



MOLNAR

SCISSOR LIFT HOIST

SL02

INSTALLATION, OPERATION & MAINTENANCE MANUAL

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 Clipsal4CB132/10 or equivalent

No person should be permitted to operate the MOLNAR SCISSOR LIFT HOIST without first studying the operating instructions on top of page 9 and safety precautions on page 11.

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

The installation requirements on page 19 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.

When installed in tropical environments it is advisable to raise the hoist to full height when not in use overnight or on weekends, to minimise condensation forming inside the cylinder which may lead to corrosion of cylinder bore or shaft.

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



Model SL02

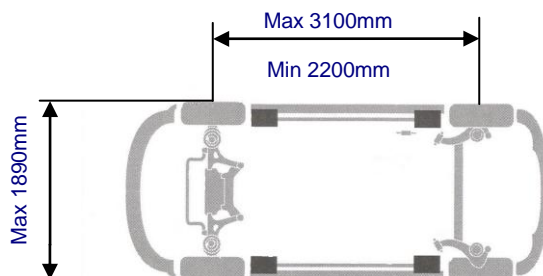
**Complies fully with the
Australian Standard
1418.9-1996**

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SPECIFICATIONS

Overall width	2093mm
Overall length	3664mm
Maximum raised height	1830mm
Minimum lowered height platform	188mm
Lifting time (working height) approx.	55 secs
Lowering time (3tonnes) approx	30 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 - 1080 kg	
Hydraulic oil - Castrol Hyspin AWH46, Shell Tellus T46, Mobil DTE 25, BP Bartran HV46 or equivalent	
SWL - 3000kg (3,0 tonnes)	
Air supply - Compressed air to max 7 bar, 6mm dia min supply line.	
Max Vehicle Size	



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

INTRODUCTION

Here is the MOLNAR SCISSOR LIFT 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 SCISSOR LIFT HOIST embodies many features that make 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 achieved through an electronic remote controller. Sturdy safety toggles ensure against any failure with additional flow controls at the base of each cylinder, in the event of a hydraulic line breakage.

INSTALLATION

The MOLNAR SCISSOR LIFT HOIST is fast and simple to install. 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 SCISSOR LIFT HOIST can be quickly, easily and economically re-sited.

INTRODUCTION

FOR SPEEDIER SERVICE

With the MOLNAR SCISSOR LIFT HOIST maximum accessibility is assured. For safe and fast efficient servicing giving the hoist unlimited advantages. With this lifting method the suspension springs are relaxed, facilitating service and repair work. Some other uses are wheel service, brake adjustment, spraying or sealing.

EASY TO OPERATE

The MOLNAR SCISSOR LIFT HOIST is operated with the greatest of ease. The rubber pads are easily placed in position by one man. The operator has full confidence due to the extensions catering for long wheelbase vehicles. The vehicle is immediately wheel- free and stable at any height.

FLOOR REQUIREMENTS FOR MODEL SL02

These notes are for your guidance prior to installation.

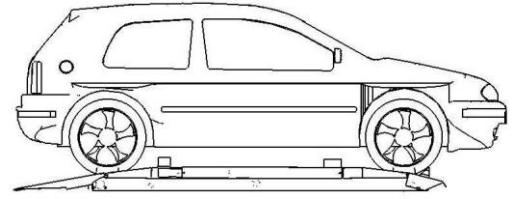
1. It is the user's responsibility to provide a satisfactory site area.
2. The floor should be a single reinforced concrete slab.
 - Min concrete thickness = 100mm
 - Min plan dimensions of 3800mm x 2200mm
 - Prepared base 100mm thickness of quarry rubble compacted to 95%
 - SL81 reinforcement mesh
 - Min thickness of concrete above mesh = 65mm
 - 25Mpa concrete
3. For correct installation of the Scissor Lift Hoist, the floor must be flat and level at the anchorage points. A level tolerance between bases of 8mm is allowable and 10mm front to rear. Check with straight edge and spirit level.
4. Recommended anchor bolts are expansion sleeve type anchors 20mm diameter with a minimum length of 82mm.
Use the manufacturers recommended installation procedures.

NOTE: Some authorities do not approve expanding type anchorage devices.
5. If there is any doubt about the quality of the floor, a replacement slab should be installed. Use a qualified person to design the replacement slab.
6. No liability for any damages will be accepted should you install the hoist on an unsuitable floor.

OPERATING INSTRUCTIONS

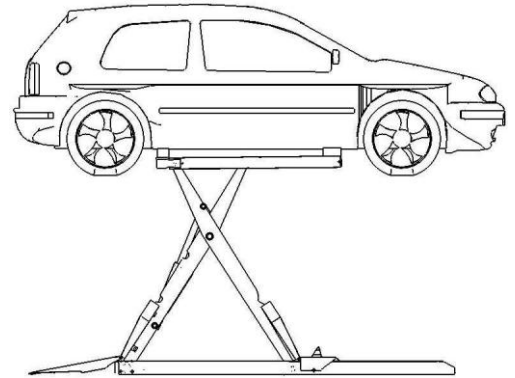
1. Drive vehicle on forward to front wheels rest on stops

2. Place the four rubber pads under edge of vehicle at the four jack points.



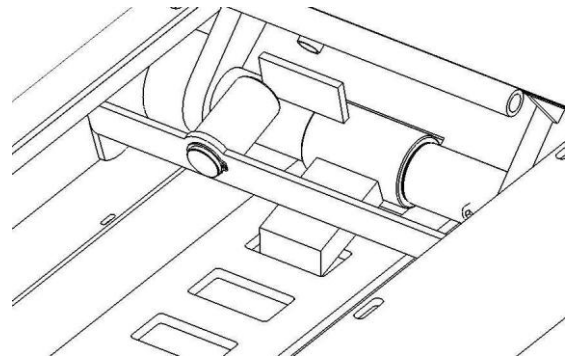
3. Press up button and raise vehicle to required height. Do not go under vehicle until load rests on safety.

4. When vehicle reaches maximum height a limit switch will come into operation and stop hoist. When hoist has stopped, press down button until load rests on safety mechanism.



5. While lifting the vehicle a clacking 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. Press the down button twice within 2 seconds and continue to hold, the hoist will raise up automatically for 2 seconds. Safety will disengage then hoist will begin to lower.



7. If vehicle is to be worked on at an intermediate position, release down button. Allow 2 seconds then press down button once to reapply safety mechanism.

9. To lower to ground level, repeat step 6

10. **WARNING.** Do not go under vehicle under any circumstances while vehicle is being raised or lowered.

11. **WARNING.** Load must be evenly distributed between both lifting platforms. If load is unbalanced reposition vehicle. **DO NOT** lower on to locks at different heights.

MAINTENANCE

DAILY

Check safety mechanism is functioning correctly.

WEEKLY

Clean the bottom tracks and safety with compressed air **(do not use water)**

MONTHLY

1. Check safety mechanism operation.
2. Check condition of shafts, shaft locks and bushes.
3. Check overall cleanliness.
4. Clean roller tracks, spray rollers and safety toggle shafts with an aerosol based multi purpose lubricant.

6 MONTHLY

1. Check condition of extensions and lubricate with an industrial grade type silicone based spray.
2. Check oil leaks from cylinders.
3. Check oil leaks at pipe joints.
4. Check anchor bolts.
5. Lubricate top and bottom roller side guides and tracks with an industrial grade type silicone based spray.
6. Lubricate safety air cylinders (two drops of light oil down the inlet fitting).

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 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.

Check and clean inline air filter element, access to the element is made by unscrewing the large hex nut in the inlet end of the filter body.

NOTE: After cleaning workshop floor or hoist, to maintain hoist efficiency we advise to lubricate roller bearings and safety toggle shafts, as per monthly maintenance instructions point 4.

SAFETY PRECAUTIONS

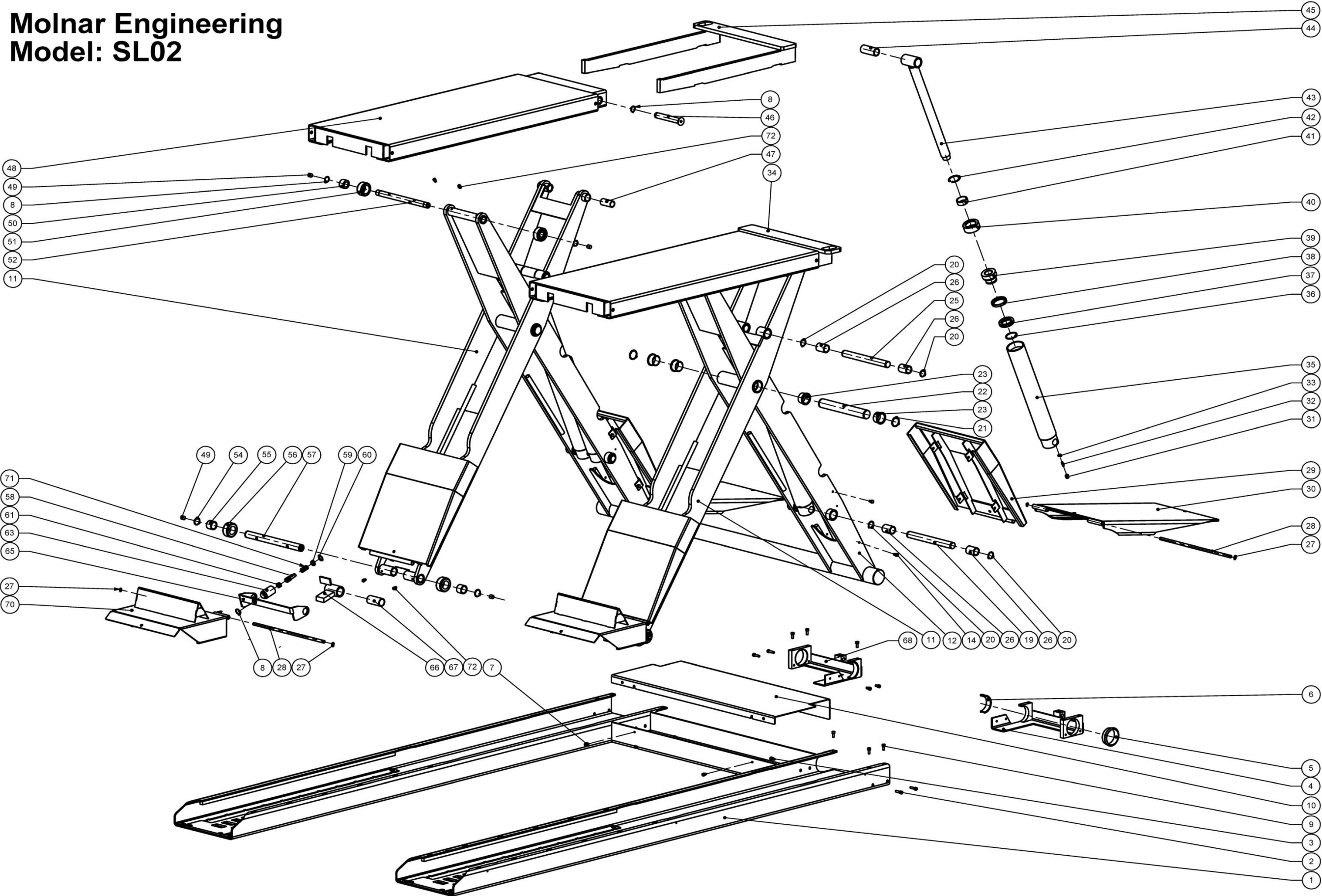
DON'T

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 rubber 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 fail to protect operating switch from water if the hoist is used for car washing.
8. Do not try to adjust relief valve as it has been set at maximum operating efficiency.
9. Do not turn off mains power while hoist is operating.
10. Do not attempt to operate the hoist from under vehicle.

REPLACEMENT PARTS LIST

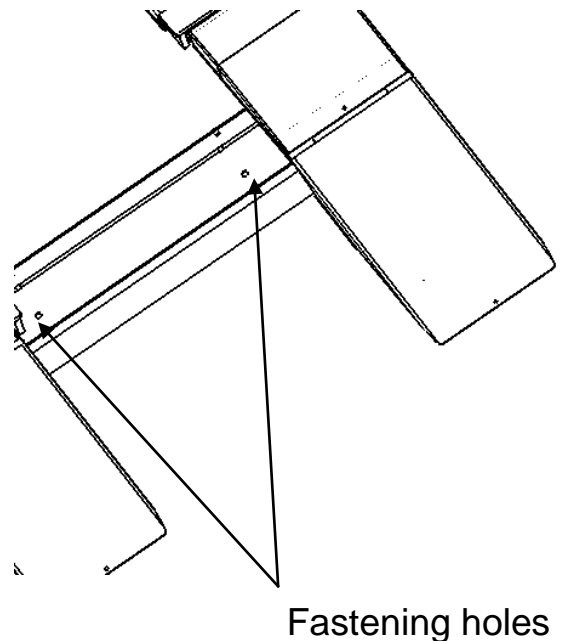
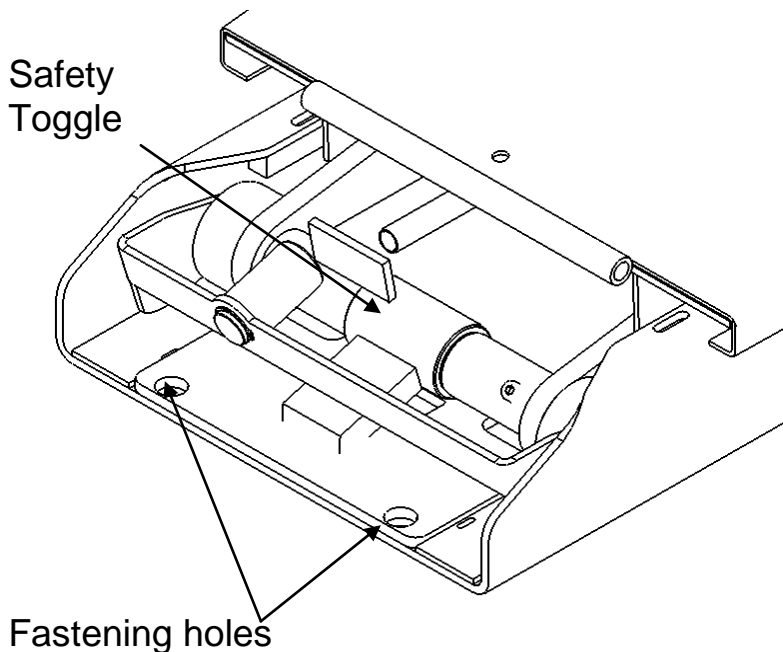
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	SL0200100	Base Assembly
4	1	SL0200400	Pivot block assembly
5	1	SL0200500	Pivot bush full
6	1	SL0200600	Pivot bush half
10	2	Air Cylinder Assembly	
11	2	SL0201100	Outer scissor assembly
12	1	SL0201200	Torsion Bar Assembly
14	2	M8_10	
15	2	SL0201500	Inner scissor assembly
20	2	Circlip DIN 471 - 30 x 1.5	
20	2	Circlip DIN 471 - 25 x 1.2	
21	2	Circlip DIN 471 - 42 x 1.75	
22	1	SL0201900	Shaft center pivot
23	2	SL0202300	Acetal Bush2
23	2	SL0202300	Acetal Bush2
26	2	SL0202600	Acetal Bush3
26	2	SL0202600	Acetal Bush3
27	2	Circlip DIN 471 - 12 x 1	
28	1	SL0202800	Shaft Run up pivot
29	1	SL0202900	Ramp Assembly
30	2	SL0203000	Run up assembly
31	1	MF8511500	Flow Restrictor Cylinder
32	1	FP8211300	Spring (Cylinder Check Valve)
33	1	SL0203300	Spring retainer
35	1	SL0203500	Cylinder welded assembly
38	1	MF8511000	Wear ring 13691WR
43	1	SL0204300	Rod assembly
44	1	SL0204400	Rod pivot bush
45	1	PL9204500	Extensions
46	2	SL0204600	Top Pivot Pin Assembly
47	2	SL0204700	Acetal bush4
48	2	SL0204800	Top section assembly
49	2	SL0204900	Rod roller shaft guide
50	2	SL0205000	Bush top roller
51	2	SL0205100	Roller top
52	1	SL0205200	Shaft top roller
55	2	SL0205500	Bush lower roller
56	2	SL0205600	Lower Roller
57	1	SL0201900	Shaft bottom roller
58	1	SL0205800	Air piston
59	1	SL0205900	Cylinder retaining bush
60	1	Circlip DIN 471 - 25 x 1.2	
61	2	BS114	
63	1	SL0206300	Air Cylinder
65	2	SL0206500	Safety Bracket
65	1	Circlip DIN 472 - 26 x 1.2	
66	2	SL0206600	Safety Toggle
67	2	SL0206700	Safety Bush
70	2	SL0207000	Run off
71	1	SL0207100	Cylinder return spring
73	1	SL0207300	Centre cover
	2	ISO 4762 M8 x 12 --- 12N	M8 x 12 cap screw

Molnar Engineering
Model: SL02

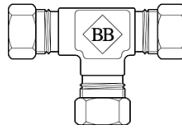


INSTALLATION INSTRUCTION

1. Position hoist to installation position on two bearers.
2. Open wooden crate and layout contents.
3. Remove packing straps and blocks.
4. Position and bolt down through the 6 fastening holes. The recommended fastener is a 20mm expansion sleeve type fastener, min length of 82mm. Where shims are required to correct for out of level floors, the shims must support the full length of the roller track.

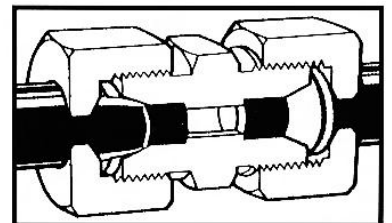
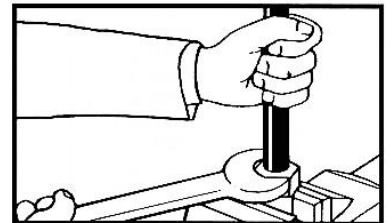
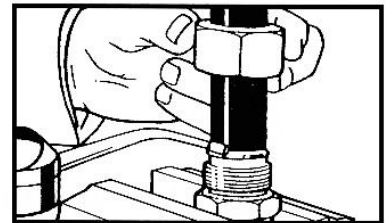
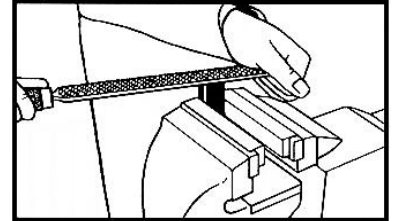


5. Locate the control unit in an appropriate position away from the hoist. A qualified electrician must wire the control unit. Refer to Electrical diagram Page 15. Fill tank through breather vent with the supplied Hydraulic oil.
6. Dry filtered compressed air at 6 to 7 bar line pressure is required to operate the safety mechanism. The control unit is supplied via an inline particulate filter which requires a 1/4" BSP threaded fitting from a min 6mm ID supply line.
7. Attach the hydraulic hose from the control unit to the hoist. The connection is under the Left (passenger side) wheel run up ramp. Insure all hydraulic fittings are tight and not leaking, refer to page 15 Betabite Hydraulics Assembly Instructions. Optional connection can be made under Right wheel run up ramp by relocating the pipework end plug fitting.
8. Connect electrical limit switch wires and pneumatic airline to connection points at front left hand of hoist. Secure with The Hydraulic line and U shape cover. Optional connections can be made under Right wheel run up ramp.
9. The hydraulic hose, electrical wires and pneumatic airline must be protected from accidental damage. Use 6mm (1/4") wall plugs to secure supplied covers to the ground. Extra covers are available, please contact your local supplier.
10. Raise the hoist and inspect hoist for correct operation and that the safety toggles are locking.
11. Install the run up/run off ramps and centre cover onto the hoist. Swap pickup extension so handles are on the outside of the scissor lift.
12. NOTE: For efficient operation of your hoist please adhere to the maintenance schedule



Assembly Instructions

1. Cut the tube to length and file ends square.
2. Remove internal and external burrs from tube end.
3. We always highly recommend that joints are pre-made whilst the coupling body is held firmly in a bench vice.
4. Ascertain that all the detail parts of the coupling are suitably lubricated, especially the internal body cone, the rear of the ferrule and the internal thread of the nut. The lubrication process is recommended on all fittings, however, on stainless steel couplings the use of a quality lubricant is imperative. Betalube, a copper based paste is highly recommended and available from Betabite Hydraulics or your local distributor. Please note after assembly, fittings to be used on Oxygen lines should be fully degreased.
5. Slide the nut onto the tube, followed by the ferrule, the open end of the nut should be towards the end of the tube, and similarly, the cutting or smaller end of the ferrule should point towards the tube end.
6. Present the tube, nut and ferrule to the coupling body, making sure that tube passes cleanly through the nut and ferrule & butts firmly against the step (abutment face) provided in the coupling body. Screw the nut onto the coupling body until finger tight.
7. Hold the tube in one hand and with the correct sized spanner in the other hand, tighten the nut until the ferrule is felt to just grip the tube. This point is determined by rotation or slightly rocking the tube. From this point, the nut should be tightened $1 \frac{1}{4}$ to $1 \frac{1}{2}$ turns from the initial ring grip to obtain a fully effective cutting action. On larger sizes of fitting, an extension to the spanner is highly recommended to maximise leverage and minimise effort.
8. If the nut is now removed, the ferrule will have cut its own seating on the tube and whilst it will be found to rotate, it cannot be moved towards the tube end. The 'joint' may now be re-assembled, by re-tightening of the nut until significant resistance is felt and then increase for a further $\frac{1}{8}$ to $\frac{1}{4}$ of a turn. The above procedure must be followed closely to ensure a safe and successful joint.
9. Betabite fittings correctly made can be broken repeatedly, when not under pressure and re-made without affecting their pressure tightness and leak-proof quality



Pressure rating tables for your safety, convenience and peace of mind

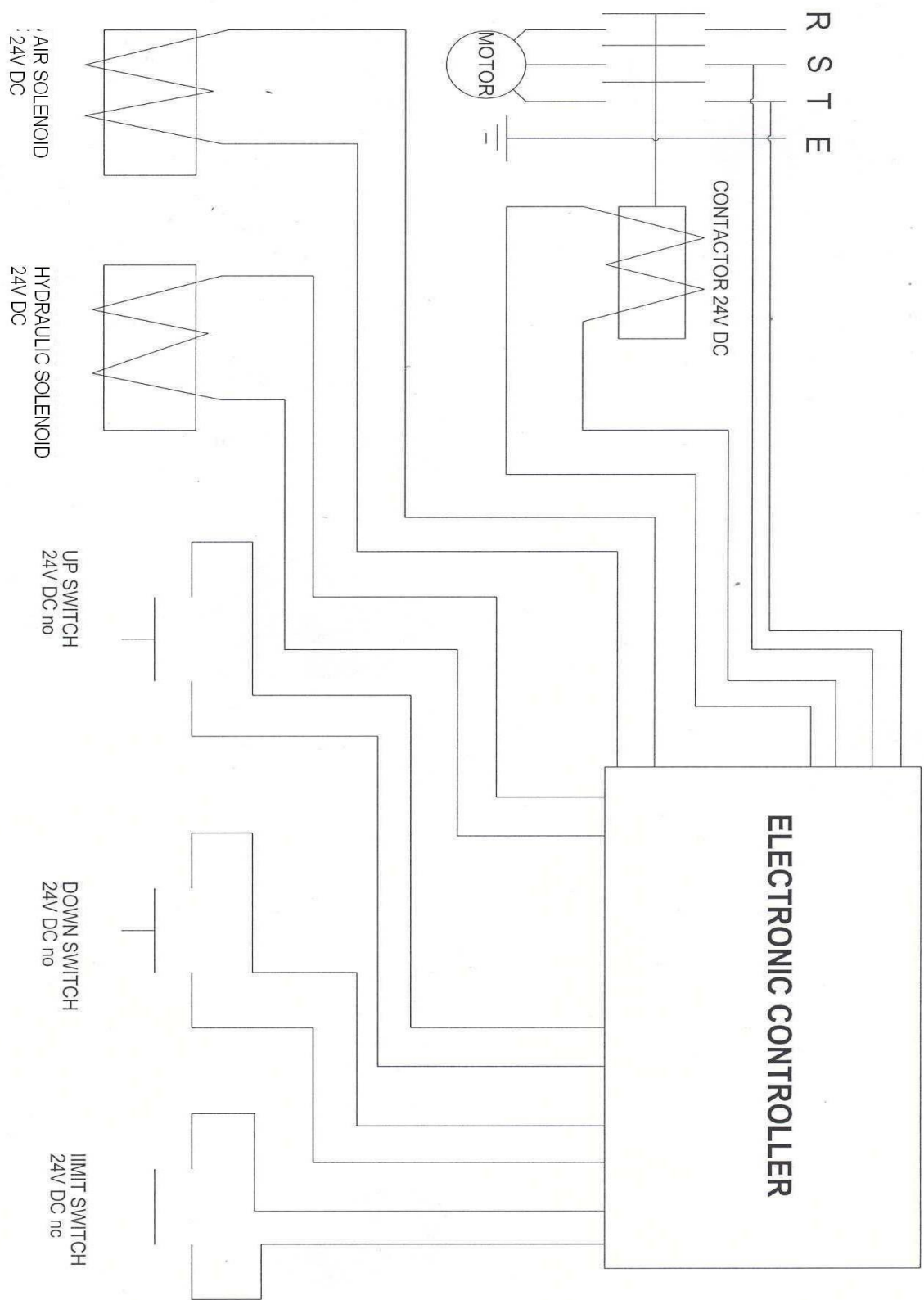
Imperial sizes		
	Hydraulic	Gas
> 1" OD or ¾" NB	690 bar (10,000 psi)	345 bar (5,000 psi)
> 1 ¼" OD or 1" NB	552 bar (8,000 psi)	276 bar (4,000 psi)
> 1 ½" OD or 1 ¼" NB	414 bar (6,000 psi)	207 bar (3,000 psi)

Metric sizes		
(L) Light series	6 to 18mm	315 bar (4,568 psi)
(L) Light series	22 to 42mm	160 bar (2,320 psi)
(S) Heavy series	6 to 14mm	630 bar (9,135 psi)
(S) Heavy series	16 to 30mm	400 bar (5,800 psi)

www.betabite.co.uk

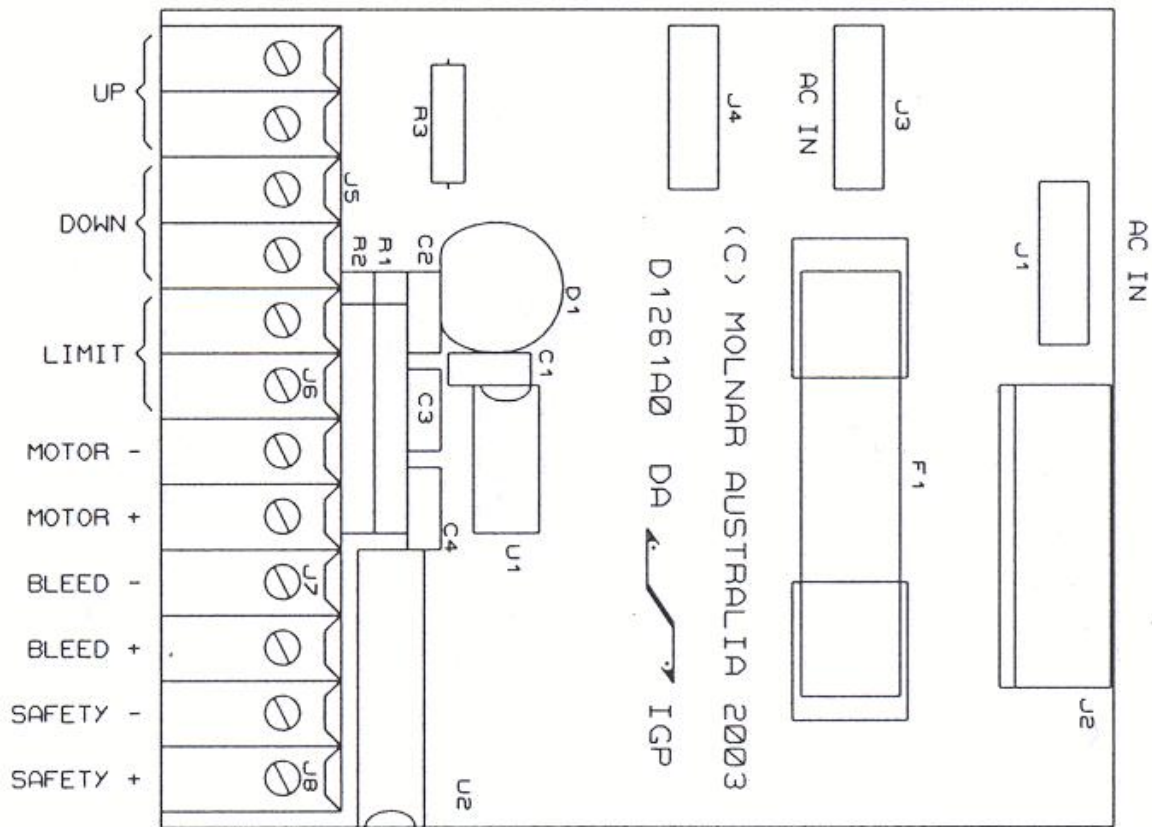
ELECTRICAL DIAGRAM

ELECTRICAL DIAGRAM



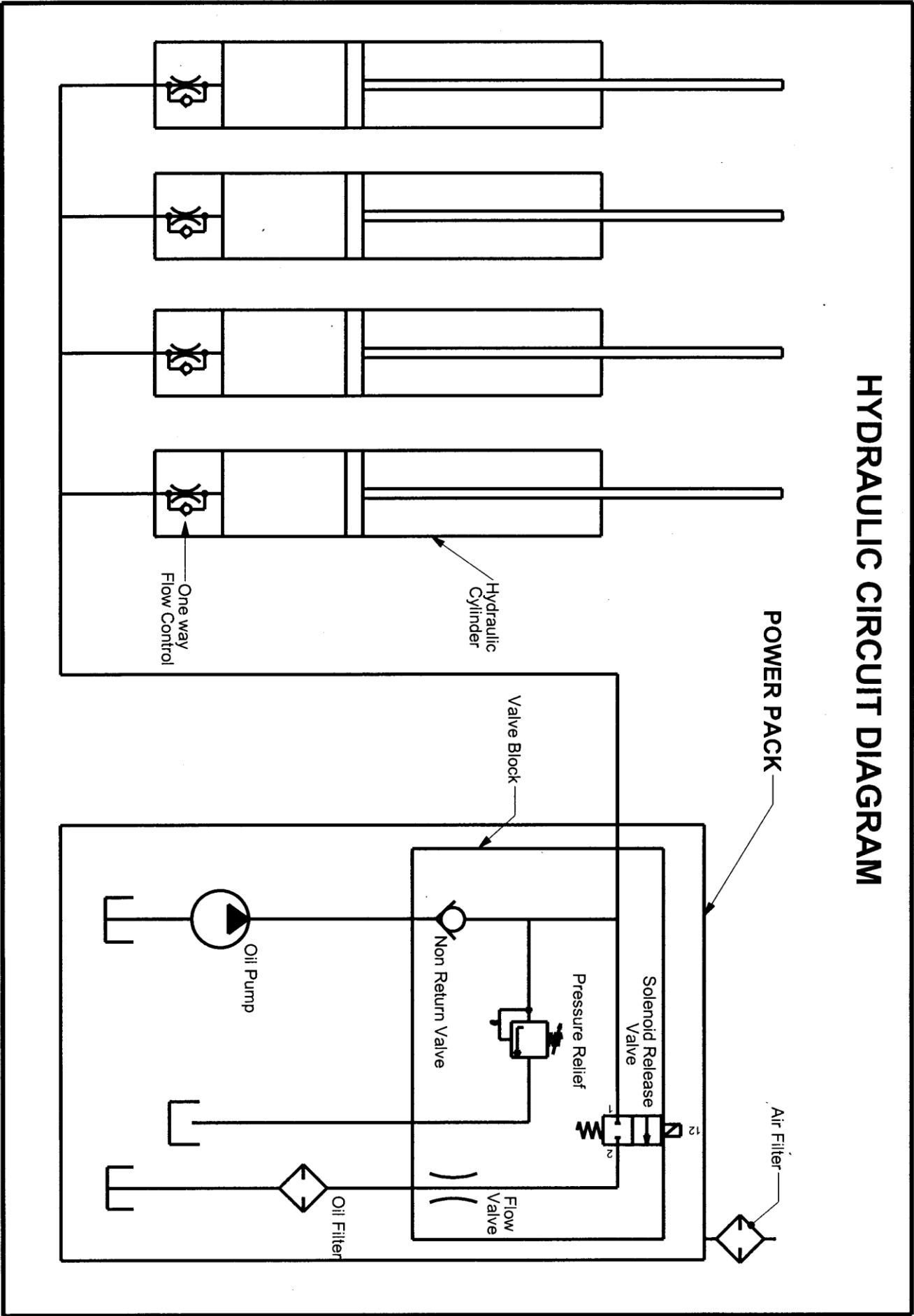
WIRING TO THIS UNIT TO COMPLY WITH AS3000

ELECTRONIC DIAGRAM



HYDRAULIC DIAGRAM

HYDRAULIC CIRCUIT DIAGRAM



INSTALLATION REQUIREMENTS

INSTALLER MUST CHECK THE FOLLOWING LIST WHEN INSTALLING A MOLNAR SCISSOR LIFT 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 for possible transport damage or dislocation.
3. When power is connected to the hoist terminal box, the motor rotation direction must be clockwise when viewed from above. Consult with electrical contractor to reverse motor rotation direction if incorrect.
4. Check safety mechanism for loose nuts or bolts.
5. Check compressed air supply pressure is at 6 to 7 bar.
6. Check operation of safety mechanism on both sides, then test hoist with load.
7. Recheck hoist operation. Demonstrate the hoist to the operator.
8. **Very Important**
 - 8.1 Instruct operator how to use the hoist, how the safety mechanism works and where to place lifting pads when lifting vehicles.
 - 8.2 Point out maintenance requirements and that they should be checked monthly.
 - 8.3 Point out that by law, the operator and/or owner are responsible for the maintenance and safe operation of the hoist.
9. When all the above points are checked the certificate must be signed by the installer.

CERTIFICATION

I hereby certify that the hoist has been checked and is in a safe operating condition and that the purchaser/operator has been adequately instructed to operate the hoist.

Purchaser.....
Model No.....SL02.....
Serial No.....
Date.....

Installation by.....
Address.....
.....
Name.....
Signature.....
Date.....



Your ref :
Our ref : SD 05040-1
When calling
ask for : Mr P Wong
Phone : 088 303 0288
Fax : 088 303 0211
Email : wong.peter@saugov.sa.gov.au

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ADELAIDE SA 5001
DX 715 Adelaide

Website: **www.Eric**.sa.gov.au

ABN: 50-560-588-327

Occupational Health, Safety & Welfare Act

REGISTRATION OF PLANT DESIGN FOR A VEHICLE HOIST

Design Registration No: SD 05040-1

Date Issued: 24 MARCH 2005

This is to certify that the design of the item of plant described below has been registered pursuant to Regulation 3.4.2 of the Occupational Health Safety and Welfare Regulations 1995 and the National Occupational Health and Safety Standard for Plant.

Description -----: VEHICLE HOIST - SCISSOR LIFT TYPE
MODEL SL02

Drawing No. ---: AS DEPICTED IN MODEL SL02 DESIGN CALCULATIONS
17/3/2005

Designer-----: W MCELROY - MOLNAR ENGINEERING PTY LTD

Registered to---: MOLNAR ENGINEERING PTY LTD
16-20 COGLIN STREET
BROMPTON. SA. 5007

Design Code ---: AS1418.1 and AS1418.9

Design Criteria : 3 TONNE RATED CAPACITY
MAX RAISED HEIGHT 1.83M
CLASSIFICATION C2

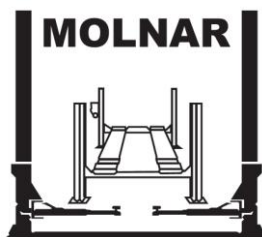
If this registered design is altered, it must be re-submitted for re-registration within 21 days or this registration will lapse. The registered design number must be provided to any manufacturer, importer or supplier of the plant.

The Design Registration Number must be permanently marked on the plant.

Non-compliance with the Regulations may incur a penalty.

P WONG
for DIRECTOR
Workplace Services
Department for Administrative & Information Services

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MANUFACTURED BY:

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