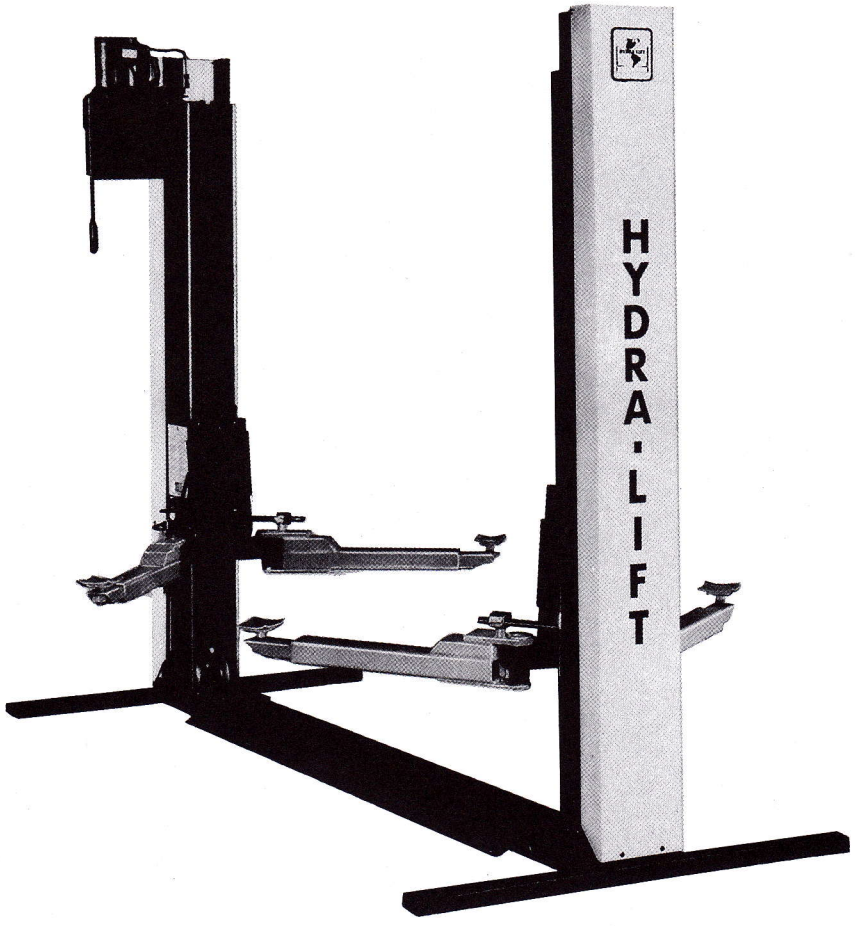
HYDRA-LIFT®

Parts List
for 2 Post Models 27BP/28
1995



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Manufacturer of Vehicle Service Equipment

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General Assembly Model 27BP/28
No. 28000

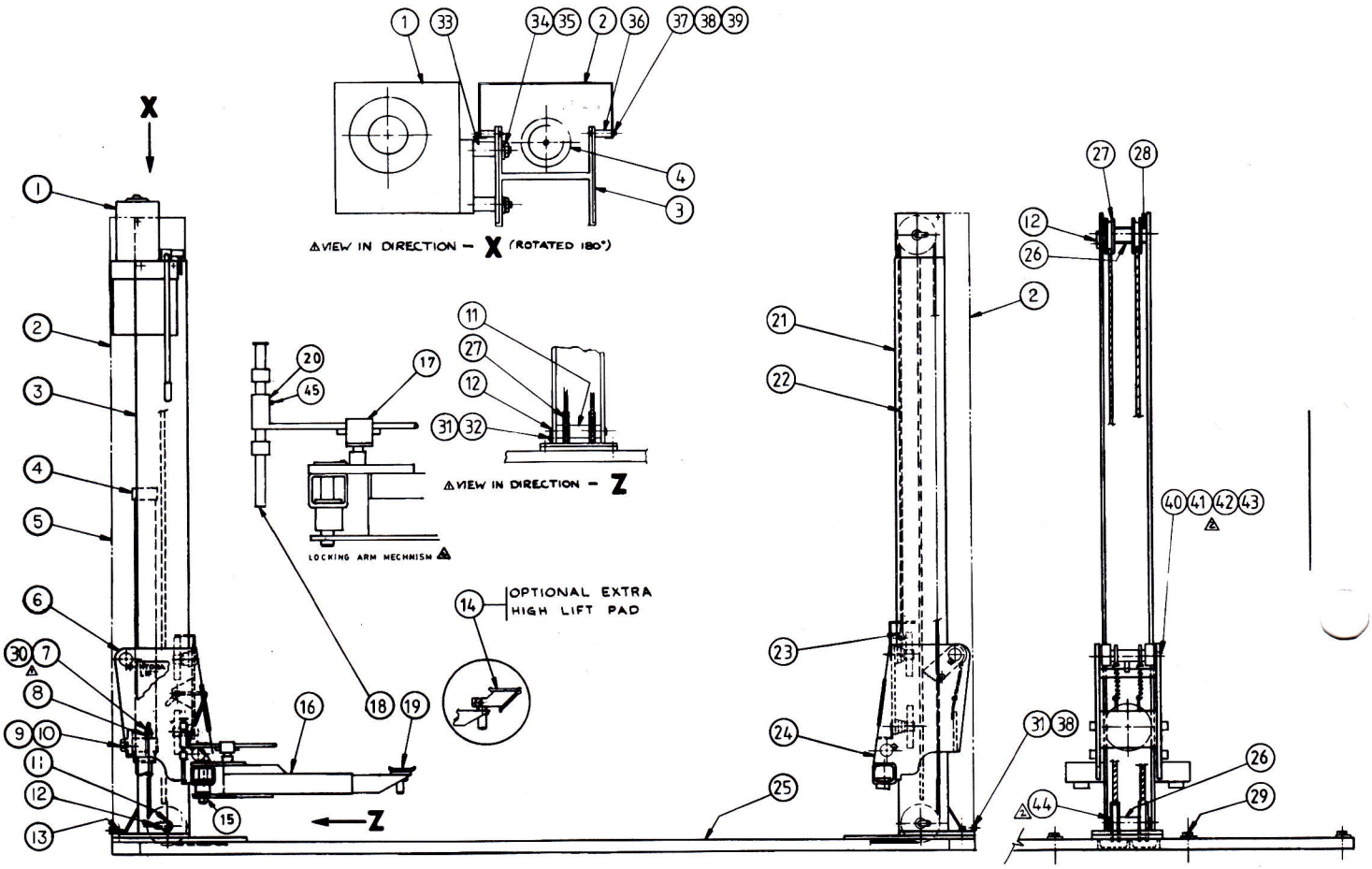
NOTE:

All part numbers for Models 27 and 28 are identical with the following exceptions.

Model-27 Lift Base Weldment
Part No. 26099 — 1 Req'd.

Model-27 Cables
Part No. 24109 — 2 Req'd.

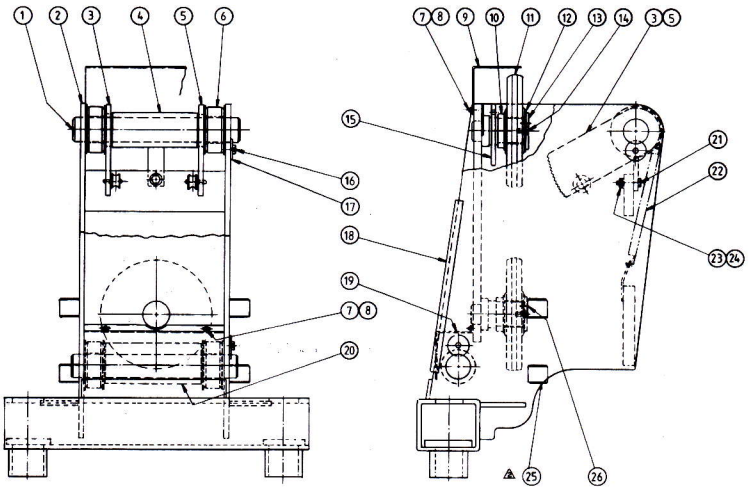
Model-27 Short Arms Are
Part No. 31680 — 1 Req'd. (L.H.)
Part No. 31690 — 1 Req'd. (R.H.)



Sym	Qty.	Part No.	Part Name
1	1	27200	Power Pack
2	2	27150	Shroud
3	1	28038	Power Carriage Assy.
3	1	27038	Power Carriage Assy. (27BP)
4	1	28003	Hydraulic Ram Assy. 1-Stage
4	1	24003	Cylinder Assembly (27BP)
5	1	28165	Hydra Lift Decal
6	1	28004	Power Carriage Assy.
6	1	27003	Power Carriage Assy. (27BP)
7	4	28496	Cable Nut 5/8 UNF
8	4	28087	Cable Spacer Tube
9	2	28490	1/8 NC x 1-3/4 Hex. Bolt
9	2	26515	3/4" UNC x 1-1/2" Lg Hex Bolt (27BP)
10	2	28395	I ID Lock Washer
11	1	28031	Power Column Pulley Spacer
12	3	28065	Pivot Pin
13	12	28484	5/8-11 x 1-1/2 Hex. Bolt
13	12	61995	5/8" UNC x 2" Lg Hex. Bolt (27BP)
14	4	#30	High Lift Pad Optional Accessory
15	4	28088	Pivot Pin Lift Arm c/w Bolt 1/4-20 UNC
16	4	28134	Arm Assembly (right) (1 only 27BP) (left, P/N 28135) (1 only 27BP)
17	4	27850	Swivel Bracket
18	4	28825	Release Shaft
19	4	28191	Low Profile Pad
20	4	27800	Locking Brkt.

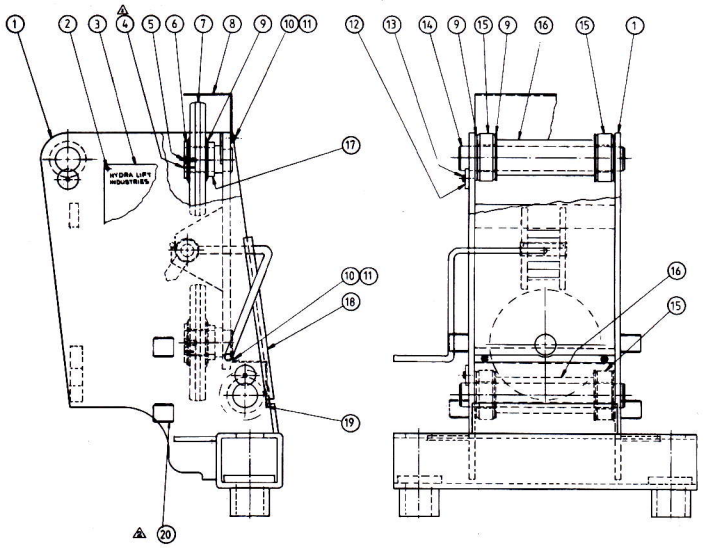
Sym	Qty.	Part No.	Part Name
21	1	28060	Slave Column Weldment
21	1	27060	Slave Column Weldment (27BP)
22	2	28109	Cable Assy.
23	2	28110	Clevis Pin – Cable ciw Cotter Pin
24	1	28049	Slave Carriage Assy.
25	1	28076	Base Weldment
26	2	28033	Spacer-Sheaves – Slave Column Only
27	6	28032	Sheave
28	2	28114	Spacer-Sheave Outer – Slave Top Only
29	8	28115	Lag Bolts
29	12	78025	3/4" x 5-1/2" Long Lag Bolt (27BP)
30	2	28349	5/8" ID Flat Washer SAE
31	11	28455	1/4"-20 UNC x 1/2" Hex. Bolt
32	3	48343	1/4" ID Lock Washer
33	2	27160	Spacer (PWR Pack)
34	2	28495	5/8" UNC Hex. Nut (14 on 27BP)
35	14	28348	5/8" ID Lock Washer
36	4	27151	Spacer (Shroud)
37	4	28464	1/4"-20 UNC x 2-1/2" Hex. Bolt
38	12	28339	1/4" ID Plated Washer
39	4	28492	1/4" UNC Hex Nut
40	2	28468	5/16" UNC x 1-3/4" Hex. Bolt (Shipping)
41	2	28493	1/2" Flat Washer – Shipping
42	2	28119	5/16" Flat Washer – Shipping
43	2	28343	5/16" UNC Hex. Nut – Shipping
44	2	28117	Spacer –Slave – Outer Bottom
45	8	27810	Set Screw

Slave Carriage Assembly No. 28049



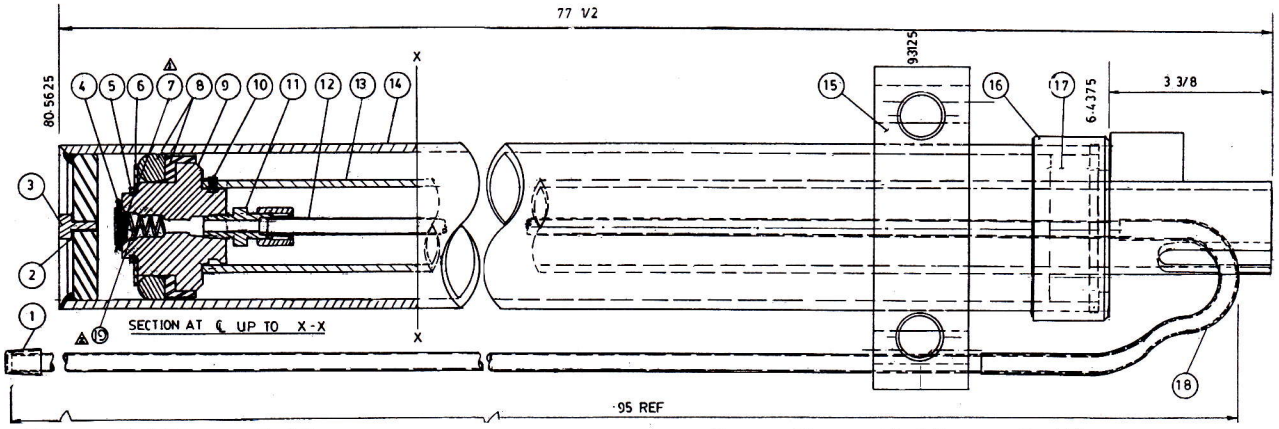
Sym	Qty.	Part No.	Part Name	Sym	Qty.	Part No.	Part Name
1	2	28008	Shaft Main Roller	14	2	28465	5/16-18 UNC x 3/4 Lg. CSK Bolt
2	1	28055	Slave Carriage Weldment	15	1	28056	Equalizer Plate
3	1	28062	Safety Dog Weldment Left Hand	16	2	28455	1/4-20 UNC x 1/2 Lg. Hex.Hd. Bolt
4	1	28050	Spacer Weldment Main Roller	17	2	28010	Keeper-Main Roller
5	1	28057	Safety Dog Weldment Right Hand	18	2	28189	Door Guard
6	4	28310	Main Roller Assy.	19	1	28179	Bottom Roller Guard
7	4	28450	#10-32 x 1/2 Long Plated Screw	20	1	28012	Spacer-Main Roller
8	4	28350	#10 Flat Washer	21	1	28466	5/16-18 UNC x 1 Lg. Hex.Hd. Bolt
9	1	28178	Top Roller Guard	22	2	28053	Tension Spring
10	2	28013	Spacer Track Roller	23	1	28493	5/16-18 UNC Hex. Nut
11	2	28300	Track Roller Assy. Specify Size	24	1	28340	5/16 Lock Washer
12	12	28006	Nylon Thrust Washer	25	4	28030	Carriage Bushing
13	2	28011	Keeper Plate	26	2	28499	1/8 ø x 1/2 Lg. Roll Pin

Power Carriage Assembly No. 28004
27003 (27BP)



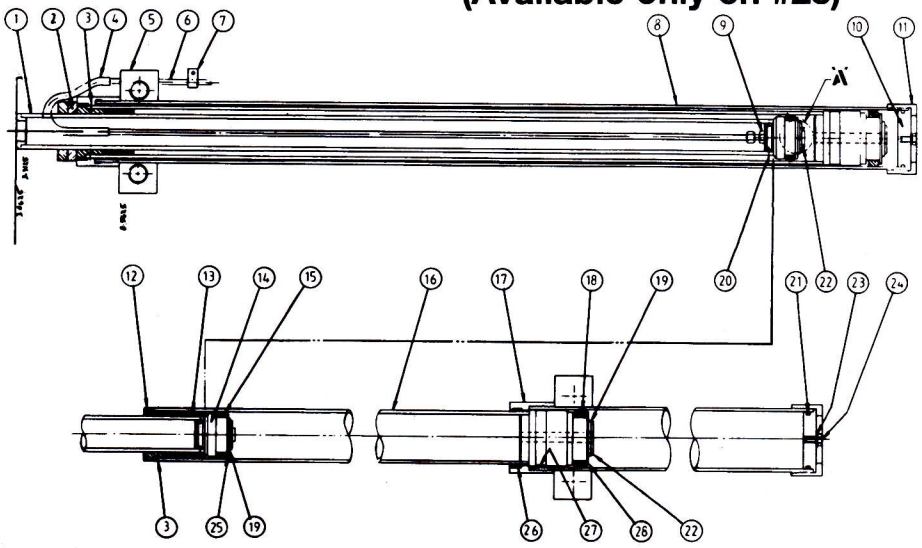
Sym	Qty.	Part No.	Part Name	Sym	Qty.	Part No.	Part Name
1	1	28014	Carriage Weldment (28)	11	4	28350	#10 Flat Washer
1	1	27014	Carriage Weldment (27BP)	12	2	28010	Keeper – Main Roller
2	4	28239	Metal Tacks	13	2	28455	1/4-20 UNC x 1/2 Lg. Hex. Hd. Bolt
3	1	28166	Maintenance Plate	14	2	28008	Shaft – Main Roller
3	1	27166	Maintenance Plate (27BP)	15	4	28310	Main Roller Assy.
4	2	28499	3/16" ø x 1/2 Lg. Roll Pin	16	2	28012	SpacerTube – Main Roller
5	2	28465	5/16 UNC x 3/4 Lg. CSK Bolt	17	2	28013	Spacer – Track Roller
6	2	28011	Keeper Plate Track Roller	18	2	28189	Rubber Moulding Door Guard
7	2	28300	Track Roller Assy. (Specify diameter)	19	1	28179	Bottom Roller Guard
8	1	28178	Roller Guard Power Side	20	4	28030	Carriage Bushing
9	12	28006	Nylon Thrust Washer				
10	4	28237	#10-32 Screw Plated x 1/2" Lg.				

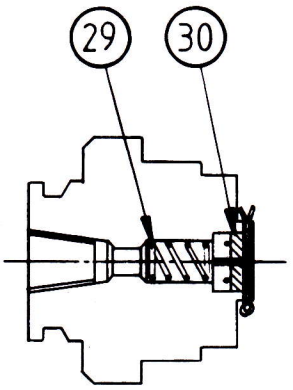
Single Stage Hydraulic Cylinder Assembly No. 28003 (28)
24003 (27BP)



Sym	Qty.	Part No.	Part Name	Sym	Qty.	Part No.	Part Name
1	1	28050		10	3	28451	1/4-20 UNC 3/8 Lg. Allen HD SCR
2	1	28104	1/4 Brass Flat Washer	11	1	28105	Fitting 1/4 NPT 3/8 Pipe Straight
3	1	28460	1/4-28 UNF 1/2 Lg. Hex. Hd. Bolt	12	1	28106	HYD Line TU 3/8 JIC LC.035W.
4	1	28100	1/16 DIA 1 Lg. Cotter Pin	12	1	27106	3/8 Hydraulic Line (27BP)
5	1	28097	External Snap Ring 1-1/2 ID.	13	1	28091	Piston Post Weldment
6	1	28096	Seal Keeper Washer	14	1	28002	HYD Cylinder Weld. 3 ID.
7	1	28099	Orifice	15	1	28054	Lift Block
7	1	26007	Orifice (27BP)	15	1	26054	Lift Block (27BP)
8	1	28101	Seal and Wiper Ring Assy.	16	1	28094	Cylinder Cap
8	1	27236	Seal and Wiper Ring Assy. (27BP)	16	1	26094	Cylinder Cap (27BP)
9	1	28093	Piston For 3 ID. Cylinder	17	1	28103	Felt Strip 1/2 x 1-1/2 x 9-1/2 L.
9	1	27225	Piston (27BP)	18	1	28107	P.V.C. Tube Protector
10	3	28451	1/4-20 UNC 3/8 Lg. Allen HD SCR				

Two Stage Hydraulic Cylinder Assembly No. 27220
(Available only on #28)

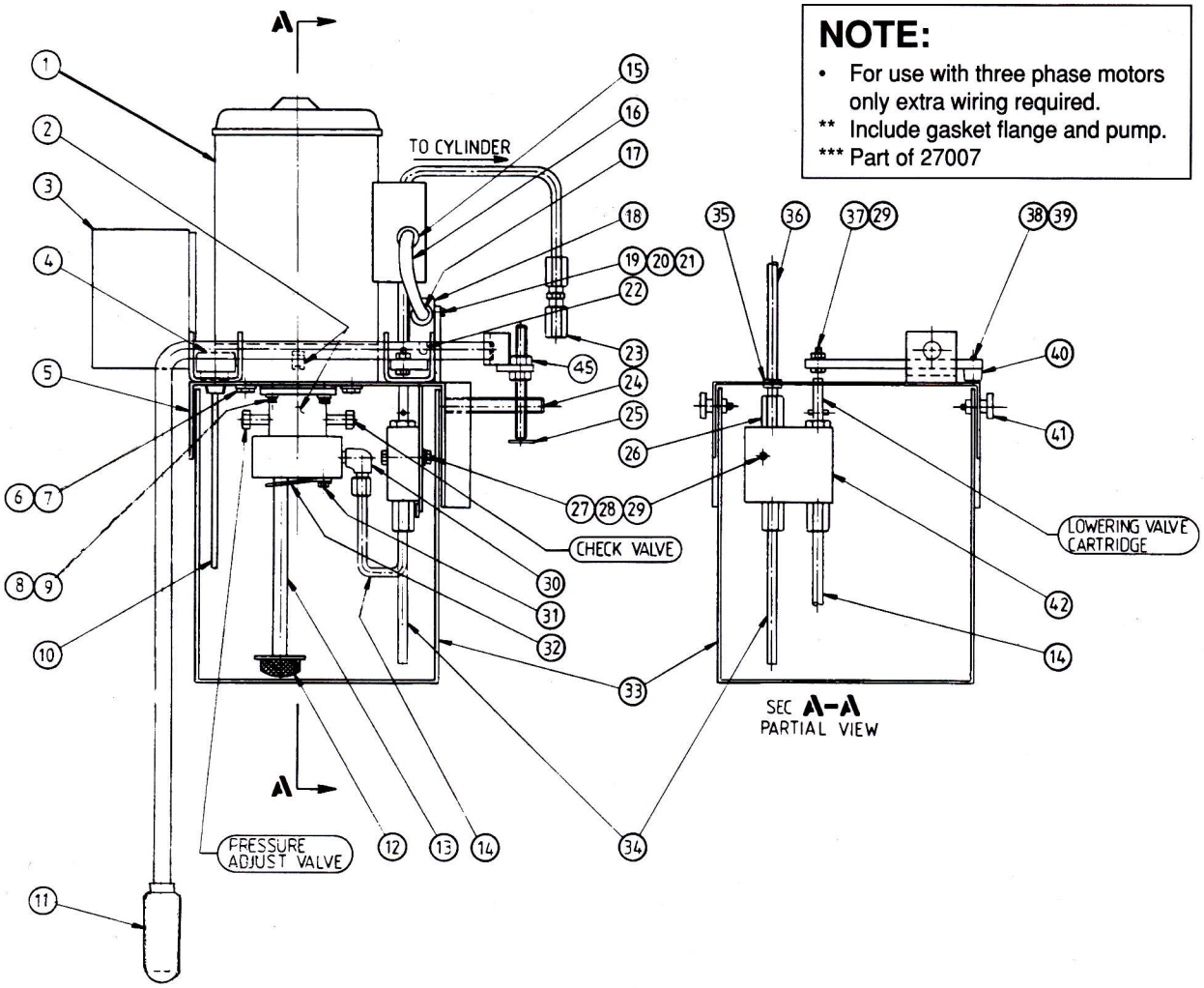




Sym	Qty.	Part No.	Part Name	Sym	Qty.	Part No.	Part Name
1	1	27221	Ram Assy.	17	1	27228	Bottom Cylinder Cap
2	1	27222	Rubber Cushion	18	1	28101	3 Dia. Seal & Wiper Ring
3	3	28451	1/4-20 x 3/8 Allen Hd. Set Screw	19	2	28097	1-5/8 Dia. External Snap Ring
4	1	28107	Protector Tube R/C	20	3	27237	1/4-20 x 1/4 Allen Hx. Set Screw
5	1	28054	Lift Block	22	2	28100	1/16 Dia. x 1 Long Cotter Pin
6	1	27105	Hydraulic Tube (Inside Cyl.)	23	1	28104	1/4 Std. Copper Washer
7	3	28108	Clips	24	1	28460	1/4 UNF x 1/2 Long Hex. Bolt
8	1	27223	3" ID Cylinder Tube	25	1	27229	2-1/4 OD Retaining Washer
9	1	28105	1/4 to 3/8 Tube Hydraulic Fitting	26	1	27103	Rod Wear Ring
12	1	27224	Sleeve	27	1	27219	Piston Wear Ring
13	1	28103	Felt Strip	28	1	28096	2-3/4 OD. Retaining Washer
14	1	27225	Piston	29	1	28098	Compression Spring
15	1	27236	2-1/2 Dia. Seal & Wiper Ring	30	1	28099	Orifice
16	1	27227	Second Stage Cylinder				

Made in Canada Hydra Form #007

Hydraulic Power Pack Assembly
No. 27200 (220V/1Ø60 cycle)
No. 27199 (220V/3Ø60 cycle)
No. 27198 (550V/3Ø60 cycle)



NOTE:

- For use with three phase motors only extra wiring required.

** Include gasket flange and pump.

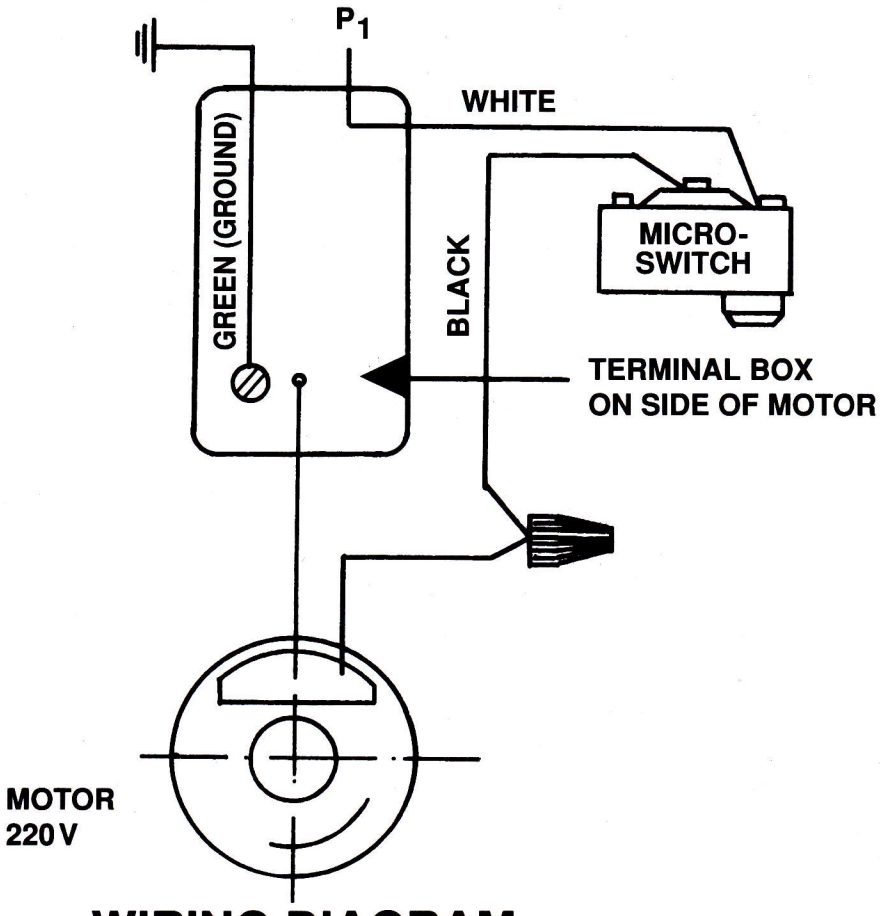
*** Part of 27007

Sym	Qty.	Part No.	Part Name
		27008	Drive Motor 220V/1Ø
1	1	28194	Drive Motor 220/3Ø
		28195	Drive Motor 550V/3Ø
**2	1	27007	Hydraulic Pump Assy.
*3	1	28155 28603	Magnetic Starter
4	1	28183	Breather
5	1	27201	Power Unit Frame Weldment
6	4	28470	3/8-16 UNC x 3/4 Lg. Hex. Hd. Bolt
7	4	28345	3/8 Lock Washer
***8	4		5/16-18 UNC x 3/4 Lg. Flanged 12 Point Counter Borescr.
9	4	28340	5/16 Lock Washer
10	1	28136	Oil Level Gauge
11	1	28186	Handle Grip
12	1	27005	Filter Screen
13	1	27030	Intake Tube Weld.
14	1	28156	Pressure Side Hyd. Line Tube
15	1	28201	Strain Relief Bushing
16	1	28162	Electrical Wire
17	1	28199	Liquid Tight Connector
18	1		Micro Switch Housing
19	2	28145	RD. HD. Bolt, 6-32 UNC x 1-1/2 Lg.
20	2		6-32 UNC, Hex. Nut
21	2		6-32 Flat Washer

Sym	Qty.	Part No.	Part Name
22	1	28144	Micro Switch
23	1	28150	Tube to Tube Hyd. Fitting
24	2	27004	Mounting Stud
25	1	28036	Adjustable Safety Stop Assembly
26	3	28105	Hydraulic Fitting
27	1	28468	5/16-18 UNC x 1-3/4 Lg. Hex. Bolt
28	1	28340	5/16 Lock Washer
29	2	28493	5/16-18 UNC Hex. Nut
30	1	27056	90° Male Elbow 1/4 Pipe Thd. for 3/8 OD Tube
***31	1		1/4 ø x 3/8 Long Hex. Washer Hd. Self Tapping Screw
***32		1	Tube Clip
33	1	27214	Hydraulic Tank
34	1	28157	Return Side Hyd. Line Tube
35	1	28182	Grommet
36	1	27158	Hydraulic Line to Cylinder
37	1	28465	5/16-18 UNC x 3/4 Lg. Hex. Bolt
38	1	28450	10-32 UNF x 3/4 Lg. RD HD Bolt
39	1	28491	10-32 UNF Hex. Nut
40	1	28163	Rubber Bumper
41	2	28181	Thumb Screw
42	1	28143	Lowering Valve
43	1	28200	73B Mars Connector
44	1	28198	74B Mars Connector
45	2	28480	1/2-13 UNC Hex. Nut

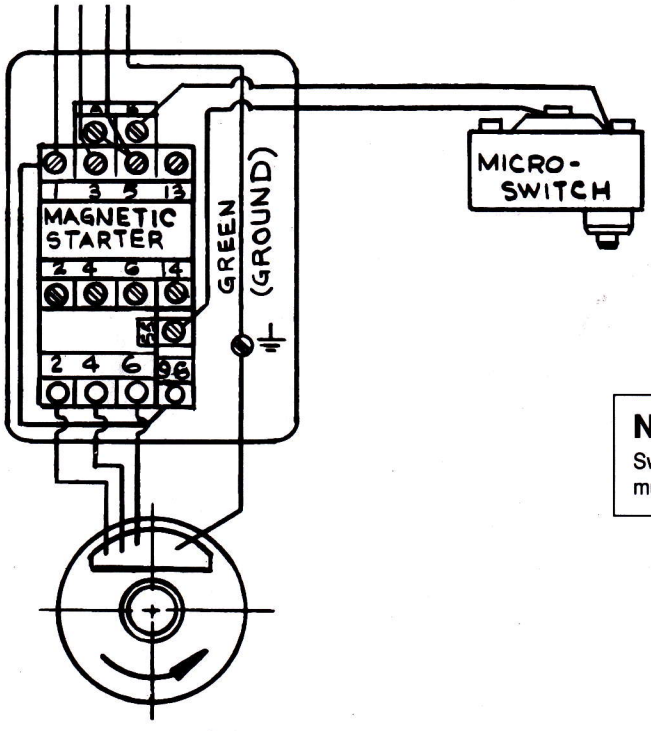
*** Part of Part No. 27007

Power in 220 Volt Single Phase 60 cycle



WIRING DIAGRAM

Power in 220/440/550 Volt 3 Phase 60 cycle



MOTOR 3 PHASE
220-440 OR 550

NOTE:
Switch Heaters and Amp Control must be suitable for voltage.

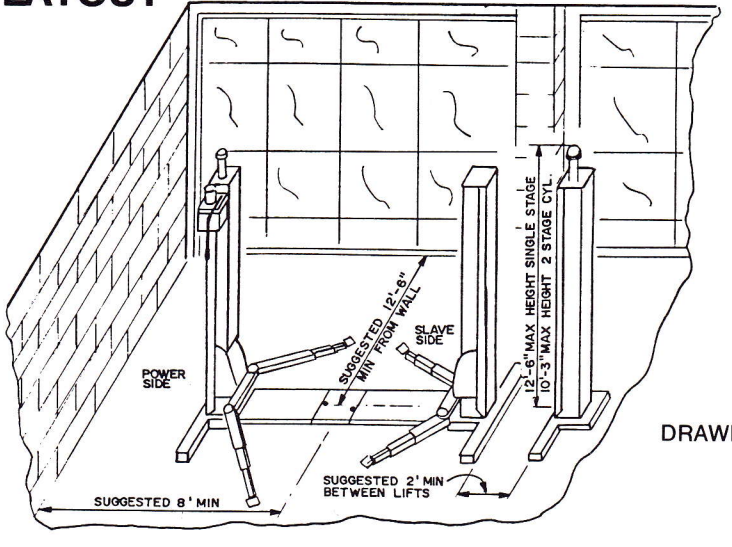
HYDRA-LIFT®

Models 27 / 28
Installation and Operating Instructions

SITE PREPARATION

1. The floor must be of sound construction and level to ensure safe operation of the lift.
2. Care should be taken to ensure that the Lag Bolts, which should penetrate to a minimum depth of 3¼", do not foul any underfloor obstacles. ie. underfloor heating or steel reinforcing rods. The lift must be sited to avoid such obstructions. If the floor is not to this standard, then it should be excavated under the base to a minimum depth of 4" and filled with 3000 PSI Stone Aggregate Concrete (or stronger).
3. A minimum vertical height of 12' 7" (3835mm) is required for this lift to be installed (10' 3" or 3124mm for 2 stage cylinder).
4. A 220 volt 1 phase 60 Hz or other as ordered (see motor plate for details) electrical supply with a fused isolator switch must be available (switch in accordance with local electricity regulations and supplied by customer). A competent electrician should be ready to connect and test electrical components when lift is installed.

RECOMMENDED LAYOUT



DRAWING A

INSTALLATION

1. Position base assembly on intended site. Ensure that adequate vertical clearance is available. If lift is installed in front of a wall or obstruction, leave adequate forward clearance. (Drawing A)
2. Using ramp and support channel assembly as a template, drill 3/4" hole through 8 baseplate holes to 3½" depth and secure with the lag bolts provided. (Use 3/4" masonry bit, torque anchors to 175Ft.-lbs.)

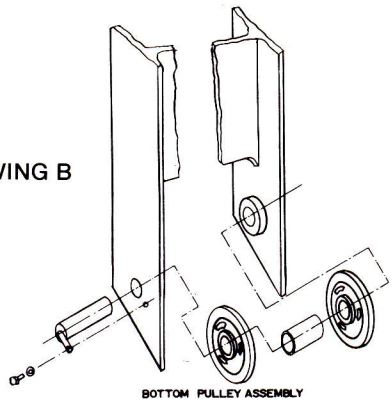
MAKE SURE THE BASE PLATE IS COMPLETELY LEVEL WITH GOOD FLOOR CONTACT THROUGHOUT. IF NOT THEN SHIM AS NECESSARY.

If excessive shimming is required, grouting of the Base Plate with machinery grout or concrete is recommended.

3. Remove the Pulley Assemblies from the bottom of both columns to avoid damage during column erection and to facilitate cable installation. (Drawing B)
4. Erect columns onto base and secure, with 5/8" UNC x 1½" bolts and lock washers provided.

   Ensure the power column (column with hydraulic cyl) is located to the customer's requirements; it can be fitted on either side.

DRAWING B



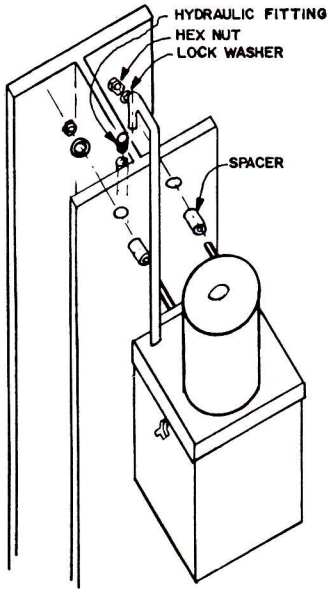
BOTTOM PULLEY ASSEMBLY

5. Fit the Hydraulic Power Pack to the power column using the 5/8" UNC Nuts, spacers and lock washers provided on the threaded studs, (Drawing C). Remove hydraulic line plugs and attach the line from the cylinder to the line from the power pack using the fitting provided. Make sure the ferrule is properly installed on the cylinder line. (Drawing D)

INSTALLATION OF HYDRAULIC FITTING

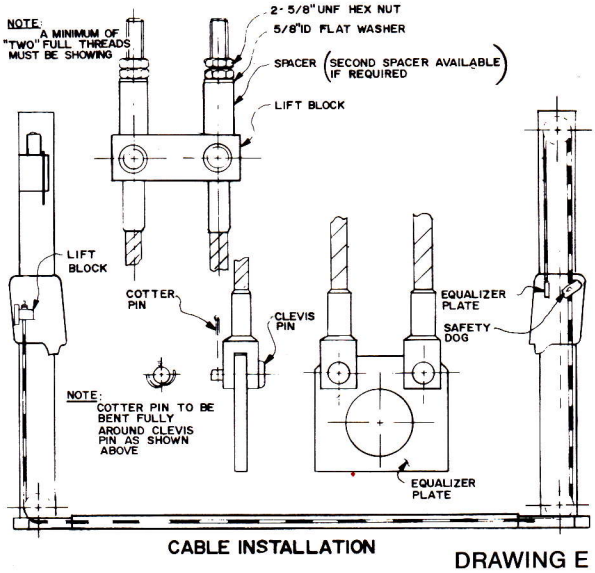
DRAWING D

DRAWING C



POWER PACK INSTALLATION

6. Working from the Slave Column side, feed the threaded end of the cables through the baseplate to the power side pulleys and pass up through the lifting block attached to the carriage. Put at least two spacers over the threaded ends and install the washer and nut provided. Do not tighten nuts. Route the clevis end of the cables up the outside of the slave column, over the top pulleys and attach the cables to the slave carriage equalizer plate with the clevis and cotter pins supplied. (Drawing E)



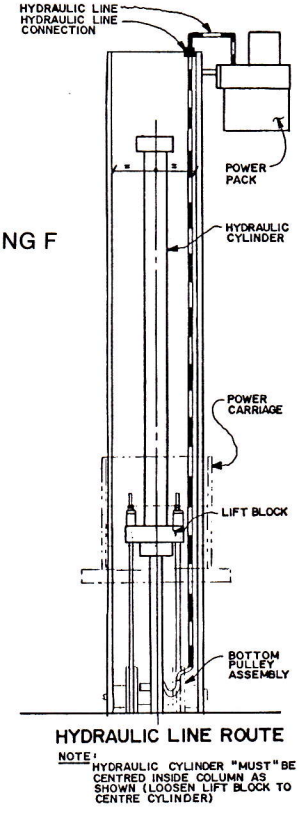
CABLE INSTALLATION

DRAWING E

7. Replace the pulley assemblies into the bottom of the slave and power columns. (Drawing B)
8. The electrician can now connect the power supply to the lift. (See the illustrated parts list for wiring diagrams).
9. Fill power unit reservoir with the oil supplied.
10. Test power unit for correct rotation of the electric motor by moving the control lever outwards. If the cylinder does not raise within 30 seconds, reverse the rotation of the electric motor. (applies to 3 phase motors only.)

11. Raise the lift until the bottom cylinder cap engages the lift block bolted to the back of the power carriage. Remove the shipping bolt holding the power carriage to the column. Continue to raise the lift until the cables are under tension and remove the shipping bolt from the slave carriage.
12. Fit lifting arm assemblies by attaching to carriage tabs with pins provided. Lubricate the pins through the grease fittings provided.
13. The cables will now be under tension and at this stage the safety dogs on the slave column should be checked for operating clearance between their ends and the column. The cables should hold them away from the column against the return spring tension. Ensure that safety dog rollers are riding freely on the cables.
14. Inspect cylinder alignment from back of power column. Cylinder should sit exactly in the centre of the column. If cylinder is off centre, loosen the lift block bolts, centre cylinder, and retighten bolts. (Drawing F)
15. Raise the carriages approximately 12" from the rest position. Swing the lifting arms in towards the center of the lift. Adjust the cables until the lifting arms on both sides are at the same height. Adjust cables evenly as indicated by a level equalizer plate on slave carriage. When adjusting cables be sure to keep the actual cable from turning by holding with a wrench. Note: Be sure at least 2 full threads show above the top of the cable adjusting nut. (Drawing E)
16. Before operating lift further; check to see that hydraulic pipe from hydraulic ram is positioned properly so that the cables and/or pulleys can not rub it during lift operation. (Drawing F)
17. Raise the power carriage to full height to check operation of the manual override rod. It should be adjusted to force the control lever out of your hand just before the carriage touches the upper stop blocks. Adjust if necessary.
18. Test the lift with a heavy vehicle (within the lift and lifting arms capacity), check the parking stop positions and correct operation of the lift.
19. With vehicle removed, re-check cable adjustment, (it will be necessary to adjust cables within a short period of time after the lift is put into normal service, use 2 spare spacers if necessary). After checking, put 2nd nut on to lock setting of cables.

DRAWING F



20. After operating the lift from top to bottom a few times, bleed any air from the system by loosening the air bleed bolt in the center of the ram top. Do this with the lift in the fully lowered position. Loosen the bolt only until oil starts to flow and then re-tighten.
21. Fit guard covers on completion of testing and adjustments.

OPERATION

1. To raise lift:
   a. Before driving a vehicle between the columns, ensure that the floor area is clear of all obstructions and that the swing arms are in the parked position.
   b. Position the vehicle as close as possible to the centre of the lift.
   c. Position the lifting pads approximately under the pick-up points as recommended by the vehicle manufacturer.
   d. Pull the control lever outwards away from the post until the pads are raised to about 1" clear of the vehicle pick-up points and check positioning. Raise the vehicle about 1 foot and release the control lever. Check that the vehicle is resting securely on the lifting pads and raise the vehicle to above the parking stop position. Then lower the lift until the parking stop engages.

2. To lower lift:
   a. Check that all personnel, tools and equipment are clear of the lifting area.
   b. Raise the lift to free the parking stop, hold the parking stop lever outwards and lower the lift.
   c. The rate of descent can be controlled until the control lever is pushed fully forward, when the hydraulic oil is released through a small control orifice and the carriages descend at a fixed rate.
   d. When the carriages are fully lowered, swing the arms to the parked position, check for obstruction on the ground and drive the vehicle away.
   e. NOTE: WARNING
      "DEADMAN" type of controls must not be wedged or fixed in the "on" or "off" position – the ascent and descent of the lifts must be controlled by hand at all times. Any tampering with the operation of safety mechanisms or hydraulic operating pressure voids all warranty.

MAINTENANCE

1. Every three months wipe the cables clean, examine them throughout their entire length for signs of wear, and lubricate them fully with a good quality lubricating oil. Frayed or corroded cables must be renewed at once and in pairs. The cables should always be taut, and the carriages should be level at all times.
2. If the lift is used for undersealing or spray coating, it is important that the cables and other moving parts are not coated with material. If this does happen all working parts should be thoroughly cleaned and lubricated.
   Lifting pads must always be dry and in lubricant free condition. Where a lift is used in connection with vehicle undersealing, all traces of the undersealing material and any other foreign matter must be removed from the lifting pads before re-use.
3. Each carriage is fitted with a safety mechanism which must be kept clean and well lubricated.
   At regular intervals a few drops of oil should be applied to the guide roller wheels.
4. Top up the reservoir with Shell Tellus 37 or equivalent as required. The tank should be filled to the dip-stick mark.
5. The Reservoir and filter should be cleaned, and the hydraulic oil renewed at intervals of 12 months.
6. Any damage to cables, leakage of hydraulic fluid, or movement of a lift on its foundation should be immediately reported for service and the lift put out of use until the fault is rectified.
7. The arm pins should be greased regularly using the grease fittings provided.
8. For a long and reliable life, the lift should be inspected by a Factory Authorized person every six months to ensure that no excessive wear has occurred and that all safety devices are working.

SERVICE TIPS

Dirt can cause trouble in any hydraulic system. When filling reservoir, use clean tools, funnels, etc.

Should your lift start to come down slowly, immediately after being raised, it is an indication of dirt in the control valve or a loose fitting. Check fittings and valve. The valve is a taper and seat arrangement as shown in the parts list and should be removed and cleaned to cure this problem.

Should you encounter a situation where the pump is running but the lift will not raise, this can be caused by dirt in the pressure relief valve. This part should be removed and cleaned to cure the problem. Be sure to position pressure valve back in the same number of turns as it took to remove it for proper pressure adjustment.

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