



World Leader in Lift Systems

# SPOA30, SPOA35, SPO40

Two Post Surface Mounted Lift

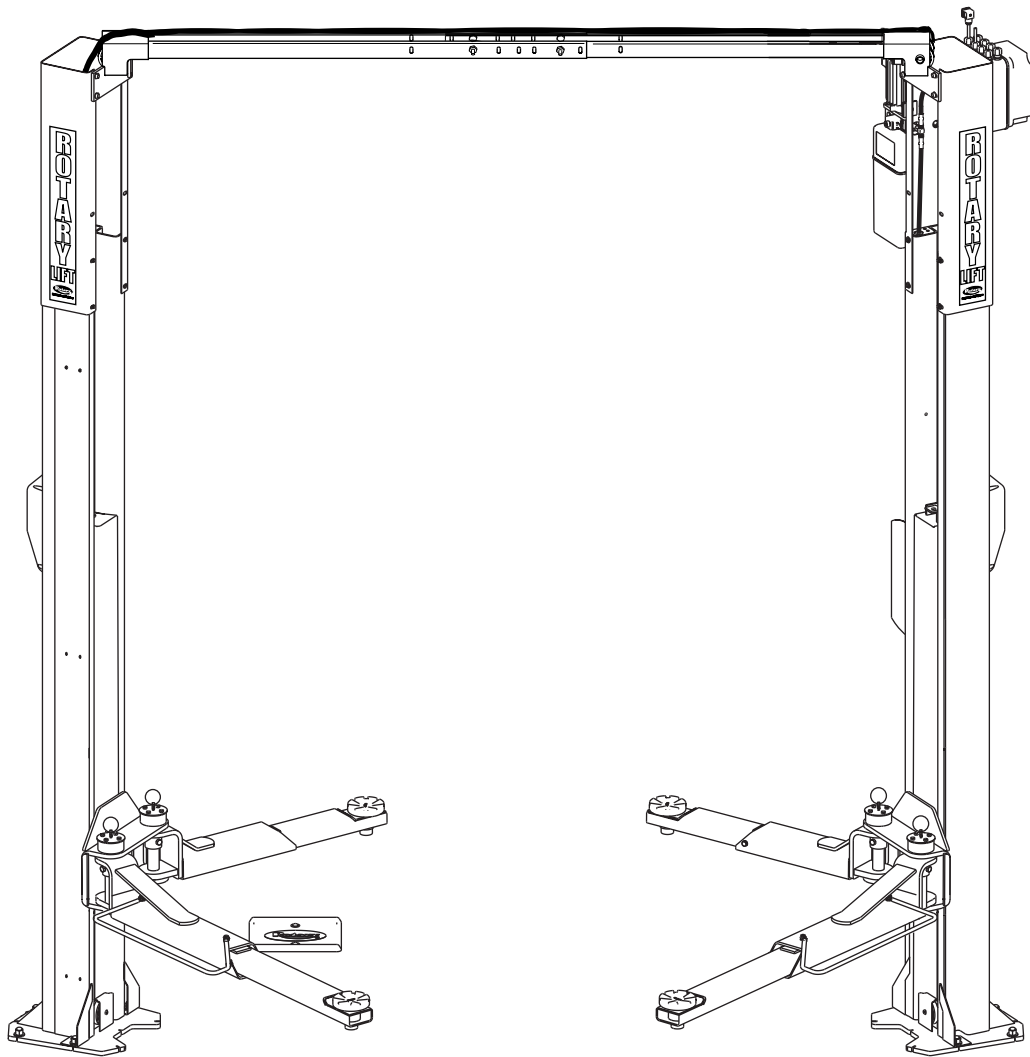
SPOA30 Capacity: 3,000kg (750 kg per arm)

SPOA35 Capacity: 3,500kg (875 kg per arm)

SPO40 Capacity: 4,000kg (1,000 kg per arm)

TÜV  
CE

ROTARY  
LIFT





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## INTRODUCTION

This manual was written for shop technicians (car lift operators) and maintenance technicians. Before operating these car lifts, please read these instructions completely. This manual gives helpful information about:

- Safety of people
- Safety of the car lift
- Safety of lifted car

This manual is considered to be a permanent part of the lift and must be kept in an easily accessible place so that the operator can find it and refer to it. A particularly careful reading of chapter on safety is recommended.

All versions of “SPOA30, SPOA35, SPO40” have been designed and built as required by:

EUROPEAN RECOMMENDATIONS: EEC 98/37/CEE, 73/23/CEE, 93/68/CEE, 89/336/CEE.

EUROPEAN RULES: EN 291/1992, EN 292/1992, EN 294, EN 349, EN 1050, EN 60204-1, EN 55022, and EN 1493.

Only skilled and previously authorized technicians should be allowed to carry out transport, assembling, setting, maintenance, overhaul, moving, dismantling operations, etc. concerning the lift. The manufacturer is not responsible for possible damage to people, vehicles and objects in the case that said operations are carried out by unauthorized personnel or the lift improperly used.

***Read these instructions completely before operating the lift.***

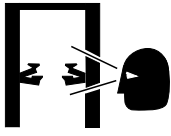
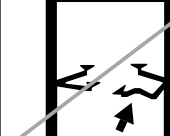
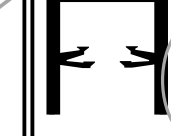



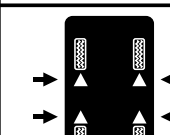

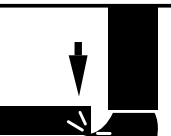

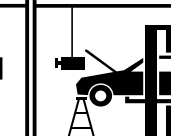
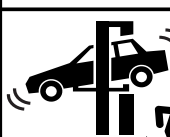

***The lift must only be used for vehicles up to the specified capacity. Any improper use of this lift is strictly forbidden.***

***Disconnect the lift from the main electric supply before any extraordinary maintenance operation.***

***Lift installation must be carried out as specified by these instructions.***

The manufacturer is not liable for possible damage resulting from failure to follow the instruction supplied with this car lift.

# SAFETY INSTRUCTIONS

<b>SAFETY INSTRUCTIONS</b>	<b>SAFETY INSTRUCTIONS</b>	<b>CAUTION</b>
		
Proper maintenance and inspection is necessary for safe operation. ©	Do not operate a damaged lift. ©	Lift to be used by trained operator only. ©
<b>CAUTION</b>	<b>SAFETY INSTRUCTIONS</b>	
		
Authorized personnel only in lift area. ©	Read operating and safety manuals before using lift. ©	
<b>WARNING</b>	<b>CAUTION</b>	<b>WARNING</b>
		
Position vehicle with center of gravity midway between adapters. ©	Use vehicle manufacturer's lift points. ©	Do not override self-closing lift controls. ©
<b>WARNING</b>	<b>WARNING</b>	<b>CAUTION</b>
		
Keep feet clear of lift while lowering. ©	Remain clear of lift when raising or lowering vehicle. ©	Always use safety stands when removing or installing heavy components. ©
<b>WARNING</b>	<b>WARNING</b>	<b>CAUTION</b>
		
Avoid excessive rocking of vehicle while on lift. ©	Clear area if vehicle is in danger of falling. ©	Auxiliary adapters may reduce load capacity. ©

- **Daily** inspect your lift. Never operate if it malfunctions or if it has broken or damaged parts. Use **only** qualified lift service personnel and genuine Rotary parts to make repairs.
- **Thoroughly** train all employees in use and care of lift, using manufacturer's instructions supplied with the lift.
- **Never** allow unauthorized or untrained persons to position vehicle or operate lift.
- **Prohibit** unauthorized persons from being in shop area while lift is in use.
- **Do Not** permit anyone on lift or inside vehicle when it is either being raised or lowered.
- **Always** keep area around lift free of tools, debris, grease and oil.
- **Never** overload lift. Capacity of lift is shown on decal affixed to the lift.
- **Do Not** stand in front of the lift or vehicle while it is being positioned in lift bay.
- **Do Not** hit or run over lift arms or adapters. This could damage lift or vehicle. Before driving vehicle into lift bay, position arms and adapters to provide unobstructed entrance onto lift.
- **Load** vehicle on lift carefully. Position lift adapters to contact at the vehicle manufacturer's recommended lift points. Raise lift until adapters contact vehicle. Check adapters for secure contact with vehicle. Raise lift to desired working height.

**CAUTION** If you are working under vehicle, lift should be set on locking latches.

- **Do Not** block open or override self-closing lift controls; they are designed to return to the "Off" or Neutral position when released.
- **Do Not** remove or disable arm restraints.
- **Remain** clear of lift when raising or lowering vehicle.
- **Always** use safety stands when removing or installing heavy components.
- **Avoid** excessive rocking of vehicle while on lift.
- **Clear** area if vehicle is in danger of falling.
- **Remove** tool trays, stands, etc. before lowering lift.
- **Release** locking latches before attempting to lower lift.
- **Position** lift arms and adapters to provide an unobstructed exit before removing vehicle from lift area.

**The Owner/Employer shall** ensure that lift operators are instructed in the safe use and operation of the lift using the manufacturer's operating instructions.

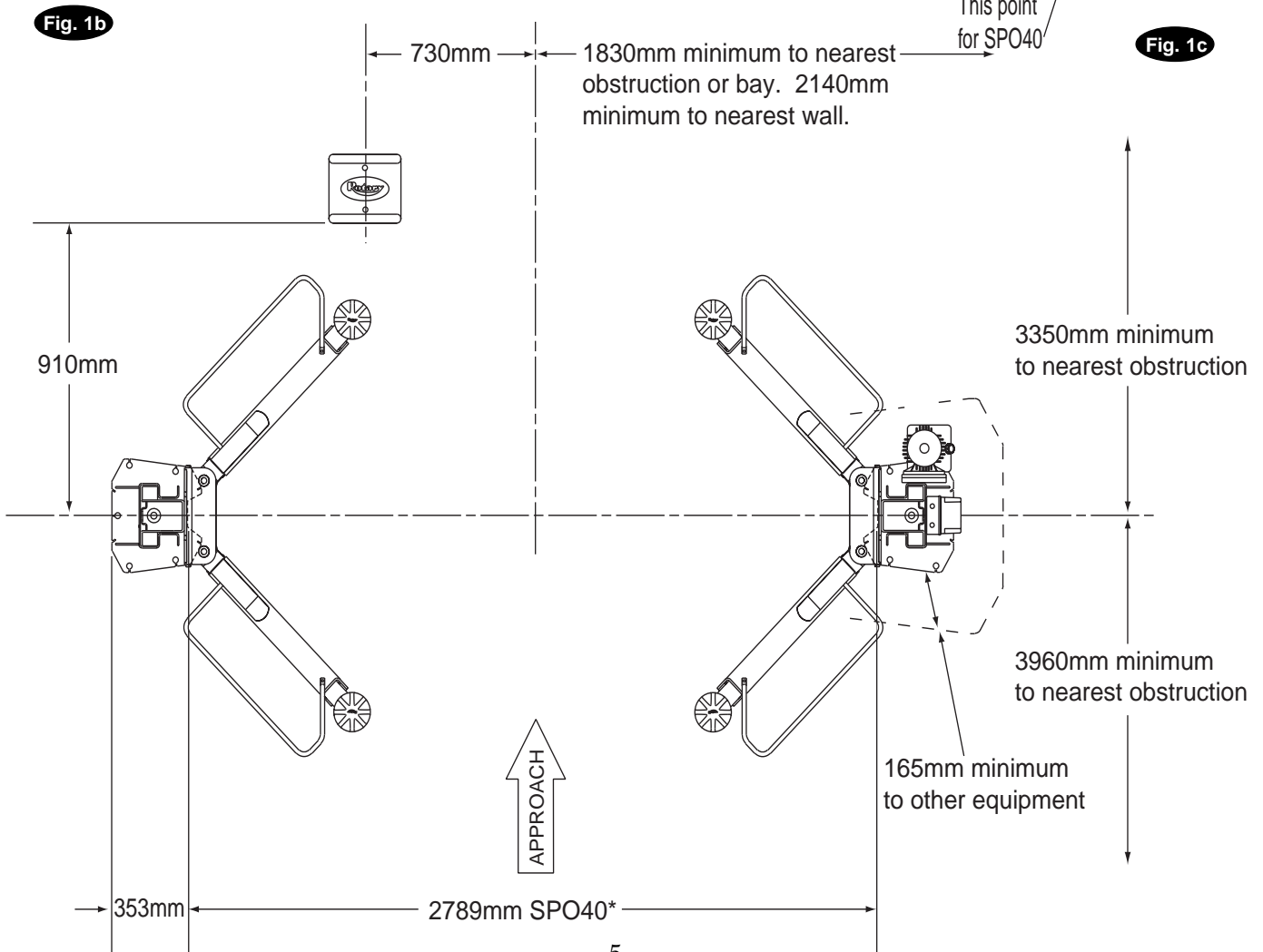
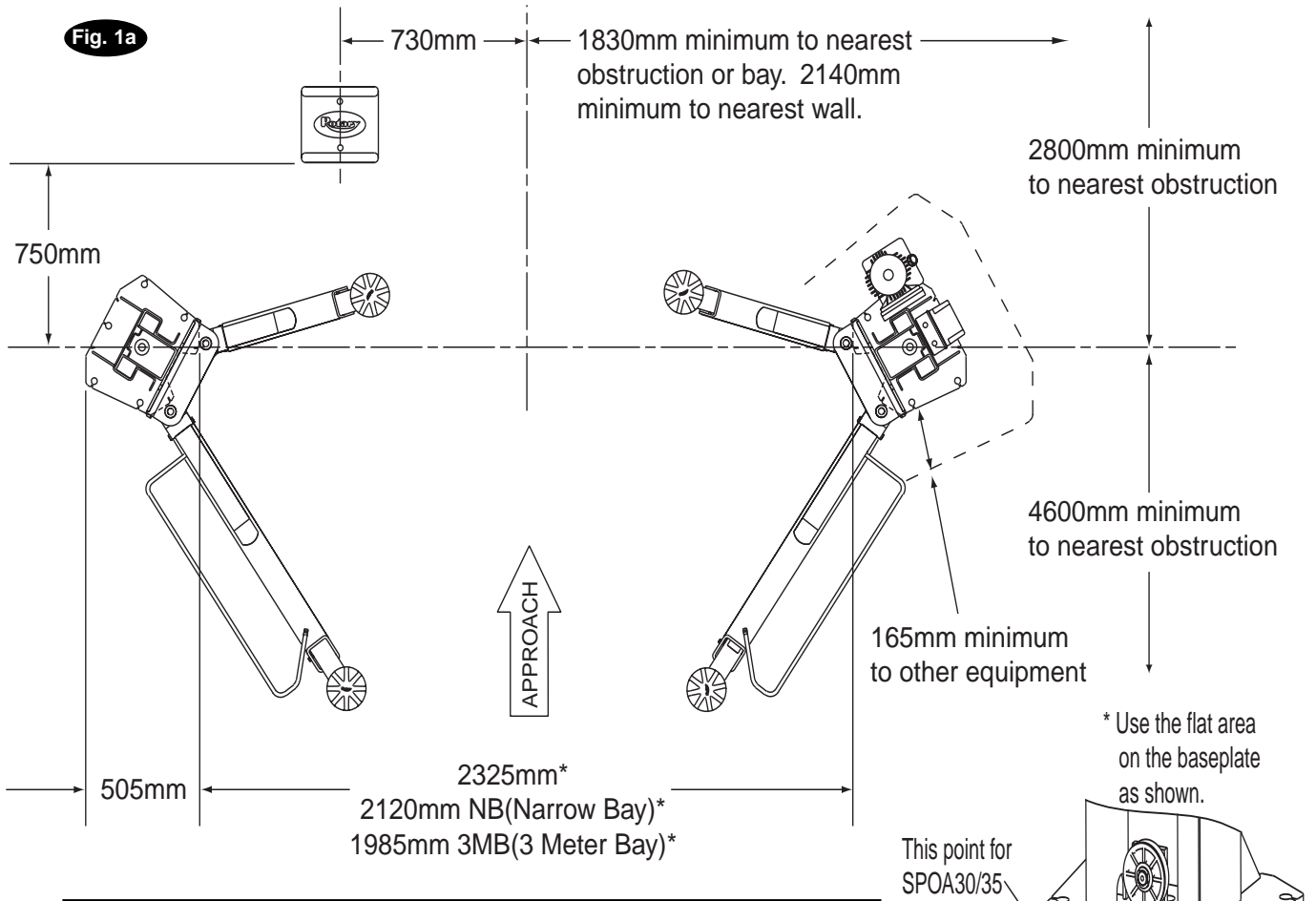
**The Owner/Employer shall** display the operating instructions supplied with the lift in a conspicuous location in the lift area convenient to the operator.

**The Owner/Employer shall** establish procedures to periodically maintain, inspect, and care for the lift in accordance with the manufacturer's recommended procedures to ensure its continued safe operation.

**The Owner/Employer shall** prevent unauthorized operation before beginning any lift repairs.

**The Owner/Employer shall** not modify the lift in any manner without the prior written consent of the manufacturer.

# INSTALLATION INSTRUCTIONS



**1. Lift Location:** Use architects plan when available to locate lift. Fig. 1a & Fig. 1b shows dimensions of a typical bay layout. Verify that concrete conditions are as required in point 5: Concrete and Anchoring.

**2. Lift Height:** See Fig. 2 for overall lift height of each specific lift model. Add 25 mm minimum to overall height of lift for clearance to lowest obstruction.

**⚠ WARNING DO NOT install this lift in a pit or depression due to fire or explosion risks. It's forbidden to use in open spaces when windy conditions are present.**

**3. Column Extensions:** Before standing columns upright, install the column extensions using (8) M8 x 20 HHCS and (8) 8 x 24 mm flatwashers on front and (8) M8 x 12 HHCS and (8) 8 x 24 mm flatwashers on back of each column, see Fig. 2.

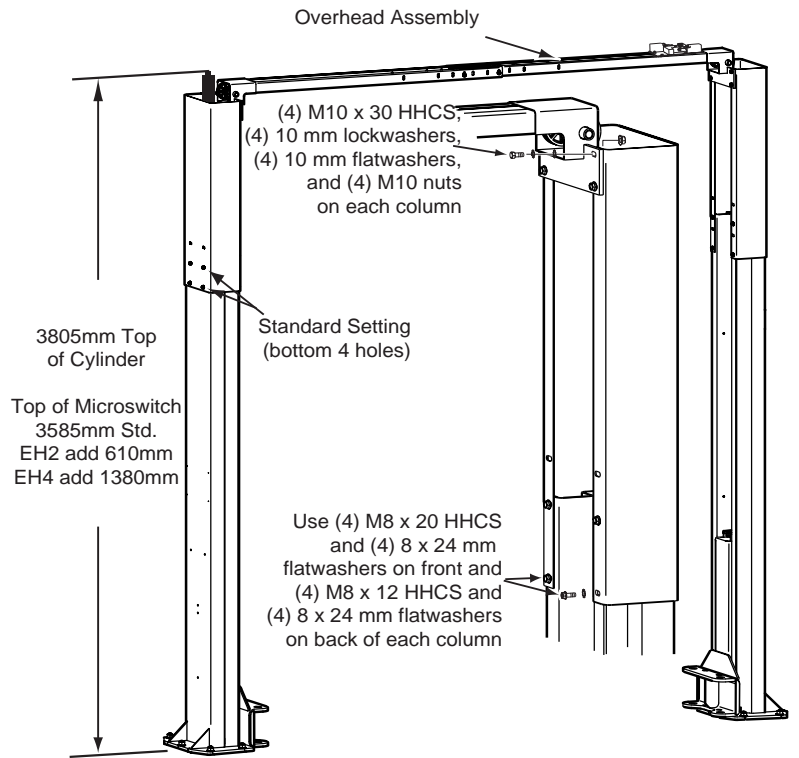
**4. Lift Setting:** Position columns in bay using dimensions shown in Fig. 1a or Fig. 1b. Spacing between columns is measured from points shown in Fig. 1c. With column lying on the floor, two people can lift the top of the column and walk towards the base. As the column approaches vertical, one of the two people should move to the opposite side of the column and assist in slowly setting the column flat on its base. Place column with push button controls on right hand side of lift. Both column base plate backs must be square on center line of lift. Notches are cut into each base plate to indicate center line of lift. Using appropriate equipment, raise carriage to first latch position. Be sure locking latch is securely engaged. The use of the chalk line is recommended to trace the lift's centerline.

**5. Concrete and Anchoring:** Concrete shall have a compression strength of at least 20 N/mm<sup>2</sup> and a minimum thickness of 200 mm in order to achieve a minimum anchor embedment of 95 mm. When using the standard supplied M20 x 170 mm anchors, if the top of the anchor exceeds 75mm above the floor grade, you **DO NOT** have enough embedment. Drill (10) 20 mm diameter holes in concrete floor using holes in column base plate as a guide. It's required

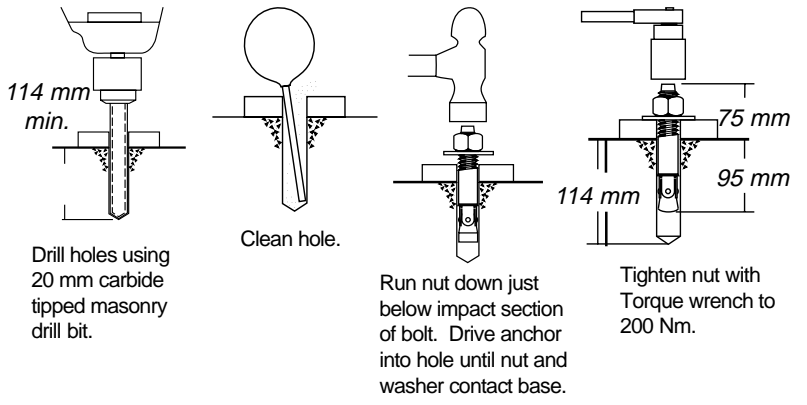
- Concrete thickness (200 mm)
- Hole depth (115 mm)
- Concrete edge distance (150 mm)

**IMPORTANT:** Using the horse shoe shims provided, shim each column base until each column is plumb. If one column has to be elevated to match the plane of the other column, full size base shim plates should be used (Reference Shim Kit). Recheck columns for plumb. Install (2) Toe Guards per column, Fig. 4. Run nut down just below impact section of anchor bolt. Drive anchor into hole until nut and washer contact base, Fig. 3. Tighten anchor

bolts to an installation torque of 200 Nm. Shim thickness **MUST NOT** exceed 13 mm when using the 170 mm long



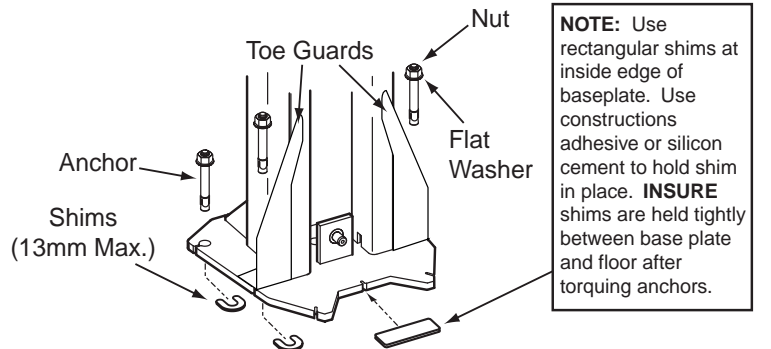
**Fig. 2**



**Installation torque of 200 Nm. is required for all anchor bolts.**

**Fig. 3**

**⚠ CAUTION DO NOT install on asphalt or other similar unstable surfaces. Columns are supported only by anchors in floor.**



**Fig. 4**

**NOTE:** If more than 2 horse shoe shims are used at any of the column anchor bolts, pack non-shrink grout under the unsupported area of the column base. Insure shims are held tightly between the baseplate and floor after torquing anchors.

anchors provided with the lift. Adjust the column extensions plumb.

If anchors do not tighten to 200Nm installation torque, replace concrete under each column base with a 1220 mm x 1220 mm x 200 mm thick 20N/mm<sup>2</sup> minimum concrete pad keyed under and flush with the top of existing floor. Let concrete cure before installing lifts and anchors.

**6. Overhead Assembly:** Adjust overhead to appropriate dimension, Fig. 5. Install (4) M10 x 20 HHCS, (4) 10 mm lockwashers, (8) 10 mm flatwashers and (4) M10 nuts and tighten, Fig. 5.

**7. Overhead Installation:** With a ladder by each column, two people position the overhead assembly to column extensions and fasten with (8) M10 x 30 HHCS, (8) 10 mm lockwashers, (8) 10 mm flatwashers and (8) M10 nuts, Fig. 2.

**8. Power Unit:** Remove protective plastic cap from hole connection for tee and extension. Place power unit on column with short hose and pushbutton box. Put (4) 8 mm flatwashers and (4) rubber washers on (4) M8

x 35 HHCS and insert through extension. Place remaining (4) rubber washers and (4) 8 x 32 mm flatwasher on M8 x 35 HHCS. With the motor being the heaviest part of the unit, two people lift the unit, each with one hand supporting the motor. Position the unit on the bolts with one person supporting the power unit while the other installs the (4) 8 mm flatwashers and (4) M8 nylon insert locknuts as shown in Fig. 7. Install and hand tighten Branch Tee to Extension. Then tighten Extension to pump until O-ring is seated. Finally tighten Nut on Extension to pump using 48-54 Nm, Fig. 8 and Fig. 9.

**NOTE:** Over tightening locknut may tear O-ring.

**Control Panel:** Attach using (4) M4 x 16 Socket Head Cap Screws, (4) 4 mm flatwashers, and (4) M4 nuts, see Fig. 7.

**9. Hoses:** Clean adapters and hose. Inspect all threads for damage and hose ends to be sure they are crimped. Install supply hose and hose clamps, Fig. 8 & Fig. 9.

**Flared Fittings Tightening Procedure**

Screw the fittings together finger tight, then, using the proper size wrench: this will develop a pressure tight seal.

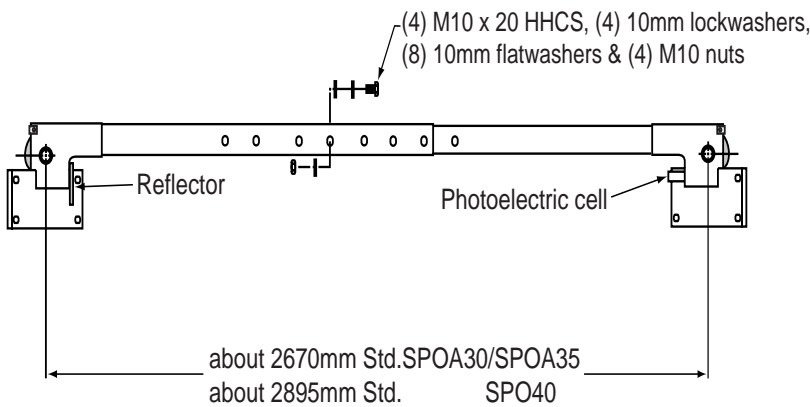


Fig. 5

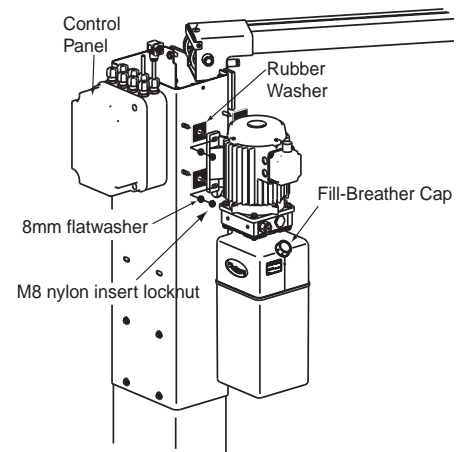


Fig. 7

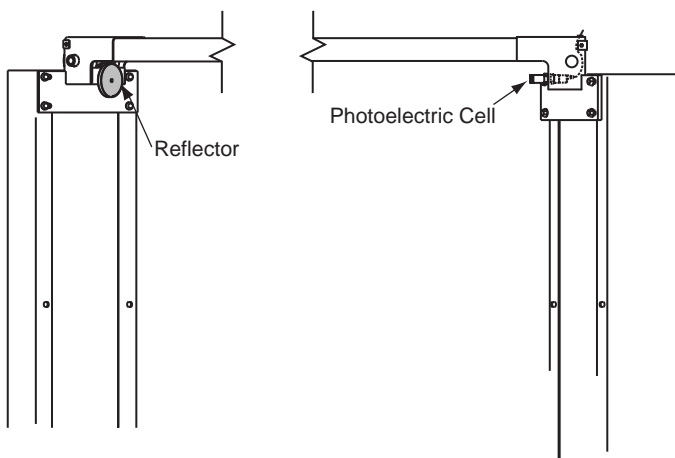


Fig. 6

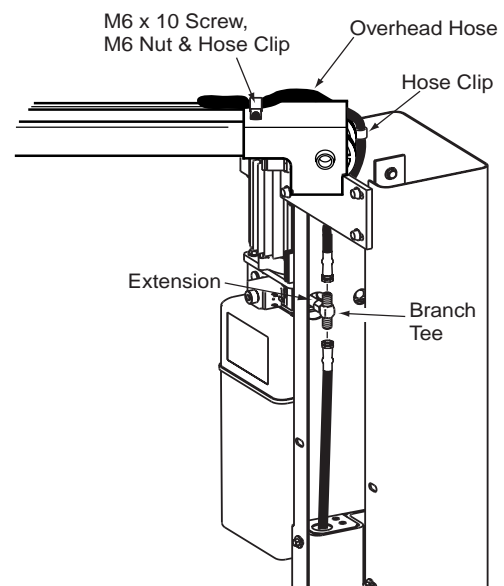


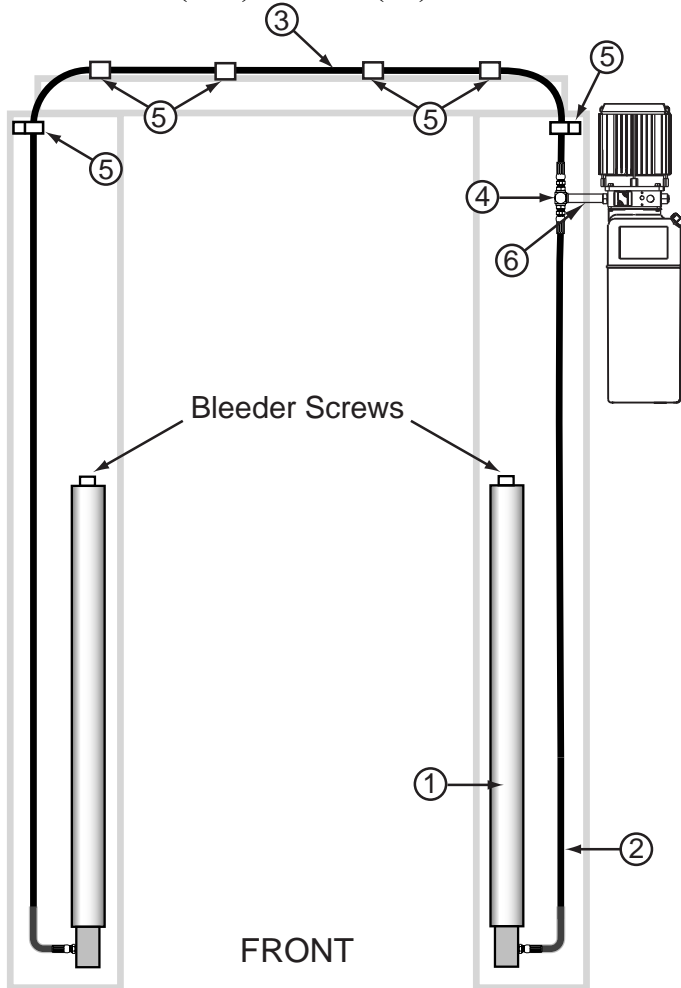
Fig. 8

**Adapter & Hose Installation** (see Fig. 9)

1. Assemble Pc. 3 (hose) with hose clamps starting at left extension and working toward the right extension. All excess hose should be at bends.
2. Connect Pc. 2 (hose) and Pc. 3 (hose) to Pc. 4 (tee).

**NOTE:** Overhead hose goes over top end of overhead assembly, Fig. 9 and should NOT lay in trough of overhead.

If installing EH2 or EH4, connect extension hose between Pc. 3 (hose) and Pc. 4 (tee).



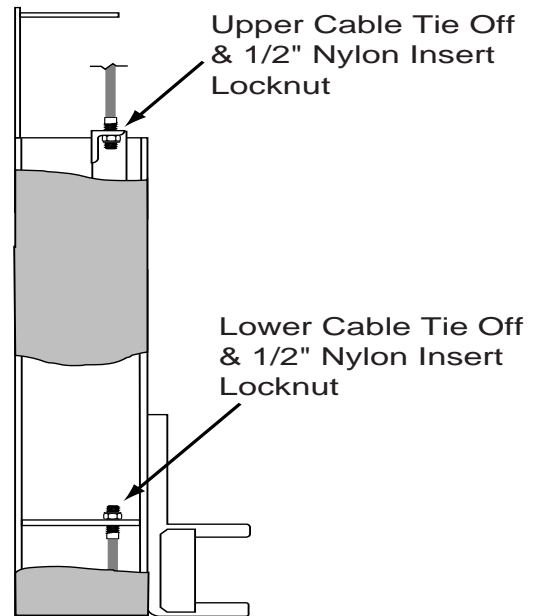
**Fig. 9**

ITEM	QTY.	DESCRIPTION
1	2	Hydraulic Cylinder
2	1	Power Unit Hose
3	1	Overhead Hose
4	1	Branch Tee
5	6	Hose Clips
5	6	M6x10 screw, washer and M6 nut
6	1	Extension

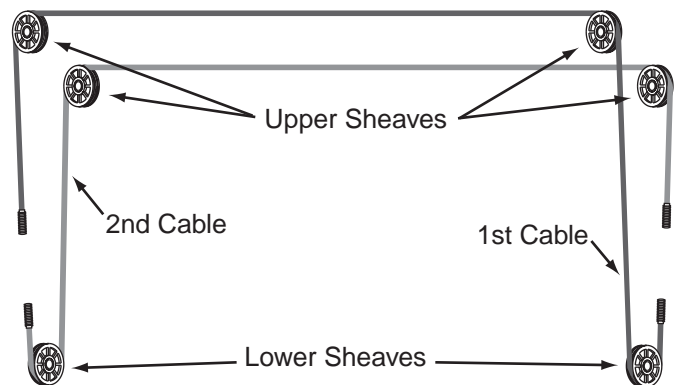
**10. Equalizing Cables**

- A) Refer to Fig. 11 for the general cable arrangement. First, run a cable end up through the small hole in the lower tie-off plate, Fig. 10.
- B) Push the cable up until the stud is out of the carriage top opening.
- C) Run a nylon insert locknut onto the cable stud so 30 mm of the stud extends out of the locknut.
- D) Pull the cable back down, Fig. 10.
- E) Run cable around the lower sheave, then up and around overhead sheave and across and down to the opposite carriage, Fig. 11.

- F) Fasten the cable end thru the larger hole in the carriage upper tie-off bracket. Tighten the locknut enough to apply light tension to the cable.
- G) Repeat procedure for the second cable. Complete lift assembly. Adjust the tension of both cables during the final adjustments in Paragraph 16.



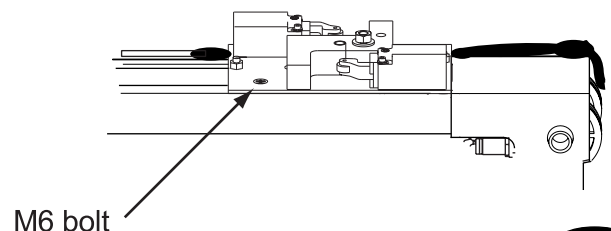
**Fig. 10**



**Fig. 11**

**11. De-Synchronization Switch Installation**

1. The switch, plate, pulleys, and spring assembly is positioned on the top of the overhead. it is attached using (2) M6 x 12 flat head bolts and (2) M6 nuts, see Fig. 12.



**Fig. 12**



- Use something like a pin (diameter 7) to set cam in middle position, see Fig. 13 and then tighten cable to achieve the correct setting.

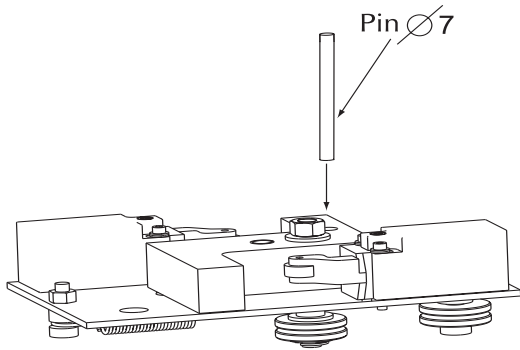


Fig. 13

- The cable is attached to the cable tie off on the non-power unit side first using the cable tie off and the cable protector, see Fig. 14



Fig. 14

- Then the cable is routed over the plastic sheave in the overhead, see Fig. 15, and around the two pulleys attached to the microswitch assembly, see Fig.16.

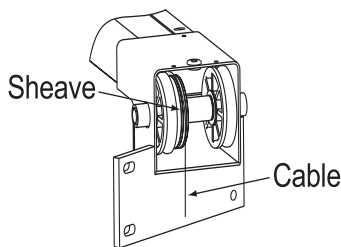


Fig. 15

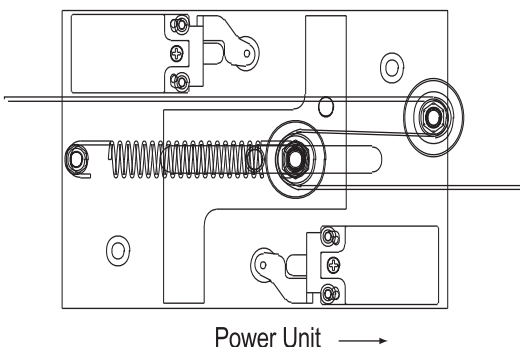


Fig. 16

- Run the cable over the power unit side plastic sheave, see Fig. 15. Then route through the lower sheave, see Fig.17, and back up through the carriage to the cable tie off. Attach using cable tie off and protector, see Fig. 18. Check that cable is taut and cam is centered between switches, see fig 16.

- Assemble cable guards to both overhead to both overheads using 6.3 x 13 Flanged HHTS.

- Don't forget to remove the pin**



Fig. 17



Fig. 18

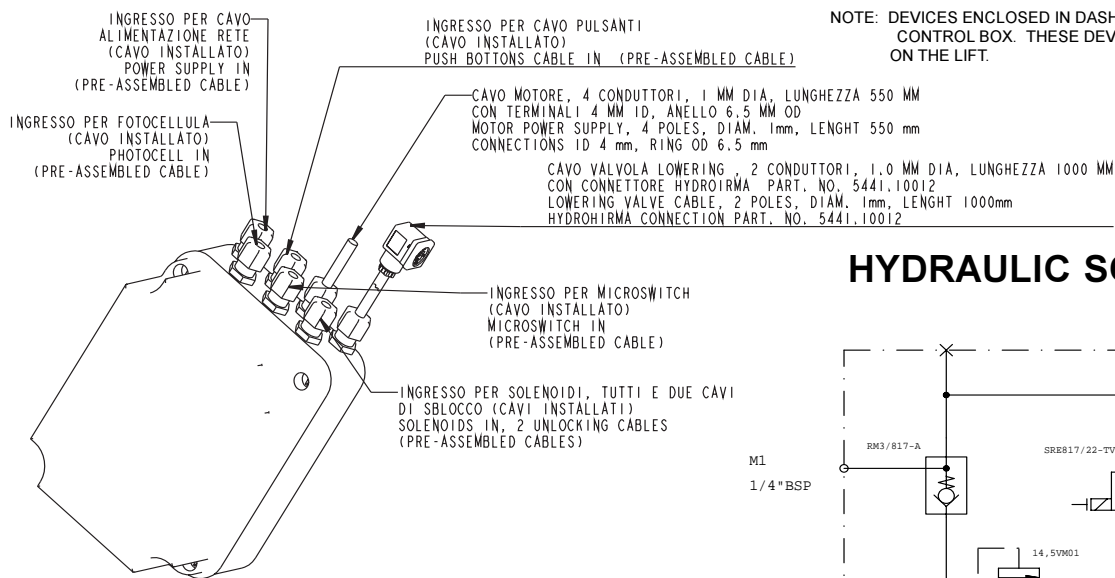
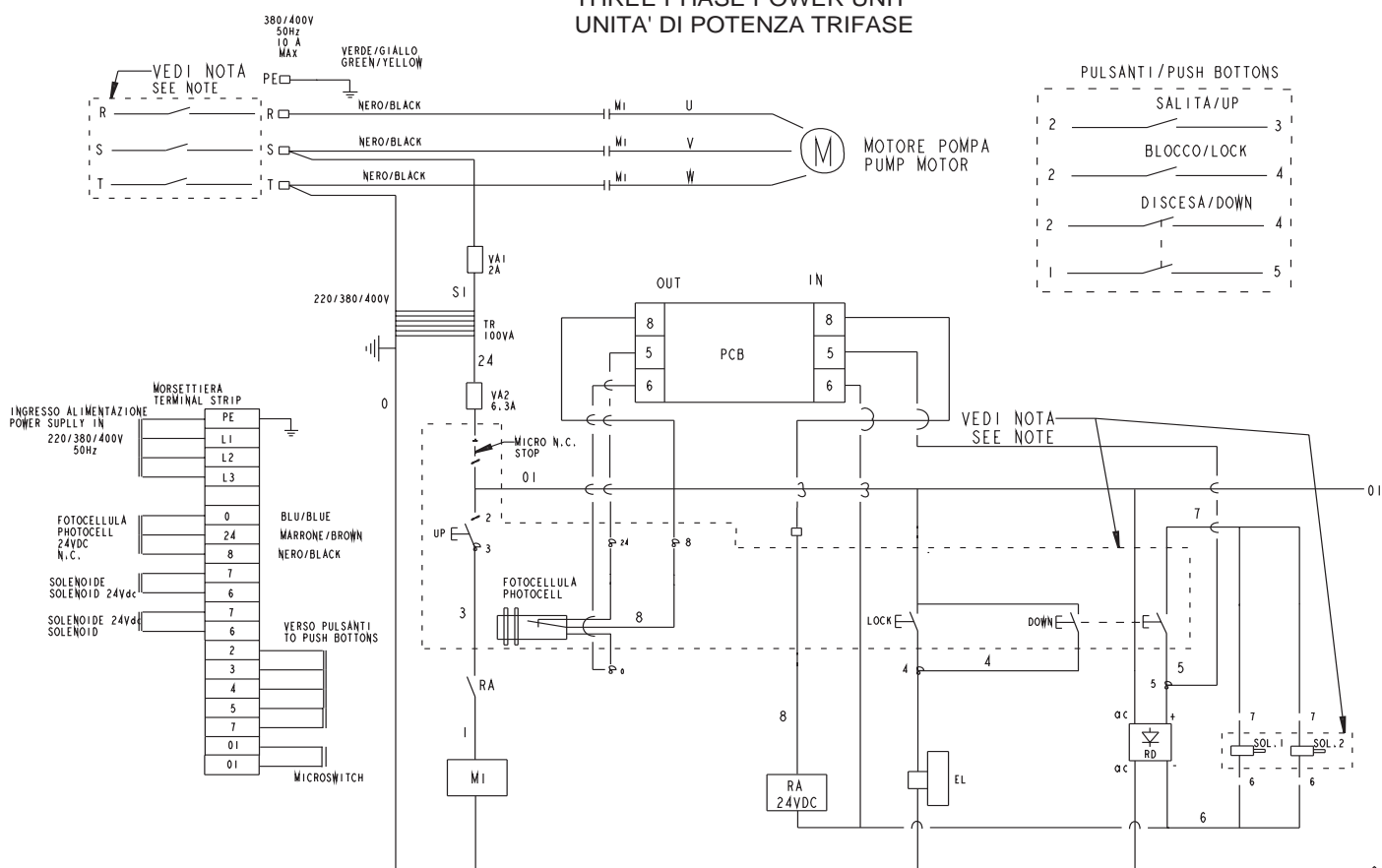
**12. Electrical:** Have a certified electrician run 380-415 volt three phase 50Hz. power supply to Control Panel, Fig. 12. Size wire for 15 amp circuit. See Motor Operating Data Table, Fig. 19 e 20.

If installing an EH2 or EH4, place large grommet in extension to protect cables passing thru extension hole.

**NOTES:**

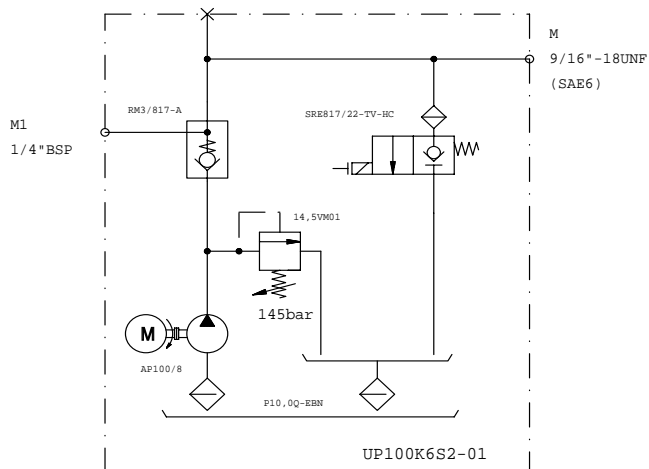
- Unit not suitable for use in unusual conditions. Contact Rotary for moisture and dust environment duty.
- Motor rotation is counter clockwise from top of motor.

## THREE PHASE POWER UNIT UNITA' DI POTENZA TRIFASE



NOTE: DEVICES ENCLOSED IN DASHED LINE ARE NOT A PART OF THE CONTROL BOX. THESE DEVICES ARE LOCATED ELSEWHERE ON THE LIFT.

## HYDRAULIC SCHEME

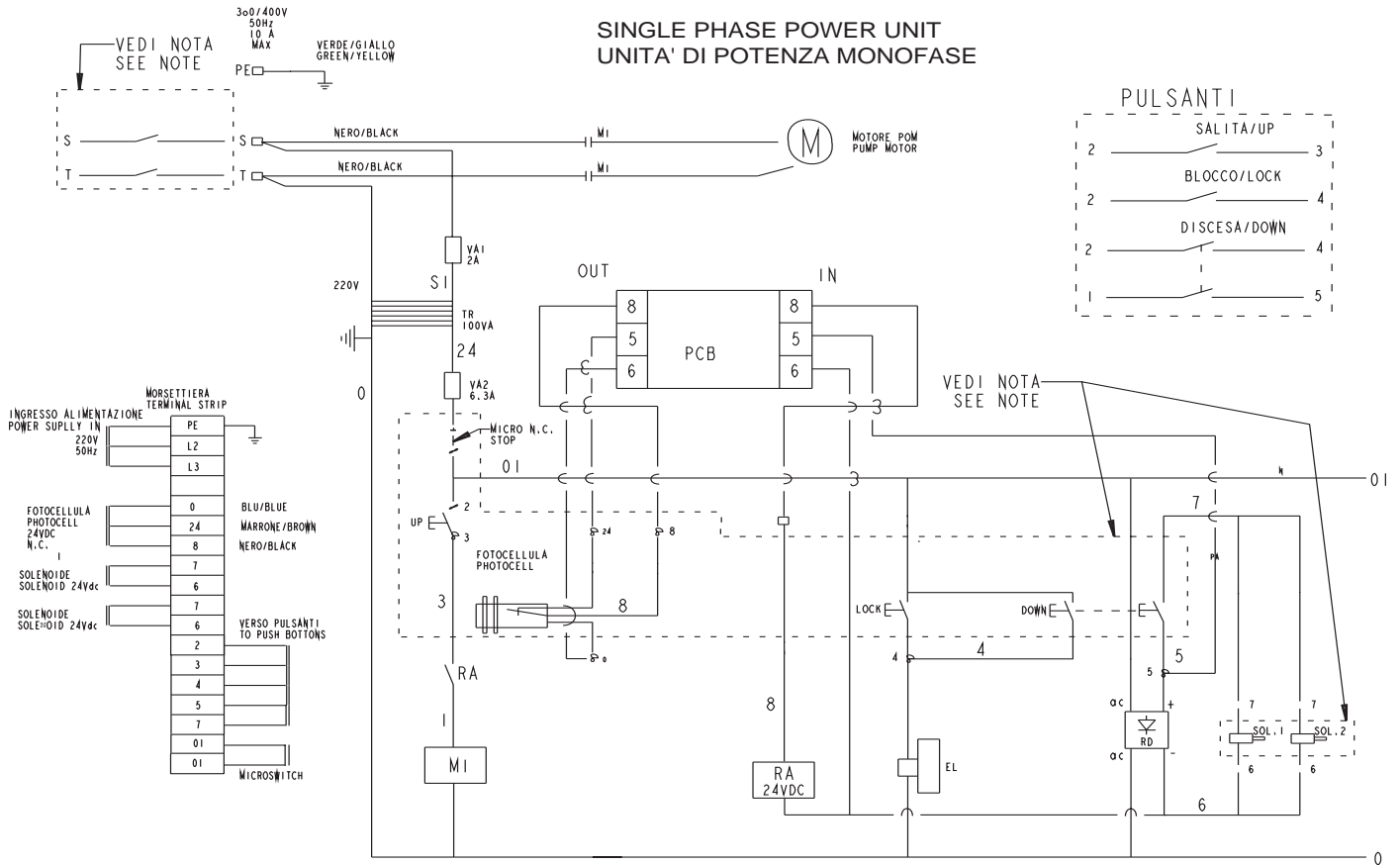


**Fig. 19**

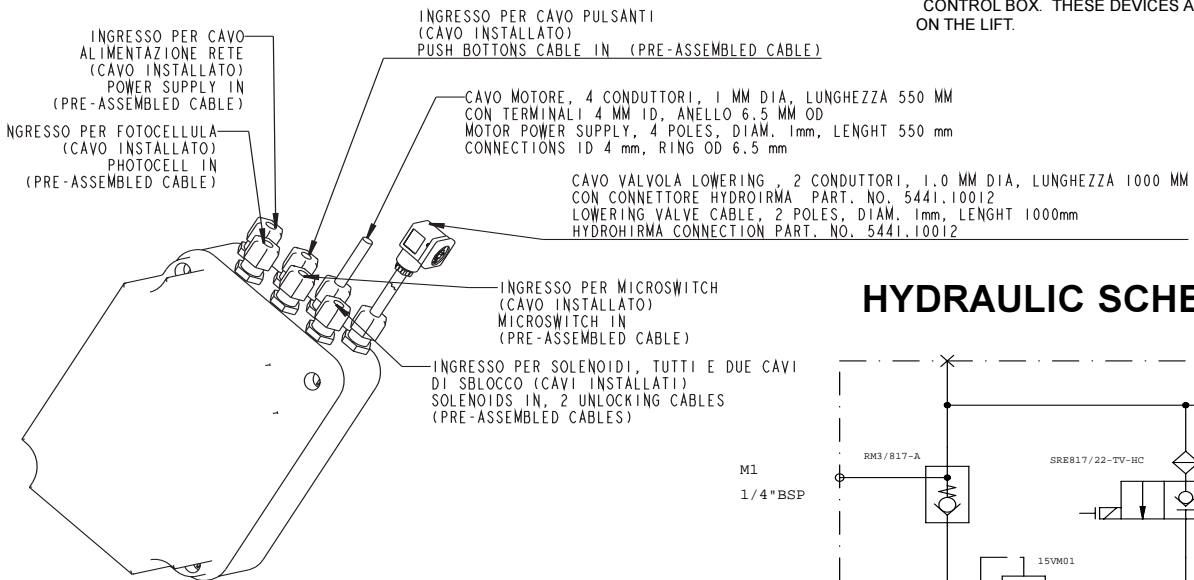
### POWER UNIT

#### MOTOR OPERATING DATA - THREE PHASE

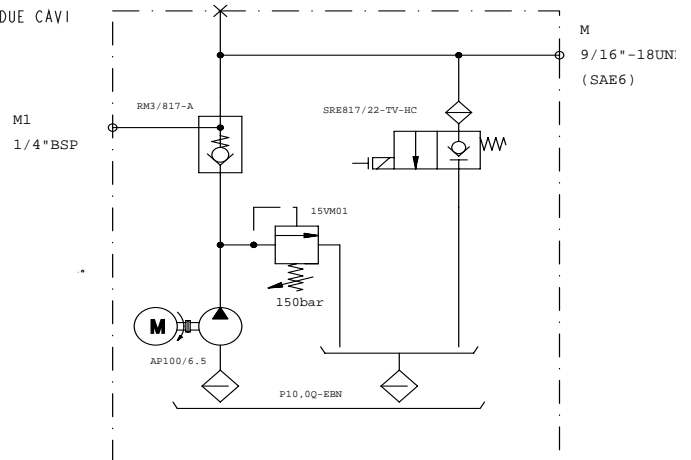
LINE VOLTAGE	CURRENT	POWER
380 - 415 Volts	50 HZ	4.55A - 2.2 kW



NOTE: DEVICES ENCLOSED IN DASHED LINE ARE NOT A PART OF THE CONTROL BOX. THESE DEVICES ARE LOCATED ELSEWHERE ON THE LIFT.



### HYDRAULIC SCHEME



**Fig. 20**

#### POWER UNIT

#### MOTOR OPERATING DATA - SINGLE PHASE

LINE VOLTAGE	CURRENT	POWER
208-230 Volts	14-15 A	1.5 kW

**13. Oil Filling & Bleeding:** Use ISO32 Hydraulic Fluid. Remove Fill-Breather Cap and dipstick, Fig. 7. Pour in (8) liters of fluid. Start unit, raise lift about 600 mm. Open cylinder bleeders approximately 2 turns, Fig. 9.

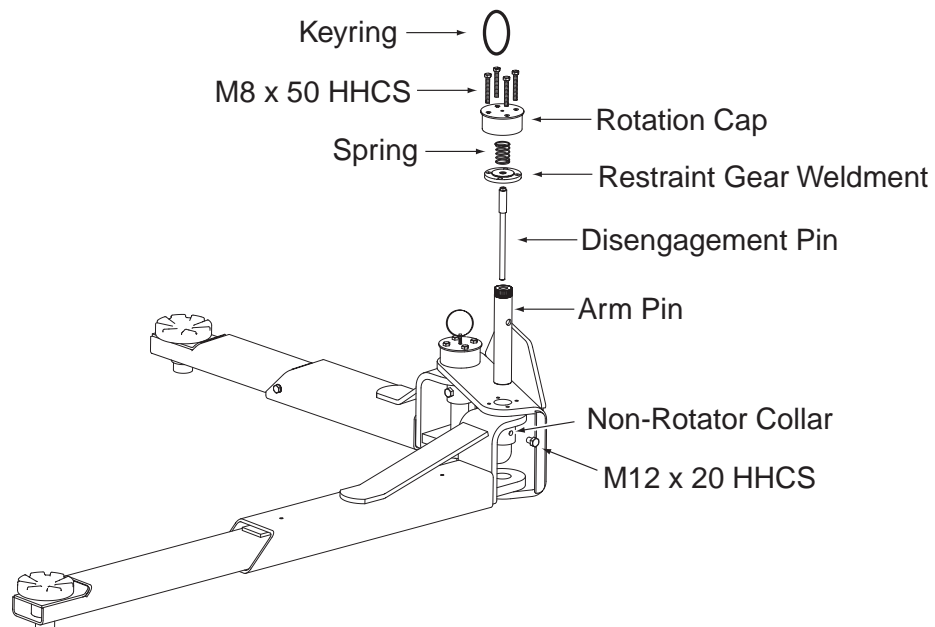
Close when fluid streams. Fully lower lift. Add more fluid until it is at the MIN \_\_\_\_\_ mark on the dipstick. System capacity is approximately (13) liters. Replace Fill-Breather Cap and dipstick.

**CAUTION** If Fill-Breather Cap and/or dipstick is lost or broken, order replacement. Reservoir must be vented.

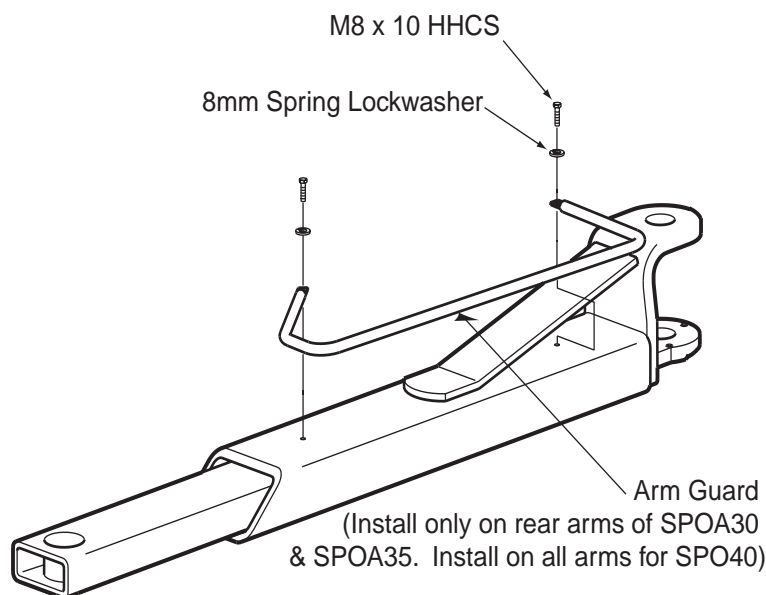
**14. Wheel Spotting Dish:** Position wheel spotting dish as illustrated in Fig. 1a or Fig. 1b. Drill (2) 10mm holes 65mm deep in concrete floor using holes in wheel spotting dish as a guide. Drive both anchors, provided, into concrete to secure dish.

**15. Arm Restraints, Arms, & Superstructures:** Grease Arm Pins and holes with Lithium Grease. Install arm into yoke, align holes and insert arm pin, Fig. 21. Align holes in arm pin with holes in non-rotator collar on arm and attach using (2) M12 x 20 HHCS. Insert disengagement pin into arm pin, see Fig. 21. Then set restraint gear weldment on gear pin and center spring over disengagement pin. Set rotation cap over entire assembly and align holes using (4) M8 x 50 HHCS and (4) 8 mm flatwashers attach each rotation cap to yoke.

Note: for SPOA30/35 arm guards are only attached to the long arms. SPO40 has arm guards on all 4 arms. Attach (2) Arm Guards using (2) M8 x 10 HHCS and (2) 8 mm lockwasher for SPOA30/35, see Fig. 22. Attach (4) Arm Guards using (4) M8 x 10 HHCS and (4) 8 mm lockwasher for SPO40, see Fig. 22.



**Fig. 21**



**Fig. 22**

**16. Pressure Test:** Run lift to full rise and keep motor running for 5 seconds. Stop and check all hose connections. Tighten or reseal if required. Repeat air bleeding of cylinders.

**17. Final Adjustments:** Raise lift to check equalizer cable tension. Below carriage, grasp adjacent cables with about 67N effort you should just pull the cables together. Adjust at upper tie-offs Fig. 10.

NOTE: Locking latches must engage together when lift is going up.

**18. Check Operation:** Operate lift and assure that push button raises lift when pushed and stops lift when released. Also check that Photoelectric cell stops lift from raising when actuated and that lift regains power when deactivated.

**19. Check Pressure:** Check hydraulic pressure at the indicated location on the power unit, Fig. 23. The maximum relief is not to exceed 145 Bar for the SPOA30 & SPOA30. Not to exceed 150 Bar for the SPO40. These valves are nonadjustable.

**20. Decal Location:** Clean area where decals are to be placed. Remove backing from decals. Position and apply on approach sides of each column extension as indicated, Fig. 24, and press flat.

**21. Door Bumpers:** Place door bumpers on front of each column, see Fig. 24.

**22. Sound Level:** The sound level of the lift will fall in the range of 74-76 dB.

**23. Package Weight:** The weight of the lift are as follows:

SPOA30 - Std.	640 kg
SPOA30 - EH2	670 kg
SPOA35 - Std.	640 kg
SPOA35 - EH2	670 kg
SPO40 - Std.	650 kg
SPO40 - EH2	680 kg
SPO40 - EH4	700 kg*

\*Packaged on two pallets.

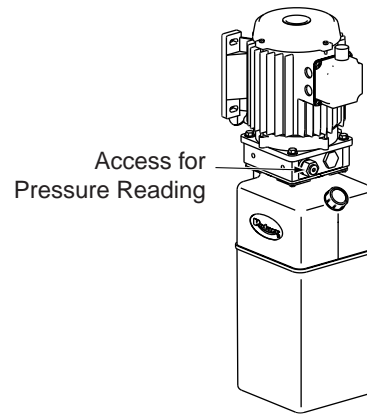


Fig. 23

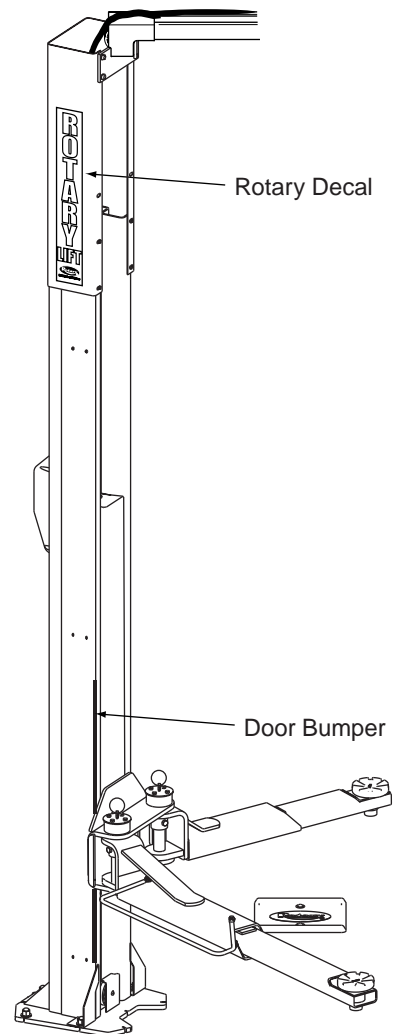


Fig. 24

# OPERATION & MAINTENANCE MANUAL

## Lift Controls, Operating Instructions, Residual Risks, Maintenance Instructions

Only those technicians who have been properly trained in the usage and care of the lift should be allowed to operate the lift.

Local regulations MAY require that the trained operator be at least 18 years of age or be supervised by a trained operator while:

- Positioning the vehicle in the service bay
- Positioning the lift adapters at the vehicle manufacturer's recommended lift points
- Actuating the lift controls

**Display this manual in a conspicuous location in the lift area convenient to the operator.**

**The lift is to be used for raising unoccupied motor vehicles ONLY!**

**ALWAYS** lift the vehicle using all four (4) adapters.

**NEVER** raise just one end, one corner, or one side of the vehicle.

**ONLY** lift vehicles which have an individual axle weight that does not exceed one-half the lift capacity.

See load capacity table below.

MODEL	LOAD CAPACITY
SPOA30	3000kg
SPOA35	3500kg
SPO40	4000kg

## LIFT CONTROLS

1. Turning **DISCONNECT SWITCH** to position "I" provides electricity to the motor.
2. Pushing **UP BUTTON** starts the motor and raises the arms.
3. Pushing **DOWN BUTTON** lowers the arms.
4. Pushing **LOWER TO LOCK BUTTON** engages the mechanical safety. Arms will lower as much as 100mm.
5. Turning **DISCONNECT SWITCH** to position "O" eliminates electricity to the motor.

**IMPORTANT:** In emergency case stop the lift by using the main power switch. Switch to "O" position. Lock it in "O" position by using a pad lock.

Resolve the problem before using the lift again.

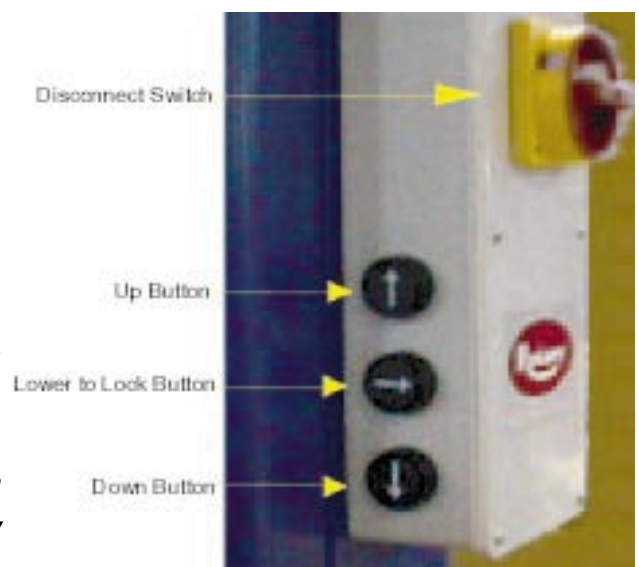


Fig. 25

# OPERATING INSTRUCTIONS

## Surface Mounted Frame Engaging Lifts



To avoid personal injury and/or property damage, permit only trained personnel to operate lift. After reviewing these instructions, get familiar with lift controls by running the lift through a few cycles before loading vehicle on lift.

### IMPORTANT

Always lift the vehicle using all four adapters. **NEVER** raise just one end, one corner, or one side of vehicle.

**For Truck Frame Vehicles:** Assure vehicle frame can support its weight & photoelectric beam will contact highest point on the vehicle.

### 1. Before Loading:

- Inspect Lift - See "Operator Maintenance" on page 17. Never operate if lift malfunctions or has broken or damaged parts.
- Lift must be fully lowered and service bay clear of all personnel before the vehicle is positioned onto lift.
- Swing arms out to full drive-thru position.
- Assure area around lift is free of tools, debris, grease, and oil.
- Assure Adapter Pads are free from grease and oil.
- Do Not allow unauthorized persons in shop area while lift is in use.
- Do Not use any part of the lift as a crane or as a support for another lifting mechanism (i.e.: block & tackle, etc.).
- Turn Main Power switch to "I" Position.

### 2. Loading:

- Do Not allow unauthorized or untrained persons to position vehicle or operate lift.
- Do Not drive over arms.
- Do Not overload lift. See capacity label on lift.
- Use Only adapter extenders provided by the manufacturer. Do Not use wood, concrete blocks, or other improvised extenders.
- Spot vehicle over lift with left front wheel in proper spotting dish position, Fig. 26. (**Position vehicle according to the center of gravity, not for door opening clearance**).
- Check the condition of the pickup points of the vehicle.
- Swing arms under vehicle and position adapters at vehicle manufacturer's recommended lift points, Fig. 27. Adjust adapters to the required height to keep the vehicle level and properly balanced.

### 3. To Raise Lift:

- Do Not permit anyone on lift or inside vehicle when it is

being raised (or lowered).

- Maintain visual contact with arms, pickup points, & vehicle throughout the motion of the lift while remaining clear of lift.
- Push UP BUTTON, Fig. 25.

*Note: Allow 2 seconds between motor starts. Failure to comply may cause motor burnout.*

- Stop before making contact with vehicle. Check arm restraint pins for engagement. If required, slightly move arm to allow restraint gear and pin to mesh. DO NOT hammer disengagement pin down as this will damage the restraint gear teeth.
- Raise vehicle until tires clear the floor.
- Stop and check adapters for secure contact at vehicle manufacturer's recommended lift points.
- Continue to raise to desired height **only** if vehicle is stable on lift.
- Push LOWER TO LOCK BUTTON, Fig. 25 to lower lift onto safety latches after desired height is reached. (Lift is to be raised high enough for locking latches to engage - 500 mm.)
- DO NOT go under vehicle if all four adapters are not in stable contact at vehicle manufacturer's recommended lift points.
- Repeat complete spotting, loading, and raising procedures if vehicle is unstable.

### 4. While Using Lift:

- Avoid excessive rocking of vehicle while on lift.
- Always use safety stands as needed for stability when removing or installing heavy components. (i.e. engines, transmissions, etc.) Use 4 safety stands.
- Raise safety stands to meet vehicle, do not lower vehicle onto stands.

- Avoid accidental touching of exposed exhaust system on

raised vehicles. Watch for air hoses and electrical cords which may be tripped over.

- Wear safety glasses while working under vehicle.

**5. Before Lowering Lift:**

- Remove all tools or other objects from lift area.
- Assure personnel are not in lift area.

**6. To Lower Lift:**

- Remain clear of lift when lowering vehicle. Keep Feet Clear!
- Push UP BUTTON, Fig. 25 to raise lift off locking latches.
- Push DOWN BUTTON, Fig. 25 to lower.

*Note: All push-buttons are deadman-type design. Each must be held down to lower lift. Do not override these self-closing lift controls.*

**7. Unloading:**

- Thread down adapters under vehicle and swing arms to full drive-thru position before moving vehicle.
- Assure Exit area is clear of objects and personnel before removing vehicle from lift.

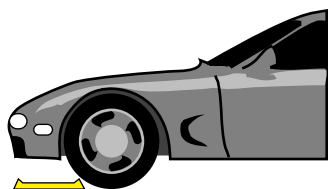
**8. Trouble Shooting:**

- See page 17.

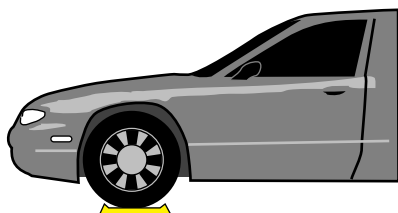
**9. Maintenance:**

- See page 17.

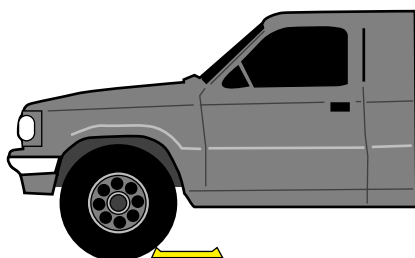
**Typical Wheel Spotting Positions**



Less than 2.35m wheelbase: Position left front wheel on approach side of wheel dish.



2.35m-2.75m wheelbase: Position left front wheel in wheel dish.

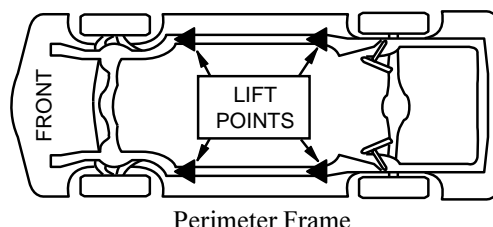


Larger than 2.75m wheelbase: Position left front wheel just forward of wheel dish.

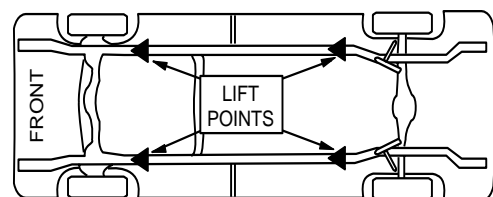
**Fig. 26**

**⚠ WARNING** Most specialty or modified vehicles cannot be raised on a frame engaging lift. Contact vehicle manufacturer for raising or jacking details.

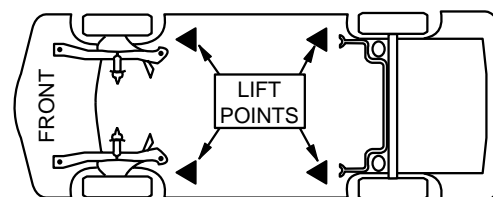
**Typical Lift Points**



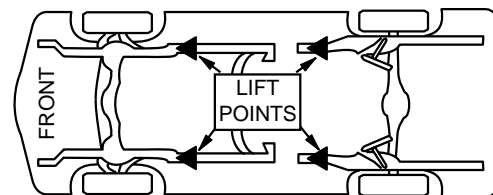
Perimeter Frame



Pickup Truck



Unitized Body



Stub Frame

**Fig. 27**

**RESIDUAL RISKS**

- Check the condition of the pickup points of the vehicle. Assure these points are not weakened due to rust, corrosion, damage, or modification.
- Vehicles with heavy material in the trunk or modified to carry equipment or tools, will have a changed center of gravity. Use stands when working on such vehicles.
- Assure cargo does not cause either individual axle weight to exceed one half lift capacity.



# OPERATOR INSPECTION & MAINTENANCE

## (MAINTENANCE AUTHORIZED BY OPERATOR)

- **Always** keep bolts tight. Check periodically.
- **Always** assure arm stop bolts are in place.
- **Always** keep lift components clean.
- **Always**, if oil leakage is observed, call local service representative.
- **Daily:** Check cables and sheaves for wear. If parts are worn, call local service representative.
- **Daily:** Inspect adapters for damage or excessive wear. If parts are worn, call local service representative.
- **Daily:** Check for permanent deformation to the latches. If present, call local service representative to replace parts.
- **Monthly:** Check equalizer cable tension. If parts are worn, call local service representative.
- **Monthly:** Check photoelectric cell for function.
- **Every 3 Months:** Check anchor bolts for tightness. Anchors should be torqued to 160/200Nm
- **Every 6 months:** Check fluid level of lift power unit and refill to proper level in level indicator with lift fully lowered.
- **Replace** all decals on the lift if unable to read or missing. Reorder labels from Rotary Lift.
- **Monthly:** Clean and check base of lift. Remove any rust and touch-up with paint.
- **Monthly:** Coat the cable contact surface with grease. Use this type of grease:  
 NLGI 2 (penetration 26.5-29.5 mm or 265/295 test method ASTM D-217)  
 Active component: lithium  
 Dripping point: 190° (test method ASTM D-566).  
 Possible temperature range: between -20° and +150°

## TROUBLE SHOOTING

### FOR OPERATORS

Trouble	Cause	Remedy
Motor does not run.	1. Blown fuse or circuit breaker.	1. Replace blown fuse or reset circuit breaker. 2. Contact service representative for further assistance.
Motor runs but will not raise lift.	1. Low oil level.	1. Fill tank with ISO32 Hydraulic Fluid or equivalent. 2. Contact service representative for further assistance.
Motor runs—raises unloaded lift but will not raise vehicle.	1. Overloading lift.	1. Check vehicle weight and/or balance vehicle weight on lift. 2. Contact service representative for further assistance.
Lift slowly settles down.	See Remedy	1. Contact service representative for further assistance.
Slow lifting speed or oil blowing out filler breather cap.	See Remedy	1. Contact service representative for further assistance.
Lift going up unlevel.	See Remedy	1. Contact service representative for further assistance.
Anchors will not stay tight.	See Remedy	1. Contact service representative for further assistance.
Locking latches do not engage.	See Remedy	1. Contact service representative for further assistance.
Locking latches do not disengage.	See Remedy	1. Contact service representative for further assistance.

# REPAIR MAINTENANCE

## (MAINTENANCE AUTHORIZED BY QUALIFIED SERVICE REPRESENTATIVE ONLY)

- Lockout any energy sources before beginning any repairs.
- DO NOT modify the lift in any manner without the prior written consent of the manufacturer.
- If electrical problems develop, make repairs according to local electrical codes. Use genuine Rotary Lift parts when replacement is necessary.
- Replace worn parts as required with genuine Rotary parts.
- Adjust equalizer cable tension per lift installation instructions.

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## ANNUAL INSPECTION

### (PERFORMED BY AUTHORIZED PERSONNEL)

Aside from the routine checks that are stated under "Operator Maintenance", the following annual inspection is to be performed and a record of this inspection permanently retained on site. All deficiencies are to be corrected by the proper authorized personnel.

---

### INSPECTION POINTS

- Check accessibility of the operating procedures.
- Check accessibility and readability of all labels.
- Check the rated load capacity of the lift.
- Examine all structural components including welds.
- Check electrical cords for insulation damage.
- Check fluid level.
- Check the lift controls for function.
- Check for proper function of swing arm restraints.
- Check all fastening devices for tightness including floor anchor bolts.
- Check exposed surfaces and edges.
- Operate the lift and check the operation of the lift safety latches.
- Check for proper operation of adapters.
- With a representative vehicle on the lift, check the lowering speed (not to exceed 0.15m/s).
- Check the operation of the synchronization or equalization system so that both sides raise and lower equally.
- Check the function of photocell.
- Check all accessible piping, tubing, hose, valves and fittings. Review lift oil consumption records.
- \*Operate lift through full excursion and observe.
- With lift loaded, stop the lift at midpoint of travel and observe for drifting down and hydraulic leaks.
- Check with operator to ascertain any unusual operating characteristics.

*\*Perform check with and without a vehicle representative load.*

# TROUBLE SHOOTING

## FOR AUTHORIZED MAINTENANCE PERSONNEL

Trouble	Cause	Remedy
Motor does not run.	<ol style="list-style-type: none"> <li>1. Incorrect voltage to motor.</li> <li>2. Bad wiring connections.</li> <li>3. Motor up switch burned out.</li> <li>4. Photocell burned out.</li> <li>5. Motor windings burned out.</li> <li>6. Photocell not properly aligned.</li> </ol>	<ol style="list-style-type: none"> <li>1. Supply correct voltage to motor.</li> <li>2. Repair and insulate all connections.</li> <li>3. Replace switch.</li> <li>4. Replace photocell.</li> <li>5. Replace motor.</li> <li>6. Slightly adjust photocell beam.</li> </ol>
Motor runs but will not raise lift.	<ol style="list-style-type: none"> <li>1. Open lowering valve.</li> <li>2. Pump sucking air.</li> <li>3. Suction tube off pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace lowering valve.</li> <li>2. Tighten all suction line fittings.</li> <li>3. Replace suction tube.</li> </ol>
Motor runs—raises unloaded lift but will not raise vehicle.	<ol style="list-style-type: none"> <li>1. Motor running on low voltage.</li> <li>2. Debris in lowering valve.</li> <li>3. Improper relief valve adjustment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Supply correct voltage to motor.</li> <li>2. Clean lowering valve.</li> <li>3. Adjust relief valve.</li> </ol>
Lift slowly settles down.	<ol style="list-style-type: none"> <li>1. Debris in check valve seat.</li> <li>2. Debris in lowering valve seat.</li> <li>3. External oil leaks.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean check valve.</li> <li>2. Clean lowering valve.</li> <li>3. Repair external leaks.</li> </ol>
Slow lifting speed or oil blowing out filler breather cap.	<ol style="list-style-type: none"> <li>1. Air mixed with oil.</li> <li>2. Air mixed with oil suction.</li> <li>3. Oil return tube loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Change oil to ISO32 Hydraulic Fluid or equivalent.</li> <li>2. Tighten all suction line fittings.</li> <li>3. Reinstall oil return tube.</li> </ol>
Lift going up unlevel.	<ol style="list-style-type: none"> <li>1. Equalizer cables out of adjustment.</li> <li>2. Lift installed on unlevel floor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust equalizer cables to correct tension.</li> <li>2. Shim lift to level columns (Not to exceed 12.7mm). If over 12.7mm, break out floor and level per lift installation instructions.</li> </ol>
Anchors will not stay tight.	<ol style="list-style-type: none"> <li>1. Holes drilled oversize.</li> <li>2. Concrete floor thickness or holding strength not sufficient.</li> </ol>	<ol style="list-style-type: none"> <li>1. Relocate lift using a new bit to drill holes.</li> <li>2. Break out old concrete and re-pour new pads for lift per lift installation instruction.</li> </ol>
Locking latches do not engage.	<ol style="list-style-type: none"> <li>1. Spring is fatigued.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove covers and install new spring.</li> </ol>
Locking latches do not disengage.	<ol style="list-style-type: none"> <li>1. Solenoid burned out.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace Solenoid.</li> </ol>
If Lift stops short of full rise or chatters.	<ol style="list-style-type: none"> <li>1. Fluid level may be low.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check fluid level and bleed both cylinders per lift installation instructions.</li> </ol>

# PARTS BREAKDOWN

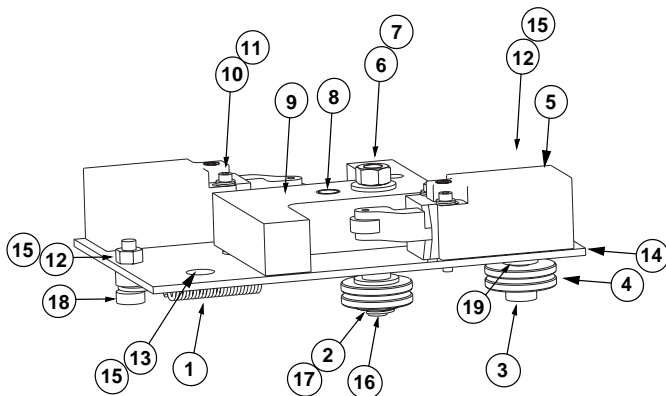
## ELECTRICAL PARTS

Commercially available, electrical Parts for Rotary Two-Post lift models: SPOA30, SPOA35, and SPO40.

TRANSFORMER	400V primary, 100VA, 24v secondary	06-6516
CONTACTOR	400V, 4kW, 24 V AC coil	06-6125
* RELAY	24 V DC, single contact	06-6520
DIODE	20 A	06-1245
PUSHBUTTON CONTACT	BRETER V50, NO	06-6009
PUSHBUTTON	BRETER SR601	06-6006
LOW. VAL. CONNECTOR	24 V DC	06-0329
MAIN DISCONNECT	4X16 A, 400V	W110026

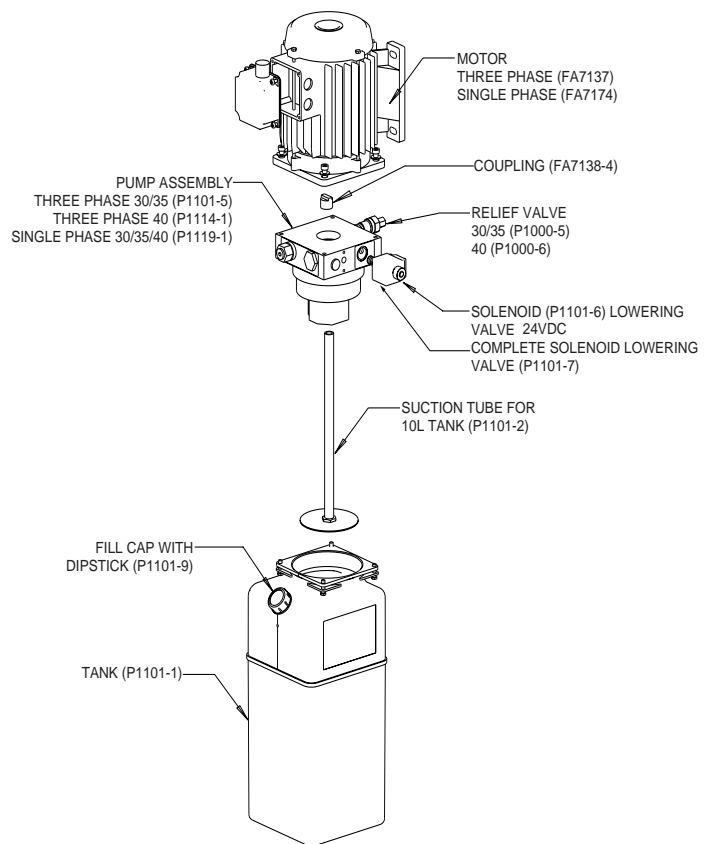
\*-Recommended distributor stocking parts

## MICROSWITCH PARTS BREAKDOWN



1	SPRING	W140007
2	8 MM FLATWASHER	
3	M6 X D8 X 25 SHOULDER SCREW	
4	SLACK CABLE SWITCH PULLEY	W130025
5	MICROSWITCH	06-6034
6	M8 LOCKNUT	
7	8 MM FLATWASHER	
8	10X25 MM	
9	STABILIZATION CAM	W130048
10	M4X30 SCREW	
11	4MM FLATWASHER	
12	M6 NUT	
13	M6X12 SCREW	
14	STABILIZATION PLATE	W130046
15	6MM LOCKWASHER	
16	PULLEY/CAM PIN	W130051
17	7MM KLIPRING	
18	SLACK CABLE SPRING TIE OFF	W130041
19	SECOND PULLEY SPACER	W130033
MICROSWITCH CABLE (not shown)		
	SPOA30/35	W140009
	SPOA30/35 EH2	W140171
	SPO40	W140173
	SPO40 EH2	W140178
	SPO40 EH4	W140172

## POWER UNIT PARTS BREAKDOWN



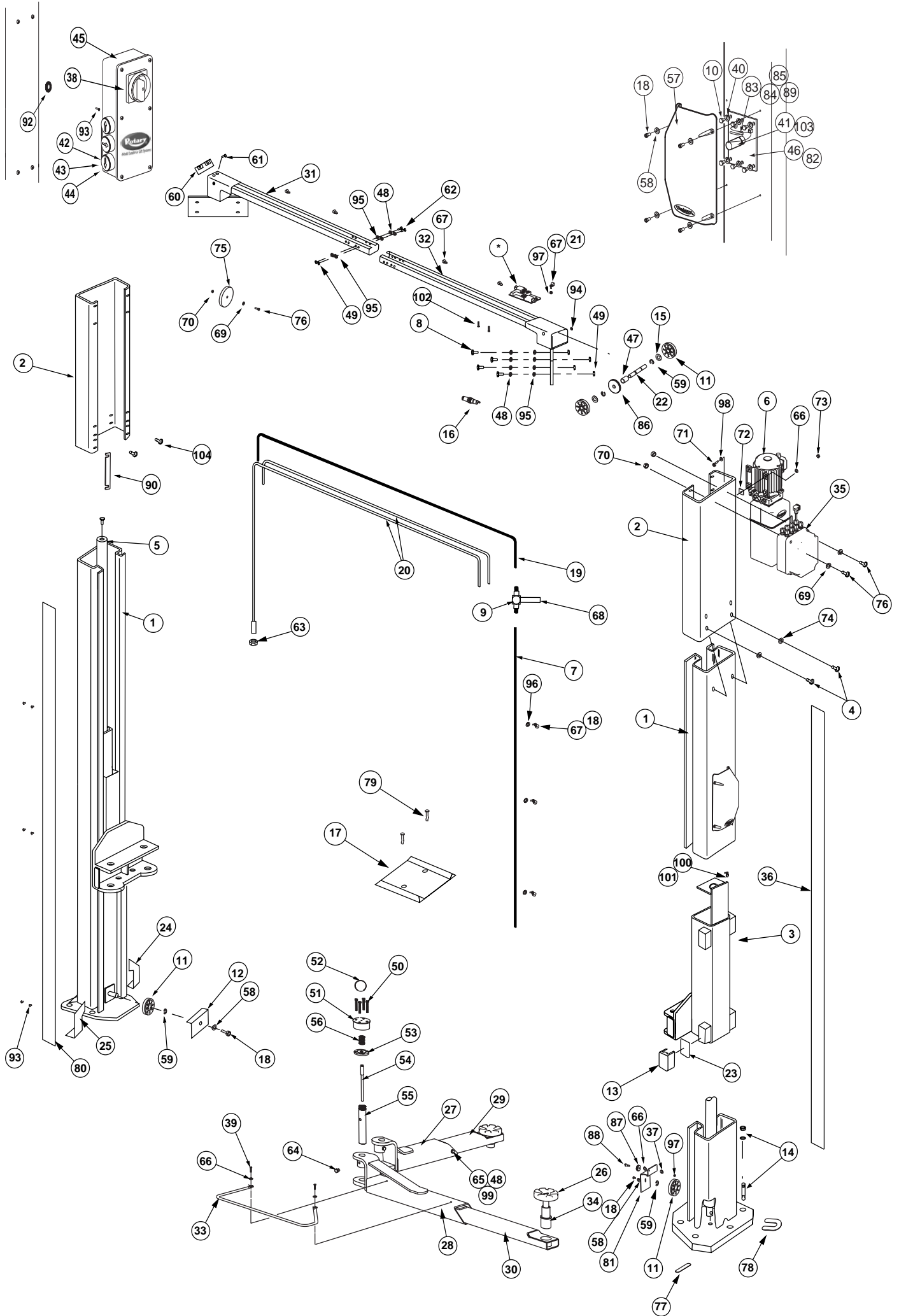
1	COLUMN WELDMENT	W120004
2	COLUMN EXTENSION	
	SPOA30/35-SPO40 Standard versions	W130029
	EH-2 MODEL	W130129
	EH-4 MODEL	W130229
3	CARRIAGE YOKE WELDMENT	W120005
4	M8 X 12 HHCS	
5	HYDRAULIC CYLINDER	T140041
6	POWER UNIT	
	SPOA30/35 THREE PHASE	P1101
	SPO40 THREE PHASE	P1114
	SPOA30/35 SPO40 SINGLE PHASE	P1119
7	*POWER UNIT HOSE	W140128
8	M10 X 30 HHCS	
9	TEE	W140144
10	M8 X 14 HHCS	
11	SHEAVE	FJ7116-1
12	SLAVE SIDE SHEAVE COVER	W130020
13	SLIDER BLOCK	FJ7360
14	M20 CONCRETE ANCHOR (10 req'd)	W140210
15	1-1/2" O.D.x760-770" I.D.x45" THICK	
	MACHINE BUSHING	41388
16	*PHOTOELECTRIC CELL	06-6606
17	SPOTTING WHEEL DISH	FF729
18	M6 X 10 TYPE 1 PHMS	
19	*OVERHEAD HOSE	
	SPOA30/35-SPO40 Standard versions	W140129
	EH2	W140129
		W140165
	EH4	W140129
		W140170
20	*EQUALIZER CABLES	
	SPOA30/35	W140124
	SPO40	W140173
	SPOA30/35 EH2	W140171
	SPO40 EH2	W140178
	SPO40 EH4	W140172
21	M6 X 16 HHCS	
22	SHEAVE SHAFT	W130002
23	SPACER	N115
24	LEFT TOE GUARD	W130125
25	RIGHT TOE GUARD	W130126
26	*ADAPTER PAD	W140148
27	FRONT OUTER ARM WELDMENT	
	SPOA30/SPOA35 all versions	W120038
	SPO40 all versions	W120036
28	OUTER ARM WELDMENT	
	SPOA30/SPOA35 all versions	W120036
	SPO40 all versions	W120036
29	FRONT INNER ARM WELDMENT	
	SPOA30/SPOA35 all versions	W120037
	SPO40 all versions	W120026

30	INNER ARM WELDMENT	
	SPOA30/SPOA35 all versions	W120026
	SPO40 all versions	W120026
31	L.H. OVERHEAD WELDMENT	
	SPOA30/SPOA35 all versions	W120009
	SPO40 all versions	W120044
32	R.H. OVERHEAD WELDMENT	
	SPOA30/SPOA35 all versions	W120010
	SPO40 all versions	W120045
33	ARM GUARD (LEFT AND RIGHT)	W130109
34	ADAPTER ASSEMBLY	W110004
35	CONTROL PANEL THREE PHASE	W110049
	CONTROL PANEL SINGLE PHASE	W110050
36	MASTER SIDE WEB COVER	W130122
37	6 MM LOCKWASHER	
38	DISCONNECT ASSEMBLY SWITCH	W110026
39	M8 X 10 HHCS	
40	8 MM LOCKWASHER	
41	SOLENOID	W140107
42	PUSH BUTTON CAP	06-6007
43	PUSH BUTTON BODY	06-6006
44	CONTACTOR NORMALLY OPEN (green)	06-6009
45	PUSHBUTTON BOX ASSEMBLY	W110007
46	LOCK SUPPORT WELDMENT	W110059
47	PVC PULLEY SHIM	W140003
48	10 MM LOCKWASHER	
49	M10 HEX NUT	
50	M8 X 50 HSCH CLASS 10.9	
51	PLASTIC ROTATION CAP	W130066
52	KEYRING	
53	RESTRAINT GEAR WELDMENT	W120050
54	DISENGAGEMENT PIN	W130006
55	ARM PIN	W130201
56	GEAR SPRING	W140180
57	SLAVE SIDE COVER	FJ7451
58	6X18 MM FLATWASHER	
59	TRUARC KLIPRING #5304-75	
60	CABLE GUARD	W130015
61	6.3 X 13 HHTS	
62	M10 X 20 HHCS	
63	1/2" NYLON INSERT LOCK HEX NUT	
64	M12 X 20 HHCS CLASS 10.9	
65	M10 X12 HHCS	
66	8 MM FLATWASHER	
67	HOSE CLIP	W140159
68	EXTENSION	W140143
69	4X12 MM FLATWASHER	
70	M4 NUT	
71	M8 X 35 HHCS	
72	RUBBER WASHER	
73	M8 LOCKNUT	
74	8X24 MM FLATWASHER	

75	*REFLECTOR	06-6003
76	M4 X 16 HHCS	
77	FRONT SHIM	FJ7659-3
78	NOTCHED SHIM	FJ716-6
79	WHEEL SPOTTING DISH ANCHOR	FJ7659-2
80	SLAVE SIDE WEB COVER	W130121
81	MASTER SIDE SHEAVE COVER	W130023
82	LOCK WELDMENT	W120031
83	STUD	W130007
84	SPRING	W140106
85	PIN	W140313
86	SLACK CABLE SHEAVE	W130028
87	SLACK CABLE SWITCH PULLEY	W130025
88	SHOULDER SCREW M6 X DIAM 8X12	
89	5MM FLATWASHER	
90	EXTENSION SPACER	W130067
91	M6X10 TYPE1 PHMS	
92	O-RING 16X2 MBR	
93	M4.2X9.5 SELFTAPING SCREW (PHTS)	
94	12X3 MM GROMMET	
95	10MM FLATWASHER	
96	6MM FLATWASHER	
97	M6 NUT	
98	8X32 MM FLATWASHER	
99	M10X10 THREAD INSERT	
100	THIMBLE FOR 2mm WIRE AND 7mm PIN	
101	2MM WIRE CLAMP	
102	M5.5X13 PHTS	
103	M3X12 PHMS	
104	M8X20 HHCS	
not shown: D43X3 GROMMET EH2/EH4 versions		

# CONTROL DETAIL

# LOCK DETAIL



**Trained Operators and Regular Maintenance Ensures  
Satisfactory Performance of Your Rotary Lift.**

**Replacement Parts:** See installers package for parts breakdown sheet.  
Order Genuine Rotary replacement parts from your nearest  
Authorized Parts Distributor.

**Maintenance Assistance:** Contact your local Rotary distributor.

Should further assistance be required, contact Rotary Lift, at one of  
the phone numbers listed below.

World Headquarters:

**ROTARY LIFT**  
**A DOVER INDUSTRIES COMPANY**  
2700 Lanier Drive  
Madison, IN 47250-1753 USA  
Phone toll-free: 1-800-445-5438  
Phone: (812) 273-1622  
Fax toll-free: 1-800-822-6502  
Fax: (812) 273-6502  
E-mail: [userlink@rotarylif.com](mailto:userlink@rotarylif.com)  
Web site: [www.rotarylif.com](http://www.rotarylif.com)

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Phone: +44 (0) 1322 223323  
Fax: +44 (0) 1322 222454

For Europe:

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E-mail: [sales@rotarylif.de](mailto:sales@rotarylif.de)  
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*World Leader in Lift Systems*