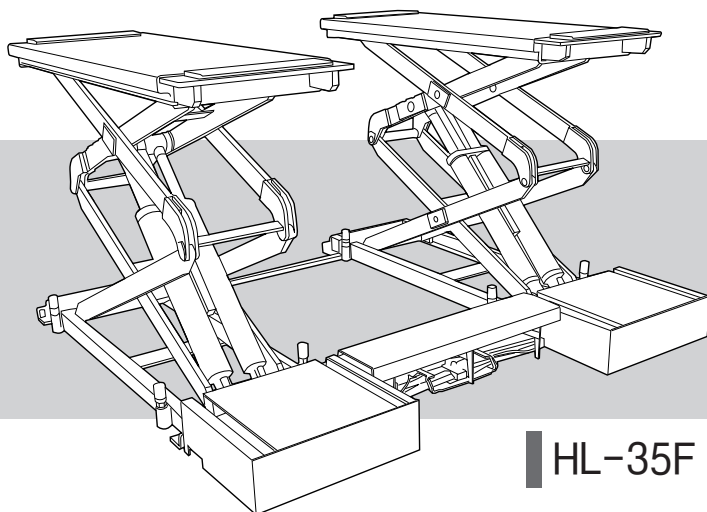


HESHBON DOUBLE SCISSORS LIFT

Installation/Operation & Maintenance Manual



HL-35F

Please read this manual before you get started.
You must read and understand the precautions for safety to protect your safety
and any damage to your property.

NOTE TO THE USER

Thank you for purchasing HESHBON CAR LIFT

Please read this instruction carefully for safe and proper use of the car lift, and keep it handy for future reference.

- This Manual is for model : HL-35F
- As for the assurance of safety in design and construction of car lift, read this Manual first.
- Please make sure that this Manual is delivered to end users for their implementation of safety.
- Don't use the car lift in a potentially explosive atmosphere.

ANY PART OF THIS PRINT MUST NOT BE REPRODUCED IN ANY FORM WITHOUT PERMISSION.
THIS PRINT IS SUBJECT TO CHANGE WITHOUT NOTICE.

No : 35F111001A

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TABLE OF CONTENTS

Introduction	1
Features and characteristics	1
Description of each parts	3
Description	5
Specification	6
Caution Sticker layout	7
Safety	9
Danger/warning/caution	9
Installation	11
Checklist before installing	11
Place of installation (lay out)	12
Installation procedures	13
Synchronization method	15
Operation	17
Check points before operation	17
Operation	18
Maintenance	19
Equipment maintenance and service	19
Trouble shooting	23
Check list and periodic maintenance	24
PART LIST	25

Introduction

Safety

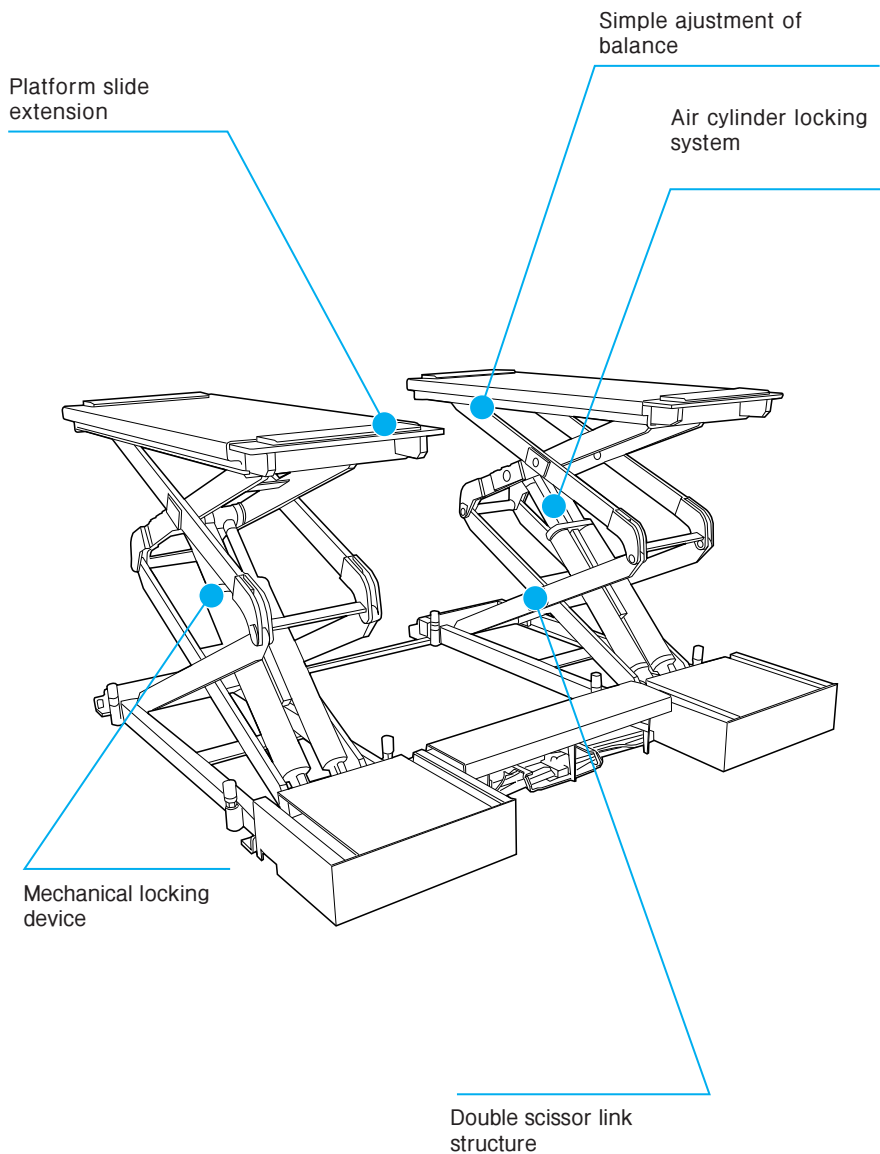
Installation

Operation

Maintenance

■ This manual was prepared in October 2016 the product specifications contained in this manual are subject to change without notice.

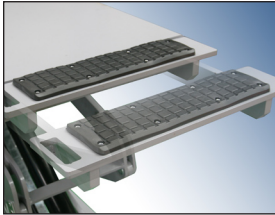
Features and characteristics





■ Simple adjustment of balance

- ▶ Quad self synchronising cylinder for simple adjustment of balance

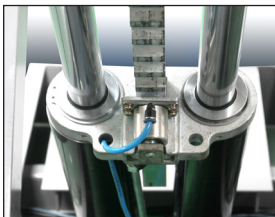


■ Platform slide extension



■ Rubber pad on platform

- ▶ Rubber pad provides the convenience to prevent the chassis of the vehicle from being damaged.



■ Air cylinder locking system

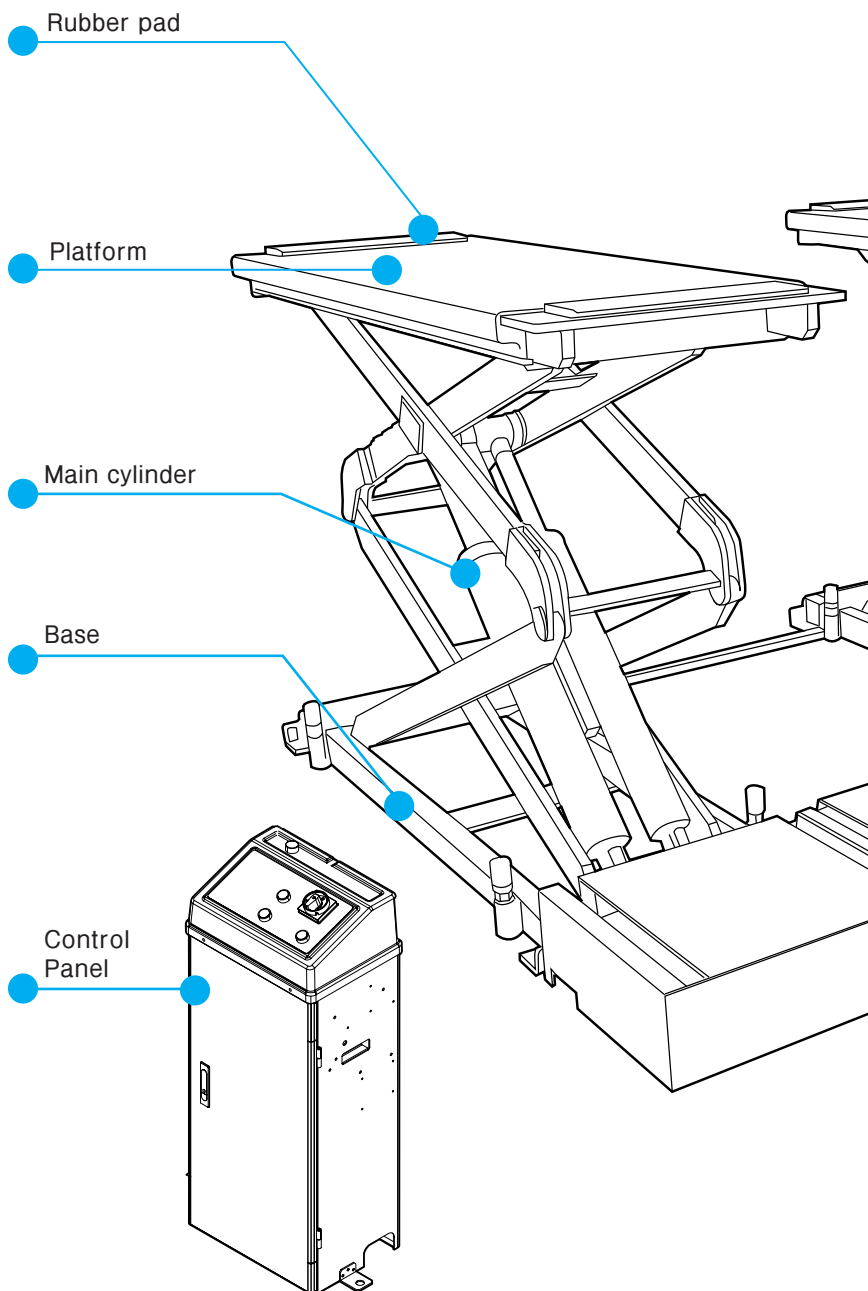
- ▶ Air cylinder locking system to prevent electrical hazard
- ▶ Quad self synchronising cylinder for simple adjustment of balance

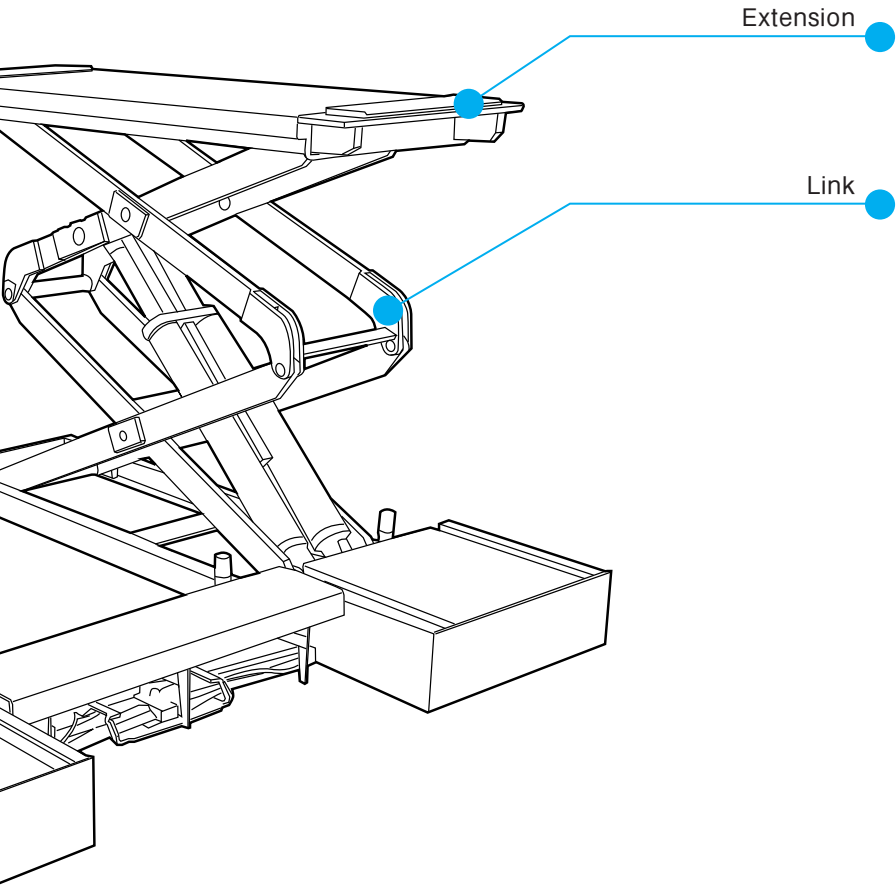


■ Mechanical locking device

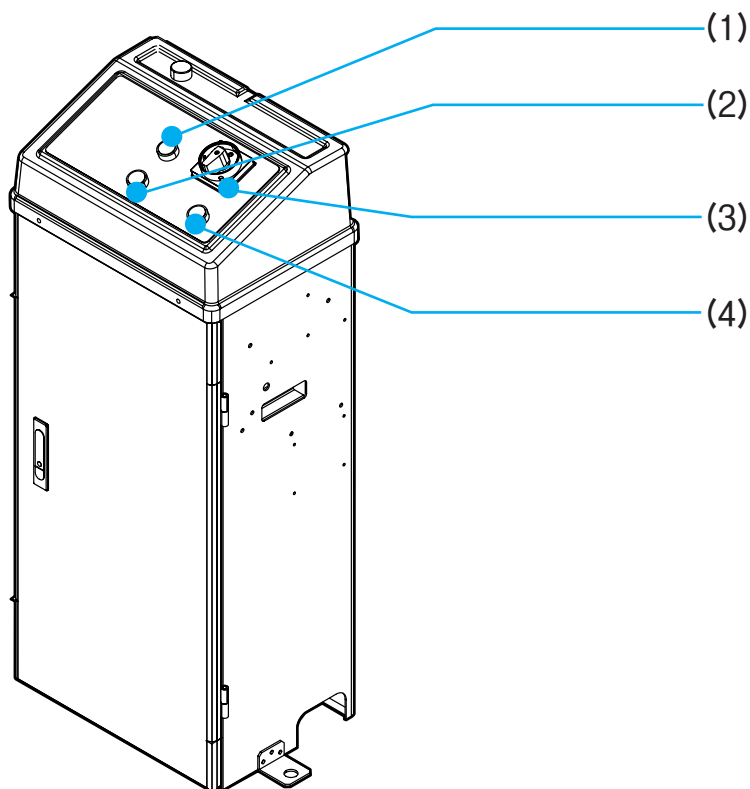
- ▶ Mechanical locking device with automatic engagement and pneumatic release, ensuring maximum safety when lift is in stand position.

Description of each parts





Description



- (1) Power Lamp
- (2) Down Button – Descends the main platform
- (3) Power Cam Switch – Supply or isolate the power of the lift.
- (4) Up Button – Ascends the main platform

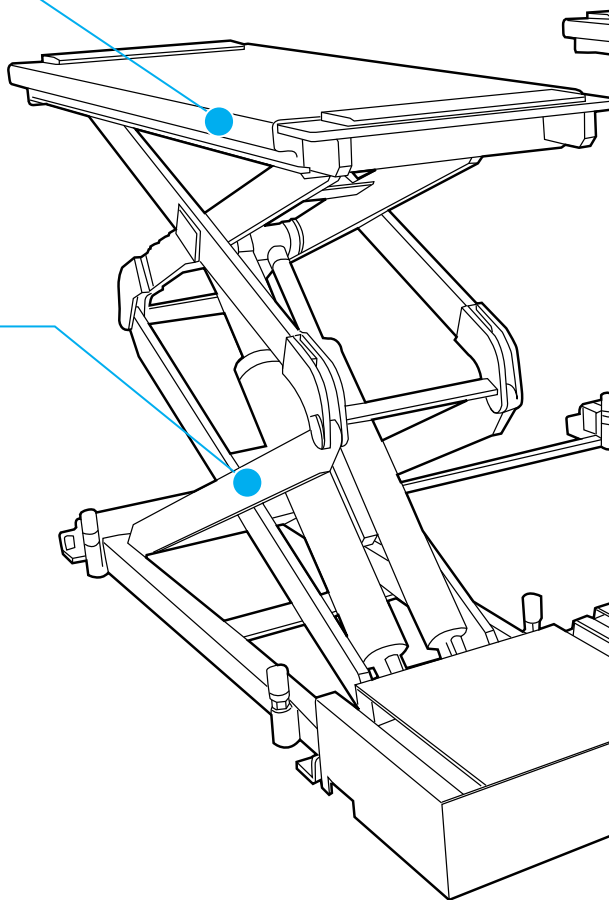
Specification

Model Name	HL-35F
Capacity	3,500 Kg
Used Hydraulic Pressure	220 kgf/cm ² ~ 100 kgf/cm ²
Overall Max.Height	F.L. +1900 mm
Min.Runways Height	F.L. -190 mm
Lifting Time	40~65 sec.
Lowering Time	20~45 sec.
Standard Motor	2HP X 4P X 220/380V X 50/60Hz
Net Weight	980 kg
Dimension	1,500(L) × 195(H) × 2,020(W) mm

Caution Sticker layout

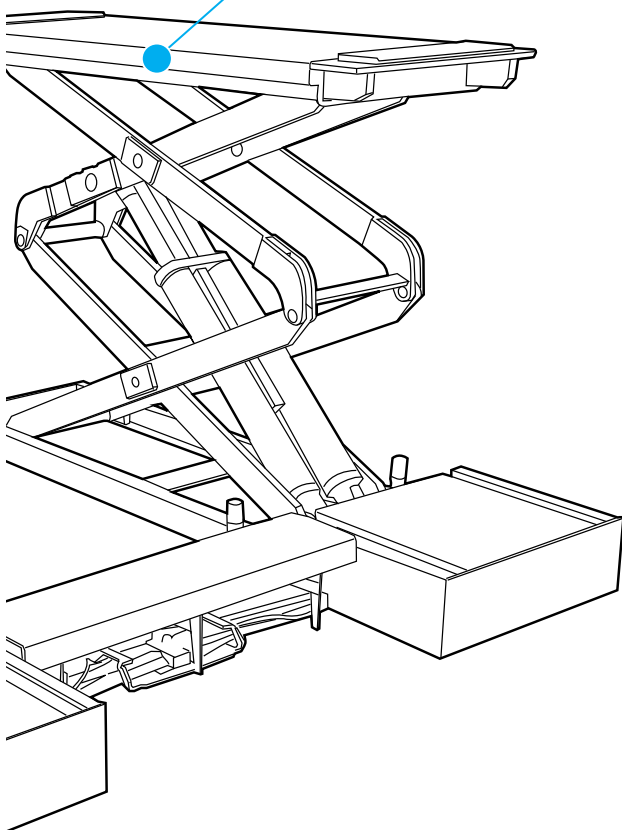
Logo

Heshbon Logo



Caution/Warning/Danger

Introduction



Danger/warning/caution

Rules for illustrations
in the Manual.

These are the rules for the illustrations in the manual. Make sure that you read them and understand them. The rules are applied only to the manuals of Heshbon Co., Ltd..



Make sure you follow the instructions, otherwise critical injuries can occur.



Make sure you follow the instructions, otherwise critical injury or damage can occur.



Make sure you follow the instructions; otherwise, injury or damage can occur



The terms are described to enhance the understanding of the equipment.



Information to use the equipment efficiently.



Precautions or check points for the use of the equipment.



Please refer to the page



Do not come under the vehicle during operation.
► It may cause severe injuries.



Evacuate to a safe place instantly in the event that the vehicle tips.
► It may cause severe injuries.



Do not overload the rated capacity.
► It may cause severe injuries.



※Not following the instructions can lead to a critical accident involving your life. Make sure you follow the instructions.

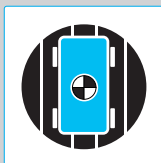


Warning before using the equipment

Only trained personnel may operate the equipment. Inexperience can cause accidents.



Position the vehicle to make sure that it is balanced front and rear, right and left (otherwise the vehicle may fall off).



Do not operate damaged equipment (a critical accident could occur – contact your Heshbon supplier)



After a vehicle is placed on the lift make sure that the hand brake is applied. Passenger transport is forbidden.





Warning while operating

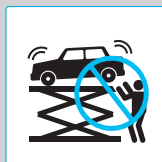
Allow no unauthorized persons in the work area.



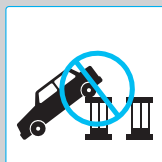
Before lowering the lift, check that there are no obstructions under the vehicle or the lift arms.



When the vehicle is lifted, do not rock it as this may dislodge it.



Do not lift a vehicle using one pair of arms only.



Safety

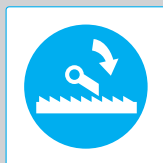


Warning while operating

To avoid injury, keep your feet clear of the arms and carriages.



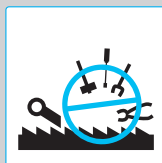
Before going under the lift, make sure that the safety pawls are engaged.



To avoid being electrocuted, disconnect the main power before opening the control panel.



Do not modify the control panel or the safety functions as this may impair their function.

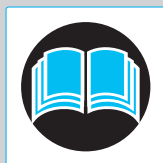


Warning when operating

Do not rock the vehicle when lifted. Do not use a high pressure cleaner as the vehicle lower part.



Read and fully understand the manual before using the lift

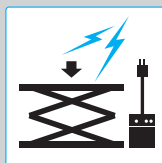


Warning before using the equipment

Check the safety devices to see that they are clean and operable.



If the lift is idle for a long time, disconnect the main power supply. In the event of thunder storm, disconnect the main power supply.



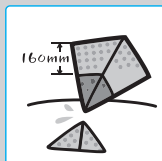


The lift should be installed by skilled engineers either from Heshbon or from Heshbon's appointed representatives. Failure to observe this makes the lift warranty invalid. If the lift is to be moved to another site at a later date, it must be reinstalled by skilled engineers either from Heshbon or from Heshbon's appointed representatives.

Checklist before installing

Installation site

The site must be flat and horizontal. The floor must have minimum 160mm depth of reinforced concrete.



Surface load under the posts must be minimum 25N/mm².

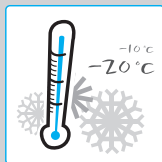


To maintain the warranty, the lift is intended for indoor installation only. In the event that it is installed outside it should be protected from snow and rain. Outdoor installation makes the warranty invalid.



Installation site

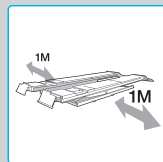
Ambient temperature -10°C to 50°C. Do not operate under freezing conditions.



Vehicle access to the lift must be safe and easy.



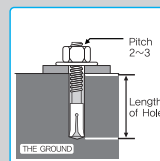
There must be a safe working distance of minimum 1m between the lift and the wall or any fixed object.



Installation site

- Hoist to be installed in dry location.
- If hoist is installed in a sufficient fit, the drainage should allow to keep hoist dry.
- If hoist gets wet make sure all electrical wiring is dried before operation as it could cause electric shock or damage to PCB.

To ensure that the anchor is secure, the hole for an anchor bolt must be more than 2/3 of the bolt length.



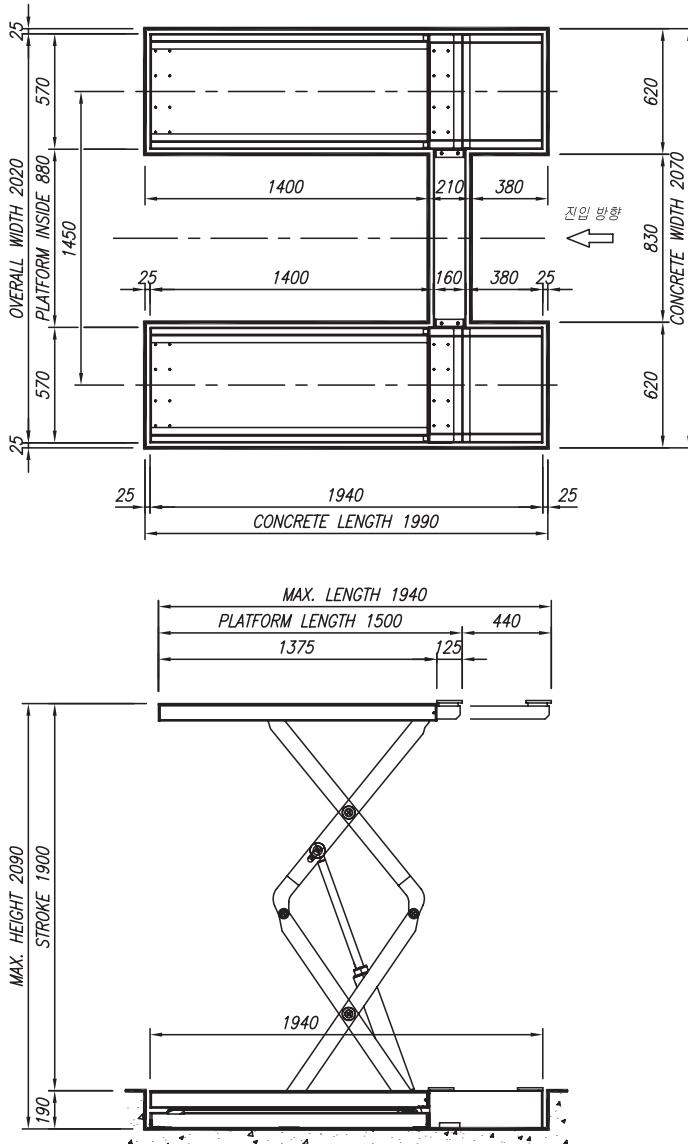
Skilled engineers of Heshbon or its sale representative agency shall install the lift, otherwise a failure may occur.



Place of installation (Layout)

- ## Checkpoints before selecting the place of installation

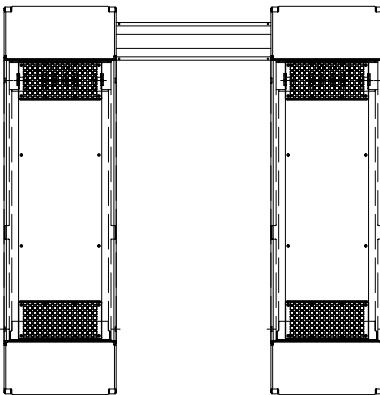
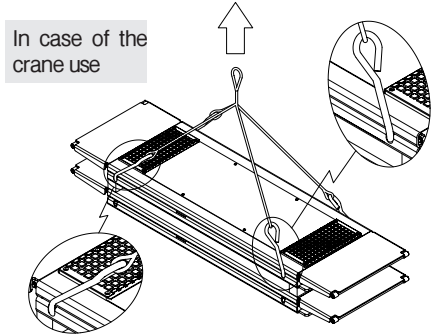
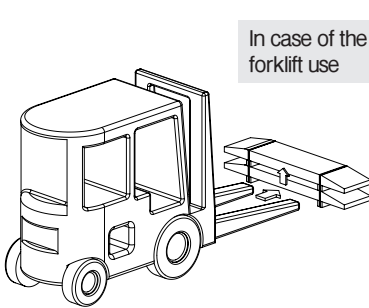
- ① Distance from the wall or any fixed object
- ② Drive-on direction
- ③ position of power post and slave posts
- ④ Ceiling height



Installation procedures

Landing down the product at the place to be installed

- Place the lift main body at the place to be installed referring to layout document.
- Fixing the product after checking the caution notes.



■ Fixing the base with anchor bolt

- Fix the 8pcs Anchor bolt of the base plate and 2pcs Anchor bolt of the control panel after supporting lift using liner.

■ Fixation horizon of the base

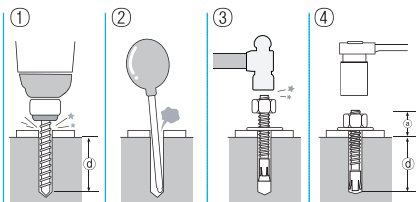
- After adjusting horizon of the product precisely, fix up using anchor bolt.

1 Adjust the level of the base

After measuring the horizontal status, lay down the lie.

2 Fixation of base (anchor)

After adjusting the level, fix up the base platform using anchor.



Anchor bolt installation.

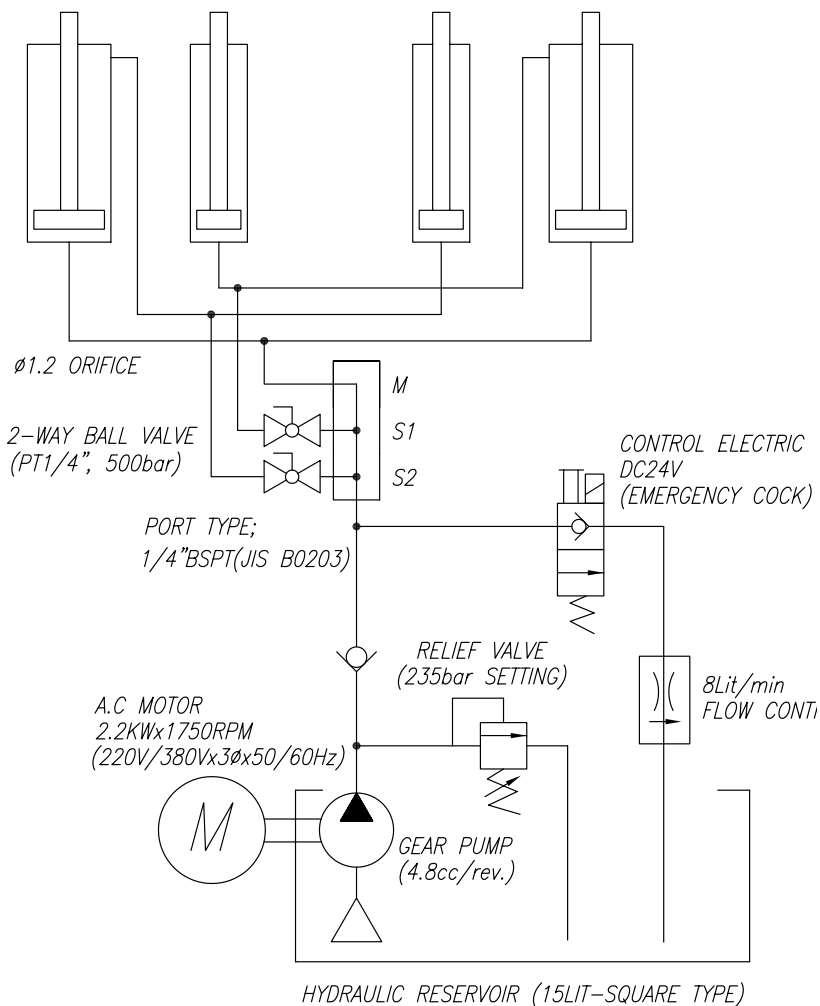
- (1) Drill a hole (d : hole depth)
- (2) Clean the inside of the hole
- (3) Put the anchor bolt into the hole and hammer in until it reaches the bottom of the hole
- (4) Tighten the bolt with a spanner.
(a: 35~45mm)
- Torque : 80~100N.m

■ Connection of oil pressure hose

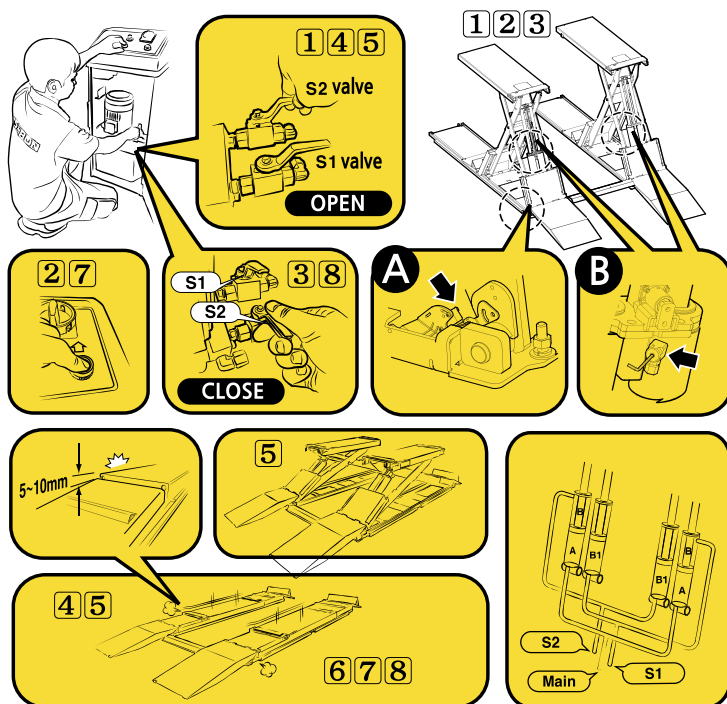
- Connect oil pressure hose by referring oil pressure line diagram. (Refer to part list oil pressure circuit)

MAIN CYL.(M) SLAVE CYL.(S1)

SLAVE CYL.(S2) MAIN CYL.(M)



Horizontal control



1 Horizontal control

- 1 Lift the platform all the way up after opening up "S1" and "S2" (Make setting after loosening up Lift-Limit A)
- 2 Deflate after loosening 'deflation screw' of B2 two times.
(Loose deflation two times after recharging oil pressure)
- 3 Drop the lift all the way down
(Drop while locking S1 and S2 valve right after dropping)
- 4 Open up S1 and S2 for the final dropping
- 5 Lift 100mm after opening up S1 and S2. (Recharge the oil)
- 6 Repeat dropping, lifting and then drop it completely.
(Recharge the oil three times)
- 7 Push 'lift' button time to time after opening up "S1" and "S2"
- 8 When both right lift and left get balanced while the cylinder is being filled with oil, lock the "S1 and S2 valve" so that balance of lifts on both sides can be fulfilled.

2 Summary

1. Deflate --> 2. Drop the lift --> Fill the oil while dropping in no load
--> 3. Fill the oil again after dropping(S1 and S2 : OPEN)
--> Additional explanation for step 8 above:
4. Drop the lift maintaining S1 and S2 : OPEN condition and then adjust the balance (keeping the height below 5~10mm) by clicking the button. (In case of one side is tilted upside, push the lift the button of the upward-tilted side so that both sides get balanced)
- > 5. When both sides get balanced, lock S1 and S2
--> 6. Horizontal control completed.

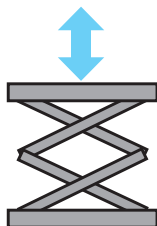


- ▶ If maintaining level is not well achieved with vehicles on the lift, after-sales service is strongly recommended. Self-operating by customer is heavily dangerous. Our company is not responsible for any accidents that occur from this case.



- ▶ Any operations other than what is introduced in this manual are supposed to be handled with other service instructions. Any accidents coming from manipulation of manual above is out of company's responsibility.

Check points before operation



Before loading the lift, check the following points.

■ Test operation

► Operate ascent and descent 2~3 times under no load condition.

■ Switch operation

► Check that the ascent and descent push buttons are working correctly.

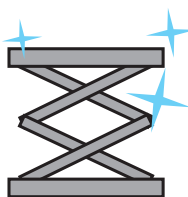
■ Hydraulic check

► Check if there are no hydraulic leaks from either cylinders, pipes, or hose joins.



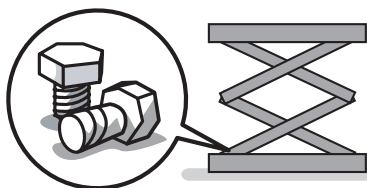
■ Mechanical check

► Check the tightness of all nuts, bolts, etc.



■ Exterior check

► Check the exterior of the lift to ensure that there is no obvious damage.



■ Cleanliness

► Check every day that the lift is clean and that the work area is clean and free from debris or obstructions.

Inspect the lift everyday to operate the lift safely for a long time.

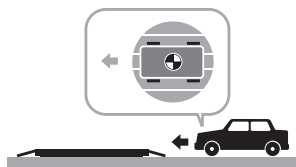
Operation

1 Prior to use

Check that the platforms are parked at floor level by using the descent button.

2 Prior to vehicle entry

Check that the position of the righthand (movable) platform is suitable for the majority of the vehicles to be lifted. Fix the platform at this position with the bolts provided.



Attention before you enter



Remove the humidity of the tire before you enter.



Attention the sudden stop.



After you drive into the lift, hold the side break.



After you drive into the lift, get out of the car.

3 Ascent

Operate the ascent button until platforms reach the chosen work height. park on the relevant ratchet holes.

4 Vehicle repair

Perform the necessary repairs and or maintenance on the vehicle.



5 Descent lift

Press the decent switch and descend to the position(100mm height), and return the platform slide plate to the original place, and descend to the bottom postion.
 ► Extract the car after checking if it is descended to the bottom place completely.

Equipment maintenance and service



► Periodic grease and oil injection maintain the product to be safe.



■ Lubrication

► Grease or oil should be applied every 2 or 3 months to the parts shown below.

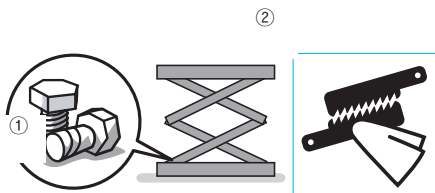
1 Injecting grease

► Inject enough grease at shaft of auxiliary lift and roller. (2~3 month period)

2 Injecting oil

► Location of injecting lubricating oil
– Paints the lubricant oil to the rubbing surface, base platform every 2~3 month.

Maintenance

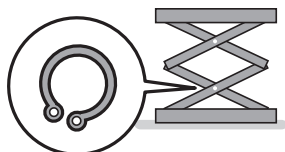


■ Cleanliness

① Check the working area under and around the lift for cleanliness. Check visibly if any nuts or bolts are loose or missing. Replace and retighten as necessary.

② Safety devices

Check the area around the safety devices for cleanliness and any obstruction.



■ Check the snap-ring of the link axis

► Check the existence of the inside and outside of the link axis.

■ Emergency descent

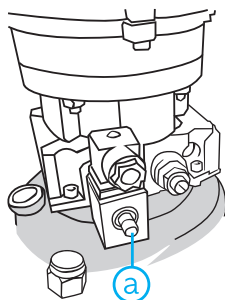
1 How to descend the lift manually in emergency

It is necessary

- ① when a blackout or the hydraulic circuit failure occurs
- ② When the lift cannot descend as specified in the troubleshooting

Preparation before operating

- ① Remove any object under the lift.
- ② Turn off the main power switch and panel power switch.
- ③ Manually release the locker
In case of locking state, releases the locker while another hydraulic device is lifting the locker 30 mm high. .
- ④ After taking to pieces in manually, put the supports between lockers.



Operation procedure of manual descent

Remove the cover of the powerpack.

Remove the solenoid valve hexagon cap (19mm) in the middle of the pump manifold.

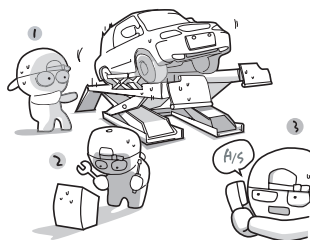
Turn the emergency cock lever (a) very slowly anti-clockwise. Too much movement will increase descent speed too much.



Turn the emergency cock lever very slowly to ensure that descent speed is slow and safe, especially if there is a vehicle on the lift.

Steps after completing the operation

Turn the lever clockwise and lock it securely when the lift reaches bottom position. Replace and refit the hexagon cap. Request after sales service to check the lift.



This situation is potentially very dangerous.

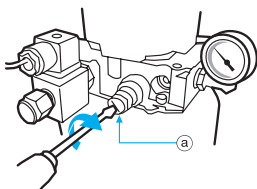
This operation should not be undertaken by unskilled staff. Therefore, if in any doubt, call your lift supplier immediately for after sales service.

2 Powerpack pressure



The pressure is set by the factory. The lift may be damaged if the operator increases the pressure. If the equipment does not lift the rated capacity, contact your lift supplier for engineer assistance.

Information for the authorized service engineer only

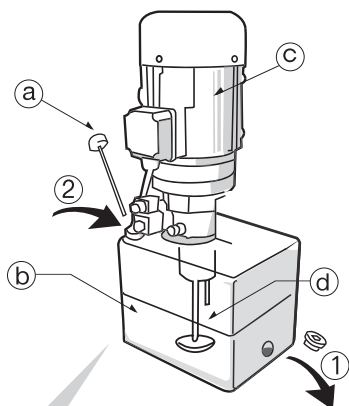


Open the control panel and install a pressure gauge in the pump manifold as shown. The pressure adjusting screw (a) is sealed by the factory.

Remove the seal and adjust the pressure with a screwdriver. This should be done while pressing the ascent button at the same time and with the lift loaded with the full rated capacity.

Proper pressure by model _____

HL-35F – 260kgf/cm² ~ 130kgf/cm²



- | | |
|---------------------------------|-------------------|
| (a) Cap of the oil tank | (1) Oil injection |
| (b) Oil tank | (2) Oil discharge |
| (c) Cover of the hydraulic unit | |
| (d) Oil nozzle cap | |

3 Oil change

Oil should be changed 3 months after installation and thereafter annually.

Oil change procedure

- ① Remove the cover of the hydraulic unit.
- ② Remove the oil filter cap and dipstick. Carefully remove the oil drain plug and allow the oil to discharge into a suitable container.
- ③ Refit the drain plug and tighten.
- ④ Refill the oil tank with new oil.
- ⑤ Check with the dipstick that the level is correct, raise and lower the lift and recheck that the level is still correct.



At the annual oil change, after having drained the oil tank, remove the oil tank from the pump and check the condition of the pump filter.
Clean or replace as necessary.
Replace tank and follow the above procedure.

Troubleshooting

	Symptoms	Check point	Corrective Action to be taken
Hydraulic Cylinder and its units	The abnormal noise at motor is hearable,	1. Rated capacity is exceeded. 2. Relief pressure is low. 3. Shortage of hydraulic oil.	1. Operate within rated capacity. 2. Adjust to relief pressure (275 bar) 3. Let air out of the hydraulic unit after supplying the oil.
	Hydraulic Oil is leaking,	1. Defect in hydraulic hoses. 2. Leakage from connecting parts. 3. Bad cylinder packing.	1. Replace the hydraulic hose. 2. Tighten the connection. 3. Request A/S.
	Oil is contaminated.	Check if water or foreign substance comes into the cylinder.	Exchange oil (annually) (Hydraulic oil : 32CST/12litter)
	The lift is not moving up,	Check if the oil is leaked or hydraulic pump are damaged.	Contact customer service department.
	The lift is not lowered.	Check if the valve is properly operated.	Contact customer service department.
	The fitting parts is rusted.	Check if the grease is not sufficiently injected.	Inject the grease every 1 month.
Electric Devices	Motor is not operating and the abnormal noise at motor is hearable,	1. Check if the motor is damaged. 2. Check if the fuse is opened. 3. Check if the push button is damaged. 4. Check if the upper limit is operated. 5. Check if wiring gauge is proper. 6. Check if the input power less than 200V is supplied.	1. Replace the motor (Request A/S). 2. Replace the fuse after solving trouble. 3. Replace the push button (Request A/S). 4. Re-operate after lowering the lift. 5. Replace to the cable with over 3.5mm ² diameter. 6. Increase the input power capacity.
	Fuse is snapped	1. Check the Contact of magnetic contactor. 2. Check the capacity of circuit breaker. 3. Check if the wire is damaged.	1. Replacement (Request A/S). 2. Replacement (Request A/S). 3. Replacement after checking.
	Motor is operating but lift is not moving up,	1. Check if the rotating direction of motor is correct. 2. Check if hydraulic lines is damaged.	1. Re-operate after changing the phase connection. 2. Refer to check points for hydraulic cylinder and unit.

Check list and periodic maintenance

Inspection period	Points to be checked	Items to be checked	Inspection method	Action to be taken	Replacement period
1 week	Rubber Support for adjustment	Abrasion and deformation	Visual	Replacement	1 year
	Magnetic contactor	Damage of contact	Measurement	Replacement	2 year
3 months	Wire Rope	Abrasion, deformation and Breaking of wire	Visual	Replacement	2 year
			2 months (Use over 20 times per one day)		6 months (Use over 20 times per one day)
	Post Guide	Abrasion	Visual	Replacement	4 year
	DU bush	Abrasion	Visual	Replacement	4 year
	Axle for wire pulley	Noise and abrasion	Visual	Replacement	5 year
6 months	Wire pulley	Abrasion	Visual	Replacement	5 year
	Electrical components	Damage of components	Measurement	Replacement	3 year
1 year	Hydraulic Oil	Shortage of oil	Visual	Replacement	1 year
	Piston Seal Kit	Oil leak or deformation	Visual	Replacement	3 year
	Load Seal Kit	Oil leak or deformation	Visual	Replacement	3 year



**PART LIST
HYDRAULIC CIRCUIT
ELECTRIC CIRCUIT**

MODEL

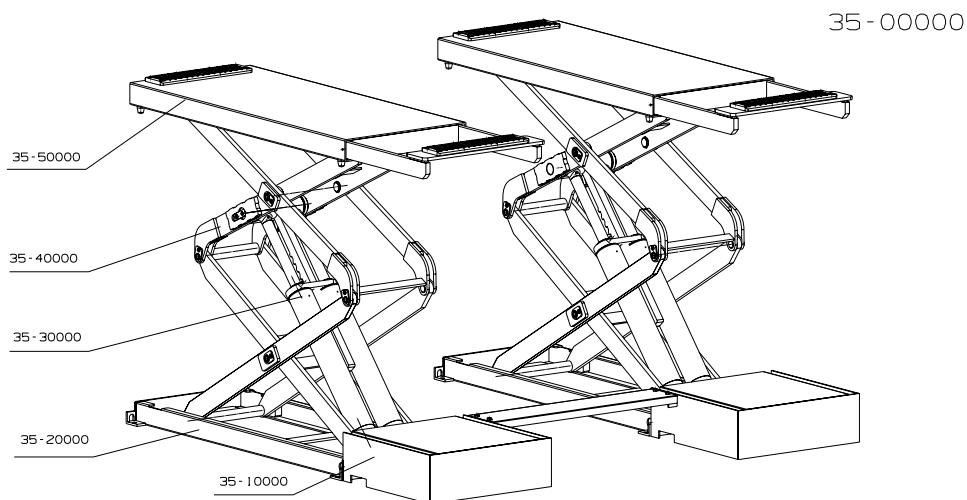
HL-35F

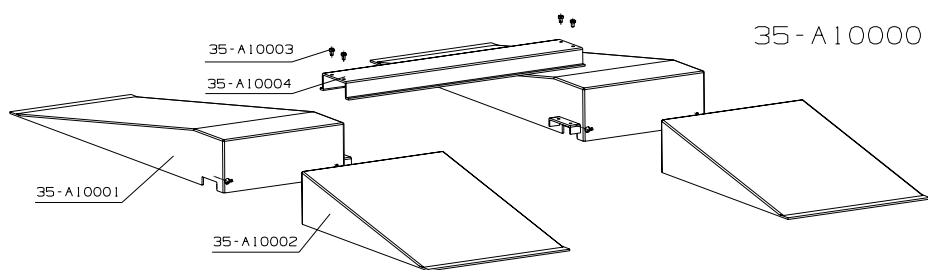
Version 1 – 10.2011

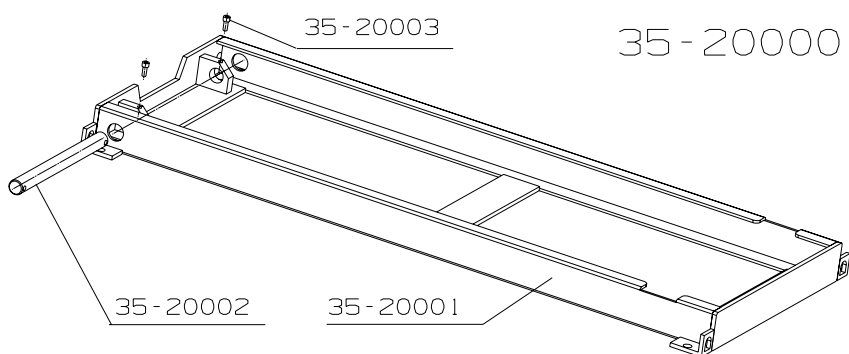
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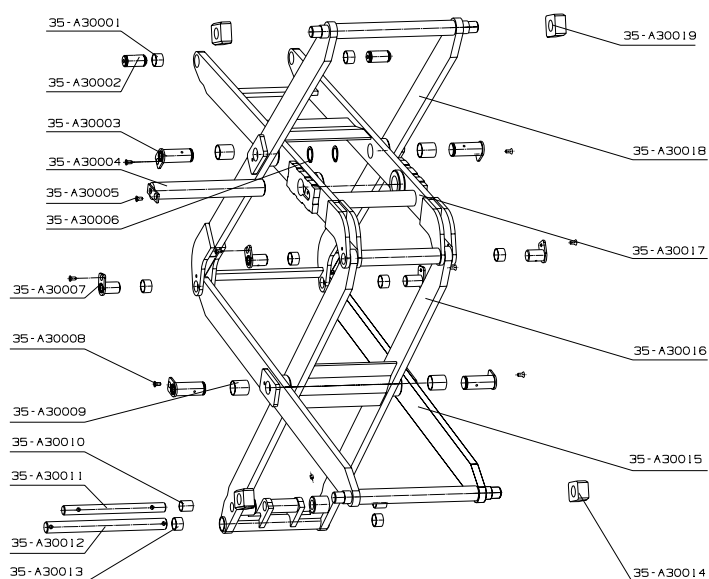
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This installation manual is prepared as of October 2011. This manual is subject to change without prior notice if the lift specification is changed



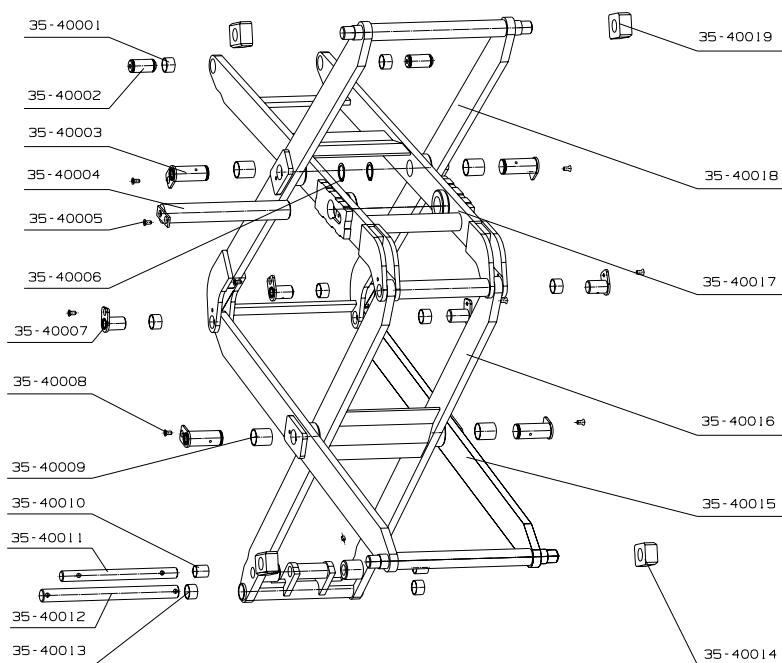


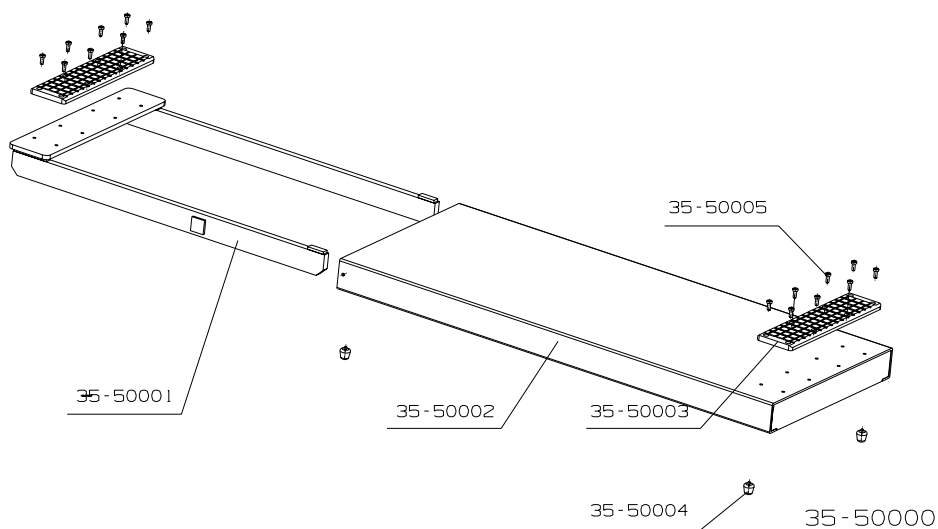




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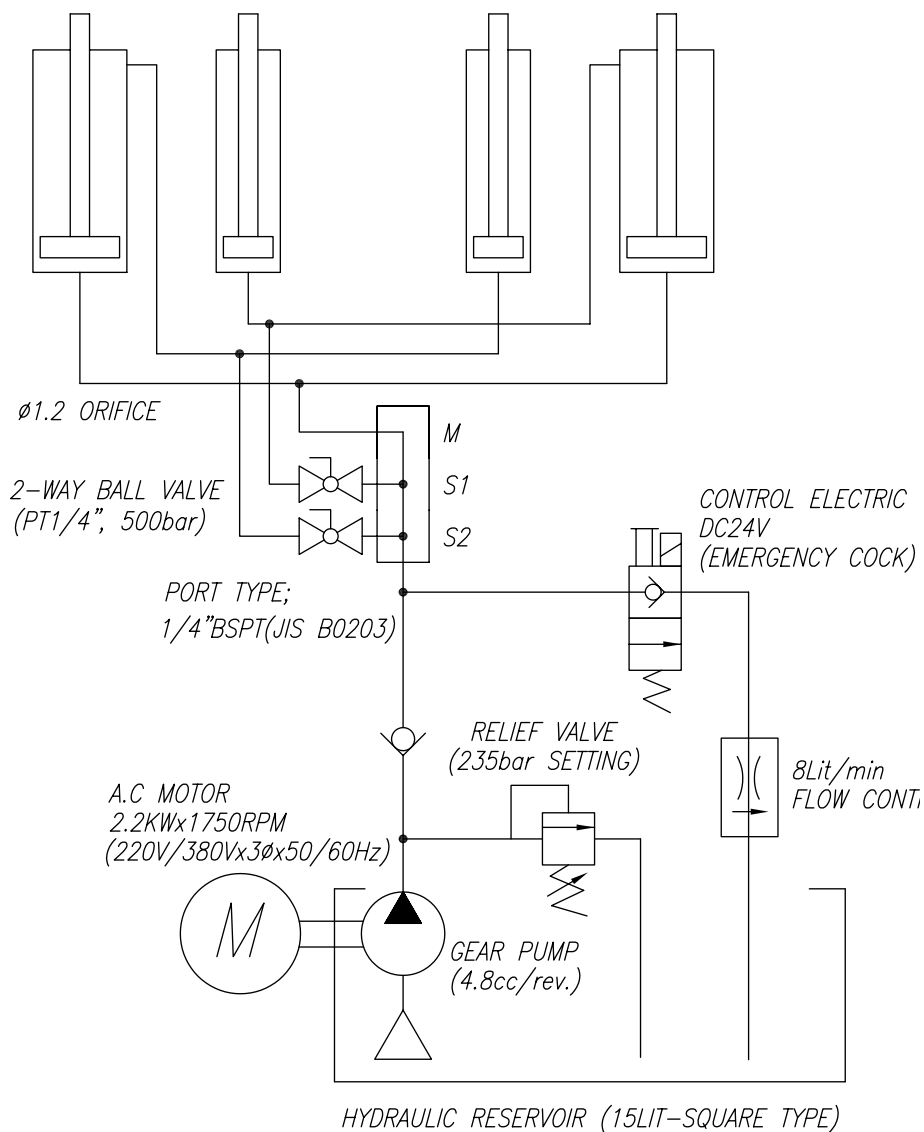




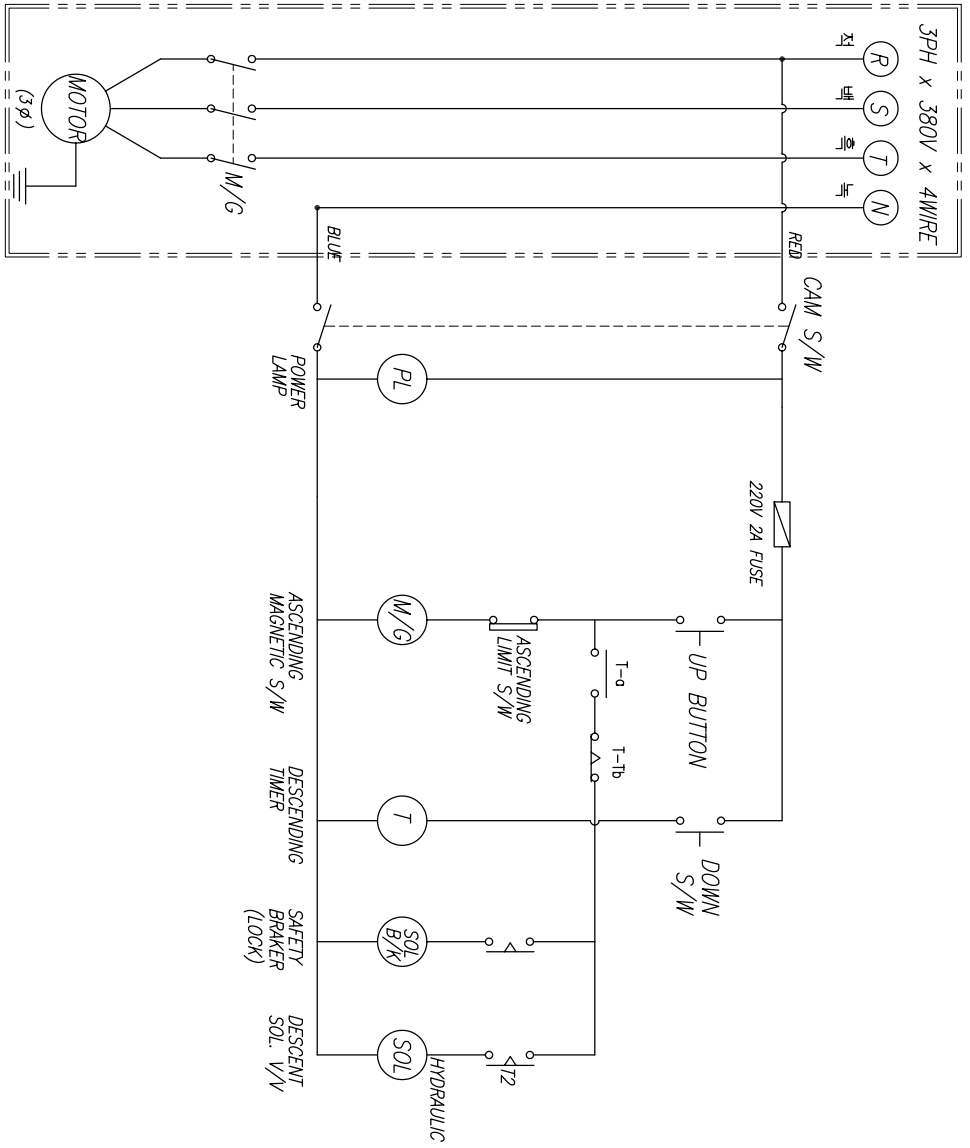
HYDRAULIC CIRCUIT

MAIN CYL.(M) SLAVE CYL.(S1)

SLAVE CYL.(S2) MAIN CYL.(M)



ELECTRIC CIRCUIT





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