



# Operation Manual

## Tortoise G

Model SCL3000A

Model SCL3000AP

**Dear Users,**

Thank you for purchasing our Bishamon Tortoise G Lift. Before using the lift, read through and be familiar with this manual. Fully understand the precautions, directions, and other information contained in this manual to ensure correct use. Failure to do so may result not only in insufficient performance of the lift but also in falling of the vehicle, serious injury and death, and damage to properties.

Keep this manual in a safe place for future reference. In case of loss, immediately request a new copy.

If the product is supplied with a wrong manual, contact your lift supplier for a correct copy.

**About Maintenance Inspection :**

**Perform periodic maintenance inspection of the lift to ensure safe work with the lift and keep the lift fully functional.**

# Preface

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Thank you for purchasing our Bishamon Tortoise G Lift. Before using the lift, read through and be familiar with this manual. Fully understand the precautions, directions, and other information contained in this manual to ensure correct use. Failure to do so may result not only in insufficient performance of the lift but also in falling of the vehicle, serious injury and death, and damage to properties.


The contents of the manual may differ when the purchased lift is modified. For any question about the product or this manual, feel free to contact your lift supplier.


Keep this manual in a safe place for future reference. In case of loss, contact your lift supplier and request for a new copy immediately.

## Explanation of Terms and Symbols

In this manual, 「**Danger**」, 「**Warning**」, 「**Caution**」 are defined and specified as below. Notice of Warnings are very important for safe operations. As these are very important to protect operators from accidents resulting in personal injury and death, and damage to property, so make sure to read thoroughly and understand fully before operation.

 **Danger** Incorrect operation may imminently result in serious injury or death of the operator.

 **Warning** Incorrect operation may result in serious injury or death of the operator.

 **Caution** Incorrect operation may result in injury and damage to the property. The occurrence of the danger is lower than "Warning" articles.

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# 1. Intended Use

This product is a lift to be used for oil and parts replacement, general maintenance, motor vehicles inspection and maintenance etc. of mini-to ordinary sized passenger cars, small sized trucks, and the like.

## 2. Danger, Warning, Caution

### Caution for Safety

As there are very important to protect operators from accidents which may result in injury and death, and damage to cars and properties, make sure to understand fully before operating the lift.

### 2.1 General Safety Rules to be observed

1. Read and be familiar with the operation manual before operating.
2. Only trained operators are allowed to use the lift.
3. Make sure to perform daily and periodic inspections in accordance with the instructions of Operation Manual.
4. If any abnormal conditions, such as noise, occur during operation, prohibit the use of the lift and contact lift supplier for an inspection.
5. This lift is designed for motor vehicle servicing. DO NOT use for any other purposes.
6. Do not remove any labels and do not modify the lift anyway.

### 2.2 Caution in Operation

The meaning of the mark (symbol) used behind pictures are as below.






The specified act that **should not** be conducted.




The specified act that **should** be conducted.



Warnings and cautions that are possible to occur due to incorrect operation.

 <b>Danger</b>	
	When lift is operating, <b>DO NOT</b> get under the vehicle. <b>DO NOT</b> allow others to get under vehicle Or it may result in death or serious injury.
	If the Vehicle <b>STARTS TO FALL FROM LIFT</b> , Move away quickly <b>DO NOT</b> attempt to support vehicle. Or it may result in death or serious injury.

**⚠ Warning**

		
<p><b>Read</b> the Operation Manual thoroughly before using the lift. Important Warnings are described. *Incorrect operation may result in an accident.</p>	<p><b>DO NOT</b> lower the lift while any stand, jack or support is in position under vehicle. <b>DO NOT</b> use "Down" motion of lift to push parts into position.</p>	<p><b>Drive in vehicle straight</b> and parallel to the lift. Vehicle <b>MUST BE</b> positioned evenly. And set the CG of vehicle within the range specified with Yellow Color arrow on the lift.</p>
		
<p>Set the supporters on a flat spot with sufficient strength. Use only <b>genuine</b> Side Sill Block supporters to avoid any accident.</p>	<p><b>DO NOT</b> lift vehicles by one end only. Or it may result in fall of the vehicle and damage lift.</p>	<p><b>DO NOT</b> modify any Safety Device of the lift under any circumstances.</p>
		
<p><b>KEEP FEET CLEAR</b> When lowering lift, make sure to keep feet clear of hoist and vehicle.</p>	<p><b>DO NOT</b> swing, shake or push the raised vehicle. Or it may result in fall of the vehicle.</p>	<p>Vehicle <b>MUST BE</b> positioned evenly. <b>DO NOT</b> lift up offset vehicle. Or it may result in fall of vehicle</p>
		
<p><b>DO NOT</b> use lift unless you have been trained in it's operation. *Incorrect operation may result in an accident.</p>	<p><b>KEEP HANDS and FEET CLEAR</b> when raising and lowering lift, <b>MAKE SURE</b> to keep hands and feet clear of any scissor mechanism.</p>	<p><b>ELECTRICAL HAZARD!</b> <b>DO NOT</b> open control box or remove cover plates without isolating electrical supply.</p>



## Caution

Carefully read and fully understand this manual before using the lift.

### <Pre-Operation Check>

1. This lift is designed for motor vehicle servicing. **DO NOT** Use for other purpose.
2. This lift capacity is 3,000 kgs. **DO NOT** lift any vehicle exceeding the maximum lift capacity.
3. The unbalance load between right and left side Supporter should be less than 300 kgs.
4. Extreme unbalanced load on the lift could result in large inclination of the vehicle.
5. Set the supporters securely at lifting points, and do not raise a vehicle when there are not clear lifting points on the vehicle. Try to have as wider distance as possible between lifting points. Refer to the maintenance manual of the vehicle for information of correct lifting points.
6. Make sure to put Slide Stopper Pin when using Slide Supporter.
7. **DO NOT** drive in or drive out when Slide Supporter is extended.
8. Drive in and out vehicle slowly, and **DO NOT** start and stop suddenly. Or it could damage Slide Supporter.
9. If any of safety device does not work properly, **DO NOT** use lift.

### <Lift-Up/Down Operation>

1. When operating the lift, pay constant attention to the area around the vehicle and the lift. **NEVER** look aside during operation.
2. If there are other lifts installed in the same site, **Pay attention** not to operate the control switch of other lifts.
3. **DO NOT** lift vehicles with passengers, baggage or cargo etc. inside (on board).
4. Make sure there is no oil or dirt on supporter when lifting vehicle.
5. Stop lifting after supporter have made firm contact with vehicle, and check locations of supporter for correct lifting points before reraising the vehicle.
6. **DO NOT** put and use anything but genuine Side Sill Block between Supporter and vehicle lifting point.
7. The lift height of both sides may become unbalanced during lifting and lowering operations. In such case, without vehicle on the lift, lift up to max height and keep pushing "UP" button for 2~3 seconds to synchronize. If lift becomes unbalanced extremely during lowering operations, then stop using the lift and contact your lift supplier.
8. If the lift would not lower, raise the lift once and then relower.
9. If lower the lift with Sliding Supporter being used (extended), retract Sliding Supporter back as soon as vehicle tyre hit the floor, and then lower the lift to lowest position. Or Supporters and floor could be damaged.
10. Before lowering the lift, ensure that no person or objects is around vehicle or lift.
11. **DO NOT** operate the lift with anything such as tools or parts left in the pit or under the lift. Failure to comply may result in failure of the lift or falling of the vehicle.
12. Drive the vehicle in and out only after the supporters have been lowered completely. Failure to do so can cause damage of the vehicle or the lift.

### <During Vehicle Servicing Work>

1. Make sure Safety Hooks are engaged before getting under vehicle.
2. Keep anyone but the operator out from around the lift.
4. **DO NOT** leave a vehicle on the lift for long time. If the lift is left over at the height where there is no Lowering Stop Rack, lift could lower and may damage the vehicle.
5. When not in use, the lift must be lowered to the lowest position.

### <Others>

1. **DO NOT** modify the lift without permission from the manufacturer. Failure to comply may result in insufficient performance and lead to serious accident.
2. When an abnormality is detected during use or inspection, stop the use of the lift immediately and repair. **DO NOT** use lift until the repair is completed.
3. Use only genuine Side Sill Block Supporter.
4. This lift is not weatherproof and is not to be used outdoors or for vehicle washing.
5. Do not supply air with air pressure exceeding 1.0 MPa to the air filter regulator. Or it may damage the air filter regulator.
6. The air filter regulator must be set to 0.5 Mpa. If it is set to over 0.5 Mpa, it may damage Selex Valve.

Explanation of Terms used here :

『 Lifting Point 』 ... Designated spot of the vehicle to be lifted. Refer to the maintenance manual of the vehicle.

『 Side Sill 』 ... Body welding spot under rocker panel. Lifting point is located for passenger vehicle.

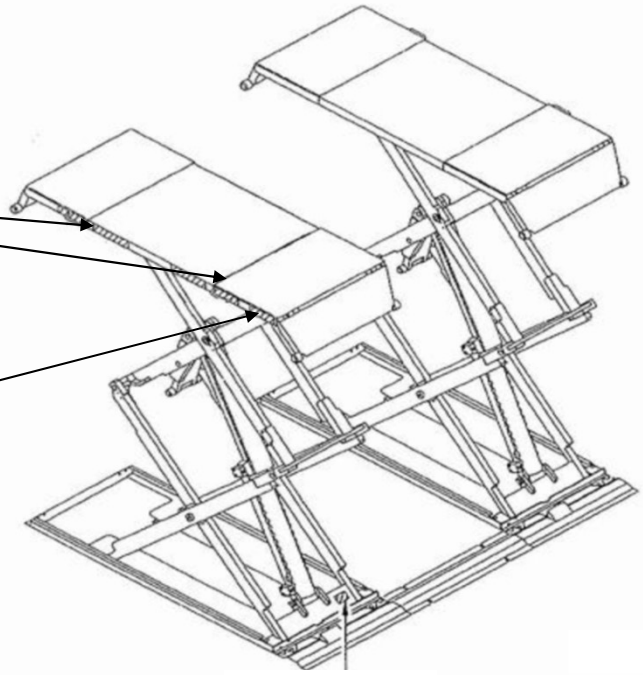
# 3. Location of Warning, Caution etc. Labels

CG Label



Capacity Label

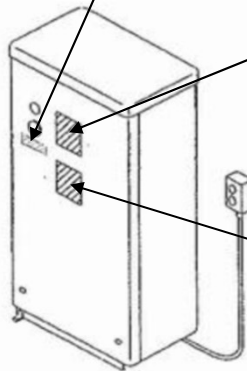
Cap.3,000kgs.(6,600lbs.)



Serial Plate

Caution Label E

showing how to do Pre Operation Check of Filter Regulator.



Caution Label

**CAUTION**

**Daily Inspections. To be performed each day before first operation.**

- Raise and lower lift without a load and check for any abnormality.
- Check for oil or air leakage.
- Check air pressure regulator for correct pressure 0.5Mpa. DO NOT USE with higher air pressure.
- Air supply to filter/regulator must not exceed 1.0Mpa.
- Check for correct operation of electrical controls.
- Check that safety devices are functioning.

**Pre-Operation Checks**

- READ and be familiar with the operation manual for this lift.
- Only a trained operator is to use this lift. Keep others away from lift and controls.
- This lift is designed for motor vehicle servicing. DO NOT use for other purposes.
- Lift capacity is 2000 kg (LAMSJ Series) and 3000 kg (SCL3000 and LAMSJ Series) and 3200 kg (NSC3200 Series). DO NOT attempt to lift heavier loads.
- Any load unbalanced between left and right sides must be within 300 Kgs.
- Position supporters under correct vehicle lifting points. If vehicle lifting points can not be positively identified then consult vehicle manufacturers manual. DO NOT lift vehicle if you are in doubt.
- DO NOT operate lift if safety devices are not functioning.
- Check condition of rubber supporters. Keep them clean and free of mud, oil and grease.
- Make certain that Adjustable Plate Locating Pins are fitted into holes in platform. (Model SCL3000 Series only)
- When Swing Arms are used for lifting vehicle, make certain to adjust the height of supporters so that load would be distributed evenly on feet. Swing Arms Supporters (Model LAMSJ S2J Series).
- When Swing Arms and Sliding Supporters are to be adjusted or folded, be careful so that hands or fingers should not be pinched.

**When Lifting and Lowering**

- PAY ATTENTION. Observe the lift operation at all times.
- Stop lifting after supporters have made firm contact with vehicle and check supporter locations and security.
- DO NOT use any other supportings but standard Sill Support Block between supporters and lifting points.
- DO NOT lift loaded vehicles. They may be unbalanced.
- DO NOT lift vehicles with passengers inside.
- Make sure that safety hooks are engaged before getting under vehicle.
- DO NOT lower lift before clearing area of persons and objects.
- If the vehicle should tilt, stop the operation immediately.
- If vehicle should tilt during lifting or lowering operations. (more than 10% unbalance between right and left supporter), remove the vehicle from the lift, and then lift to top and keep pushing 'UP' button for 2-3 seconds. And then lower the lift to lowest position and keep pushing 'Down' button for 5-10 seconds. Then raise the lift about 300mm and lower to the lowest position 2 or 3 times until unbalance disappear. (Model SCL3000 Series on).
- If lift increases when lowering then contact supplier and do not use lift.
- In the area where multiple lifts are installed, make sure to operate the correct switch.
- Make sure lift is fully lowered before entering or leaving vehicle.
- If lift will not lower, Raise lift and then lower.
- When lowering lift with adjustable plate, (a) Stop lowering when lift is free of vehicle (b) Remove Sill Supporters and return adjustable plate to closed position (c) Lower lift to floor

**When Servicing the vehicle**

- When lift operator leaves lift or lift is not in use, make certain to lower the lift to lowest position.
- DO NOT leave the lift unattended for long time. Lift could lower in the lower height range that lowering stop hook does not exist.

**Generally**

- DO NOT modify this lift in any way.
- This lift is not weatherproof and is not to be used outdoors or for vehicle washing.
- Be cautious at all times. Do not operate lift if you suspect that there is a malfunction.

**Maintenance**

- Always maintain lift in accordance with operation manual.

**DO NOT USE THIS LIFT AT ALL IF REPAIRS ARE REQUIRED OR IF YOU SUSPECT A MALFUNCTION**

Regular inspections and routine maintenance are essential for the safe operation of this lift. The procedures are detailed in the operation manual and they must be adhered to. You must keep a written record of inspections and repairs that includes the date of inspection/repair and the name of the inspector/repairer and details of work done.

Caution Label

**! DANGER !**

When Hoist is Operating DO NOT get under the vehicle. DO NOT allow others to get under vehicle.

IF THE VEHICLE STARTS TO FALL FROM HOIST. Move away quickly. DO NOT ATTEMPT TO SUPPORT VEHICLE. A damaged vehicle may be required. Not always the case for a damaged operator.

**! WARNING !**

READ and be familiar with the operating manual for this lift.

DO NOT use lift unless you have been trained in it's operation. \*Incorrect operation may result in an accident.

Vehicle must be positioned evenly. DO NOT lift offset vehicle.

DO NOT lift vehicle by one end or by one side only.

When lifting vehicles be sure that center of gravity remains within designated Yellow Range.

DO NOT swing, shake or push the raised vehicle.

DO NOT lower the lift while any stand or support is in position, upper vehicle. DO NOT use 'Down' motor or lift to push parts into position.

CAUTION! Removing components may alter center of gravity and cause vehicle to fall.

KEEP HANDS CLEAR of hoist and vehicle when operating lift.

KEEP FEET CLEAR of hoist and vehicle when lowering lift.

DO NOT under any circumstances modify this lift.

ELECTRICAL HAZARD! DO NOT open control box or remove cover plates without isolating electrical supply.

The warnings on this label are for your safety. To disregard the warnings may result in serious injury or death.

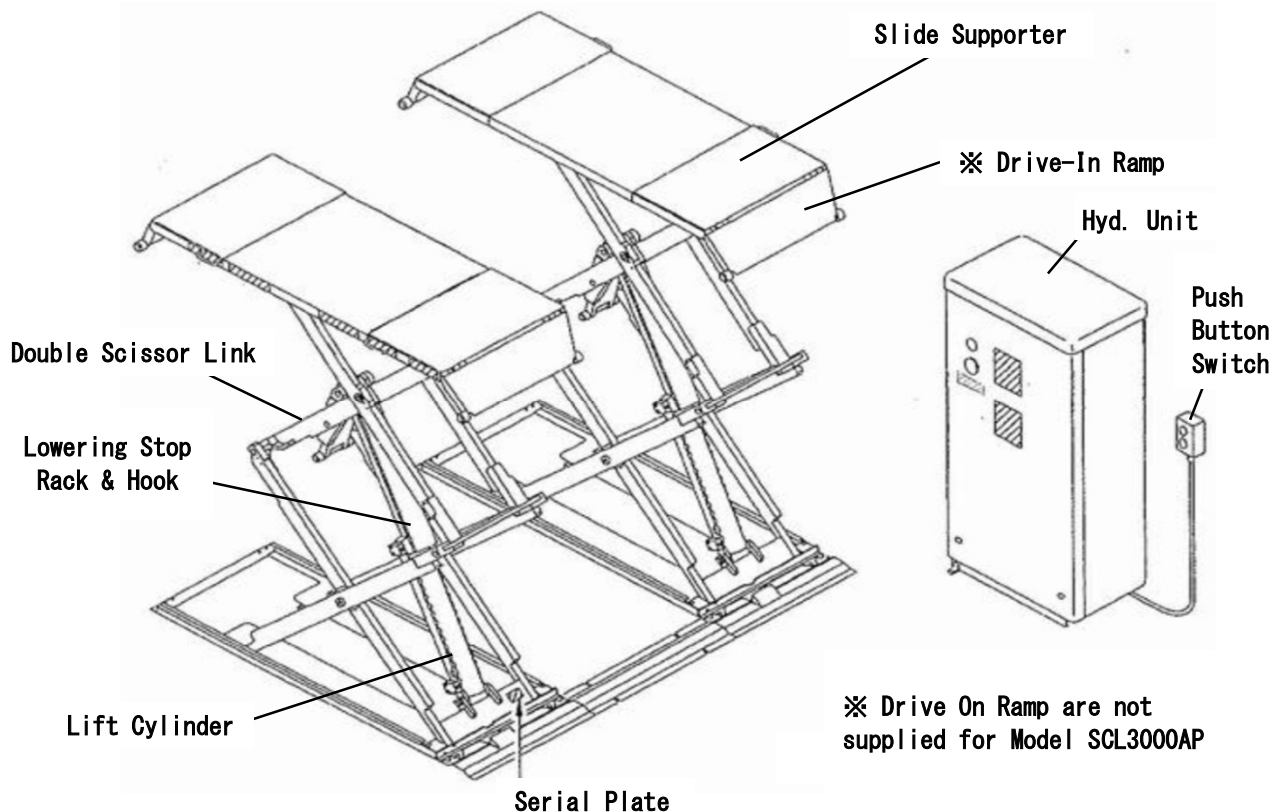
**! Caution**

Labels feature descriptions on important matters for preventing accidents and property damages, as well as capacity of the lift. Purchase and apply these labels promptly when they become worn, damaged or peeled off while the lift is used.

## 4. Specifications

Model No.	SCL3000A	SCL3000AP
Installation	Above Ground	Pit
Hyd. Unit Location	Separate	Separate
Capacity	3,000 kgs.	3,000 kgs.
Vertical Travel	1800mm	1800mm
Distance of Lift Centers	1400mm	1400mm
Supporter	Sliding Supporter	Sliding Supporter
Rising Speed (50HZ)	Approx. 58 seconds	Approx. 58 seconds
Rising Speed (60HZ)	Approx. 48 seconds	Approx. 48 seconds
Lowering Speed (Loaded)	Approx. 28 seconds	Approx. 28 seconds
Applicable Vehicle	Passenger Car	Passenger Car
Motor	3PH/1.5KW	
Drive	Electric Hyd.	Electric Hyd.
Control Switch	Push Button (2 Buttons) - Remote Control Switch	Push Button (2 Buttons) - Remote Control Switch
Oil	15L ISO VG32	15L ISO VG32
Air Pressure	0.5~1.0 MPa	0.5~1.0 MPa
Machine Weight (Lift)	850 kgs.	820 kgs.
Machine Weight (Hyd. Unit)	190 kgs.	190 kgs.

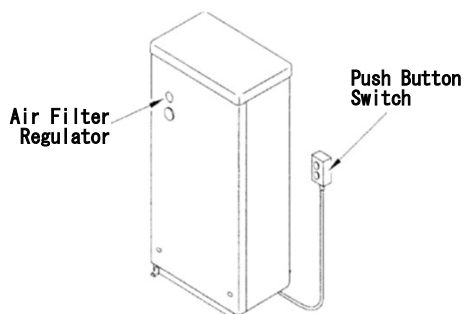
## 5. Name of the components





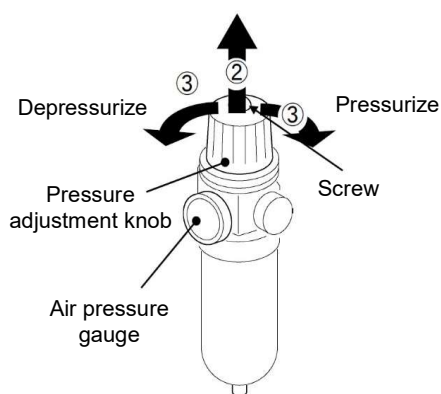
## 6. Control Unit (Hyd. Unit)

### Hydraulic Unit



Air Filter Regulator reduce the air pressure of the air supplied to the Air Filter Regulator to appropriate pressure levels, and drain water in the air. Air pressure gauge shows the air pressure after depressurization.

### Air Filter Regulator

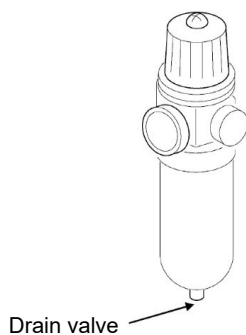


#### ■ How to reduce Air Pressure (Depressurizing)

- ① Verify that the air pressure supplied to the Air Filter Regulator is more than 0.5 Mpa
- ② Loosen the screw on top of the Air Filter Regulator.
- ③ Look at and check the air pressure gauge while turning the pressure adjustment knob to set the air pressure to 0.5 Mpa.
- ④ Tighten the screw on the top of Air Filter Regulator.

#### ⚠ Caution

- \* The appropriate value of the pressure of air (primary side pressure) supplied to the filter regulator is between 0.5 and 1.0 MPa. The filter regulator may be damaged if the pressure is greater than 1.0 MPa.
- \* Always make sure that the air pressure gauge is pointing 0.5 MPa before operating lift. The lift may malfunction if the pressure is under 0.5 MPa. Furthermore, the Selex valve may be damaged if the pressure is over 0.5 MPa. Always set the pressure to 0.5 MPa.



#### ■ How to drain water

- ① Push up the drain valve at the bottom.  
Water sprays out with air.

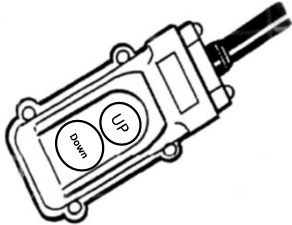
#### ⚠ Caution

Water must be drained from the air filter regulator every day. Accumulation of water can cause malfunction.

## Push Button Switch

### ⚠ Warning

If operating Push Button Switch carelessly before confirming the safety of lift and vehicle surroundings, it may result in serious accidents.

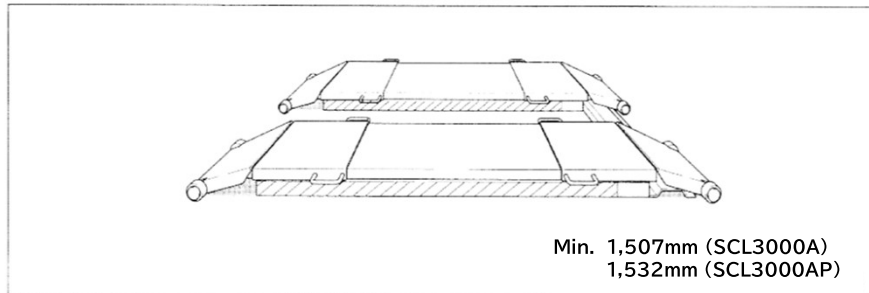


Push Button Switch is the device to raise and lower the lift.

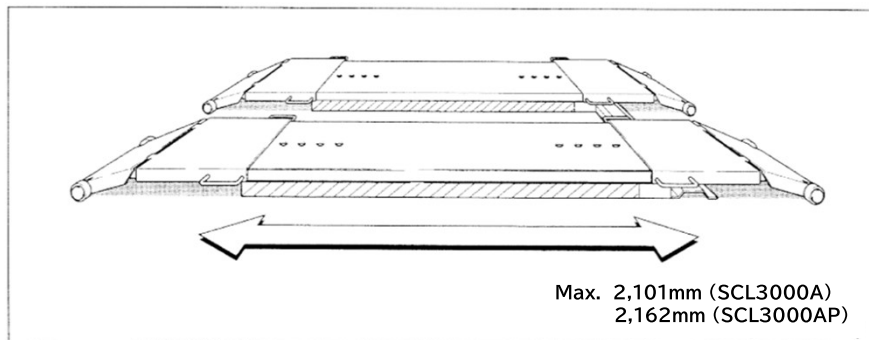
- When pushing "UP" button, lift rises, and stops when releasing.
- When pushing "DOWN" button, lift lowers and stops when releasing button.
- "UP" button and "DOWN" button can not be pushed together at the same time.

## Slide Supporter

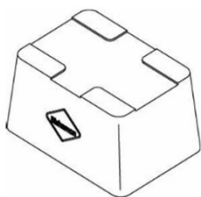
Supporter length can be adjustable depending on the vehicle lifting point.



Adjustable



## Side Sill Block



Side Sill Block is used to protect vehicle side sill when lifting vehicle by Supporter.

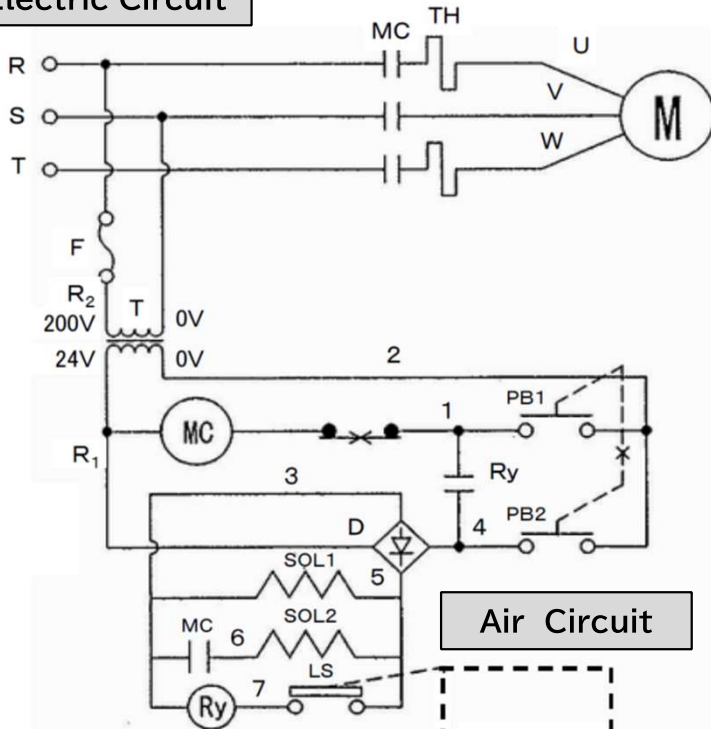
There are 3 kinds height Side Sill Blocks as below.

- Height 30mm – Supplied as Standard for Model SCL3000A
- Height 70mm – Supplied as Standard for Model SCL3000AP
- ※ Height 115mm – Available only as **Option**

# 7. Circuit Diagram

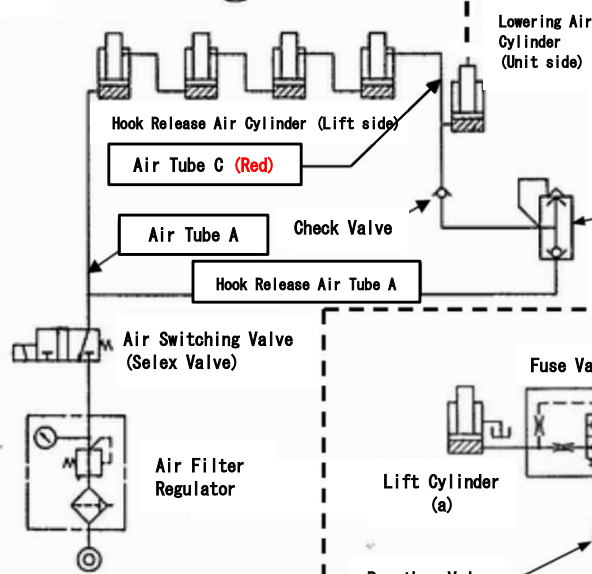
Note : Circuit Diagram for the modified unit could not be same circuit.

## Electric Circuit

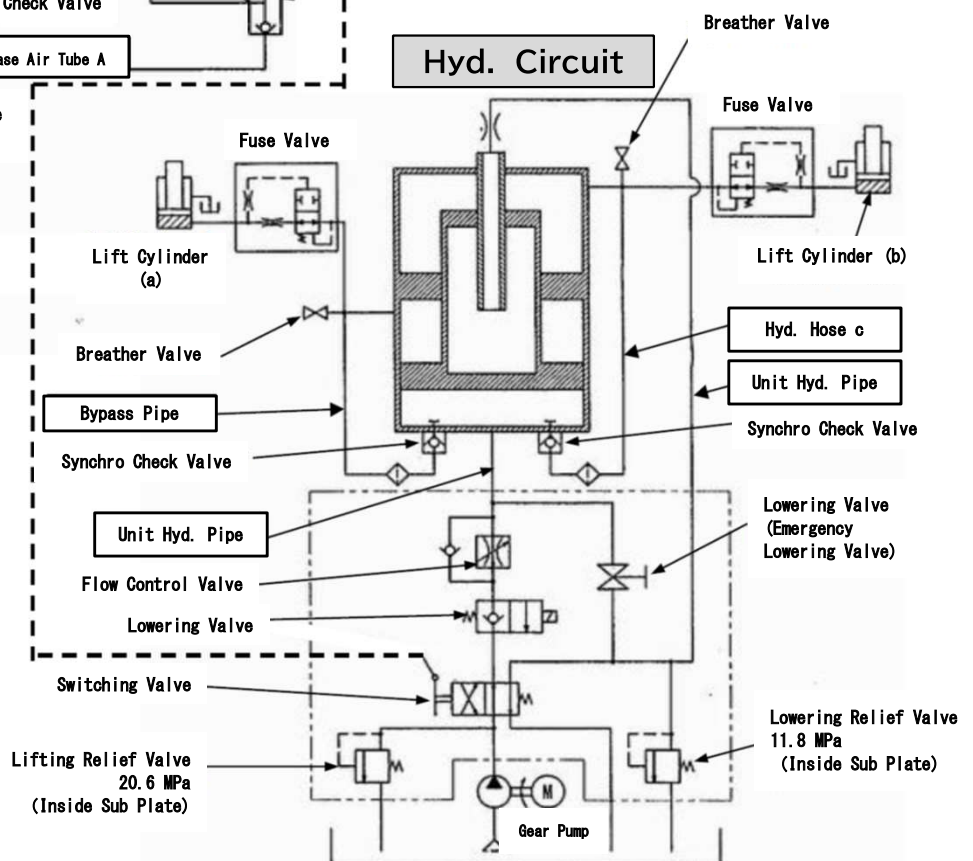


MC	Magnet Contactor
M	Motor
TH	Thermal Relay
Ry	Hook Release detecting Relay
PB1	Lifting Push Button
PB2	Lowering Push Button
LS	Micro Switch for lowering
SOL1	Air Switching Valve (Selex Valve)
SOL2	Elect. Check Valve for lowering
F	Fuse 1A
D	Rectifying Bridge (AC24V→DC24V)
T	Transformer (AC200V→AC24V)

## Air Circuit



## Hyd. Circuit



# 8. Operating Principle

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Tortoise G Series Lift operate the Hyd. Cylinder by Electro Hyd. Pump, and lift up Supporter through 2 stage X (Scissors) Link. Both sides, Right and Left side Supporters would synchronize through Synchro Cylinder inside Hyd. Unit, and lift and lower. This lift has function of correcting unbalance of synchronizing.

## 【 Lifting Mechanism 】

- ① Push "Up" button
- ② Motor run
- ③ Gear Pump rotates and feed the oil to Synchro Cylinder chamber
- ④ Through Synchro Cylinder mechanism, same volume oil would be feeded to R·L Lift Cylinder and lift goes up
- ⑤ If release "Up" button, oil feeding stops and oil supplied to Lift Cylinder would be stopped at Selex Valve (Back Flow Prevention Valve) and both sides Supporter stop.
- ⑥ Lowering Stop Hook is always "In" position during lifting and when stopped.

## 【 Lowering Mechanism 】

- ① Push "Down" button
- ② Lowering Stop Hook would be released
- ③ When both sides Lowering Stop Hook are completely released, Hyd. Circuit would be switched to lowering motion.
- ④ Lift would be forcedly lowered by hydraulic.

## 【 Correction Mechanism of Synchronizing 】

Tortoise G lift has function of correcting the unbalance of synchronizing at max height. Lift up to max height and keep pushing "Up" button for 2~3 seconds. Then both sides Supporter height would be corrected to same height.

## Lifting

"Up" Button ➡ Motor run ➡ Synchro Cylinder operate ➡ Synchronized Lifting

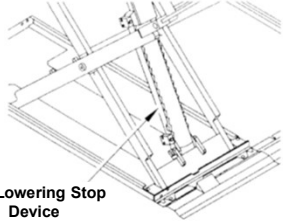
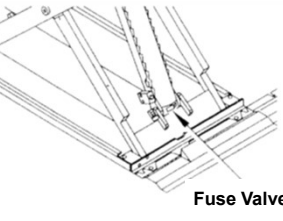
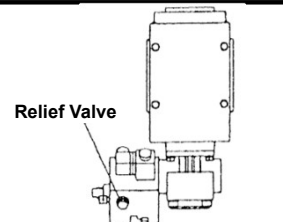
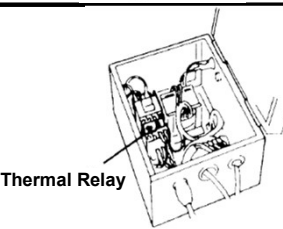
## Lowering

"Down" Button ➡ Release Lowering Stop Hook ➡ Switch Hyd. Circuit ➡  
➡ Motor runs ➡ Synchro Cylinder works ➡ Synchronized Lowering

### Caution

Tortoise G lift rise (lift up) by hyd. cylinder. Because of the nature of hydraulic, lift keeps lowering slightly which please note.

# 9. Safety Device

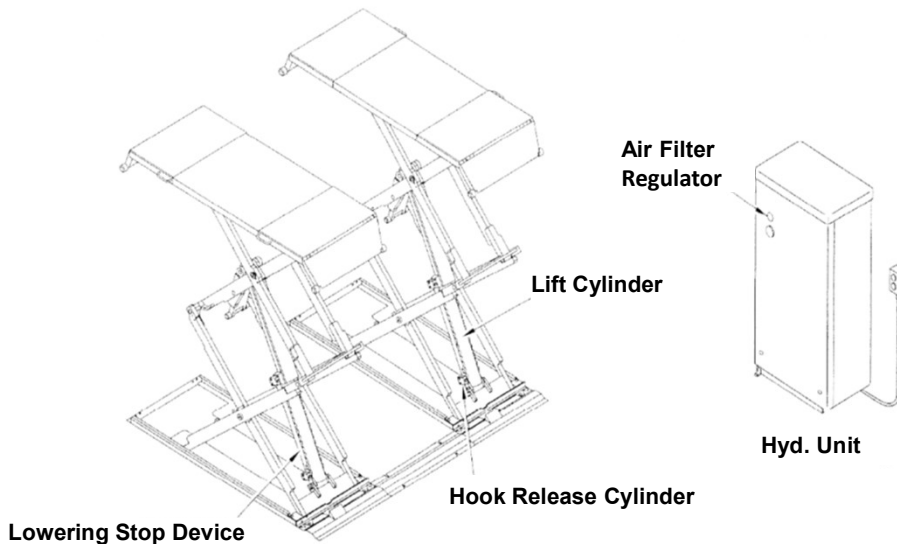
 <p>Lowering Stop Device</p>	<p><b>Lowering Stop Device</b></p>	<p>It is installed at each cylinder to prevent lift from lowering in case of oil leaking and breakage of hydraulic hose etc.  <b>However</b>, be noted that there is no safety hook below approx. 200mm height from floor.</p>
 <p>Fuse Valve</p>	<p><b>Fuse Valve (Shut Off Valve)</b></p>	<p>It is installed at the piping closest to each cylinder. It would shut off oil flow from cylinder in case of sudden flow of oil from cylinder due to breakage of hydraulic circuit etc.</p>
 <p>Relief Valve</p>	<p><b>Relief Valve</b></p>	<p>It would prevent lift from break in case of below</p> <ul style="list-style-type: none"> <li>a. Lifting excessing rated lift capacity</li> <li>b. Lift is reaching the top</li> <li>c. Excessive high pressure in hydraulic line</li> </ul> <p>It is installed inside Sub Plate.</p>
 <p>Thermal Relay</p>	<p><b>Thermal Relay</b></p>	<p>It would sense the excessive electric current, and shut off the electric circuit and protect electric components such as motor etc.          It is installed at magnetic contactor.</p>

# 10. Pre-Operation Check

Make sure to perform the Pre-Operation Checks before operating lift everyday. Perform the Pre-Operation Checks without load.

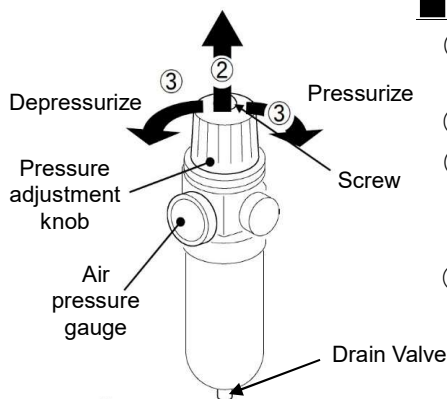
## ⚠ Caution

If any possible abnormality is detected, prohibit the use of the lift until abnormality is fully repaired. Then contact your lift supplier immediately. If the lift is used with abnormality left unsolved, damage to the lift or serious accident may occur.



Point to be Checked	Check Items	Check Method
Lift Structure	Any damage, strain or distortion ?	Visual
Lift	Does lift rise and lower smoothly without noise ?	Visual and hearing
Hydraulic Unit	Any noise during lifting and lowering ?	Hearing
Hydraulic Circuit and Air Circuit	Any leak ?	Visual and touching
	Any damage on Hyd. Hose, air hose and piping ?	Visual and touching
Lowering Stop Device	Does safety device make "clicking" noise during lifting operation ?	Visual and hearing
	Are both Right and Left side Lowering Stop Hook released without fail in lowering ?	Visual and hearing
Inside Pit (Lift)	Any obstacles inside Pit or Lift ?	Visual

## ■ How to reduce Air Pressure (Depressurizing)



- ① Verify that the air pressure supplied to the Air Filter Regulator is more than 0.5 Mpa
- ② Loosen the screw on top of the Air Filter Regulator
- ③ Look at and check the air pressure gauge while turning the pressure adjustment knob to set the air pressure to 0.5 Mpa.
- ④ Tighten the screw on the top of Air Filter Regulator

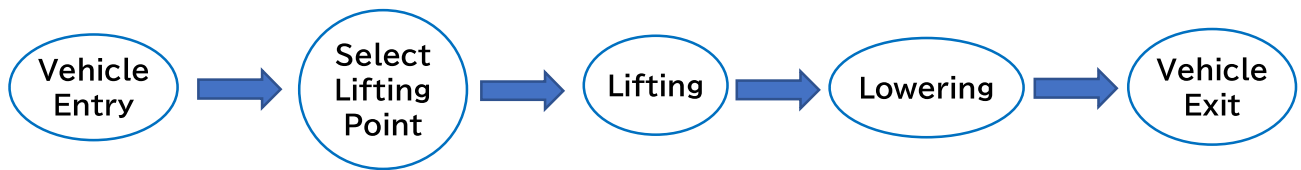
## ⚠ Caution

※ Make sure to check and adjust pressure everyday.

- ① Always make sure that the air pressure gauge is pointing 0.5MPa before operating lift. The lift may malfunction if pressure is under 0.5MPa. Always set the pressure to 0.5MPa.
- ② Water can be drained by pushing Drain Valve upwards. Water and air come out together.

# 11. Operation Instructions

## Process for Servicing Vehicle

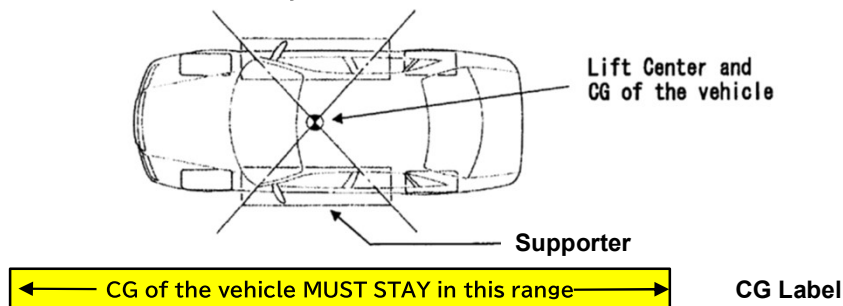


### 11-1 Vehicle Entry

#### ⚠ Caution

- Lift (Supporter) must be lowered fully before vehicle enters
- Make sure to park the vehicle so that CG of the vehicle stay within the range shown in Yellow Color Arrow on the side of the Supporter. If not, vehicle may fall due to the vibration during lift operation and vehicle servicing.

CG = Center of Gravity



Drive in vehicle slowly and park the vehicle at the spot where CG of the vehicle is within the designated parking spot range shown at the side of Supporter.

For Vehicle CG location information, refer to the Service Manual of the vehicle, or contact vehicle manufacturer.

### 11-2 Select (Set Up) Lifting Point

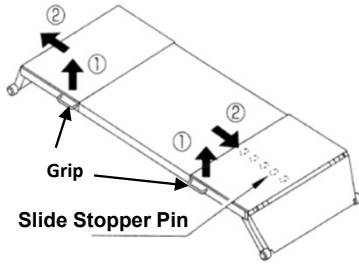
#### ⚠ Warning

- Support vehicle on lifting points which are designated by vehicle manufacturer. DO NOT lift up vehicle on other points, or vehicle could be deformed or fall down. DO NOT lift up vehicle if lifting point of the vehicle is not clear.

#### ⚠ Caution

- DO NOT put any other supporter but genuine Side Sill Block between Supporter and vehicle lifting point.
- If try to lift up vehicle (load) by only one side Supporter at around 30mm height from floor, lift may lower. Pay close attention so that hands and fingers etc. should not be pinched in the gap between Base and Supporter.
- The mud guard may hit the Supporter of the lift when vehicle entering if the vehicle minimum height is low like sport car which please note. For those low profile vehicle, use optional Sub Step Ramp.

## 1. Select Lifting Point

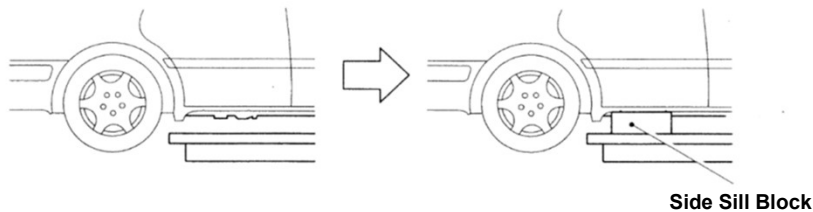


- ① Lift Up (pull up) the Grip of Slide Supporter slightly.
- ② Slide Supporter and match to lifting point. Make sure Slide Stopper Pin is (inserted) into Supporter hole.

### 【 Pit Model Slide Supporter 】

- ① Push "Up" button and lift up 50mm~70mm
- ② Lift Up (pull up) the Grip of Slide Supporter slightly
- ③ Slide Supporter and match to lifting point. Make sure Slide Stopper Pin is (inserted) into Supporter hole.

## 2. Put Side Sill Block between Lifting Point and Supporter



Side Sill Block

## How To Use Side Sill Block

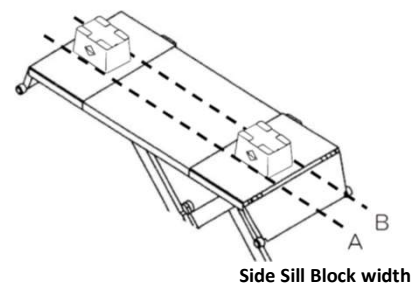
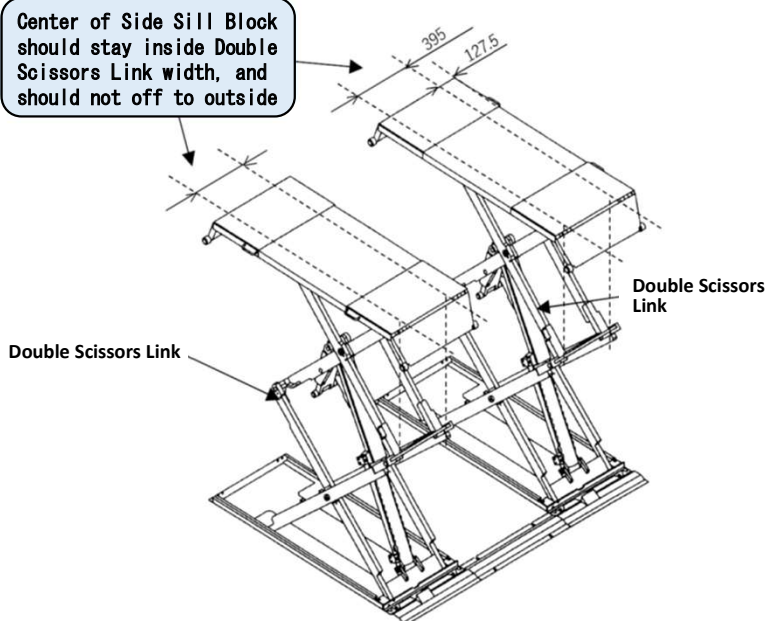
### ⚠ Warning

Put the Side Sill Block on the Supporter so that center of Side Sill Block stay inside Double Scissors Link before lifting up. And for frontwards and backwards, DO NOT put Side Sill Block off over the width of Side Sill Block.

→ Or Supporter would twist and result in unbalance between Right and Left side Supporter, and damage vehicle or vehicle may fall down.

→ If the vehicle could not meet the required conditions, DO NOT lift up.

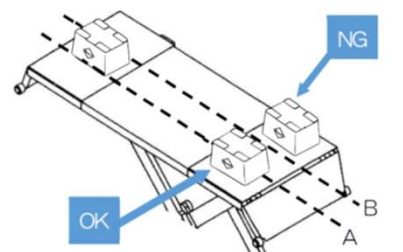
Center of Side Sill Block should stay inside Double Scissors Link width, and should not off to outside



Side Sill Block width

Side Sill Block should not be off its width.

※ If need to change the spot, each Side Sill Block should stay within Line A and Line B



Side Sill Block width



## 11-3 Lifting Operation

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### Danger

**NEVER** go and stand under the vehicle during lift operation.

### Warning

- DO NOT lift vehicles with passengers, baggage or cargo etc. inside (on board).
- When operating the lift, NEVER look aside, and pay constant attention to the area around the vehicle and the lift, or it could result in serious accident.
- DO NOT lift any vehicle exceeding the max lift capacity. Or it may damage the lift.

### Caution

- Pay close attention on the unbalance between Right and Left side during lifting and lowering operation. If unbalance occurred, lift up to max height without vehicle on the lift, and keep pushing "UP" button for 2~3 seconds to synchronize. If lift became unbalanced extremely during lowering operation, stop using the lift and contact lift supplier.
- DO NOT operate the lift with anything such as tools or parts left in the pit or under the lift. Failure to comply may result in the failure of the lift or falling of the vehicle.
- If there are other lifts installed in the same site, Pay attention not to operate the control switch of other lifts.
- Lift up to the height Supporter is over 200mm high from lowest before servicing vehicle. Lowering Stop Hook does not work below 200mm height.

- ※ Push "Up" button and lift up Supporters until Supporters or Side Sill Blocks almost come into contact with the vehicle lifting point. Stop lifting and check if Side Sill Blocks are positioned under correct spot of lifting point. If not, relocate Side Sill Blocks before reraising. If Side Sill Blocks are set on correct position, then lift up again until vehicle tyres come off floor slightly (about 20~30mm off floor) .
- ※ Shake the lifted vehicle gently up and down to verify the balance. If the vehicle is balanced well, then raise the vehicle to the vehicle servicing height.
- ※ When lifting the vehicle which lifting point is narrow (towards Tread direction), Supporters could fall inside.
- ※ Lowering Stop Hook does not work until lift goes up over 200mm height. Make sure to lift up higher than 200mm before servicing vehicle.

## 11-4 Lowering Operation

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### Danger

**NEVER** go and stand under the vehicle during lift operation.

### Caution

• DO NOT operate the lift with anything such as tools or parts left in the pit or under the lift. Failure to comply may result in the failure of the lift or falling of the vehicle.

- ※ Push "Down" button, then Lowering Stop Hook would be released and lift goes down. If release button, lift stops and Lowering Stop Hook would be engaged.
- ※ If Lowering Stop Hook hit the rack tooth and would not be released from rack when pushing "Down" button, lift up slightly and then lower the lift again.

### 【 When Pit Model Slide Supporter was used 】

When the Supporter come off the vehicle's lifting point, stop lowering once. Then push Slide Supporter back (retract) , and lower the lift again to the lowest position.

### Caution

- Check and make sure the lift is lowered to the lowest. If the lift is left at midway, it could result in damage to the lift and vehicle.
- If the Slide Supporter is not retracted (stored back), it could result in the damage to the lift and vehicle.

## 11-5 Vehicle Exit (Driving Vehicle Out)

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- Check if there are any tools or obstacles etc. left under the lift and inside pit.
- Exit the vehicle slowly only after Supporter was lowered to the lowest position.

## 11-6 Cleaning after Completion of Vehicle Servicing Work

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Once the vehicle servicing work has been completed, wipe off oil and grease attached on supporter and inside the lift area to clean. In the event any abnormality is found in the cleaning work, consult lift supplier immediately. Lower the lift to the lowest position and shut off the power supply (circuit breaker) for safety.

## 12. Regular Inspection

Regular inspection is essential inspection procedures to secure safety (preventing vehicle falling accidents) and to ensure the lift can be used for a long time. Regular inspection is to be performed along with Pre-Operation Check.

Be sure to perform the regular inspection at least once a month, in addition to the pre-operation check that is to be performed everyday in order to ensure that lift is used safely. In the event when even slightly abnormal condition arises during routine use of the lift, immediately suspend the use of the lift and make sure it is repaired properly and verify safety before using lift. Ask lift supplier for repairs on abnormality.

Inspection Spot	Inspection Items	Inspection Points
Lubricating Spot	Grease Fittings	Lubricate grease on designated spots
Lowering Stop Device	Operation of Hook Release Cylinder	Work properly ?
Air Circuit	Air Joint & tubes	Any crack or air leak ?
Piping (Hydraulic)	Joints	Any oil leak ?
Control Panel	Electric Components (Magnet Contactor, Relay etc.)	Check function and any damage, any dart on terminal, loose terminal ?
Oil Tank	Strainer (Suction Filter)	Any clogged ?
Bolts & Nuts	Loosening	Any loosening ?
Link and Supporter	Wear condition on bearing	Any loosening ?
	Rotating condition of rollers	Any uneven wear, loosening at transmission portion ?
	Link and Supporter	Any crack, distortion, damage or bent ?
Hydraulic Cylinder	• Any oil leak ?	→ Check oil leak from Dust Seal, Pipe Joint
	• Natural Lowering	→ Lift up vehicle and check if lift lowering is less than 1mm/5 minutes
Base	• Loosening of Anchor Bolt • Level adjustment	→ Retighten and adjust levelling
Side Sill Block	Conditions of Side Sill Block	Any excessive crack, or deformation ?

### For Safe Use

Ask lift supplier for annual regular inspection besides above monthly regular inspection.

## Hydraulic Oil

The lift uses Gear Pump and hydraulic oil quality is very important for the better performance of Gear Pump. Make sure to use below grade oil.

Also oil need to be replaced regularly. One year after installation, and thereafter oil need to be replaced every 3 years.

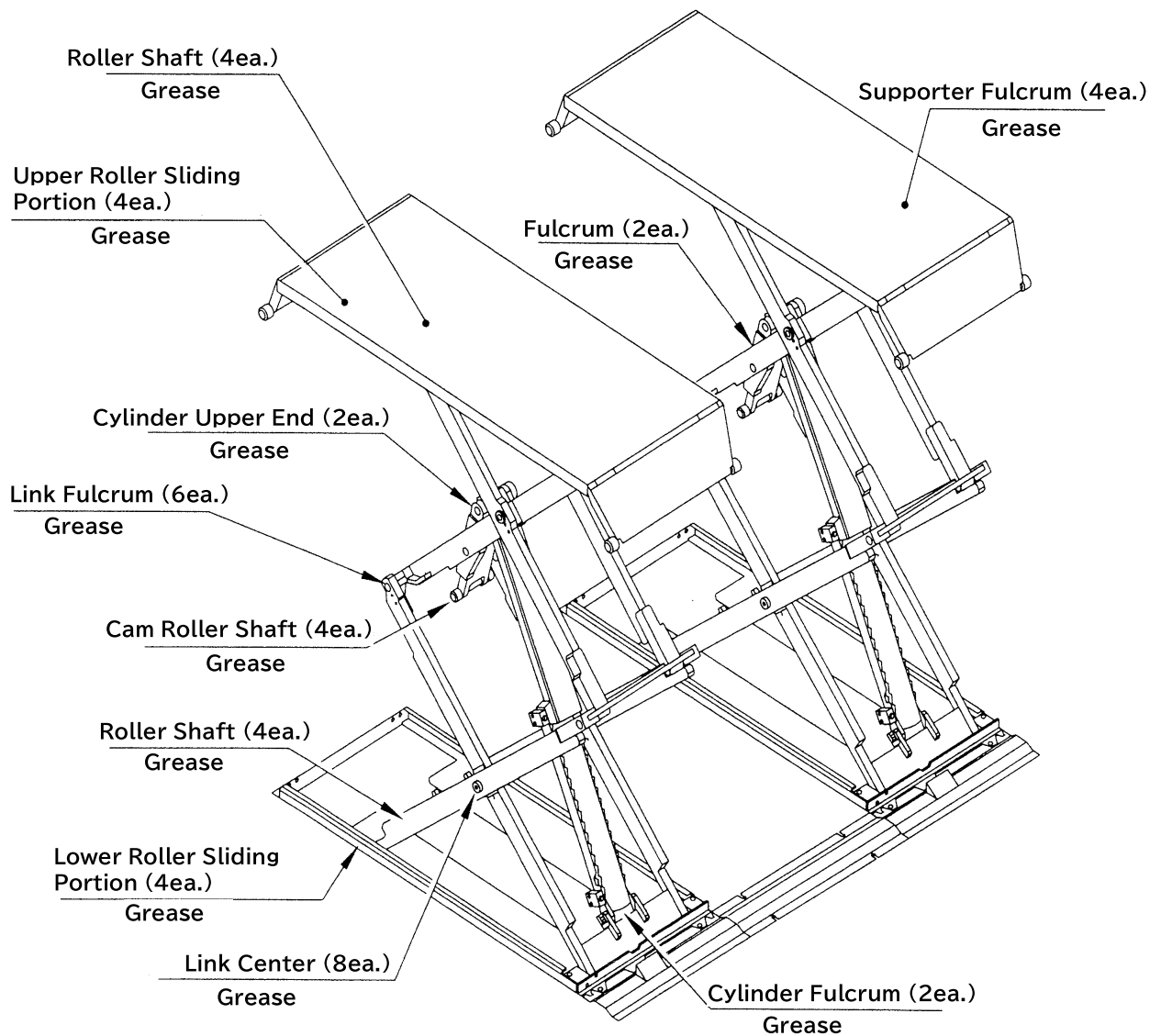
**Suggested Oil to be used for lift :**

ISO VG32 Total - 15 Litters

(8 litters for Oil Tank and 7 litters for inside Synchro Cylinder)

## Lubrication Points

Lubricate the grease on below each spots monthly.



# 13. Trouble Shooting

If any abnormality occurs, carefully read this manual and make the following checks and actions. If abnormality can not be eliminated, contact your lift supplier for advice.

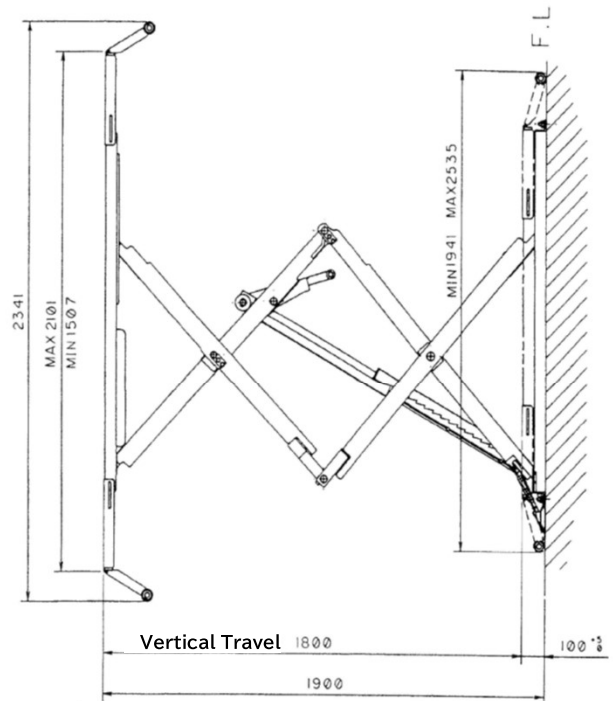
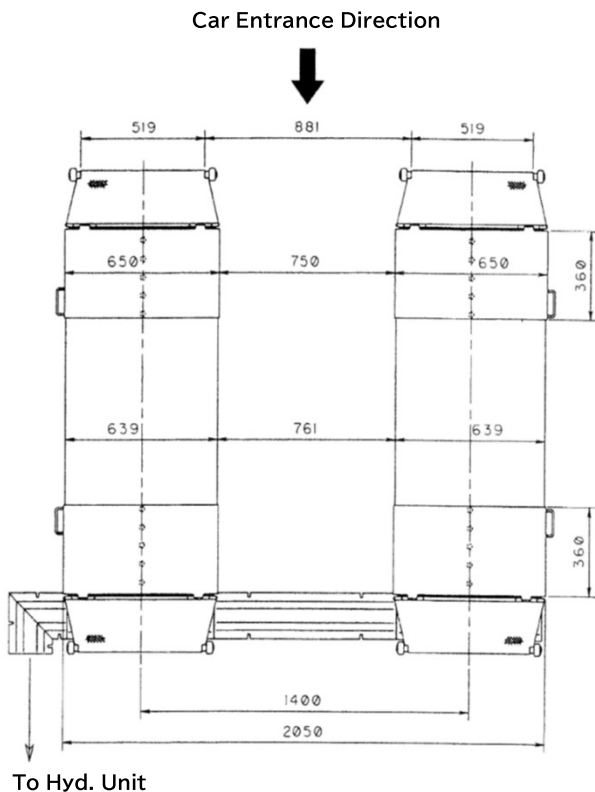
Symptom	Possible Cause	Action
Lift does not rise and Lift does not lower	[[ Motor does NOT run ]]	
	• Power cable improperly connected or broken	→ Check the cable for connection and the breakage of the wire
	• Magnet contactor thermal relay activated	→ Identify the cause and reset
	• Primary-side circuit breaker tripped	→ Reset primary-side circuit breaker
	• Pressure of air supplied to lift is too low (Less than 0.5MPa)	→ Adjust the air pressure to specified
	• Breakage of motor cable • Burnt Motor	→ Identify the cause and replace motor
	• Contact defect of Push Button Switch	→ Replace Push Button Switch
	[[ Motor does RUN ]]	
	• Motor runs in the wrong direction	→ Replace R, and T phases of cable
	• Foreign Articles are obstructing the roller at lower portion of scissors	→ Remove foreign articles
	• Lowering Stop Hook is engaged with rack	→ Raise the lift once and then lower
	• Foreign Articles are obstructing the roller at lower portion of scissors	→ Remove foreign articles
	• Lack of oil	→ Fill the oil
	• Overload	→ Normal. Vehicle exceeding the lift capacity can not be lifted up
Natural Lowering	If natural lowering is less than 1mm/5 minutes at 10 minutes after lift was stopped, it is normal	→ If natural lowering is more than 1mm/5 minutes, contact lift supplier.
Supporter height of both sides unbalanced	• Supporter height would be synchronized at max height	→ Contact lift supplier if the height unbalance happens often
Noise	• Lack of oil	→ Fill the oil
	• Lack of lubrication at scissors bearing	→ Lubricate
	• Lack of lubrication at shoe sliding portion	→ Greasing to sliding portion
	• Wear of Link Rollers	→ Replace Rollers
Lift does not rise to the top (max height)	• Lack of oil inside Synchro Cylinder	→ Fill the oil

## Warning

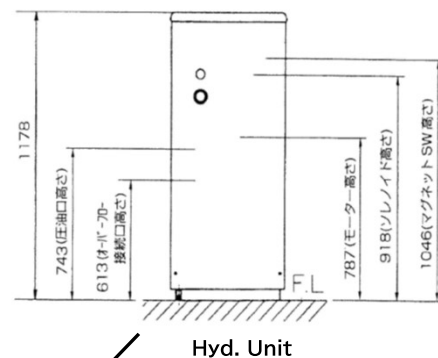
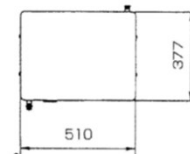
Before performing any electrical work, be sure to turn off the power supply.

# 14. Specifications

## SCL3000A



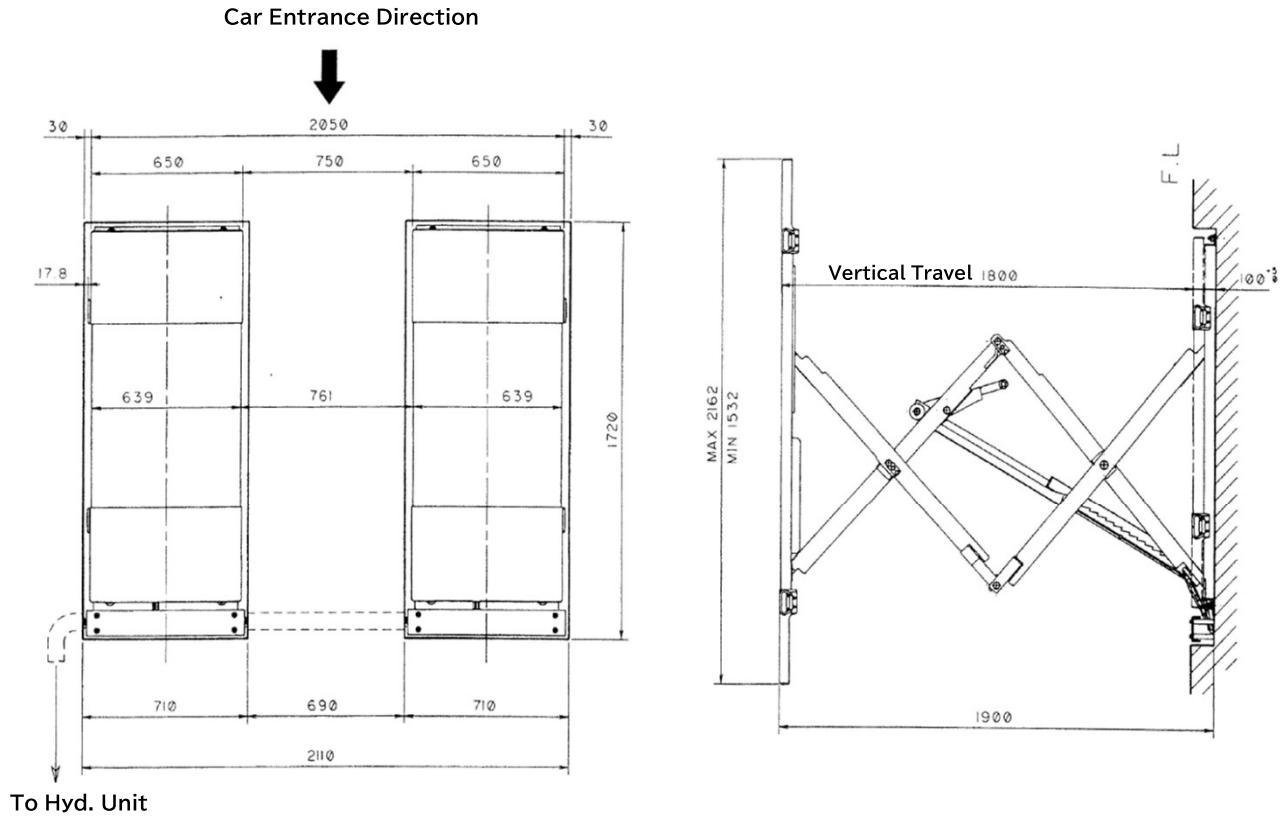
Model No.	SCL3000A
Installation	Above Ground
Hyd. Unit Location	Separate
Capacity	3,200 kgs.
Vertical Travel	1800mm
Distance of Lift Centers	1400mm
Supporter	Sliding Supporter
Rising Speed (50HZ)	Approx. 58 seconds
Rising Speed (60HZ)	Approx. 48 seconds
Lowering Speed (Loaded)	Approx. 28 seconds
Applicable Vehicle	Passenger Car
Motor	3PH/2.2KW
Drive	Electric Hyd.
Control Switch	Push Button (2 Buttons) - Remote Control Switch
Oil	15L ISO G32
Air Pressure	0.5~0.99 MPa
Machine Weight (Lift)	850 kgs.
Machine Weight (Hyd. Unit)	190 kgs.



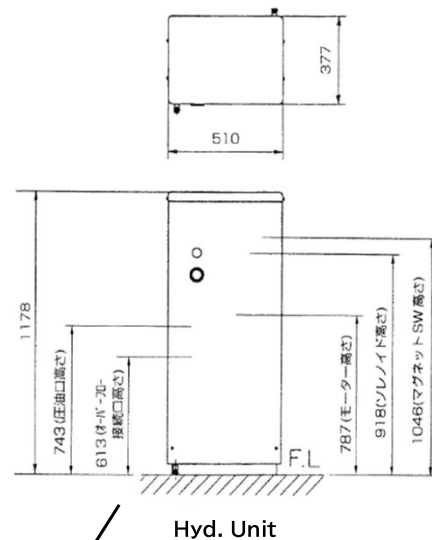
### Height to each parts (section)

- 1178mm - Overall Height
- 743mm - To Oil Filling Port
- 613mm - To Overflow Connection
- 787mm - To Motor
- 918mm - To Solenoid
- 1046mm - To Magnet Contactor

# SCL3000AP



Model No.	SCL3000AP
Installation	Pit
Hyd. Unit Location	Separate
Capacity	3,200 kgs.
Vertical Travel	1800mm
Distance of Lift Centers	1400mm
Supporter	Sliding Supporter
Rising Speed (50HZ)	Approx. 58 seconds
Rising Speed (60HZ)	Approx. 48 seconds
Lowering Speed (Loaded)	Approx. 28 seconds
Applicable Vehicle	Passenger Car
Motor	
Drive	Electric Hyd.
Control Switch	Push Button (2 Buttons) - Remote Control Switch
Oil	15L ISO VG32
Air Pressure	0.5~0.99 MPa
Machine Weight (Lift)	820 kgs.
Machine Weight (Hyd. Unit)	190 kgs.



## Height to each parts (section)

- 1178mm - Overall Height
- 743mm - To Oil Filling Port
- 613mm - To Overflow Connection
- 787mm - To Motor
- 918mm - To Solenoid
- 1046mm - To Magnet Contactor

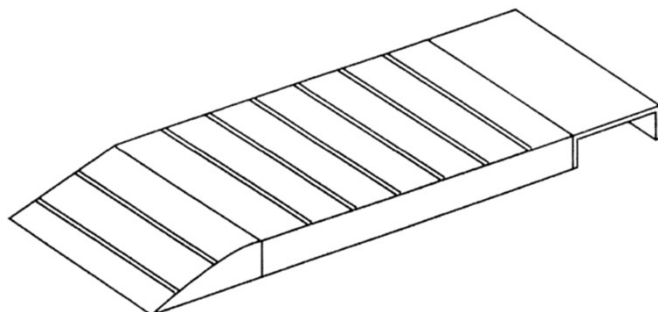
# 15. Optional Parts




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## Aluminum Drive-In Ramp

### 15-1 Cautions on Usage

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 <b>Warning</b>	
	<b>Read Operation Manual carefully before use.</b>
	<b>Electrical Hazard !</b> ※ Electric Shock may go through Aluminum Drive-In Ramp

 <b>Caution</b>	
<ol style="list-style-type: none"><li>1. Do not use for other purposes than auxiliary Drive-In of the vehicle</li><li>2. Do not exceed the rated capacity (750 kgs.)</li><li>3. Never modify the Drive-In Ramp</li><li>4. Do not use on the slippery floor, or not stable spot of floor</li><li>5. Do not use Drive-In Ramp if it is damaged, or deformed</li><li>6. Pay close attention on the edge of Ramp when carrying to avoid any injury</li></ol>	

### 15-2 How To Use

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1. Drive-In Ramp has 2 kinds. Front side has Notch, and Rear side one has no Notch.
2. Raise the lift over 500mm and stabilize Drive-In Ramp.
3. Lower the lift to lowest.
4. Lift can be used just as standard lift

### 15-3 Storage

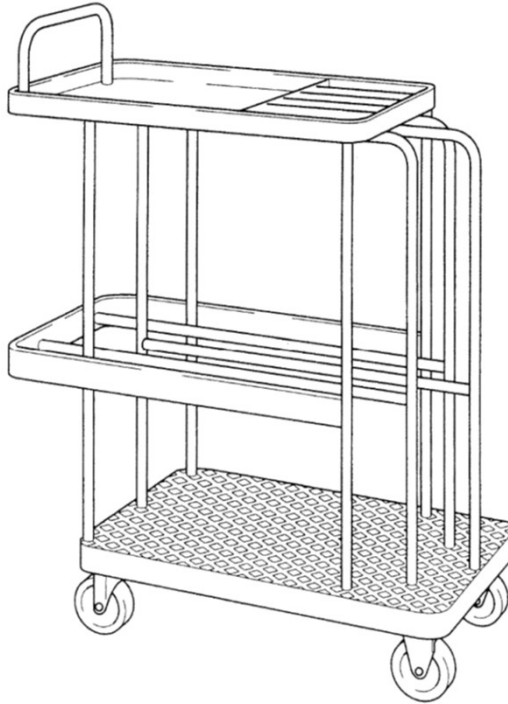
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1. Be noted that soap etc. and chemical cleaner can lead to corrosion of ramp
2. Calcined lime, agricultural chemical and cement etc. can lead to corrosion



## Storage Wagon Cart of Ramp

Drive-In Ramp, Side Sill Block and Tools can be stored.



## High Side Sill Block

High Side Sill Block



## 16. Installation and Relocation

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Contact your lift supplier for the installation and relocation of the lift.  
Have your lift inspected by your lift supplier before relocation.

## 17. Disposal

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When disposing of this lift, break it down into scrap and separate the scrap into steel, non-ferrous metals, plastics, hydraulic oil, etc. Dispose of these materials as industrial waste. Hydraulic oil, in particular, must be disposed of as per applicable statutory and regulatory requirements. Ensure proper disposal in accordance with applicable laws and regulations.

## 18. Warranty

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We warrant the lift manufactured by Sugiyasu Corporation to be free from defects in workmanship and material for **1 year**. Our obligation under this warranty is limited to option, of any parts or material which, within this warranty period, are found to our satisfaction to be defective.

The belows are not to be covered by the warranty.

- 1 The damage or trouble caused by false operation, negligence of maintenance and storage required.
  - 2 The damage or trouble caused by the modification that affects the original designed functions.
  - 3 Any consumable parts that need to be replaced.
  - 4 The damage or trouble caused by natural disaster such as fire, earthquake, flood etc.
  - 5 The damage or trouble caused by not using the original manufacturer's genuine parts.
  - 6 The required information such as serial No. etc. would not be provided.
  - 7 The damage or trouble caused by improper installation.
- \* Any consumable parts such as rubber parts etc. are not covered under this warranty.
  - \* As this lift is not weatherproof, trouble caused by corrosion, rust, short circuit from water are not covered under warranty.

### **Caution**

**As this lift is not weatherproof, or washing model, the defects caused by rust, corrosion, short circuit from water would not be covered under warranty.**

## How To Claim

Contact your lift supplier

# 19. After Service

Something is wrong	Check in accordance with this manual
Something is still wrong	Contact your lift supplier
Repair under Warranty period	will be repaired in accordance with Warranty rules
Repair after Warranty period	Contact your lift supplier
Availability of spare parts	The spare parts are available for 8 years after discontinuing manufacturing

Contact your lift supplier for any information regarding after service. When contacting your lift supplier, provide following information.

- Model No.
- Serial No.
- Purchase Date
- Conditions of trouble

Record the above information in the table below for future inquiries.

Type	
Serial No.	
Purchase Date	
Lift Supplier	
Installer	
Trouble Date and conditions	Date : .....
	Date : .....
	Date : .....
	Date : .....

# **Bishamon**



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