

MANUFACTURED BY:

MOLNAR ENGINEERING PTY. LTD.

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MOLNAR

TWO-POST HOIST

MF 1705-85A/3T



INSTALLATION, OPERATION & MAINTENANCE MANUAL

CERTIFICATION

I hereby certify that the hoist has been checked and is in a safe operating condition and that the purchaser/operator has been duly instructed in the operation thereof.

OPTIONAL 240 VOLT SINGLE PHASE

MINIMUM REQUIREMENTS FOR ELECTRICAL CONNECTION OF MOLNAR HOISTS

Important: All installations should be carried out by suitably qualified persons. Failure to comply may void warranty.

The following information is a guide only based on the latest standards as set out in AS/NZS 3000, for installations outside of Australia & New Zealand refer to local standards/regulations.

Circuit Breakers should be of "D" curve type (motor start, high inrush current) - Ratings given as a maximum for circuit & motor protection based on DOL selection guide.

Voltage operating range: -6% to +10% of motor nameplate Voltage.
Motor Voltage 240V Operation range 225V to 264V.

Cable sizes are given as a guide only for a maximum cable length to 30m. Longest cable runs and in area where supply voltage is below motor voltage, calculation should be made to ensure Voltage Drop will not fall below minimum operating voltage.

When installed motors must be tested under Full Load checking Voltage at motor terminals.

Motor 2.2kW 240V Single phase model CWC3640F

Full Load Current	12.4 Amps
Min Cable Size	2.5mm 2 core + earth
Circuit Breaker	1 phase 32 Amp 10kA Recommended Clipsal 4CB132/10 or equivalent

Purchaser

Model No MF 1705-85A/3T

Serial No

Date

Installation by

Address

.....

Name

Signature

Date

INSTALLATION REQUIREMENTS

INSTALLER MUST CHECK THE FOLLOWING LIST WHEN INSTALLING A MOLNAR TWO-POST HOIST

1. A suitable floor where the hoist is to be bolted down must have a level surface to ensure the hoist base frames lie flat. When the hoist is bolted down check all nuts and bolts to ensure they are correctly tightened.
2. Check wire ropes and sheaves for possible transport damage or dislocation.
3. When power is connected to the hoist terminal box the motor must rotate clockwise. If hoist will not lift exchange wires on two phases.
4. Check safety mechanism for loose nuts or bolts.
5. Check operation of safety mechanism on both sides, then test hoist with load.
6. Recheck hoist operation. Demonstrate the hoist to the operator.
- 7. Very important**
 - 7.1 Instruct operator how to use the hoist, how the safety mechanism works and where to place lifting pads when lifting vehicles.
 - 7.2 Point out maintenance requirements on wire ropes and that they should be checked monthly.
 - 7.3 Point out that by law, the operator and/or owner are responsible for the maintenance and safe operation of the hoist.
8. When all the above points are checked the certificate must be signed by the installer.

No person should be permitted to operate the MOLNAR TWO-POST HOIST without first studying the operating instructions on page 7 and safety precautions on page 16.

This manual should be kept in a safe place and referred to as necessary.

The installation requirements on page 24 must be completed and the certificate on the inside back cover must be signed by the installer. The guarantee card must be completed and returned to MOLNAR ENGINEERING PTY. LTD.

In tropical and steam cleaning conditions to prevent rust in the cylinder raise the hoist to full height and leave it there when not in use overnight and on weekends.

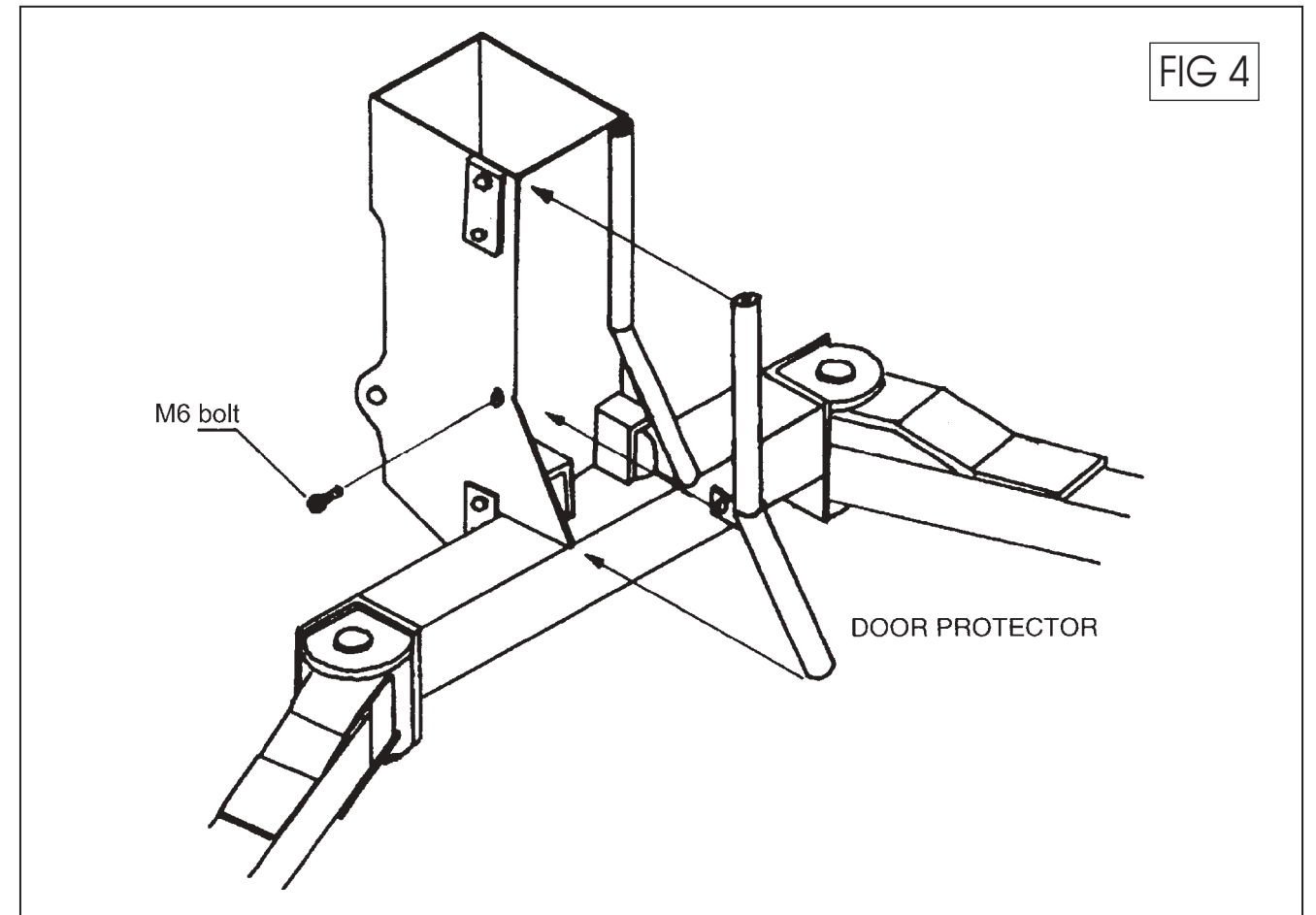
This vehicle hoist is not designed to be used for steam cleaning nor to be installed in the open exposed to the elements. Vehicle hoists installed under such conditions are not covered by our guarantee.



MF 1705-85A/3T

MF 1705-85A/3T
complies fully with the
Australian Standard
1418.9 - 1987

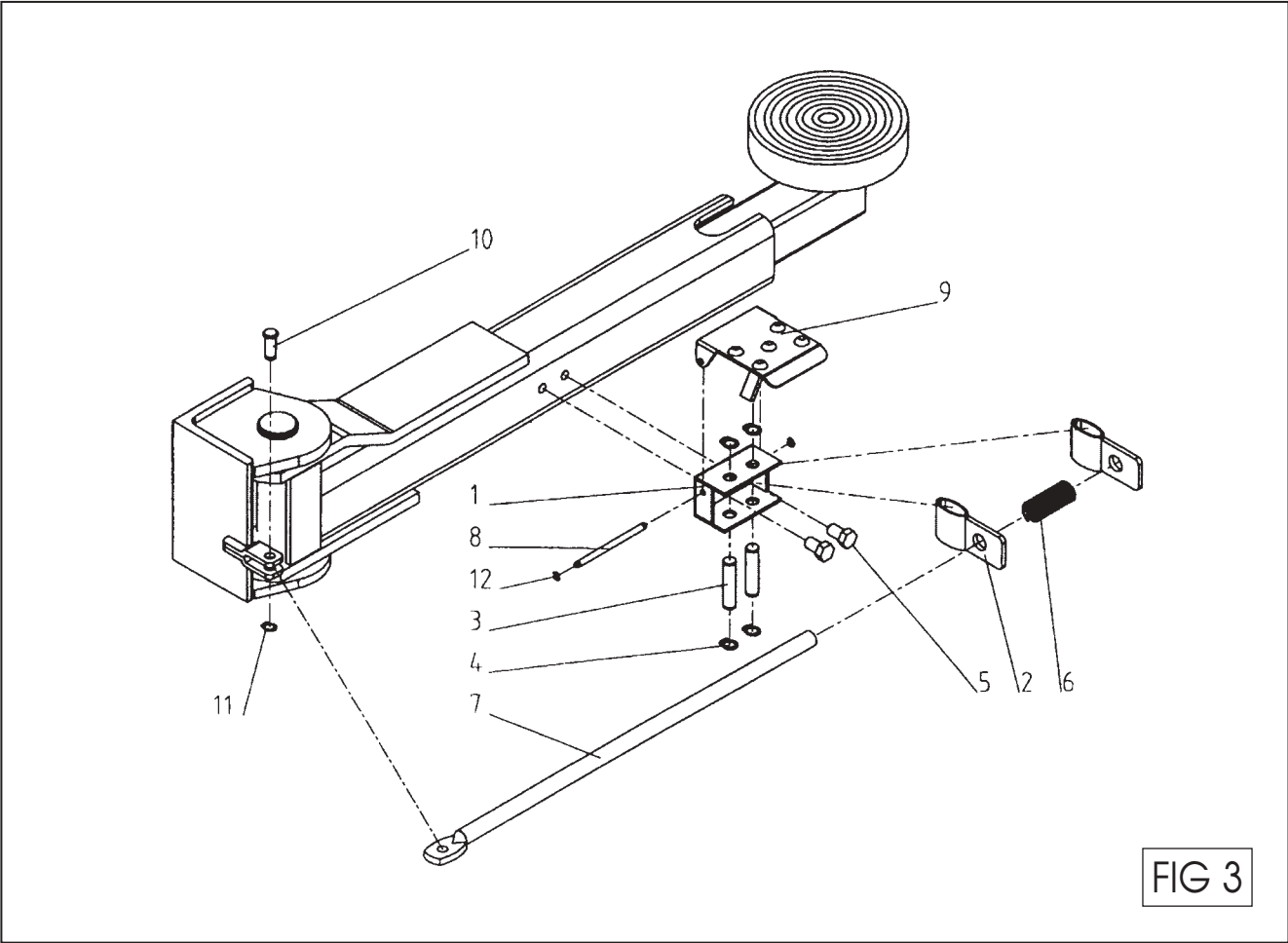
DOOR PROTECTOR INSTALLATION PROCEDURE



INSTALLATION PROCEDURE

1. Place door protector into position as shown in above drawing. Make sure the door protector ends are flush with the edge.
2. Push the protector in at the bend, until the holes in the bracket and the carriage line up.
3. Screw the M6 bolt into position as shown in diagram.

INSTALLATION INSTRUCTIONS



INSTALLATION PROCEDURE

- 1. Bolt locking bracket (1) to pick-up arm using 7/16 U.N.F. bolts.
- 2. Locate arm (7) in pivoting bracket.
- 3. Slide locking lug (2), followed by spring (6), followed by another locking lug (2), along arm (7).
- 4. Locate locking lugs (2) in locking bracket (1).
- 5. Push pins (3) into position and secure using circlips.
- 6. Push pin (10) into position and secure using circlip (11).
- 7. Place foot pedal (9) over locking bracket (1).
- 8. Push shaft (8) through foot pedal and locking bracket and secure with E clip (12).

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SPECIFICATIONS

Width between columns	2650mm
Overall width	3250mm
Overall height	2770mm
Overall length	1200mm
Width base plate	575mm
Height of base plate	55mm
Maximum raised height	1900mm
Minimum lowered height	90mm
Length of front lifting arms maximum	1020mm
minimum	610mm
Lifting time (working height)	approx. 20 secs
Electric motor	- 3 phase, 2.2kw, 2700 rpm, 415 volts, 50 hertz
(optional)	- Single phase, 2.2kw, 2850 rpm, 240 volts, 50 hertz
Hoist mass	- 722kg
Wire rope	- 13mm diameter 6 x 29FW(14/7+7F/1) IWRC RHOL B1770 minimum breaking strength 107kn
Hydraulic oil	- Castrol Hyspin AWH46, Shell Tellus T46, Mobil DTE 25, BP Bartran HV46 or equivalent
Capacity	- 3000kg (3.0 tonnes)

The Manufacturer reserves the right to alter these features and specifications without notice.

INTRODUCTION

Here is the MOLNAR TWO-POST HOIST, a space saving wheel-free hoist and its many advantages.

It has been purposely designed for space saving and to give versatility and profitability to the largest garage and smallest service station. Safe, strong, simply built to give years of trouble-free service. The MOLNAR TWO-POST HOIST embodies many features that makes it the most up-to-date equipment for quicker and more profitable service.

SAFE AND EFFICIENT OPERATION

Due to an electro hydraulic system which gives years of trouble free service. Raising and lowering of vehicle is controlled by hydraulics, plus built-in mechanical safety against any failure plus deadman control mounted on the hydraulic column.

INSTALLATION

The MOLNAR TWO-POST HOIST is fast and simple to install only 10 bolts needed for a suitable floor. No costly excavation. It is also ideal for upper floor level where excavation is not possible. The hoist is surface mounted a feature which means lower overall cost. Compared with similar-priced hoists the MOLNAR TWO-POST HOIST can be quickly, easily and economically re-sited.

INSTALLATION INSTRUCTION

Figure 1.

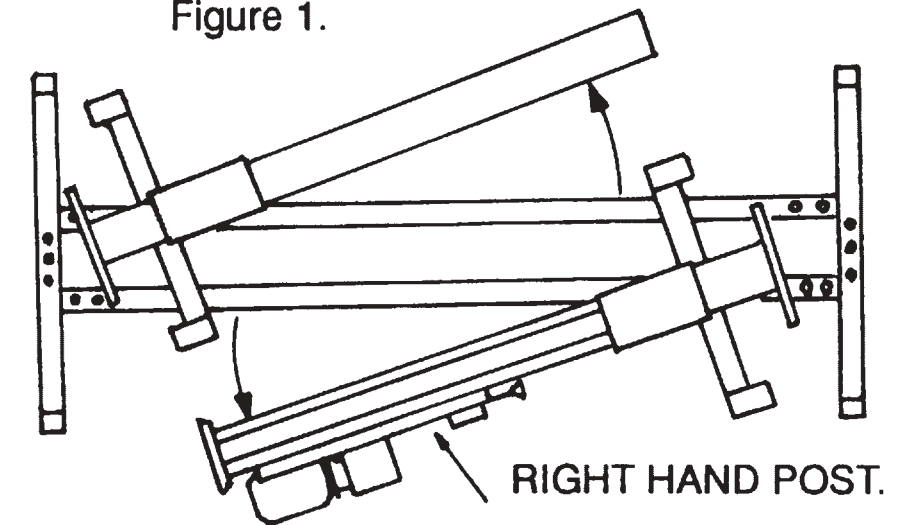
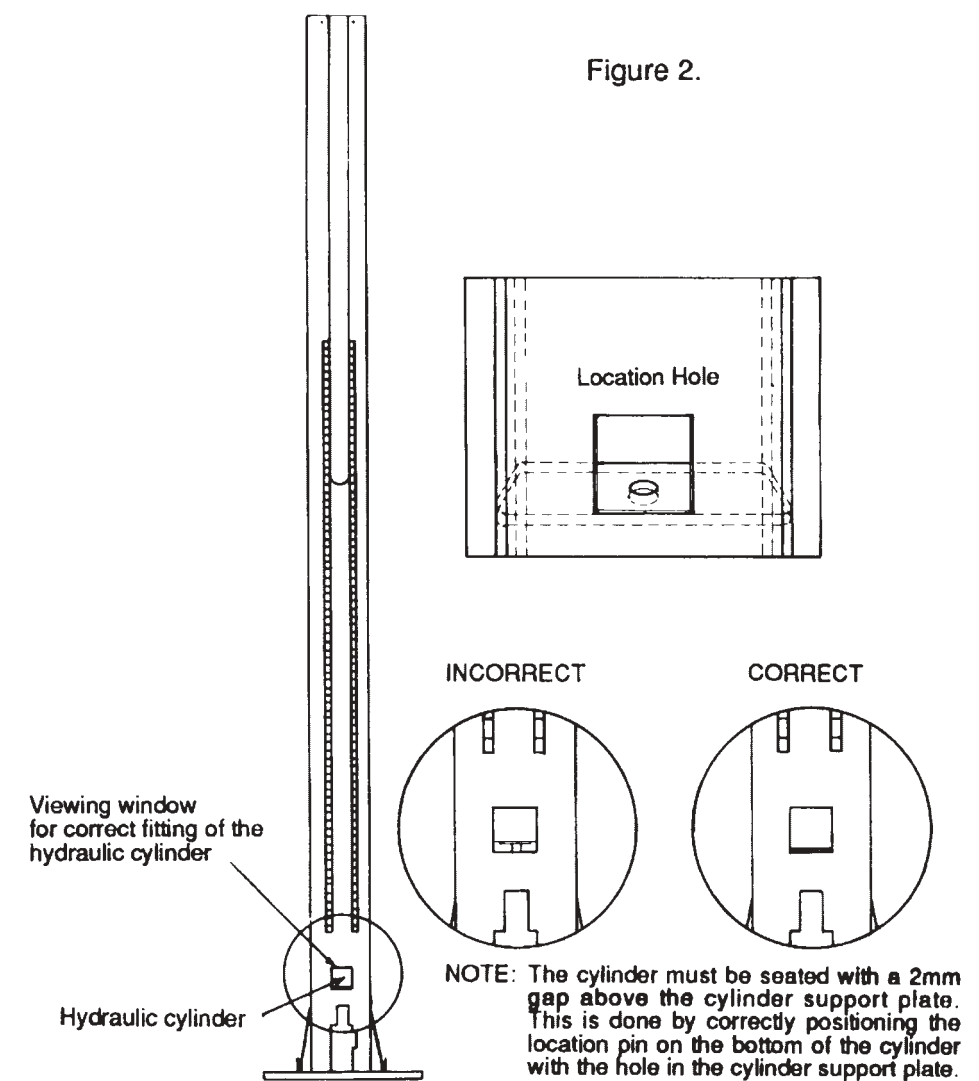


Figure 2.



INSTALLATION INSTRUCTION

1. Position hoist to installation position.
2. Remove wooden box.
3. Cut straps holding posts together.
4. Undo the packing legs securing bolts (2 per side).
NOTE: The 4 packing legs securing bolts are to be fitted into the base plates of the posts. The nuts are to be discarded.
5. Cut strap holding packing legs to hoist.
6. Lift hoist off floor, and remove packing legs..
7. Place hoist on floor.
8. Swing out tops of both posts, horizontally anti clockwise right hand with motor first and place on wooden blocks with top of post 500mm from base. Refer Figure 1.
9. Remove bolts from base.
10. Lift right hand post into position and bolt to base.
11. Repeat with left hand post.
12. Cut 2 straps marked "DO NOT CUT THIS STRAP UNTIL THIS POST IS IN AN UPRIGHT, BOLTED-DOWN POSITION".
13. Remove arms, door protectors and packet of locking arms.
14. Remove checker plates.
15. Position correctly and bolt down (page 6).
16. Pour oil in tank and connect power.
17. Raise hoist to approx. waist level.
18. Check that cylinder is seated correctly (with a 2mm gap when viewed through inspection hole above bottom right sheave). If cylinder not seated correctly adjust its position with bent wire until it drops and seats under its own weight. Refer Figure 2.
19. Install locking arms. Refer Figure 3.
20. Install checker plates.
21. Attach door protectors. Refer Figure 4.
22. Apply lubricant on wear pad tracks and roller tracks.
23. Install covers on both posts.
24. Left hand side carriage approx. 25mm higher than right hand carriage, to allow the cable to bed in.
25. Final Test: Drive a car over hoist base plate and simultaneously observe the top of both posts for any movement. If there is any movement you must check dyna bolts and shims (Refer page 6) until the car can be driven over hoist base plate and no movement in the post is observed.
26. Clean the hoist of anit-corrosion spray.

INTRODUCTION

FOR SPEEDIER SERVICE

With the MOLNAR TWO-POST HOIST maximum accessibility is assured. No cumbersome beams or cross-sections impede the operator in any way, giving the hoist unlimited advantages, when used for unit replacement. With this lifting method the suspension springs are relaxed, facilitating lubrication and repair work. Wheel service, brake adjustment, washing underbody spraying or sealing or any underbody repairs can be speedily carried out.

EASY TO OPERATE

The MOLNAR TWO-POST HOIST is operated with the greatest of ease. The telescopic adjustable arms and contact pads are easily placed in position by one man. The operator has full confidence due to the mounting of the arms and the area of the chassis which can be contacted. The vehicle is immediately wheel-free and stable at any height.

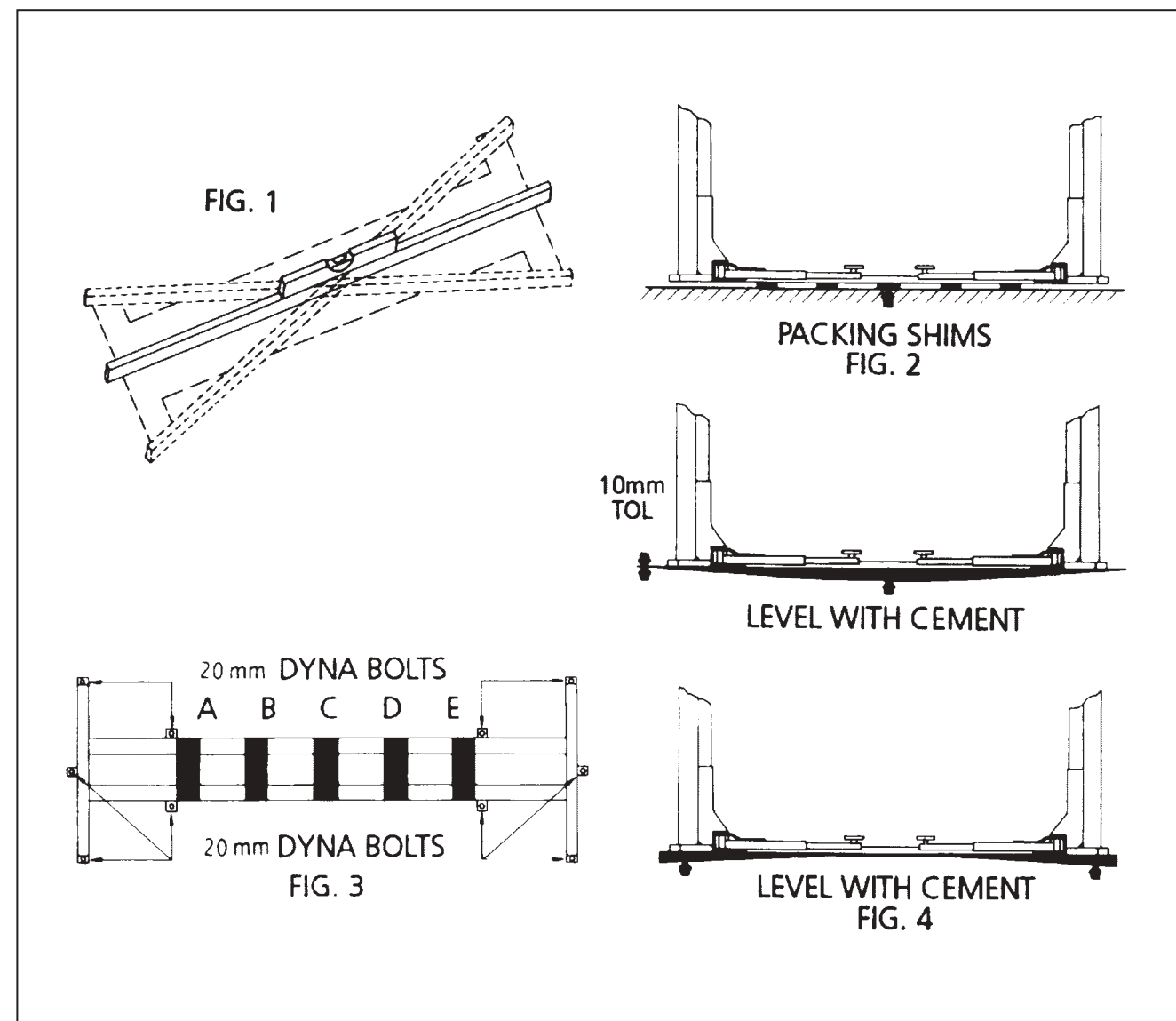
FLOOR REQUIREMENTS FOR HOIST BASE

For correct installation of the Hoist the floor must be flat and level. A level tolerance between post of 10mm is allowable. Check with straight edge and spirit level. See Fig 1.

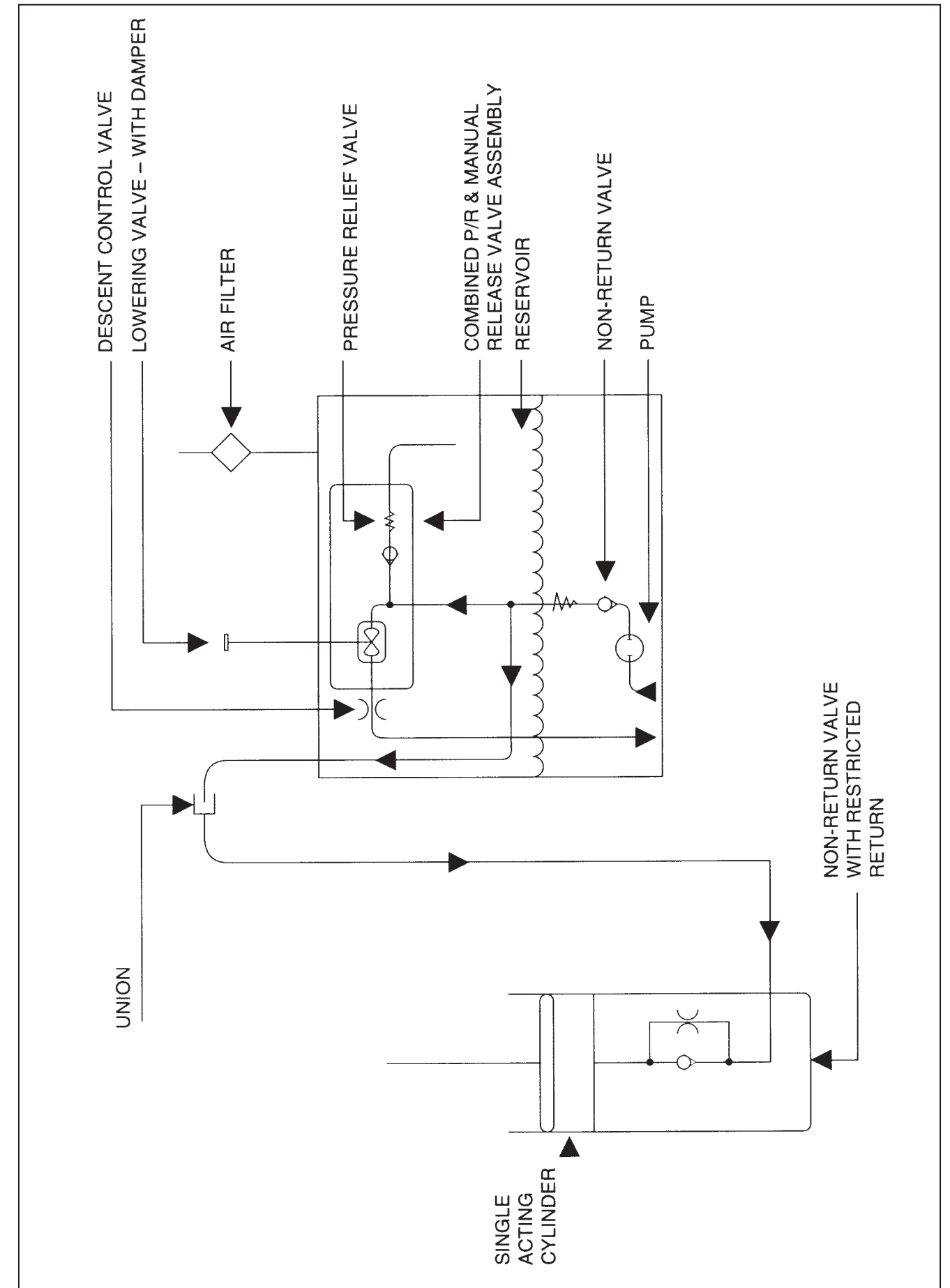
In situations where the floor is too soft a reinforced concrete slab, 3850 x 2200 x 120mm should be laid (Cement 1, Sand 3, Metal 6). If the floor is solid but not quite level, it may be compensated for with steel shims. See Fig 2.

If shims are used they must also be placed at the points A,B,C,D and E as required to maintain the level and stability of the Hoist. See Fig 3.

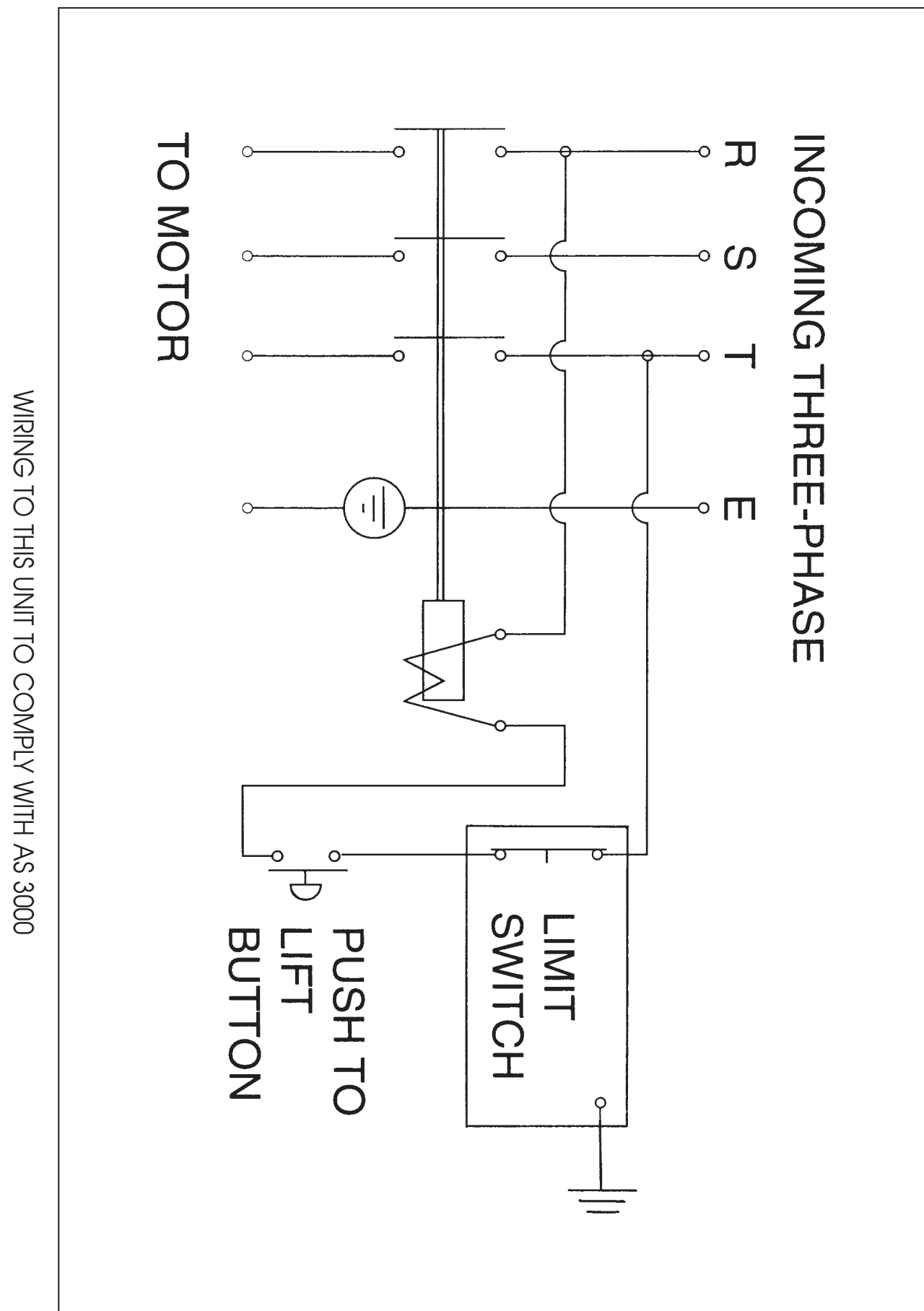
A concave or convex section to be used as a floor for the Hoist base may be levelled with the use of sand and cement mix. See Fig 4. (Cement 1, Sand 5). 20mm dyna bolts x 82mm length with a thread size 16mm are recommended for fastening down. This may differ in some States.



HYDRAULIC CIRCUIT DIAGRAM

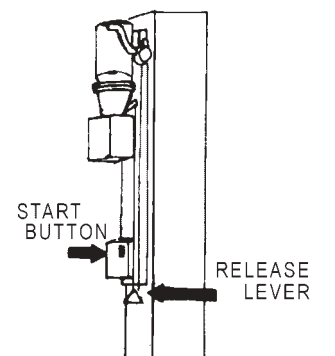
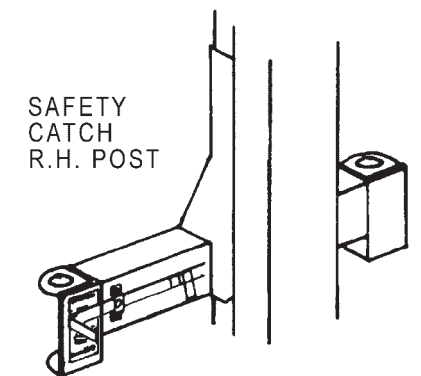
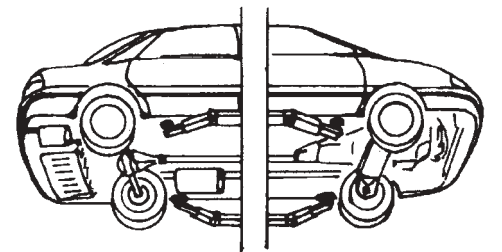
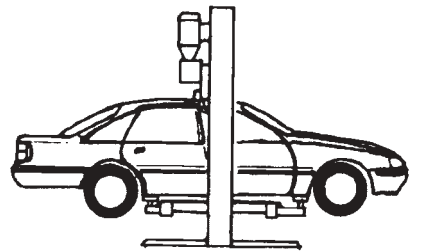
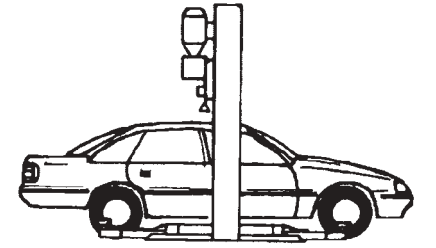


WIRING DIAGRAM



OPERATING INSTRUCTIONS

1. Drive on - car to be centred.
2. Place the four pads under edge of car fore and aft at jack points.
3. Press starter button and raise car to required height. Do not go under car until load rests on safety.
4. When car reaches maximum height limit switch will come into operation and stop hoist. When hoist has stopped, pull release lever until load rests on safety.
5. During the lifting of the car a clicking sound should be noticeable which indicates the safety mechanism is operating. If this sound is not heard, immediately cease using the hoist and call an authorised service agent.
6. The following steps are to be taken when lowering the hoist. Raise hoist approximately 20mm. Push safety catch to the OFF position.
7. Pull release lever down and lower hoist.
8. If car is to be worked on at an intermediate position re-apply safety catch.
9. To lower to ground level, raise car approximately 20mm. Release safety catch and lower.
10. **WARNING.** Do not go under vehicle under any circumstances while vehicle is being lifted or lowered.



MAINTENANCE

CHECK DAILY

Check safety mechanism to see that it functions properly.

CHECK MONTHLY

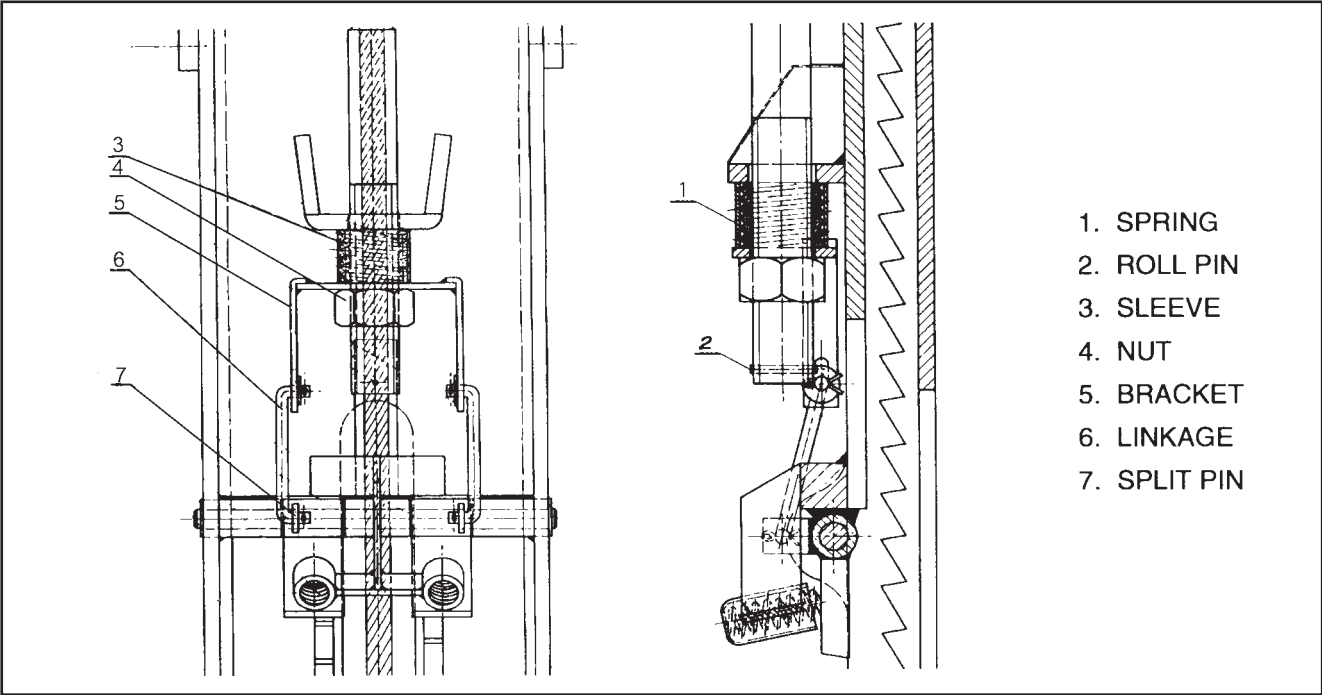
- 1. Safety mechanism operation.
- 2. Condition of sheaves, shafts and shaft locks.
- 3. Condition of wire ropes.
- 4. Overall cleanliness.
- 5. Clean tracks of dry lubricant and re-apply lubricant on wear pad tracks and roller tracks.

CHECK 6 MONTHLY

- 1. State of swivel arms.
- 2. Oil leaks from cylinder.
- 3. Oil leaks at pipe joints.
- 4. Anchor bolts.
- 5. Wire ropes.

CABLE ADJUSTMENT

If the long cable has stretched provision is provided for cable adjustment by winding the cable nut up.



FAULT CHART

FAULT	PROBABLE CAUSE	REMEDY
Leakage of oil at joints.	Loose joints in the high pressure pipes.	Inspect the piping and tighten joints.
Leakage of oil at top of hydraulic cylinder.	Worn packing seal in hydraulic cylinder.	Replace packing seal or cylinder.
Lack of lifting power.	Release valve not seating properly or a loose connection inside of tank. Obstruction in suction side of pump.	Rotate valve stem one full turn. Tighten connections. Remove and clean out tank, refill with fresh oil.
Hoist fails to stay up.	Release valve not seating properly. Loose joints in oil line in the tank or outside. If non-return valve is not seated correctly return oil pressure will rotate electric motor.	Rotate release valve stem one full turn or replace. Tighten joints. Check for dirt or possible damage to valve seat. Clean or replace.
Hoist does not respond to operation switch.	Power supply to motor is interrupted. Motor turning in opposite direction. Cables either cut or damaged.	Check main fuse, power source, magnet switch and terminal relay. Interchange 2 terminals in 3 phase circuit.
Damaged cable.	Worn sheaves and sheave pins or bushes.	Replace sheaves, sheave pins and cables and bushes.
Carriage shuddering in lifting and lowering mode.	Lack of lubricant on wear pad tracks causing wear pads to grip instead of sliding.	Clean and re-apply lubricant on wear pad tracks.
Excessive side movement of carriage.	Worn wear pads.	Replace wear pads.

SAFETY PRECAUTIONS

DON'T

1. Do not try to lift anything beyond the maximum capacity 3000 Kg.
2. Do not operate without first ascertaining the safety of people and equipment in the area.
3. Do not go under car or make adjustments while hoist is in operation.
4. Do not try to adjust bearer pads engaged to jack points while the hoist is in operation.
5. Do not fail to inspect safety devices periodically to see they are in proper working condition.
6. Do not make unauthorised changes to safety equipment. In emergency consult this manual or your local dealer.
7. Do not oil or grease swivel arms as they should not move in or out while hoist is operating.
8. Do not fail to protect operating switch from water if the hoist is used for car washing. Ropes should be smeared with water-resistant grease.
9. Do not try to adjust relief valve as it has been set at maximum operating efficiency.
10. Do not turn off mains power while hoist is operating.
11. Do not force safety lever into the off position while weight is resting on safety.
12. Do not attempt to operate the hoist from under vehicle.

MAINTENANCE

YEARLY

Service and safety inspection on the hoist must be performed by a competent person. This inspection must be recorded. If the 12 monthly service and safety inspection is not performed, the warranty is null and void.

NOTE: Yearly service must include removal of rollers and pulleys to inspect, clean and lubricate bushes and pins.

2 YEARLY

Hydraulic oil and filter should be replaced. Fill Oil Tank to Oil Level Line with Shell Tellus T46 oil, Mobil DTE25 oil, Castrol Hyspin AWH46 oil, BP Bartran HV46 oil or equivalent.

WIRE ROPE INSPECTION

Wire ropes must be inspected by a COMPETENT person. Inspect for wear, rust and broken wires. Ropes are to be discarded according to the criteria.

Wire rope must be replaced if:

- a. At any point the visible number of broken wires exceeds 10 in any length of rope equivalent to 20 times the rope diameter i.e. for 13mm diameter rope 10 broken wires in 260mm of cable.
- b. A strand of wire is broken.
- c. A rope has been physically damaged by crushing or deforming.

LUBRICATION PROCEDURES FOR MOLNAR 2 POST HOISTS

It is the Hoist Owner's responsibility and Duty of Care to maintain the Hoist as per the Maintenance Schedule in the Hoist Owner's Manual.

All Tracks must be lubricated regularly. (Both Posts.)

This includes the roller tracks behind the covers. (Both Posts.)

Molnar Engineering suggest that the rear tracks be heavily lubricated. You may use grease on the rear tracks because the rear tracks are fully covered by the Hoist covers.

The 2 Front Tracks and the 2 Side Tracks also have to be regularly lubricated. (Both Posts.)

Molnar Engineering suggests Teflon or Silicon Sprays may be used (because the Hoist will be totally clean and there is no fear of lubricant accidentally being rubbed onto clothing).

"TAC 2" lubricant may also be used.

REPLACEMENT PARTS LIST

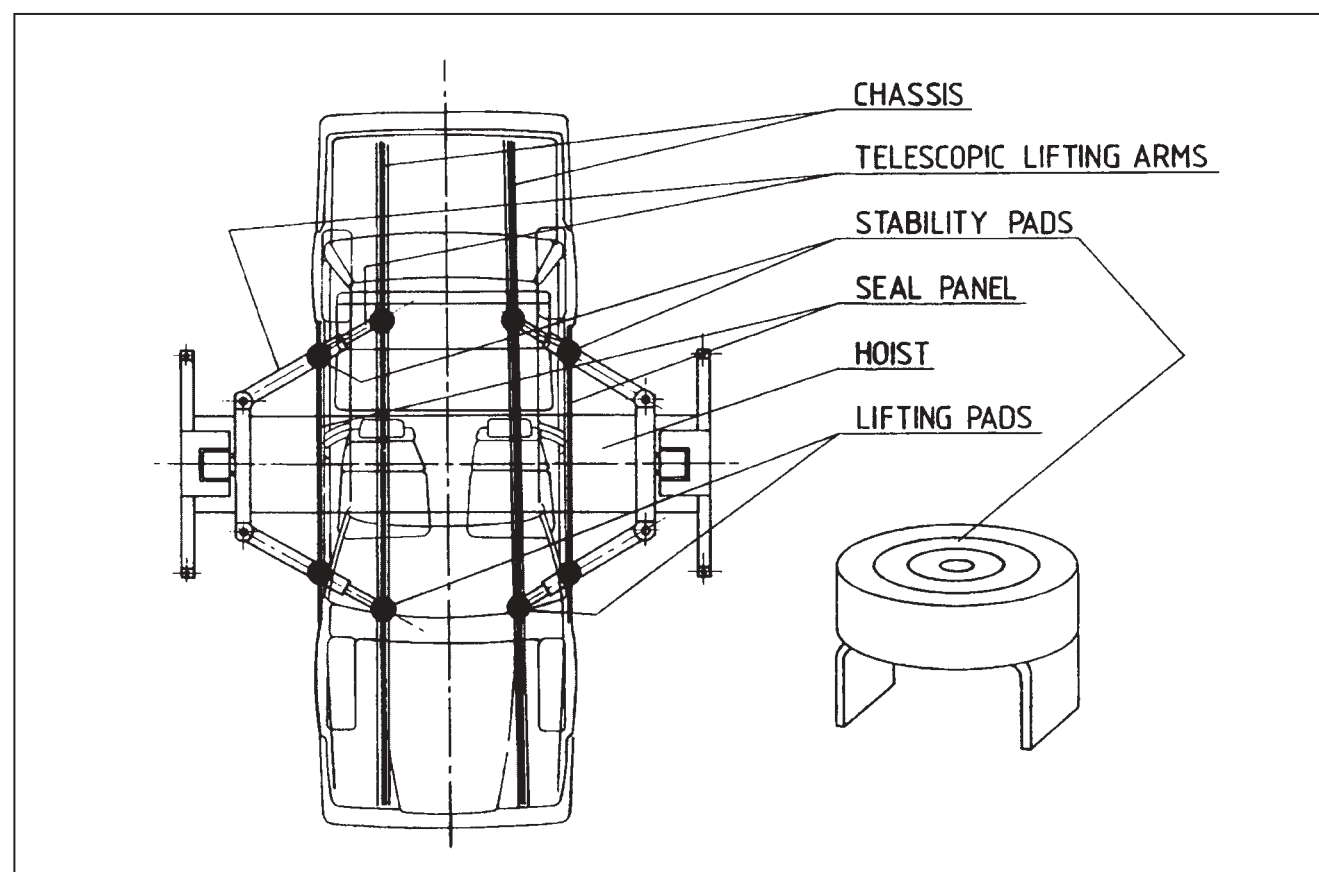
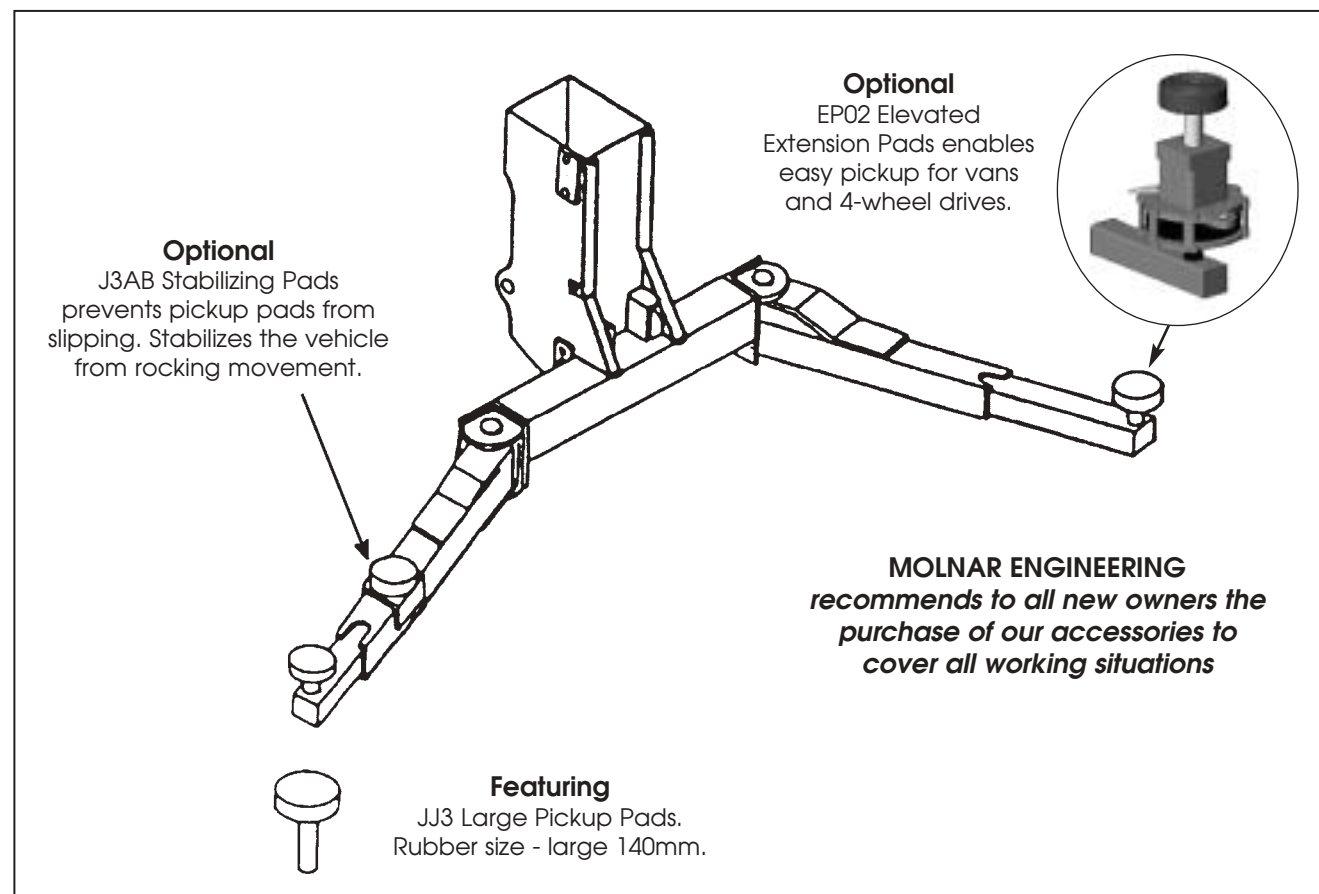
85A-AA	<u>Basemember and floor plate assembly</u>
85A-A-218	Floorplate (2)
85A-BB	<u>Right hand post assembly</u>
85A-B-14	Cover
85A-B-16	Base plate anchoring bolt (7)
85A-B-81	Top plate
85A-B-83	Large power unit carrier bracket
85A-B-84	Small power unit carrier bracket
85A-B-119	Right hand post
85A-B-151	Cover mounting bracket
85A-CC	<u>Left hand post assembly</u>
85A-C-14	Cover
85A-C-17	Left hand post
85A-C-40	Cover mounting bracket
85A-DD	<u>Cables and pulleys</u>
85A-D-9A	Pulley assembly
85A-D-10	Pulley pin (2)
85A-D-11	Pulley pin retaining bolt (2)
85A-D-13	Long cable
85A-D-24	Cable spring sleeve
85A-D-25	Cable spring
85A-D-36	Cable nut
85A-D-37	Pulley pin retaining bolt
85A-D-38	Pulley pin
85A-D-39	Top left pulley bracket
85A-D-63	Cable retaining cap (2)
85A-D-66A	Pulley assembly
85A-D-67A	Short cable (2)
85A-D-72	Pulley pin
85A-D-75	Cable spring cap
85A-D-77	Cable spring cap
85A-D-131	Short cable spring
85A-EE	<u>Hydraulic cylinder assembly</u>
85A-E-108	Outside cylinder
85A-E-108A	Hydraulic cylinder assembly
85A-E-220	Straight adaptor
85A-E-221	Elbow adaptor
85A-E-1S	Cylinder seal kit
85A-FF	<u>Power pack assembly</u>
85A-F-96	Coupling assembly
85A-F-101TP	Electric motor (415v)
85A-F-101SP	Electric motor kit (240v)
85A-F-163A	Power pack assembly
85A-F-167	Hydraulic pump
85A-F-197	Lowering handle
85A-F-208A	Control valve assembly
85A-HH	<u>Starter assembly</u>
85A-H-82	Starter bracket
85A-H-85	Limit switch bracket

HYDRAULIC CYLINDER REPLACEMENT

Procedure

1. Disconnect power.
2. Lower carrier.
3. Remove cover.
4. Disconnect hydraulic pipe at top of post.
5. Unbolt and remove motor/tank assembly from top of post.
6. Disconnect twin ropes by removing safety mechanism lever and spring retainer and slide rope terminations out.
7. Remove sheave assembly.
8. Unbolt post and lay down with exposed sheave facing upwards.
9. Ensure hydraulic pipe disconnected is inside post and then slide cylinder/pipe out of post.
10. To remove piston take out circlip and apply compressed air to inlet (with caution). Inspect cylinder wall for rust or scoring. If scored the cylinder wall must be re-honed or the malfunction will continue. If rusted it must be re-honed or replaced.

ACCESSORIES AVAILABLE FROM MOLNAR ENGINEERING

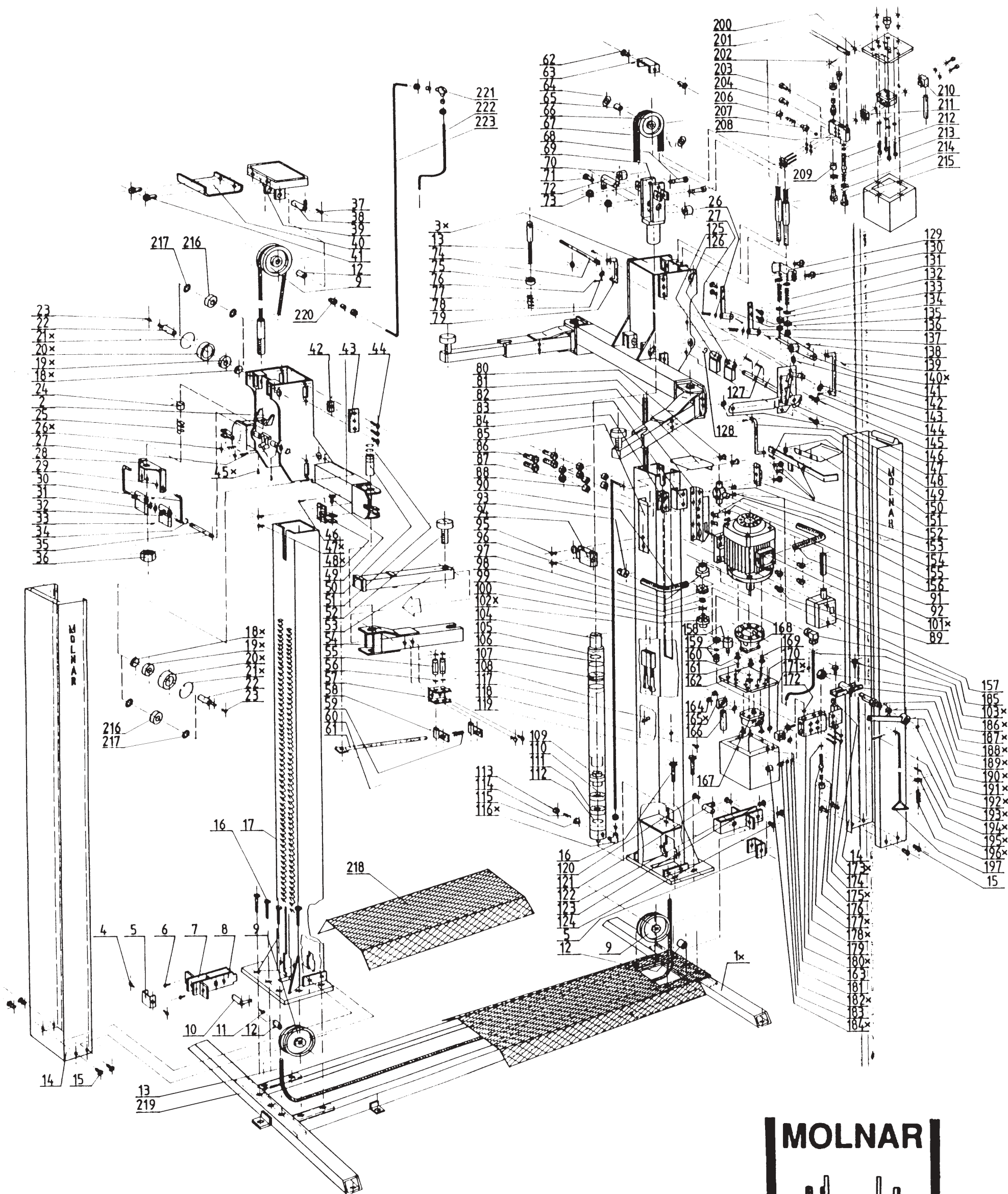


REPLACEMENT PARTS LIST

85A-H-94	Limit Switch	
85A-H-153	Junction box	
85A-H-155	Saddles	(3)
85A-H-157	Starter box	
85A-JJ	Lifting arm assembly	(4)
85A-J-49	Locking rod pivot pin	
85A-J-50	Lifting arm pivot pin	
85A-J-52	Pick-up pad	
85A-J-53	Extension arm	
85A-J-54	Telescopic arm	
85A-J-55	Locking arm pivot pin	(2)
85A-J-57*	Locking arm bracket	(2)
85A-J-58	Locking plate	(2)
85A-J-59	Spring	
85A-J-60	Locking arm bracket bolt	(2)
85A-J-61	Locking rod	
85A-J-354	Foot pedal	
85A-J-355	E-Clip	
85A-J-356	Foot pedal shaft	
85A-J-357	Foot operated locking arm bracket	
85A-J-85357	Foot operated locking arm kit (for four arms)	
85A-JJ3	Pick-up pad	
85A-J3AA	Elevated pad	
85A-J3AB	Stabiliser pad	
85A-J-8550*	Locking arm kit	
85A-KL	Left hand carriage assembly	
85A-KL-2	Left hand carriage	
85A-KL-27	Safety toggle spring	(2)
85A-KL-30	Safety linkage	(2)
85A-KL-31	Safety toggle	
85A-KL-32	Safety toggle	
85A-KL-35	Toggle shaft	
85A-KL-42R	Wear pad	(4)
85A-KL-216R	Roller	(4)
85A-KL-217A	Washer (Acetal)	(16)
85A-KR	Right hand carriage assembly	
85A-KR-3	Right hand carriage	
85A-KR-140	Safety pivot arm	
85A-KR-125	Safety toggle	
85A-KR-126	Safety toggle	
85A-KR-152	Safety on/off arm assembly	
85A-LL	Safety control assembly	
85A-L-79	Linkage	
85A-L-142	Linkage	
85A-L-145	Activator	
85A-L-146	Safety actuating assembly	
85A-L-148	Activating spring	

* Superseded

MODEL MF 1705-85A/3T



X: SUPERSEDED

