# LZ620/LM670

User's manual of two post lift

**Edition: 2015-07** 

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 เมระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

Copyright reserved! Without the written agreement of our company, no company or individual is permitted to copy or backup this manual in electronic, machinery, photocopy, recording or any other forms. This manual is specially designed for the use of our products. Our company declines any responsibility for any consequences of guiding the operation of other equipment with this manual.

In case of the equipment damage or loss due to the accident of the user himself or the third party,misuse or abuse of this equipment,unauthorized change and repair of this equipment,or not conforming to our requirement upon operation and maintenance,we decline any responsibilities for the expenses and expenditures generated.

We decline any responsibilities for the equipment damages or problems resulting from using other optional parts or consumables instead of our original product or the products recognized by us..

Statement:Other product names mentioned in this manual is aimed to instruct how to use this equipment. Their registered trademarks still belong to the original companies.

This equipment is for the use of professional technicians and maintenance staff.

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

# **PRECAUTION**

### WARNING



	This manual is an integral part of this product, please read it carefully.
	Properly keep this manual for use during maintenance
	Operate the machine according to this manual and only use the parts and components recommended
	by the manufacturer.
	This lift can only be used for its designed purpose and should not be used for other purposes.
	The manufacturer is irresponsible for any damage caused by improper use or using it for other
	purposes.
	Precaution
	Trecaution
Wh	en using your garage equipment,basic safety precautions should always be followed,including the
foll	owing:
	The installer and commissioning staff of this machine must have certain electrical knowledge.Only
	the qualified personnel having undergone special training can operate this machine. Without the
	permission of the manufacturer or not following the requirement of the manual, any changes in the
	machine parts and in the usage scope may cause direct or indirect damage to the machine.
	Do not keep the car lift in the environment with extreme temperature and humidity. Avoid installation
	beside the heating equipment, water tap, air humidifier or stove.
	Prevent the lift from contacting a large amount of dust, ammonia, alcohol, thinner or spay adhesive, and
	protect it from rain shower.
	During the machine operation, non-operating personnel should be kept away from the machine.
	While conducting routine inspection, do not operate a car lift with defective or damaged parts. Only use
	original components to replace the damaged parts.
	The lift can not be overloaded. Its rated load-carrying capacity is already marked on the nameplate.
	Do not raise a vehicle with a lift when there are people in it.During the machine operation,the
	presence of customers and spectator inside the lifting area is strictly prohibited.
	Keep the lifting area free from any obstacles, grease, machine oil, garbage and other impurities.
	Position the adapter of the lift,making it contact the lifting points recommended by the manufacturer
	Raise the carriage and make sure the lifting pads and the vehicle are closely contacted. Then raise the
	carriage to a proper working height.
	As for some cars, the parts dismantling or installation will cause severe deviation of the center of

gravity,leading to vehicle instability,so the support is needed to keep the balance of vehicle..

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 เมระราม 2 แขวมเสมดำ เขตบาวขุนเกียน กกม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

Before moving	g the ca	ar av	vay f	from the	lifting	area	ι,ple	ase	e po	sitio	on th	e swi	ing ai	rm and	l lifting	g pad	back
away to avoid	blocka	ige (	lurin	g the m	oveme	nt.											
T T			1 .	1	11	c .			. •	c	.1	1.1		1 .			c .

☐ Use proper equipment and tools as well as safety protection facilities like working uniforms, safety

iii



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

shoes & etc.

☐ Pay special attention to various safety marks stuck on the machine body.

☐ Keep hair, loose clothes, hands or other parts of the body away from moving parts of the machine.

□ Pay special attention not to dismantling the safety unit of the machine or make it malfunction.

☐ The hydraulic oil used for this lift is N32 or N46, please refer to the safety data of grease and oil shown in this manual.

☐ Before storing the lift, cool down its fittings and loosen the ropes on them completely.

Do not install the car lift in the exposed space or the space exposed to rains. Otherwise, a special requirement should be provided to the manufacturer when it is inevitable.

□ Before installation, carefully check each components of the lift according to the check list. If there is any question, contact our company or our dealers immediately.

Weijia company is dedicated to consistently raising the product quality and updating the technical specification, which are subject to change without any notice.

## **Caution Labels in exemplification**

(1)Read this manual carefully before using the lift.



(2)Proper maintenance and inspection are necessary for safe operation.



(3) Do not operate a damaged lift!



(4) Lift can be used by trained operators ONLY!

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

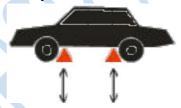
(calicenter): 02-4155437-9 HSD 091-775-5977



(5) Only authorized personnel can be in the lifting area!



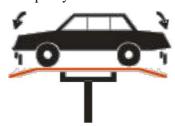
(6) Use the lifting points recommended by the car manufacturer!



(7) Always use safety stands when removing or installing heavy components.



(8) Auxiliary adapter will reduce load capacity.



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 เมระราม 2 แขวมเสมดำ เขตบาวขุนเกียน กกม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

(9) Clear area if vehicle is in danger of falling.



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบาวขุนเทียน กกม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977



(10) Position vehicle with the center of gravity midway between adapters.



(11) Keep area clear when raising or lowering vehicle!



(12) Do not shake the vehicle on the lift!



(13) Do not lift single side of vehicle.



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

#### (14) Keep feet away while lowering lift!



(15)When raising or lowering the lift with load, do not stand under the lift.



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

# **Table of Contents**

Ch	apter 1 Outline
1	
1.1	MODEL DESCRIPTION
	1
1.2	Purpoese
	1
1.3	FUNCTIONS AND FEATURES
	1
1.4	TECHNICAL SPECIFICATION
	1
1.5	ENVIRONMENTAL REQUIREMENT
	2
Ch	apter 2 Lift Structure
2	
2.1	LIFT STRUCTURES
	2
2.2	MAIN STRUCTURAL PRINCIPLE
	7
Ch	apter 3 Operation Description
3 1	PRECAUTIONS FOR VEHICLE REPAIRS
J.1	8
3.2	PREPARATION BEFORE OPERATION
	8
3.3	INSPECTION BEFORE OPERATION

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

3.4 LIFTING THE VEHICLE

0

9

3.5 LOWERING THE VEHICLE



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

#### Chapter 4 Hydraulic and electrical system of the lift

4.1 HYDRAULIC SYSTEM OF THE LIFT	
9	
4.2 ELECTRICAL SYSTEM OF THE LIFT	
1	1
Chapter 5 Solutions to FAQ	
Chapter 6 Repair and maitenance	14
Chapter 7 Storage and scrap	15
7.1 STORAGE	15
7.2 SCRAP	15
Chapter 8 Tools for installation and commissioning	15
Chapter 9 Unpacking	16
Chapter 10 Installation	
10.1 IMPORTANT NOTICE	16 User's manual of two post lift
	1
10.2 Installation procedure	16
Chapter 11 Commissioning of the lift	24
11.1 Preparation before commissioning	24
11.2 COMMISSIONING PROCEDURE	24
Chapter 12 List of the lift components	25
Data of grease and hydraulic oil for the lift	35

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

# Chapter 1 Outline

1.1 Model description

Model	Description
LM670 (U) Clear-floor 2-post lift	4.5T Economical clear-floor 2-post lift (fig. 1a, fig.2a,
ENTO ( C) Clear Hoof 2 post int	fig.3a)
LM670 Clear-floor 2-post lift	4.5T Economical clear-floor 2-post lift (fig.1b, fig.2b,
	fig.3b)
LM670 Clear-floor 2-post lift	4.5T Economical clear-floor 2-post lift (Fig.1b , Fig.2b ,
Livio70 Clear-11001 2-post IIIt	Fig.3b)
LZ620 Base-plate 2- post lift	4.5T Economical symmetric floor-plate 2-post lift (Fig.1c , Fig.2c)
LZ620 Base-plate 2- post lift	(fig.1c, fig.2c)
L 7620 Page plate 2 page life	4.5T Economical symmetric floor-plate 2-post lift (Fig.1c , Fig.2c)
LZ620 Base-plate 2-post lift	(fig.1c, fig.2c)

#### 1.2 Purpose

This machine is used to lift the small and medium-sized vehicles with total weight less than 3.5T/4T in garage and workshop.

#### 1.3 Functions and Features

The car lift, with all cables and oil hoses concealed, has decent and beautiful appearance.
Designed according to the international standard, the lift cater for the demands of garage
and workshop.
Overhead safety protection bar effectively protects the vehicle from bumping into crossbeam.
Dual hydraulic cylinders drive, stable lifting and lowering.
Manual lowering, safe and convenient in operation.
Adopt dual steel ropes for equalization, forcing both carriages to move synchronously, and
effectively preventing car from tilting.
Lowest lifting height of 110mm is convenient to repair low chassis or low profile cars.

#### 1.4 Technical parameter

Noise

working noise:  $\leq 75 dB$  (A)

Power unit

working pressure: 16MPa DH2350AS(U)

16MPa DH2350AS 16MPa DH2350S 18 MPa DH2400S 18 MPa DH2400AS

#### Electrical parameters of the machine:

Motor(optional)

Voltage: Choose optional motor with different voltage in accordance with clients' requirement. single phase: 110V/60Hz 2.2kW;

220V/50Hz 2.2 kW

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

three phase: 380V/50Hz 2.2 kW

### **Technical Specification**



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

model	Rated capacity	lifting height	Rise time	Desce nding time	Net weight of lift	drive-thro ugh width	machine width	Machine height
LM670 (U) (symmetric installation)	4500 kg	1850 mm		≥20s	660kg	2424 mm 95.4 in	3392 mm 133.5 in	3840 mm
LM670 (U) (asymmetric installation)	7875 lb	72.8 in	≤50s	≤40s	1455 lb	2378 mm 93.6 in	3544mm 139.5 in	151.2 in
LM670(symmetri c installation )	4500 kg	1850 mm	.50	≥20s	660kg	2486 mm 97.9 in	3420 mm 134.6 in	3840 mm
LM670(asym	7875 lb	72.8 in	≤50s	≤40s	1455 lb	2415 mm 95.1 in	3563mm 140.3 in	151.2 in
LM670 (symmetric installation)	4500 kg	1850 mm		≥20s	690kg	2486 mm 97.9 in	3420 mm 134.6 in	3840 mm
LM670(asym	9000 lb	72.8 in	≤50s	≤40s	1521 lb	2415 mm 95.1 in	3563mm 140.3 in	151.2 in
LZ620	4500 kg 7875 lb	1850 mm 72.8 in	≤50s	≥20s ≤40s	610kg 1345 lb	2486 mm 97.9 in	3370 mm 132.7 in	2860 mm 112.6 in
LZ620	4500 kg 9000 lb	1850 mm 72.8 in	≤50s	≥20s ≤40s	645kg 1422 lb	2486 mm 97.9 in	3370 mm 132.7 in	2860 mm 112.6 in

### 1.5 Environmental condition

Operating temperature:-5°C∼+40°C

Relative temperature:+ $30^{\circ}$ C Relative humidity:80%

Transport/storage temperature:-5°C~+40°C

Proper altitude :not more than 2000m

# **Chapter 2** Lift Structure

#### 2.1 Lift Structure

Model	Description
LM670 (U) clear-floor 2-post lift	4.5T Economical clear-floor 2-post lift (fig.1a、fig.2a、fig.3a)
LM670 clear-floor 2-post lift	4.5T Economical clear-floor 2-post lift (fig.1b、fig.2b、fig.3b)

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

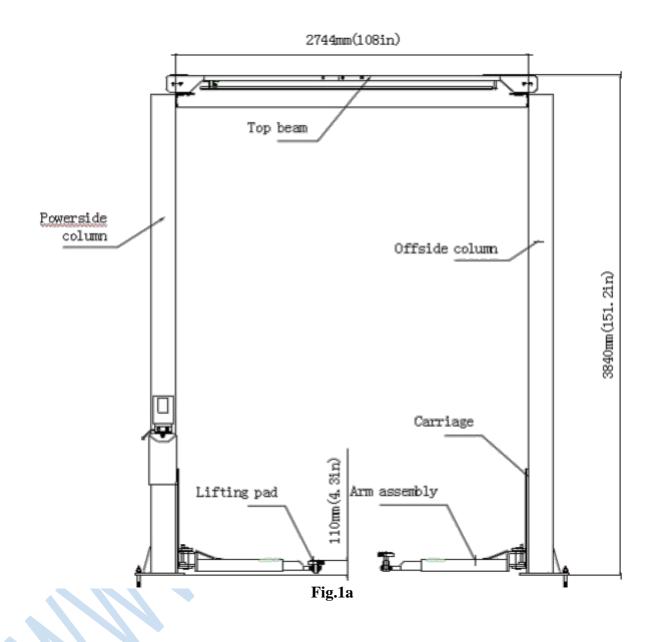
(callcenter): 02-4155437-9 HSD 091-775-5977

LM670 clear-floor 2-post lift	4.5T Economical clear-floor 2-post lift (fig.1b、fig.2b、fig.3b)
LZ620 floor-plate 2-post lift	4.5T Economical symmetric floor-plate 2-post lift(fig.1c, fig.2c)
LZ620 floor-plate 2-post lift	4.5T Economical symmetric floor-plate 2-post lift(fig.1c  fig.2c)



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

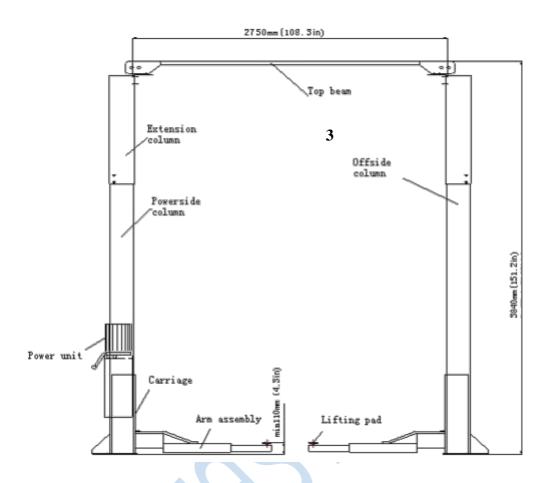
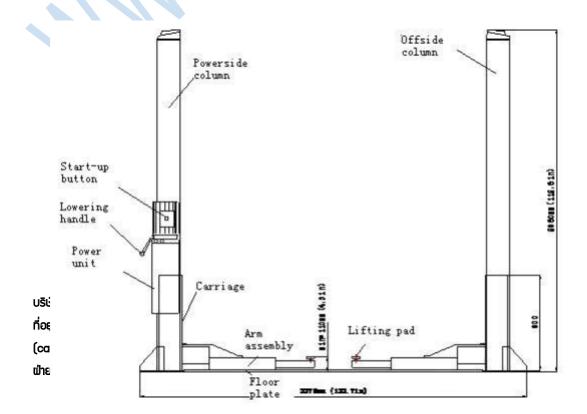


Fig.1b



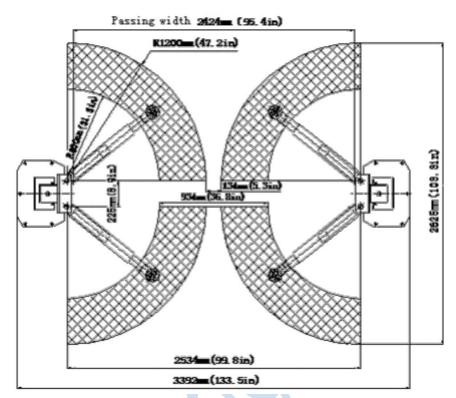
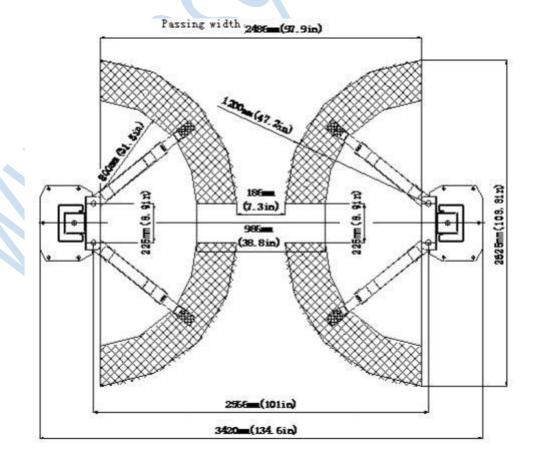


Fig.2a



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

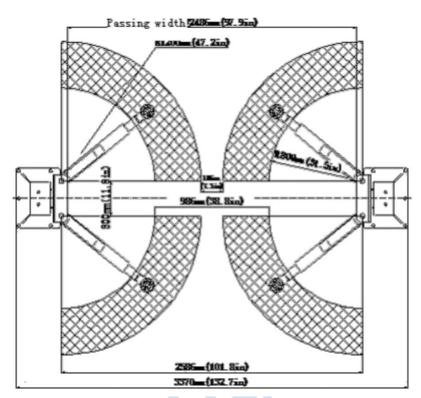


Fig.2C

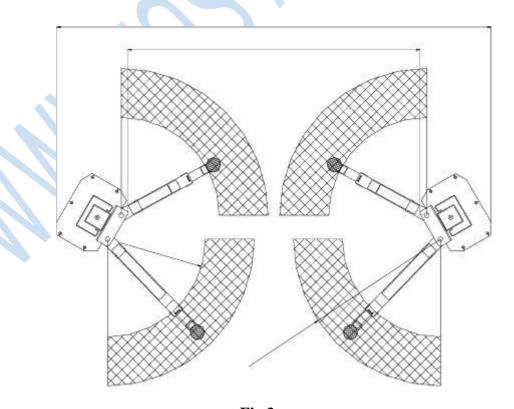
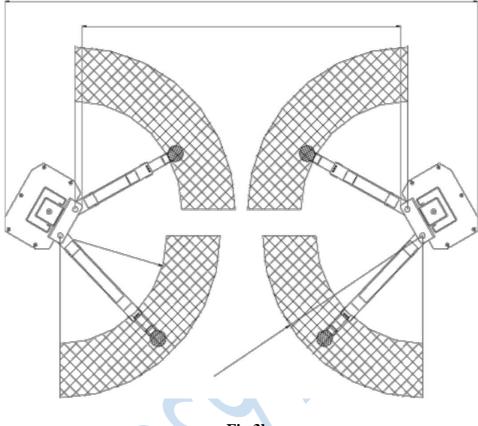


Fig.3a

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977



#### Fig.3b

### 2.2 Main structural principle

- Lifting mechanism:Each column is installed with a hydraulic cylinder.When hydraulic oil is pressed from power pack into the lower chamber of main cylinder,piston rod moves upwards to drive the upward movement of carriage through leaf chain.
- Load supporting mechanism: As a vehicle enters the working area, adjust the angle and telescopic length of both arms to make the lifting pads near the effective supporting point of the vehicle, then adjust the height of screw below the pads to adapt to the different chassis of various vehicles.
- Balancing mechanism:In order to keep machine balanced during lifting and lowering process,both carriages are interconnected and forced to move synchronously through two steel ropes.If both carriages or both arms are not at the same level, adjust the nuts at the ends of the steel ropes and make

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSO 091-775-5977

sure to tighten the steel ropes to to make both arms leveled.Otherwise,both carriages can not be guaranteed to move synchronously.

7



บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

- Manual safety locking mechanism: The safety locking plates are installed on both carriages while the toothed bar plates are welded on the internal wall of both columns. During the lifting process of carriage, the safety locking plates, driven by the tension spring, go up against the toothed bar plates. As soon as the carriages stop rising, the safety locking plates opens, then they are engaged in the slots of both toothed bars to ensure both carriage will not descend. When the lowering operation is required, just rise the carriages a little to loosen the safety locking plates from the slots of the toothed bars, pull the steel rope handle manually to jack up the safety locking plates by sliding plates to release the locks, then the carriages can be lowered. The manual safety locking devices, installed on both carriages, need to be released respectively by pulling its steel rope handles. All the arms, installed with positioning mechanisms, need to be swiveled to the proper angle to engage the arms locks automatically so as to prevent car from slipping.
- Safety locking scope: The safety locking mechanism is effective when the front ends of both carriages are 450mm to 1900mm high above the floor.

# **Chapter 3 Operation instruction**

#### 3.1 Precautions for Vehicle Repair Operation

- Firstly,learn about the position of the car's center of gravity,which is different for different cars. As the car enters the lifting area, let its center of gravity approach the plane composed by both columns. Then adjust arms to let the lifting pad to support the vehicle upon its supporting plane.
   As a car is raised with clear floor car lift, pay attention to the position of car roof, do not let it approach the crossbeam in order to avoid accident.
   Read the warning symbols carefully.
   The hydraulic valves have been adjusted before ex-factory. The users should not adjust them by
- themselves. Otherwise, they should be responsible for all the consequences generated.

  Based on the production needs, some parameters in this manual are subject to change without notice.

#### 3.2 Preparation before Operation

- Evenly lubricate the contact surface between slider and column with general-purpose lithium grease(GB7324-87) from up to bottom.
- ☐ Fill the oil tank of hydraulic unit with 10L N32 or N46 oil.

#### 3.3 Inspection before Operation

Check to see if the power supply of motor is connected correctly. Check to see if all the connecting bolts are fastened.



บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

Attention:Do not operate a car lift with broken ropes,damaged or missing components until it is inspected and repaired by professional technicians.

8



บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

Keep the working area clean.Don't operate the lift in a cluttered area.   Lower both carriages to the lowest position   Shorten the swing arms to the minimum length.   Swivel arms along the track of the vehicle.   Move the car to the position between both columns.   Swivel the arms until the lifting pads are below the recommended lifting points and adjust the height of lifting pads to touch the lifting point of vehicle evenly.   Press the up button on the power unit to raise the car, ensuring the load balance, until it is lifted to the required height.   Release the up button, then the carriages stop.   Press the lowering lever to lower the car to a position where mechanical locking devices are actuated, then begin to repair the car.    Attention   Before operation, the safety locking devices must be inspected. I > Arm locking devices must be well engaged. 2 > No broken stand of the steel rope. 3 > No deformation of the lifting pad.   While lifting the vehicle, all the swing arms must be used.   Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.   After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.    Clear the obstacles below and in the vicinity of car lift.   Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.   Press the lowering handle.   Retract the arms completely to the original position.   Attention Switch off the power when one lift doesn't work.   Attention Switch off the power when one lift doesn't work.	3.4 Lit	fting the vehicle
Shorten the swing arms to the minimum length.  Swivel arms along the track of the vehicle.  Move the car to the position between both columns.  Swivel the arms until the lifting pads are below the recommended lifting points and adjust the height of lifting pads to touch the lifting point of vehicle evenly.  Press the up button on the power unit to raise the car,ensuring the load balance,until it is lifted to the required height.  Release the up button,then the carriages stop.  Press the lowering lever to lower the car to a position where mechanical locking devices are actuated,then begin to repair the car.   Attention:  Before operation,the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle,all the swing arms must be used.  Before lifting the vehicle,check all the hydraulic hoses and fittings for oil leakage.In case of any leakage,do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.  After the car is lifted,when adding or removing any heavy objects,use jack stand to support the car,maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car,then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point,then release the lowering handle.  Retract the arms completely to the original position.		Keep the working area clean.Don't operate the lift in a cluttered area.
Swivel arms along the track of the vehicle.  Move the car to the position between both columns.  Swivel the arms until the lifting pads are below the recommended lifting points and adjust the height of lifting pads to touch the lifting point of vehicle evenly.  Press the up button on the power unit to raise the car,ensuring the load balance,until it is lifted to the required height.  Release the up button,then the carriages stop.  Press the lowering lever to lower the car to a position where mechanical locking devices are actuated,then begin to repair the car.   Mattention:  Before operation,the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle,all the swing arms must be used.  Before lifting the vehicle,check all the hydraulic hoses and fittings for oil leakage.In case of any leakage,do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.  After the car is lifted,when adding or removing any heavy objects,use jack stand to support the car,maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car,then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point,then release the lowering handle.  Retract the arms completely to the original position.		Lower both carriages to the lowest position
<ul> <li>Move the car to the position between both columns.</li> <li>Swivel the arms until the lifting pads are below the recommended lifting points and adjust the height of lifting pads to touch the lifting point of vehicle evenly.</li> <li>Press the up button on the power unit to raise the car,ensuring the load balance,until it is lifted to the required height.</li> <li>Release the up button,then the carriages stop.</li> <li>Press the lowering lever to lower the car to a position where mechanical locking devices are actuated, then begin to repair the car.</li> <li>Attention:</li> <li>Before operation, the safety locking devices must be inspected. 1&gt;Arm locking devices must be well engaged. 2&gt;No broken stand of the steel rope. 3&gt;No deformation of the lifting pad.</li> <li>While lifting the vehicle, all the swing arms must be used.</li> <li>Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.</li> <li>After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>Lowering the vehicle</li> <li>Clear the obstacles below and in the vicinity of car lift.</li> <li>Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>Press the lowering handle on power unit to lower carriages.</li> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>		Shorten the swing arms to the minimum length.
<ul> <li>Swivel the arms until the lifting pads are below the recommended lifting points and adjust the height of lifting pads to touch the lifting point of vehicle evenly.</li> <li>Press the up button on the power unit to raise the car, ensuring the load balance, until it is lifted to the required height.</li> <li>Release the up button, then the carriages stop.</li> <li>Press the lowering lever to lower the car to a position where mechanical locking devices are actuated, then begin to repair the car.</li> <li>Attention:</li> <li>Before operation, the safety locking devices must be inspected.1&gt;Arm locking devices must be well engaged.2&gt;No broken stand of the steel rope.3&gt;No deformation of the lifting pad.</li> <li>While lifting the vehicle, all the swing arms must be used.</li> <li>Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.</li> <li>After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>Lowering the vehicle</li> <li>Clear the obstacles below and in the vicinity of car lift.</li> <li>Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>Press the lowering handle on power unit to lower carriages.</li> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>		Swivel arms along the track of the vehicle.
the height of lifting pads to touch the lifting point of vehicle evenly.  Press the up button on the power unit to raise the car, ensuring the load balance, until it is lifted to the required height.  Release the up button, then the carriages stop.  Press the lowering lever to lower the car to a position where mechanical locking devices are actuated, then begin to repair the car.  Attention:  Before operation, the safety locking devices must be inspected. 1>Arm locking devices must be well engaged. 2>No broken stand of the steel rope. 3>No deformation of the lifting pad.  While lifting the vehicle, all the swing arms must be used.  Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.		Move the car to the position between both columns.
Press the up button on the power unit to raise the car,ensuring the load balance,until it is lifted to the required height.  Release the up button,then the carriages stop.  Press the lowering lever to lower the car to a position where mechanical locking devices are actuated, then begin to repair the car.  Attention:  Before operation, the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle, all the swing arms must be used.  Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.	•	Swivel the arms until the lifting pads are below the recommended lifting points and adjust
the required height.  Release the up button, then the carriages stop.  Press the lowering lever to lower the car to a position where mechanical locking devices are actuated, then begin to repair the car.  Attention:  Before operation, the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle, all the swing arms must be used.  Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.		the height of lifting pads to touch the lifting point of vehicle evenly.
Press the lowering lever to lower the car to a position where mechanical locking devices are actuated,then begin to repair the car.  Attention:  Before operation,the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle,all the swing arms must be used.  Before lifting the vehicle,check all the hydraulic hoses and fittings for oil leakage. In case of any leakage,do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.  After the car is lifted,when adding or removing any heavy objects,use jack stand to support the car,maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car,then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point,then release the lowering handle.  Retract the arms completely to the original position.		
Attention:  Before operation, the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle, all the swing arms must be used.  Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.		Release the up button, then the carriages stop.
Attention:  Before operation, the safety locking devices must be inspected.1>Arm locking devices must be well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle, all the swing arms must be used.  Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.		Press the lowering lever to lower the car to a position where mechanical locking devices are
<ul> <li>□ Before operation, the safety locking devices must be inspected.1&gt;Arm locking devices must be well engaged.2&gt;No broken stand of the steel rope.3&gt;No deformation of the lifting pad.</li> <li>□ While lifting the vehicle, all the swing arms must be used.</li> <li>□ Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.</li> <li>□ After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>3.5 Lowering the vehicle</li> <li>□ Clear the obstacles below and in the vicinity of car lift.</li> <li>□ Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>□ Press the lowering handle on power unit to lower carriages.</li> <li>□ Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>□ Retract the arms completely to the original position.</li> </ul>		actuated, then begin to repair the car.
<ul> <li>□ Before operation, the safety locking devices must be inspected.1&gt;Arm locking devices must be well engaged.2&gt;No broken stand of the steel rope.3&gt;No deformation of the lifting pad.</li> <li>□ While lifting the vehicle, all the swing arms must be used.</li> <li>□ Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.</li> <li>□ After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>3.5 Lowering the vehicle</li> <li>□ Clear the obstacles below and in the vicinity of car lift.</li> <li>□ Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>□ Press the lowering handle on power unit to lower carriages.</li> <li>□ Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>□ Retract the arms completely to the original position.</li> </ul>		
<ul> <li>□ Before operation, the safety locking devices must be inspected.1&gt;Arm locking devices must be well engaged.2&gt;No broken stand of the steel rope.3&gt;No deformation of the lifting pad.</li> <li>□ While lifting the vehicle, all the swing arms must be used.</li> <li>□ Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.</li> <li>□ After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>3.5 Lowering the vehicle</li> <li>□ Clear the obstacles below and in the vicinity of car lift.</li> <li>□ Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>□ Press the lowering handle on power unit to lower carriages.</li> <li>□ Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>□ Retract the arms completely to the original position.</li> </ul>	<b>1</b>	
well engaged.2>No broken stand of the steel rope.3>No deformation of the lifting pad.  While lifting the vehicle, all the swing arms must be used.  Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.		
<ul> <li>□ While lifting the vehicle, all the swing arms must be used.</li> <li>□ Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.</li> <li>□ After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>3.5 Lowering the vehicle</li> <li>□ Clear the obstacles below and in the vicinity of car lift.</li> <li>□ Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>□ Press the lowering handle on power unit to lower carriages.</li> <li>□ Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>□ Retract the arms completely to the original position.</li> </ul>		
<ul> <li>□ Before lifting the vehicle, check all the hydraulic hoses and fittings for oil leakage. In case of any leakage, do not use the lift. Remove the fittings with leakage and re-seal. Re-install the fittings and check if there is still any leakage.</li> <li>□ After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>3.5 Lowering the vehicle</li> <li>□ Clear the obstacles below and in the vicinity of car lift.</li> <li>□ Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>□ Press the lowering handle on power unit to lower carriages.</li> <li>□ Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>□ Retract the arms completely to the original position.</li> </ul>		
leakage,do not use the lift. Remove the fittings with leakage and re-seal.Re-install the fittings and check if there is still any leakage.  After the car is lifted,when adding or removing any heavy objects,use jack stand to support the car,maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car,then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point,then release the lowering handle.  Retract the arms completely to the original position.		
and check if there is still any leakage.  After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.  Retract the arms completely to the original position.		
<ul> <li>□ After the car is lifted, when adding or removing any heavy objects, use jack stand to support the car, maintaining its balance.</li> <li>3.5 Lowering the vehicle</li> <li>□ Clear the obstacles below and in the vicinity of car lift.</li> <li>□ Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>□ Press the lowering handle on power unit to lower carriages.</li> <li>□ Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>□ Retract the arms completely to the original position.</li> </ul>		
the car,maintaining its balance.  3.5 Lowering the vehicle  Clear the obstacles below and in the vicinity of car lift.  Press up button to raise the car,then pull the steel ropes handle on both carriages to disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point,then release the lowering handle.  Retract the arms completely to the original position.	П	
<ul> <li>3.5 Lowering the vehicle</li> <li>Clear the obstacles below and in the vicinity of car lift.</li> <li>Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>Press the lowering handle on power unit to lower carriages.</li> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>		
<ul> <li>Clear the obstacles below and in the vicinity of car lift.</li> <li>Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>Press the lowering handle on power unit to lower carriages.</li> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>		the car, maintaining its balance.
<ul> <li>Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>Press the lowering handle on power unit to lower carriages.</li> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>	3.5 Lo	owering the vehicle
<ul> <li>Press up button to raise the car, then pull the steel ropes handle on both carriages to disengage the safety lock.</li> <li>Press the lowering handle on power unit to lower carriages.</li> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>		Clear the obstacles below and in the vicinity of car lift.
disengage the safety lock.  Press the lowering handle on power unit to lower carriages.  Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point,then release the lowering handle.  Retract the arms completely to the original position.		Press up button to raise the car, then pull the steel ropes handle on both carriages to
<ul> <li>Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then release the lowering handle.</li> <li>Retract the arms completely to the original position.</li> </ul>		
release the lowering handle.  Retract the arms completely to the original position.		Press the lowering handle on power unit to lower carriages.
Retract the arms completely to the original position.		Lower car lift until the arms are fully lowered and the lifting pads leave the lifting point, then
		release the lowering handle.
Attention Switch off the power when car lift docen't work		Retract the arms completely to the original position.
	/î	Attention:Switch off the power when car lift doesn't work.

# **Chapter 4** Hydraulic and Electrical System of the Lift

### 4.1 Hydraulic system of the lift

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

Diagram of the hydraulic system of clear-floor 2-post lift

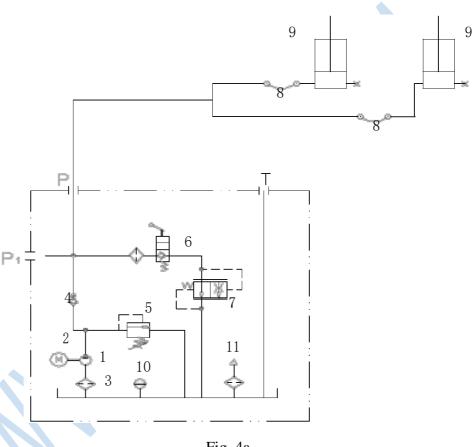


Fig. 4a

1-gear pump, 2-motor, 3-oil filter, 4-check valve, 5-safety valve, 6-manual lowering valve 7-Servo flow-control valve, 8-hose, 9-hydraulic cylinder, 10-lever gauge, 11-air filter

#### The working principle of hydraulic system is as below:

As shown in picture 4a, when the up button on hydraulic unit is pressed, motor 2 is actuated to drive oil pump 1 to suck pressure oil from oil tank into cylinder 9, forcing the piston rod move upward. At this time, safety valve 5 is closed, whose pressure is already well adjusted before exfactory to ensure the rated load capacity of the lift.It will discharge oil automatically when the system's pressure exceed the limit..Release up button to stop oil supply.then lift will stop rising. To lower the

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

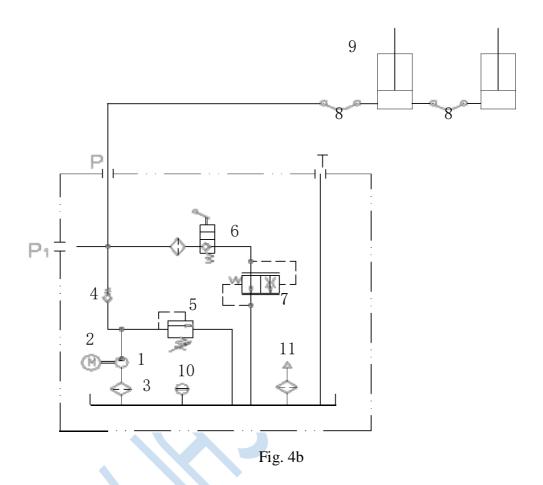
car, first press up button to raise the car a little bit, then pull the steel ropes handle on both carriages to release the safety lock, finally press manual lowering handle 6 to discharge the oil to lower the lift.



บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977



1- gear pump, 2-motor, 3-oil filter, 4-check valve, 5-safety valve, 6-manual lowering valve 7-Servo flow-control valve, 8-oil hose, 9-cylinder, 10-lever gauge, 11-air filter

#### The operating principle of hydraulic system is as below:

As shown in picture 4b, when the start button on hydraulic unit is pressed, motor 2 is actuated to drive oil pump 1 to suck pressure oil from oil tank into cylinder 10, forcing the piston rod move upward. At this time, safety valve 6 is closed, whose pressure is already well adjusted before ex-factory to ensure the rated load capacity of the lift. It will discharge oil automatically when the system's pressure exceed the limit. Release up button to stop oil supply then lift will stop rising. To lower the car, first press up button of power unit 2 to raise the car by 5~10mm, then pull the steel ropes handle on both carriages to release the safety lock, finally press manual lowering handle 6 to discharge the oil to lower the lift.

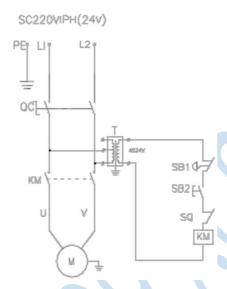
#### 4.2 Electrical system of the car lift

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

#### Circuit diagram of single phase motor

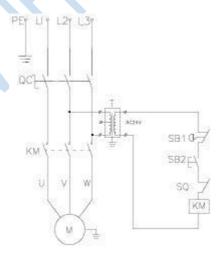


 $M1\text{-motor} \hspace{0.5cm} KM\text{-contactor} \hspace{0.5cm} SB \hspace{0.5cm} \text{-button}$ 

SQ- limit switch

Fig. 5a

# Circuit diagram of three phase motor



M1-motor KM-contactor SB -button SQ- limit switch

Fig. 5b

The electrical working principle is as below

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

Press start button SB,contactor KM is closed,motor M will be energized to drive gear pump to supply oil,raising the carriages.Release start push button,contactor KM is disconnected,motor will loose power,then the carriage will stop rising. As for the clear floor lift,if the vehicle is lifted so high to bump into the limit switch at the crossbeam,contactor K is disconnected,motor M will losse power,then the carriage



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

will stop rising. The safety protection bar acts as protector to prevent car roof from bumping into the crossbeam. The emergency stop button could cut off the power supply urgently.

# **Chapter 5 Solutions to FAQ**

Problem	Possible Reason	Solution
Motor does not run	The breaker or thermal relay in the protection circuit trips.  Incorrect input voltage of motor Wrong electrical connection Burnt wire of limit switch.  Burnt wire of motor.	Close the contact-breaker or press the blue reset button on thermal relay Input correct voltage to motor Correct connection according to the electrical diagram. Replace limit switch Replace motor
Motor runs but car lift does not rise	Motor rotate reversely  Lowering valve is normally open Hydraulic pump inhale the air Short air intake pipe disconnects with hydraulic pump Low oil level	Change the direction of rotation by changing the wire connection of motor Repair or change the lowering valve Fasten all fitting of intake pipe Replace short air intake pipe Add oil into the oil tank
Motor runs but car lift could only lift without load and could not lift the vehicle Car lift lowers very slowly without pressing the lowering valve	Motor is running under low voltage Impurities in the lowering valve The regulation pressure of safety valve is incorrect The lift is overloaded Impurities in the lowering valve There are leakage externally	Input correct voltage to motor Remove the impurities in lowering valve  Adjust the pressure of safety valve Check the weight of the vehicle.  Clean lowering valve Repair the components or fitting where there are external leakage
Car lift raise slowly or oil leak out of the oil filler cap  car lift can not rise horizontally	Air is mixed in oil. The air intake is mixed with oil intake. Oil return pipe is loosened Synchronization steel rope is not adjusted properly. Car lift is installed on the ground whose levelness can not meet the requirement.	Replace the hydraulic oil Fasten all the fittings of air intake pipe. Re-install oil return pipe. Adjust the tension of synchronization steel rope properly. Install the car lift on a horizontal floor, whose levelness should not exceed 5mm. If it exceeds the
Anchor bolts are not	The holes are drilled too large.	limit, excavate the ground to level it. Please refer to the installation instruction.  Pour the fast curing concrete into a extra large hole and re-install the anchor bolts, or drill the hole with

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 เมระราม 2 แขวมแสมดำ เขตบาวขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

The thickness and fastening force of the concrete floor is not	Excavate the original concrete and make new concrete floor for the lift. Please refer to the installation instruction.
--	--

13



บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

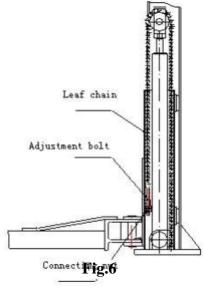
### **Chapter 6 Repair and Maintenance**

#### Keep clean

- This machine need to be wiped and cleaned with dry cloth frequently. Before cleaning, switch off the power supply to ensure safety.
- The working area of the lift need to be swept regularly to keep clean. Too much dust and sand in the area will speed up its parts wearing and shorten its service life.

#### **Everyday**

- Before operating the car lift, check carefully its safety mechanism to ensure the safety locking device are engaged. If any abnormal conditions are detected, the components need to be adjusted, repaired or replaced immediately.
- Check to see if the connection of steel rope is proper and if its tension is within the optimum state.
- Check to see if the hydraulic cylinders are connected with the carriages properly and if the nut connecting the leaf chain and carriage are loose or falling, see fig. 6.



#### **Every month**

- Re-tighten the anchor bolts.
- Lubricate leaf chain and steel rope.
- Check all the chain connector, bolt and pin to ensure correct installation.
- ☐ Check all the hydraulic pipeline for wearing.
- Check to see if the sliders of carriage are lubricate properly. Use high quality lithium grease (GB7324-87). see Fig. 7

Attention:All the anchor bolts need to be tightened completely. If any screws do not function for some reason, the car lift can not be used until the bolts are replace with new ones..

#### **Every six months**

- ☐ Check all the moving parts for possible wearing, interference or damage.
- Check the lubrication of all the pulleys. If the pulley are dragged during the lifting and lowering process, lubricate the wheel axle with appropriate lubricants.
- Check and adjust the tension of synchronization steel rope to ensure the horizontal lifting and lowering

#### บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

Check the verticality of the column.

Attention: The inner corner of both columns need to be lubricated with lubricant to minimize the pulley's friction and ensure the smooth and even lifting.

14



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

#### Maintenance of hydraulic system

☐ Clean and oil change

After the machine has been put into use for 6 months, clean oil container and replace the oil.Later clean the hydraulic system and replace the oil once a year.See fig.7.

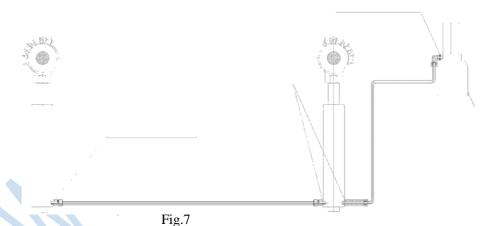
Replace the seal kits.

After the machine has been put into use for a certain period, if any leakage is detected, check it carefully. If it is caused by the wearing of sealing materials, replace the worn parts timely according to its original specification. See fig. 7.

Diagram of hydraulic line of clear-floor 2-post lift



Diagram of hydraulic line of base-plate 2-post lift



**Chapter 7** Storage and Scrap

#### 7.1 Storage

When the equipment need to be stored for a long time,

Disconnect the power supply.

Lubricate all the parts that need to be lubricated, such as the contacting surface that carriage slide on.

Empty all the oil or liquid storage container.

☐ Cover the equipment with plastic cover for dust protection.

#### 7.2 Scrap

As the lift's service life expires and can not be used any longer, disconnect the power supply and dispose of the lift properly according to the relevant local regulations.

Please prepare the following regular tools to complete the installation and commissioning smoothly.

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

# Chapter 8 Tools for installation and commissioning

Tool	Specification
Level meter	carpenter-type

15



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

Chalk line	Min. 4.5m
Hammer	1.5kg
Adjustable wrench	40mm
Open-end wrench kit	11mm-23mm
Ratchet socket kit	
Flat head screwdriver	150mm
Rotary hammer drill	20mm
Concrete drill-bit	⊄ 19mm

## **Chapter 9 Open the box**

Open the package, remove the packing material to check the lift for any damage during the
transportation and check all the components and parts are complete according to the packing list.
Place the packing material away from children to prevent any danger. Properly dispose of the packing

Place the packing material away from children to prevent any danger. Properly dispose of the packing materials that may cause pollution.

## **Chapter 10 Installation**

### 10.1 Important notice

☐ Incorrect installation may damage the car lift or cause personal injury. The man	ufacturer,direct or
indirect, will not be responsible for any damage cause by incorrect installation or ir	nproper use of this
product.	

- Car lift need to be installed on leveled surface to ensure horizontal lifting. Slightly inclined floor could be shimmed with proper thin pad. Any largely inclined surface will influence the lift's performance of horizontal lifting. If there is possible tilt for the floor, visually inspect it or, if possible, pour a new horizontal concrete slab. In short, under the optimum horizontal lifting state, the car lift can only be raised to the height as horizontal as the floor where it is installed. Do not expect to shim the severely inclined floor.
- Do not install this lift on any asphalt surface. According to the minimum specification shown in the requirement of universal flooring, this lift could not be installed on any other surfaces except concrete floor. Do not install this equipment on concrete floor with cracks or defects. Please inspect it together with architect.
- Without the written approval of architect, do not install the lift on the 2<sup>nd</sup> floor with basement.
- No overhead obstacles in the installing area of the lift, like heaters, building support, electrical pipeline and etc.
- The installer could test the thickness of concrete floor by conducting drilling test at each site. If several sets of car lifts are to be installed at one location, it is preferred to conduct drilling test at each site.
- Prepare proper power supply before installing the lift. Electrical wiring should be conducted by certified electrician.

#### 10.2Installation Procedure

#### 10.2. Select proper installation site

Select the installation site according to the following requirement.

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSO 091-775-5977

The lift must be installed on a concrete slab with the minimum thickness of 250mm and minimum
curing time of 7days.
The concrete slab need to be steel bar reinforced.
The concrete slab need to leveled.



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

- If the overall depth of the whole concrete ground exceed 250mm, the lift can be installed directly.
- Check the working area,passageway and exit for possible obstacles like low ceilings,overhead pipeline and etc.
- Sufficient space need to be reserved in front of and behind car lift to accommodate various cars, see fig. 8.(4m from its center to the wall)

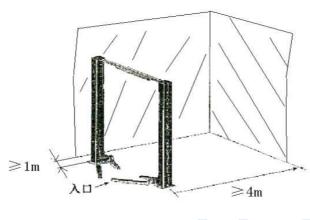


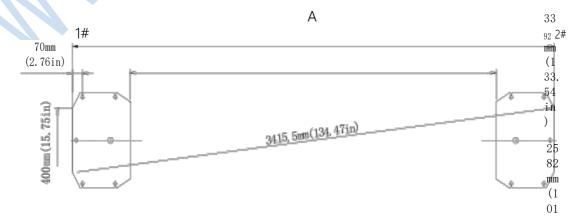
Fig. 8

#### 10.2.2 Base plate layout

MLT235SC(U) symmetric installation dimensions are shown in fig.9a, MLT235SC, MLT240SCsymmetric installation dimension are shown in fig.9b, MLT235SB, MLT240SB symmetric installation dimension are shown in 9c.

The symmetric installation dimension of MLT235SC(U),MLT235SC/MLT240SC and MLT235SB/MLT240SB are as shown in picture 9a,9b,and 9c respectively.

- According to the basis of total width(A),draw two parallel lines(#1 and #2) on the concrete slab,with its tolerance within 3mm.
- Position the main column at any chalk line and mark the total width(B) of the base plate ,then mark point #3 and #4.
- □ Starting from point #3,draw a diagonal(C) to form a triangle. Thus there will be a vertical line to determine the location of both columns.

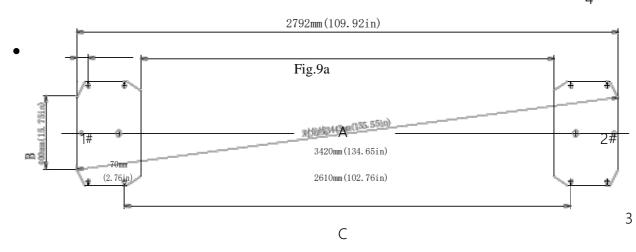


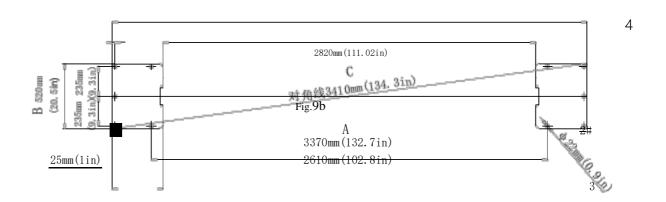
บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กกม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977







2770mm(109.1in) 380mm (15in)

Fig.9c

MLT235SC(U)asymmetric installation dimension is shown in fig.10. MLT235SC 、

MLT240SCasymmentric installation dimension is shown in fig.10b:

- According to the basis of total width(A),draw two parallel lines(#1 and #2) on the concrete slab,with its tolerance within 3mm.
- Choose any point on chalk line #1 as point B,move downward by 131mm from datum point B, then move toward right by 228mm to get point C.Next,according to datum point B and C,draw the vertical line of line #1 with length A and L respectively,then get point D and E.With these 4 feature points including B,C,D and E,the position of both columns could set.

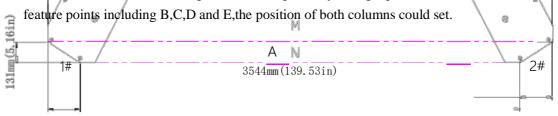
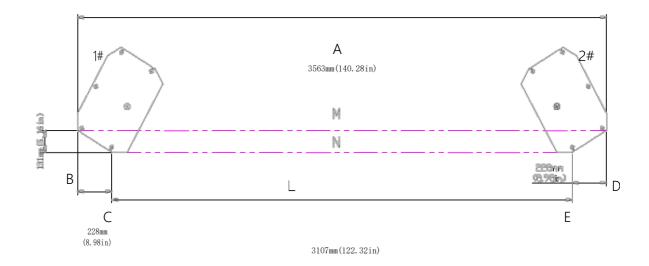


Fig. 10a



#### Attention:

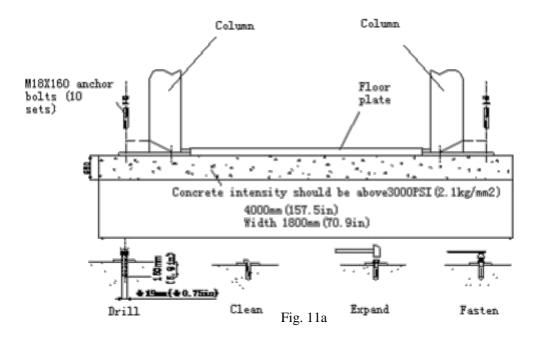
All the measurements are based on the external border of base plate.

Make sure the overall tolerance is controlled within 6mm, which could eliminate the possible difficulties in final assembly, the premature wear and non-alignment of chain.

The layout is very important. Inaccurate layout maybe cause problems during the final assembly and operation.

#### 10.2.3 Install main column

As for clear floor car lift, first connect and assemble both columns with their extensions. Lift the main column with lifting equipment to place it upper right to the location. Align the base plate of column with the layout marked with chalk line. Guided by the holes in the base plate, secure the lift to the concrete floor with 5 anchor bolts. Drill the holes and install all the anchor bolts at the same time. Ensure no movement of the column during the drilling process (see fig. 11a).



As for base-plate 2-post lift, lift the main column with lifting equipment to place it upper right to the location. Align the base plate of column with the layout marked with chalk line. Guided by the holes in the

base plate, secure the lift to the concrete floor with 5 anchor bolts. Drill the hole and install all the anchor bolts at the same time. Ensure no movement of column during the drilling process (see fig. 11b).

#### Attention:

Use sharp  $\phi$ 19mm concrete drill to prevent hole from being drilled too large.Drill the hole and blow the dust out of the hole with pneumatic tools.The effective depth of the holes is the same as that of anchor bolts,then insert anchor bolts.Make the washer lean against the base of the column.Only secure the anchor bolts with torque wrench instead of impact tool.

Insert proper steel shims under the column base to make the column vertical to the floor.

Attention: The thickness of those shims under the base should not exceed 5mm.

Follow the following installation procedure to ensure the correct and secure installation and fulfill the lift's performance.

•
Wear the safety goggles.
Use hard carbide-tipped drill.
Do not use drill with its wearing exceeding tolerance.
Keep drill vertical to the surface where the holes need to be drilled.
Let the drill work on their own,do not exert any extra pressure and do not reaming.
The holes need to be drilled with proper depth according the length of screw. The distance from bolt's
head to the floor should not be less than double of bolt's diameter.
Blow out the dust in the hole.
Slightly knock the screw to the hole till the washer lean against the clamp.then tighten the bolt.

### 10,2.4 Install the guiding plate and crossbeam

## 10.2.4.1 Install the crossbeam

Position the sub column at the designated chalk location. Lift crossbeam into position,use 4 M12 bolts,washer and nut to fix it with posts(as shown in fig. 12). While installing crossbeam,make sure the micro switch support bracket is adjacent to main column. As shown in fig. 7, symmetric top pulley are to be installed at position#1 and #1", while asymmetric top pulley are to be installed at position#2 and #2".



17

บริษัท เวเอเอส ไฮโดรลิค วำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

#### 10.2.4.2 Install the guiding plate

Position the sub column at the designated chalk location. Insert the guiding plate to the U-shape notch in base plate.



As the sub column is not secured to the floor with bolts, operate it carefully to prevent the column from falling.

The wire protective tube on the guiding plate must be at the same side with the threading pipe close to the bottom of post and make sure guiding plate are placed in front position.

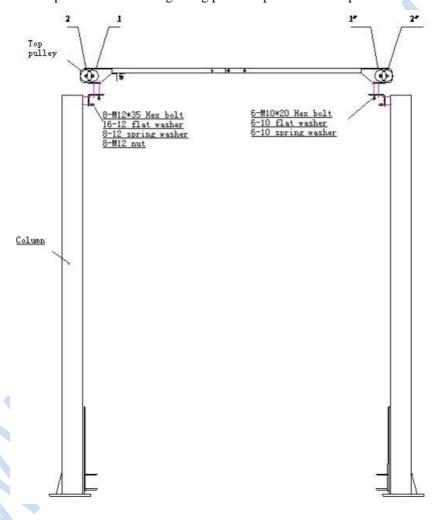


Fig. 12

### 10.2.5 Secure the sub column.

Secure sub column according to the procedure shown in step 3.

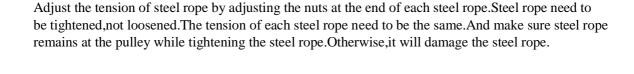
## 10.2.6 Install and adjust the synchronization cable

Lift both carriages to the same safety locking position. Make sure they are of the same height from the ground. Connect the steel ropes of MLT235SC、MLT240SC、MLT235SC(U) and MLT235SB、MLT240SB according to fig. 13a and 13b respectively.

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSO 091-775-5977

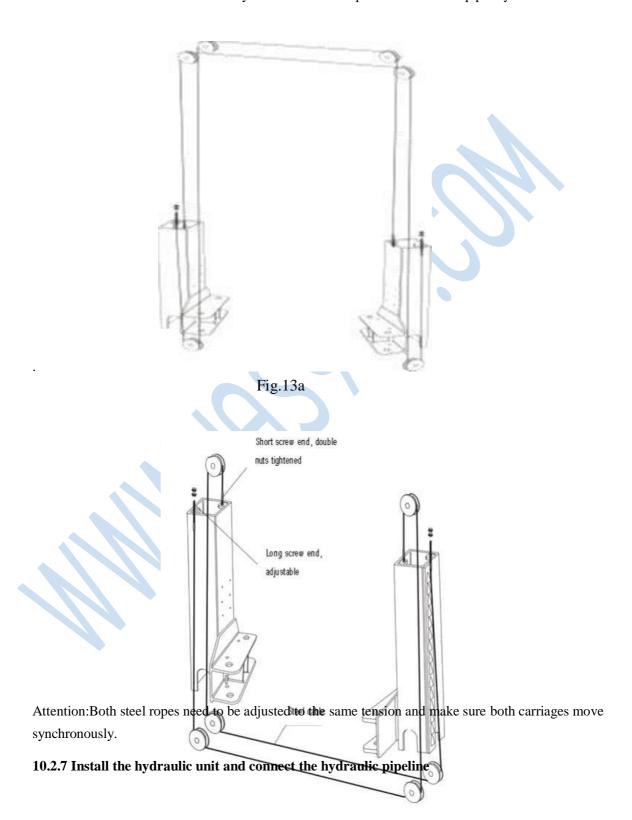


บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

Attention:Before operating car lift,recheck the synchronization cable to make they are not crossed with each other or installed incorrectly.Make sure steel rope remains at the top pulley.



บริษัท เวเอเอส ไฮโดรลิค วำกัด

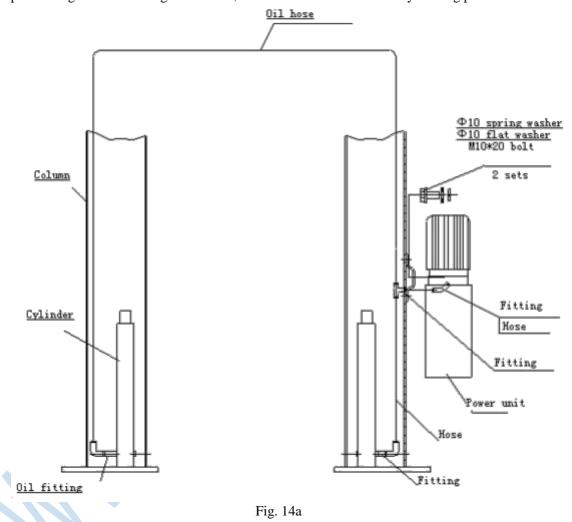
ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

Fix the hydraulic unit with 2 pcs of M10 bolts and washers for MLT235SC、MLT240SC、MLT235SC(U) and MLT235SB、MLT240SB according to the hydraulic pipeline as shown in picture 14a and 14b respectively. Then tighten all the connectors to prevent them from leaking oil. Fill the oil container with enough hydraulic oil(about 10L). Operate carefully to prevent dust and other pollutant from mixing into the hydraulic oil.

# Attention:

Clear the debris in pipe and remove the protection plugs of hydraulic cylinders. If the oil hose is required to pass through column during installation, make sure it does not touch any moving parts.



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977

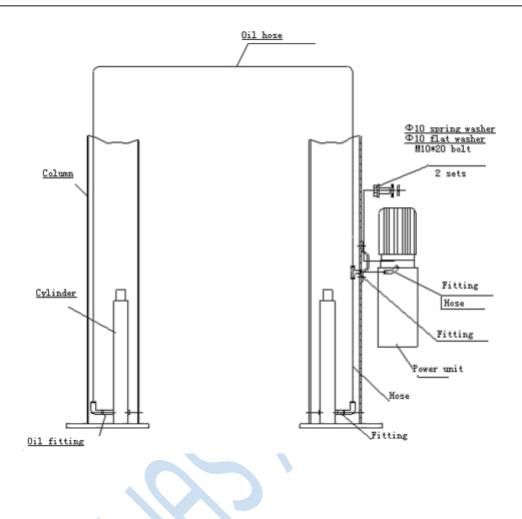


Fig. 14b

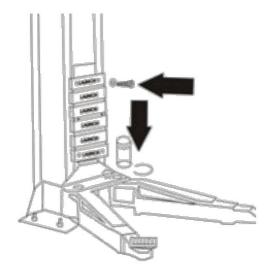
## 10.2.8 Install the arms

Install the arm in accordance with the way as shown in Fig. 15.

## บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977



Attention:Before operating, check to see if the arm locks could engage very well. If not, it could be engaged through adjusting the screw that used to secure the half gear plate. During installation, arm and carriage assembly need to be lubricated to let the arm move freely.

# **Chapter 11 Commissioning of the**

Lift

Fig. 15

### 11.1 Preparation before commissioning

Evenly lubricate the sliding surface of carriages with Lithium grease from up to down. Fill oil container of the hydraulic unit with N32 or N46 oil.

#### 11.2 Commissioning Procedure

- Check to see if the power supply of motor is installed correctly.
- ☐ Check to see if all the connecting bolts are fastened.
- ☐ Press the up button on the motor, the carriage will rise; release the button, carriage will stop. To lower

21

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 หรือ 091-775-5977

the carriage,pull the handle of safety lock on each carriage. If it doesn't work,jog up button, then pull the handle once again. Press the lowering lever on power unit to lower carriage. Release the handle, then the carriage will stop. Before repairing the car, repairing the car, once the car is raised to the required height, press the lowering lever to engage the safety lock to ensure safe operation. As the hydraulic system of the newly installed car lift may contain air, which need to be released. While connecting the pipe, the cylinders are required to stay in the lowest position when the air plenum is smallest. Then raise and lower the car repeatedly for several times.

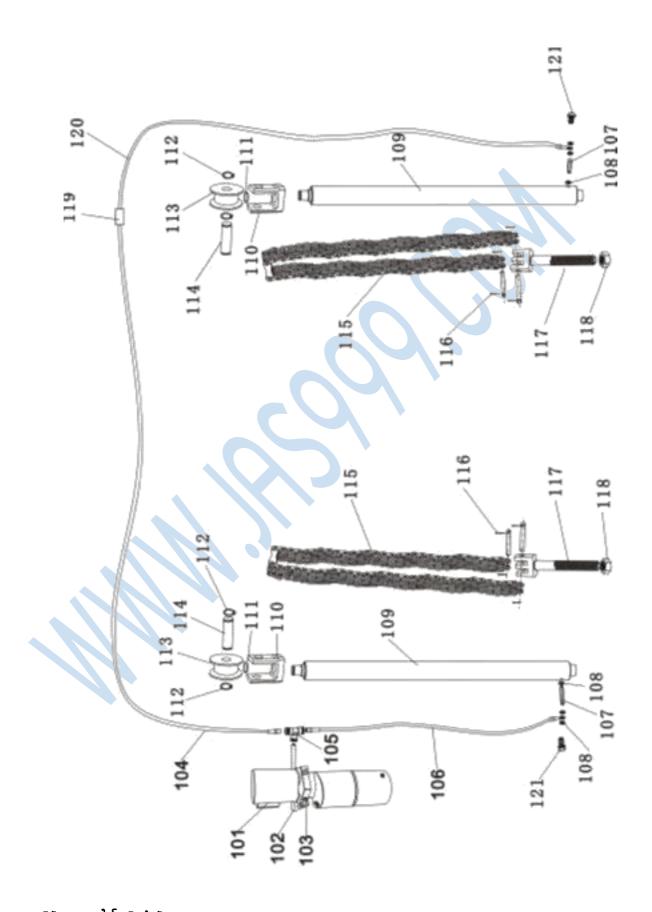
The commissioning is completed.

# **Chapter 12** Parts list of the lift

The list is only used as a reference for maintenance and repair. Our company declines any responsibilities for any consequence caused by using it for other purpose.

ที่อยู่ : 1/5/2-3 ซอย 60 พระราม 2 เขวมแลมดา เขตบามขุนเทยน ทกม. าบารบ

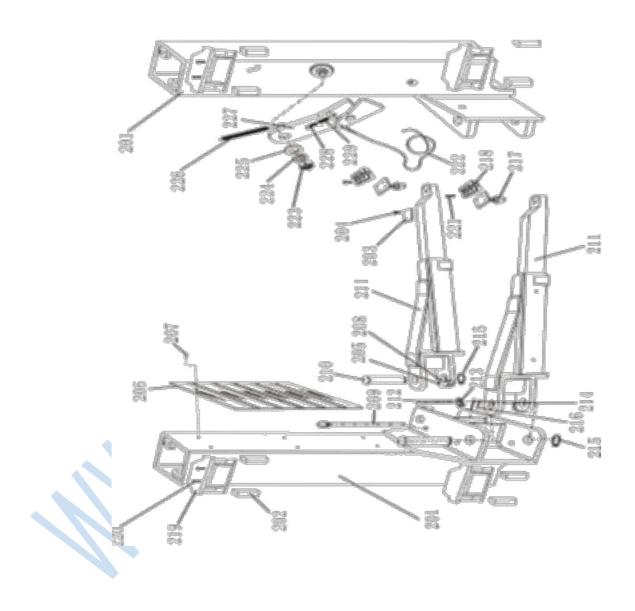
(calicenter): 02-4155437-9 HSD 091-775-5977



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

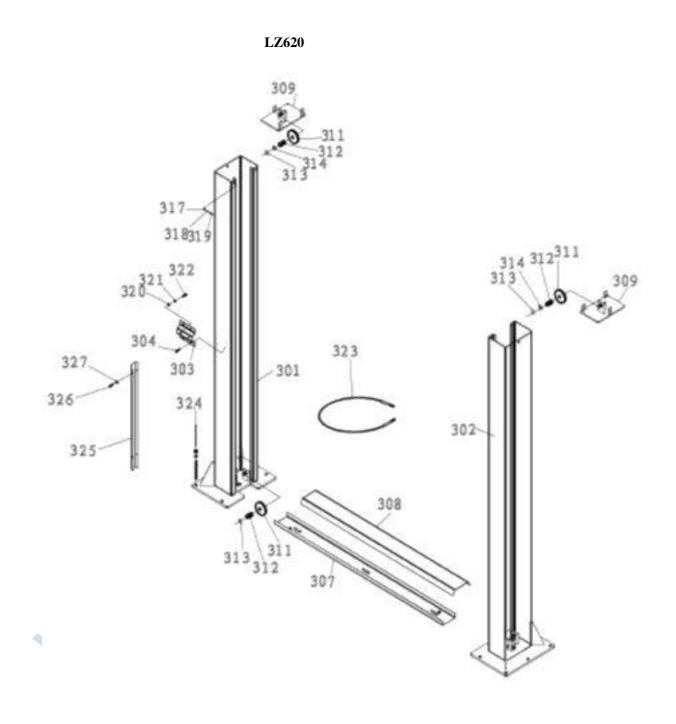
## LM670/LZ620



บริษัท เจเอเอส ไฮโดรลิค จำกัด

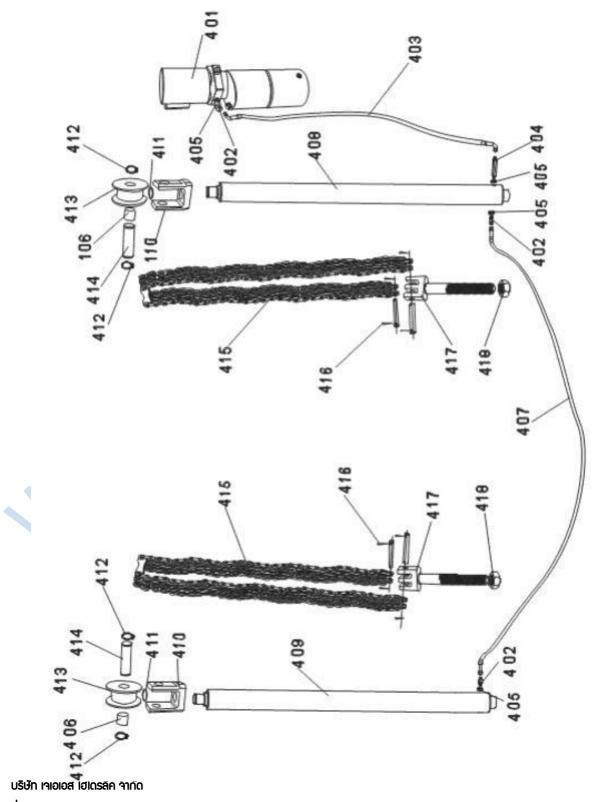
ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977



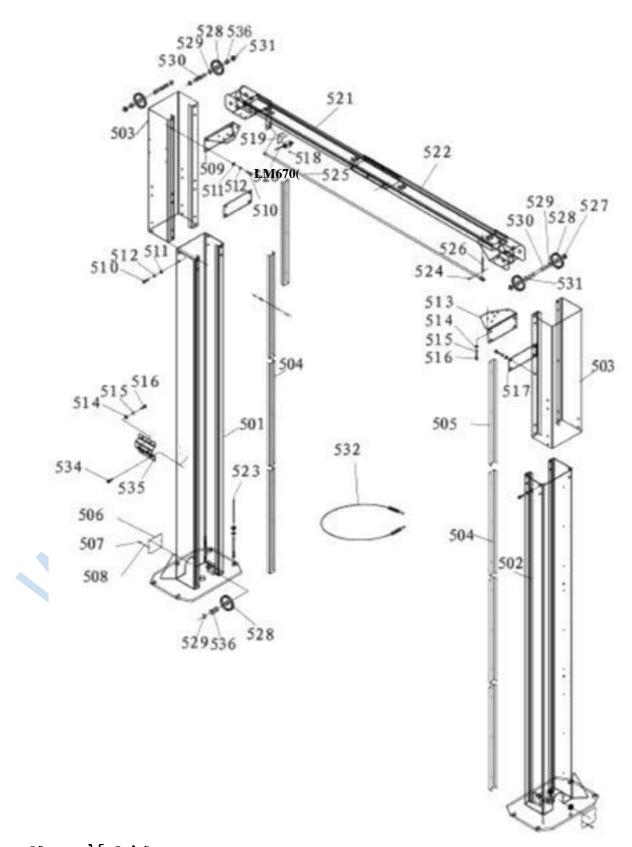
ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977



ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

No.	Description
1	LM670(U) main column
2	LM670(U) sub column
4	Protective cover inside column
6	Down cover of main column
7	Screw M5×8
8	Flat washer 5
9	Connecting bracket I
10	Bolt M12×35
11	Plain washer 12
12	Spring washer 12
13	Connecting bracket II
14	Plain washer 10
15	Spring washer 10
16	Bolt M10×20
17	Bushing 2520
18	Screw M4×25
19	Bracket
20	Limit switch
21	Inner crossbeam
22	Outer crossbeam
23	Click core type expansion bolt M18×160
24	Pin 3X26
25	Long rod
26	Supporting axle of long rod
27	Bushing II
28	Pulley
29	Shield ring 25
30	Symmetric axle
31	Bushing I
32	Steel rope
34	Screw M6×10
35	LM670 (U) Installing bracket of hydraulic unit

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

101	Power unit with manual unloading
102	High pressure oil hose L=880
102	Fittings M14×1.5 (for domestic pump )
103	Fitting G1/4" (for imported pump)
104	High pressure oil hose L=5370
105	T-connector
106	High pressure oil hose L=930
107	Connecting pipe

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

108	Seal ring 14
109	Sub cylinder
110	Chain roller seat
111	Shield ring 32
112	Shield ring 30
113	Chain roller
114	Chain roller axle
115	Leaf chain
116	Split pin 2×26
117	Threaded end of chain
118	Nut M16
119	Connecting pipe
120	High pressure oil hose of sub column
121	Connecting bolt
	LM670 LM670(U) carriage
201	LM670 carriage
201	LZ620 carriage
	LZ620 carriage
202	Sliding block
202	Adjustment shim for sliding block
203	Rubber pad on swing arm
204	Screw M6×10
205	Semi-gear plate
206	Door safety guards
207	Screw M8×12
208	Screw M10×25
209	Top rod assembly
210	Pin
211	Arm
212	Spring
213	Arm locking device
214	Pin 5×32
215	Shield ring 40
216	Split pin 3.2×30
217	Lifting pad assembly
218	Rubber pads
219	LZ620 /LM670 /LM670(U) Top fixing board
	LZ620/ LM670 Top fixing board
220	Screw M10×30

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

221	Screw M8×16
222	Steel rope
223	Nut M16



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

224	Spring washer 16
225	Plain washer 16
226	Spring Spring
227 —	
228	Safety lock assembly Screw M8×40
229	
229	Spring
	LZ620 Main column
301	
302	
	LZ620 Sub column
303	LZ620 Installing bracket of power unit
204	LZ620 Installing bracket of power unit
304	Screw M6×12
305	Plain washer 6
306	Spring washer 6
307	U-plate
308	Base plate
309	LZ620 Top plate of column
	LZ620 Top plate of column
311	Cable Roller
312	Bushing 2520
313	Shield ring 25
314	Washer
317	Plain washer 12
318	Spring washer 12
319	Bolt M12×35
320	Plain washer 10
321	Spring washer 10
322	Bolt M10×20
323	Steel rope
324	Expansion bolt M18×160
325	Protective cover of hose
326	Screw M5X12
327	Washer 5
401	Power unit with manual unloading
402	Connecting pipe
403	High-pressure oil hose

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

404	Throttle joint
405	Seal washer 14
406	Bushing 3052
407	High pressure oil hose



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

408	Main ardindan
	Main cylinder
409	Sub cylinder
410	Chain roller seat
411 —	Shield ring 32
412	Shield ring 30
413	chain roller
414	Chain roller axle
415	Leaf chain
416	Split pin 2×26
417	Threaded end of chain
418	Nut M16
501	LM670 Main column
301	LM670 Main column
502	LM670 S Sub column
302	LM670 Sub column
502	LM670 Extended column
503	LM670 Extended column
504	Protective cover inside column
505	Protective cover inside extended column
506	Down cover of main column
507	Screw M5×8
508	Plain washer 5
509	Connecting bracket I
510	Bolt M12×35
511	Plain washer 12
512	Spring washer 12
513	Connecting bracket II
514	Plain washer 10
515	Spring washer 10
516	Bolt M10×20
517	Reinforced connecting board
518	Screw M4×25
519	Bracket
520	Limit switch
521	Inner crossbeam
522	Outer crossbeam
523	Click core expansion bolt M18×160
524	Pin 3X26
525	Long rod
323	20115 100

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

526	Supporting axle of long rod
527	Bushing II
528	Cable roller



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

529	Shield ring 25	
530	Symmetric axle	
	Asymmetric axle	
531	Bushing I	
532	Steel rope	
534	Screw M6×10	
525	LM670 Installing bracket of power unit	
535	LM670 Installing bracket of power unit	
536	Bushing 2520	
601	Push button NB2-BE101, green	
602 Contactor (shihlin)(,S-P11,AC24V		
603	Transformer, JBK-25,220V,380V/24V	
604	Main switchLW39B-16RE04/-2-GR (small)	
605	Water proof box, 240*160*90, (black)	
606	Cable joint PG13.5	
607	Cable joint PG9	
608	Flat washer C class, GB/T95-1985,φ4( white zinc plated )	
609	Hexagon nut , GB/T6170-2000, M4(while zinc plated)	
610	Ground copper bar	
611	Cross recessed countersunk head screw , M4*18	
612	Emergency stop button LA39-11Z/r	

# Safety data sheet of machine oil

# No.#2 lithium based lubrication grease

Item	Quality index
Conical degree (1/10mm)	278
Dropping point ${}^{\circ}\!$	185
Corrosion (T2 copper sheet, 100 °C, 24h)	No change for copper
	sheet
Copper mesh oil split (100°C, 22h) %	4
Evaporation (100°C, 22h) %	2
Oxidation stability (99°C, 100 h)	0.2
Anti-corrosion (52°C, 48)	Class 1
Impurities(microscope)/ (pcs/cm³)	
Above 10µm no more than	5000
Above 25µm no more than	3000
Above 75µm no more than	500
Above 125µm no more than	0

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมแสมดำ เขตบามขุนเทียน กทม. 10150

(calicenter): 02-4155437-9 HSD 091-775-5977

Similar viscosity $(-15^{\circ}\text{C}, 10\text{s}^{-1})$ ,/(Pa·s) no more than	800
Water spray loss (38°C, 1h) (%)	8
no more than	0



บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 พระราม 2 แขวมเสมดำ เขตบามขุนเทียน กทม. 10150

(callcenter): 02-4155437-9 H5o 091-775-5977

# N32 Hydraulic oil ( used for low ambient temperature )

Item	Quality index
Kinematic viscosity 40°C	28.8~35
Pour point /°C no higher than	-15
Flash point /°C no lower than	175

## N46 Hydraulic oil used for high ambient temperature )

Item	Quality index
Kinematic viscosity 40°C	41.4~50.6
Pour point /°C no higher than	-9
Flash point /°C no lower than	185

บริษัท เจเอเอส ไฮโดรลิค จำกัด

ที่อยู่ : 175/2-3 ซอย 60 เมระราม 2 แขวมเสมดำ เขตบามขุนเกียน กทม. 10150

(callcenter): 02-4155437-9 HSD 091-775-5977