

INSTRUCTIONS-PARTS LIST



307-736

Rev. B

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

THE GLUTTON Pump Conversion Kits

VITON & ETHYLENE-PROPYLENE PACKING CONVERSION KITS

Pump Model No.	Viton Conversion Kit No.	Ethylene- Propylene Conversion Kit No.
218-060	231-022	231-023
218-061	231-024	231-025
218-062	231-026	231-027
231-019	231-022	231-023

NOTE: Viton) packings are compatible with chemicals such as stoddard solvent, toluene, trichlorethylene, and xylene.

Ethylene-propylene packings are compatible with chemicals such as acetone, cellosolve, MEK, and ketone.

PARTS LISTS

For Pump Models 218–060 & 231–019

231–022 Viton Conversion Kit

REF NO.	PART NO.	DESCRIPTION	QTY
7	179–828	SEAL, piston	2
8	108–299	O–RING; Viton	2
9	181–313	SEAL, face; UHMW polyethylene	2
10	106–524	O–RING; Viton	2
12	108–103	O–RING; Viton	2
13	180–243	SEAL, bellows	2

231–023 Ethylene–propylene Conversion Kit

REF NO.	PART NO.	DESCRIPTION	QTY
7	179–828	SEAL, piston	2
8	108–300	O–RING; ethylene–propylene	2
9	181–313	SEAL, face; UHMW polyethylene	2
10	108–305	O–RING; ethylene–propylene	2
12	108–306	O–RING; ethylene–propylene	2
13	180–243	SEAL, bellows	2

For Pump Model 218–061

231–024 Viton Conversion Kit

REF NO.	PART NO.	DESCRIPTION	QTY
7	179–849	SEAL, piston	2
8	108–299	O–RING; Viton	2
9	181–313	SEAL, face; UHMW polyethylene	2
10	108–301	O–RING; Viton	2
12	108–103	O–RING; Viton	2
13	180–243	SEAL, bellows	2

231–025 Ethylene–propylene Conversion Kit

REF NO.	PART NO.	DESCRIPTION	QTY
7	179–849	SEAL, piston	2
8	108–300	O–RING; ethylene–propylene	2
9	181–313	SEAL, face; UHMW polyethylene	2
10	108–302	O–RING; ethylene–propylene	2
12	108–306	O–RING; ethylene–propylene	2
13	180–243	SEAL, bellows	2

For Pump Model 218–062

231–026 Viton Conversion Kit

REF NO.	PART NO.	DESCRIPTION	QTY
7	179–856	SEAL; piston	2
8	108–299	O–RING; Viton	2
11	108–303	O–RING; Viton	2
12	108–103	O–RING; Viton	2
13	180–243	SEAL, bellows	2

231–027 Ethylene–propylene Conversion Kit

REF NO.	PART NO.	DESCRIPTION	QTY
7	179–856	SEAL; piston	2
8	108–300	O–RING; ethylene–propylene	2
11	108–304	O–RING; ethylene–propylene	2
12	108–306	O–RING; ethylene–propylene	2
13	180–243	SEAL, bellows	2

For Pump Model 218–060

220–000 Pump Conversion Kit

To convert Model 218–060 to an abrasive–resistant pump.

REF NO.	PART NO.	DESCRIPTION	QTY
1	220–003	HOUSING, valve, check	2
2	181–264	GUIDE, ball	2
3	108–286	BALL, valve; tungsten carbide	2
4	220–002	SEAT, valve, check	2
5	181–266	GUIDE, piston	2
6	181–268	HOUSING, inlet, pump	2
7	181–267	SEAL, piston	2

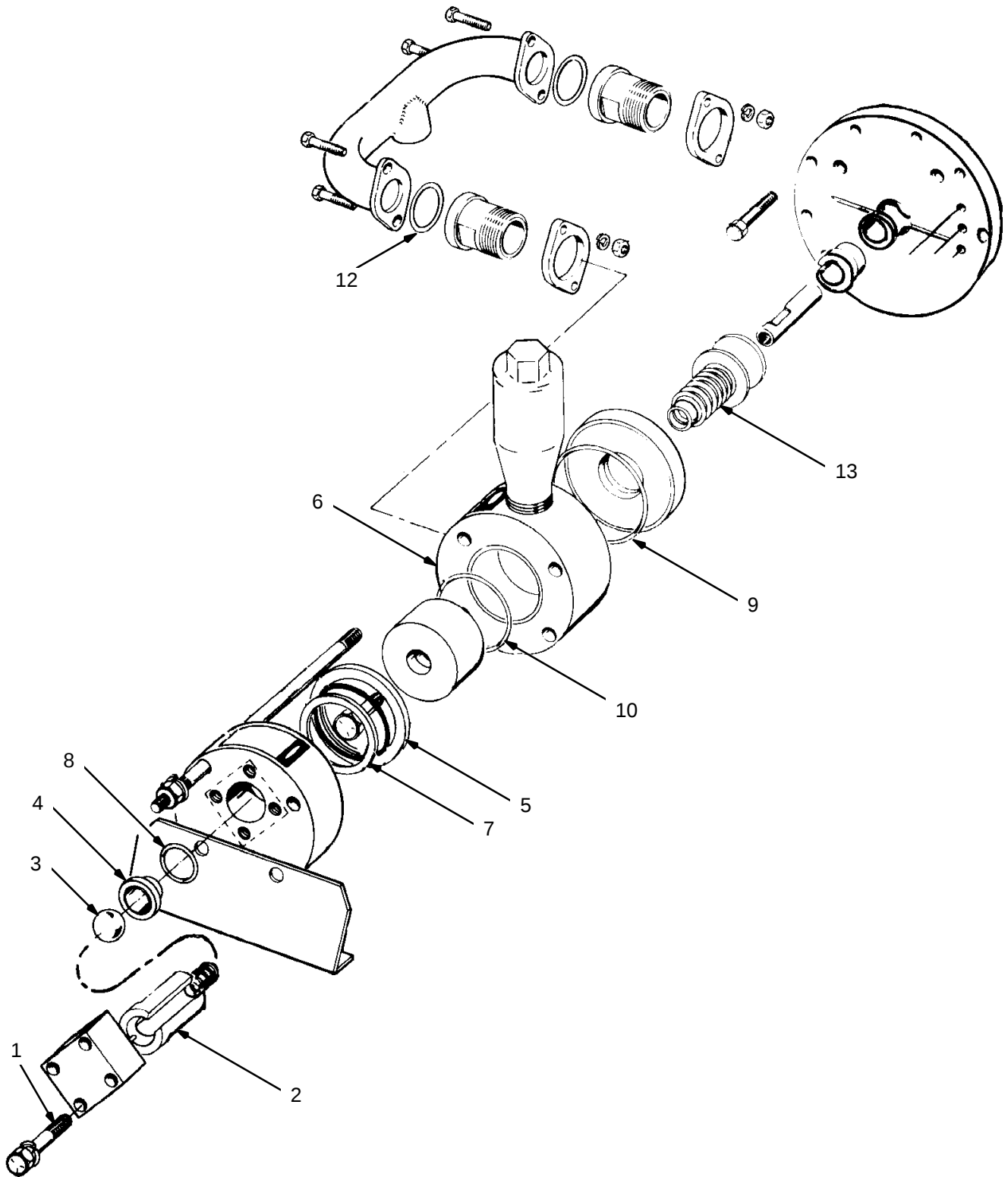
For All Pump Models

231–020 Valve Seat Conversion Kit

For use with corrosive fluids such as catalyzed varnishes.

REF NO.	PART NO.	DESCRIPTION	QTY
1	220–003	HOUSING, valve, check	2
2	181–264	GUIDE, ball	2
3	108–287	BALL, valve; SST	2
4	220–002	SEAT, valve, check	2

PARTS DRAWING



WARNING**Pressure Relief Procedure**

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 this procedure before servicing the pump.

1. Engage the gun safety latch.
2. Shut off the air to the motor.
3. Close the bleed-type master air valve (required).
4. Disengage the gun safety latch.
5. Hold a metal part of the gun firmly to the side of a grounded metal pail and trigger the gun to relieve pressure.
6. Engage the gun safety latch.
7. Open the fluid drain valve (required) and/or the pump bleeder valve, having a container ready to catch the drainage.
8. Leave the drain valve open until you are ready to spray again.

If you suspect that the spray tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, **VERY SLOWLY** loosen the retaining nut or hose end coupling and relieve pressure gradually, then loosen completely. Now clear the tip or hose obstruction.

WARNING

Certain steps in the disassembly procedure require the use of low pressure air applied to the air motor inlet to move the pistons (fluid and air) from one end of their stroke to the other, either *full in* or *full out*.

To reduce the risk of serious bodily injury, including amputation, keep your hands clear of all moving parts while moving the pistons with low pressure air.

NOTE: Parts included with the kits are indicated by *reference numbers* in the text, such as (1). Parts not included are indicated by *reference letters*, such as (A).

Disassembling the Pump

1. Relieve air and fluid pressure according to the **Pressure Relief Procedure**, above.
2. Disconnect the air and fluid lines. Remove the pump from its mounting and place it on a bench.

3. Loosen the two nuts on each side of the outlet manifold (A) and remove it.
4. Remove the intake manifold (U) by removing the nuts (B) and washers (C) from each manifold flange (D). Remove the screws (E).
5. Remove the four hex head bolts (F) and lockwashers, the check valve housing (1), ball guide (2), ball stop (G), spring (H), ball (3), seat (4), and o-ring (8) from one end of the pump.
6. Remove two hex nuts (J) and lockwashers and the support bracket (K). Remove the two remaining hex nuts, lockwashers, and the outlet housing (L).
7. Repeat steps 5 and 6 working on the opposite end of the pump.
8. Slowly apply low pressure air [25 psi (1.75 bar) maximum] to the air motor inlet to move one of the pistons (M) to the *full in* position.
9. Working on the end of the pump with the piston at the *full in* position, remove the piston seal (7), piston guide (5), and the inlet housing (6).

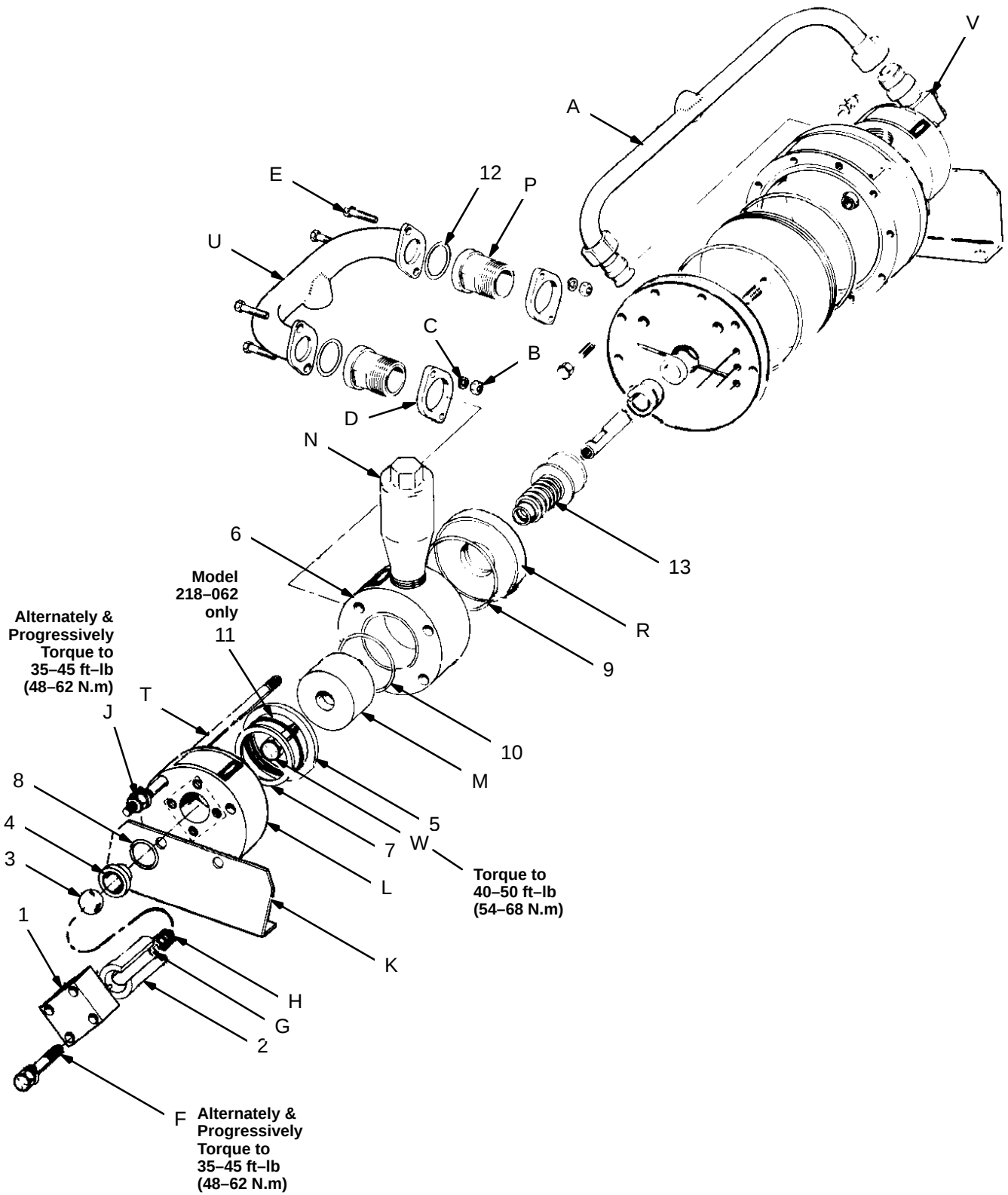
NOTE: Do not remove the accumulator (N) and the intake fitting (P) from the inlet housing (6) unless specific repairs to the accumulator or the pump housing are required.

10. Repeat steps 8 and 9, working on the opposite end of the pump.

CAUTION

To avoid damaging the bellows seal (13) always remove the inlet housing (6) **BEFORE** loosening the piston hex bolt (W). Failure to follow this procedure can result in a torn bellows seal.

11. Remove the piston hex head bolt (W), using a socket head breaker bar. Apply a sharp blow to the breaker bar using a soft mallet to loosen the hex bolt. Be sure you loosen the hex bolt and not the piston stud.
12. Remove the piston (M) by grasping it with your hands and pulling with a rocking motion to free it from the piston rod.
13. Remove the bellows seal (13) [with the intake plate (R), Models 218-060, 231-019 and 218-061 only].
14. Repeat steps 11-13, working on the opposite end of the pump.



Assembling the Pump

1. Using an air blow gun, slowly apply low pressure air [25 psi (1.75 bar) maximum] to one of the air motor inlets, moving either piston rod to the *full out* position. Working on the end of the air motor with the piston rod in the *full out* position, complete steps 2–4.
2. Coat the inside of the bellows seal (13) with lithium base grease, and place it onto the piston rod so the large flange of the seal faces toward the motor.

CAUTION

DO NOT force the small end of the bellows seal (13) onto the piston rod or the bellows will be damaged. Installing the piston (M) will clamp the bellows seal onto the piston rod.

3. **Models 218–060, 231–019, 218–061 only.**
Place the intake plate (R) over the piston rod and the bellows seal (13) so the large flange of the seal enters the counterbore in the intake plate. Do not force the intake plate down onto the motor plate.
4. Without forcing, place the piston (M) on top of the bellows seal (13) and the piston rod. Insert the piston bolt (W) through the piston and thread it into the piston rod. Tighten only until snug.
5. Repeat steps 1–4, working on the opposite end of the pump.
6. Using a socket and breaker bar on each piston bolt (W), torque one piston bolt to 40–50 ft–lb (54–68 N.m) Then reverse the procedure and torque the other piston bolt in the same way.

CAUTION

Overtightening of the piston bolts (W) can shear the piston stud.

7. Slowly apply low pressure air [25 psi (1.75 bar) maximum] to the air motor inlet moving either piston (M) to the *full in* position.

NOTE: Working on the end of the pump with the piston (M) at the *full in* position, complete steps 2 and 3.

8. **Models 218–060, 231–019, 218–061 only.**
Install the face seal (9) with the flat side against the back of the shoulder of the intake plate (R). Then install the inlet housing (6) so the seal and the intake plate seat in the shallow counterbore of the inlet housing.

Model 218–062 only

Install the inlet housing (6) over the bellows seal (13) and the piston (M) and onto the motor plate so the counterbore in the inlet housing faces in toward the air motor.

9. **Model 218–060, 231–019 only.**

Install the o–ring (10) on the inlet housing (6). Install the piston guide (5) onto the alignment studs (T) and up against the inlet housing (6) so the larger beveled opening of the piston guide faces in toward the air motor. Install the piston seal (7) in the shallow counterbore of the outlet housing (L). Hold the piston seal in place and slide the outlet housing (L) onto the alignment studs and up against the piston guide. Install the support bracket (K) on the alignment studs. Install the four hex nuts (J) with lockwashers on the alignment studs. Alternately and progressively, torque the hex nuts to 35–45 ft–lb (48–62 N.m). DO NOT use grease when installing the piston seal (7) because the seal may pull out of the counterbore of the housing.

Model 218–061 only.

Install the o–ring (10) on the shoulder of the piston guide (5). Install the guide on the inlet housing (6) so the o–ring faces the housing. Install the piston seal (7) in the shallow counterbore of the outlet housing (L). Hold the seal in place and slide the outlet housing (L) onto the alignment studs (T), up against the inlet housing (6). Install the support bracket (K) and the hex nuts (J) with lockwashers onto the alignment studs. Alternately and progressively, torque the hex nuts to 35–45 ft–lb (48–62 N.m). DO NOT use grease when installing the piston seal (7) because the seal may pull out of the counterbore of the housing.

Model 218–062 only.

Install the piston seal (7) into the counterbore of the outlet housing (L). Install the o–ring (11) around the outside (not on the shoulder) of the piston guide (5). Install the guide into the counterbore of the inlet housing (6) so the larger beveled opening of the guide faces away from the inlet housing. Slide the outlet housing (L) onto the alignment studs (T) and up against the inlet housing (6). Install the support bracket (K) and the hex nuts (J) with the lockwashers on the alignment studs. Alternately and progressively, torque the hex nuts to 35–45 ft–lb (48–62 N.m). DO NOT use grease when installing the piston seal (7) because the seal may pull out of the counterbore of the housing.

NOTE: Repeat steps 1–3, working on the opposite end of the pump.

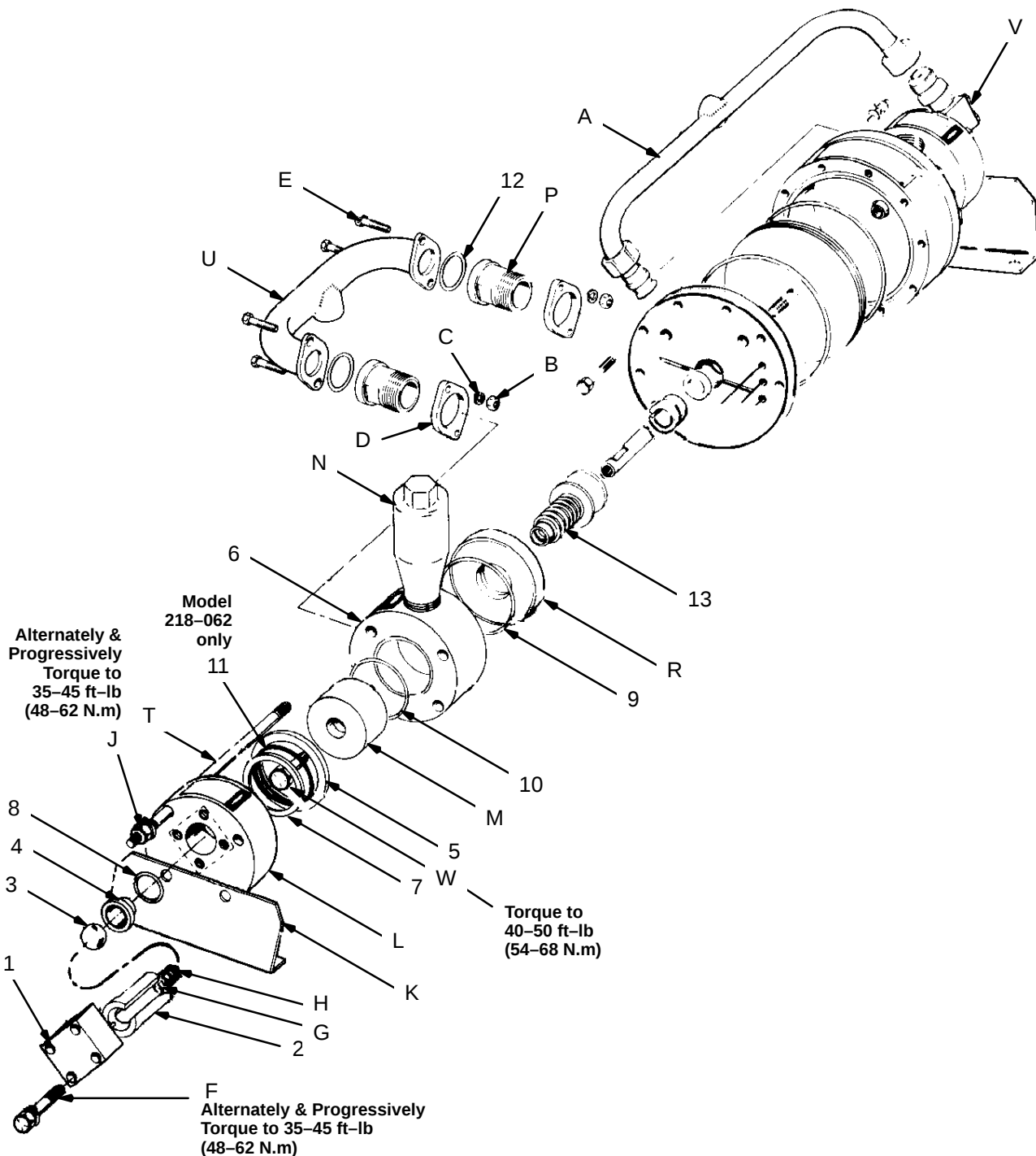
CAUTION

When repeating steps 1–3 on the opposite end of the pump, DO NOT turn the piston (M) as this may damage the bellows seal (13) on the side already assembled.

10. Working on one end of the pump, install the check valve seat (4) in the outlet housing (L) so the flange of the seat (4) faces out toward the end of the pump. Place the o-ring (8) around the seat and the seat into the outlet housing. Install the spring (H), ball stop (G), and ball guide (2) in the check valve housing (1). Align the notch in the ball guide with the pin housing. Stand the pump on end and place the ball (3) on the seat. Place the check valve housing, onto the outlet housing, and loosely install the hex bolts (F) and lockwashers.

NOTE: Repeat step 4, working on the opposite end of the pump.

11. Install the o-ring (12) in the groove in the intake fitting (P). Install the intake manifold (U) by inserting the screws (E) into the flanged ends of the manifold. Insert the washers (C) and the nuts (8).
12. Position the outlet manifold (A) and the connectors (V) and tighten the nuts. Alternately and progressively, torque the bolts (F) on the check valve housings (1) to 15–25 ft-lb (20–34 N.m).
13. Be sure to reconnect the ground wire before operating the pump.



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Subsidiary and Affiliate Companies: Canada; England; Switzerland; France; Germany; Hong Kong; Japan

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