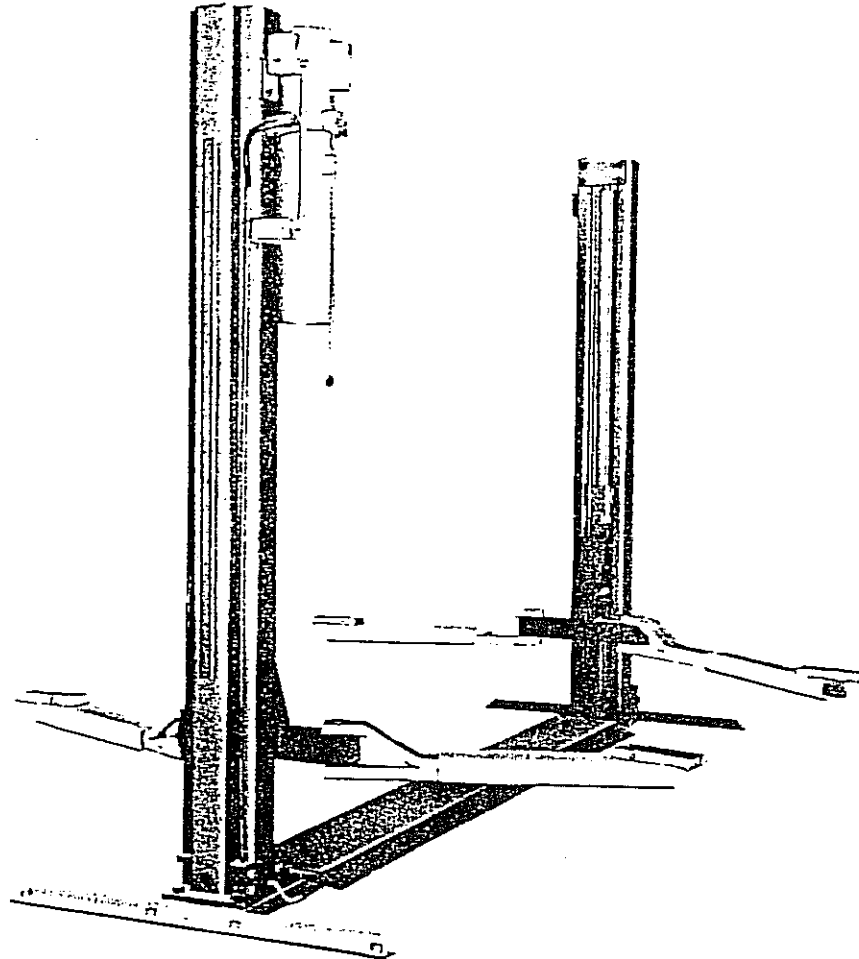


Model SP84/SP80

Surface Mounted Lift

Capacity: 7,000 lbs.

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS



CHECK SHIPMENT against Bill of Lading and Material List. Enter all claims for damage or shortage at once with delivering carrier.

MATERIAL LIST			
Description of Articles		Parts Box Contents	
1	Bundle (1RH & 1 LH Carriage/Column Assembly)	1	Power Unit
1	Lift Base and Cover Plate Assembly	1	Wheel Spotting Dish
1	Bundle (Parts Box/4 Arms and Adapters)	2	Equalizer Cables
1	Bundle Pad and Support Assy (2 pcs.) SP80 only	2	Upper Cable Sheaves
		2	Bumper Plate Assemblies
		2	Vinyl Cap For Lock Latch
		1	Bolt Package
		1	Piping Package
		3	Pipe Clips
		4	Arm Pins
		15	Notched Shims



DOVER CORPORATION / ROTARY LIFT DIVISION

MEMPHIS, TENN. • MADISON, IND. • SCARBOROUGH, ONT.



INSTALLATION INSTRUCTIONS MODELS SP84 AND SP80

This booklet provides general data for both SP84 and SP80 lifts. The base, columns and power unit are the same for both models. Sliding rubber pad and supports make the SP80. Swinging arms with sliding adapters make the SP84.

1. **LIFT LOCATION:** Use architect's plan when available. Locate lift per Fig. 1 to provide adequate vehicle and working clearances.
2. Lift area floor must be level within 1/32" per foot.
3. Ceiling and overhead clearance must be at least 12'-6" for passenger cars, higher for vans.
4. **LIFT SETTING:** Remove base cover, retain bolts. Position base in bay, Figs. 1 & 2. Drill (4) 3/4" dia. holes x 4" deep in concrete floor using base holes as a guide, Figs. 2 & 3. Floor material must be 5" thick minimum and sustain 2000# anchor load.
IMPORTANT: Do not install this lift on asphalt or other similar unstable surfaces. ✖✖
5. Shim base level using notched shims supplied (Fig. 4). Check in both directions with a 4 ft. level. Install base anchors, Fig. 3. Partially tighten bolts. **RE-CHECK** base level—both directions. Torque anchor bolts 50 to 60 ft.-lbs. **IMPORTANT:** Base must be shimmed per Fig. 4 and all bolts tightened to keep base deflection and column movement to a minimum.

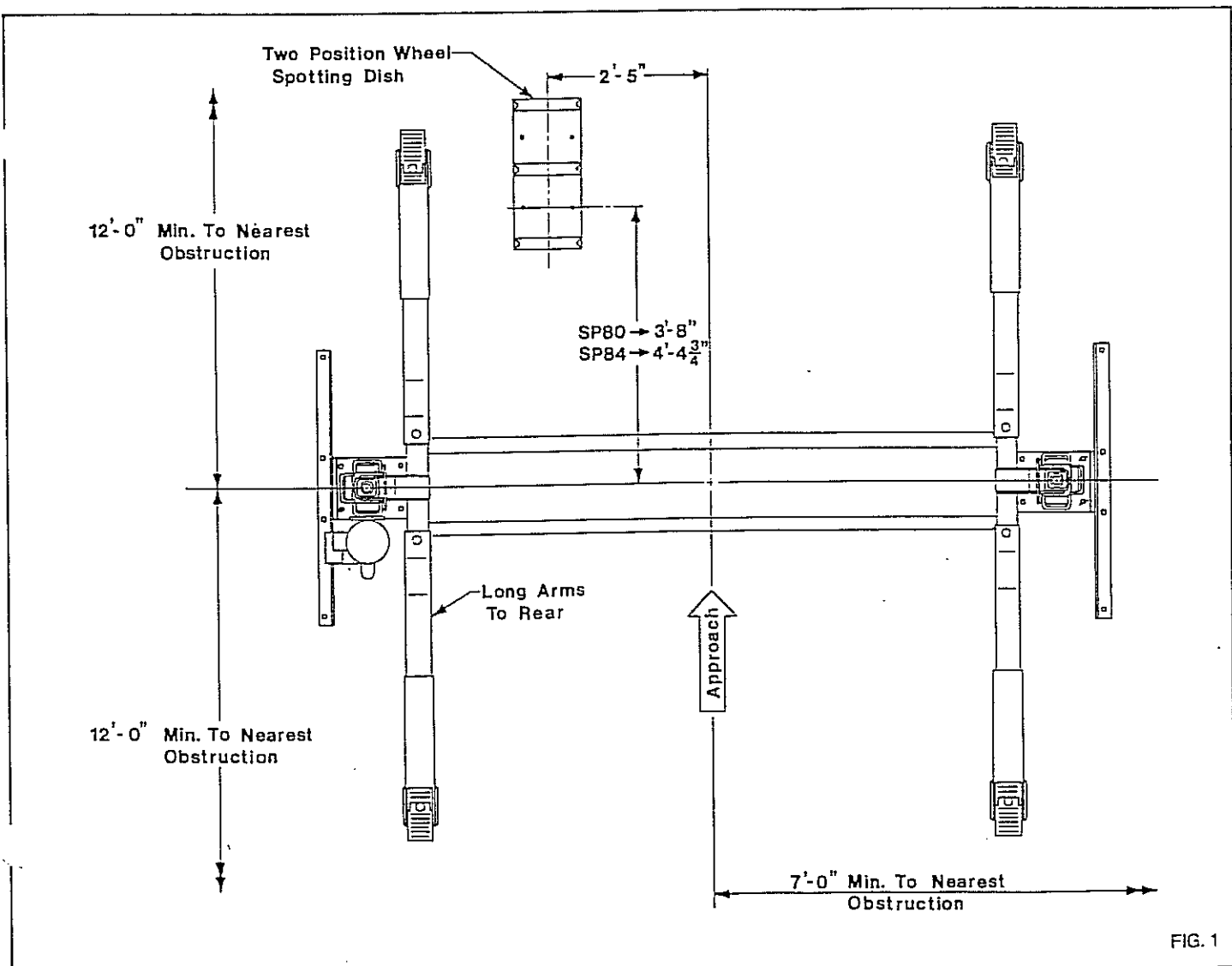


FIG. 1

6. **COLUMNS:** Remove shipping braces. Bolt top sheave assemblies to columns, Fig. 5. Move columns over base angles. Position columns upright. **CAUTION:** Do not damage lower sheaves. Thread (2) outside $3/4"$ x $2"$ bolts $1/2"$ into base. Select column with power unit mounting bracket to be positioned on control side of lift. See Figs. 1, 2, 3.

7. Manually raise carriages until latch locks into 1st position, about 16".

8. Tilt columns back enough to put a 1" block under column plate, Fig. 6.

9. **ROPING:** Fig. 7 describes general cable arrangement. Run cables under column plate and around lower sheaves. One cable ties off to each lower bracket, Fig. 6; run other cable around upper sheave. **DO NOT** tie upper now.

10. Remove block under columns, straighten columns. Install (2) other $3/4"$ x $2"$ base bolts and torque all bolts to 70 to 75 ft-lbs. Shim between column plate and base until top of column tilts back $3/8"$ from vertical. Dimension between columns should be $117\frac{1}{2}"$ at base and $118\frac{1}{4}"$ at top. (Measure just below upper sheave bracket).

11. Tie off both top cables at top brackets. Run nuts up to tighten cables. Lock nuts with jam nuts. Fig. 8.

12. **POWER UNIT:** Install unit to control side column with (4) $5/16"$ x $3/4"$ bolts, L.W. & nuts with motor up, Fig. 9.

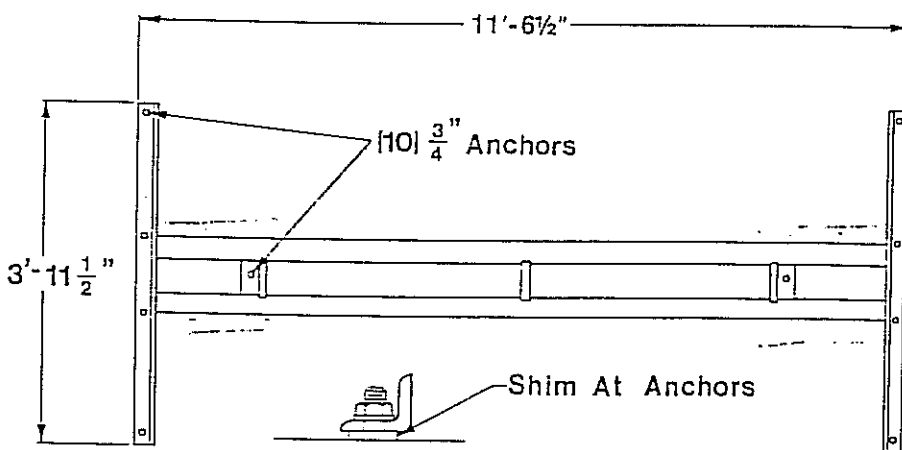
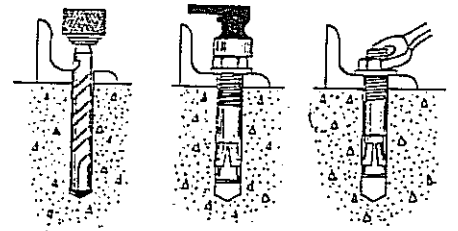


FIG. 2



Drill $3/4"$ Hole Thru Base Holes.

Drive Anchor Far Enough Into Hole So That At Least 6 Threads Are Below Top Of Floor Base Angle.

Tighten The Nut.

FIG. 3

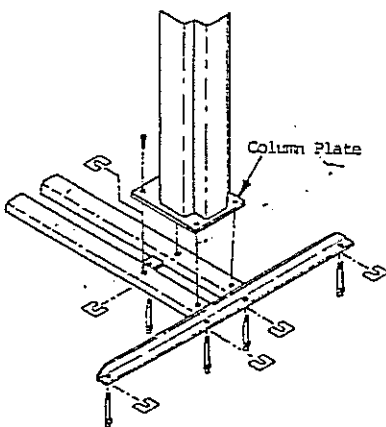


FIG. 4

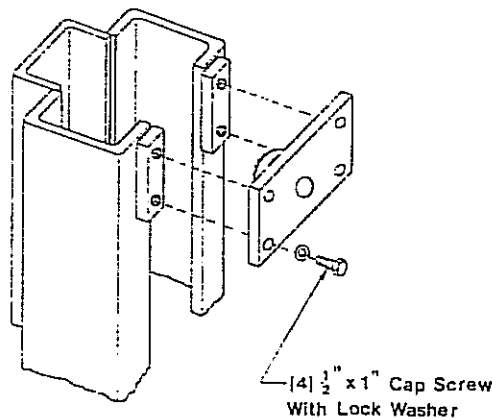


FIG. 5

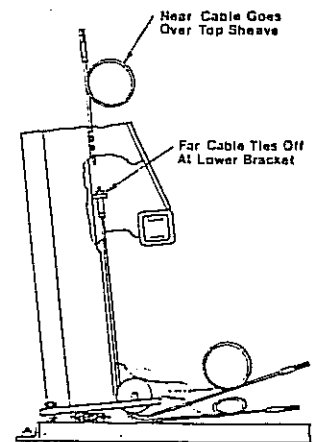


FIG. 6

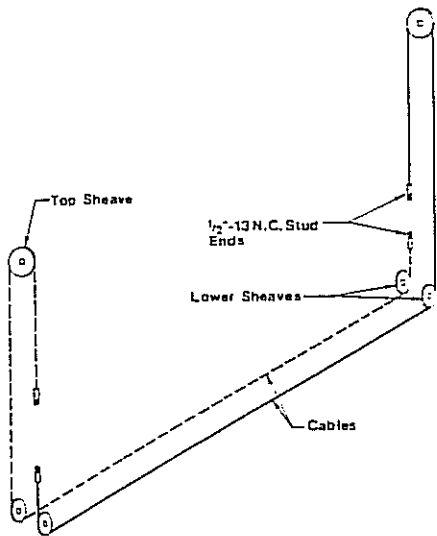


FIG. 7

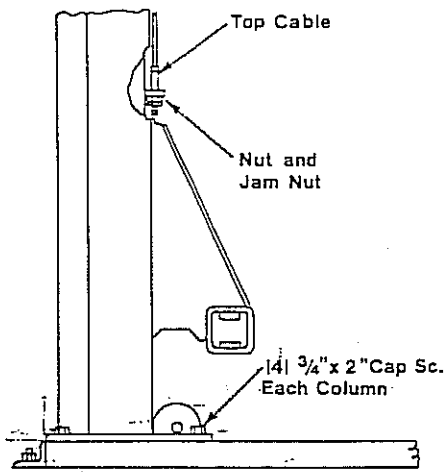
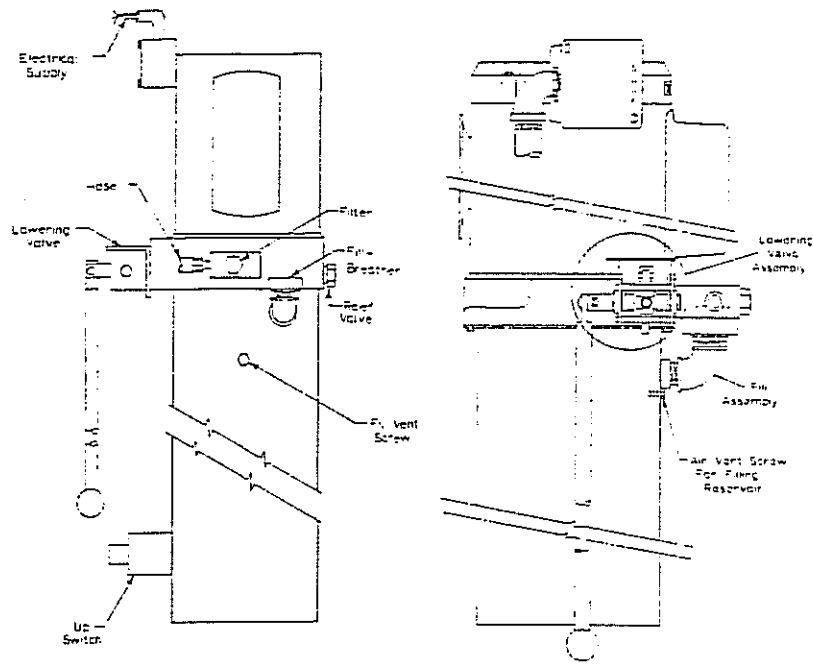


FIG. 8



230V AC
60 Hz. Single Ph.

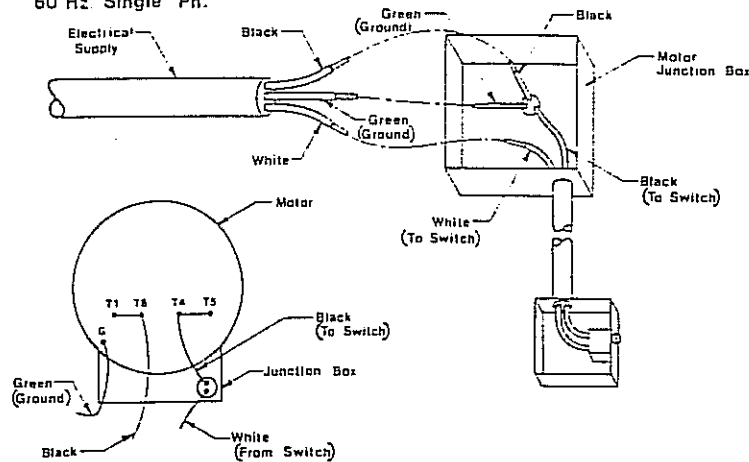


FIG. 9

13. PIPING: Install piping and hoses, Fig. 10. Inspect all threads before assembly. Use premium oil resistant pipe thread sealant. **DO NOT** use teflon tape as it clogs strainer. NOTE: Install pipe clamps and brackets, provided.
14. ELECTRICAL: Run 230 volt single phase power supply to 2hp motor. IMPORTANT: Use separate circuits for each power unit. Protect each circuit with 30 amp. fuse or circuit breaker.
15. OIL FILLING & BLEEDING: System capacity is (14) quarts of Dexron II ATF. Remove fill-breather cap and vent plug. Pour in (10) qts. Start unit by pushbutton raising lift about 2 ft. Open cylinder bleeders, see Fig. 10. Close when oil streams. LOWER lift by releasing locking devices, then pulling down on lowering valve handle. Add fluid until it comes out vent hole. CAUTION: If fill cap is lost or broken, order replacement. **DO NOT** substitute solid plug.
16. SUPERSTRUCTURE—SP84: Grease swivel arm pins and holes. Install arm and adapter assemblies. NOTE: (2) long arms go to the rear, Fig. 1.
17. SUPERSTRUCTURE—SP80: Grease support pins and holes. Remove pad stop bolts. Install supports with bar angles to outside. Slide pad assemblies onto support with clips fitting over angles. Re-install pad stop bolts, Fig. 11.

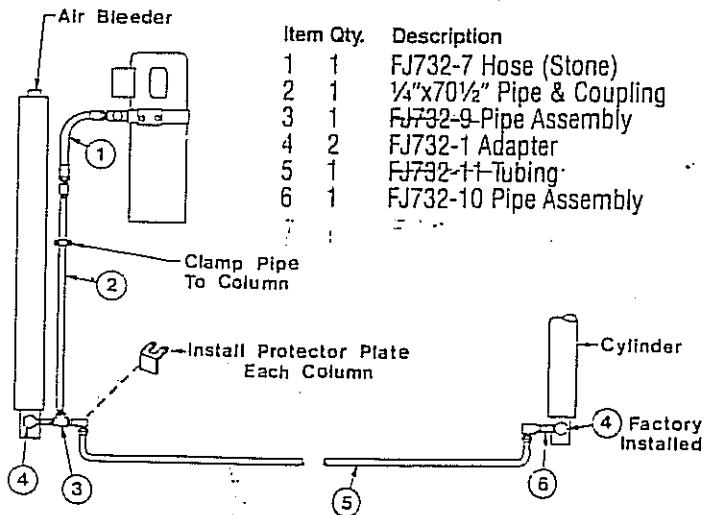


FIG. 10

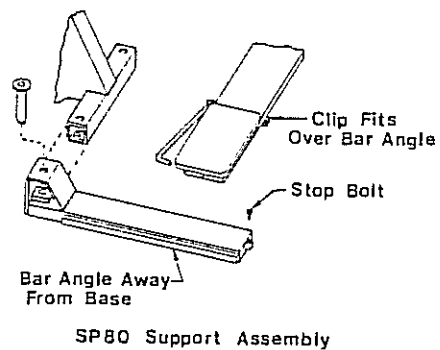
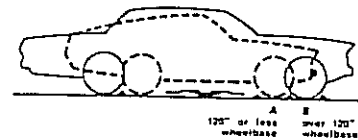


FIG. 11



Caution: BEFORE REMOVING VEHICLE FROM LIFT, be sure lift arms are clear and adapters are in lowest position to prevent possible damage to lift and vehicle.

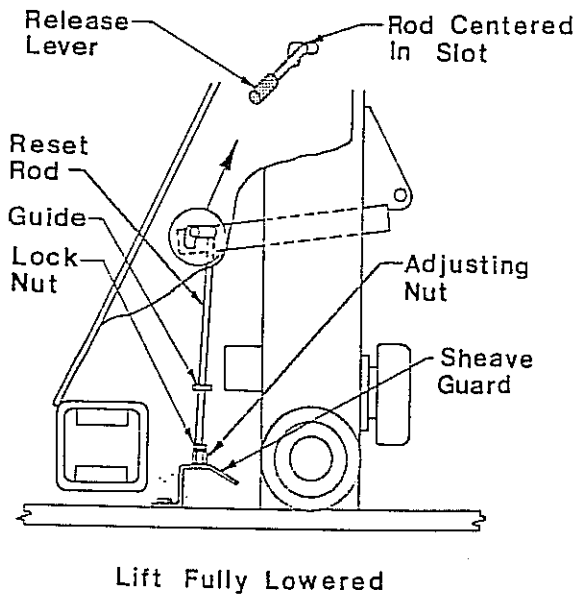


FIG. 12

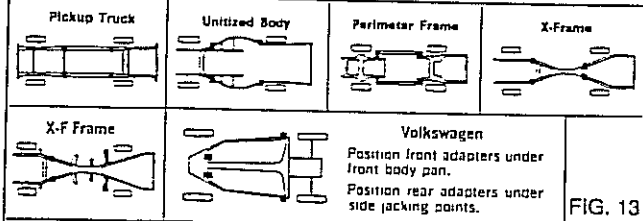


FIG. 13

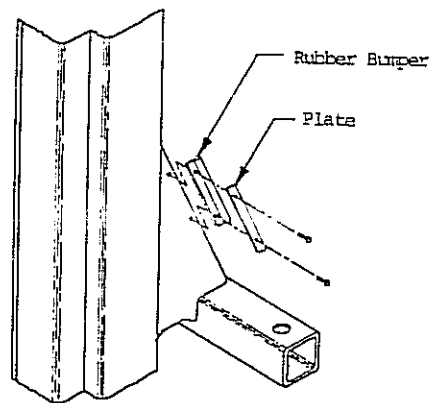


FIG. 14

18. FINAL ADJUSTMENTS: Lower lift to adjust cable tension. Above carriage, grasp adjacent cables between thumb and fore finger, with about 15 lbs. effort you should just pull the cables together. Adjust at upper tie-offs.
19. Lower lift to check locking latch reset. When fully lowered, reset device should center RELEASE handle vertically in horizontal slot, Fig. 12. Adjust reset with adjusting nut. DO NOT adjust out too far.
20. DOOR BUMPER INSTALLATION: Determine direction of vehicle approach. Install door bumpers on approach side of lifting carriages with 1/4"x3/4" bolts. See Fig. 14.
21. PRESSURE TEST: Run lift to full rise and keep motor running for 2 minutes. Stop and check all pipe and hose connections. Tighten or re-seal if required. Repeat air bleeding of cylinders.
22. Reinstall base cover plate.
23. Lag wheel dish to floor. See Fig. 1 for location for each model.

PARTS LIST FOR FIG. 15

SP84/80 LIFT

No.	Qty.	Description	Part No.
1	1	Rt. Hand Lift Column	FJ746
2	1	Lt. Hand Lift Column	FJ747
3	1	Lift Base	FJ746
4	1	Base Cover (SP84)	FJ726
5	2	Carriage Yoke	FJ721
6	2	Rear Swing Arm (SP84)	FJ730
7	2	Front Swing Arm (SP84)	FJ731
8	2	Hydraulic Cylinder	FJ720
9	1	Power Unit (Stone)	P461
10	2	Equalizer Cable	FJ719-1
11*	4	Sliding Base (SP84)	FJ729-1
12*	4	High Step Adapter (SP84)	FJ671-2
13*	4	Low Step Adapter (SP84)	FJ671-1
14*	4	Adapter Pin (SP84)	FJ671-3
15*	4	Adapter Swivel Pin (SP84)	FJ79-6
16	12	Replacement Bearing Kit	FJ749
17	2	Upper Sheave Assembly	FJ719-6
18	2	Replacement Latch Kit	FJ748
19	2	Replacement Sheave Kit	FJ750
20	2	Sheave Cover	FJ749-8
21	2	Bleeder	JX207
22	2	Cylinder Adapter	FJ732-1
23	2	Cylinder Mounting Plate	FJ717-5
24	4	Arm Pin	FJ730-4
25	4	Replacement Bumper Kit	FJ751
26	1	Wheel Groove	FF714
27	1	Tubing Assembly	FJ732-11
28	1	Hose (Stone)	FJ732-7
29	1	Base Cover (SP80)	FJ740
30	2	Rt. Hand Arm (SP80)	FJ737
31	2	Lt. Hand Arm (SP80)	FJ738
32	2	Pad & Support Assembly (SP80)	FJ747
33	4	3/8"-16NC x 1" long socket hd. cap screw	
34	8	3/4"-10NC x 2" Lg. Hex Cap Screw	
	8	3/4" Helical Spring Lock Washer	
35	4	3/8"-16NC Hex Cap Screw x 3/4" lg.	
	4	3/8" External Tooth Lock Washer	
36	4	3/8"-16NC Hex Cap Screw x 3/4" lg.	
	4	3/8" External Tooth Lock Washer	
37	8	1/2"-13NC x 1" lg. Hex Cap Screw	
	8	1/2" Dished Lock Washer	
38	4	5/16"-18NC x 3/4" lg. Hex Cap Screw	
	4	5/16" External Tooth Lock Washer	
39	4	5/16" Hex Nut	
40	4	3/8"-16NC Hex Cap Screw x 3/4" lg.	
	4	3/8" External Tooth Lock Washer	
41	4	1/2"-13NC Hex Nut	
	4	1/2"-13NC Hex Jam Nut	
42	3	3/8"-16NC x 1/2" lg. Hex Cap Screw	
	3	3/8" External Tooth Lock Washer	
43	10	Kwik-Bolt 34-512	

*Complete Adapter Assembly—Part No. FJ729 (Includes Items 11-15)

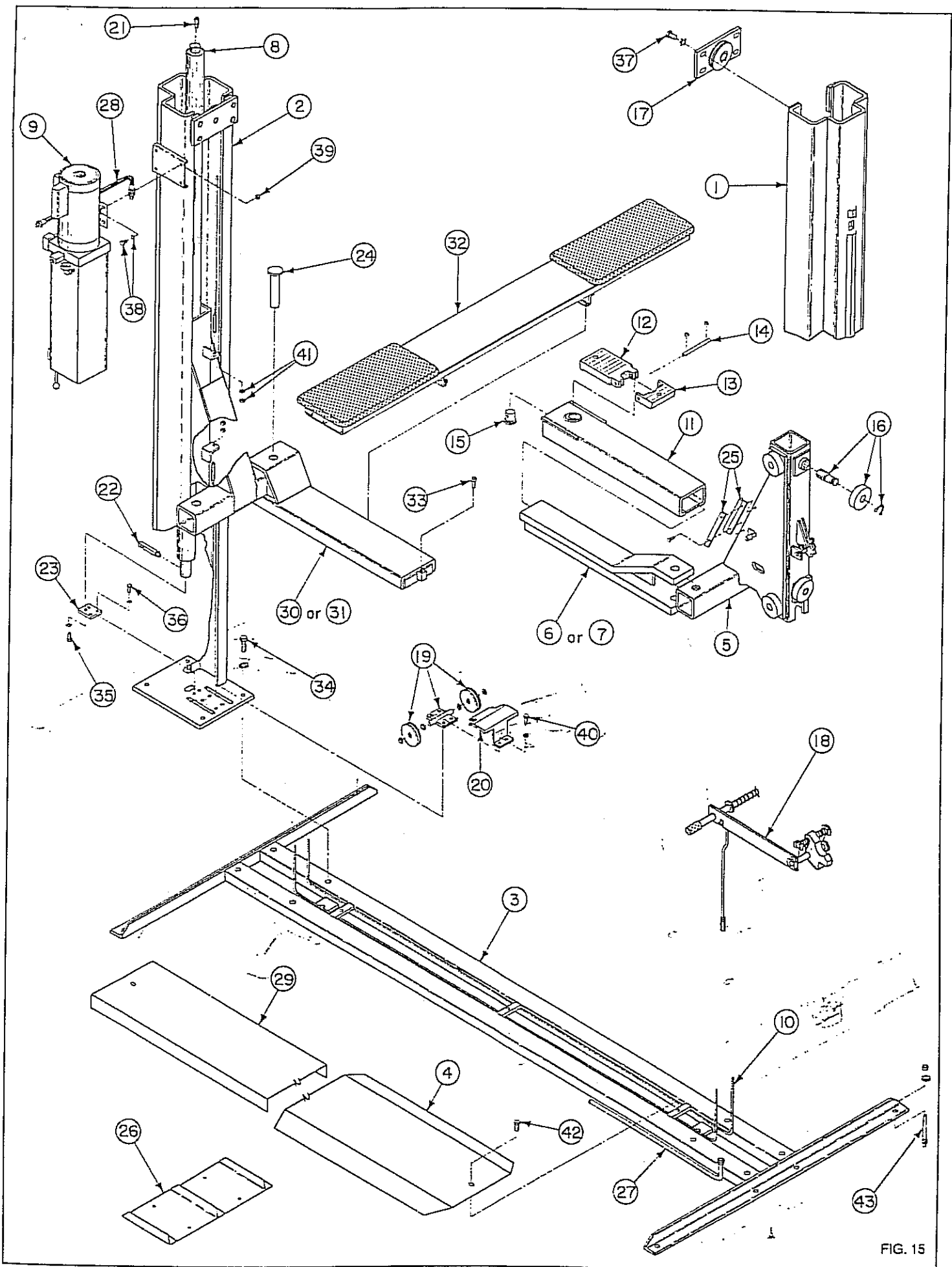


FIG. 15

OPERATING INSTRUCTIONS

1. Swing arms or pads out to full drive-thru position, Fig. 1.
2. Spot vehicle over lift with left front wheel in proper spotting dish position, Fig. 13. NOTE: Wheel-base of 102" or less should be positioned just short of the first rib.
3. **LOADING SP84:** Swing arms under vehicle and position adapters at proper lifting points. Use intermediate or high step adapters for under chassis clearance when required.
CAUTION: Before attempting to lift pick-up trucks or other truck frame vehicles be sure that:
 - A. Total vehicle weight does not exceed lift capacity.
 - B. Adapters are in secure contact with frame at vehicle manufacturers recommended pick-up points.
 - C. Vehicle is stable on lift and neither front nor "tail" heavy.
 - D. The ceiling clearance is adequate.
4. **LOADING SP80:** Use positioning handles on pads to slide pads under vehicle so as to contact outer body frame or perimeter support. Lock handles in stored position. CAUTION: **DO NOT** lift the following vehicles:
 - A. Those with damaged frames or rocker panels.
 - B. Pick-up trucks, vans or other truck frame assemblies.
5. To Raise Lift: Actuate push-button and lift raises. Stop at 6" and check adapters or pads for secure contact with vehicle. Continue to raise to desired height.
6. To lower lift: Remove all tools or other objects from lift area. Release both locking latches by moving RELEASE lever to locked position. Pull lowering valve to lower. Lift must lower fully to reset locking device. When lift is partially lowered, locking latches must be manually set by resetting both release handles.
7. Remove adapters or pads from under vehicle to full drive-thru position before moving vehicle.

MAINTENANCE

1. Inspect all bolts periodically. Tighten as required in installation data.
2. Check equalizer cable tension monthly, per par. 18.
3. Frequently inspect adapters or pads for damage or excessive wear. Replace as required with genuine ROTARY parts.
4. If lift stops short of full rise or chatters, check fluid level and bleed cloth cylinders per instructions. Clean power unit filter, Fig. 9.
5. If fluid is required inspect all pipe, hoses and seals. Repair as required.
6. Periodically check locking latch reset and adjust per par. 19, and Fig. 12.

Mr. Installer: Please return this booklet to installation envelope and attach to Control Valve for owners use.

USE GENUINE ROTARY PARTS FOR LOW COST

DOVER CORPORATION / **ROTARY LIFT DIVISION**

MEMPHIS, TENN. • MADISON, IND. • SCARBOROUGH, ONT.



SP84 MKII RECESSED INSTALLATION INSTRUCTIONS

NOTE: These are supplemental instructions to installation form SP84/80 MKII.

1. Follow instructions in paragraphs 1 through 3 and Fig. 1. of installation booklet for lift placement in bay and location of power unit column.
2. Using column bases as a template and dimensions shown in Fig. 1S locate and saw cut grooves between columns for cables and hydraulic line.
Note: Groove for hydraulic line must be on side of lift with power unit.
3. Having cut grooves in floor return columns to desired location for installation.
4. Lay cables in grooves cut between columns. Tilt columns back slightly and run cables up thru slots in column base.
5. Install sheaves, sheave spacers and sheave shafts as shown in Fig. 2S.

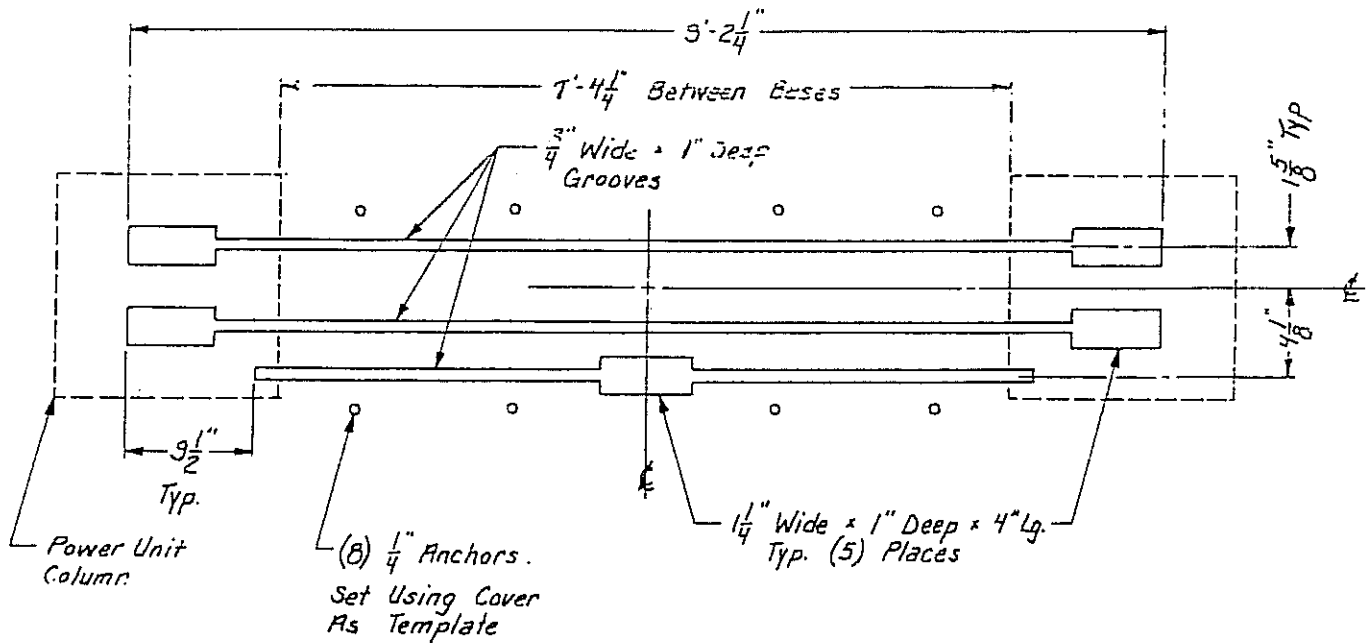


Fig. 1S



6. Before anchoring columns make sure cables and sheaves center in grooves. If rubbing occurs, enlarge groove at point of contact.
7. Anchor columns to floor as described in paragraphs 3 and 4 of installation booklet.
 Important: Maximum allowable shimming on this model is 1/4".
8. Using cover plate as a template match drill (8) holes and install cover plate using $\frac{3}{8}$ " anchors provided.
9. Continue installation as described in installations booklet SP84/80 MKII.
10. Upon making lift operational make final check to insure that cables and sheaves are not making contact with grooves, cover plate or lift base.

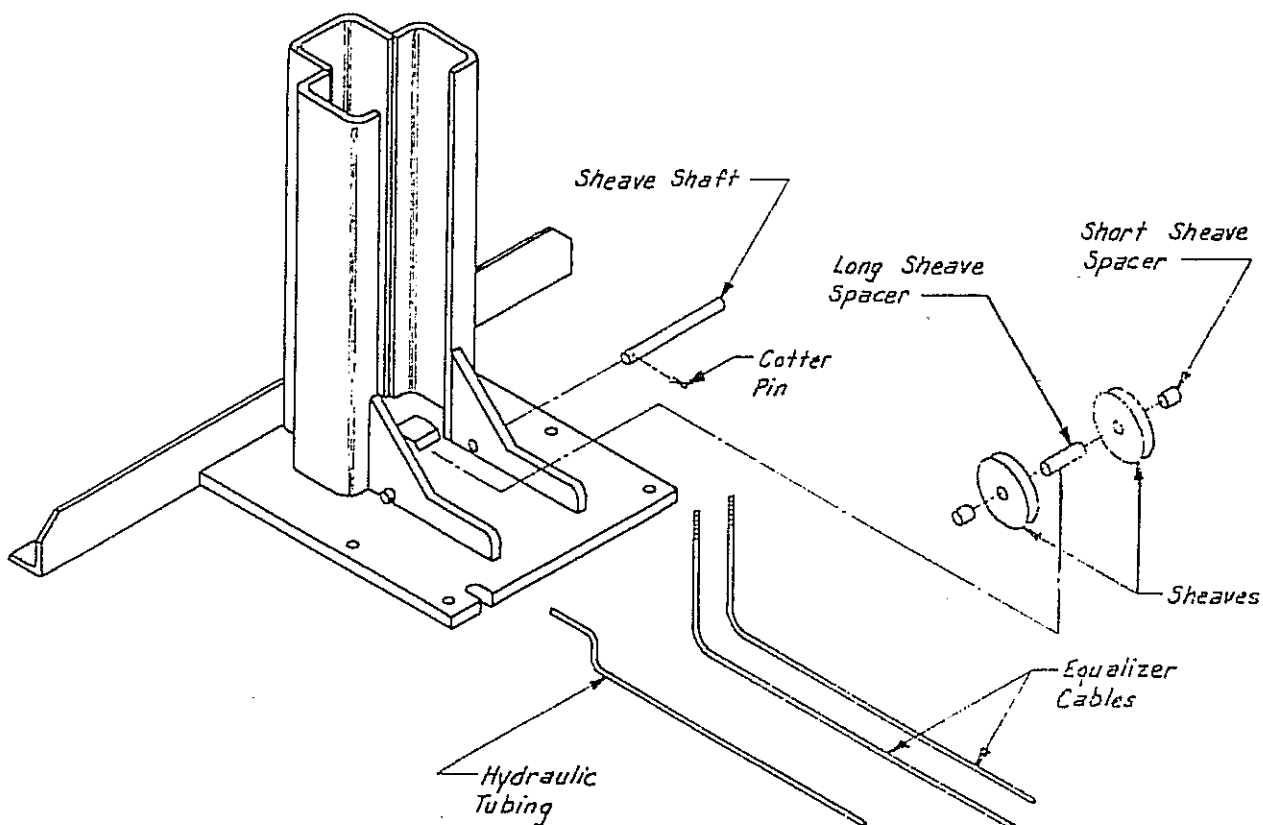


Fig 2 S

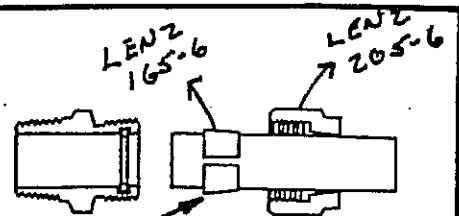
USE GENUINE ROTARY REPLACEMENT PARTS

DOVER CORPORATION / ROTARY LIFT DIVISION

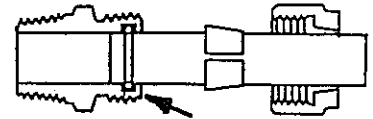
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TUBING INSTALLATION

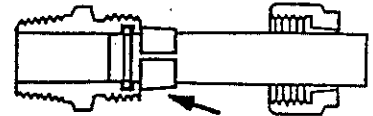
1. Remove plastic caps from tubes.
2. Oil "O"-rings in all fittings. Start with ①, carefully insert tube ② until it bottoms. Hold tube in place, slide split ring to fitting and hand tighten nut. Steps B and C.
3. Insert tube ② into union ③ 3/4" and hand tighten nut. Steps C and D.
4. Insert tube ④ into union ③ 3/4" and into fitting ⑤. Finger tighten nuts. Note: Carefully bend tubing into alignment with fitting if required; do not crimp tubing.
5. Tighten all nuts per step D.
6. Fill power unit (use Dexron II ATF). Start unit with push button. Raise about 2 ft. and reset latches. Open cylinder bleeders approx. 2 turns. Close when oil streams. Fully lower lift. Fill power unit.
7. Run lift to full rise and keep motor running for 5 seconds. Stop and check all pipe and hose connections. Tighten or reseal if required. Repeat item 7.



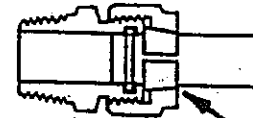
A. SLIDE NUT AND TAPERED SPLIT RING ON TUBE ... The large end of the tapered ring should face the fitting.



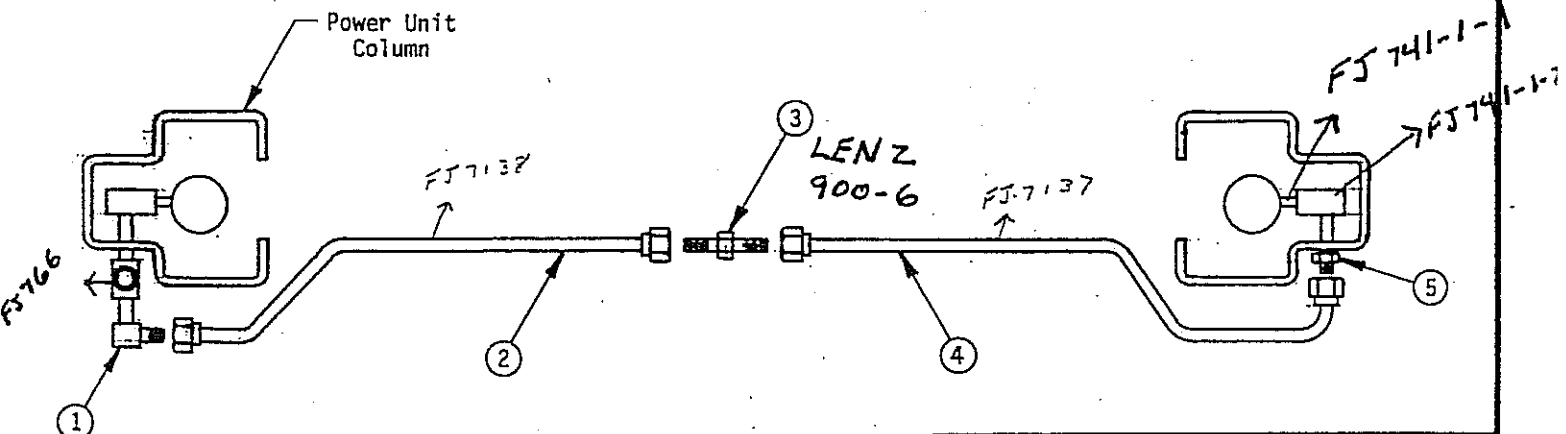
B. OIL THE "O-RING" ... Then insert the tube past the O-Ring.



C. SLIDE TAPERED SPLIT RING ... Slide up to the fitting.



D. TIGHTEN NUT, HAND TIGHT ... Then with wrench tighten one turn or until the rear of the tapered ring is flush with the nut.



Installation Instructions
Tubing
SP-Lifts, MK II Series

DOVER CORPORATION
ROTARY LIFT DIVISION

REV.	CHANGE	DATE	BY
B	Carefully Bend Tube Into Alignment Do Not "Crimp" was "Bend Tubing To Align."	11-5-85	MEM / JN

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DRAWN MEM	SCALE None	DRAWING NO. PR8510138	REV. B
APPROVED JN	DATE 10-21-85		

A.W.

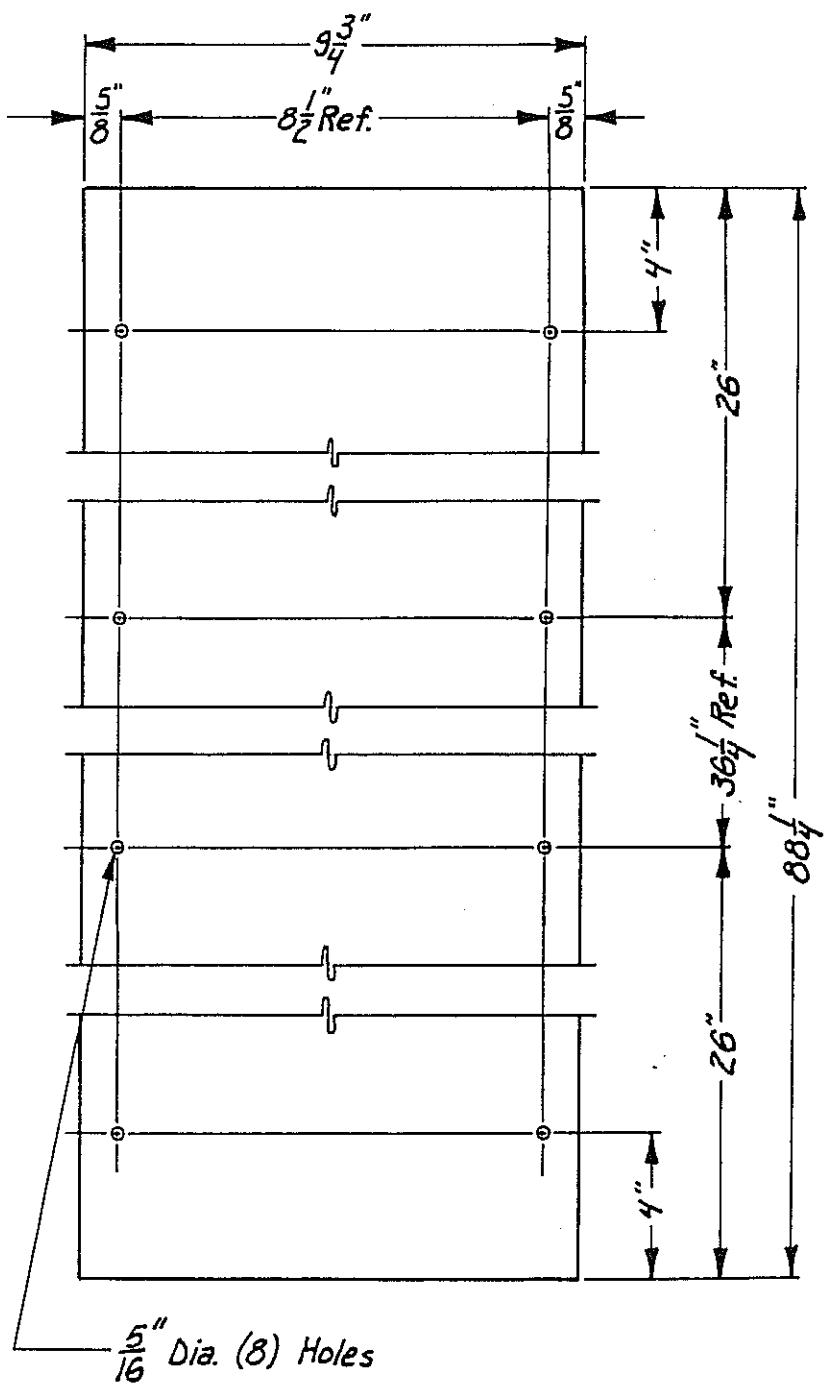
REPLACEMENT TUBING KIT

Qty.	Part No.	Description
1	FJ7137	Tubing Assembly
1	FJ7138	Tubing Assembly P.U. Side
1	^{LENZ} 900-6 FJ772-1	Union Body
1		Extra Long Male Connector - Tube - Male Pipe Lenz #105LL-6
1		Male 3/8" Tube - 1/4" NPT Male Long 90° Elbow Lenz #405L-6
2		5/8" External Thread Protector
2		1/4" Pipe Ext. Thread Protector
1	PR850920	Print
1	FJ7173	Print

} Install (1) each on
Lenz 105LL-6 & 405L-6
Prior to shipping

				Replacement Tubing Kit For Recessed SP84			
				DOVER CORPORATION ROTARY LIFT DIVISION			
ISSUE	1247A	9-12-85	MEM	DRAWN	SCALE	DRAWING No.	REV
			EBP	JW	None	FJ7173	
REV.	C.O. No.	DATE	BY	APPROVED	DATE		
				EBP	9-11-85		

ITEM	QTY.	PART NO.	DESCRIPTION
○			12 Ga. (105°) HR Sheet $9\frac{3}{4}'' \times 88\frac{1}{4}''$
○			



REV.	C.O. No.	DATE	BY	FINISH	USED ON	Center Cover				
A	ISSUE 1114	6-14-83	EBP			DOVER CORPORATION ROTARY LIFT DIVISION				
										NOTE:—THE FOLLOWING TOLERANCES APPLY UNLESS OTHERWISE SPECIFIED. ± 1/32" ON ALL FRACTIONAL DIMENSIONS, INCLUDING DRILLED HOLES. ± .010 ON ALL DECIMAL DIMENSIONS. ± 1.0° ON ALL ANGLES. REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS.
							APPROVED EBP	DATE 5-18-83		