

# Operation Manual

# Multi Lift

Model MUS40U, MUS40UL

Model MUS40HU, MUS40HUL



**Dear Users,**

**Thank you for purchasing our Bishamon Multi 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 Multi 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>	
	<p>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.</p>
	<p>If the Vehicle <b>STARTS TO FALL FROM LIFT</b>,  <b>Move away quickly</b>  <b>DO NOT</b> attempt to support vehicle.                      Or it may result in death or serious injury.</p>

**⚠ Warning**



**Read** the Operation Manual thoroughly before using the lift.  
Important Warnings are described.  
\*Incorrect operation may result in an accident.



**DO NOT** lower the lift while any stand or support is in position under vehicle.  
**DO NOT** use "Down" motion of lift to push parts into position.



**Drive** in vehicle straight and parallel to the lift. Vehicle **MUST BE** positioned evenly.



Set the supporters on a flat spot with sufficient strength. Or supporters may come off and vehicle may fall.



**DO NOT** lift vehicles by one end only. Or it may result in fall of the vehicle and damage lift.



**DO NOT** modify any Safety Device of the lift under any circumstances.



**KEEP FEET CLEAR**  
When lowering lift, make sure to keep feet clear of hoist and vehicle.



Apply parking brake and position wheel stop when operating lift.



Vehicle **MUST BE** positioned evenly. **DO NOT** lift up offset vehicle. Or it may result in fall of vehicle



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



**KEEP HANDS** and **FEET CLEAR** when raising and lowering lift, **MAKE SURE** to keep hands and feet clear of any scissor mechanism.



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



## 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. If any of safety device does not work properly, **DO NOT** use lift.
3. Drive in and out vehicle slowly, and **DO NOT** start and stop suddenly.
4. Pay attention in driving in and out vehicle when tires and drive-on plate are wet to avoid slipping.
5. When using Swing Board Supporter, make sure to grab handle for storing Supporter to avoid hands and fingers from being caught and pinched.

### <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 up any vehicle exceeding the maximum capacity of the lift.
4. **DO NOT** lift vehicles with passengers, baggage or cargo etc. inside.
5. Use only genuine Side Sill Block supporter between upper lift top plate and vehicle lifting point when lifting vehicle by upper lift.
6. Make sure there is no oil or dirt on supporter when lifting vehicle by upper lift.
7. Stop lifting after supporter have made firm contact with vehicle, and check locations of supporter for correct lifting points before reraising the vehicle.
8. Stop lifting when lift reached maximum height.
9. During lift lowering operation, wait about 2 seconds before proceeding next lowering operations
10. The lift height of both sides may become unbalanced during lifting and lowering operations. In such case, follow the instructions of Operation Manual and balance the height of both sides. If not correcting the unbalance situation, it may result in the fall of the vehicle.
11. If the Jacking Beam is used with Pit Installation Model, **DO NOT** lower the Lower Lift below 350mm height. Make sure to slide and stow the Jacking Beam into hangar before relowering lift to floor.
12. If the lift would not lower, raise the lift and then relower.
13. Make sure lift and lift supporters are fully lowered before driving in or out vehicle.
14. Before lowering the lift, ensure that no person or objects is around vehicle or lift.
15. **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.
16. When use Upper Lift, make sure to lift up to max height to avoid unbalance.

### <During Vehicle Servicing Work>

1. Make sure Safety Hooks are engaged before getting under vehicle.
2. When working on a vehicle in raised position, make sure the lift is above the position that Safety Hook is engaged at least with 1st ratchet (Cut out) from the bottom. The lift may drift down (Natural Lowering), causing damage to the vehicle or equipment, tools, or the like nearby.
3. Keep anyone but the operator out from around the lift.
4. **DO NOT** leave a vehicle on the lift for long time.
5. When not in use, the lift must be lowered to the lowest position.
6. When vehicle tyres are in free (neutral) position, make sure to set side brake, and put 2ea. tyre stopper in front and rear of rear tyres.
7. After vehicle servicing work, lower the lift to bottom and turn off the power.



## Caution

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

### <Others>

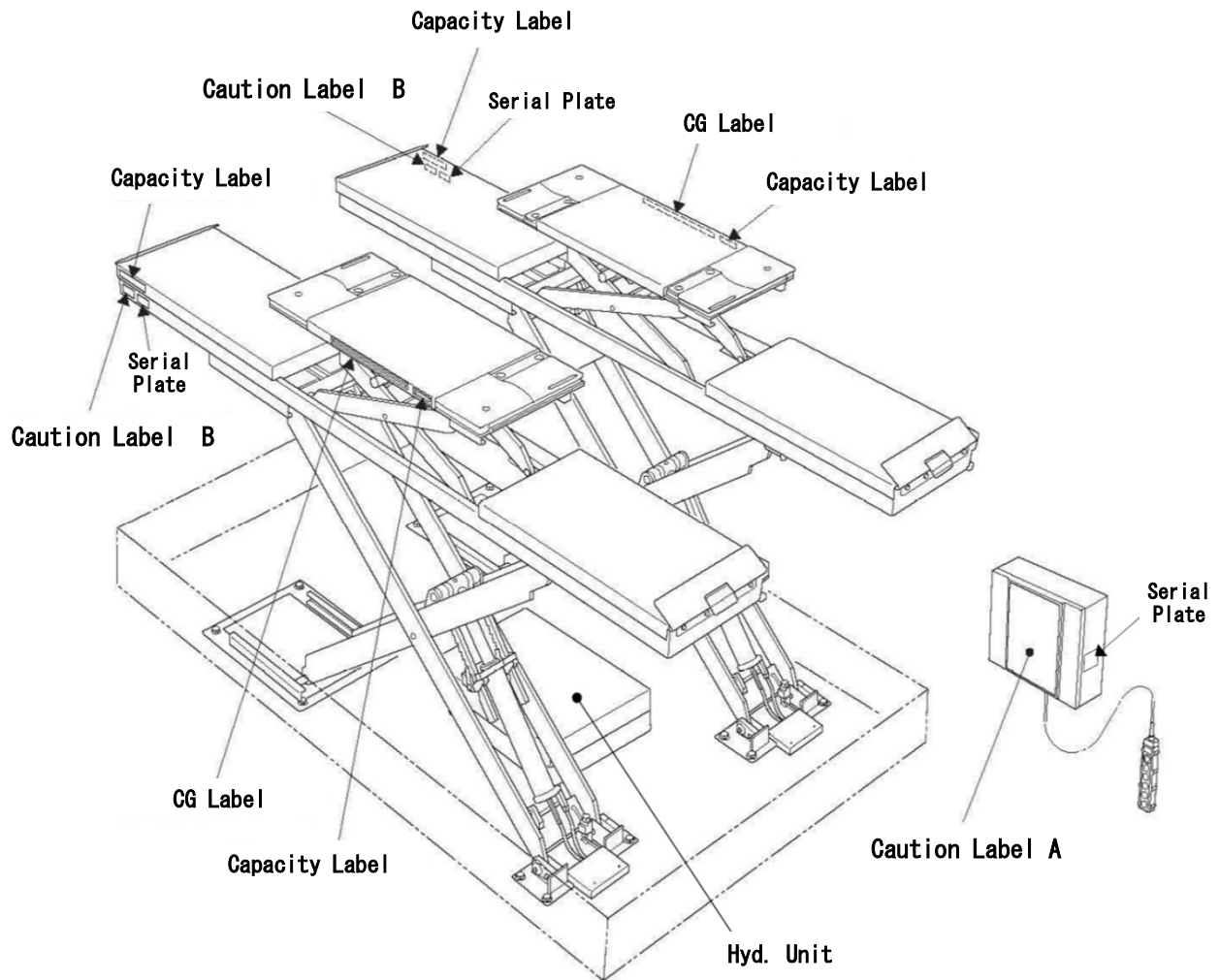
1. **DO NOT** modify the lift without permission from the manufacturer. Failure to comply may result in insufficient performance of the lift and lead to serious accident.
2. When an abnormality is detected during use or inspection, stop the use of the lift immediately and repair. **DO NOT** use lift until the repair is completed.
3. This lift is not weatherproof and is not to be used outdoors or for vehicle washing.
4. Do not supply air with air pressure exceeding 1.0 MPa to the air filter regulator. Or it may damage the air filter regulator.
5. The air filter regulator must be set to 0.7 Mpa. If it is set to over 0.7 Mpa. Or it may damage the Selex Valve.

### <Cautions when measuring Alignment - MUS40HU & HUL>

1. Perform measuring alignment within load capacity and applicable vehicle.  
Refer to Page 25 『 Levelling Accuracy When Measuring Alignment 』
2. When Driving-In and Driving-Out the vehicle, make sure to insert fixing pin into Turning Radius Gauge and Slip Plate.  
If Driving-In and Driving-Out without fixing pin inserted, it may damage Turning Radius Gauge and Slip Plate.  
Refer to Page 27 『 Cautions on Alignment Servicing 』
3. Drive in the vehicle straight on the Drive-On Plate towards the center of Drive-On Plate without deviation of the vehicle. And park the vehicle so that front tyres position on the center of Turning Radius Gauge.
4. Do Not aggressively start, braking, turning on the Drive-On Plate.  
Or it could lead to damage of the lift and vehicle.
5. When vehicle tyres are in free (neutral) position, make sure to set side brake, and put 2ea.tyre stopper in front and rear of rear tyres.  
Or it may result in the fall of the vehicle.
6. When lowering the lift to lowest, make sure the pointer of Turning Radius Gauge is not outside of the lift before lowering the lift.  
Or gauge may hit the pit and damage the Turning Radius Gauge.
7. The lift height of both sides may become unbalanced when lifting after servicing vehicle. (This is not abnormal symptom). In such case, follow the instructions of Operation Manual, and rectify the unbalance between right and left side Drive-On Plate.  
→ Refer to Page 25 『 Rectifying the Levelling in Alignment Servicing 』

- This lift is not water-proof.
- **DO NOT** use the lift for washing applications, outdoor or in humid conditions.

### 3. Location of Warning, Caution etc. Labels



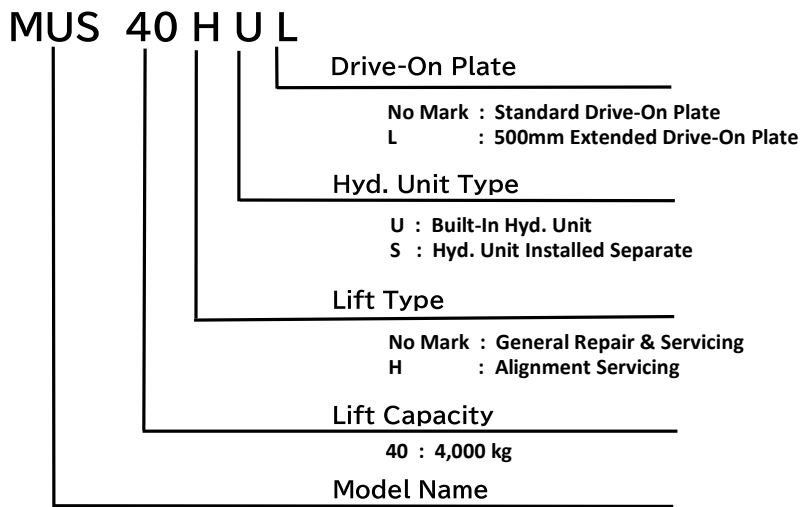
#### Caution

There are important warnings, cautions, lift capacities and instructions etc. described in the labels to avoid serious accidents and damage to the properties. If labels are worn, damaged or peeled off, purchase replacement labels immediately and stick on the specified spot.

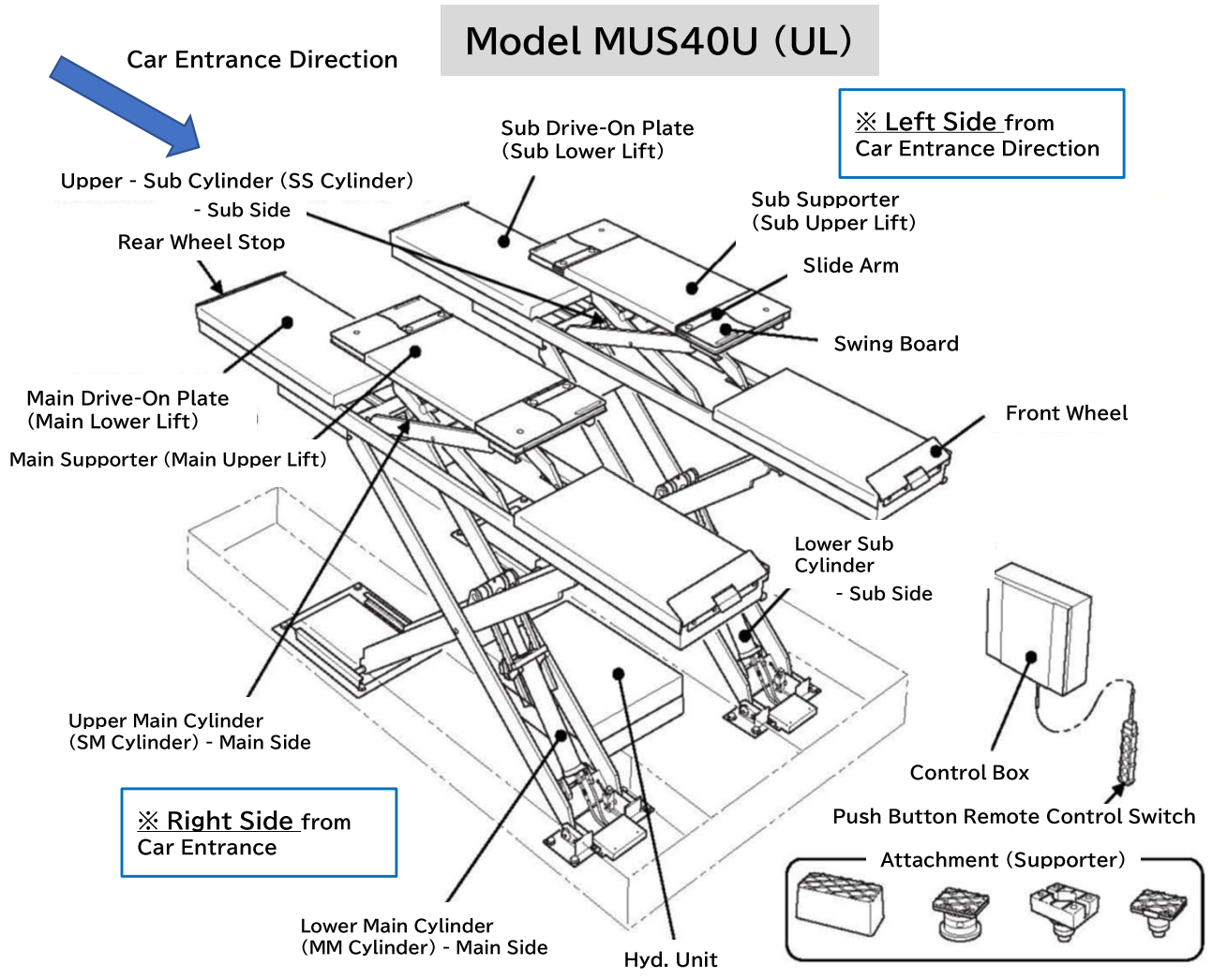


# 4. Name of the Major Components

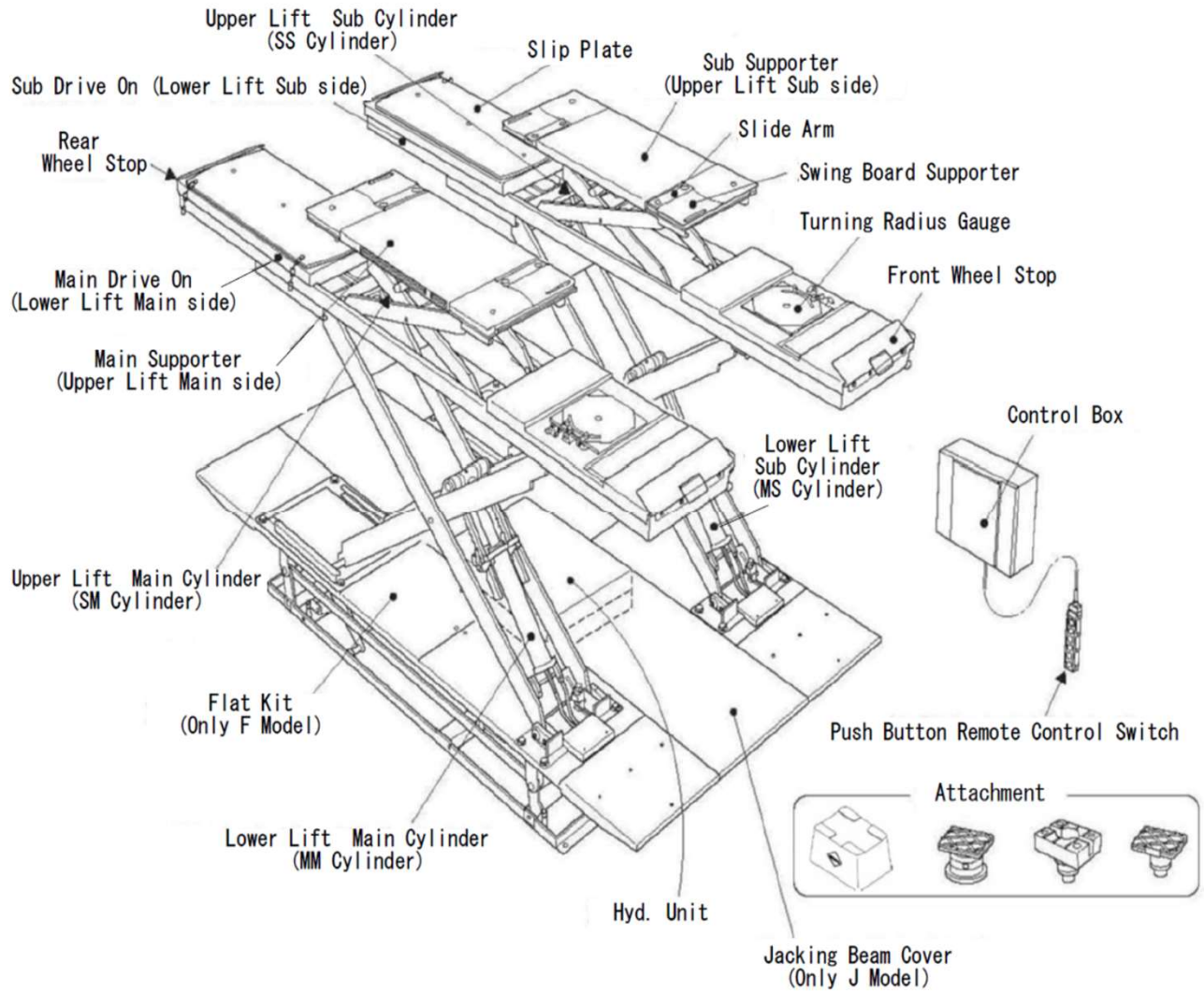
## How to Read Model No.



## Name of the Major Components

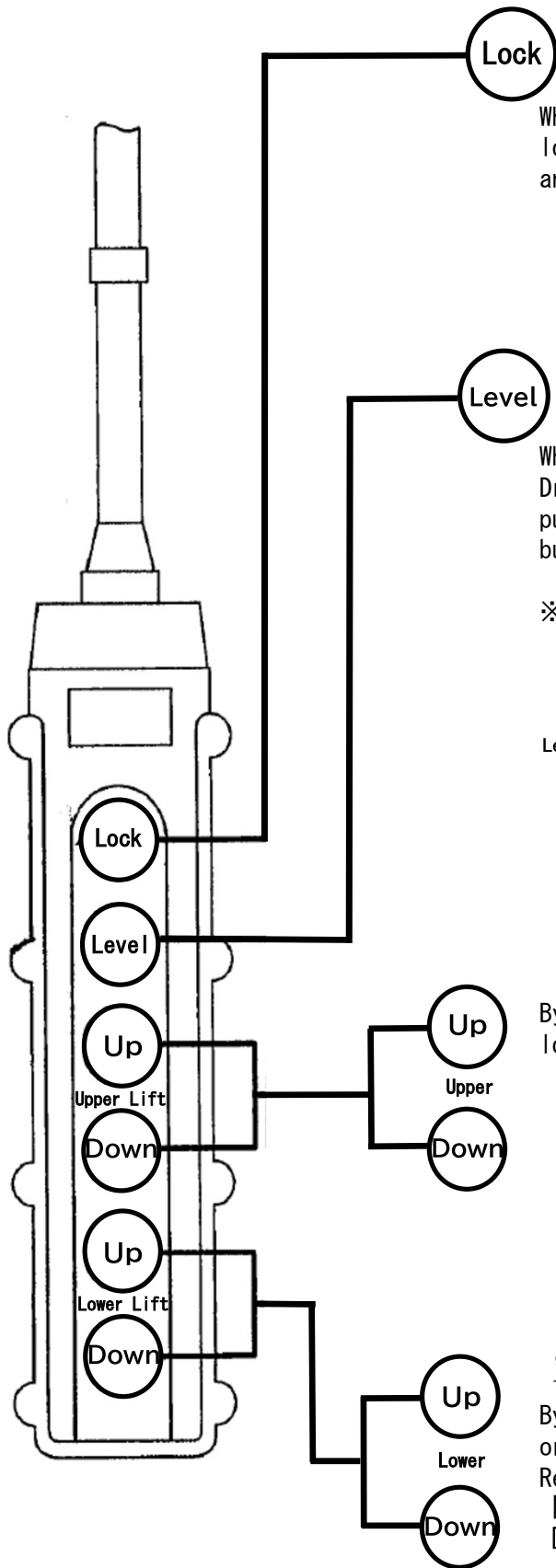


# Model MUS40HU (HUL)



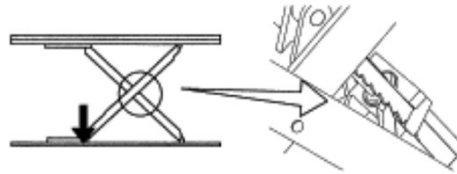
# 5. Functions and Operations

## Remote Control Switch



### Lock Button

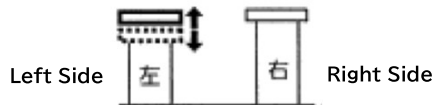
When pushing the **Lock** Button, Drive-On Plate lowers to the closest Lowering Stop Hook, and Drive-On Plate would be locked.



### Level Button

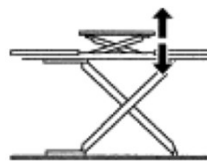
When unbalance occurred between Right and Left Drive-On Plate, unbalance can be adjusted by pushing this **Level** Button and "**Up**" (or "**Down**") button together at same time.

※ Left side Drive-On Plate from car entrance direction rise or lowers.



### "Up" · "Down" Button of Upper Lift

By pushing, Upper Lift (Supporter) rise, or lower. When releasing, Upper Lift stops.



### "Up" · "Down" Button of Lower Lift

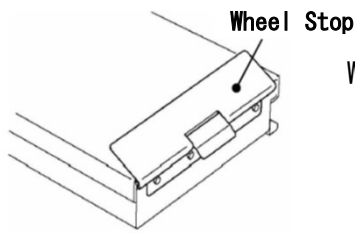
By pushing, Lower Lift (Drive-On Plate) rise, or lower. When releasing, Lower Lift stops.

Refer to Page **15, 19, 27 and 31**

- 『 Lift up the Lower Lift (Drive-On Plate) 』
- 『 Lower down the Lower Lift (Drive-On Plate) 』



## Wheel Stop

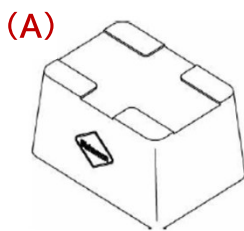


When Drive-On Plate goes up, Wheel Stop automatically flap up.

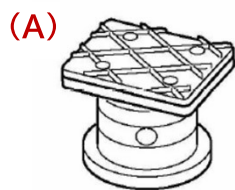
## Attachment

Select the attachment depending on the lifting point of the vehicle  
 ※ Refer to Page 37 for the optional Attachment and applicable vehicle.

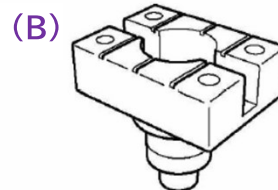
The below are the Standard Attachment



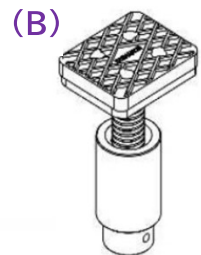
(A) Side Sill Block  
 (100 X 70 X 140)



(A) Adjustable Attachment Assy  
 Min. 97mm  
 Max 118mm



(B) Adjustable Supporter D Assy  
 Min. 129mm  
 Max 165mm

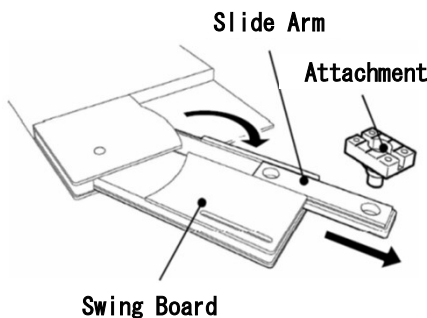


(B) Frame Attachment LB  
 Min. 153mm  
 Max 218mm

(A) The height info. is available height when Upper Lift is lowered to lowest

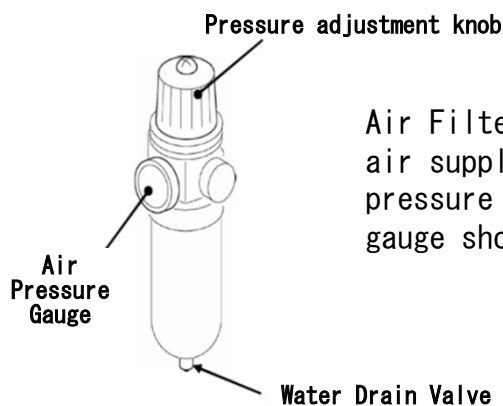
(B) The height info. is available height when Slide Arm of Swing Board on Upper Lift is used

## Swing Board Supporter / Slide Arm



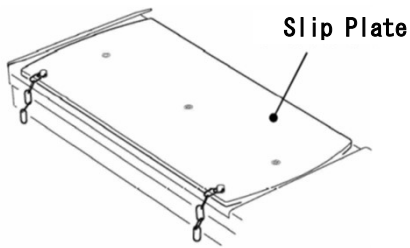
Swing Board Supporter can be used when vehicle lifting point is located outside of Upper Lift (Supporter). Pull out the Slide Arm and install Attachment on it.

## Air Filter Regulator



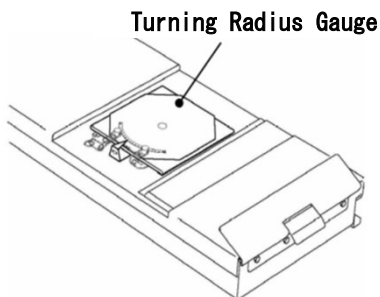
Air Filter Regulator reduce the air pressure of the air supplied to the Air Filter Regulator to appropriate pressure levels, and drain water in the air. Air pressure gauge shows the air pressure after depressurization.

## Slip Plate (Model MUS40HU & HUL)



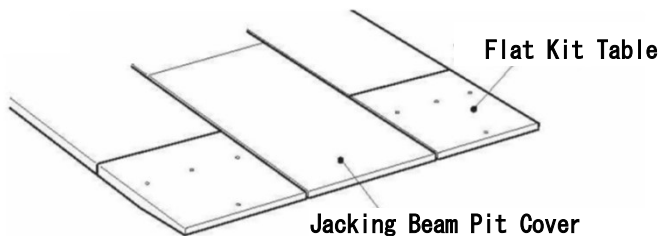
Slip Plate is used for measuring the alignment

## Turning Radius Gauge (Option for Model MUS40HU & HUL)



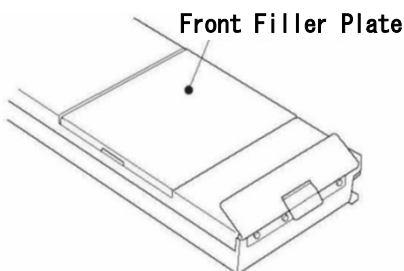
Turning Radius Gauge is used for measuring the alignment.

## Jacking Beam Pit Cover (Option for J Type Model)



If the lift is ordered with special Jacking Beam, Jacking Beam Pit Cover lift up and down according to lifting up and lowering down of Flat Kit.

## Front Filler Plate (Option for Model MUS40HU & HUL)



Front Filler Plate is used when Turning Radius Gauge is not used.

## 6. Operating Principle

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Multi Lift is operated by Electro Hydraulic.

### Synchronizing system of the lift

- Upper Side Lift – through hydraulic valve
- Lower Side Lift – direct connection of both side cylinders

### ■ Lifting

When pushing “Up” button, motor runs and gear pump feed the oil to cylinder, and lift goes up. And Lowering Stop Hook is 『 IN 』 position. When releasing the button, oil flow stops at Check Valve and lift (Cylinder) stops.

### ■ Lowering

When pushing “Down” button, Lowering Stop Hook would be released first, then Lowering Valve opens and lift goes down. When releasing the button, Lowering Stop Hook engage and Lowering Valve close and lift stops.

### ■ Lift Switching

Upper Lift and Lower Lift is to be switched by operating electric valve.

### Caution

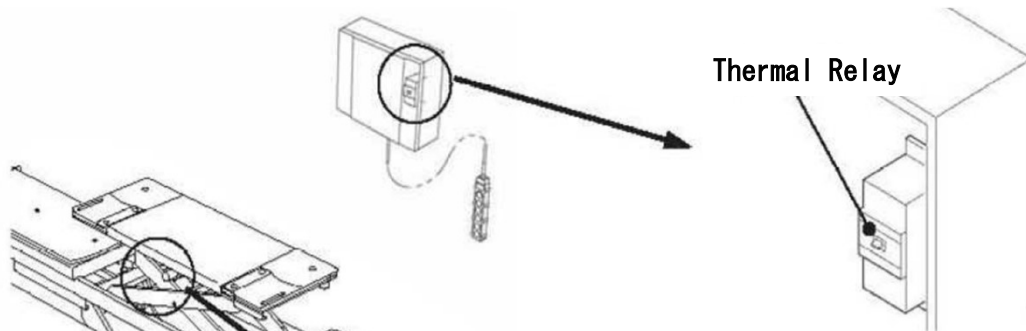
Because the lift is raised through hydraulic cylinder, lift is naturally to be lowering slightly. Therefore the lift height can not be kept at same height for long time which should be noted.

# 7. Safety Device

## Thermal Relay

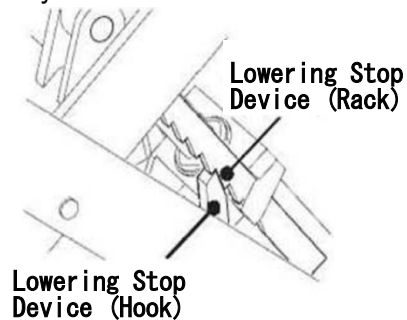
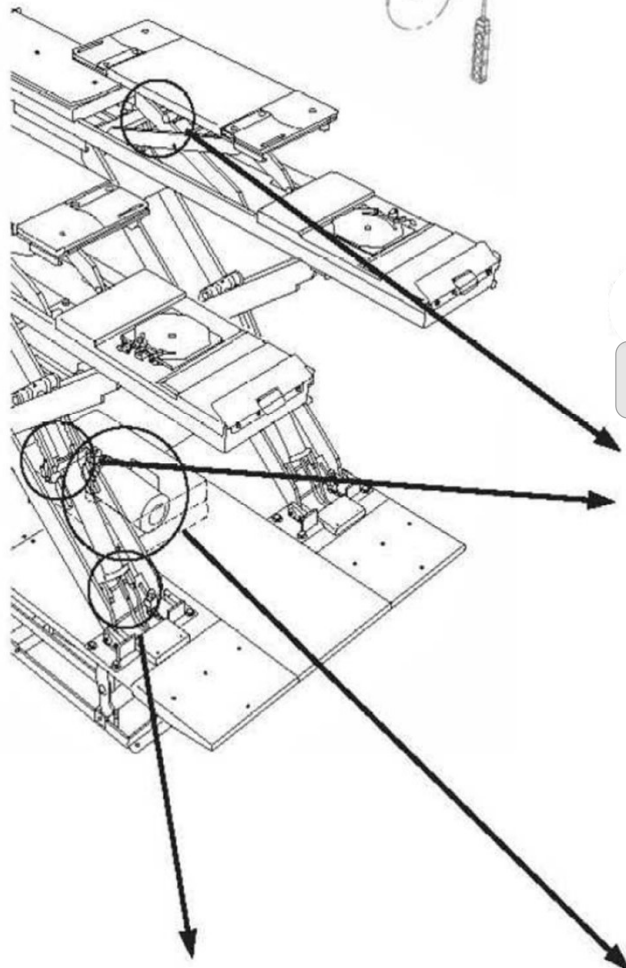
It would sense the excessive electric current, and shut off the electric circuit and protect motor burning.

※ Thermal Relay is installed in the Magnet Contactor.



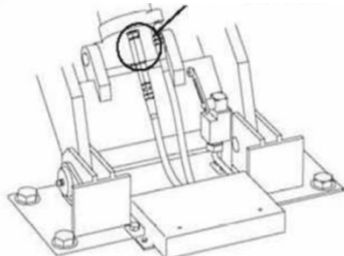
## Lowering Stop Device

Hook device for protecting Drive-On Plate and Supporter from lowering when oil leaks or hyd. hose broke.



## Fuse Valve (Shut Off Valve)

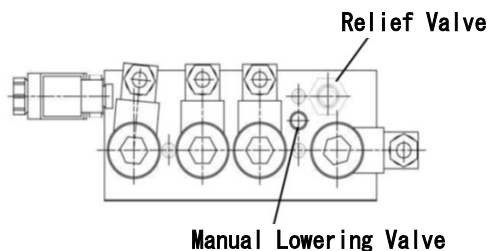
Fuse Valve (Shut Off Valve)



Fuse Valve would shut off oil flow from cylinder in case of sudden flow of oil from cylinder due to breakage of hydraulic hose and piping etc., and prevent Drive-On Plate, Supporter and vehicle from falling.

## Relief Valve

※ Relief Valve is installed inside Manifold.



It would prevent lift from break in case of below

- Lifting excessing rated lift capacity
- Lift is reaching the top
- Excessive high pressure in hydraulic line

# 8. 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.

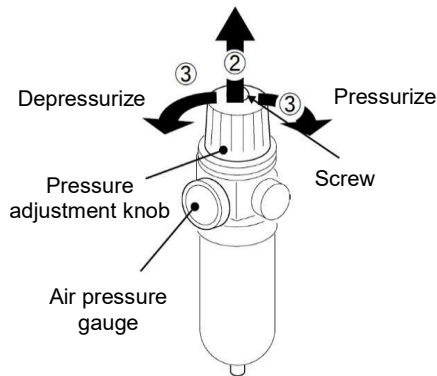
## 8-1 Pre-Operation Check Items

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
Link Mechanism and Slide Shoe	Is there any obstacles inside pit ? Does Link and Shoe work properly ?	Visual
Hydraulic Unit	Does Pressure Gauge of Air Filter Regulator show 0.7 Mpa ?	Visual and Adjust
	Is water drained from Air Filter Regulator everyday ?	Drain by Drain Valve Refer to Page 16
	Any oil leak from Hyd. Unit ?	Visual
	Any abnormal noise from Motor, Pump during lifting and lowering ?	Visual and hearing
Hydraulic Cylinder and Piping	Any oil leak ?	Visual and touching
	Any damage on Hyd. Hose, air hose and piping ?	Visual and touching
Air and Electrical System	Any abnormality in Air and Electrical System ? Does system operate without fail ?	Visual and hearing
Remote Control Switch and Flexible Cable	Any damage, wear ?	Visual
Lowering Stop Device on Lower Lift	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
Lowering Stop Device on Upper Lift	Does Lowering Stop Hook engage at the top with "clicking" noise ?	Visual and hearing
	Are both Right and Left side Lowering Stop Hook released without fail in lowering ?	Visual and hearing
(Only Model MUL30H)	Can all sea. leg be kept horizontal or vertical position ?	Operation
	Any damage on Turning Radius Gauge ?	Visual
Wheel Stop	Does Wheel Stop work properly ?	Visual



## 8-2 Check Air Filter Regulator

Air Filter Regulator reduce the air pressure of the air supplied to Air Filter Regulator to appropriate air pressure levels (0.7~1.0MPa), and drain water in the air. Air pressure gauge shows the air pressure after depressurization.

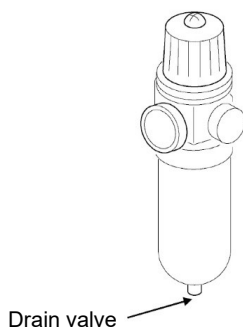


### ■ How to reduce Air Pressure (Depressurizing)

- 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 0.7 and 1.0 MPa. The filter regulator could be damaged if the pressure is greater than 1.0 MPa.
- \* Always make sure that the air pressure gauge is pointing 0.7 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 0.7 MPa. Always set the pressure to 0.7 MPa.



### ■ How to drain water from air

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

### ⚠ Caution

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

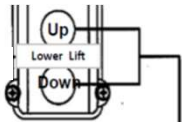
# 9. Operation Instructions

## 9-1 Drive-On Plate

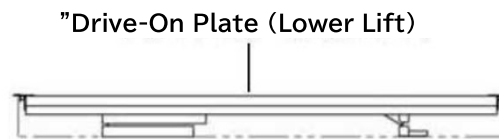
※ Applicable Vehicles – Passenger car, SUV, Light Truck (except Long body truck)

### 9-1-1 Preparation before Driving-In Vehicle

Lower the lift (including Upper Lift) to the lowest (floor Level) by pushing "Down" button of Lower lift so that Drive-On Plate and Floor Level becomes same. Refer to Page 21, 『 Lifting Operation of Upper Lift 』 .

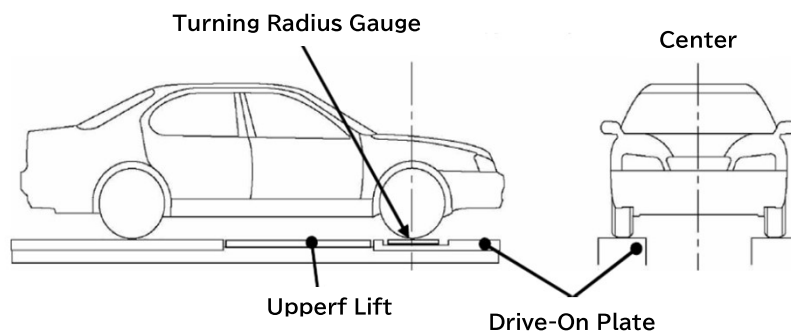


"Down" Switch (for Lower Lift)



### 9-1-2 Driving-In Vehicle

- ① For Alignment Model (MUS40HU & HUL), Make sure to insert Fixing Pin for the Turning Radius Gauge and Slip Plate.
- ② Drive in vehicle parallel to the Drive-On Plate of the lift and evenly in its width direction, and stop (park) the vehicle on the spot where Front Wheels and Rear Wheels are located well balanced. Also pay attention in stopping (parking) vehicle so that vehicle tyres are not hitting Supporter.



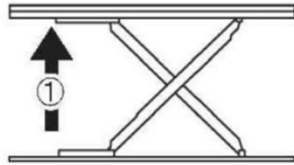
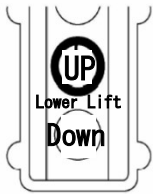
#### **Caution**

- DO NOT lift up vehicle which is heavier than lift capacity.
- DO NOT lift up vehicle with passengers or baggage inside.
- Drive in and out vehicle slowly, and DO NOT start and stop vehicle suddenly.
- Drive carefully when tyres or Drive-On Plate are wet to avoid slipping.
- Make sure Drive-On Plate and Upper Lift are lowered to lowest before driving in or driving out vehicle

### 9-1-3 Lifting Operation of Lower Lift (Drive-On Plate)

#### **Caution**

- When lift reached the max height, STOP lifting immediately.
- DO NOT leave the lift for long time without attendance after lifting up vehicle. At the lower height level where there is no Lowering Stop Rack, lift could lower and damage the vehicle if lift is left over without attendance.

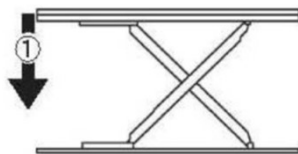


- ① Push "Up" button of Lower Lift. When pushing, lift keep rising.
- ② When Drive-On Plate reached required height, release the button. Lift would stop.

### 9-1-4 Lowering Operation of Lower Lift (Drive-On Plate)

#### **Caution**

- DO NOT leave the lift for long time without attendance after lowering lifthalfway . At the lower height level where there is no Lowering Stop Rack, lift could lower and damage the vehicle if lift is left over without attendance.
- If Lowering Stop Rack can not be released and lift does not lower, lift up slightly and then lower the lift.
- DO NOT push "Up" button just after pushing "Down" button. If "Up" button is pushed just after pushing "Down" button, Lowering Valve could be kept open, and lift may keep lowering. Make sure to wait 1 to 2 seconds before pushing "Up" button. This symptom is normal.

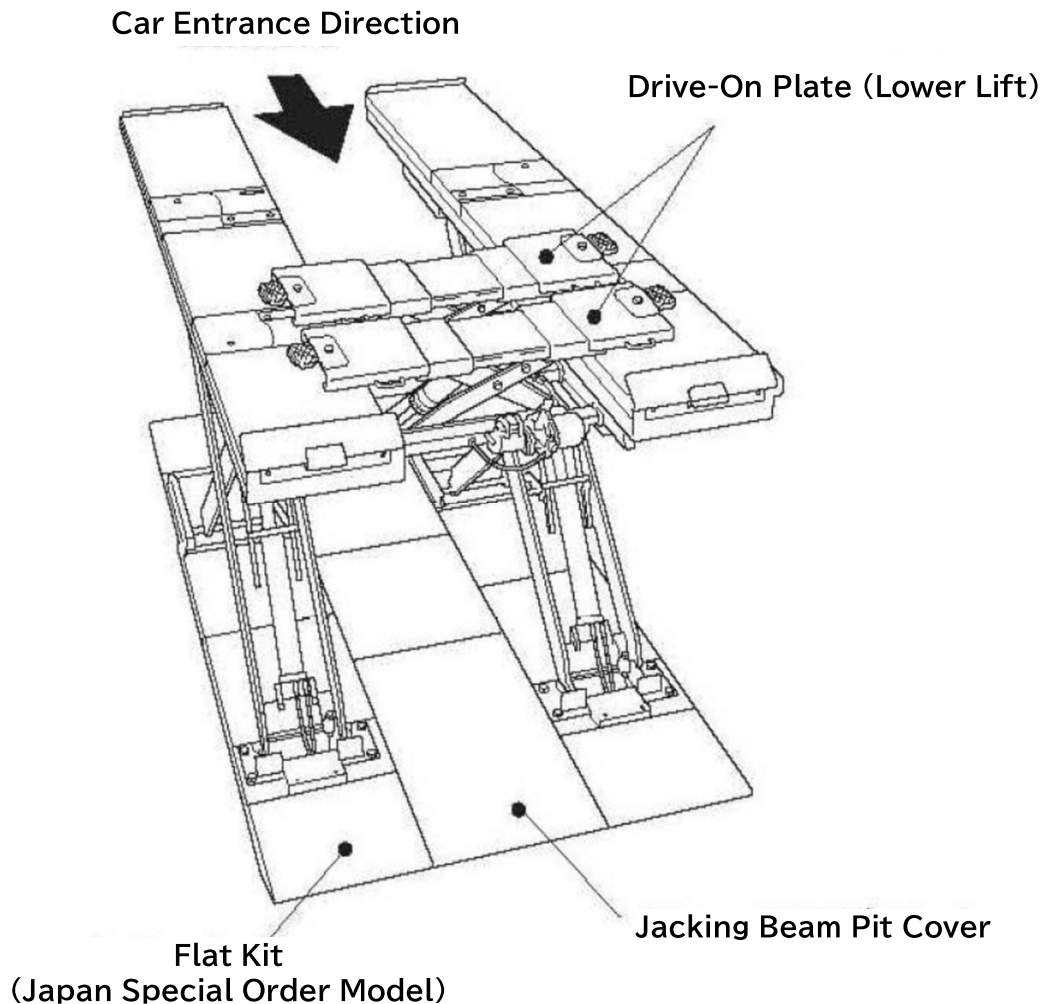


- ① Push "Down" button of Lower Lift. When pushing, lift keeps lowering
- ② When Drive-On Plate reached required height, release button. Lift would stop.

## ■ Optional Jacking Beam

① Before lowering the lift to the lowest, move Jacking Beam to **Storage Spot**.

※ **Storage Spot** is the spot of Jacking Beam Pit Cover, and located at front and rear of the lift. There are Jacking Beam Stoppers at Front and Rear side end of Drive-On Plate. Make sure to move Jacking Beam until Jacking Beam hit the Stopper.



### ⚠ **Caution**

If trying to lower the lift to lowest before moving Jacking Beam to Storage Spot, it could damage the lift and Jacking Beam.

### 9-1-5 Driving Out Vehicle

- ① Make sure Supporter of Upper Lift is lowered to lowest
- ② For Alignment Model (MUS40HU & HUL), Make sure to insert Fixing Pin for the Turning Radius Gauge and Slip Plate.
- ③ Drive out vehicle slowly

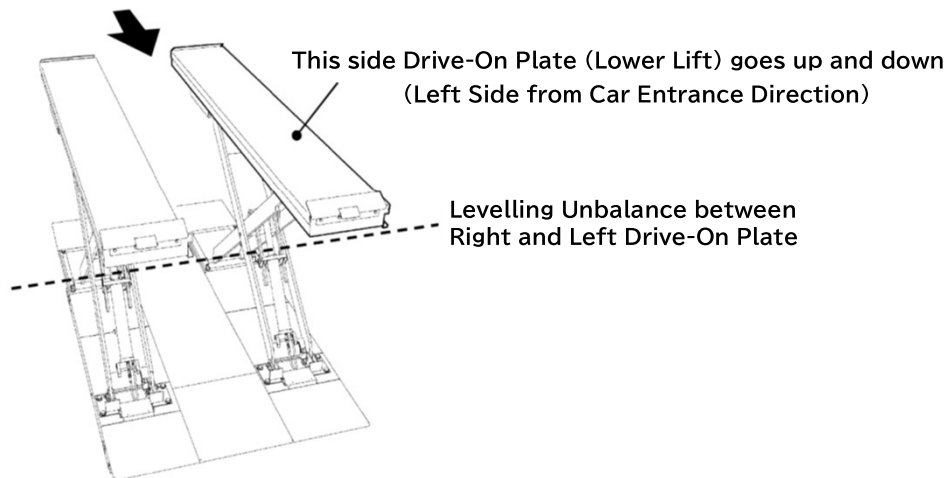
### ⚠ **Caution**

**DO NOT** start or stop vehicle aggressively on the Drive-On Plate. Or it could result in damage to the lift and serious accident.

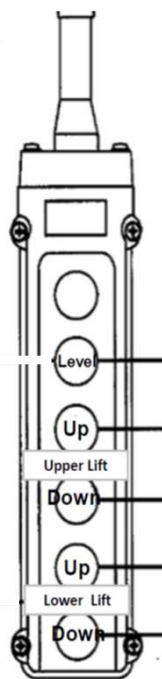
## 9-2 How to Rectify the Levelling Unbalance of Drive-On Plate

### 9-2-1 How to Rectify the Levelling Unbalance between Right and Left Drive-On Plate

Car Entrance Direction



Push **"Level"** and **"Up"** (or **"Down"**) button of **Lower Lift** together at same time. Then Left side Drive-On Plate from car entrance direction would **rise** (or **lower**). Unbalance can be rectified (adjusted) by adjusting the Left side levelling.



"Level" Switch

This switch adjust the height of right side and left side Drive-On Plate of Lower Lift (or Upper Lift). By pushing "Level" and "UP" or "Down" at same time, left side Lower Lift (Drive-On Plate) (or Upper Lift) rise (or lower). Adjust the height of both sides by checking visually.

"Up" and "Down" Switch (for Upper Lift)

By pushing **"Up"** button, Upper Lift rise, and stop rising when releasing button.  
By pushing **"Down"** button, Upper Lift lower, and stop lowering when releasing button.

"Up" and "Down" Switch (for Lower Lift)

By pushing **"Up"** button, Lower Lift rise, and stop rising when releasing button.  
By pushing **"Down"** button, Lower Lift lower, and stop lowering when releasing button.

#### ⚠ Caution

- **DO NOT** push "Up" button just after pushing "Down" button. If "Up" button is pushed just after pushing "Down" button, Lowering Valve could be kept open, and lift may keep lowering. Make sure to wait 1 to 2 seconds before pushing "Up" button. This symptom is normal.
- When rectifying the unbalance of Drive-On Plate, only Left side (from car entrance direction) would rise or lower. Pay close attention not to raise (or lower) wrong side which would increase

## 9-3 Lifting Operation of Upper Lift (Supporter)

### 9-3-1 Select Attachment

Select suitable attachment depending on the lifting point of the vehicle.

1) Lifting Point is located within Upper Lift Top Plate range

Refer to 『 9-3-2 Put Attachment on Upper Lift Top Plate 』

2) Lifting Point is outside of Upper Lift Top Plate range

→ Use Swing Board

Refer to 『 9-3-3 How to use Swing Board Supporter 』

3) Lifting Point is located at Frame etc. of vehicle

→ Use Slide Arm

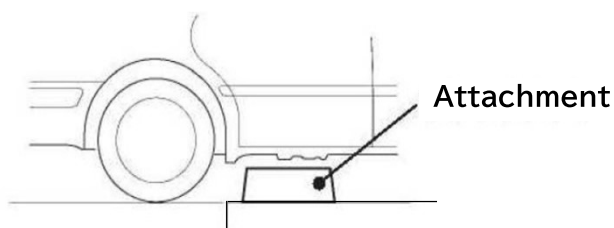
Refer to 『 9-3-4 How to use Slide Arm Supporter 』

#### ⚠ **Caution**

- **DO NOT** lift up any vehicle exceeding the lift capacity. Lift capacity of the Upper Lift is 3,000 kgs.
- Use only genuine attachment (Side Sill Block supporter) between Upper Lift Top Plate and vehicle lifting point when lifting vehicle by Upper Lift.
- When not in use, the lift must be lowered to the lowest position.
- Make sure there is no oil or dirt on supporter when lifting vehicle by Upper Lift.
- Stop lifting just before Side Sill Block would contact vehicle. Check if Side Sill Block would fit to correct Lifting Point of the vehicle. If not, adjust the location

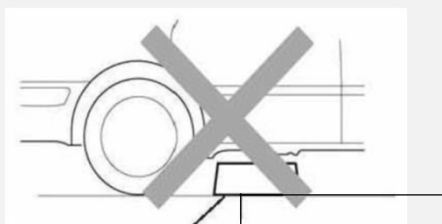
### 9-3-2 Put Attachment on Upper Lift Top Plate

If Lifting Point is located within Upper Lift Top Plate range, use and put attachment on Upper Lift Top Plate.



#### ⚠ **Caution**

- Check if Attachment is outside of Upper Lift Top Plate. If trying to lift up with Attachment being outside of Upper Lift Top Plate, Attachment could come off and vehicle could fall down.

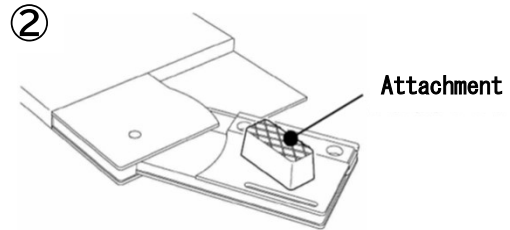
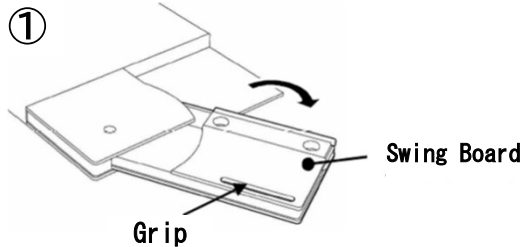


Do Not put Attachment outside of Upper Lift

### 9-3-3 How To Use Swing Board

Swing Board can be swivelled (turned) approx. 60° angle range. By putting Attachment on Swing Board, it can reach distant lifting point of the vehicle, and can lift up.

#### 『 How To Use Swing Board 』



- ① Grab Grip and swivel Swing Board out.      ② Put Attachment on Swing Board

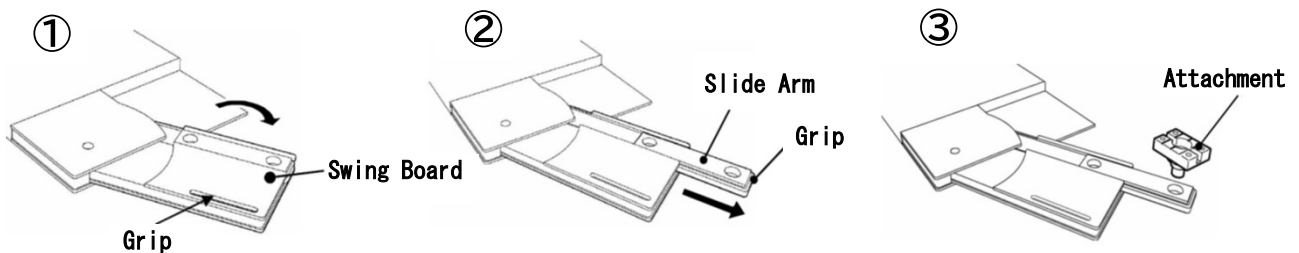
#### ⚠ Caution

- Make sure to swivel (rotate) Swing Board by grabbing (holding) Grip. If grab the other parts but Grip, fingers and hands could be pinched and get injured.
- If Attachment is put on Swing Board with Swing Board being kept stored (folded) in, Swing Board Supporter could be pulled towards front side and rotate when Upper Lift is lowered and vehicle tyre landed on Drive-On Plate. If this happened, store Swing Board back first, and then lower the Drive-On Plate.

### 9-3-4 How To Use Slide Arm

By putting Attachment on Slide Arm, lift can lift up the vehicle which has lifting point in the frame.

#### 『 How To Use Slide Arm 』



- ① Grab Grip of Swing Board and swivel Swing Board out.  
② Grab Grip of Slide Arm and pull the Slide Arm out.  
③ Put the Attachment into the hole of Slide Arm

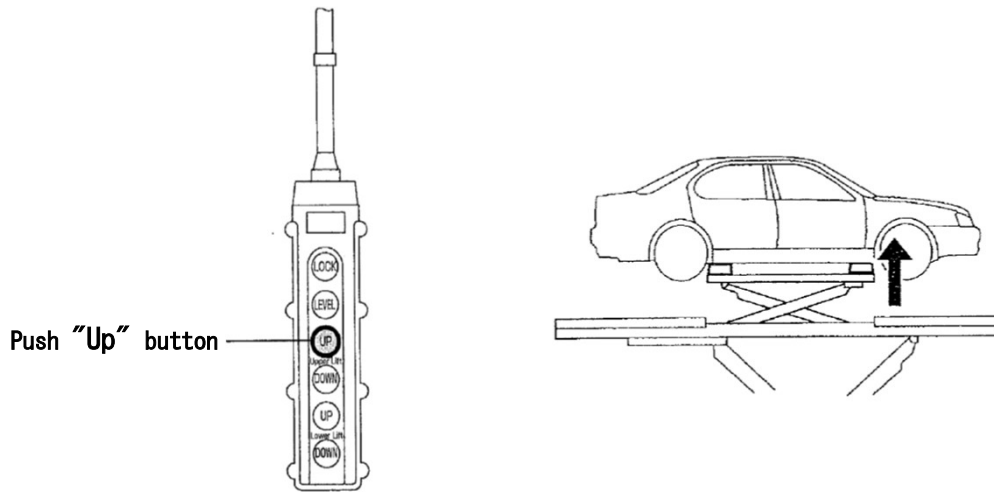
#### ⚠ Caution

- Make sure to pull Slide Arm out by grabbing (holding) Grip. If grab the other parts but Grip, fingers and hands could be pinched and get injured.
- Push Slide Arm back into Swing Board and store Swing Board back, and then lower the Drive-On Plate.

### 9-3-5 How To Lift Up Upper Lift (Supporter)

Make sure Attachment are positioned on the correct spot before lifting.

#### 『 How To Lift Up Upper Lift (Supporter) 』



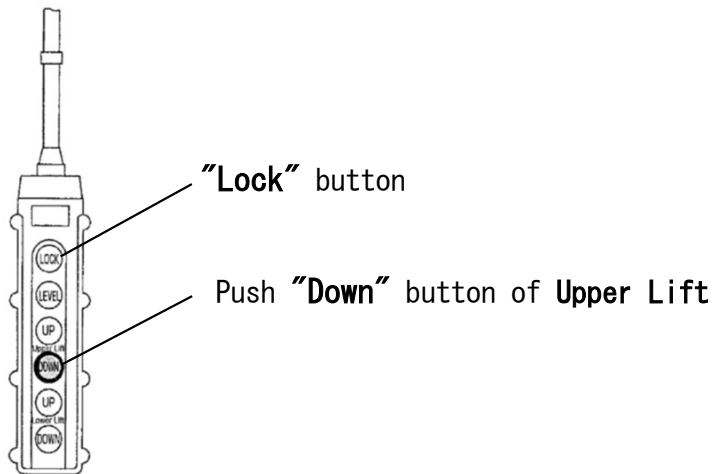
- ① Push "Up" button of Upper Lift.
- ② When Attachment almost reach the lifting point, stop lifting (release button), and check if Attachment would hit (support) the correct lifting point.
- ③ Push "Up" button of Upper Lift again and lift up to max height without fail.

#### **Caution**

- **DO NOT** lift up vehicle before checking if Attachment is to hit (support) the correct lifting point. If Attachment is positioned off the correct lifting point, it may damage the lift and vehicle, and vehicle may fall down.

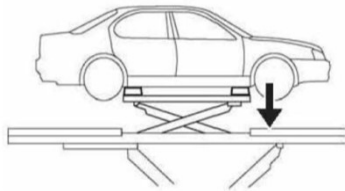


### 9-3-6 How To Lower Upper Lift (Supporter)



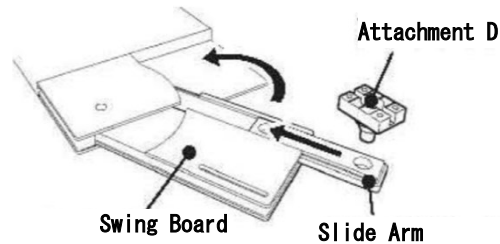
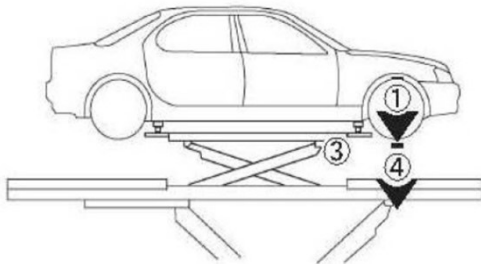
#### 『 How To Lower Upper Lift (Supporter) 』

##### ■ Swing Board and Slide Arm was not used when lifting vehicle



- ① Push "Down" button of Upper Lift to lower the Upper Lift. Keep pushing button until lift was lowered to lowest.

##### ■ Swing Board and Slide Arm was used for lifting vehicle



- ① Push "Down" button of Upper Lift to lower the Upper Lift.
- ② Once Supporter leave (come off) lifting point, stop lowering (release button).
- ③ Remove Attachment and store Swing Board and Slide Arm back.
- ④ Push "Down" button of Upper Lift again and lower the Upper Lift to lowest. (Keep pushing button until Upper Lift is lowered to lowest)

#### ⚠ **Caution**

- If Lowering Stop Hook device can not be released in lowering operation, lift up slightly and then lower the lift.
- Make sure to lower the Supporter to lowest. Or it may damage the vehicle and lift, and cause malfunction of the lift.
- DO NOT push "Up" button just after pushing "Down" button. If "Up" button is pushed just after pushing "Down" button, Lowering Valve could be kept open, and lift may keep lowering. Make sure to wait 1 to 2 seconds before pushing "Up" button. This symptom is normal.

### 9-3-7 Lock Button

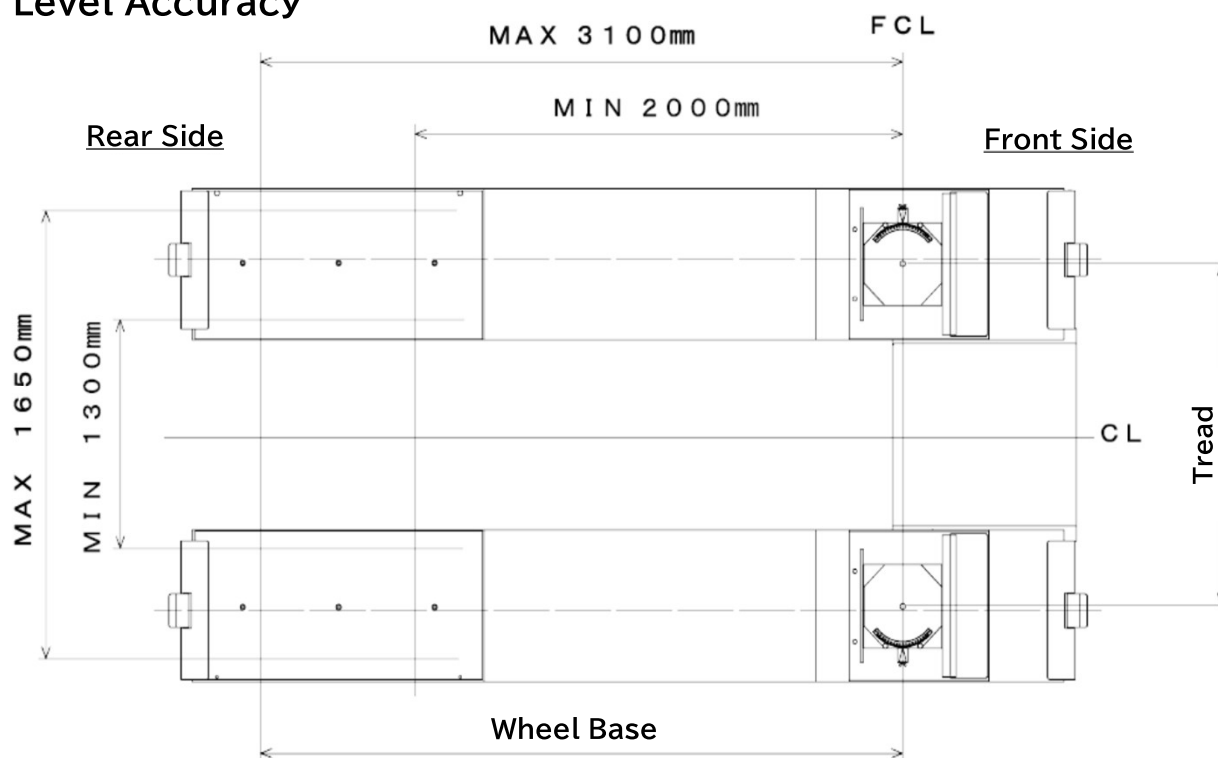
If keep pushing "Lock" button, Drive-On Plate lowers without releasing Lowering Stop Hook. This locking operation is for the alignment servicing.

If need to use this function, refer to Page 25 『 9-4-2 Rectifying the Unabalance in Alignment Servicing 』, and follow the instruction.

## 9-4 Wheel Alignment

### 9-4-1 Levelling Accuracy of Alignment Servicing

#### ■ Level Accuracy



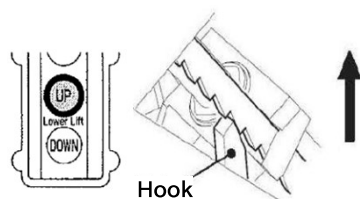
	Alignment Measuring Range	Level Accuracy in Alignment Measuring Position
Wheel Base	2000mm ~ 3100mm	Balance - Less than 4mm (Including Diagonal dirfection)
Tread	1300mm ~ 1650mm	Balance - Less than 2mm

The above measurement accuracy is based on the condition that vehicle is symmetric in CL, and axle center of vehicle front tyre is on FCL.

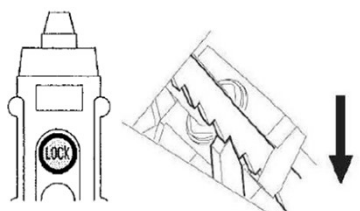
### 9-4-2 Rectifying the Unbalance in Alignment Servicing

It is necessary to rectify the level unbalance between right and left side Drive-On Plate before starting Alignment Servicing. Follow the below procedure.

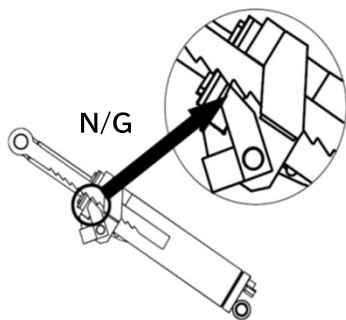
#### 『 How To Rectify the Unbalance 』



- ① Push "Up" button of **Lower Lift** and raise the lift up to the height position higher than the desired rack position, and stop at the position before Hook engage with next rack.

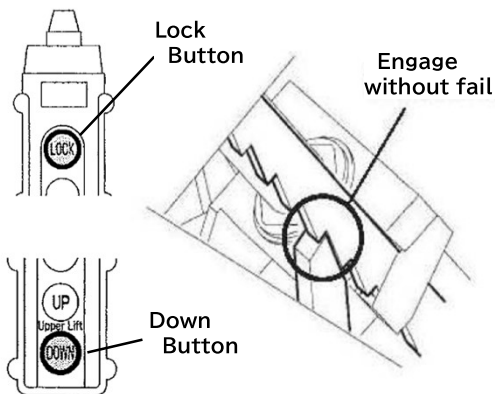


- ② Keep pushing "Lock" button. Then Lowering Stop Hook would not be released and Drive-On Plate lowers. Keep pushing "Lock" button until Lowering Stop Hook engage with Rack.

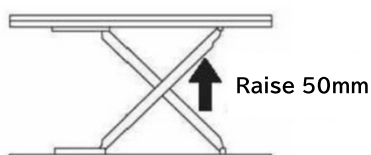


**⚠ Caution**

Make sure to check and confirm that all Hooks would be engaged with same height racks before pushing "Lock" button. If pushing "Lock" button when Hook end is halfway like left side drawing (Hook end is at the Rack end), Hook end could be engaged with other height rack end, and could damage lift.



- ③ After Drive-On Plate stopped lowering, keep pushing **"Lock"** button and **"Down"** button of Lower Lift together for about 2 seconds. Then both sides Lowering Stop Hook engage with Lowering Stop Rack without fail.



- ④ After servicing vehicle, push **"Up"** button of Lower lift for approx. 50mm.

- ⑤ Push **"Level"** button and rectify the height of Drive-On Plate.



**⚠ Caution**

Unbalance of Drive-On Plate between Right and Left side can occur when raising Drive-On Plate after servicing vehicle. But this unbalance is not abnormal. When alignment servicing work is finished, make sure to rectify the unbalance by pushing "Level" button. Refer to Page 25 『 9-4-2 Rectifying the Unbalance in Alignment Servicing 』 , and follow the instruction.

### 9-4-3 Cautions on Alignment Servicing

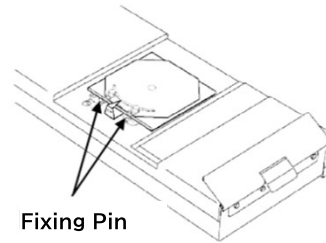
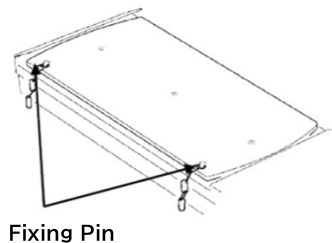
When measuring alignment, follow the below instructions.

- ① Level Accuracy is as per below.

	Alignment Measuring Range	Level Accuracy in Alignment Measuring Position
Wheel Base	2000mm ~ 3100mm	Balance - Less than 4mm (Including Diagonal direction)
Tread	1300mm ~ 1650mm	Balance - Less than 2mm

The above measurement accuracy is based on the condition that vehicle is symmetric in CL, and axle center of vehicle front tyre is on FCL.

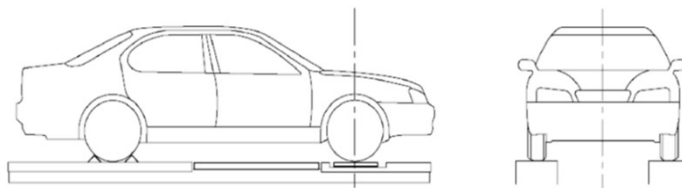
- ② Make sure to put (insert) Fixing Pin into Turning Radius Gauge and Slip Plate when driving in and out vehicle.



**⚠ Caution**

If Fixing Pin is not inserted and vehicle drive in or drive out, it could damage Turning Radius Gauge and Slip Plate.

- ③ Drive in vehicle straight along the center line of Drive-On Plate and park the vehicle in the position where Front tyre is in the center of Turning Radius Gauge.



**⚠ Caution**

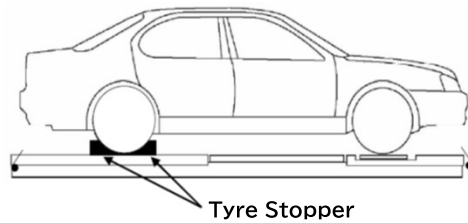
If not parking vehicle on correct position, it could damage Turning Radius Gauge and Slip Plate, and malfunction of measuring accuracy.

- ④ DO NOT aggressively start, braking, turning on the Drive-On Plate.

**⚠ Caution**

If driving aggressively start, braking and turning, it could damage the lift and vehicle.

- ⑤ When vehicle tyres are in free (neutral) position, make sure to set side brake, and put 2ea. **Tyre Stopper** in front and rear of rear tyres.



**⚠ Caution**

**If tyre stopper is not used, vehicle may fall down.**

- ⑥ When lowering the lift to lowest, make sure the pointer of Turning Radius Gauge is not outside of the lift before lowering the lift.

**⚠ Caution**

**If lowering the lift with pointer being outside of the lift, gauge may hit the pit and damage the Turning Radius Gauge.**

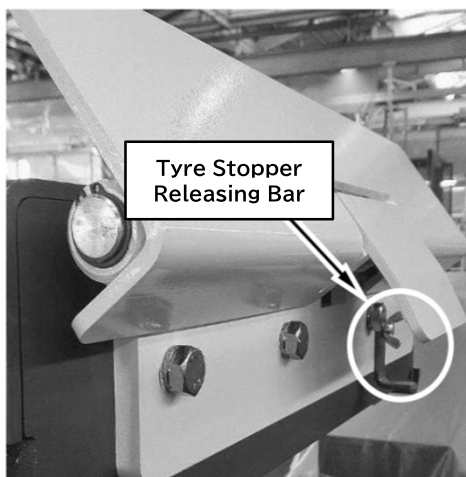
- ⑦ The lift height of both sides may become unbalanced when lifting after servicing vehicle. (This is not abnormal symptom). In such case, follow the instructions of Operation Manual, and rectify the unbalance between right and left side Drive-on Plate.

→ Refer to Page 25 『 Rectifying the Unbalance in Alignment Servicing 』

**⚠ Caution**

**If operating the lift without rectifying unbalance, vehicle may fall down.**

- ⑧ Tyre Stopper Releasing Bar is installed at front side Tyre Stopper. If devices for Aignment measuring obstruct with Tyre Stopper, release Tyre Stopper by using Wheel Stopper Release Bar to avoid obstruction. But if use the Release Bar, make sure to put 2ea. Tyre Stopper in front and rear of Rear Tyres.



Normal Condition



Tyre Stopper is released

# 10. Clean Up after servicing vehicle

After servicing vehicle, remove any oil or grease left in the lift area. If any abnormality are found, contact the lift supplier. Lower the lift down to floor, and turn off the power.

# 11. Regular Inspection and Maintenance

## 11-1 Regular Inspection

Regular inspections are essential inspection procedures to secure safety (preventing vehicle falling accidents and personal accidents) and to ensure that lift can be used for a long time, which are performed along with the Pre-Operation Check. Be sure to perform Regular Inspection at least once a month in addition to Pre-Operation Check that is performed everyday in order to ensure that lift can be 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 lift to be repaired properly and verify safety before using the lift.

Request the lift supplier where the lift was purchased for repairs on abnormality.

Inspection Spot	Inspection Items	Inspection Points
Lowering Stop Device	Sound of Lowering Stop Hook	Clicking Sound during lifting operation
Lubricating Spot	Grease Fittings	Lubricate grease
Air Circuit	Air Joint & tubes	Any crack or air leak ?
Control Panel	Electric Components (Magnet Contactor, Relay etc.)	Operation Check. Any damage, loose terminal ?
Bolts & Nuts	Loosening	Any loosening ?
Lift Unit	Rust condition	Any rust ?
Arms	• Operation of Arm Stopper	→ Does Stopper work when Slide Arm is fully pulled out ?
	• Arm Thickness	→ Arm thickness is within standard range ?
Adjustable Supporter	• Operation of Stoppers	→ Does Stopper work without fail when Pads are rotated and reached to top ?
	• Loosening	→ Is looseness within 2mm when moving the Pad by hand up and down ?
Inside Pit	• Drain of inside Pit Case	→ Is water drained ? And any obstacles ?

### **Notes for Using Lift Safely**

**Have a qualified service personnel perform a periodical inspection once a year in addition to the regular inspection described above. Request the lift supplier where lift was purchased for periodical inspection performed.**

## 11-2 Hydraulic Oil To Be Used

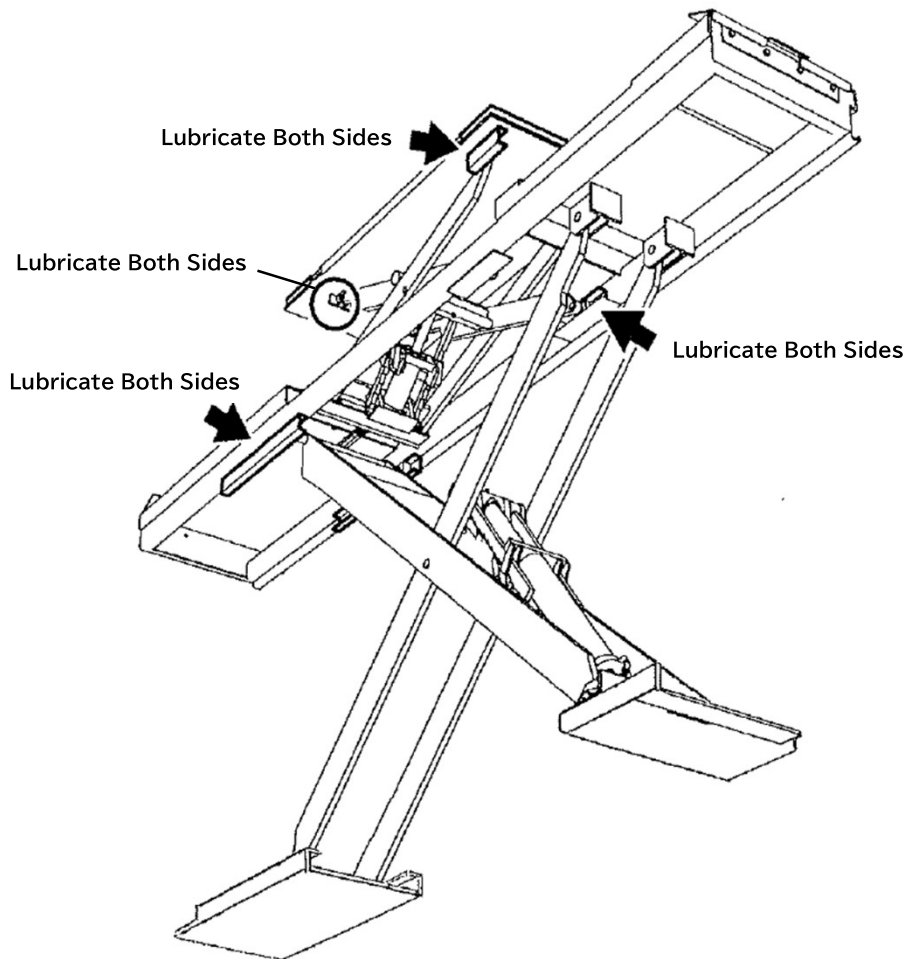
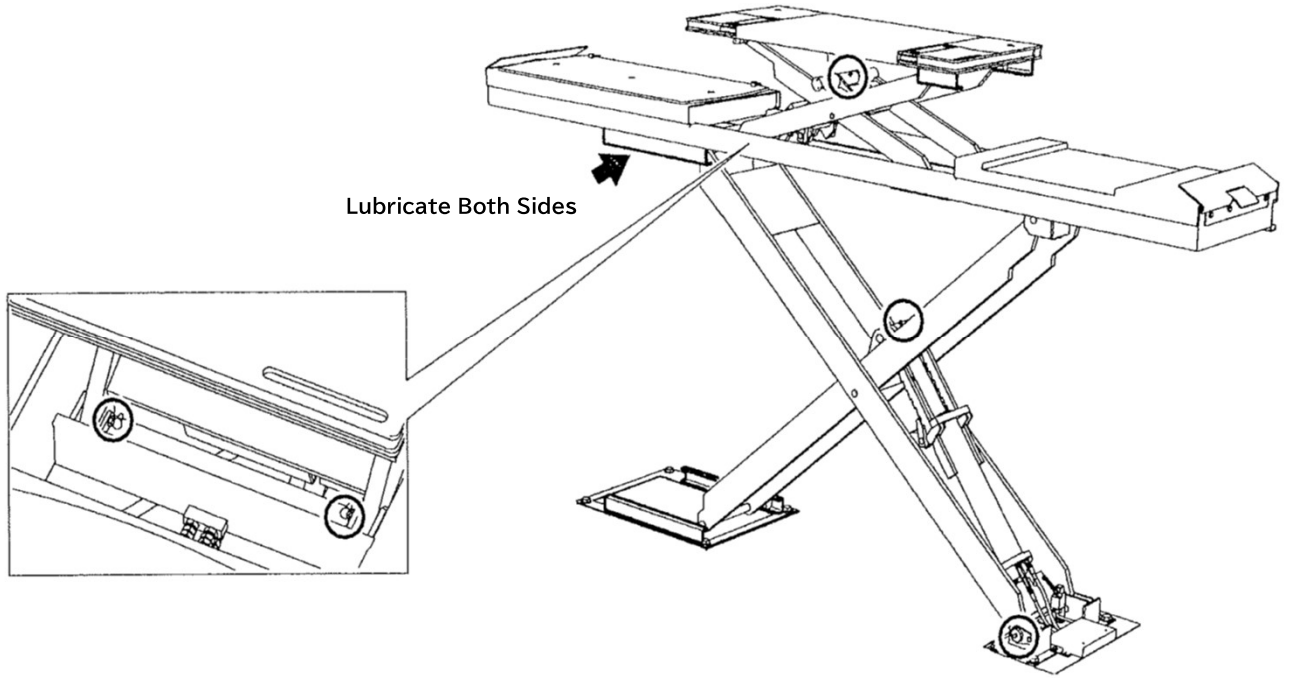
This lift use Gear Pump and the function and performance depends on the oil used. If add, or replace oil, use the below grade oil. Oil need to be replaced one year after installation, and then every 3 years.

ISO VG32 (18 liters)

# 11-3 Lubrication Points

○ : Grease Fittings

➔ : Sliding Portion



## 12. Trouble Shooting

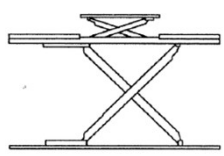
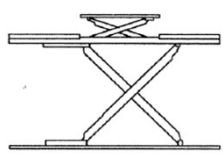
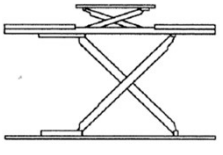
If any abnormality occurs, carefully read this manual and make the following checks and actions. If abnormality can not be eliminated, contact your lift supplier for advice.

Symptom	Possible Cause	Action
<b>Lift Does Not Rise (Motor Not Running)</b>	· Thermal relay of Magnet Contactor is running	· Investigate the cause and push the reset button
	· Contacting point of Magnet Contactor is burnt	· Replace magnet contactor
	· Cable connection fault	· Connect the cable
	· Disconnected cable of motor or burnt motor	· Replace motor
<b>Lift Does Not Rise (Motor Is Running)</b>	· Bad contact of Push-Button Switch	· Replace Push-Button Switch
	· Motor is running reverse direction	· Rewire 2 wires out of 3 wires
	· Hydraulic oil is not full	· Fill the oil
	· Gear Pump does not vacuum oil	· Replace Gear Pump
	· Roller at bottom of link is stuck with obstacles	· Remove obstacles
<b>Lift Does Not Lower</b>	· Lowering Stop Hook is engaged with Safety Rack	· Raise the lift once and then lower
	· Coil of Lowering Valve is not working	· Replace coil
	· Filter inside Lowering Valve is clogged	· Replace filter or clean up
	· Shoe at bottom of link is stuck with obstacles	· Remove obstacles
	· Air pressure supplied is below 0.7 MPa	· Adjust the Air Filter Regulator or adjust the supplied air pressure
<b>Lift goes up but gradually lowers</b>	· Oil leak from Lowering Valve	· Replace Lowering Valve
	· Defective seals of cylinder	· Replace seals
	· Defective Check Valve	· Clean up, or replace Check Valve
	· Oil leak from piping	· Tightening
	· Loose tightening of manual Lowering Valve	· Tightening
<b>Rising speed is slow</b>	· Oil filter is clogged	· Clean up, or replace oil filter
	· Filter of Valve Manifold is clogged	· Clean up, or replace filter
	· Air is in the oil	· Fill the oil, or replace oil
	· Air get in from suction side	· Tightening the piping
	· Wear of Cylinder seals	· Replace seals
	· Hyd. Oil get heated (over 45°C)	· Replace with recommended oil
<b>Abnormal Noise</b>	· Lack of lubrication at bearing of link	· Lubricate
	· lack of hyd. Oil	· Fill the oil
<b>Lift does not rise and lower</b>	· Fuse is blown	· Replace fuse
	· No primary power supplied	· Turn on primary power



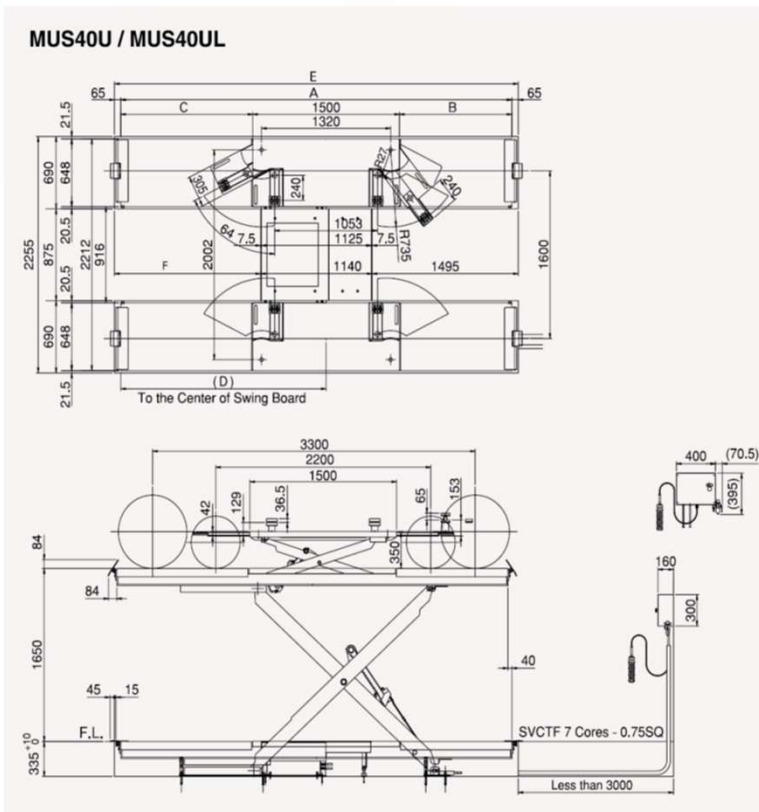
# 13. Specifications

[ After January 2006 ]

Model No.	Hyd. Unit	Lift Capacity			Drive-On Plate (Length)	Specification
		Lower Lift	Upper lift			
MUS40	Built-In	4,000 kgs	3,000 kgs		4000mm	Standard Model
MUS40L	Built-In	4,000 kgs	3,000 kgs		4500mm	Standard Model
MUS40HU	Built-In	4,000 kgs	3,000 kgs		4000mm	Alignment Model
MUS40HUL	Built-In	4,000 kgs	3,000 kgs		4500mm	Alignment Model

# 13. Specification Drawing

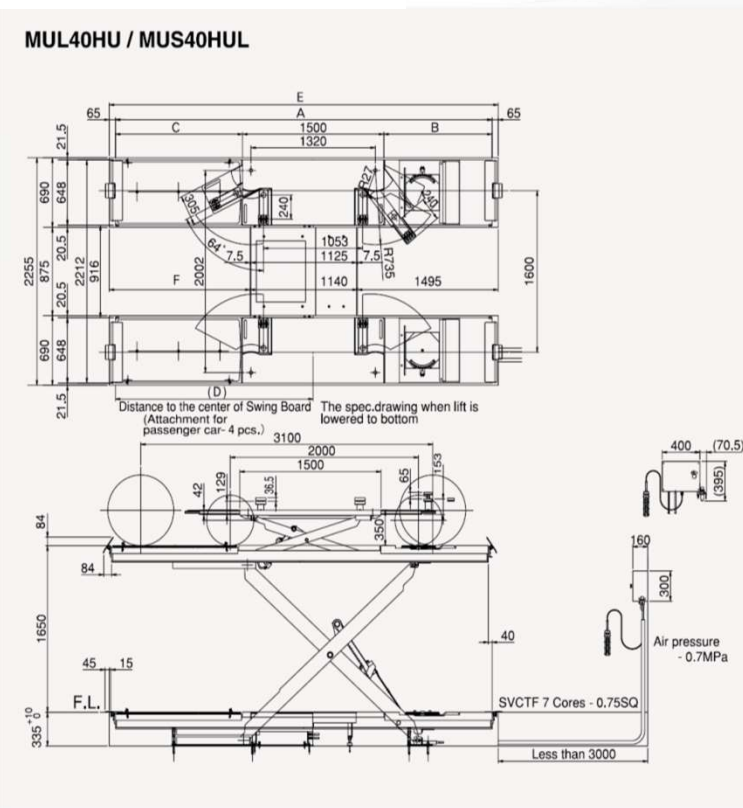
## MUS40U & 40UL



Model No.		MUS40U	MUS40UL
Installation		Pit Installation	
Capacity	Lower Lift	4,000kg	
	Upper Lift	3,000kg	
Drive on Plate Length		4,000mm	4,500mm
Applicable Wheel Base at Max.		3,300mm	3,800mm
Control		Cable remote control switch	
Power		3 phase	
Lifting Time (Approx)	Lower Lift	60Hz	60 sec.
		50Hz	72 sec.
	Upper Lift	60Hz	8 sec.
		50Hz	10 sec.
Lowering Time (Approx)	Lower Lift	35 sec.	
	Upper Lift	10 sec.	
Motor		2.2kW	
Oil Volume		18L (ISO VG32)	
Air Pressure		0.7~1.0MPa	

	MUS40U	MUS40UL
A	4,000mm	4,500mm
B	1,150mm	1,400mm
C	1,350mm	1,600mm
D	2,100mm	2,350mm
E	4,130mm	4,630mm
F	1,495mm	1,995mm

## MUS40HU & 40HUL



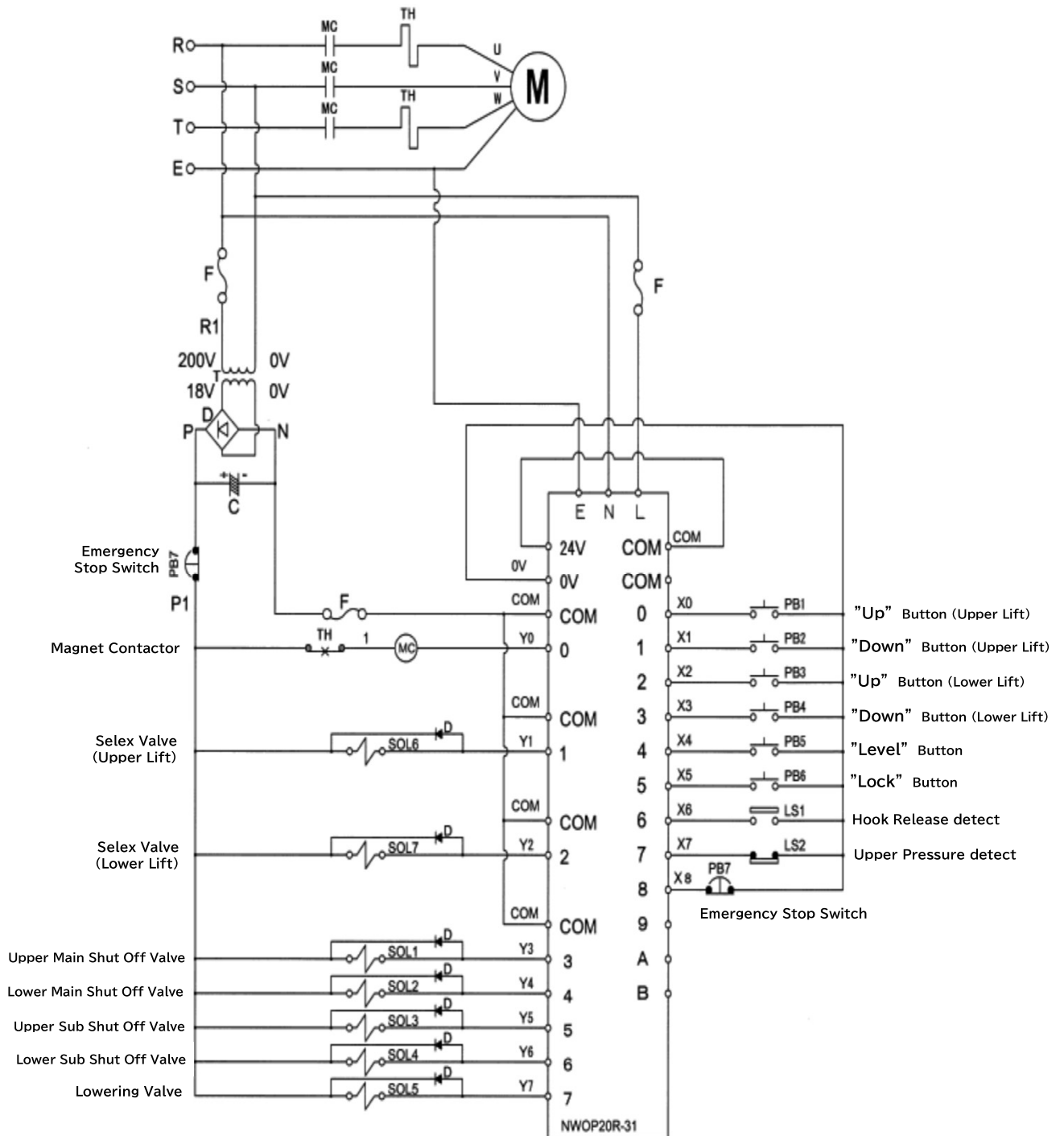
Model No.		MUS40HU	MUS40HUL
Installation		Pit Installation	
Capacity	Lower Lift	4,000kg	
	Upper Lift	3,000kg	
Drive on Plate Length		4,000mm	4,500mm
Applicable Wheel Base at Max.		3,300mm	3,800mm
Alignment Measuring Range		2,000~3,100mm	
Control		Cable remote control switch	
Power		3 phase	
Lifting Time (Approx)	Lower Lift	60Hz	60 sec.
		50Hz	72 sec.
	Upper Lift	60Hz	8 sec.
		50Hz	10 sec.
Lowering Time (Approx)	Lower Lift	35 sec.	
	Upper Lift	10 sec.	
Motor		2.2kW	
Oil Volume		18L (ISO VG32)	
Air Pressure		0.7~1.0MPa	

	MUS40HU	MUS40HUL
A	4,000mm	4,500mm
B	1,150mm	1,400mm
C	1,350mm	1,600mm
D	2,100mm	2,350mm
E	4,130mm	4,630mm
F	1,495mm	1,995mm

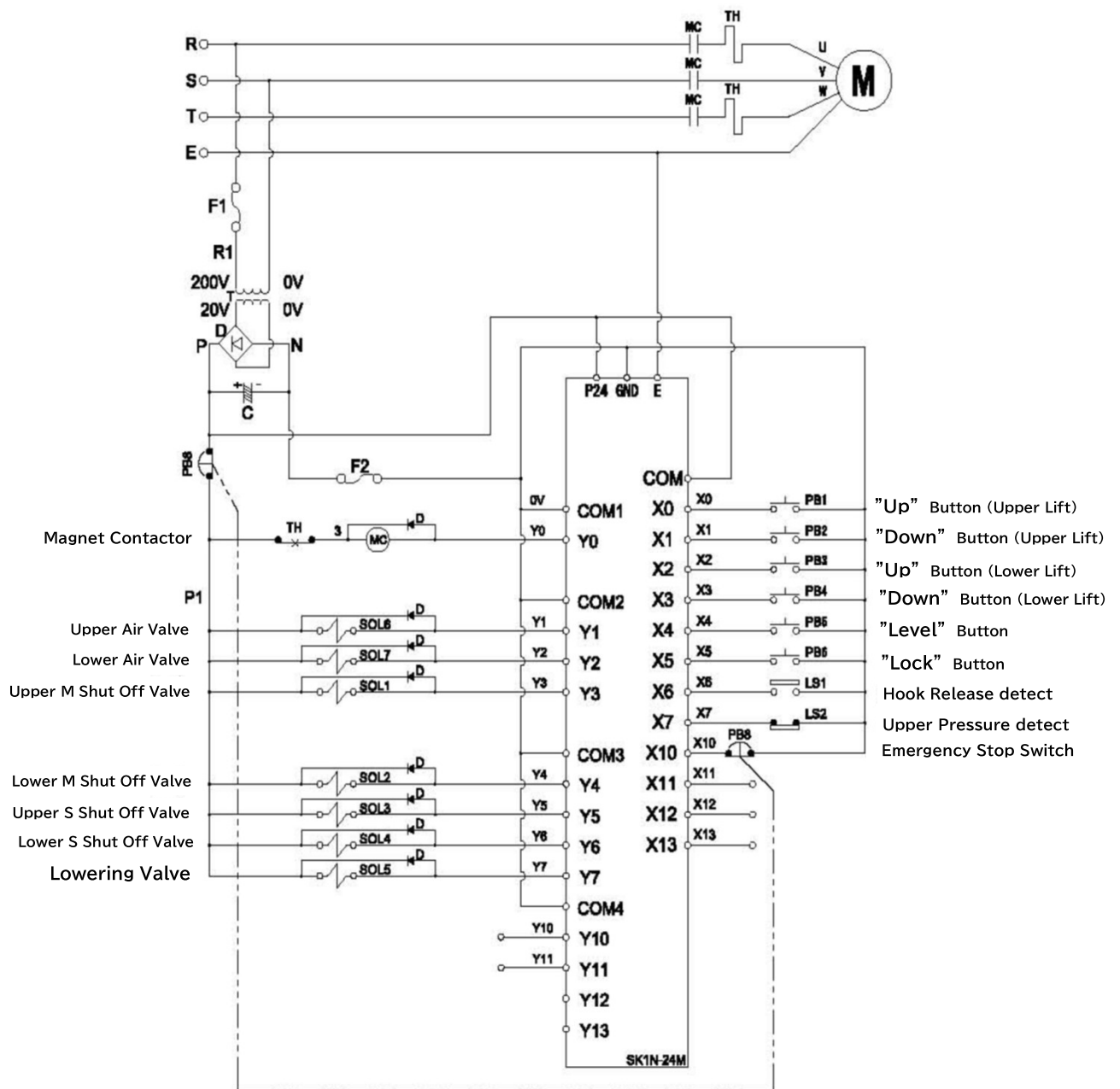
# 15. Circuit Diagram

## 15-1 Electric Circuit - Model MUS40U, UL, HU and HUL

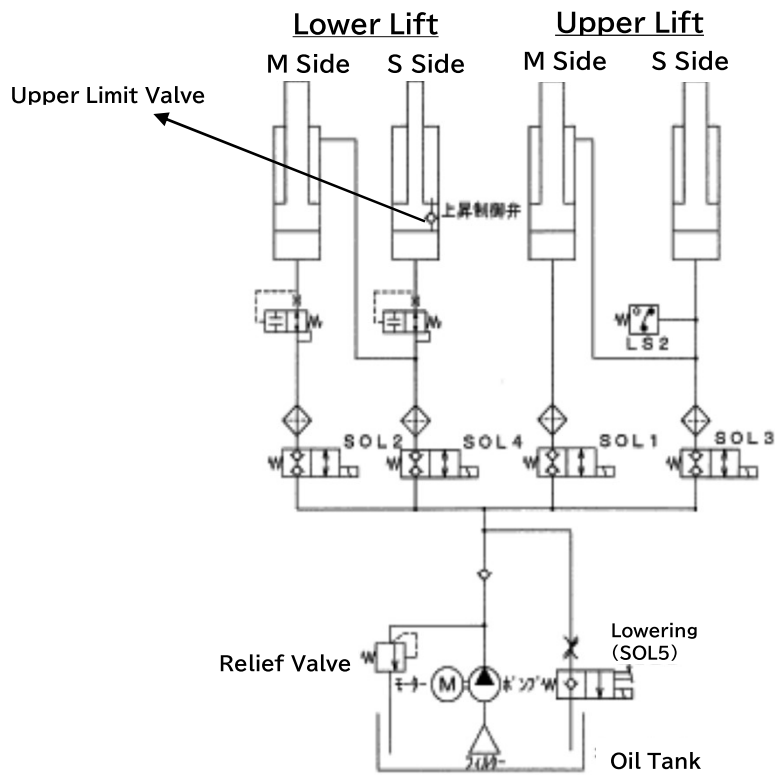
Before Serial No. 1010002



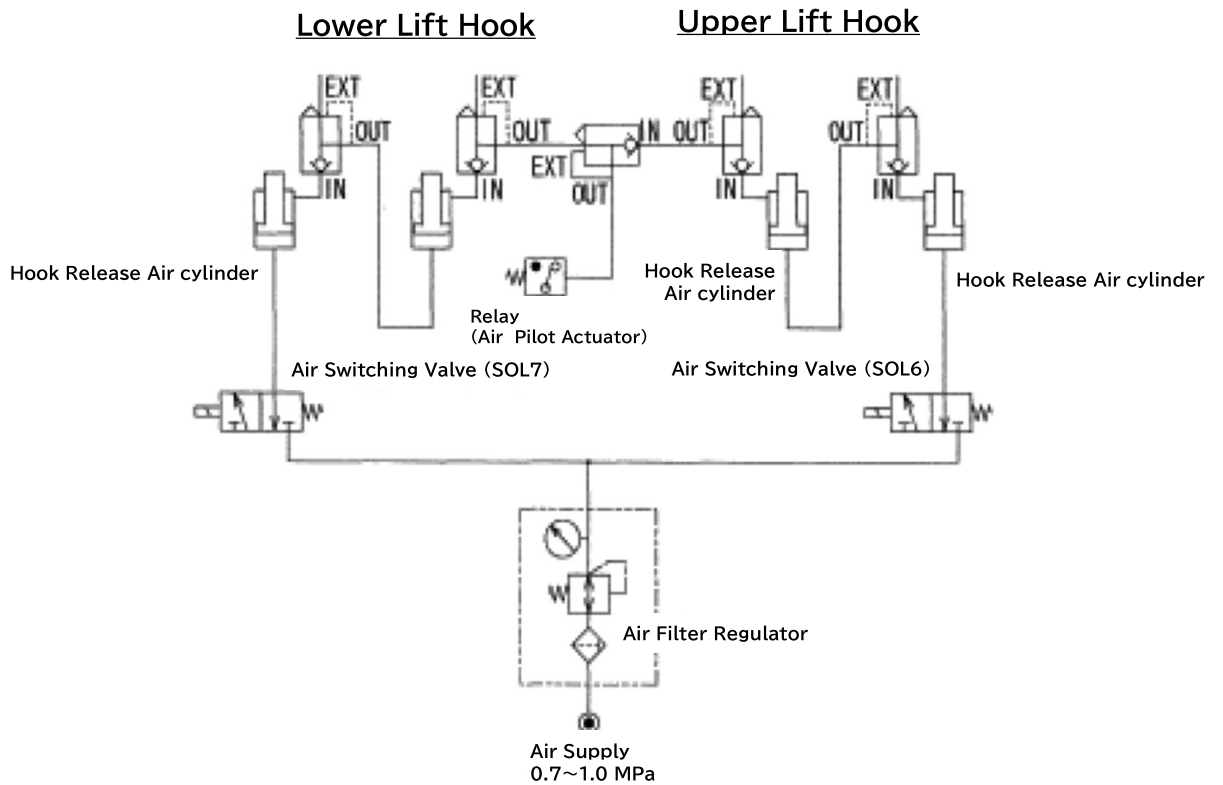
After Serial No. 1010003



## ■ 15-2 Hydraulic Circuit



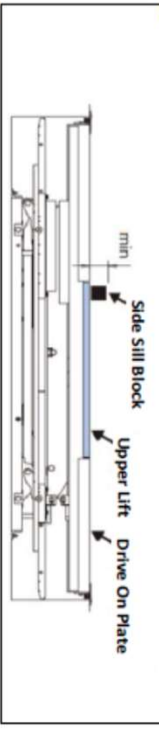
## ■ 15-3 Air Circuit



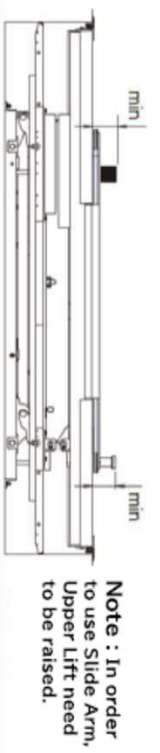
# 16. Attachment - Reference Chart

Attachment										
Availability	Option	Standard	Option	Option	Standard	Option	Option	Option	Option	Option
Attachment Name	High Side Sill Block	Side Sill Block	Easy Attachment	LAAS	LBAS	HAAS	HBAS	Truck Frame Attachment		
Model Name	N/A	N/A	FAMS	With Guard	Without Guard	With Guard	Without Guard	N/A		
Type	High Type	Standard Height	One Touch Operation	04541380	04541420	04541281	04541341	For Jacking Beam		
Parts No.	51307161	11524960	00468180					00135160		
Height Adjust Method	Fix	Fix	Ref. 3					Screw		
Max Height	115 - On Plate 157 - On Arm	75 - On Plate 117 - On Arm	143	218	218	389	389	530		
Min. Height	N/A	N/A	96	153	153	240	240	250		
Conditions of Height	The height info. is available height when Upper Lift is lowered to lowest	The height info. is available height when Upper Lift is lowered to lowest	The height info. is available height when Slide Arm of Swing Board on Upper Lift is used	The height info. is available height when Slide Arm of Swing Board on Upper Lift is used				The height info. is available height when Slide Arm of Swing Board on Upper Lift is used		
Applicable Vehicle										

**Ref.1** Put Side Sill Block (or High Side Sill Block) on Plate of Upper Lift to make vehicle Free Wheel position.



**Ref.2** Put (Install) Attachment on the Slide Arm of Swing Board Supporter (Upper Lift) to make vehicle Free Wheel

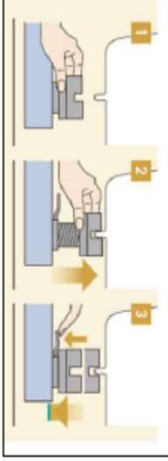


Note : In order to use Slide Arm, Upper Lift need to be raised.

**Ref.3** Easy Setting



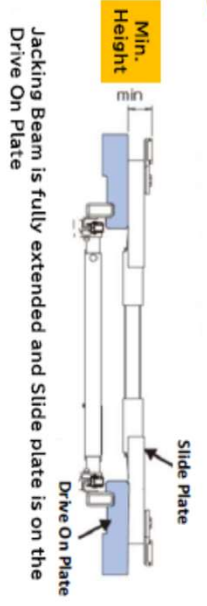
Safe and Easy Setting



1. Adjust and Set the lifting position
2. Push Up (grab and raise) the Adjustable Supporter to fix the groove into Side Sill
3. In order to lower, push down the lever.

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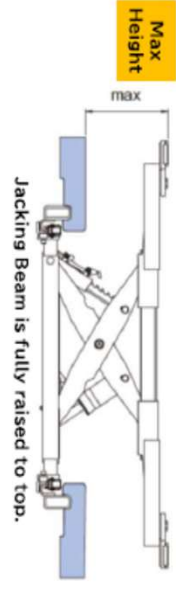
**Ref.4** Make Free Wheel position by using Jacking Beam



Min. Height

Jacking Beam is fully extended and Slide plate is on the Drive On Plate

Max Height



Jacking Beam is fully raised to top.

# 17. 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.

# 18. 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.

# 19. 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

## 20. 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 :
	.....



# **Bishamon**



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