

# 4 Post Vehicle Hoist Installation & Operation Manual







# IMPORTANT INFORMATION

THIS MANUAL MUST BE READ & UNDERSTOOD ENTIRELY BEFORE THE INSTALLATION & OPERATION OF THE HOIST.

ASSEMBLY & INSTALLATION MUST ONLY BE PERFORMED BY COMPETENT PERSONNEL.

OPERATION OF THE HOIST MUST ONLY BE PERFORMED BY TRAINED PERSONNEL.

THIS MANUAL MUST BE KEPT IN A SAFE PLACE FOR FUTURE REFERENCE.

SERVICING & MAINTENANCE OF THE HOIST IS THE OWNERS RESPONSIBILITY.

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#### A.0 PREFACE

This hoist has been manufactured to a high standard and has been audited for its suitability to the Australian Standard AS1418:9. This manual has been provided as a guide for owners and operators for the appropriate and safe use of the hoist.

It is important that this manual is read & understood entirely before installation and operation of the hoist.

Please ensure this information is kept in a safe place for future reference.

Please note that the Manufacturer and Importer declines all responsibility for damage or injury due to negligence or failure to follow the instructions provided. Failure to follow these instructions may also affect the warranty conditions of the product.

#### A.1 Scope Of Use

Hoist SL-3600L and SL-3600A is designed for lifting motor vehicles with a total weight of no more than 4500KG and must only be used for this purpose. Hoist SL-6000 and SL-6000A is designed for lifting motor vehicles with a total weight of no more than 6000KG and must only be used for this purpose. The manufacturer and importer will not be held liable for any damage or injury caused by use outside of what the hoist was designed for.

- The hoist is not to be installed in the outdoors or exposed to the elements, this will void the warranty.
- The hoist should only be installed in a safe environment designed for the servicing of motor vehicles.
- This manual is provided to assist with the safe operation of the hoist. Please retain it in a safe place.
- Ensure the S.W.L. (Safe Working Load) of 4500kg is not exceeded for SL-3600L and SL-3600A.
- Ensure the S.W.L. (Safe Working Load) of 6000kg is not exceeded for SL-6000 and SL-6000A

#### **B.0 SAFTEY**

#### **B.1 Caution Signs**



The following warnings on the hoist are provided as a guide for the safe operation of the hoist.

PLEASE OBSERVE THEM!



The hoist must be used by trained & authorised personnel only.



Only authorised personnel may be present around the hoist.



Ensure the vehicle is loaded centrally on the hoist before operation.



The vehicle handbrake must be engaged before operating the hoist.



Ensure that the safety is engaged before working under hoist.



Stop raising the hoist if the platforms become unbalanced.



If a vehicle becomes unstable on the hoist, vacate the area immediately.



Do not use the hoist for any purpose other than lifting a vehicle.



Do not use water or other liquids on or near the hoist.



The switch box must only be opened by a qualified electrician.

#### **B.0 SAFTEY**

#### **B.2 Warning**



It is important that the following information is fully understood by the operator. Failure to read & follow these instructions may result in serious injury to personnel.

- 1. DO NOT operate the hoist if damaged. In the event of the hoist being damaged consult a competent service technician to determine the hoists safe operation.
- 2. DO NOT use the hoist to lift only one side of a vehicle. Ensure the vehicle is correctly positioned on the hoist platforms before operation.
- 3. DO NOT modify any component of the hoist.
- 4. All personnel must remain clear of the hoist during the raising & lowering of the vehicle.
- 5. All personnel must keep their feet clear of the hoist during lowering.
- 6. No objects are to be placed under the vehicle during the raising & lowering of the vehicle.
- 7. Do not excessively rock a vehicle whilst it is on the hoist.
- 8. Personnel must not ride the hoist at any time.

Please ensure that the hoist is installed in compliance to relevant state requirements regarding positioning in the workshop.

Installation must be performed by Competent Personnel Only.

The Hoist must be installed in a suitable environment for the safe repair of motor vehicles.

#### C.1 Foundation

The hoist must be bolted to level concrete that is in good condition. Do not install the hoist on or near cracks and expansion joints in the concrete, doing this could effect the safe installation of the hoist.

The concrete must:

- Have a minimum thickness of 150mm
- Be Reinforced
- Be a grade of no less than 25MPA.

#### **C.2 Tools Required**

For the installation of the hoist you will require the following:

- Rotary hammer drill
- 16mm Masonry drill bit
- Chalk line
- Spirit Level
- General tool Kit

#### C.3 Unpacking

The hoist is supplied in a purpose built cradle. Once unpacked, the following will be included:

- 2 Platforms
- 2 Transverse Beams
- 1 Control Post
- 3 Non-Control Posts
- 4 Safety Ladders
- 2 Run-Ups
- 2 Wheel Stops
- Fitting Kit
- 2 Jacking Bridges (If Supplied)

#### C.4 Assembly

All Assembly, Connections & Installation must be performed by Competent Personnel Only.

#### Please note:

In reference to the following instructions, when mentioned, the Left & Right Hand Platforms and Front & Rear Transverse Beams are viewed from the drive on perspective.

All pictures for assembly & installation are located on Page 14 Under C.5 Assembly Pictures.

Proceed with the following:

- 1. Establish the location of where the hoist will be installed. At this point ensure the work area is clean and that the concrete is ready for installation as outlined earlier in **C.1 Foundation**.
- 2. Place a chalk line across the floor where the front of the hoist will be positioned.
- 3. Position the Control Post with the front of the base parallel with the chalk line.
- 4. Vertically level the post in both planes. Ensure that the utmost care is taken with the Control Post until it is safely secured to the concrete.
- 5. Drill the 4 x 16mm holes of the control post into the concrete and fix the column with 4 x 16mm x 140mm Tru-Bolts. Ensure the bolts are now tightened.
- 6. Now that the Control Post is in position, a <u>qualified electrician</u> can now connect the electrical wiring to the control box.
- 7. The platforms and transverse beams need to be assembled into position. Due to the control post already being bolted into place, it is important that the hoist is built from that point.
- 8. Using 200mm high suitable blocks of timber, locate the transverse beams into position on the timber, noting that there is a front & rear beam. The difference being that the front beam has a safety striker attached for the limit switch, this end must be assembled to the control post position of the hoist.
- 9. Position the platforms taking note to feed the wire cables through the transverse beams before bolting the platforms to the beams. To do this, remove each pulley from the transverse beam, feed the cable through and replace the pulley. Ensure that the cables are fed through correctly and that they are positioned on the correct pulley. For the correct wire cable layout **Refer Section G.1 Wire Cable Diagram.** Please note, there is a Left & Right Platform. The Left Hand Platform has an outlet on the Front Left for the hydraulic hoses; this must be positioned closest to the control post.
- 10. Bolt the front transverse beam into position.

#### C.4 Assembly (Continued)

- 11. Before bolting the rear transverse beam into position fit the Jacking Bridges in the centre of the platforms. Please note that there is a Front & Rear Jacking Bridge, these are marked on the packaging. The control switches on the jacking bridges must be facing each other. Run the hydraulic hoses from the jacking bridges in the right hand platform and through the front transverse beam to the hydraulic hose outlet in the front of the Left Hand Platform.
- 12. With the jacking bridges fitted, bolt the rear transverse beam into position.
- 13. With the Platforms, Jacking Bridges & Transverse Beams now assembled, place the safety ladders in the transverse beams ensuring that the ladder is inserted between the end of the transverse beam and the cable guide roller assembly. It is important that the safety ladder is located centrally to the transverse beam. It is also important that the Chamfer on the safety ladder must be facing towards the middle of the hoist. (See Picture 1)
- 14. With the safety ladders in place, position each of the remaining noncontrol posts around the hoist. The posts should be in such a position so that the end of the transverse beam is inside the post. The nylon guides on the transverse beam should be placed against the face of the post. (See Picture 2)
- 15. Once the posts are in position, locate the bottom of the safety ladder into the hole at the bottom of the post ensuring the locating tab on the end of the safety ladder is not contacting with the concrete. Secure the safety ladder to the top of the post using the nuts supplied. (See Picture 3)
- 16. Feed the wire cables from the transverse beam to the top of each post, and secure the thread with the nuts supplied. One nut should be placed underneath the bracket in the top of the post and one should be placed on top of the bracket in the post. (See Picture 4) At this stage lock the nuts.
- 17. Connect the hydraulic hoses from the left platform to the control box on the control post. (See Picture 5) The three hoses must be connected, these include the 1 Main Hose from the hydraulic cylinder & the 2 Jacking Bridge Hoses.
- 18. Connect the wiring loom inside the control box for the actual hoist & the jacking bridges. There are 4 Solenoid Plugs on the wiring loom, each with colour coded wiring. The correct plug & solenoid combination can be identified by the colour coded wiring, and connect as follows:
  - Solenoid On Power Pack
  - Hoist Solenoid On Manifold
  - Jack 1 Solenoid On Manifold
  - Jack 2 Solenoid On Manifold
- 19. On the Control Post, fit the travel limit switch to the safety ladder. (See Picture 6)
- 20. Fill the power pack reservoir with hydraulic oil. SAE32 should be used.

#### C.4 Assembly (Continued)

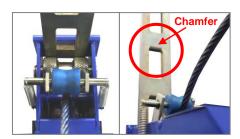
Prior to commencing the next stages it is important that the utmost care is taken with operating the hoist until all posts are safely secured to the concrete.

- 21. With the power connected to the hoist, press the up button to raise the hoist approximately 300mm. At this point, remove the blocks of timber from under the transverse beams. Now check that all hydraulic lines & wire cables are in their correct position and have not caught on each other or the hoist.
- 22. Raise the hoist to full height taking care not to over stroke the hydraulic cylinder under the left platform. Adjust the limit switch on the safety ladder inside the control post. It must make contact with the safety striker on the front transverse beam. (See Picture 7)
- 23. With the hoist at full height remove the D shackles on the cables at the end of the hydraulic cylinder under the left platform. Run the hoist up and down several times. By doing this it will allow the hoist to self level.
- 24. Once the hoist has self levelled, re-fit the D shackles on the cables and lock into place (See Picture 8) At the same time ensure the twin lock nuts on the head of the hydraulic cylinder are locked into position.
- 25. Now lower the hoist so that it is only 100mm from the ground.
- 26. Check that all posts are in the correct position, ensuring that they are square to each other as well as horizontally level. Depending on the install situation, the posts may need to be shimmed. Before bolting it is also important to ensure that the posts are vertically level in both planes.
- 27. Once all posts are correctly positioned and level, they are ready to be bolted.
- 28. Drill the 4 x 16mm holes of the posts into the concrete and fix the column with 4 x 16mm x 140mm Tru-Bolts. Ensure the bolts are now tightened.
- 29. Once bolted down & tightened, check all levels.
- 30. Install the Wheel Stops at the front of each platform.
- 31. Install the Run-Up Ramps at the rear of each platform.
- 32. With the hoist on its locks and with no load on the wire cables, grease the 4 Transverse Beam Pulley Pins & the 4 Platform Pulley Pins. While pumping the grease into the pins, ensure you rotate the pullies by hand. This ensures even distribution of grease.
- 33. The final step in the installation process is to adjust the wire cables. As the levels have already been checked, ideally all four locks should click simultaneously when the hoist is raised. To test, raise the hoist to full height, and then lower half way down, taking note of the clicks from the safety locks. If the clicks are out of sync adjust the relevant cables to overcome. Once the cables have been adjusted and the clicks are synchronised, lock both of the nuts on each of the cable ends.

#### **C.4 Assembly (Continued)**

- 34. Once the install and cable adjustment has been completed, check the synchronisation of the locks with a vehicle on the hoist. If necessary readjust the cables.
- 35. Place the post caps on top of all posts.

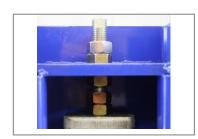
#### **C.5 Assembly Pictures**



Picture 1



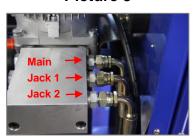
Picture 2



Picture 3



Picture 4



Picture 5



Picture 6



Picture 7



Picture 8

#### C.6 Cam Lock Test Procedure

- 1. Raise the hoist 1 metre from the ground.
- 2. Starting at the front of the hoist, position a <u>raised</u> floor jack under the centre of the transverse beam.
- With the <u>raised</u> floor jack in position, lower the hoist onto the floor jack until the wire cables have gone slack. This will allow the Cam Locks to operate.
- 4. With the wire cables now slack, quickly lower the floor jack so that the Cam Locks engage the safety ladders. The Cam Locks must prevent the hoist from lowering once the floor jack is lowered.
- 5. Repeat this above steps for the rear of the hoist also.

#### C.7 Electrical Connection

VOLTAGE	AMPS
240 Volt	10 AMP
415 Volt	6 AMP

#### \*\*\*PLEASE NOTE\*\*\*

All electrical work on the hoist including motor connection & mains supply connection must Only be performed by a qualified electrician

#### **C.8 Important Information**



It is the installers' responsibility to ensure that all Fasteners, Nuts, Bolts & Hydraulic Lines are checked and tightened.

It is the installers' responsibility to train the operator(s) of this hoist and to return the Vehicle Hoist Installation & Training Report to activate warranty.

#### **D.0 OPERATING INSTRUCTIONS**

Operation of the hoist must only be performed by trained personnel who have read & understand this entire manual.

#### **D.1 Switch Box Functions**



#### Switch Box Operation

- 1. Use the up button to raise the hoist.
- 2. Use the lock button to lower the hoist to the next safety lock.
- 3. Use the down button to lower the hoist. During this operation the hoist will automatically raise to clear the safety locks before lowering.

#### **D.2 Operation Of Hoist**

#### **Loading Of Vehicle**

Due to the centre of gravity or the design of some vehicles, not all vehicles can be safely supported on a hoist. If in doubt of raising a vehicle on the hoist, the vehicle manufacturer should be consulted.

#### **Raising Of Vehicle**

- 1. Ensure that the hoist is fully lowered so that the run-up ramps are on the ground.
- 2. Slowly drive the vehicle up onto the platforms ensuring that the vehicle is positioned centrally to the hoist.
- 3. Once in position engage the handbrake before exiting the vehicle.
- 4. Once out of the vehicle again inspect the position of the vehicle to ensure that all four wheels are positioned correctly on the platforms.
- 5. Raise the hoist to the required work height by pressing the "UP" button.
- 6. Use the "LOCK" button to lower the vehicle onto the lock mechanisms before & whilst working under the vehicle.

#### **D.0 OPERATING INSTRUCTIONS**

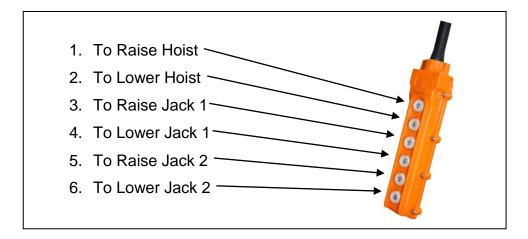
#### **D.2 Operation Of Hoist (Continued)**

#### Lowering Of Vehicle.

- 1. Ensure that the area around and under the hoist is clear of any personnel & obstructions.
- 2. Press the "DOWN" button to lower the hoist. The hoist will automatically raise to clear the safety locks before lowering. Before the hoist is lowered it is important to ensure that all four safety locks have cleared the safety lock ladders inside the posts.
- 3. ALWAYS OBSERVE THE VEHICLE DURING FULL DESCENT.
- 4. Hold the "DOWN" button until the platforms lower to the minimum height.
- 5. Remove the vehicle from the hoist.

#### **D.3 Operation Of Hoist Using Remote Control**

This hoist can also be operated using the remote control. Each button on the remote control has a different function. (See Picture 9) It is important to ensure that the remote control cable does not obstruct any part of the hoist while in use. At all the times the operator must always observe the vehicle & hoist during operation.



Picture 9

#### **D.0 OPERATING INSTRUCTIONS**

#### D.4 Operation Of Electric / Hydraulic Jacking Bridges

In some situations, a vehicle may need to be lifted from the platforms of the hoist. The Electric / Hydraulic Jacking Bridges allow the technician to remove the vehicle from the platform to work on Tyres & Wheels, Brakes & Suspension. (See Picture 10)

Each Jacking Bridge Has A Maximum S.W.L. (Safe Working Load) of 2000kg and this must not be exceeded.

#### **Positioning The Jacking Bridges**

- 1. Slide the jacking bridge into the lifting position under the vehicle, and slide out the lifting extensions so that they will engage the vehicles lifting points, cross member or chassis rails.
- 2. Place the rubber lifting blocks on top the jack in such a way that they will engage the lifting points, cross member or chassis rails when raised.

#### Raising & Locking The Jacking Bridges

- 1. Press the up button (Green) on the jacking bridge switch box until the jacking bridge raises the vehicle to the desired height.
- 2. Ensure the safety lock is activated manually by using the handle attached to the safety tongue (See Picture 11).

#### Releasing The Safety Lock & Lowering The Jacking Bridges

- 1. To lower the jacking bridge, raise the jack slightly and manually disengage the safety lock. Return the lift extensions to the closed position and remove the rubber blocks.
- 2. Once the above has been performed press the down button (Red) on the jacking bridge switch box until the jacking bridge has lowered to its lowest position.



Picture 10



Picture 11

#### **E.0 MAINTENANCE & SERVICING**

#### **E.1 Maintenance**

Maintenance & Servicing is an integral part of hoist ownership, and it is the owner's responsibility to ensure that the hoist is maintained as per the relevant state regulations.

#### E.2 Daily Checklist

Ensure the following is inspected daily.

- 1. Ensure work area is clean and free of rubbish and fluids.
- 2. Check that all functions and controls are in good working order.
- 3. Check hoist for visible damage.

#### **E.3 Monthly Checklist**

Ensure the following is inspected monthly.

- 1. Everything as outlined above in the Daily Checklist.
- 2. Check the condition of the wire cables.
- 3. Check the tightness of anchor bolts.
- 4. Check the condition of the hydraulic hoses & connections.

#### **PLEASE NOTE:**

If during a daily or monthly inspection, the hoist is found to be damaged or not operating correctly, cease operation immediately. DO NOT use the vehicle hoist. Contact an authorised hoist maintenance company to inspect immediately.

#### E.4 Annual Servicing

As per the Australian Standard this hoist must be serviced annually by a competent person. A register of the service work and repairs performed must be kept for the hoist.

#### E.5 Hydraulic Oil

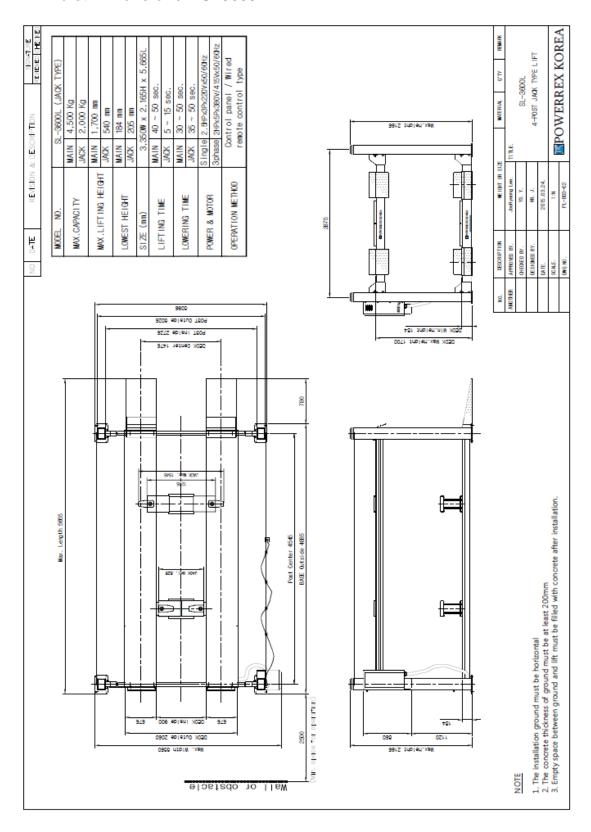
It is important that the Hydraulic Oil is changed every 2 years. The correct hydraulic oil for use with the hoist is SAE32.

# F.1 Technical Data

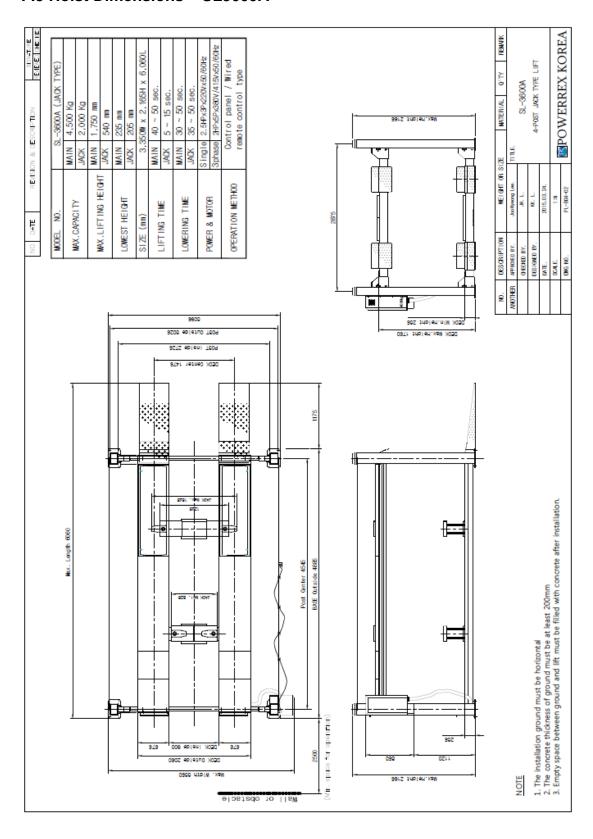
SL-3	3600A	_ '	MADE	IN KOREA
모 델 명	Model		SL-3600L	SL-3600A
정 격 용 량	Capacity	MAIN JACK	4,500kg 2,000kg	4,500kg 2,000kg
최대상승높이	Max. Height	MAIN	1,700mm 540mm	1,750mm 540mm
최 소 높 이	Min. Height	MAIN	184mm 205mm	235mm 205mm
외형치수(mm)	Dimension(mm)		3,350(W) x 5,665(L) 2,165(H)	3,350(W) x 6,060(L) 2,165(H)
내 폭	Drive Thru Clearance		2,725mm	2,725mm
승강장 폭/길이	Platform Width / Length	5	75mm/4,604mm	575mm/4,604mm
승강장 간 거리	Width Between Platform		900mm	900mm
상 승 시 간	Lifting Time	MAIN JACK	40~50sec 5~15sec	40~50sec 5~15sec
하 강 시 간	Lowering Time	MAIN JACK	30~50sec 35~50sec	30~50sec 35~50sec
전 원	Single		2.5HPx3Px2	220Vx50/60Hz
구 동 모 터	3phase		2HPx5Px380/4	15Vx50/60Hz
제 조 년 월	Date			
제 조 번 호	Ser. No.	SL		

000A 000kg 000kg 5mm 0mm 0mm 0mm
00kg 5mm 0mm 0mm
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80Hz
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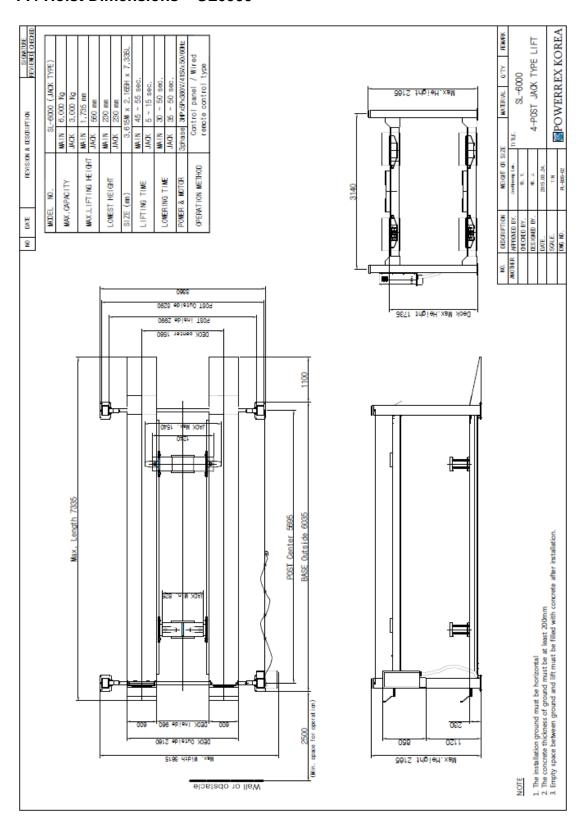
#### F.2 Hoist Dimensions - SL3600L



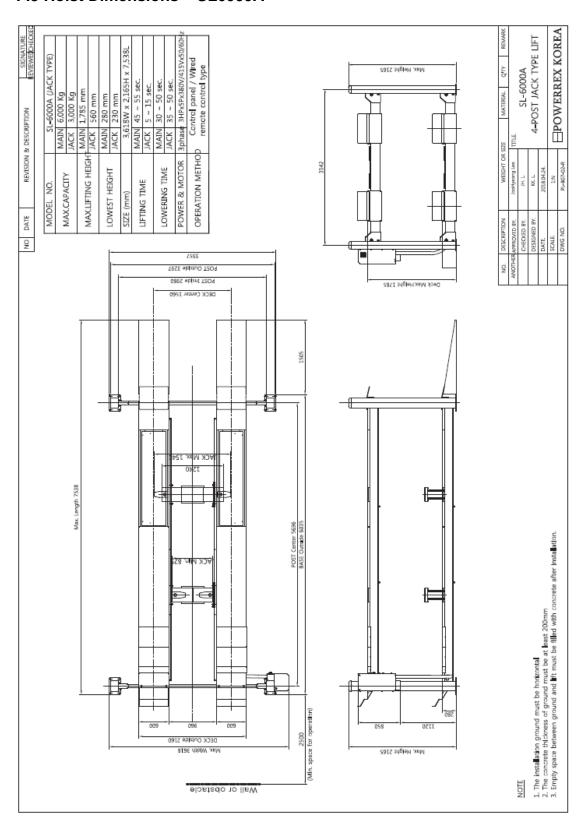
#### F.3 Hoist Dimensions - SL3600A



#### F.4 Hoist Dimensions - SL6000

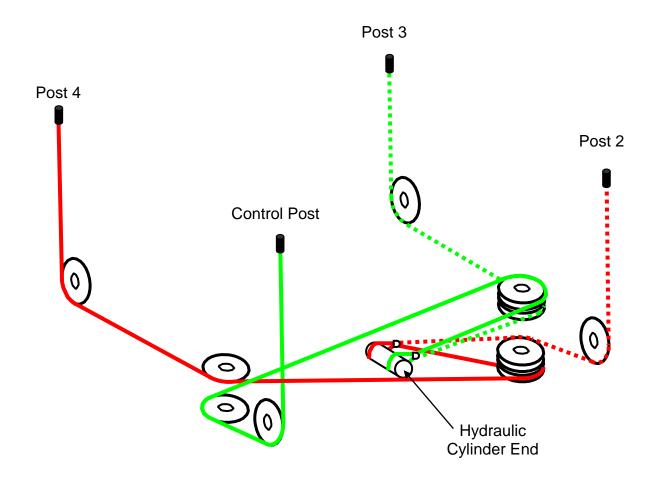


#### F.5 Hoist Dimensions - SL6000A



# **G.0 TECHNICAL DIAGRAMS**

# **G.1 Wire Cable Diagram**



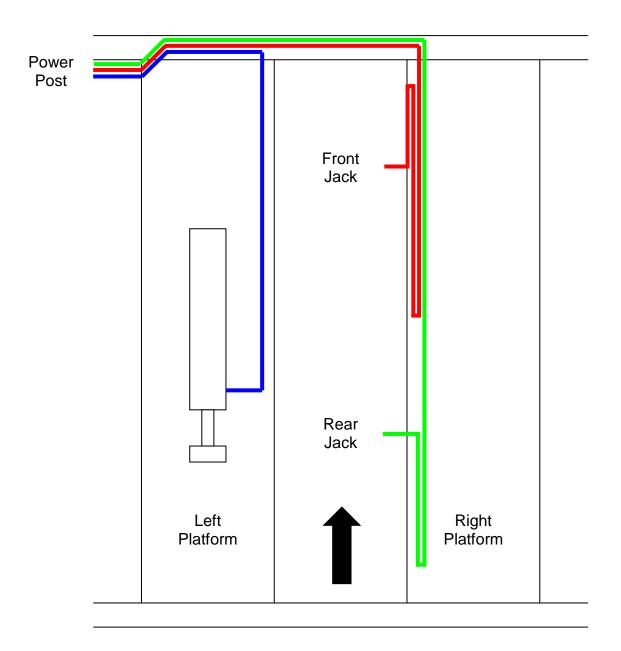
# Legend

Red Wire Cable No.1

**Green Wire Cable No.2** 

#### **G.0 TECHNICAL DIAGRAMS**

# **G.2 Hydraulic Hose Diagram**

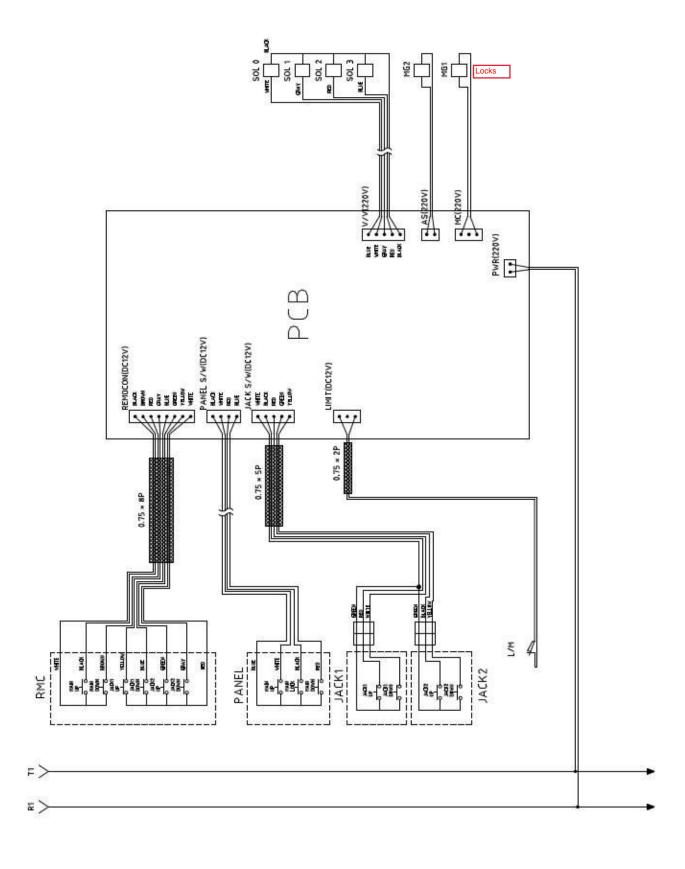


# Legend Blue Main Hydraulic Hose Red Jack Hydraulic Hose No.1 Green Jack Hydraulic Hose No.2

Picture For Illustration Purposes Only Not Drawn To Scale

# **G.0 TECHNICAL DIAGRAMS**

# **G.3 Electrical Wiring Diagram**



#### **H.0 RECORD OF MAINTENANCE**

As per the Australian Standard this hoist must be serviced annually by a competent person. A register of the service work and repairs performed must be kept for the hoist. The hoist service agent should supply a hoist service report to the owner when the service is performed.

Please also keep a record below of work performed on the hoist.

Date: Service Company: Work Performed: Details:	Repair Other
Date: Service Company: Work Performed: Details:	Repair Other
	7
Date:  Service Company:	Tachnician
Work Performed: Annual Service  Details:	Repair Other
Date:	
Service Company:	
Work Performed: Annual Service	Repair Other
Details:	