

## SECTION 4. INSTALLATION INSTRUCTIONS

Series 1000, 2000, 2000K, T-Series, 3000, 4000, 6000

### Equipment and Supplies Required:

1. Equipment to maneuver the Advance Lift into position. Nylon slings are preferred, but padded alloy chains through the handrail socket holes will also work as rigging.
2. The appropriate gallons of oil and a funnel, for exact quantity see page 8-3. Note that the 2000K, T-Series & 6100 units only require 5 gallons and the 1000 series units, and the 6150 model, are filled with oil at the factory. Series 3000 units require 10 gallons and series 4000 units need 15 gallons.
3. A ½", extra heavy, double wire braid hose (SAE 100R2A) or extra heavy seamless piping from the power unit to the equipment with ½" JIC female fittings on the ends. Advance supplies a ½" JIC male universal connector on the outlet of the power unit and the end of the connector hose on the lift. Note that no hosing or piping is required on the 1000 series lifts and the model 6150, which are supplied with self contained power units. 4000 series lifts require two hoses because of their special piping needs. The model 6000 is supplied with (1) 20-foot hose and the 6200 & 6300 lifts are supplied with (2) 20-foot hoses. If hose or piping length will exceed 35 feet, consult the pressure chart to insure proper sizing. **Caution!** Be sure all hydraulic fittings are rated for hydraulic systems that may peak out at 4000 PSI. Hardware store items can burst at 150 PSI. Only buy from reputable hydraulic outlets.
4. Material for shimming and grouting, and anchor bolts. We recommend "Rawl-Stud Wedge Anchors", "Wej-It" or equivalent bolts in the 5/8" x 6" size. The 3000 and 4000 series and the models 6200 and 6300 will require the 1" x 9" size. The studs must be embedded at least 4 ½" into the concrete.
5. Electrical fused disconnect (if required).
6. Wire and electrical fittings for the branch circuit, pushbutton station, down solenoid, motor and any accessories. See branch and control circuit section of this manual. Note: The 6000 and 1000 series units are totally pre-wired ready to plug into the branch circuit.
7. Standard hand tools for electrical work and hydraulic maintenance.
8. A heavy pry bar for shifting the equipment and a drill for installing the lag down studs.
9. Safety leg maintenance bar. This is supplied by Advance Lifts on all units. Check the maintenance section of this manual for proper usage of each style of safety leg.
10. Pit mounted units will require timbers to temporarily support the unit over the pit.

## SECTION 4. (CONTINUED) INSTALLATION INSTRUCTIONS

### Installation Procedure:

1. Read the Installation, Operating, and Maintenance instructions completely before attempting installation. You may also find it helpful to read the remaining sections of the manual for a better understanding of how the equipment works.
2. If you are installing a pit mounted unit, check the pit dimensions against the pit drawing for conformity (length, width, and depth including bridge recesses) and be sure to check the diagonal of the pit for square. Also be sure whatever surface the base frame will sit on is flat and level or is shimmed to achieve that end. (See p 4-6 for a typical pit drawing).
3. Locate the power unit, check to insure that there is no water contamination in the reservoir. Fill the reservoir through the breather hole with the appropriate hydraulic fluid (see fluid recommendation section of this manual). Ideally, you should mount the reservoir on a wall approximately 6 ½' above the ground. This prevents people from standing on or placing objects on the power unit. It will free up floor space and because the reservoir is higher than the lift, it will allow any air in the system to naturally rise to the highest point and purge itself from the system.
4. Run the hydraulic lines from the power unit to the lift and flush the lines with clean fluid before connecting them. If the lines must be pushed through chases or enclosures, be sure to cap the lines to prevent contaminants from entering the hose. Cleanliness is the single most important factor in the maintenance of any hydraulic system. Contamination will destroy cylinders, valves and pumps!
5. Following the electrical diagrams in the electrical section of this manual, make the electrical connection to the motor and controls for the unit. **Be sure that you have correct motor rotation!** Continued operation of a hydraulic pump in reverse rotation will destroy it! You can detect the rotation by making short motor jogs and watching the clear suction line from the reservoir to the pump. If the rotation is correct, the fluid will leap up the line into the pump. If the rotation is reversed, there will be no fluid in the suction line. You may change the rotation of a 3-phase motor by simply exchanging the positions of any two of the three power wire connections. With single-phase motors, rotation is set at the factory. Remember to have the discharge end of the hosing secure and discharging into a container or someone may take an oil bath.

Note: Some installers try to arrange all of the above work to be completed before they ever bring a lift to the job site. This allows them to use the crane that is used to offload and position the lift for as short a time as possible.

6. Units such as 1035's, 1045's and those 6000 series lifts with 3 phase motors, are pre-wired at the factory but must still be checked for proper motor rotation when they are plugged in, because this is strictly a function of each individual building's wiring.

## SECTION 4. (CONTINUED) INSTALLATION INSTRUCTIONS

### Installation Instructions:

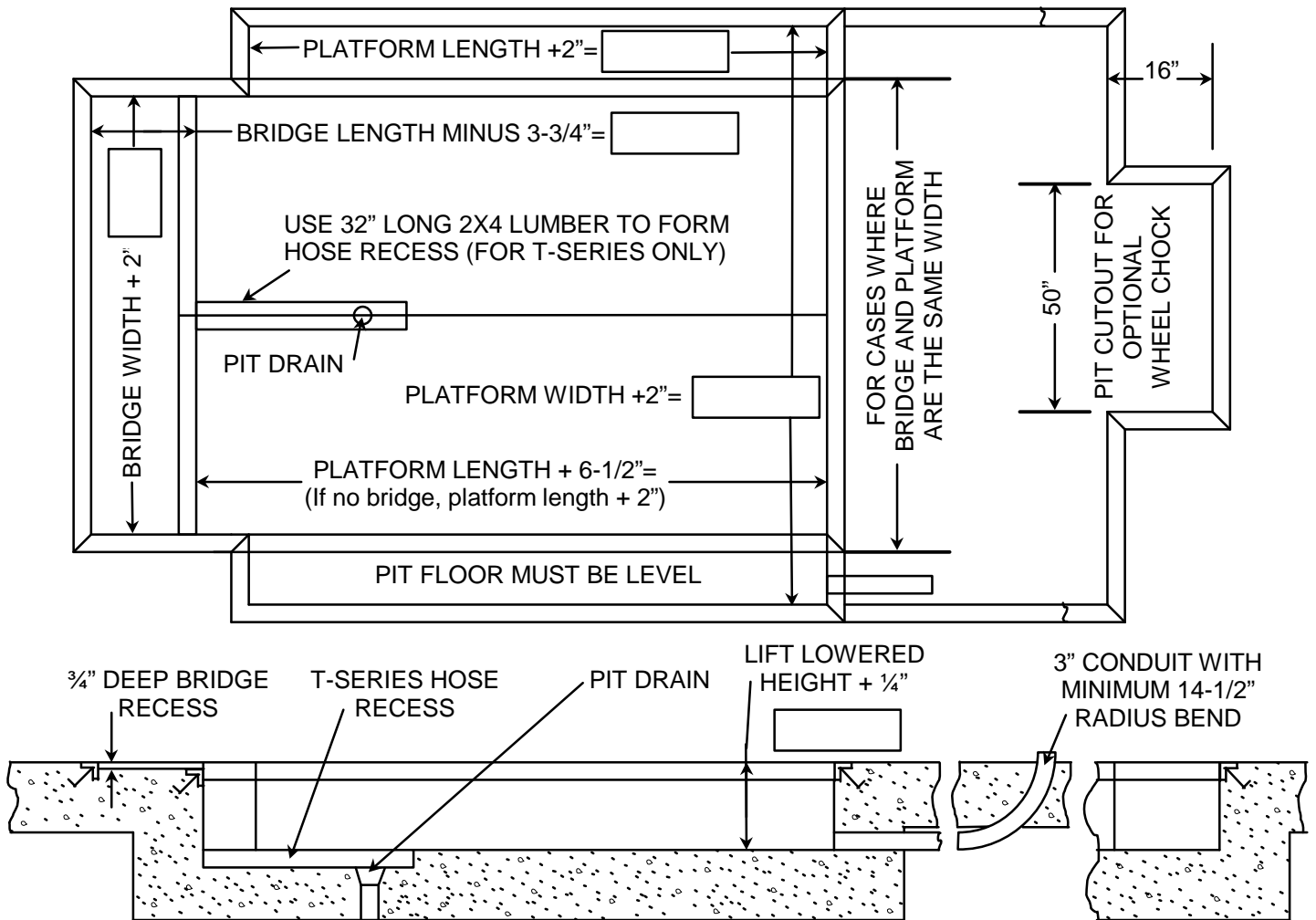
7. Figure out the proper orientation of the lift. (Surface mounted units may simply be put into place). Note: All dock lifts are built so that loads are transferred over the hinged (clevis) end of the platform when elevated to truck height and this is the end to which the hinged bridge is usually welded. Occasionally, the bridges are side mounted. Surface mounted units are equipped with approach ramps for transitioning on and off the unit from the ground level. The ramps are usually much larger than the bridge and located on the roller end of the platform and should never ever be used as a bridge to the truck!
8. For pit mounted units, place timbers diagonally across the corners of the pit and with shipping restraints still in place, but shipping blocks removed, place the lift on the timbers. Then you may make temporary hose connections being careful not to over-tighten and crack the hydraulic fittings. Finally, you may remove the timber supports and lower the lift into the pit.
9. You may now break the shipping restraints (banding). Use the lift's power unit to open the lift a few feet and use your crane to raise the clevis end (hinged bridge end) of the lift by hooking the bevel toe guard or use a plate grab attached to the hinged bridge. This will allow you to remove your chains or slings and the banding material from beneath the unit's base frame. The tipping may not be necessary if you hooked your lift chains through the handrail sockets of the platform and the shipping bands slide out from under the lift. **DANGER! Do no allow anyone to get under the unit!**
10. Carefully lower the unit insuring that the platform edges clear the sides of the pit. The heavy pry bar may be used to reposition the unit with even clearance from all pit walls. Note the lowered height in relation to the surrounding pit edges for later shimming adjustments.
11. Once the lift is properly positioned, (whether it is pit mounted or surface mounted), you may begin the lag down procedure. T-Series models have special lag down instructions located on page P 4-5.
12. Raise the unit and position the safety leg or bar as shown in the maintenance section of this manual (pages 6-3 through 6-6). Lower the unit onto the safety leg and press the down button for an extra 10 seconds to relieve all hydraulic pressure. Drill the lag down holes and set the lag bolts. Check the unit for side to side level and then shim or grout the baseframe for continuous support. The shimming should enhance the match between the platform and the surrounding surfaces when fully lowered, but not at the expense of side to side levelness. A slight slope from clevis end to roller end is not a problem, but side to side slope will cause premature wear on all the moving parts of the lift. Tighten the lag bolts.

## SECTION 4. (CONTINUED) INSTALLATION INSTRUCTIONS

### Installation Instructions:

13. If a temporary hydraulic connection was made to lower the unit into the pit, now is the time to switch to your permanent hydraulic connection. Note: on T-Series models the hose must run under the baseframe, see page 4-5 for pit details. Also, if there are any electrical options such as limit switches or electrical toe guards, now is the time to do that wiring.
14. Check that there are no tools or debris in the pit or beneath the unit, raise the unit and remove the safety leg, then fully lower the unit. On pit mounted units, check that the bridges are flush with their curb angles and that they do not pivot when loads roll over them, shim any movement accordingly.
15. Operate the equipment through several cycles, holding the down button an extra 20 seconds after the lift is fully lowered to bleed air from the cylinders. Check the reservoir fluid level with the unit fully lowered and top off the fluid to 1" from the top of the reservoir on 5-gallon reservoirs and 2.5" from the top of 10-gallon reservoirs.
16. Adjust accessories such as limit switches and if the unit has electric toe guards or roller shades, fasten the hose in the pit so that it does not move and interfere with proper operation.
17. Raise the unit one final time, install the safety leg and thoroughly clean the entire area. Be sure all fluid spills are cleaned up so that they are not later misinterpreted as new fluid leaks. Check all hydraulic fittings for leaks.
18. Meet with the facility manager or maintenance foreman and turn over this maintenance manual with the reminder that no one should be allowed to operate the unit unless they are familiar with the operating instructions. Show them the safety leg and any other safety devices. Point out the metal nametag on the unit with the serial number and capacity ratings. Make it clear that some specific person in their organization must be charged with responsibility for the maintenance of the unit and if they have no further questions, lower the unit and consider your job complete.

## ADVANCE LIFTS PIT DIAGRAM (K's, T's, 2000, 3000, & 4000 SERIES)



### Installation Bill of Material\*

1. One (1) Advance Lift Model Number \_\_\_\_\_.
2. 3" x 3" x 1/4" curb angle as required.
3. One (1) 3" conduit from power unit location to pit for hydraulic hose.
4. One (1) electric disconnect switch for 5 HP or 7.5 HP motor.
5. 5 gallons of Chevron Rykon ISO 46 hydraulic fluid for T's & K's, 10 gallons for 2000 & 3000 series and 15 gallons for series 4000 units.
6. One (1) 1/2" SAE 100R2 hydraulic hose from the power unit location to the lift base with 1/2" female JIC threads on both ends. (4000 series lifts require two (2) hoses).
7. Concrete anchor bolts and material for shimming and/or grouting.

\*Seller furnishes Advance dock lift only unless otherwise agreed to in writing

### Notes:

- A. Reinforce concrete to suit local soil conditions.
- B. All pit work and materials shown are the responsibility of the owner or his agent (by pit contractor)
- C. Installer to run 1/2" diameter hose(s) through the 3" conduit from the power unit to the lift base.
- D. Dimension tolerances are plus 1/4", minus 0" (+1/4" - 0).
- E. 180° steel hinge bridges require a bridge recess length equal to bridge length minus 2-3/4".
- F. 180° aluminum hinge bridges require a bridge recess length equal to bridge length minus 3-3/4" and a pit length equal to platform length plus 7-1/2".
- G. Consult factory for bridges longer than 30". (18" on 4000 series).