

Note:
Pump should be installed upright for operation. Use Model 83727 Stand Pipe for bulk material dispensing. Locate pump as close to tank as possible and use a minimum 3 inch (76mm) I.D. inlet hose or pipe.

MODEL CHART

PUMP TUBE	PUMP MODEL	AIRMOTOR	RATIO	MAXIMUM DELIVERY PRESSURE	MAXIMUM AIR PRESSURE	DIMENSION "A" in. (cm.)
84900	2342	84810	42:1	4200 psi (290 bar)	100 psi (7 bar)	42-1/4 (107.3)
	2325	84808	25:1	2500 psi (172 bar)		38-5/8 (98.1)
	2352	84806	15:1	1500 psi (104 bar)	200 psi (14 bar)	39-1/2 (110.3)
	2367	84804	7:1	1400 psi (97 bar)		
	2374	84803	3:1	600 psi (41 bar)		
84901	2355	84810	55:1	5500 psi (379 bar)	100 psi (7 bar)	42-1/4 (107.3)
	2323	84808	35:1	3500 psi (241 bar)		38-5/8 (98.1)
	2350	84806	20:1	2000 psi (138 bar)	200 psi (14 bar)	39-1/2 (110.3)
	2365	84804	10:1	2000 psi (138 bar)		
	2372	84803	4:1	800 psi (55 bar)		
84902	2375	84810	75:1	7500 psi (517 bar)	100 psi (7 bar)	42-1/4 (107.3)
	2322	84808	45:1	4500 psi (310 bar)		38-5/8 (98.1)
	2349	84806	25:1	2500 psi (172 bar)	200 psi (14 bar)	39-1/2 (110.3)
	2364	84804	12:1	2400 psi (166 bar)		
	2371	84803	6:1	1200 psi (93 bar)		

TROUBLESHOOTING

Problem	Possible Cause	Solution
Pump does not operate.	Restricted or inadequate air supply.	Check air supply pressure and air hose diameter (see Airmotor manual for minimum air supply hose diameter).
	Obstructed material output.	Check output line for restrictions.
Erratic or accelerated operation.	Pump is not primed.	Prime pump (see "Pump Priming" instructions).
	Insufficient material supply.	Refill material supply.
	Material is too heavy for priming.	Lower output with material valve. Increase pressure to pressure primer (if in use). Check for inlet restrictions.
Pump operates on "down" stroke only (missing "up" stroke).	Worn or damaged Piston U-cups (Item M) or Piston Check (236229 & Item L).	Check and replace if needed.
Pump operates on "up" stroke only (missing "down" stroke).	Worn or damaged Inlet Check (236231) or Priming Rod Packing (34710).	Check and replace if needed.
	Insufficient material supply. Pump is not intaking enough material to dispense on both strokes.	Check inlet for restrictions. Lower output with material valve.
Pump is operating but not dispensing material.	Inlet Check (236231) is not seating or is damaged.	Check and replace if needed.

DISASSEMBLY

Tools Required

Spanner Wrench
 4-1/2" (4.500") Wrench
 1-1/2" (1.500") Hex Wrench
 Truarc Pliers (internal type)
 Truarc Pliers (external type)
 1-1/16" (1.062") Hex Wrench
 1-3/4" (1.750") Hex Wrench
 3-1/8" (3.125") Wrench
 7/8" (.875") Hex Wrench
 1/2" (.500") Hex Wrench

Procedure

- Remove Priming Plunger Nut 14398.
- Remove Tube 236256.
- Remove Adapter Plate Assembly 236262.
- Remove Inlet Bushing 236230.
- Slide out complete plunger, piston bolt and priming rod assembly.
- Adapter 16003, two Keepers 16008 and Priming Rod 236227 must first be removed from Piston Bolt 236229, to replace any of the following parts: Check 236231, Guide Washer 236239, U-cup 34710, Check Seat 236228, Retaining Rings 68886 and 69034. Check 236231 with U-cup 34710 must be removed from the end opposite of the threads on Priming Rod 236227, to prevent damage of the U-cup 34710.
- To reassemble, the Check 236231, with the U-cup 34710 should be slid on to the Priming Rod 236227 from the end opposite of the threads to prevent damage to U-cup 34710.
- To remove U-cup 34710 from Check 236231, first remove Retaining Ring 68886.
- To remove Guide Washer 236239 from Check 236231, first remove Retaining Ring 69034.
- To remove Piston Assembly you must first remove Piston Bolt 236229.
- Remove Gland Nut 237659.
- Remove Sleeve Item D.
- Remove U-cup Item C from Bushing Item H.
- Slide Bushing Item H, Spacer Item B and Wiper Item A out of Gland Nut 237659.
- Remove Bolt Connector 236225.
- Slide Nut 237051 off of the Bolt Connector 236225.
- To re-assemble pump, reverse disassembly procedure. (Refer to illustration for torque specifications.)

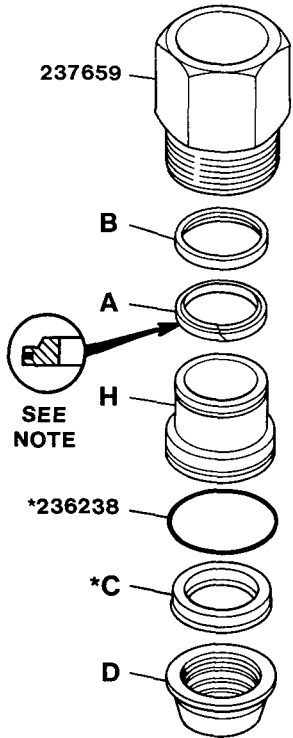
SERVICE PARTS Common to all models.

Part	Qty.	Description	Part	Qty.	Description	Part	Qty.	Description
14398	1	Priming plunger nut	92530	1	Valve stem & pin	*236237	3	O-ring (Polyurethane)
16003	1	Adapter	93075	1	Priming plug	*236238	1	O-ring (Polyurethane)
16008	2	Keeper	236225	1	Bolt connector	236239	1	Guide washer
26356	1	Valve body	236227	1	Priming rod	236256	1	Tube
*34377	1	O-ring (Buna-N)	236228	1	Check seat	236262	1	Adapter plate
*34710	1	U-cup (Polyurethane)	236229	1	Piston bolt	236266	1	Outlet body
*68886	1	Retaining ring	236230	1	Inlet bushing	237051	1	Nut
69034	1	Retaining ring	236231	1	Check	237659	1	Gland nut
84012	1	Bleeder valve						

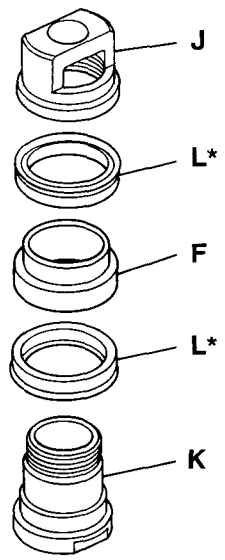
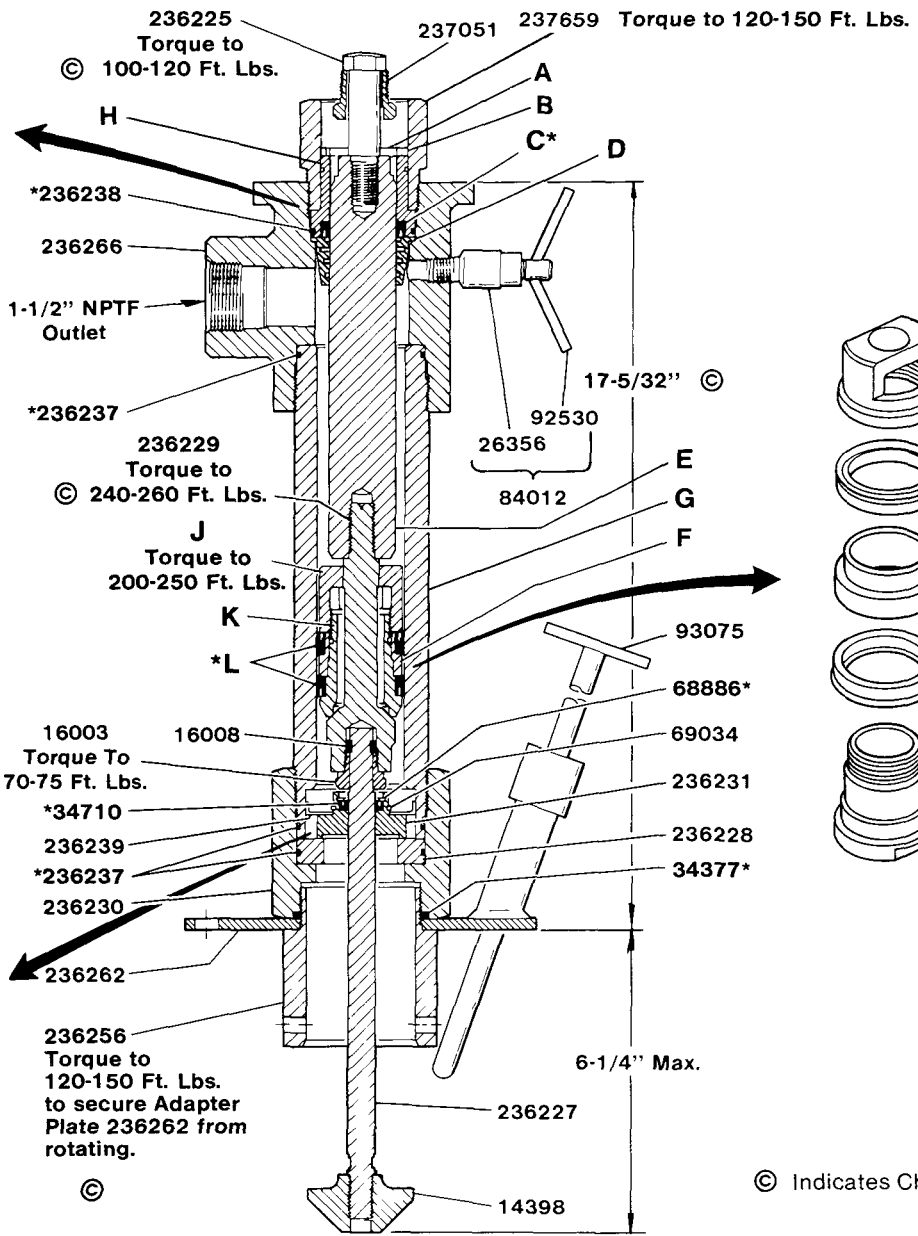
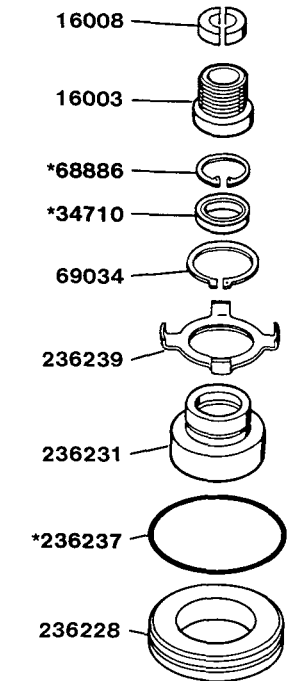
* Included in standard Polyurethane Packing Kit.

PILE DRIVER III PUMPTUBE ASSEMBLY

©



NOTE:
Install scraper ring with sharp edge up, as shown. ©



© Indicates Change

SERVICE PARTS

Item	Qty.	Description	Pump Tube Models		
			84900	84901	84902
A	1	Wiper	237650	237584	237652
B	1	Spacer	237649	237674	237651
*C	1	U-cup packing	237007	34701	34421
D	1	Sleeve	237646 (1)	237581 (2)	237647 (3)
E	1	Plunger	237006	236232	237042
F	1	Piston collar	237031	236281	237114
G	1	Pump tube	237012	236257	237049
H	1	Bushing	237005	236234	237044
J	1	Piston nut	237032	236280	237115
K	1	Piston body	237035	236279	237116
*L	2	U-cup packing	237027	236236	237068

(1) Stenciled "J" (2) Stenciled "K" (3) Stenciled "L"

* Included in standard Polyurethane Packing Kit.

SERVICE KITS

(Refer to Section K4, Page 41 Series)

Packing Kit Material	Pump Tube Models		
	84900	84901	84902
Std. Polyurethane	84907	84911	84908
Teflon	84912	84905	84914
UHMW Polyethylene	84913	84906	84915

ATTACHING AIRMOTOR TO PUMPTUBE

1. Tightly attach tie rods to the airmotor (use short threaded end of the tie rods).
2. Mount airmotor on top of the pump-tube outlet and tightly connect Coupling Nut (237051) to airmotor piston rod.
3. Handtighten tie rods to the pumptube with four nuts supplied with airmotor.
4. Slowly cycle the pump several times, using just enough air pressure to operate the pump without stalling.
5. Stop the pump on an "up" stroke and tighten the four nuts to securely fasten the airmotor to the pumptube.

OPERATING PRECAUTIONS

- Use Lincoln replacement parts to assure compatible pressure rating.
- HEED ALL WARNINGS.
- Be sure material hoses and other components are able to withstand fluid pressures developed by this pump.
- Do not operate pump continuously at speeds in excess of 75 cycles per minute.
- Disconnect air line from pump airmotor when system sits idle for long periods of time.
- **SERVICING.** Before servicing or cleaning pump, or removing fluid hose or gun from a unit that has been used, be sure to disconnect air lines and carefully bleed pressure off of the system.



WARNING

PREVENT STATIC SPARKING. If static sparking occurs, fire or explosion could result. Pump, dispensing valve, and containers must be grounded when handling inflammable fluids such as petroleum products, paints, lacquers, etc. and wherever discharge of static electricity is hazard.

- Check continuity (a good static wire connection) with an ohmmeter. Place one probe on one hose fitting and the other probe on other hose fitting, continuity or proper grounding through hose is good when a reading is obtained on the ohmmeter.
- **PREVENT FIRES.** When pumping, flushing or recirculating volatile solvents, the area must be adequately ventilated.
- Keep solvents away from heat, sparks and open flames. Keep containers closed when not in use.



CAUTION

DO NOT allow pump to operate when out of material.

GLAND PACKING DESIGN*

Many industrial type materials (sealants, adhesives, inks, etc.) display a tendency to dry-out and to build-up on the pump rod (plunger). These hard dried out materials cause the gland packing to wear out rapidly, resulting in leakage and ultimate pump failure. The second problem is the gland seal exposure to high pressure and in particular, to pressure fluctuation during pump operation (stroke changeover).

The new gland packing design* of Pile Driver III pumps addresses both problems:

A special spring type Metal Wiper (Item A) scrapes built up and dried out material from the pump rod (plunger). In order to help the metal wiper to work longer and more efficiently, the lube well of the pump should be filled with a fluid compatible with pumped material.

Do not fill lube well to full capacity, as the reciprocating movement of the pump may draw fluid into the airmotor.

Secondly a special Protection Sleeve (Item D) with concentric grooves creates a labyrinth path and reduces internal operational pressure and at the same time pressure fluctuation during a stroke changeover, limiting gland seal exposure to pumped material.

A combination of the metal scraper and protection sleeve prolongs gland seal life and prevents leakage.

PUMP PRIMING

To begin operation, the pump has to be primed with the pumped material. The Pile Driver III pump is a double acting (pumps material on "up" & "down" stroke) positive displacement reciprocating pump and as such intakes material only on the "up" stroke

To prime pump, open output line (material valve) and slowly open air supply valve until pump starts. Allow pump to cycle very slowly until all air is pushed out of lines and material fills up pump and lines. Close output line (material shut-off valve) - pump should stall against pressure.

If pump fails to prime properly, open Bleeder Valve (84012) slightly to expel trapped air and at the sign of material coming out of the valve close it tightly.

Note: Pumps are factory tested with light oil and some of it is left in to protect pump parts during storage and transportation. To prevent contamination of material to be pumped, flush pump before using.

* U.S. Patent No. 4,976,192

SPECIFICATIONS

Output per cycle:

84900 - 22 cu. in. (360 cc)
84901 - 17 cu. in. (278 cc)
84902 - 12 cu. in. (196 cc)

Approximate cycles per gallon (liter):

84900 - 11 (3)
84901 - 14 (4)
84902 - 20 (5)

Output at 75 cycles/min.:

84900 - 7.1 gpm (27.0 liters/min.)
84901 - 5.5 gpm (20.8 liters/min.)
84902 - 3.9 gpm (14.9 liters/min.)

Pump stroke - 6 in. (152 mm)

Max. recommended speed (continuous) - 75 cycles/min.

Operating Temp. Range -

-30° F (-34° C) to +160° F (+71° C)
(up to +200° F (+93° C) with intermittent usage.)

Wetted part materials - Steel, Brass, Polyurethane

Weight - 50 Lbs.

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.