges. The readings should be the same or the test gauge reading may be slightly less depending on the supply line length.

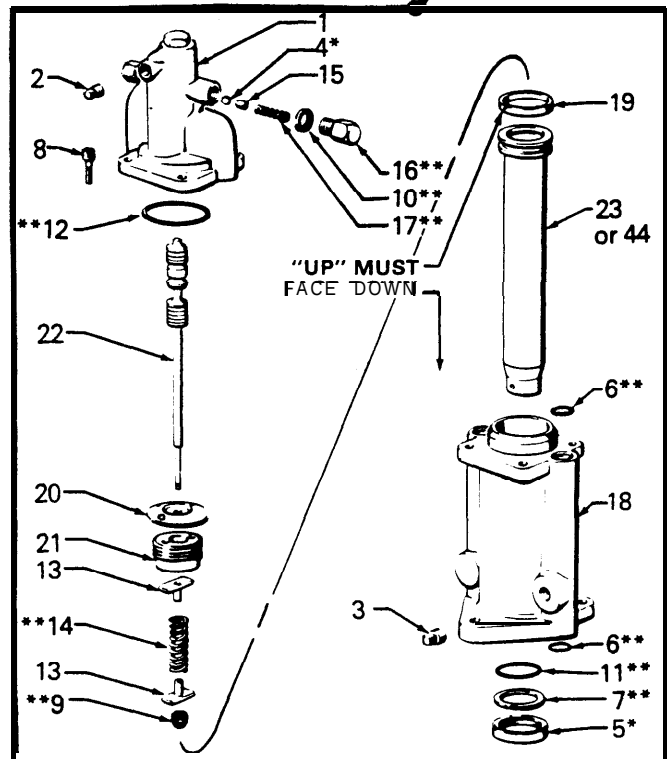
NOTE: Use a gauge with at least twice the test pressure range. The accessory gauge shown on back cover has sufficient range for testing a 1000 psi (69 bar) system.

TO SERVICE HYDRAULIC MOTOR, unscrew two retaining plugs (16) from the housing (1) or (26). Remove springs (17), ball guides (15) and balls (4). Remove

PARTS DRAWING

Model **207-393** Series E
VISCOUNT HYD. MOTOR;
bare w/short piston, threaded 1/2-13
Includes items I-23

Model **208-918** Series B
VISCOUNT HYD. MOTOR;
bare w/short piston, threaded 5/8-11
Includes I-22, 44



screws (8) and lift the housing straight up off spool (22). Be careful not to tilt housing and bind spool. Remove o-rings (6) from housing. Carefully pull piston (23, 44 or 27) with spool (22) straight up out of housing (18 or 29) and cover housing with a clean, lint free rag. Unscrew locknut (9) from spool shaft and remove spring (14) and retainers (13). Clean and inspect all parts carefully, replacing any worn or damaged parts.

Reassemble motor using new seals and gaskets. Be sure housing surfaces are completely clean before assembling. Use "Locktite" Grade "C" on threads of screws (8).

TO REPLACE BARE HYDRAULIC MOTOR (25) relieve pressures and remove pump from mounting. Disconnect hydraulic piston (27) from the connecting rod of complete pump, take out the three cap screws (30) holding motor to base and lift motor straight up. See parts drawing on page 3.

TO REPLACE SEALS IN BASE (38) relieve pressures and remove pump from mounting. Disconnect motor from base as explained above. Remove the o-rings (34), seal retainer (36), and seal (33) from base cavity and install new parts if worn or damaged.

NOTE: Piston rod wiper seal (33) is pressed into base (38), or housing (18). Inspect in place-do not remove unless definite damage is apparent.

PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY
1	214-040	HOUSING, hyd. motor	1
2	100-139	PLUG, pipe headless, 1/8 npt	1
3	100-509	PLUG, pipe: 1/4 npt	1
4	101-701	BALL, steel: 1/4" dia.	2
5	1g2-591	SEAL, plate enclosed	1
6	**104-130	PACKING, o-ring; nitrile rubber	4
7	*182646	BACK-UP, o-ring	1
8	102-962	SCREW, soc hd cap; 5/16-18 x 1-1/4"	4
9	*1g3336	NUT, hex, self-lock; 1/4-28 thd size	1
10	**150-111	GASKET, copper	2
11	*156688	O-RING; nitrile rubber	1
12	*162841	O-RING; nitrile rubber	1
13	167-104	GUIDE, trip shaft	2
14	**167-105	SPRING, helical compression	1
15	187-210	GUIDE, ball	2
16	*167431	PLUG, spring retaining	2
17	*187-432	SPRING, helical compression	2
18	167-726	HOUSING	1
19	167-742	RING, piston	1
20	169-809	STOP, spool	1
21	169-810	RETAINER	1
22	169812	SPOOL, valve	1
23	170-254	PISTON, 1/2-13 thd	1
44	170955	PISTON, 5/8-11 thd	1

**Supplied in repair kit 208-365.

208-365 REPAIR KIT

(Must be purchased separately)

Consists of:

Ref No.	Qty.
6	2
7	1
9	1
10	2
11	1
12	1
14	1
16	2
17	2

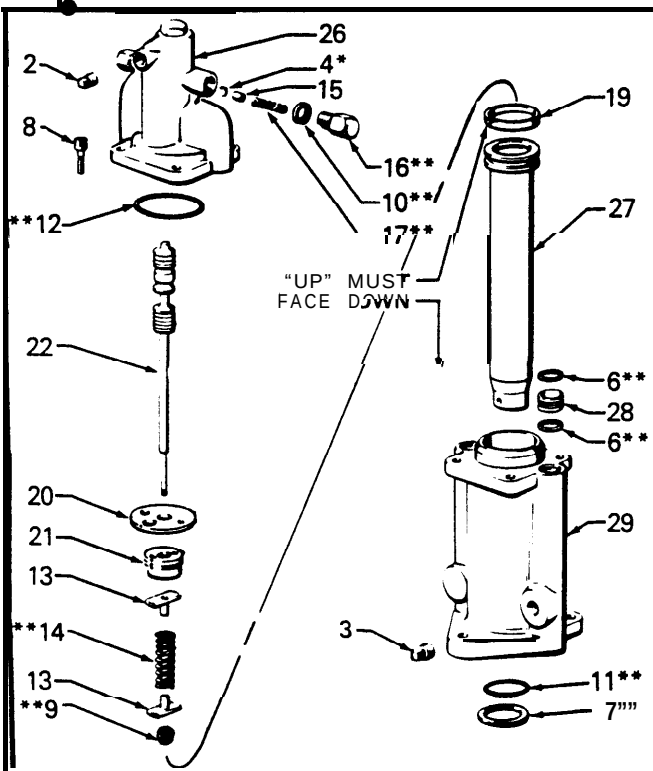
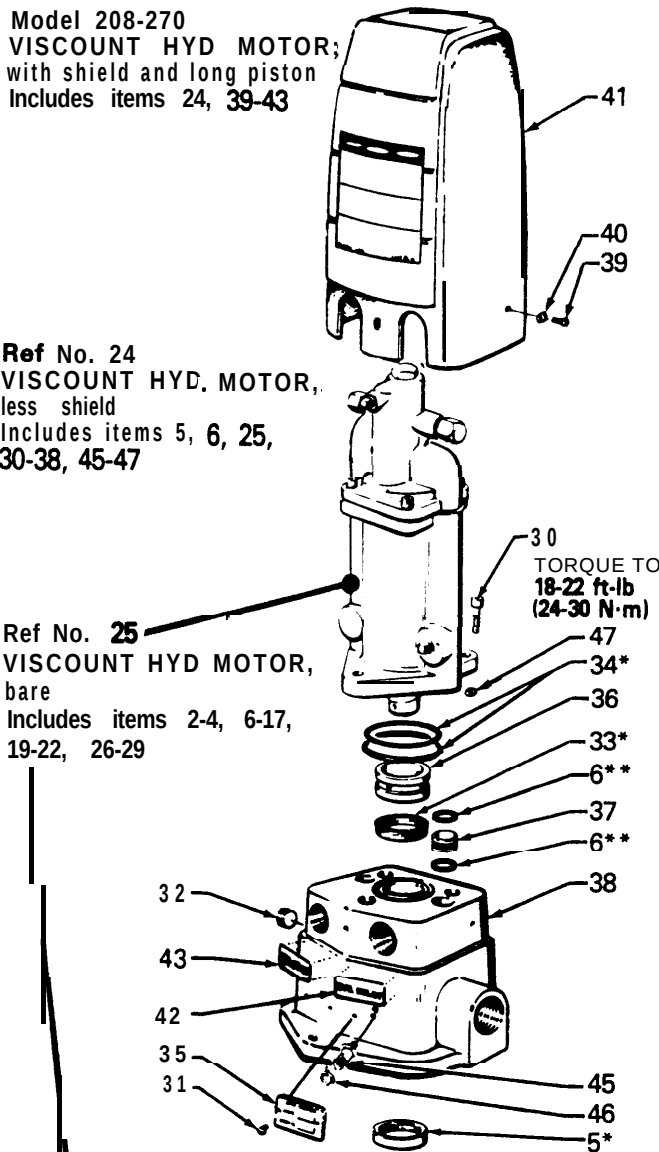
Also includes 161-572 O-ring for plug in top of housing (1 or 26), and 102385 & 102386 Retaining Rings and 102-920 Locknut for repairing Series C version of 207393.

PARTS DRAWING

Model 208-270
VISCOUNT HYD MOTOR;
with shield and long piston
Includes items 24, 39-43

Ref No. 24
VISCOUNT HYD. MOTOR,
less shield
Includes items 5, 6, 25,
30-38, 45-47

Ref No. 25
VISCOUNT HYD MOTOR,
bare
Includes items 2-4, 6-17,
19-22, 26-29



PARTS LIST

REF NO.	PART NO.	DESCRIPTION	QTY
24	208-666	VISCOUNT HYD. MOTOR; less shield;	1
	Series C	Includes items 5, 6, 25, 30-38, 45-47	1
5	*102-591	SEAL, plate enclosed	1
6	*104-130	PACKING, o-ring; nitrile rubber	4
25	217508	VISCOUNT HYD. MOTOR, bare	1
	Series A	Includes items 2-4, 6-17, 19-22, 26-29	1
2	100-139	PLUG, pipe: headless, 1/8 npt	1
3	100-509	PLUG, pipe; 1/4 npt	1
4	101-701	BALL, steel; 1/4" dia.	2
6	**104-130	PACKING, o-ring; nitrile rubber	4
7	**102-640	BACK-UP, o-ring	1
8	102982	SCREW, soc hd cap; 5/16-18 x 1-1/4"	4
9	*103-336	NUT, hex, self-lock; 1/4-28 thd size	1
10	*158-111	GASKET, copper	2
11	*156698	O-RING; nitrile rubber	1
12	*162-841	O-RING; nitrile rubber	1
13	167-104	GUIDE, trip shaft	2
14	**167-105	SPRING, helical compression	1
15	167-210	GUIDE, ball	1
16	*167-431	PLUG, spring retaining	2
17	*167-432	SPRING, helical compression	1
19	167-742	RING, piston	1
20	169-889	STOP, spool	1
21	169810	RETAINER	1
22	169812	SPOOL, valve	1
26	214-041	HOUSING, hyd. motor	1
27	169811	PISTON, 9-3/8" lg; 5/8-11 thd	1
28	170-388	RETAINER, o-ring	2
29	178-889	HOUSING	1
30	107-019	SCREW, soc hd cap; 3/8-16 x 1-1/4"	3
31	101-330	SCREW, type "u" drive; no. 2 x 1/4	2
32	103-147	PLUG, pipe	1
33	lg3-194	SEAL, plain	1
34	157-195	O-RING, nitrile rubber	2
35	169456	PLATE, designation	1
36	170-387	RETAINER, seal	1
37	170388	RETAINER, o-ring	2
38	178870	BASE, hyd. motor	1
39	100-078	SCREW, rd hd mach; No. 8-32 x 1"	3
40	102-360	WASHER, flat	3
41	218-698	SHIELD (includes Warning Label)	1
42	169933	LABEL, hydraulic inlet	1
43	169934	LABEL, hydraulic outlet	1
45	104-029	CLAMP, ground wire	1
46	164-582	WASHER, tab lock	1
47	176-240	SHIMS	3

*Recommended "tool box" spare parts. Keep on hand to reduce down time.

**Supplied in repair kit 208-365 (see page 2).

Order parts by name and series letter of the assembly for which you are ordering.

SERVICE INFORMATION

Listed below by the assembly changed are OLD, NEW and DELETED parts.

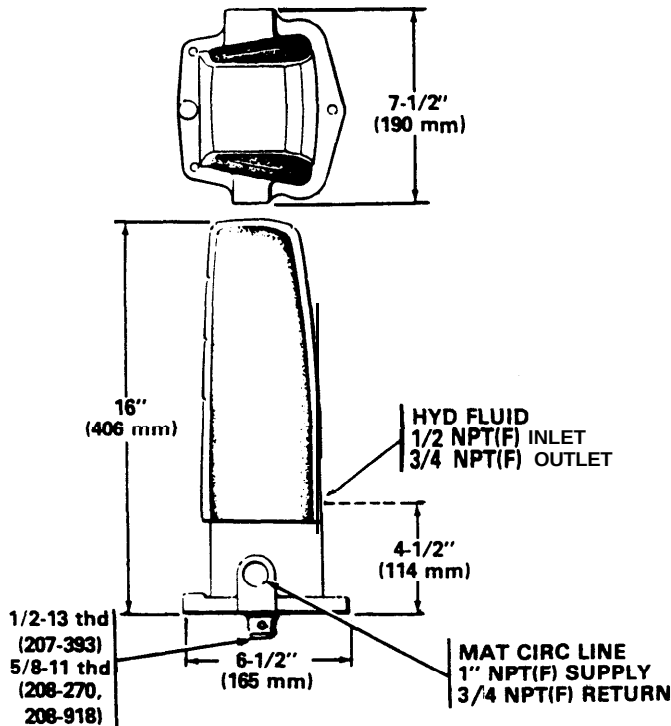
ASSEMBLY CHANGED	PART STATUS	REF PART NO.	PART NO.	NAME
208-666	OLD	208-665	Motor (Series B)	
Series to C	NEW	25 217-508	Motor (Series A)	
	OLD	170-390	Housing	
	OLD	100-659	Screws	
	OLD	170-391	Base	
	NEW	29 178-889	Housing	
	NEW	30 107-019	Screws	
	NEW	38 178-870	Base	
	DELETED	49 100-732	Lockwasher	
	DELETED	50 104-147	Nut	
208-270	OLD	169-453	Shield	
	NEW	41 218-098	Shield	
	DELETED	51 172-532	Label (included in 218-098)	

INTERCHANGEABILITY NOTE: NEW parts replace OLD parts listed directly above them.

TECHNICAL DATA

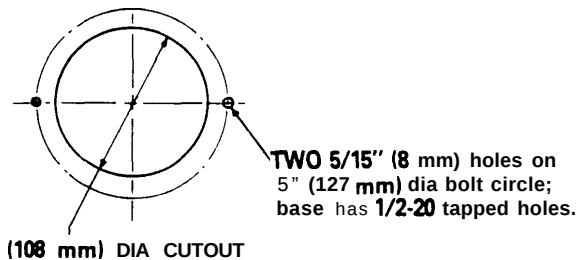
Fluid consumption rate	: 7 ounces (0.207 liter) per cycle or gal. per 18 cycles.
Effective piston area	: 1.48 sq. in. (9.55 cm ²)
Piston rod diameter	: 1-3/8 in. (34.9 mm)
Stroke	: 4 in. (101.6 mm)
Thrust at 1000 psi (69 bar)	: 1480 lb (672 k)
Hyd fluid inlet and outlet sizes	: 1/2 npt(f) and 3/4 npt(f)
Mat circ line supply & return sizes	: 1 in. & 3/4 npt(f) j-208-270 only
Maximum hyd fluid input pressure	: 1000 psi (69 bar)
Weight	: 15 lb (6.8 kg)

DIMENSIONAL DRAWING FOR MODEL 208-270

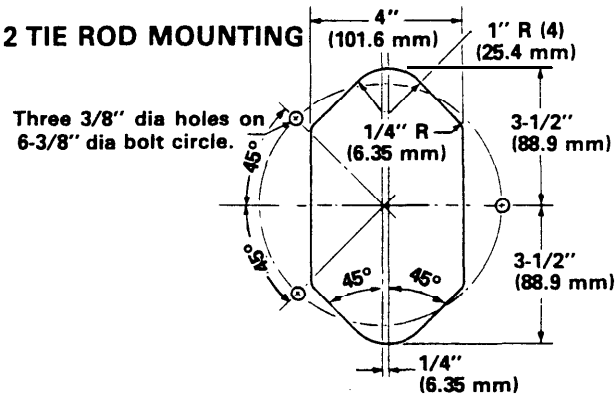


MOUNTING HOLE LAYOUTS FOR MODEL 208-270

3 TIE ROD MOUNTING



2 TIE ROD MOUNTING



ACCESSORIES

(Must be purchased separately)

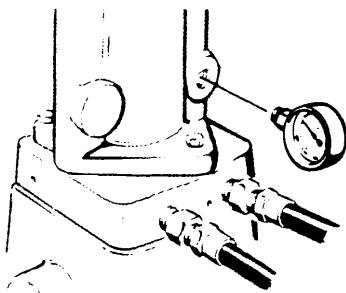
FLUID TEST GAUGE 102-814

5000 PSI (350 bar) MAXIMUM WORKING PRESSURE

Install to read pressure in hydraulic fluid system.

NOTE: KEEP DIRT OUT OF SYSTEM.

Remove gauge and replug after reading is made and replace shield.



MOUNTING GASKET 169-474

For Model 208-270



THE GRACO WARRANTY

Graco inc. warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship under normal use and service. This warranty extends to the original purchaser for a period of 12 months from the date of purchase and applies only when the equipment is installed and operated in accordance with written factory recommendations. This warranty does not cover damage or wear which, in the reasonable judgment of Graco, arises from misuse, abrasion, corrosion, negligence, accident, substitution of non-Graco parts, faulty installation or tampering.

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 workmanship or material, repairs will be made at a reasonable charge and return transportation will be charged.

THIS LIMITED WARRANTY IS EXCLUSIVE, AND IS 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.

EQUIPMENT NOT COVERED BY GRACO WARRANTY. Accessories or components of equipment sold by Graco that are not manufactured by Graco (such as electric motors, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making such claims.

Factory Branches: Atlanta, Dallas, Detroit, Los Angeles, West Caldwell (N.J.)
Subsidiary and Affiliate Companies: Canada; England; Switzerland; France; Germany; Hong Kong; Japan

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PARTS CHANGE NOTICE

The Repair Kits listed in Rev. E of manual 306-980 have changed but have not yet been changed in the instruction manual. Refer to the following lists of parts included in the repair kits. Please note these changes and mark them in your manual or keep this sheet with your manual.

Repair Kit 208-365 (for Hydraulic Motors 207-393 and 208-918)

Part No.	Description	Quantity
101-701	Ball	2
102-591	Seal, plate enclosed	1
102-640	Washer, backup	1
103-194	Seal, plain	1
103-336	Nut, hex	1
104-130	O-ring; nitrile rubber	8
150-111	Gasket; copper	2
156-698	O-ring; nitrile rubber	1
157-195	O-ring; nitrile rubber	2
161-572	O-ring; nitrile rubber	1
162-841	O-ring; nitrile rubber	1
167-105	Spring, helical compression	1
167-431	Spring, retainer	2
167-432	Spring, helical compression	2

NOTE: Instructions are included with the repair kit. The kit also includes part nos. 102-385 and 102-386 retaining rings and 102-920 lock nut, which were used on earlier models of the motor.

Repair Kit 224-073 (for Hydraulic Motor 208-270)

Part No.	Description	Quantity
102-591	Seal, plate enclosed	1
102-640	Washer, backup	1
103-194	Seal, plain	1
103-336	Nut, hex	1
104-130	O-ring; nitrile rubber	8
150-111	Gasket; copper	2
156-698	O-ring; nitrile rubber	1
157-195	O-ring; nitrile rubber	2
162-841	O-ring; nitrile rubber	1
167-105	Spring, helical compression	1
167-431	Spring, retainer	2
167-432	Spring, helical compression	2

NOTE: Instructions are included with the repair kit.

