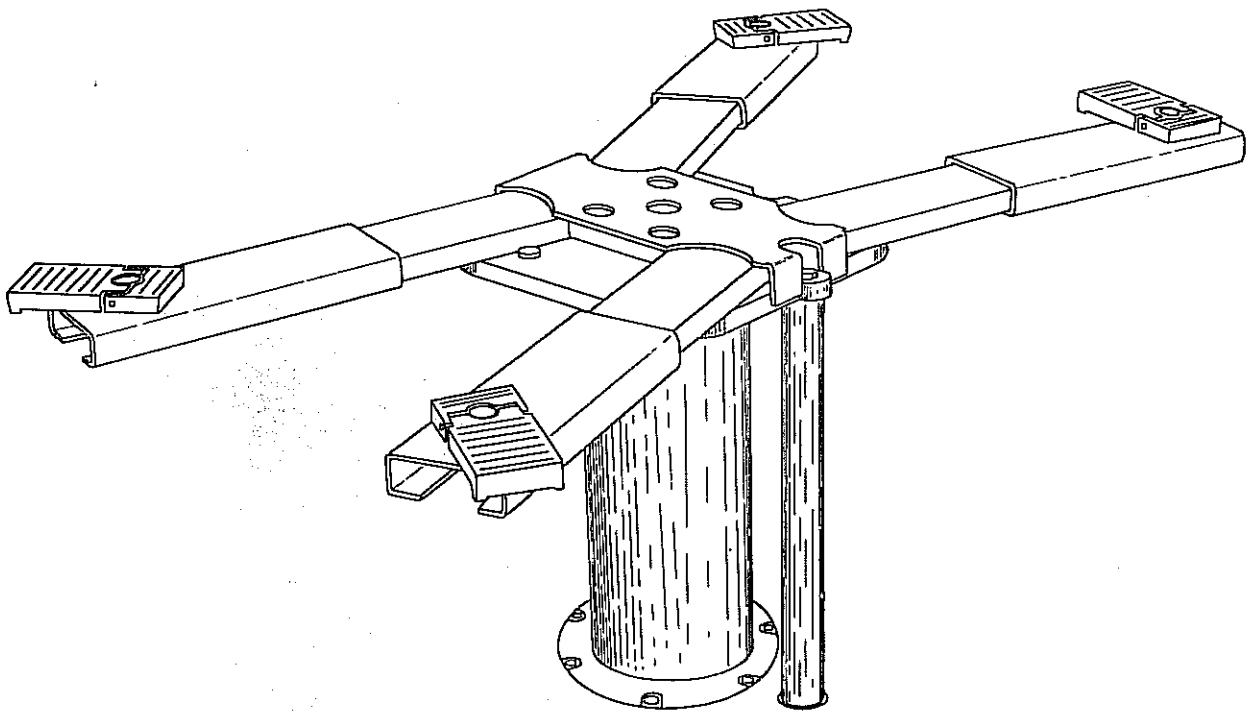
FP46 Mark VII
Frame Lift

"H" Series Full Hydraulic

"A" Series Semi-Hydraulic

CAPACITY 8,000 LBS.
2,000 LBS. MAXIMUM PAD LOAD

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	10⅝" Jack 98" Long	*1	Low Oil Control	1	Oil Gauge
1	Superstructure Yoke and 4 Arm Beams	1	Wheel Dish	†1	Fill Nipple Assembly
*1	Air-Oil Tank	1	Air Valve	4	⅞" x 2½" Cap Screws
1	Non-Rotator & Locking Leg	*1	Oil Valve	4	⅞" Lock Washers
1	Parts Box	1	Muffler		
		4	Swivel Adapters		

*"H" Series, Full Hydraulic

†"A" Series, Semi-Hydraulic

ROTARY LIFT
A DOVER INDUSTRIES COMPANY

ROTARY LIFT
A DOVER INDUSTRIES COMPANY
P.O. Box 30205, Airport Station
Memphis, TN 38130
Phone toll-free: 1-800-445-LIFT (5438)
(901) 345-2900
FAX: (901) 332-4250

MADISON, INDIANA
Phone: (812) 273-1622
Traffic: 1-800-423-0126

For Export:
ROTARY LIFT EXPORT COMPANY
200 Executive Drive, Suite 320
West Orange, NJ 07052
(201) 325-3838
Telex #13-0693

For Canada:
DOVER CANADA
31 Progress Court, Unit 10
Scarborough, Ontario, Canada M1G3V5
(416) 439-9713
Telex #065-25468

Printed in U.S.A. (c) 7 87 5000

Form 3-FP46 VII

INSTALLATION INSTRUCTIONS

MR. INSTALLER: Please follow these instructions to insure a good installation and satisfactory operation of the lift.

After installation please return this book to instruction envelope and attach to control valve

LIFT LOCATION

1. Check architect's layout if available. Set the jack in the center of a clear space 10'-0" wide and 24'-0" front to back as shown in Figs. 1 and 9. The minimum ceiling clearance should be 12-0" from floor level to lowest obstruction in lift area. Other bay lengths may be used, provided ample clearance is maintained at ends of lift. See Fig. 9.

2. The operating valve(s) should be located adjacent to lift to provide complete visibility of lift by operator.

EXCAVATION

3. Dig hole for jack 8'-6" deep and 2'-0" diameter as shown in Fig. 2. On Full Hydraulic model, "H" series, floor space may be saved if the tank is installed underground. Fig. 2A. The tank requires an excavation 7'-9" deep x 2'-0" diameter. Tank should be located directly under control valves. No tank required on Semi-Hydraulic "A" series.

4. Dig trench 12" deep between jack and valve location for air or oil line(s). In some localities pressured tanks must be installed above ground as illustrated in Fig. 5. Tank installation must meet local codes.

IMPORTANT: Test soil to determine corrosive characteristics. Take the necessary measures to protect in-ground equipment with one of the many cathodic protection systems. Failure to provide underground protection when indicated by soil test could cause oil leaks to develop in the hydraulic system, resulting in costly repairs or making the equipment inoperative and unsafe.

JACK SETTING

5. Attach non-rotator to jack. See Figs. 2 and 6. Remove shipping band from top of jack. Bend down band lugs to accept hoist chain. DO NOT hoist jack with gland bolts or holes. Pour 4" of concrete in jack hole and lower jack before concrete sets. After jack is set plumb, pour concrete 3" deep around bottom of jack casing. Recheck plunger for plumb and elevation before concrete hardens.

IMPORTANT: Be sure top of jack protector ring is exactly even with top of finished floor grade. See Figs. 2 and 4. Be sure non-rotator outer pipe is installed exactly 90° to the side. See Fig. 1.

Continue with backfull around jack using clean sand (never use cinders). After each foot of backfill, tamp solid and recheck plumb and elevation. See Fig. 10. Continue backfill to approximately 12" from top of jack protector ring leaving room to make oil or air line connection. See Fig. 4. Fill inside of "H" series plunger with dry sand for lowering ballast.

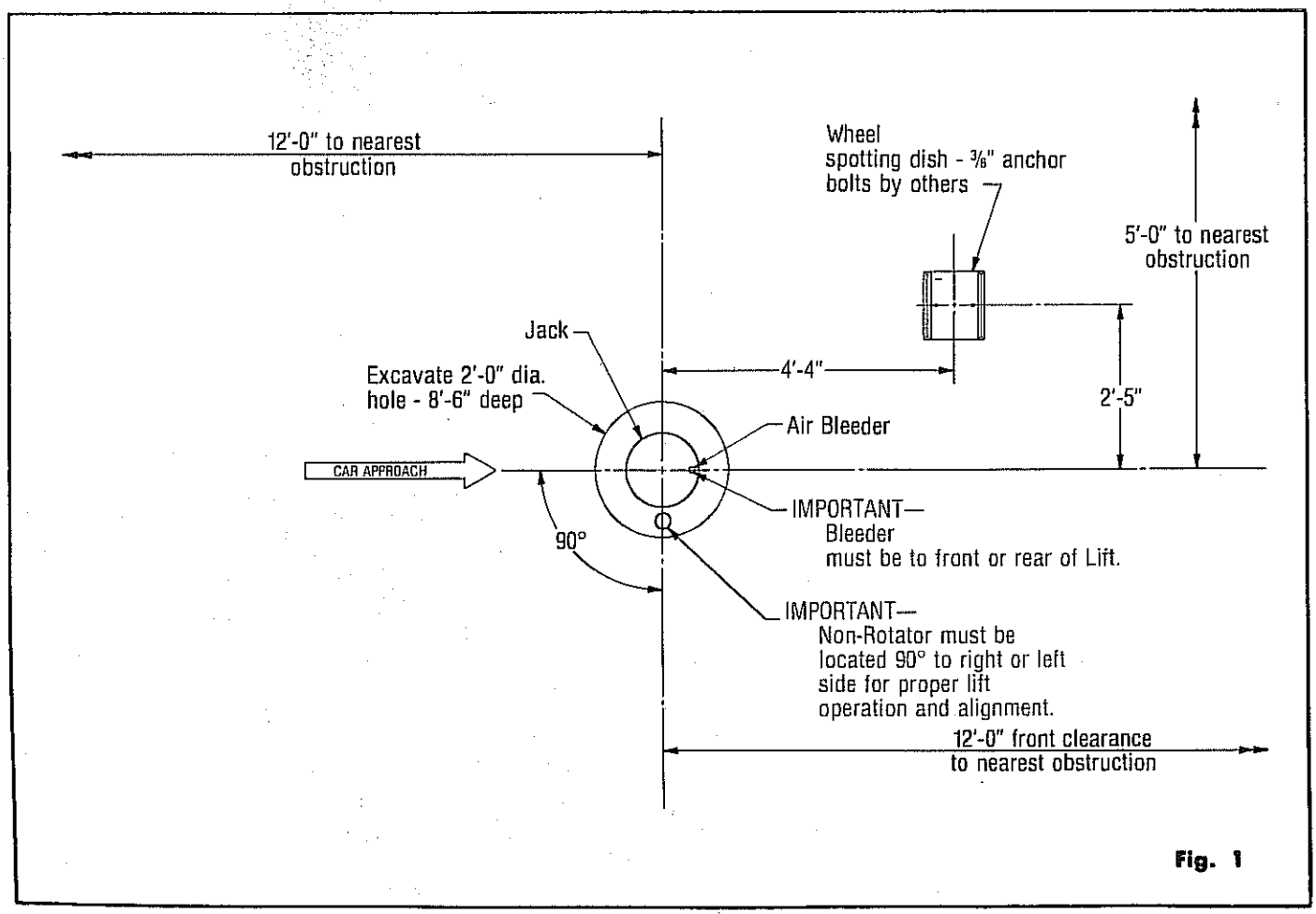


Fig. 1

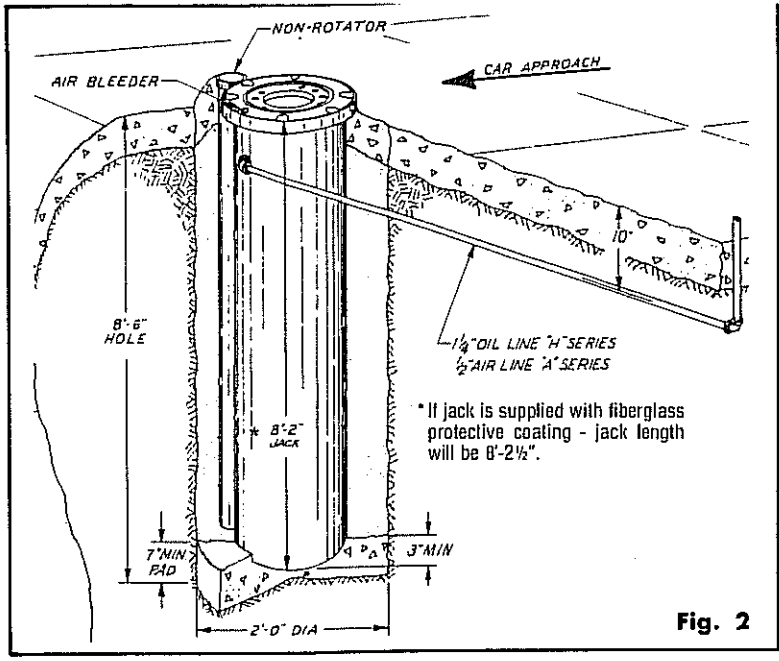


Fig. 2

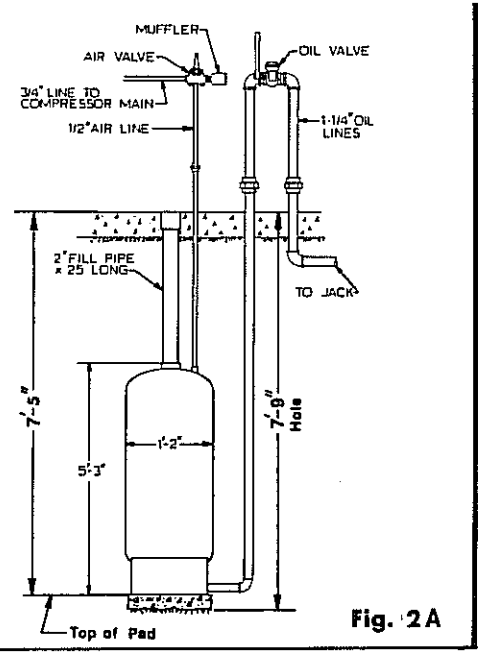


Fig. 2A

FULL HYDRAULIC TANK SETTING

6. Underground Tank: Screw 2" x 25" pipe into tank top outlet. Cap with coupling and flush plug. Run ½" air supply into tank top. Make up 1¼" bottom outlet piping, Figs. 2A and 5. Tighten all plugs and connections. Pour 4" of concrete in hole for tank pad. Set tank on pad and position to bring pipes to desired valve location. Elevation of tank and 25" pipe length are critical. Top of fill coupling must be flush or slightly above floor. Secure tank in position, but do not backfill or cover pipe joints before testing.

7. Above ground Tank : The 2" fill pipe is not required. Use piping procedure shown in Fig. 5.

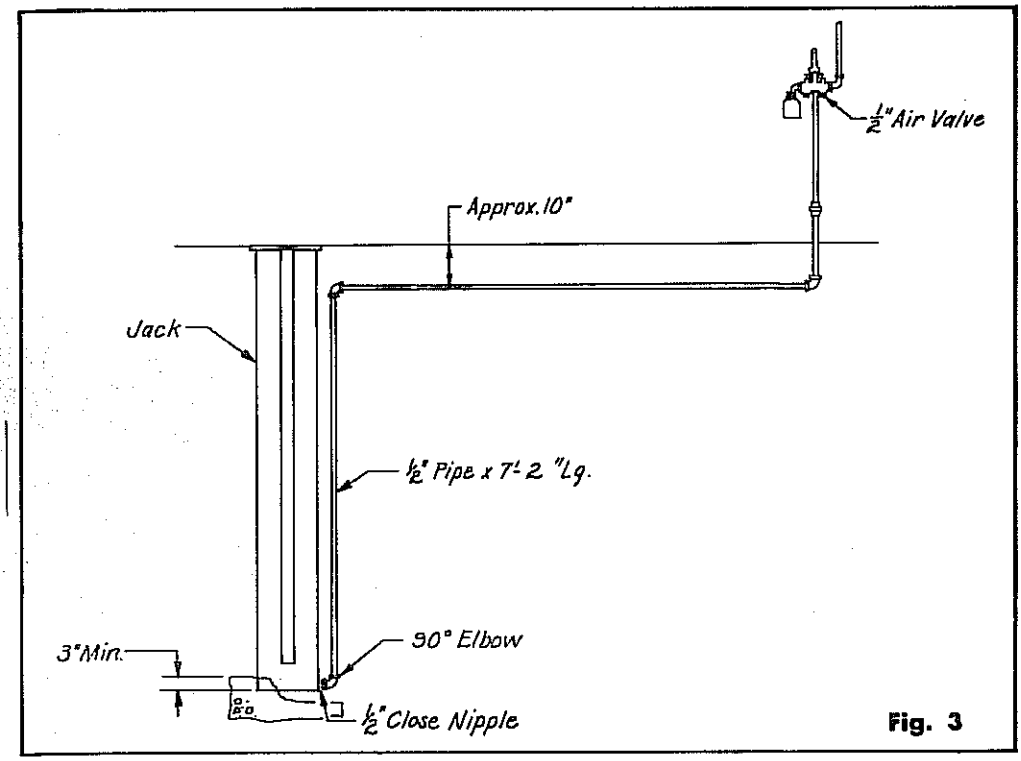


Fig. 3

NOTE: "H" series lift is equipped with Low Oil Control device. DO NOT insert float at this time, see Fig. 5.

PIPING

8. Schedule 40 (Standard Weight) pipe and 150# malleable iron fittings are recommended. Clean pipe and fittings thoroughly. Use premium grade pipe compound. Use ground joint unions below valves, Figs. 2A and 7.

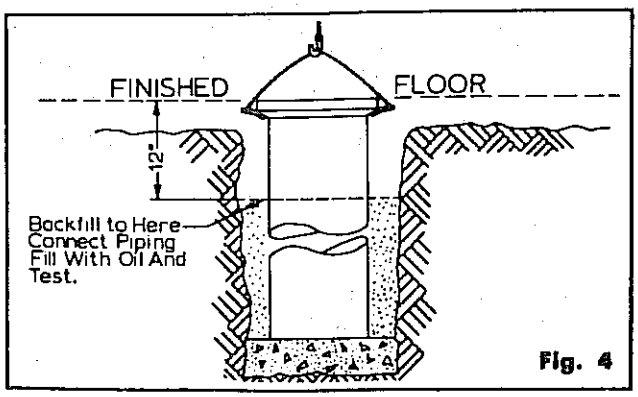


Fig. 4

"H" Series: Complete oil valve piping per Figs. 2A and 5. Run 1¼" oil line to jack inlet. Complete ½" piping line from tank to valve port marked "Hoist".

"A" Series: Run ½" airline from valve port marked "Hoist" to jack inlet, Figs. 3 and 7.

9. Compressor air supply connects to valve port marked "In".

10. Install muffler in valve port marked "Out".

11. Secure valve piping to building for stability. Install valves about 40" above floor. Refer to Figs. 2A, 5 and 7 for selected piping diagram and tank location.

CAUTION: Do Not Test or Attempt to Operate Jack Before Filling with Oil.

OIL FILLING

12. DO NOT use so-called "Hydraulic Fluids." See recommended oil specifications in this form. Selected oil should contain anti-foam and anti-rust agents. System capacity is approximately 46 gallons.

13. Open air bleeder in jack flange three full turns. See Fig. 6.

14. For "H" series: Fill tank with oil, approximately 36 gallons. Replace and tighten fill plug. Open air valve to fill tank with air. Slowly admit oil to jack through oil valve.

15. For "A" series: Remove shipping nipple and plunger cover. Discard shipping nipple. Install fill nipple assembly (from parts box). Fill with oil to gage level. Plug fill coupling, Fig. 6. Slowly open air valve.

16. CAUTION: Do not let plunger extend more than 2 feet during filling and bleeding operation. Jack may become permanently damaged if oil is admitted too fast before all of the air is bled. Close bleeder when steady stream of oil appears.

17. Discharge air from tank or jack and lower plunger.

18. Refill tank or jack and repeat bleeding operation. Refill tank or jack to gage level.

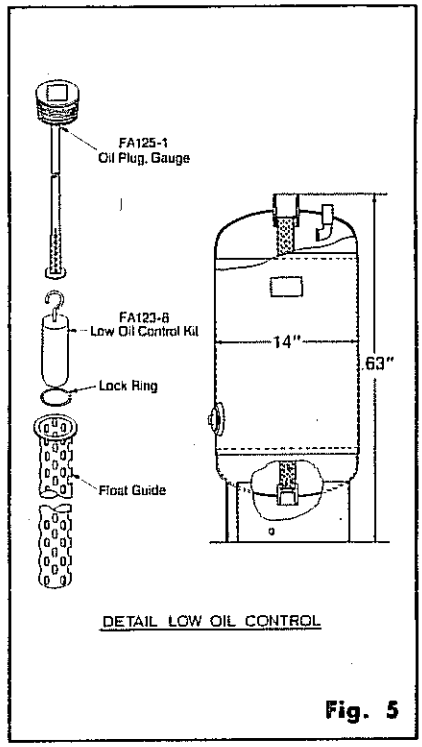


Fig. 5

LOW OIL CONTROL

19. "H" series: Install low oil control device per Fig. 5.

20. "A" series: This device is factory installed. See Fig. 6.

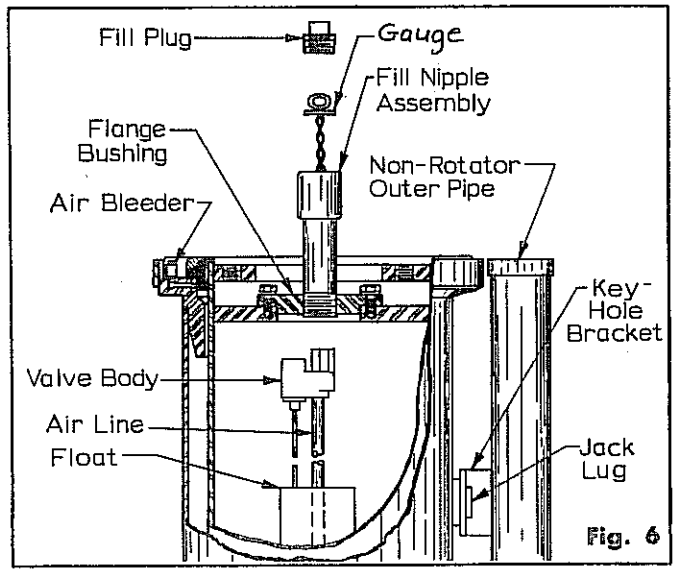


Fig. 6

TESTING

21. BEFORE TESTING, TIGHTEN FILL PLUG, PACKING GLAND BOLTS, AND AIR BLEEDER.

22. Set yoke on plunger, connect with (2) 7/8" bolts and attach non-rotator to keep plunger from rotating.

23. Operate lift through two cycles. It should operate smoothly up and down. If jerky operation occurs, lower lift, repeat filling and bleeding instructions and wipe plunger with oil.

24. "H" series: To test piping, raise lift to full rise and leave under pressure for at least 5 minutes with oil valve closed and air valve in neutral position. Check all joints.

25. "A" series: To test piping, raise lift to full rise and hold air valve open for one (1) minute to charge system to maximum pressure. Set air valve in neutral position for at least 5 minutes. Check all joints.

26. Lower lift, disconnect non-rotator and remove yoke.

27. Remove and clean air valve strainers of all foreign matter, see Fig. 7. Retighten caps. Do not use pipe compound on air valve caps.

"H" SERIES ONLY. Plunger must be filled with scrap metal or sand to provide sufficient lowering speed.

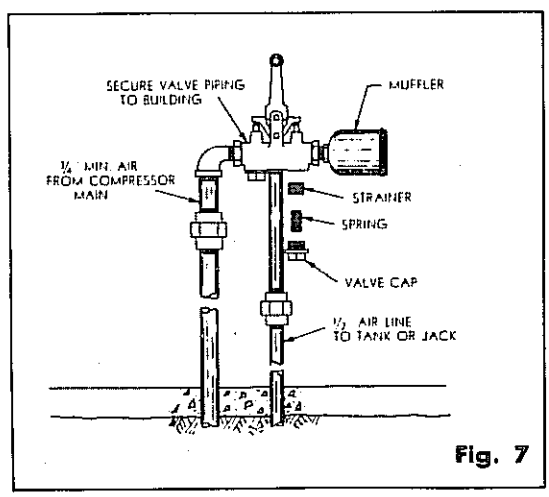


Fig. 7

FINAL BACKFILLING AND CONCRETE WORK

28. Complete backfill to within 6" of top of protector ring.

29. Check protector ring for dents incurred during shipment and straighten.

30. Bend sling lugs down below finished floor grade. See Fig. 4.

31. Backfill and tamp pipe trench. Make final elevation and plumb check of jack.

32. Pour concrete floor being careful not to run concrete into non-rotator outer pipe, around packing gland, or cover tank fill plug. Trowel concrete around ring so that water will not accumulate on gland. See Fig. 9.

33. Allow concrete to harden, 24 hours minimum, before lift is used.

34. The wheel dish is located as shown in Fig. 1. Secure to floor with (2) ⅜" anchors supplied by installer.

SUPERSTRUCTURE ASSEMBLY

35. Raise lift approximately 6". Place superstructure yoke on plunger. Align bolt holes in yoke with tapped holes in plunger. **IMPORTANT:** Plunger location pin must fit into matching hole in yoke. Bolt yoke to plunger with (4) ⅞" x 2½" cap screws and tighten to 100 ft.-lb.

36. Bolt non-rotator to yoke, but do not tighten (raise and lower lift—non-rotator will align itself.) Tighten non-rotator bolt to 60 ft.-lbs. torque.

37. Clean and lubricate tongue and groove area of yoke and arms as well as pivot pin area of yoke.

38. Attach arms and install (4) swivel adapters as illustrated. See Fig. 8.

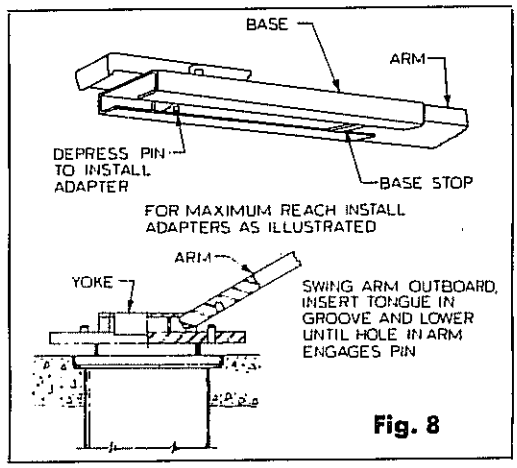
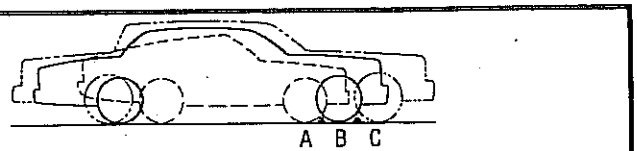


Fig. 8

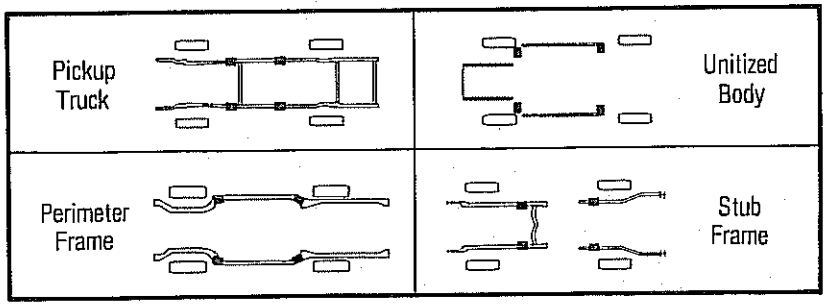
OPERATING INSTRUCTIONS

1. **Caution: Permit only trained personnel to operate lift.**
2. Position swinging arms and adapters to clear car when it is driven over lift. Be sure adapters are in the lowest position to provide drive-over clearance.
3. Drive car over lift, placing front wheel in proper spotting dish. See chart. Keep car square with lift.
4. Refer to chart for frame type. Position adapters at proper lifting points.
5. "H" series operation: Lock air valve with handle in position opposite muffler and fully charge tank. Open oil valve to raise lift. To lower lift, disengage locking latch, lock air valve with handle in position toward muffler. Exhaust all air. Open oil valve to lower vehicle.
6. "A" series operation: Position valve handle opposite muffler to raise lift. To lower, disengage locking latch, position valve handle toward muffler.
7. Important: Raise vehicle only a few inches at first; stop and check to be sure support adapters are in secure contact with vehicle frame. Then, raise vehicle to desired height.
8. Fully lower lift and return adapters to lowest position before removing vehicle.
9. **CAUTION: Before attempting to lift pick-up trucks, or specialty vehicles such as vans, campers, etc., be sure that:**
   (a) load does not exceed lift capacity.
   (b) adapters are in secure contact with frame at vehicle manufacturer's recommended pick up points.
   (c) vehicle is stable on lift and not "tail heavy" due to pay load, camper body overhangs, etc.
   (d) adequate ceiling clearance is available.

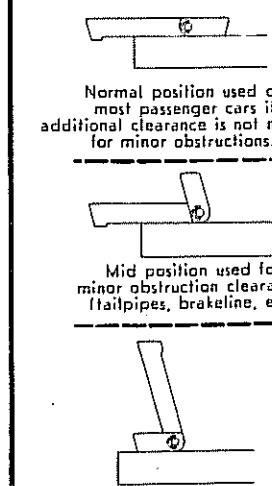


A. Less than 105" W.B. B. 105" thru 127" W.B. C. Larger than 127" W.B.

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.



ADAPTER POSITIONS


Normal position used on most passenger cars if additional clearance is not needed for minor obstructions.

Mid position used for minor obstruction clearances (tailpipes, brakeline, etc.)

High position is necessary for additional clearance.

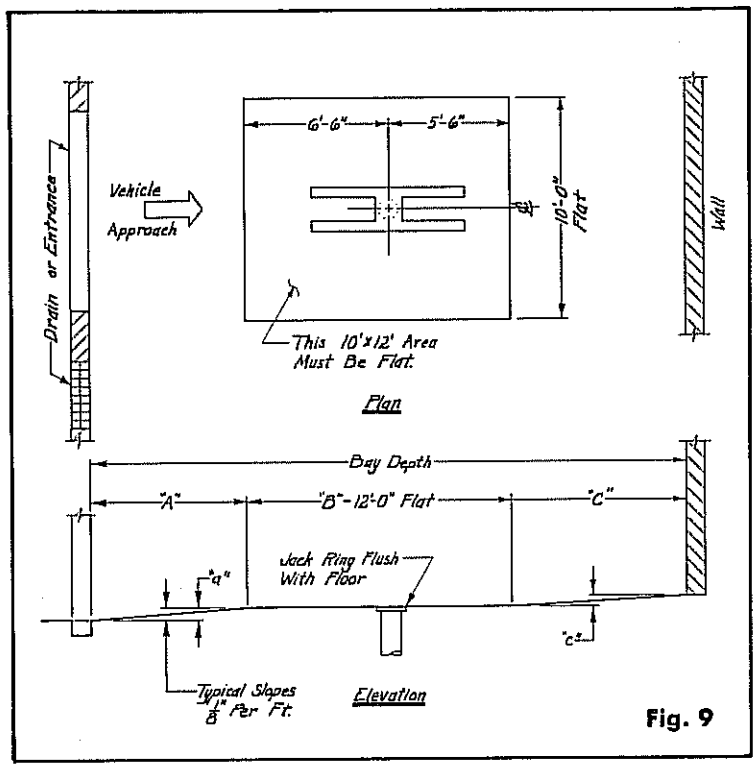


Fig. 9

Bay Depth	"A" Rear Slope Length	"a" Drop in "A"	"B" Lift Area	"C" Front Slope Length	"c" Drop in "C"
24'-0"	6'-0"	¾"	12'-0"	6'-0"	¾"
26'-0"	8'-0"	1"	12'-0"	6'-0"	¾"
28'-0"	9'-0"	1⅛"	12'-0"	7'-0"	⅞"
30'-0"	10'-0"	1¼"	12'-0"	8'-0"	1"

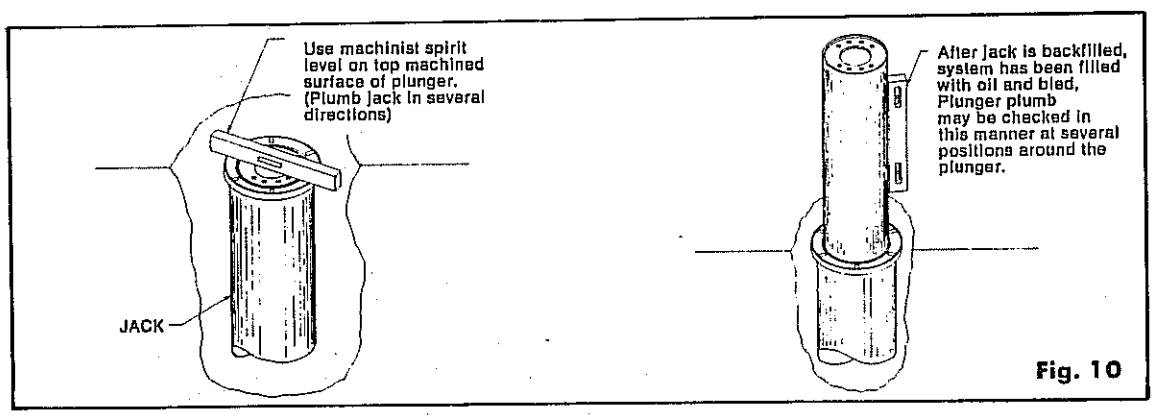


Fig. 10

RECOMMENDED OILS SPECIFICATIONS FOR ROTARY LIFTS

Oils recommended for use in automotive lifts should conform to the following specifications.

Viscosity Range:	150 SSU to 200 SSU @ 100°F
Aniline Point:	210°F Min.
Viscosity Index:	95 Min.
Additives:	Anti-Foam Anti-Rust Anti-Oxidation
Pour Point:	20°F below operating temp.

Do not use "hydraulic" fluids, for they may foam under air pressure.

MAINTENANCE TIPS

CAUTION: IF YOU ARE NOT COMPLETELY FAMILIAR WITH AUTOMOTIVE LIFT MAINTENANCE PROCEDURES—**STOP:** CONTACT FACTORY FOR INSTRUCTIONS. **TO AVOID PERSONAL INJURY,** PERMIT ONLY QUALIFIED PERSONNEL TO PERFORM MAINTENANCE ON THIS EQUIPMENT.

- **Never**—Operate lift with non-rotator disconnected.
- **Never**—Overload lift. See capacity nameplate located on superstructure.
- **Never**—Exceed 200 p.s.i. operating pressure. Lift is designed to raise capacity load at 150 p.s.i.
- **Never**—Wedge or lock oil control valve in open position.
- **Never**—Strike plunger with tools. Sharp edges may result in seal damage. If leak occurs, inspect plunger for sharp edges and sand smooth with fine emery paper before replacing seal.
- **Always**—Keep locking latches free and oiled.
- **Always**—Keep all bolts tight.
- **Always**—Keep superstructure clean.
- **Daily**— Drain air compressor tank to eliminate accumulation of water. **(Do not rely on automatic drain.)** Excessive water is harmful to lift system and causes the valve to exhaust oil.
- **Lubricate** tongue, groove and pivot pin area on yoke and arms as required for easy adjustment.

- **CHECK FLUID LEVEL IN TANK IF ONE OF THE FOLLOWING CONDITIONS EXIST:**

A. Lift not raising to full travel. Usually caused by a low oil condition with low oil control float restricting flow of pressure from air-oil tank to hydraulic jack(s).

B. Lift jumping at last stage of rise and/or lift dropping suddenly at beginning of down cycle. This indicates the system is low of fluid and air is entering the jack(s).

CHECK OIL LEVEL.

A. Raise lift 2 feet.

B. Open manual air bleeder(s) on jack(s) two turns. Close when oil appears.

C. Lower lift to floor.

WARNING —
TO AVOID PERSONAL INJURY
Lock air valve handle in the exhaust position and be sure all pressure has been expelled from air-oil tank before attempting to remove tank fill plug.

D. Remove fill plug.

E. Add oil to gauge level. **Do not overfill.**

F. Replace and tighten fill plug. Check for plug leaks.

MR. INSTALLER:
PLEASE RETURN THIS BOOKLET TO LITERATURE PACKAGE AND GIVE TO LIFT OWNER/OPERATOR.

REGULAR MAINTENANCE INSURES SATISFACTORY OPERATION.

CONTACT YOUR NEAREST MASTER PARTS DEPOT OR ROTARY DISTRIBUTOR FOR GENUINE ROTARY REPLACEMENT PARTS — SEE LITERATURE PACKAGE FOR PARTS BREAKDOWN.

ROTARY LIFT

A DOVER INDUSTRIES COMPANY

ROTARY LIFT
A DOVER INDUSTRIES COMPANY
P.O. Box 30205, Airport Station
Memphis, TN 38130
Phone toll-free: 1-800-445-LIFT (5438)
(901) 345-2900
FAX: (901) 332-4250

MADISON, INDIANA
Phone: (812) 273-1622
Traffic: 1-800-423-0126

For Export:
ROTARY LIFT EXPORT COMPANY
200 Executive Drive, Suite 320
West Orange, NJ 07052
(201) 325-3838
Telex #13-8693

For Canada:
DOVER CANADA
31 Progress Court, Unit 10
Scarborough, Ontario, Canada M1G3V5
(416) 439-9713
Telex #065-25468

This equipment complies with American National Standard B-153.1

PEI ALI ASIA MEMBER