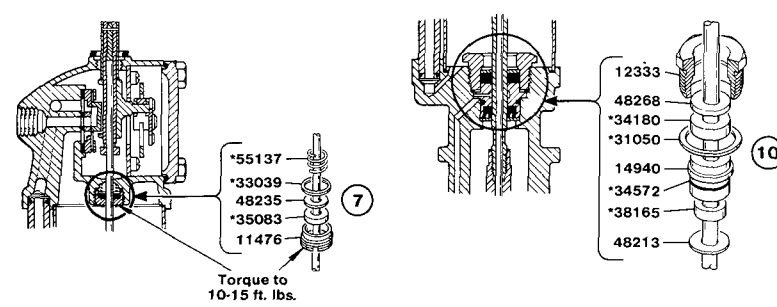
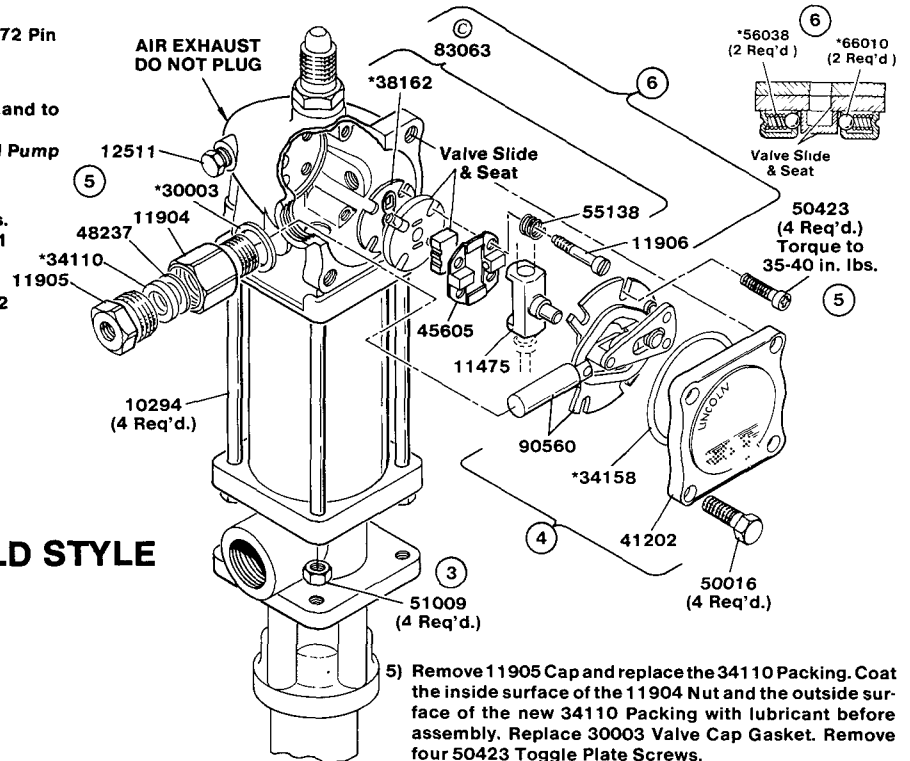
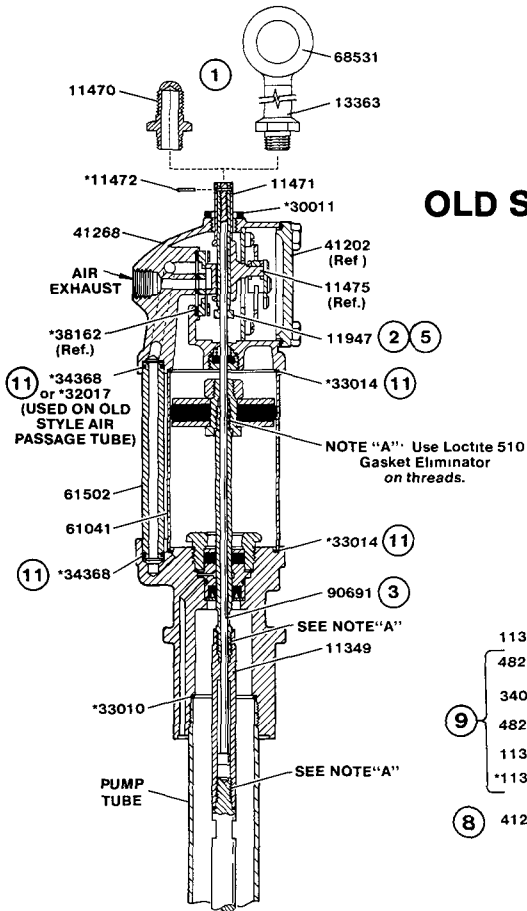


NOTE: PART NUMBERS INDICATED BY * ARE INCLUDED IN 83060 REPAIR KIT.

**FOR MODELS 82133, 82686, 83118, 83130, 84166
(2-1/2" AIR MOTOR, 3:1 RATIO)**

- 1) Unscrew 11470 or 13363 with 68531. Drive 11472 Pin from 11471 Collar. Collar is free to be removed.
- 2) Turn 11947 Trip Sleeve counter-clockwise by hand to unscrew from 90691 Trip Rod.
NOTE: 90691 Trip Rod cannot be removed until Pump Tube is disassembled.
- 3) Unscrew four 51009 Nuts from 10294 Tie Rods. Lift entire Airmotor straight up until free of 90691 Trip Rod. See Step 9.
- 4) Unscrew four 50016 Screws and remove 41202 Cover Plate. Replace the 34158 Cover Gasket.

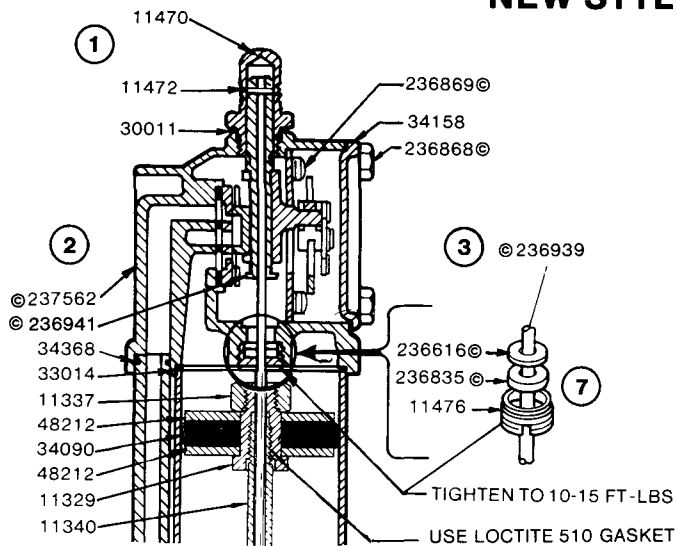


- 5) Remove 11905 Cap and replace the 34110 Packing. Coat the inside surface of the 11904 Nut and the outside surface of the new 34110 Packing with lubricant before assembly. Replace 30003 Valve Cap Gasket. Remove four 50423 Toggle Plate Screws.

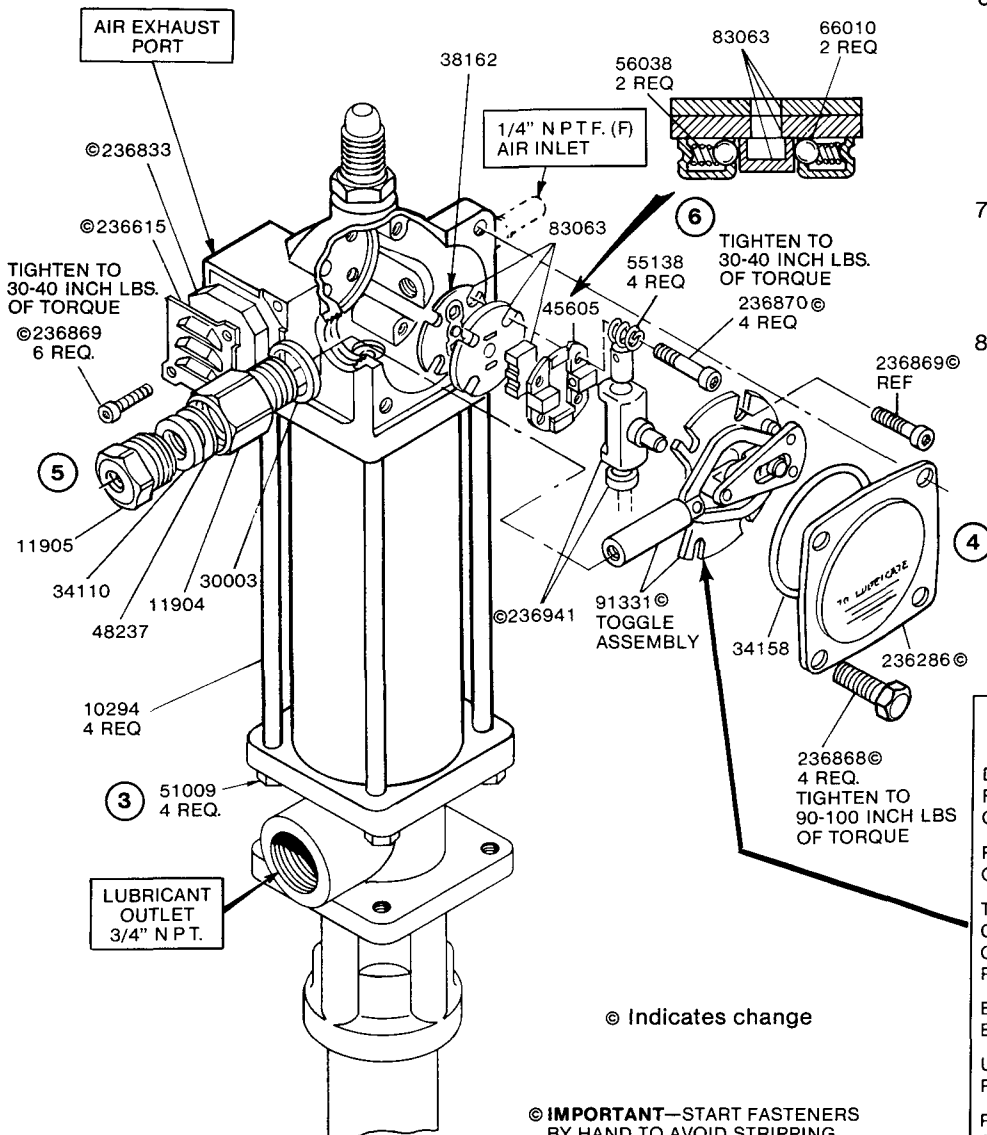
Lift out 90560 Toggle Plate Assembly to inspect. If pins or plates are loose, or if holes in trip linkage are worn out of round, replace Toggle Plate Assembly. After 90560 is removed, 11475 Trip Shoe and 11947 Trip Rod Sleeve are free.
- 6) Remove the four 11906 Valve Seat Bolts and the 55138 Springs. Remove 45605 Guide Plate, replace the two 66010 Equalizer Balls and the two 56038 Springs. Remove Valve Slide and Seat and inspect for wear. Replace with 83063 Pump Kit if worn.
- 7) Remove 11476 Trip Rod Packing Nut. 35083 Packing and 48235 Washer are housed in recess of nut. Grease inside of 11476 Nut and fill spring housing in airmotor casting before replacing 35083 Packing, 55137 Spring and 33039 Gasket.
- 8) Place 41248 Outlet Body horizontally in a vise. Remove Pump Tube from Outlet Body. Refer to instructions 12 thru 16 on back page.
- 9) After Pump Tube has been disassembled, the 34090 Piston and two 48212 Piston Washers can be removed by unscrewing the 11329 Piston Bolt from the 11340 Piston Rod.

Use wrench on milled flats of 11340 to unscrew from packings in 41248 Outlet Body. Use same procedure when installing new 11340 to prevent damage to new packings.
- 10) Unscrew 12333 Gland Nut. Remove 34180 Packing and 31050 Gland Gasket and replace. Remove and replace 34572 O-ring and 38165 U-cup from 14940 Gland Packing Spacer.
- 11) Replace the two 33014 Air Cylinder Gaskets and the two Air Passage Tube O-rings as the airmotor is reassembled.

NEW STYLE



1. Remove Valve Cap (11470).
2. Drive Trip Rod Pin (11472) from Trip Shoe Assembly (236941).
3. Unscrew four Tie Rod Nuts (51009) from Tie Rods (10294) and lift entire air motor straight up until free of Trip Rod (236939).
4. Unscrew four Screws (236868) and remove Cover (236286). Replace Cover Gasket (34158).
5. Remove Packing Cap (11905) and replace Plunger Packing (34110). Coat the inside surface of Packing Nut (11904) and the outside surface of the new gasket with lubricant before assembly. Replace Packing Nut Gasket (30003). Remove four Toggle Plate Screws (236869). Lift out Toffle Assembly (91331) to inspect. Replace if pins are worn out or round or plates are loose. Remove Trip Shoe Assembly (236941).
6. Remove four Valve Seat Screws (236870) and the Valve Seat Springs (55138). Remove Valve Guide Plate (45605), replace the two Steel Balls (66010) and the two Fitting Springs (56038). Remove Valve Slide, Seat & Gasket (83063). Inspect for wear & replace if worn.
7. Remove Trip Rod Packing Nut (11476), Trip Rod Packing (236835), and Trip Rod Gasket (236616), replace packing and gasket. Coat parts with grease.
8. Place Outlet Body (41248) horizontally in a vise. Remove pump tube from outlet body. Refer to instructions 12 through 16 on back page.



⊙ Indicates change

⊙ **IMPORTANT**—START FASTENERS BY HAND TO AVOID STRIPPING THREADS WHEN RE-ASSEMBLING

⊙ TO LUBRICATE AIR VALVE MECHANISM

DISCONNECT AIR TO PUMP. REMOVE THE FOUR COVER SCREWS, COVER PLATE AND COVER PLATE GASKET

REMOVE & DISASSEMBLE THE AIR VALVE CASTING FROM THE PUMP

THE AIR VALVE CASTING SHOULD BE CLEANED OR FLUSHED TO REMOVE ANY CHIPS, OR OTHER FOREIGN PARTICLES PRIOR TO RE-ASSEMBLY

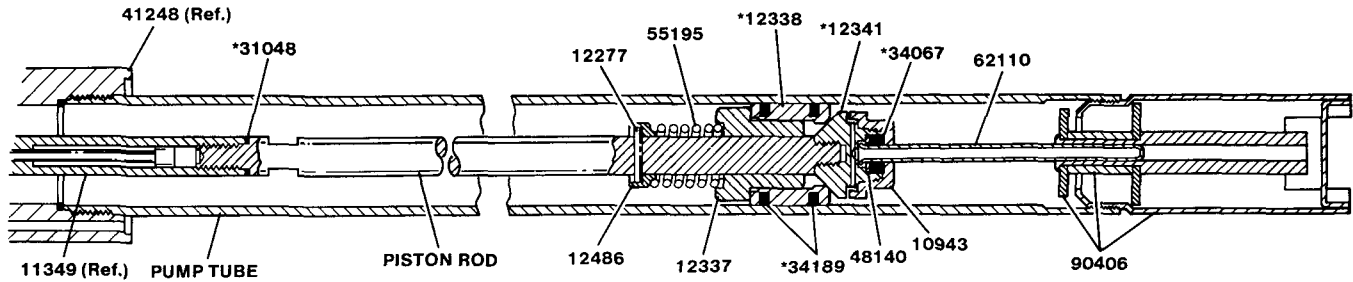
BEFORE REPLACING THE TOGGLE ASSEMBLY, PACK CAVITY WITH GREASE

USE N.L.G.I No 1 (LIGHT GRADE) WATER REPELLENT GREASE APROX 1½ OUNCES

REPLACE COVER GASKET, COVER, AND SCREWS TIGHTEN TO AVOID AIR LEAKS

PERIODIC INSPECTION OF PARTS AT LEAST ONCE EACH YEAR IS ADVISABLE

83060 REPAIR KIT FOR LOWER PUMP TUBE

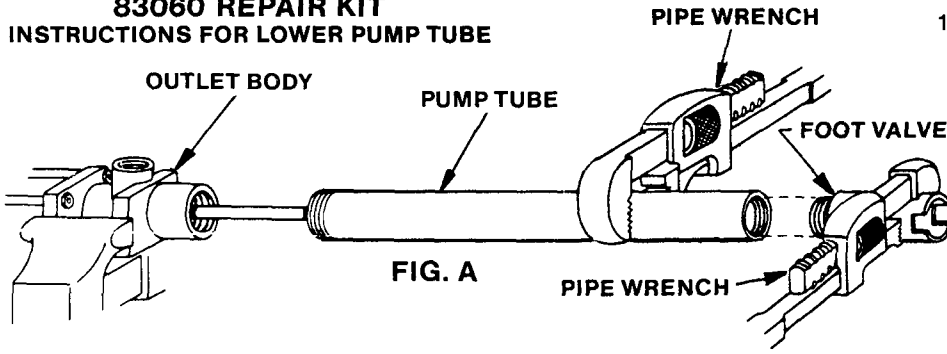


SERVICE PARTS

Part	Description	Part	Description	Part	Description
10294	Tie rod	*31050	Gland gasket	50423	Toggle plate screw
10943	Piston seat cap	*32017	Gasket	51009	Tie rod nut
11329	Air piston bolt	*33010	Pump tube gasket	*55137	Trip rod packing spring
11337	Air piston nut	*33014	Air cylinder gasket	55138	Valve seat spring
*11340	Air motor piston rod	*33039	Gasket	55195	Spring
11349	Piston rod connector	*34067	Piston seat packing	*56038	Fitting spring
11470	Valve cap	34090	Air piston packing	61041	Air cylinder
11471	Trip rod collar	*34110	Plunger packing	61502	Air passage tube
*11472	Trip rod pin	*34158	Cover gasket	62110	Air expeller tube
11475	Trip shoe	*34180	Gland packing	*66010	Steel ball
11476	Trip rod packing nut	*34189	Piston packing	68531	Eye bolt
11904	Packing nut	*34368	O-ring	83063	Valve slide, seat & gasket
11905	Packing cap	*34572	O-ring	90406	Foot valve assembly
11906	Valve seat bolt	*35083	Trip rod packing	90560	Toggle plate assembly
11947	Trip sleeve	*38162	Valve seat gasket	90691	Trip arm assembly
12277	Pin	*38165	U-cup packing	91331	Toggle assembly
12333	Gland packing nut	41202	Cover casting	236286	Cover
12337	Spring stop	41248	Outlet body	236615	Muffler cover
*12338	Piston	41268	Air valve casting	*236616	Trip rod gasket
*12341	Piston seat	45605	Valve guide plate	236833	Muffler packing
12486	Pin retainer	48140	Packing washer	*236835	Trip rod packing
12511	Pipe plug	48212	Air piston washer	236868	Screw
13363	Valve cap	48213	Gland packing washer	236869	Toggle plate screw
14940	Gland packing spacer	48235	Packing washer	236870	Valve seat screw
*30003	Packing nut gasket	48237	Plunger packing washer	236939	Trip rod
*30011	Valve cap gasket	48268	Gland packing washer	236941	Trip shoe assembly
*31048	Connector gasket	50016	Valve cover screw	237562	Air valve casting

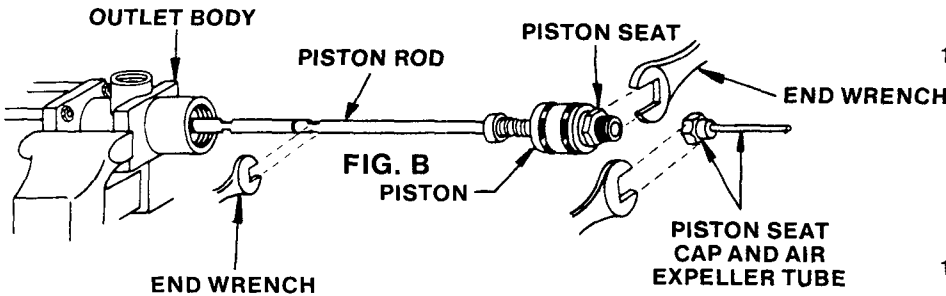
Note: Part numbers are indicated by * are included in 83060 Repair Kit.

83060 REPAIR KIT
INSTRUCTIONS FOR LOWER PUMP TUBE



12. (See Fig. A) Lay pump horizontally in vise and grip outlet body tightly in vise jaws. Unscrew Foot Valve (90406) from pump tube. Unscrew pump tube from outlet body and remove by pulling over the pump piston. Inspect pump tube thoroughly. If the area inside where the piston travels is scored, replace the pump tube.

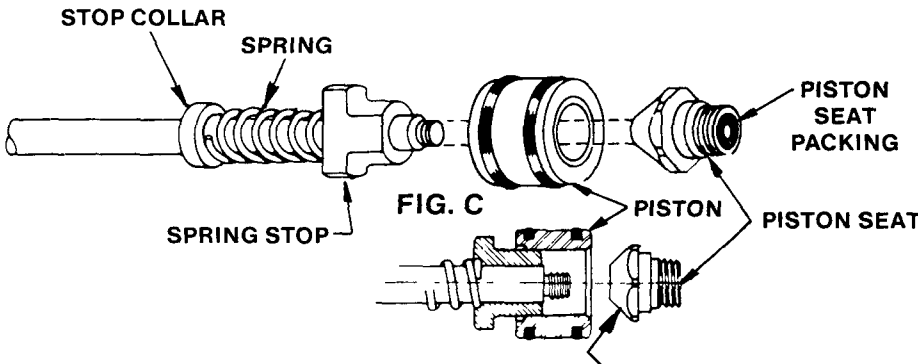
Note: If male threaded end of the pump tube is turned in, use a round rod to work the edge back to straight (See Fig. D).



13. (See Fig. B & C) Hold Piston Seat (12341) with a thin open end wrench and remove Piston Seat Cap (10943) and Air Expeller Tube (62110). Hold piston rod by milled flats and remove piston seat. Piston is free to be removed from piston rod.

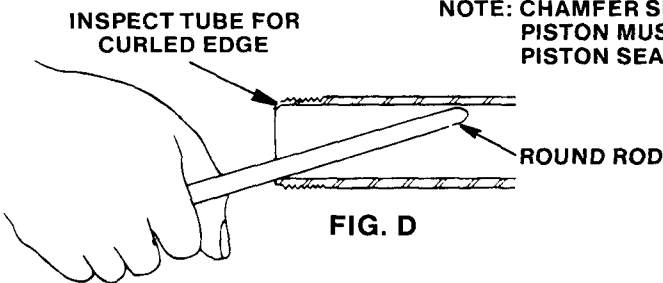
14. (See Fig. E) Using wrenches on milled flats to hold parts; remove piston rod from Piston Rod Connector (11349), and remove piston rod connector and Trip Arm Assembly (90691) or Trip Rod (236939) from the Air Motor Piston Rod (11340). Refer to Step 9 on front page for air motor piston rod removal.

15. (See Fig. B & C) Install new Piston Packings (34189) to new piston. With the chamfer surface of piston facing new piston seat, assemble piston and piston seat to piston rod. Replace Piston Seat Packing (34067), then assemble piston seat cap and air expeller tube to piston seat.



NOTE: CHAMFER SURFACE OF PISTON MUST FACE PISTON SEAT.

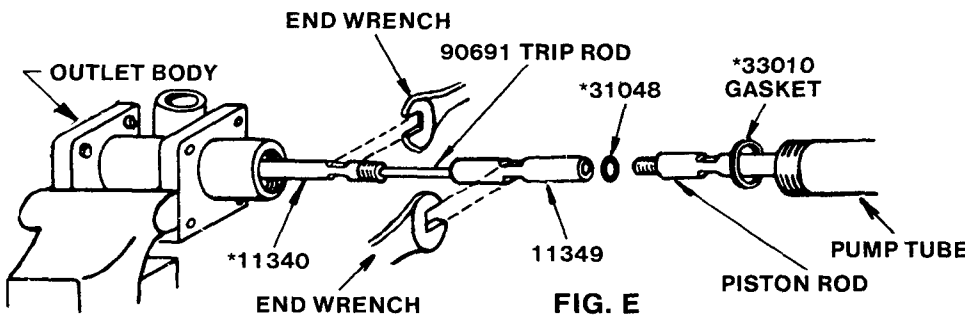
Pump	Piston Rod	Pump Tube
82133	12342	61341
82686	13021	61422
83118	13021	61422
83130	12342	61341
84166	14951	61569



16. (See Fig. E) Assemble trip arm assembly or trip rod and piston rod connector to air motor piston rod. Replace Gasket (31048) and assemble piston rod to piston rod connector. Replace Pump Tube Gasket (33010). Lubricate piston packings, then carefully slide pump tube over piston and piston rod.

Caution: Use extreme care to prevent end of pump tube from cutting piston packings.

Assemble pump tube to outlet body and foot valve to pump tube (See Fig. A). Tighten to prevent leaks.



RETAIN THIS INFORMATION FOR FUTURE REFERENCE

When ordering replacement parts, list: Part Number, Description, Model Number, and Series Letter.

LINCOLN provides a Distributor Network that stocks equipment and replacement parts.