Instructions and Maintenance Manual

Movable Mid-Rise Scissor Lift

The specifications stated on this brochure are not binding. We reserve the right to change the specification without notice

Disclaimer

No part of this book shall be reproduced, stored in retrieval, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise without the written permission of While every precaution has been taken in the preparation of this manual, the publisher assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of information contained herein.

reserves the right to make changes, without notice to this document and the products are describe or it's distributors shall not be liable for technical or editorial errors or omissions made herein; nor for incidental or consequential damages resulting from the furnishing performances, or use of this document.

This manual contains information that is correct to the best knowledge of It is intended to be a guide and should not be considered as a sole source of technical instruction. It should not replace good technical judgment since all possible situations cannot be anticipated. If there is any doubt as to the exact installation, configuration, and/or use, please call or its distributor.

The choice of system component is the responsibility of the buyer, and how they are used cannot be the liability of or its distributors. Assembly, installation, commissioning, initial adjustment and testing, or any work relating to EXTRAORDINARY maintenance, repair, overhauls, transport and dismantling of the Lift must be performed by specialist personnel from the authorized to commission, install and dismantle Lifts.

The manufacturer and its distributors decline all responsibility for injury to persons or damage to vehicles or objects when any of the above mentioned operations have been performed by unauthorized personnel or when the rack has been subject to abuse.

This manual explains the operational and safety aspects that may prove useful to the Operator and Maintenance personnel. It will give a better understanding of the structure and operation of the Lift and the best use of the Lift. The operator should familiarize himself with the technical and safety aspects of the Lift to be competent in operating the Lift.

The words "Operator" and "Maintenance Fitter" used in this manual are construed as follows:

OPERATOR: person authorized to use the Lift. The Lift must be operated in the correct manner as indicated

MAINTENANCE FITTER: person authorized for routine maintenance of the Lift.

The end user can only use the Lift in the correct manner to which it is intended as defined in the instructions.

Loose clothing should not be worn when operating the Lift. Any personnel with long hair operating the Lift should use a protection cap as precautionary safety measures.

******* IMPORTANT NOTE ********

The following must be observed at all times to ensure correct use of the hoist.

- **Follow regular maintenance schedule as per manual**

- **Ensure safety precautions are taken and use the hoist in accordance with the manufactures instructions**
- **It is the Owner's responsibility to ensure all safety regulations and work cover requirements are met to satisfy all state laws**

Index

PACKING, TRANSPORT AND STORAGE

ALL PACKING, LIFTING, HANDLING, TRANSPORT AND UNPACKING OPERATIONS ARE TO BE PERFORMED EXCLUSIVELY BY EXPERT PERSONNEL WITH KNOWLEDGE OF THE LIFT AND THE CONTENTS OF THIS MANUAL.

PACKING

	The Lift is shipped disassembled into the following parts	Weight (kg)
1.	Complete vehicle body including frame and rams	340kg
2.	Motor and pump assembly and accessory package.	20kg

GROSS WEIGHT	385kg

TRANSPORTATION

The PACKAGE may be lifted and moved with a lift truck (Fig.1) or crane (Fig.2). If either of the latter two is used, crates must be harnessed with at least 2 slings.

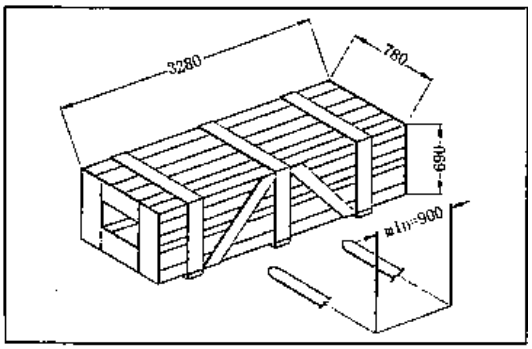


Fig.1

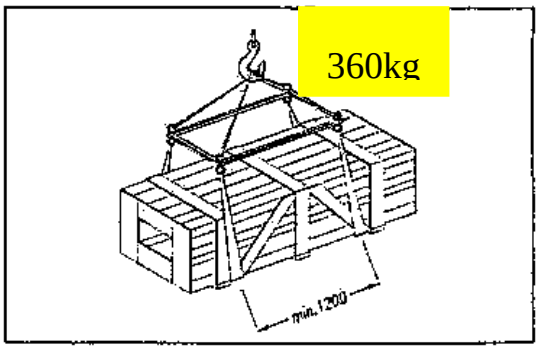


Fig.2

The equipment chosen must be suitable for safe lifting and moving, bearing in mind the dimensions and weight.

STORAGE

Packed boxes must be kept in a covered, protected place, at a temperature between -10°C - +40°C. They must not be exposed to direct sunlight or rain.

STACKING

The type of packaging allows the lifts to be stacked up to 5 crates high. Crates may be stacked one upon the other on trucks if properly positioned and provided they are restrained to prevent falling.

UNPACKING

Check that the lift has not been damaged during transport and that all parts listed are present. The crates must be opened using precautionary measures to avoid damaging the lift or its parts. Ensure that parts do not fall from the crate whilst opening.

WARNING INTRODUCTION

This manual has been prepared for workshop personnel and technicians responsible for routine maintenance. It must be read prior to carrying out any operation with the lift. It contains important information regarding the personal safety of operator and maintenance workers as well as lift safety.

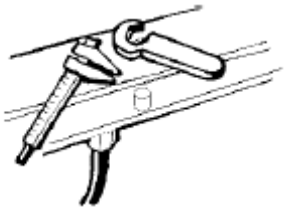
LIFT SAFETY

2700kg: The rated load is 2700kg. Do not allow the lift load weight to exceed 2700kg.

This symbol conveys the attention that should be taken for electrical hazards.

Environment

Environment must be clean and in orderly conditions. In particular, hazardous areas must be duly delimited.
Any oil or grease on the floor shall be removed immediately to prevent any risk of slipping or falling.



No object (e.g. work tools and materials) shall be left on the machine (or in places where these may interfere with its mechanical movements) nor kept in places where they may fall and hence cause accidents.

Do not clean nor touch any mechanical part while in motion.

The use of loose-fitting working cloths (e.g. scarves, button-down shirts, etc.) can be hazardous. Always wear close-fitting garments.

PRESERVING THE MANUAL

The manual is an integral part of the Lift, which should always accompany the lift, even if the unit is sold. The manual must be kept in the vicinity of the Lift in an easily accessible place so that the operator and maintenance staff are able to locate and consult the manual at any time.

IT IS HIGHLY RECOMMENDED TO CAREFULLY READ CHAPTER 3, WHICH CONTAINS IMPORTANT INFORMATION AND SAFETY WARNINGS.

ENVIROMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste, all tools, accessories and packaging should be sorted, taken to a recycling center and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain off and fluids (if applicable) into approved containers and dispose of thee product and the fluids according to local regulations.

CHAPTER 1 – LIFT DESCRIPTION

The hydraulic moveable lift can operate on flat ground or the grade of a slope, less than or equal to 3º.

The lift consists of the following main parts:

1. Fixed structure (frame)
2. Moving units (idle wheel and hydraulic vehicle)
3. Lift units (2 hydraulic cylinders + power unit)
4. Control station
5. Safety devices

Fig.3 illustrates the various parts of the lift.

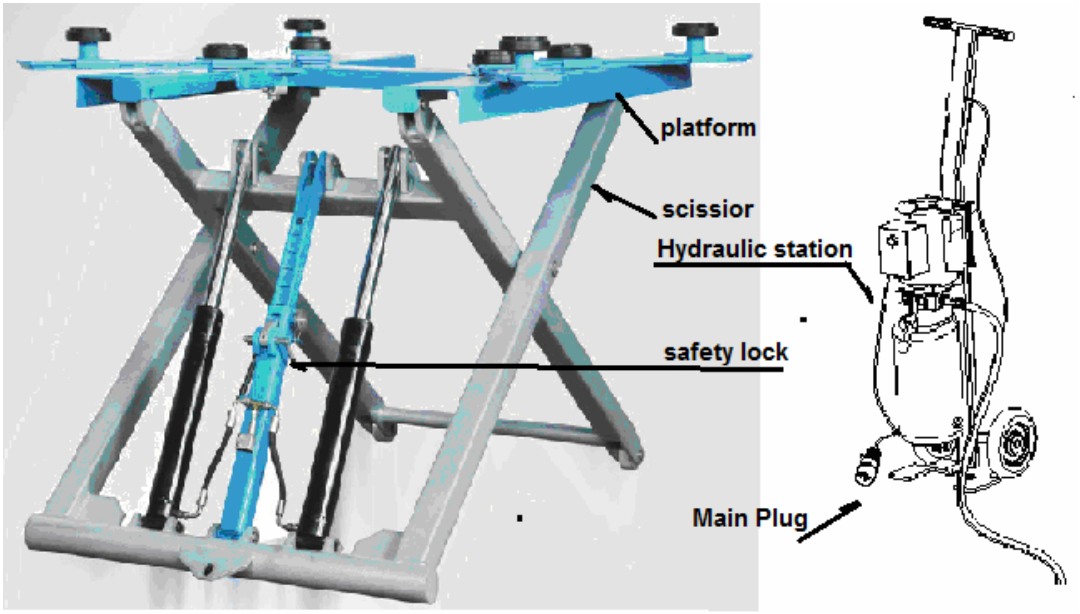


Fig.3 Complete unit

1.1 FIXED STRUCTURE (FIG.3)

The frame and the arms are all combined with steel plates, which are the base components of the moveable lift.

1.2 MOVING UNITS (SEE FIG.3)

Each unit consists of:

Six idle wheels. Four are mounted on the base angle of the frame arms; the other two (slightly larger) are mounted on the bottom of the movable hydraulic vehicle. A connection - a pin shaft between the movable vehicle and the underside beam of the frame.

1.3 LIFT UNIT (SEE FIG.5)

Consists of:

1. Two hydraulic cylinders, to lift the frame.
2. One hydraulic unit (see Fig.5), mounted on the mobile trolley.

1.4 HYDRAULIC POWER UNIT (FIG.4)

The hydraulic power unit consists of:

1. An electric motor
2. A geared hydraulic pump
3. Descent hand-valve equipped with a manual oil drain valve (see use and maintenance

chapter)
4. A adjusting pressure valve
5. Two oil cylinders
6. Oil tanks
7. Two steel flexible pipes to deliver oil

Note: The pressure of the oil delivery pipe may be not less than 40Mpa

1.5 CONTROL BOX (FIG.5)

The panel that houses the electric control box contains the following:
1. Power supply plug
2. UP push button

Note: the other control such as DOWN handle and Lock Releasing handle is equipped at the hydraulic station.

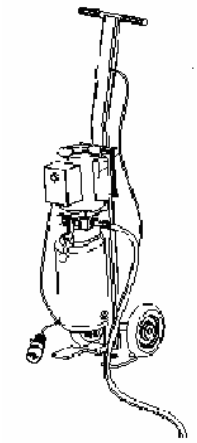


Fig.4 hydraulic system

Fig.5 safety device

1.6 SAFETY DEVICE

The safety devices include:
1. Arms locking system
2. Explosion valve

These safety devices will be described in further detail in the following chapters.

Important note:

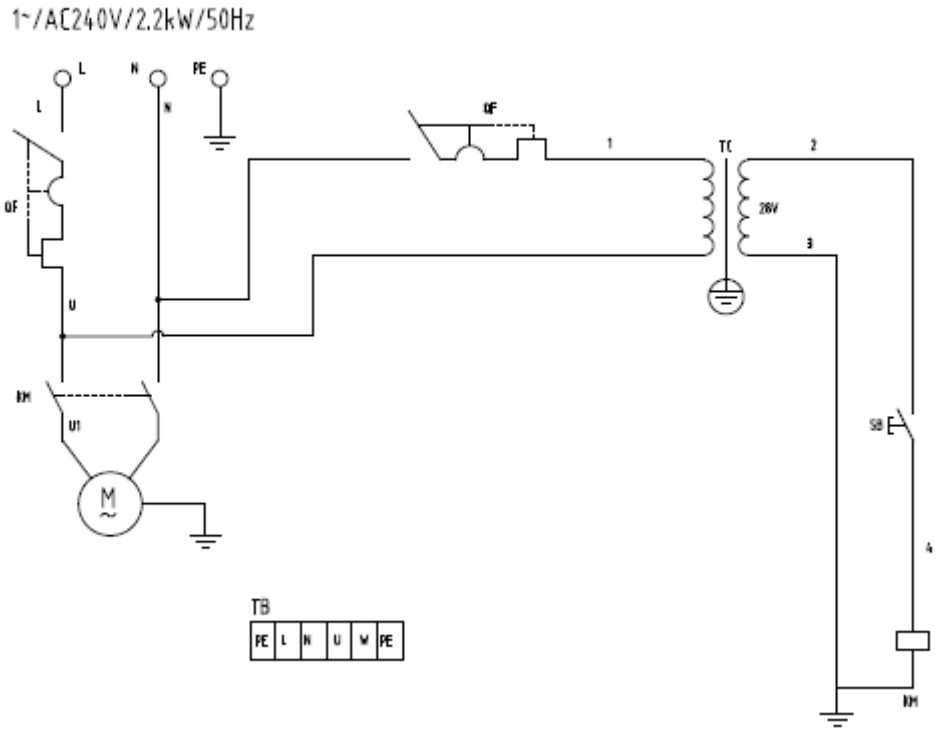
The mechanical lock is safety device for preventing hazards resulting from falling of lift due to cylinder failure. Carefully patient shall be paid with it, especially, it is not allowed to permanently deformation be happened. Check it carefully before operation and make sure its function well.

CHAPTER TWO - TECHNICAL SPECIFICATIONS

Capacity	2700kg
Car max lifting height	1200mm
Lift min stand height	120mm
The frame width	1082mm
The total length	1685mm
Rise time with three-phase motor	25 sec
Rise time with single-phase motor	30 sec
Descent time	30 sec
Gross weight	385kg
Net weight	360kg
Noise pressure level	About 70dB (A) 4dB uncertain at 1m away from machine and 1.6 height, EN ISO 11202 and EN ISO 3746 applied
Operating temperature	-10~50℃
Work environment	Flat ground or grade of < 3°
Relative humility	90% at 20℃

2 .1 POWER DEVICE

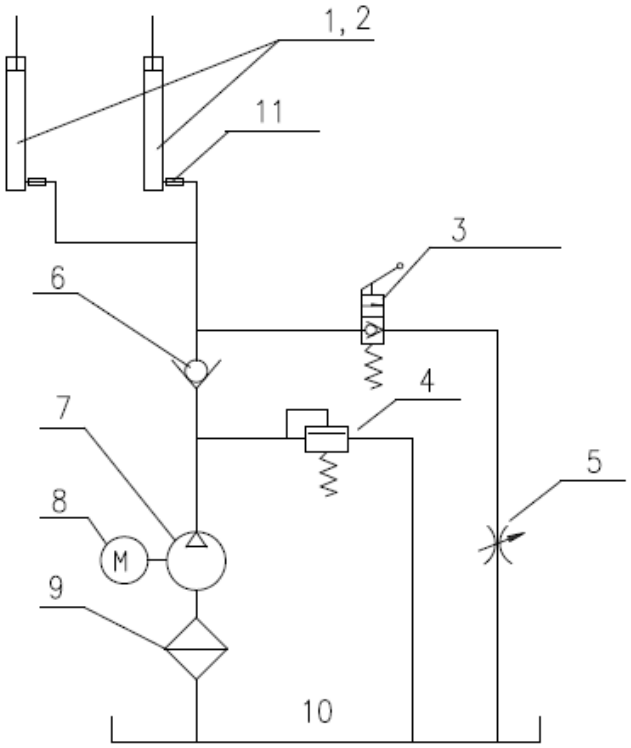
2.1.1 ELECTRIC PRINCIPLE DIAGRAM AND ACCESSORIES



SB	START SWITCH	QF1/QF2	Breaker	T	Transformer
KM	ALTERNATING CONTACTOR	M	ELECTRIC MOTOR		

2.2 HYDRAULIC SYSTTEM

2.2.1 PRINCIPLE DIAGRAM AND ACCESSORIES



2.2.2 HYDRAULIC ASSEMBLY

(1,2）	Oil cylinder and anti-broken valve
(3)	Descending valve
(4)	Pressure limit valve
(5)	Flow adjusting valve
(6)	Retaining valve /Throttle valve
(7)	Pump station
(8)	Electrical motor
(9)	Oil filter
(10)	Oil Tank
(11)	Anti leakage valve

2.2.3 HYDRAULIC OIL RECOMMENDED

The oil reservoir contains hydraulic mineral oil in accordance with ISO/DIN 6743/4 with a level of contamination according to ISO 4406, for example Valvoline Ultramax 32 or equivalent.

Mobil DTE 21~27, Fina HYDRAN TS 32 is recommended.

Hydraulic oil features of Mobil DTE 21/22/23/24/25/26/27 are shown in the table below.

Hydraulic oil	density	Pour point	Flash point	*Viscosity 40°C*	*Viscosity 100°C*	*ISO Viscosity index*
Mobil DTE 21	0.849	-24	166	10.4	2.7	10
Mobil DTE 22	0.868	-24	166	21	4.5	22
Mobil DTE 24	0.879	-18	200	31.5	5.3	32
Mobil DTE 25	0.885	-18	200	44.2	6.7	46
Mobil DTE 26	0.891	-18	204	71.2	8.5	68
Mobil DTE 27	0.890	-15	212	95.3	10.9	100

or equivalent oil with features similar to those shown in below table can be used

Test standards	**Features**	**Value**
ASTM D 1298	*Density 20°C*	*0.8 Kg/l*
ASTM D 445	*Viscosity 40°C*	*32 cSt*
ASTM D 445	*Viscosity 100°C*	*5.43 cSt*
ASTM D 2270	*Viscosity index*	*104 N°*
ASTM D 97	*Pour point*	*~30°C*
ASTM D 92	*Flash point*	*215°C*
ASTM D 644	*Neutralization number*	*0.5 mg KOH/g*

In case where the average ambient temperature differs from *25° C* contact your local specialist oil supplier to find a suitable substitute.

Note:

The MSDS (material safety data sheet) of the hydraulic oil shall be attained and placed at accessible area so that it can be referenced for the first aids.

2.4 LIFTING WEIGHT

The lift weight is 2700kg.

The lift is forbidden to be overloaded; the maximum load is 2700KG

2.5 MAXIMUM DIMENSIONS OF VEHICLES TO BE LIFTED

Max width	2400mm
Max wheel base	3000mm

The underbody of cars with low ground clearance may interfere with the structure of the lift .Pay particular attention in the case of low body sports cars.

Always keep the capacity of the lift in mind. The dimensions of the vehicle will determine the SAFETY area.

The diagrams below include the criteria for defining the limits of use of the lift.

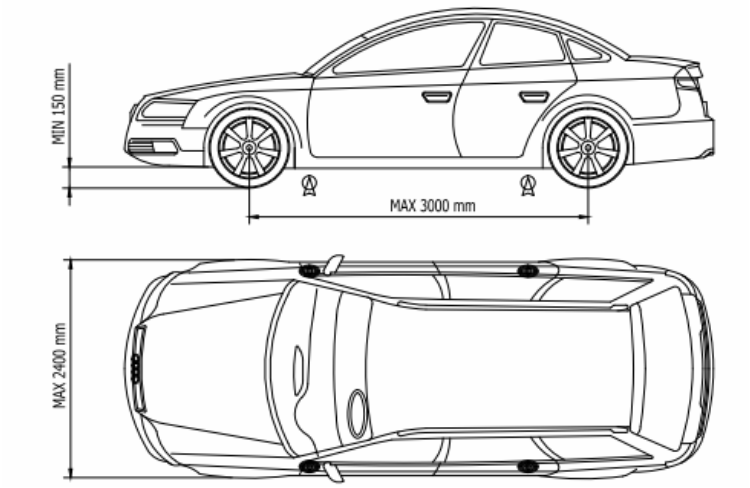


Fig.8 Minimum and maximum dimensions

CHECK MAXIMUM LOAD CAPACITY AND LOAD DISTRIBUTION IN CASE OF LARGER VEHICLES. MAXIMUM WEIGHT OF THE VEHICLE TO BE LIFT

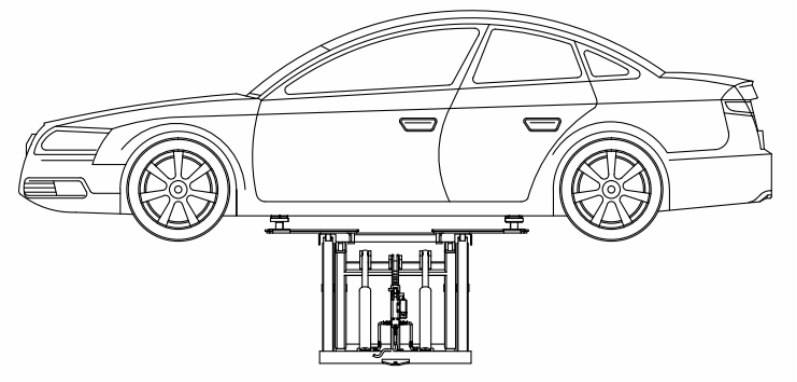


Fig.9 Weight distribution

CHAPTER 3 – SAFETY

It is vital to read this chapter of the manual carefully from beginning to end as it contains important information regarding the risks that the operator and the maintenance fitter may be exposed to in the event that the lift is used incorrectly.

The following text contains clear explanations, regarding certain situations of risk or danger that may arise during the operation or maintenance of the lift. The safety devices installed and the correct use of such systems and operating procedures including general and specific precautions eliminate potential danger.

WARNING

The lift is designed and built to lift vehicles and hold them in the elevated position in a closed workshop. All other uses are unauthorized; in particular, the lift is not suitable for:

- Washing vehicles
- Creating raised platforms or lifting personnel
- Use as a makeshift press for the purpose of crushing
- Use as goods lift
- Use as a jack for partial lifting of vehicles

THE MANUFACTURER AND ITS DISTRIBUTORS RENOUNCE ALL LIABILITY FOR INJURY TO PERSONS OR DAMAGE TO VEHICLES AND OTHER PROPERTY CAUSED BY THE INCORRECT AND UNAUTHORISED USE OF THE LIFT.

During raising and descent movements, the operator must remain in the command station as defined in Figure 10. The presence of persons inside the danger zone indicated in the same figure is strictly prohibited. The presence of persons beneath the vehicle during operations is permitted only when the vehicle is parked in the elevated position.

DO NOT USE THE LIFT WITHOUT PROTECTION DEVICES OR WITH THE PROTECTION DEVICES INHIBITED. FAILURE TO COMPLY WITH THESE REGULATIONS CAN CAUSE SERIOUS INJURY TO PERSONS, AND IRREPERABLE DAMAGE TO THE LIFT AND THE VEHICLE BEING LIFTED.

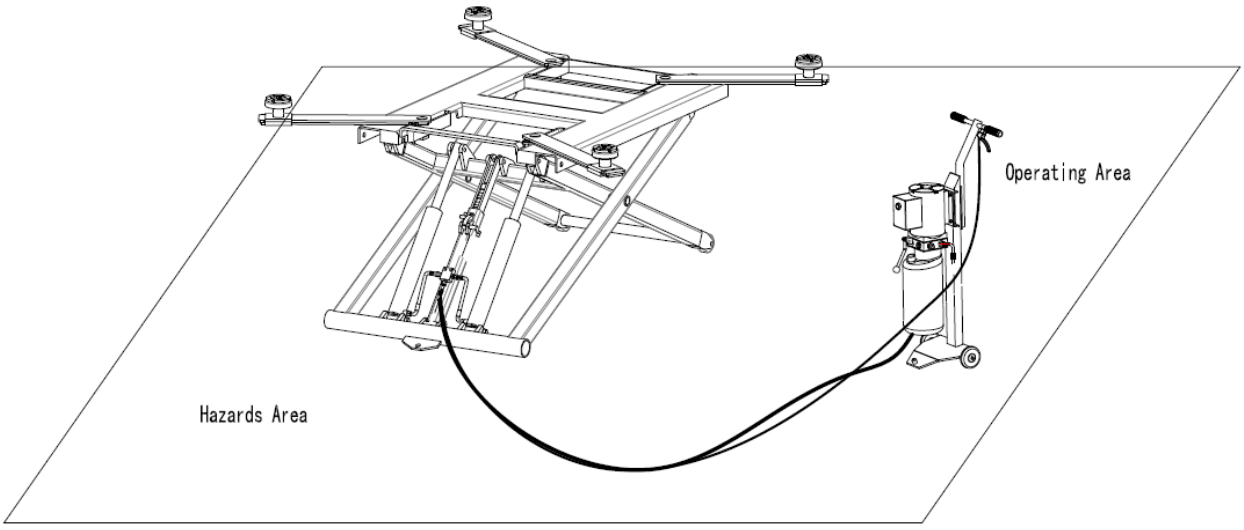


Fig.10 safety operating zone

3.1 GENERAL PRECAUTIONS

The operator and the maintenance fitter are required to observe the prescriptions of accident prevention legislation in force in the country of installation of the lift.

Furthermore, the operator and the maintenance fitter must:

1. Always work in the scheduled working area as shown in the manual
2. Never remove or deactivate the guards, mechanical, electrical or other safety devices.
3. Read the safety notices affixed to the machine and the safety information in this manual.

3.2 RISKS OF ELECTRIC SHOCK

See safety notices affixed to the lift in areas where the risk of electric shock is particularly high.

3.3 RISKS AND PROTECTION DEVICES

We shall now examine the risks to which the operator and the maintenance fitters may be exposed when the vehicle is immobilized in the raised position, together with the protection devices adopted by the manufacturer to reduce all such hazards.

3.4 LONGITUDINAL AND LATERAL MOVEMENT

The equipment chosen must be suitable for safe lifting and moving, bearing in mind the dimensions and weight. It is not allowed, when get to the height, to shift the load backward and forward or left and right, which will cause the vehicle falls off and slant.

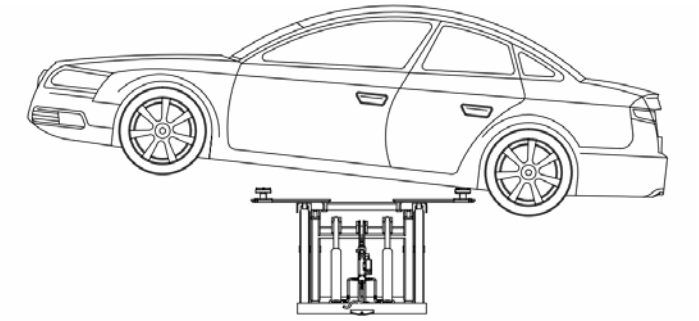


Fig.11 Risk of vehicle falling

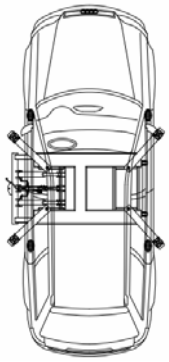


Fig.12 correctly loaded vehicle

WARNING

DO NOT ATTEMPT TO MOVE THE TABLE AND THE VEHICLE SUPPORT WHEN LIFTING.

It is important to position the vehicle on the lift so that the weight is correctly distributed.
For personal and equipment safety, it is important that:

1. People remain inside the safety area while the vehicle is being raised
2. The engine is off and the safety lock is engaged
3. The vehicle is correctly positioned. (Fig.12).
4. Only authorized vehicle are raised without exceeding the rate capacity and overall dimensions.

3.5 RISKS WHILE THE VEHICLE IS BEING RAISED

The following safety devices have been installed to protect against overweight conditions and

Equipment failure:

1. The thermal relay in the electric box will trip if the motor is overloaded.
2. The pressure-regulating valve, located on the hydraulic oil power unit, will trip if the lift is overloaded.
3. In case of a hydraulic failure in the hydraulic circuit (a broken pipe), the blocking valves, at the bottom of each cylinder, will trip.

3.6 RISKS TO PERSONELL

This paragraph illustrates risks to which the operator, maintenance worker, or any person near the operating area of the lift may be exposed in the case of improper use of equipment.

3.6.1 RISK OF CRUSHING (OPEARATOR)

The operator controlling the lift must remain in the specified position at the command panel when the platform and the vehicle are descending. The operator must never be partly or completely underneath the moving structure. During this phase the operator must remain in the command zone. (Fig.13)

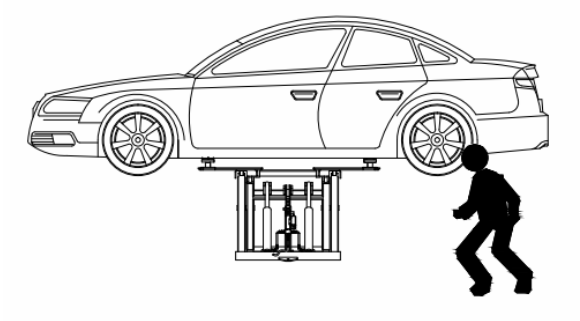


Fig.13 Crushing risk

3.6.2 RISK OF VEHICLE FALLING FROM LIFT

Caution should be taken when positioning the vehicle. Ensure that the vehicle is positioned correctly on the disk support plates in relation to the lift. Ensure the center of gravity of the vehicle is correctly positioned.

NEVER BOARD THE VEHICLE AND/OR TURN THE ENGINE ON WHEN LIFT IS RAISED.

NEVER LEAN OBJECTS AGAINST THE POSTS OR LEAVE THEM IN THE AREA WHERE MOVING PARTS ARE LOWERED

This could hamper lowering or cause the vehicle to fall from the rack.

3.6.3 SLIPPING

This risk may arise due to spillage of lubricants in the surrounding area.

ALWAYS KEEPS THE AREA SURROUNDING THE LIFT CLEAN BY REMOVING ALL OIL SPILLS.

To avoid the risk of slipping, make use of the recommended personal protection (anti-slip

footwear).

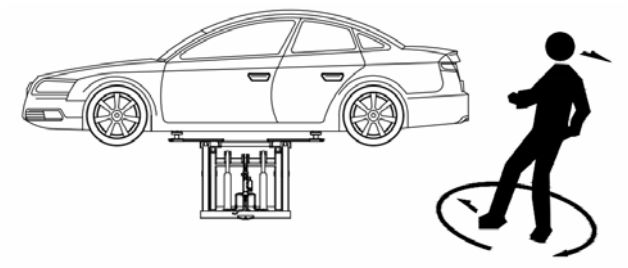


Fig.14 slipping risk

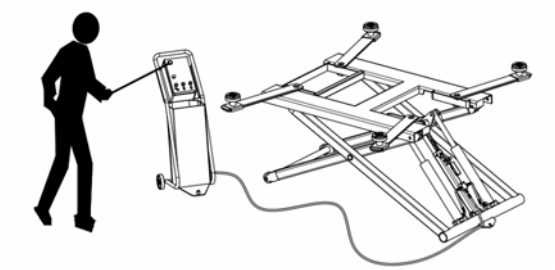


Fig.15 Electrical shocking risk

3.6.4 RISK OF ELECTRIC SHOCK

To eliminate the risk of electric shock, do not use jets of water, steam (high pressure wash units), or solvents in the vicinity of the electrical wiring housing. Do not paint in the immediate vicinity of the lift. Special care must be taken to keep such substances clear of the electrical command panel (Fig.15)

3.6.5 RISK RELATED TO INAPPROPRIATE LIGHTING.

The operator and the maintenance fitter must ensure that all the areas of the lift are properly and uniformly illuminated in compliance with optics principle and the laws in force in the place of installation.

3.6.6 RISK OF COMPONENT FAILURE DURING OPERATION

The manufacturer has used appropriate materials and construction techniques in relation to the specified use of the lift in order to manufacture a reliable and safe lift. Note however, that the lift must be used in conformity with the manufacturer’s directions and the frequency of inspections and maintenance work recommended in chapter 6 “MAINTENANCE” **must be observed**.

3.6.7 RISK RELATED TO IMPROPER USE

Personnel are not permitted to stand or sit on the platforms during the Lift maneuver or when the vehicle is in the raised position. (Fig. 16) All uses of the lift other than the use for which it was designed are liable to give rise to serious accidents involving the persons working in the immediate vicinity of the unit. It is therefore essential to adhere scrupulously to all regulations regarding use, maintenance and safety contained in this manual.

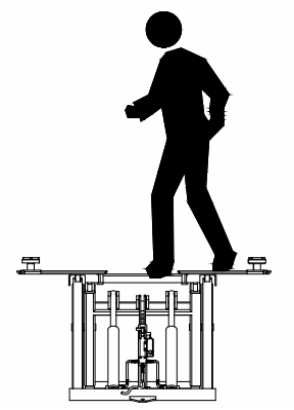


Fig.16 falling risk

CHAPTER 4 - INSTALLATION

TO AVOID INJURY TO PERSONNEL OR DAMAGE TO THE LIFT, EXPERIENCED/QUALIFIED INSTALLERS MUST PERFORM THE FOLLOWING OPERATIONS.

4.1 INSTALLATION REQUIREMENTS

The Lift can be operated both indoors and outdoors, although cannot be operated in wet conditions. It is also considered that the place of installation must be well clear of areas destined to washing or painting, and away from solvent or paint storage areas or areas where there is a risk of a potentially explosive atmosphere.

4.2 INSTALLATION

The installation of the lift is very simple.

1. Remove the transportation packaging and check the components.
2. Stand the frame
3. When the frame has been mounted, which includes the extendable arm, safety lock, idler wheels and so on, please check whether it is loose or not.
4. After mounting, connect the hydraulic station and the oil pipe, and then switch on the power. But first, check the voltage. If it isn't the same as the requirement of the lift, replace the voltage. Then find a plug suitable for the lift.
5. The motor must be installed by a fully licensed electrician.

4.3 TEST AND CHECK TO PERFORM BEFORE START-UP

4.3.1 MECHANIAL TESTS

1. Attachment and tightness of bolts, fittings and connections
2. Free sliding of moving parts
3. Clean state of various parts of the machine
4. Position of the protection device
5. Arms and lifting vehicle and other parts should be filled with lubricating oil.

4.3.2 ELECTRIC TESTS

1. Connections must comply with diagrams
2. Machine earth connections

4.3.3 OPERATING OF THE FOLLOWING DEVICES

1. Mechanic lock inserting pole.
2. Security device electromagnets
3. Hydraulic oil plant solenoid-valve

4.3.4 HYDRAULIC OIL TEST

- Sufficient oil in the tank
- No leaks
- Cylinder operation

NOTE: If oil is not present, fill the reservoir of the power unit with the necessary amount of oil.

See the procedure in Chapter 6: MAINTENANCE

4.3.5 ROTATION DIRECTION TEST

The motor should turn in the direction of the arrow located on the power unit pump; check using brief start-ups (each start-up must last a maximum of two seconds). If problems arise in the hydraulic oil plant, see the “Trouble-shooting” table in Chapter 7.

4.4 SET UP

WARNING

THESE OPERATIONS MUST ALWAYS BE PERFORMED BY TECHNICIONS OF THE AUTRORIZ SERVICE CENTRE INDICATED IN THE FRONT OF THIS MANUAL

4.4.1 POSTS ASSEMBLEING

Mount the command post

Assemble the hydraulic station on the command post, with the screws fixed on the installation panel of the hydraulic station.

CHAPTER 5 OPERATION AND USE

The lift Commands (control box) is shown as Fig.17:

5.1 CONMANDS

5.1.1 UP BUTTON

If pressed, activates the electric motor and mechanisms that lift the carriage.

5.1.2 DOWN HANDLE

If the handle moved, the overload valve will release the pressure of the system. The lift will descend.

5.1.3 LOCK RELEASING HANDLE

If the handle is pressed the lock will be released.

5.1.4 MAIN PLUG

Disconnecting the main plug will cut off the power of the lift. The voltage rate must be checked suitable before connecting it to supply. For HT-Y-J-27, the supply shall be 1~/230VAC/2.2kW/50Hz.

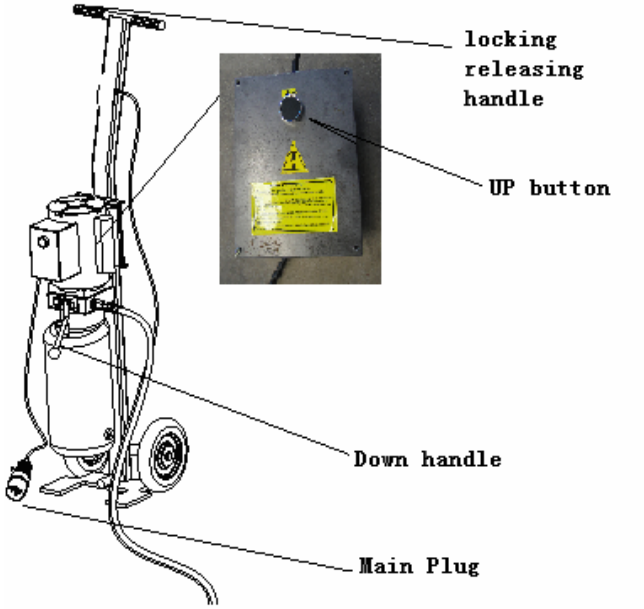


Fig.17 Control Station

5.2 OPERATING SEQUENCE

Position the lift frame in the two axes prescribed for the vehicle, adjusting the disks to the same height. Each time the carriages are brought down to the ground, check the position of the disks under the chassis of the vehicle before raising the carriages again.

5.2.1 LIFTING

Press the up push button until reaching the required height. As the carriages are raised the safety wedges are inserted automatically into each the limit block. Regarding lift limits and safety devices, see **“RISKS WHILE THE VEHICLE IS BEING RAISED”.**

5.2.2 PARKIGN

Once the required height has been reached, press the parking push button. The movement is stopped automatically when the safety wedge rests on the level of the first slot that they come in contact with while the carriages are coming down. See “the rising risk”.

5.2.3 LOWERING

Before lowering the carriages, the safety wedges must be pulled out. Move the descending handle. Lowering speed is regulated by the “flow regulating valve” in the pump. Regulate throttle to make it at the speed of 25~30sec. When assembling the lift, do not regulate again for it has been done. Lowering stops when the hydraulic cylinders are completely unloaded.

CHAPTER 6 MAINTENANCE

6.1 PRECAUTIONS

WARNING

Maintenance must be carried out only by skilled personnel who are very familiar with the lift.

When performing maintenance on the lift, follow all the necessary precautions to prevent the lift from being started accidentally**:**

1. Cut off the power and pull the plug out of the jack.

3. While maintenance is being performed on the machine, always keep in mind all the main possible risks and the safety instructions indicated in chapter 3 “safety risk of electric shock” at the machine power supply terminal strip.

IT IS PROHIBITED TO PERRORM MAINTENANCE ON THE OIL CYLINDER. IT SHOULD BE REPLACED WHEN DAMAGED.

IMPORTANT

1. Only use original spare parts and tools that are suitable for the job and in good condition;

2. Follow the maintenance schedule indicated in the manual: these frequencies are indicative and must always be considered as general rules to be respected.

3. Good preventive maintenance requires constant attention and continuous supervision on the machine. Quickly find the cause of any abnormalities such as excessive noise, overheating, leaking fluids, etc.

Special attention is required for:

1. The condition of lifting parts (cylinder, power unit);

2. Safety devices (oil cylinder and safety wedges)

To perform maintenance correctly, refer to the following documents supplied by the lift manufacturer:

1. Complete functional diagram of the electric equipment and auxiliary equipment indicating the power supply connections

2. Hydraulic diagram with lists of parts and max. Pressure values

3. Exploded drawings with the data needed to order spare parts

4. List of the possible causes of malfunctions and recommended solutions (chapter 7 of the manual)

6.2 PERIODIC MAINTENANCE

6.2.1 OPERATION FREQUENCY

To keep the lift working at full efficiency, follow the indicated maintenance schedule. The manufacturer will not be responsible and will not honor the warranty as a result of non-compliance with the instructions indicated above.

NOTE

The frequency indicated refers to normal operating conditions; different frequencies will apply to particularly server conditions.

ALL MAINTENANCE OPERATIONS MUST BE PERFORMED WITH THE LIFT STOPPING OR THE MAIN SWITCH PLACED AT "O".

When after the machine has been installed, check:

1 That the opposite carriages arms are at the same level

2 The power unit oil level. Add oil up to the right level, if necessary

6.2.2 EVERY MONTH

HYDAULIC POWER UNIT

1 Check the oil level in the tank, using the special dipstick, which is attached to the filler cap. If necessary, add oil through the cap to reach the required level. For the type of oil, see "TECHNICAL SPECIFICATIONS".

2 After the first 40 hours of operation, check the press oil contamination level. (Clean the filter and replace the oil if there is a high contamination level).

HYDRAULIC CIRCUIT

Check that there are no oil leaks in the circuit between the power unit and cylinder and in the cylinder itself. In this case, check the condition of the gaskets and replace them, if necessary.

HYDRAULIC PUMP

Under normal operating conditions, check that there is no change in the noise in the motor and gear pump and check that the relative bolts are properly tightened.

SAFETY SYSTEMS

1 Check the operating condition and efficiency of the safety devices.
2 Use a torque wrench to check that the post bases anchor bolts screws are properly tightened to the ground as well as the connection bolts.
3 Clean and lubricate the carriage side runners and guides.
4 Check that all screws are tightened
5 Check that the locking system works properly.
6 Grease all the moving parts.

6.2.3 EVERY 6-MONTHS

HYDRAULIC

Check the contamination or aging level of the oil. Contaminated oil is the main cause of malfunctions of the valves and leads to a brief service life of the gear pumps.

6.2.4 EVERY 12-MONTHS

General check: visual inspection of all structural parts and mechanisms to guarantee that there are no problems or abnormalities.

Electric plant: skilled electricians (contact the service center) should test the electric plant, including the motor of the power unit and control box.

HYDRULIC PLANT OIL

Replace the oil, following the instructions listed below:

1. Lower the lift to the minimum height (on the ground)

2. Make sure that the hydraulic cylinder is at the end of its travel

3. Disconnect the power supply to the lift rack.

4. Drain the oil from the hydraulic circuit, unscrewing the plug located at the bottom of the power unit reservoir.
5. Close the drain plug
6. Fill the hydraulic station oil cylinder with oil throng the plug located at the top of the hydraulic station.

The oil must be filtered.

Oil characteristics and types are reported in the technical specifications.

1. Close the filler plug
2. Energize the lift

Go through two or three up-down cycles (for a height about 20-30 centimeters) to insert oil into the circuit.

3. When changing the oil: use only recommend oil or the equivalent; do not use deteriorated oil that has been in the warehouse for an extended period of time. Oil should be disposed as indicated in appendix “A”.

AFTER EACH MAINTENANCE OPERATION, THE MACHINE MUST RETURN TO ITS INITIAL CONDITIONS, INCLUDING THE DISASSEMBLEED PROTECTION AND SAFETY DEVICE.

To ensure good maintenance, it is important:

1. To sue only tools that are suitable for the job and original spare parts
2. Follow the minimum maintenance schedule as indicated
3. Immediately find the cause of any abnormalities (excessive noise, overheating, leaking fluids, etc)
4. Pay special attention to lifting parts (cylinders) and safety devices
5. Use all the documentation supplied by the manufacturer (wiring diagrams, etc)

CHAPTER 7 - TROUBLESHOOTING

7.1 TROUBLESHOOTING GUIDE

Troubleshooting and possible repairs require absolute compliance with ALL THE SAFETY PRECAUTIONS indicated in chapter 6 “MAINTENANCE” and chapter 3 “SAFETY”

7.2 TROUBLESHOOTING CHECKLIST

Problem	Possible cause	Solution
The motor doesn’t rotate.	Bad contact Electric switch doesn’t work.	Check and replace good wire. Check and replace switch.
The motor rotates, but the lift doesn’t rise.	Damaged gear pump Hydraulic oil is not enough.	Replace gear pump. Supply hydraulic oil.
Can’t go down.	The safety lock shaft is not drawn out. The electromagnetic valve is not open	Draw out the shaft Check and replace – the electromagnetic valve.
Leak oil	Loosed tie-in. The oil seal of the tie-in is damaged	Screw the tie-in Replace the oil seal.
Two oil cylinders don’t work synchronously.	Leak oil Blocked oil pipe	Check and eliminate Clear away the oil pipe.

CHAPTER 8 SAFETY PICTOGRAMS ON THE LIFT

The safety pictograms installed on the lift are shown in the pictures of this page.

WARNING: The machine shall not be put in service by an user that has not completely understood the contents of this manual.

DANGER: The user of the machine must be a person able to fully understand and recognize all the pictograms installed on it. The safety stickers shall not be taken away, damaged or destroyed. The owner of the machine and/or the person in charge of it shall immediately replace any damaged or partially unreadable pictogram.

DANGER: Do not overload for any reason the lift. The maximum allowable lifting weight is agreed to be the maximum total weight that can be loaded on lift, thus it does not refer, e.g., just to the simple empty mass of the vehicle.

DANGER: Electric supply information; do not connect the lift to the electric line before having verified that the line itself is completely compliant to the enforced norm, that there are properly working grounding and protection circuits.

WARNING: In order to prevent risks to third parties and/or damages to things, before any operation takes place, the user shall make sure that there are not things or persons close to the lift before starting any working cycle.

WARNING: In order to prevent pinching hazards, before any operation takes place, the user shall make sure that there are not things or persons close to the lift before starting any working cycle.

DANGER: Do not lift persons on the lift. This machine was designed to lift vehicles only, this is not a device designed to lift persons.

a) DIGEST OF INSTRUCTIONS

A digest of the operation instructions taking into account possible hazards existing for the lift is fixed on the control box lift and shall be readily visible.

	High voltage or high current is used. Electric shock may result in death or serious injuries. Always keep the cover on and never touch the power areas such as a terminal block. Shut off the power before maintenance and inspection work
	Do not stand under or on the lift while it is lifting
	Run away to a safety distance in the event of lift raised falling
	Don’t allow the unauthorized person to operate the lift
	Keep away from the lift except operator
	Do fix the vehicle at the center of the lift
	Keep machine properly inspected and maintenance
	Don’t lift the vehicle one side

	Lift damaged shall be not used
	Do not place feet under any moving parts of lift while lowering
	Don’t shake the lift raised excessively
	Don’t use any other usage
	Do protect lift from water
	The manual shall be fully understand before maintenance and operating
	Do lubrication for the important parts periodically
	The main switch shall be disconnected and locked when machine is under maintenance

Digest of safety operating lift

a) The operation of the lift is permitted by authorized persons only.

b) It is necessary to refer to the complete operation instructions, especially for trouble

shooting.

c) Movable and mobile lifts shall be prevented from moving unintentionally.

d) The field of motion of the load and of the load carrying devices shall be free of obstructions.

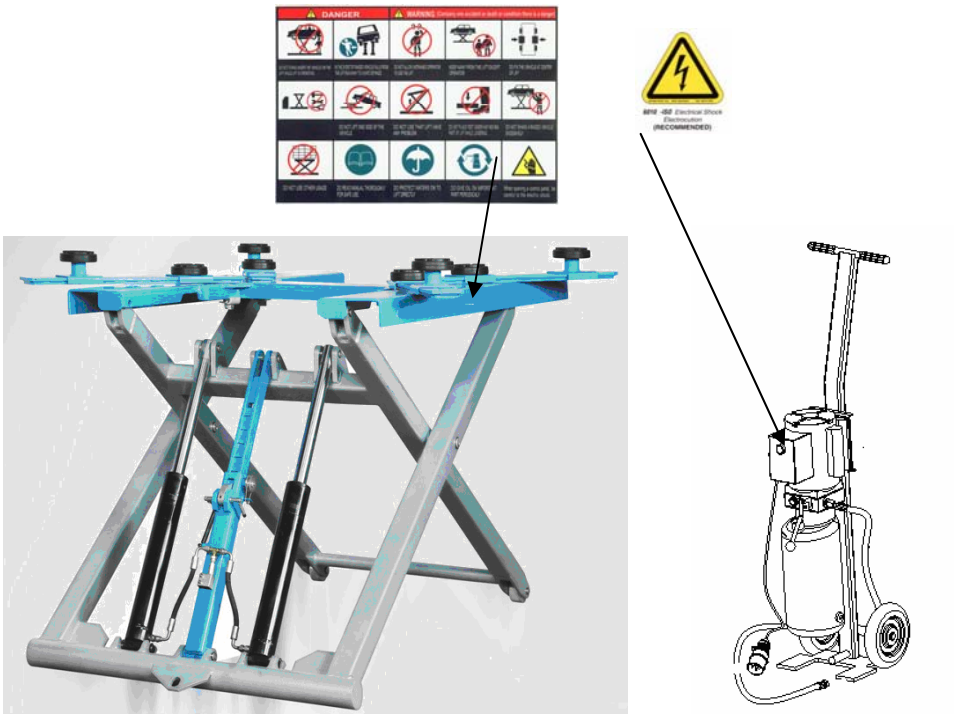
e) It shall draw attention to the safe method of carrying the load and to the rule that, after raising a short distance, the vehicle shall be checked to ensure that it is correctly and safely positioned.

f) It shall draw attention to the rule that the load carrying device shall be observed by the operator throughout the motion of the lift.

g) It is forbidden for people to stand in the field of motion of the load and the load carrying device during the movement.

h) It is forbidden to climb onto the load or load carrying device when they are raised.

b) Labels on the machine



CHAPTER 8 EC Declaration of Conformity

We Yingkou Yingkou Hengtai Auto Maintenance Machinery Equipment Co., Ltd

of No.139 Jinniushan Street, Laobian District, Yingkou City, Liaoning Province, 115005, P.R. China

in accordance with the following Directives:

2006/42/EC Machinery Directive 2004/108/EC Electromagnetic Compatibility (EMC) Directive

hereby declare that:

Product: Movable Mid-Rise Scissor Lift

Models : HT-Y-J-27

is in conformity with the applicable requirements of the following standards:

EN ISO 12100:2010	*Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*
EN 60204-1:2006+A1:2009	*Safety of machinery –Electrical equipment of machines –Part 1:General requirements*
EN ISO 13857:2008	*Safety of machinery; Safety distances to prevent danger zones being reached by the upper limbs*
EN 349:1993+A1:2008:	*Safety of machinery -Minimum gaps to avoid crushing of parts of the human body*
EN ISO 4413:2010	*Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413:2010)*
EN1493:2010	*Vehicle lift*
EN61000-6-2:2005	*Electromagnetic compatibility (EMC) - Part 6-2: Generic standards; immunity standard for industrial environments*
EN61000-6-4:2007/A1:2011	*Electromagnetic compatibility (EMC) - Part 6-4: Generic standards; Emission standard for industrial environments*

The Technical File of the above product with Ref. No: *TF-YKHT-0408-18-01* is kept by:

Company Name: CEM International Ltd

Company Address: West mead House, West mead Farnborough, Hampshire GU14 7LP UK

Signed:

Name:

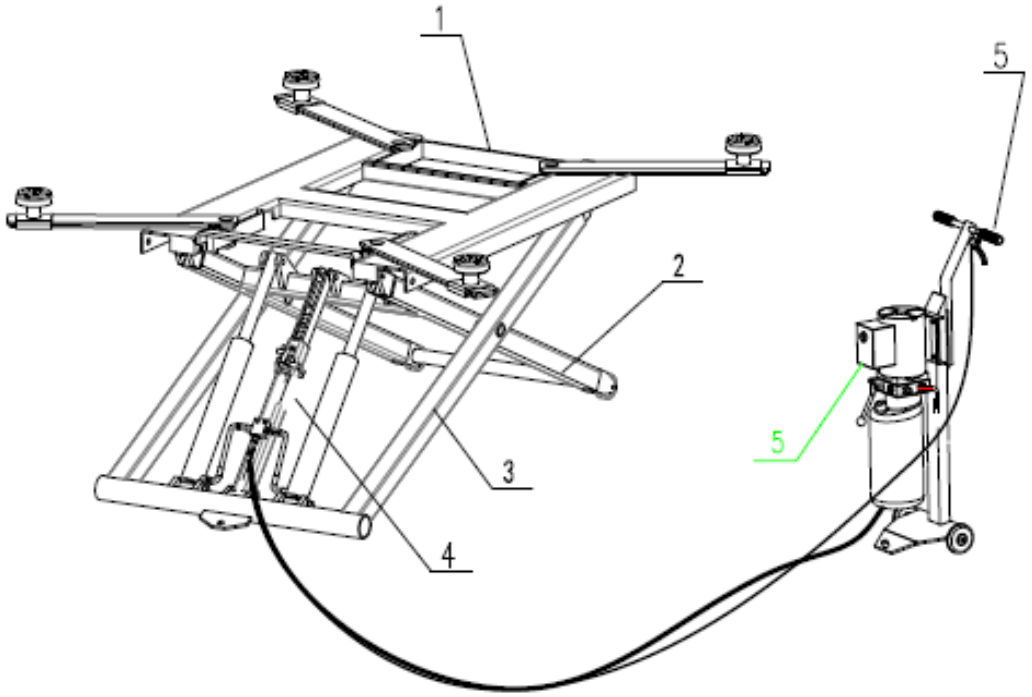
Position/Title: *General Manager*

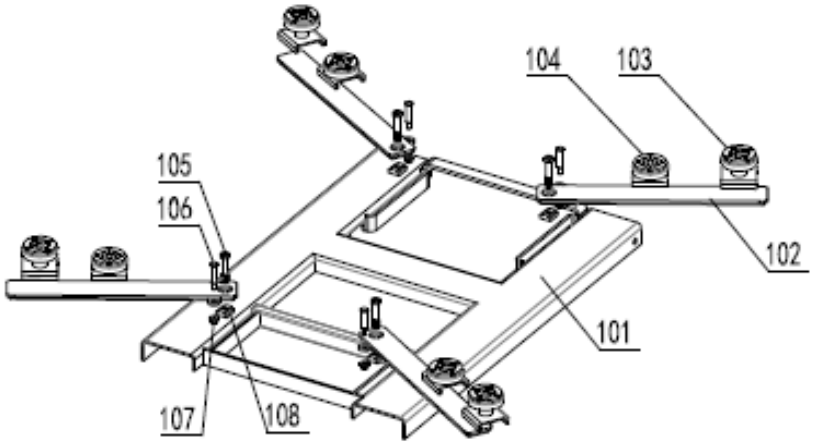
Place: *Yingkou City, Liaoning province*

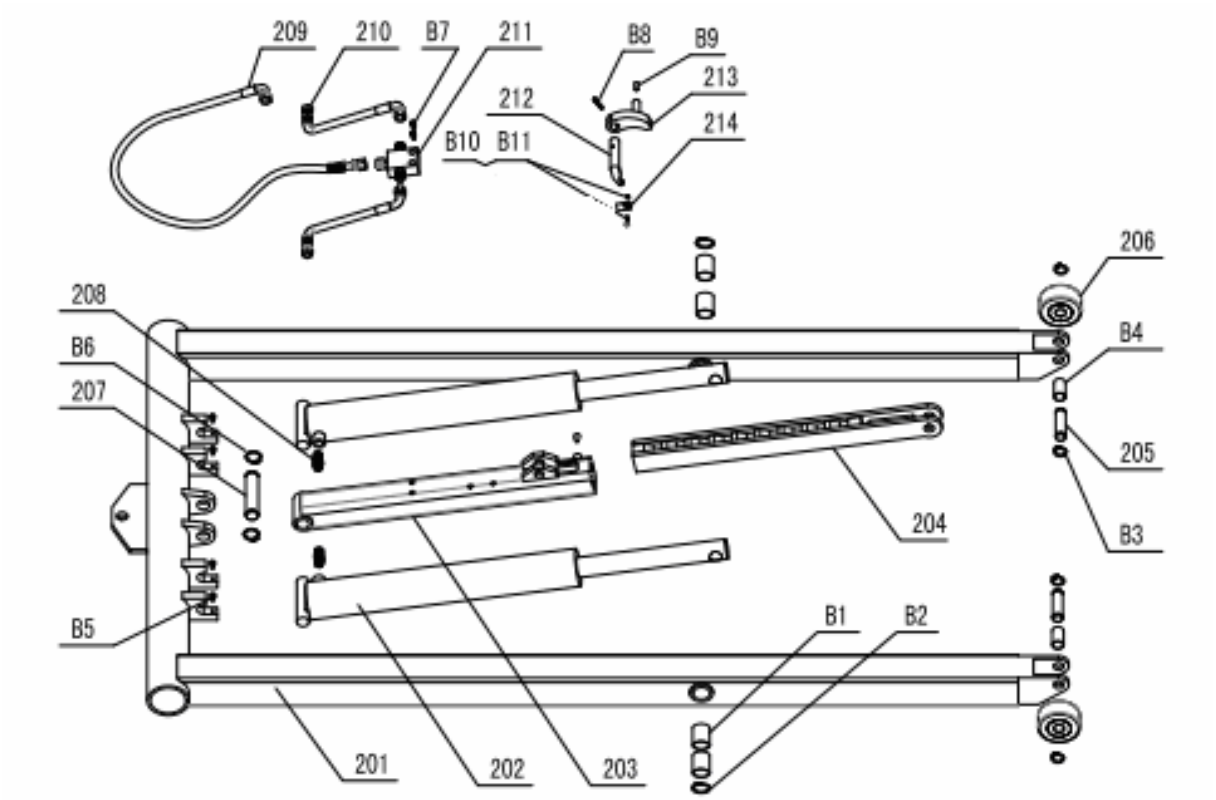
Date: *02/2018*

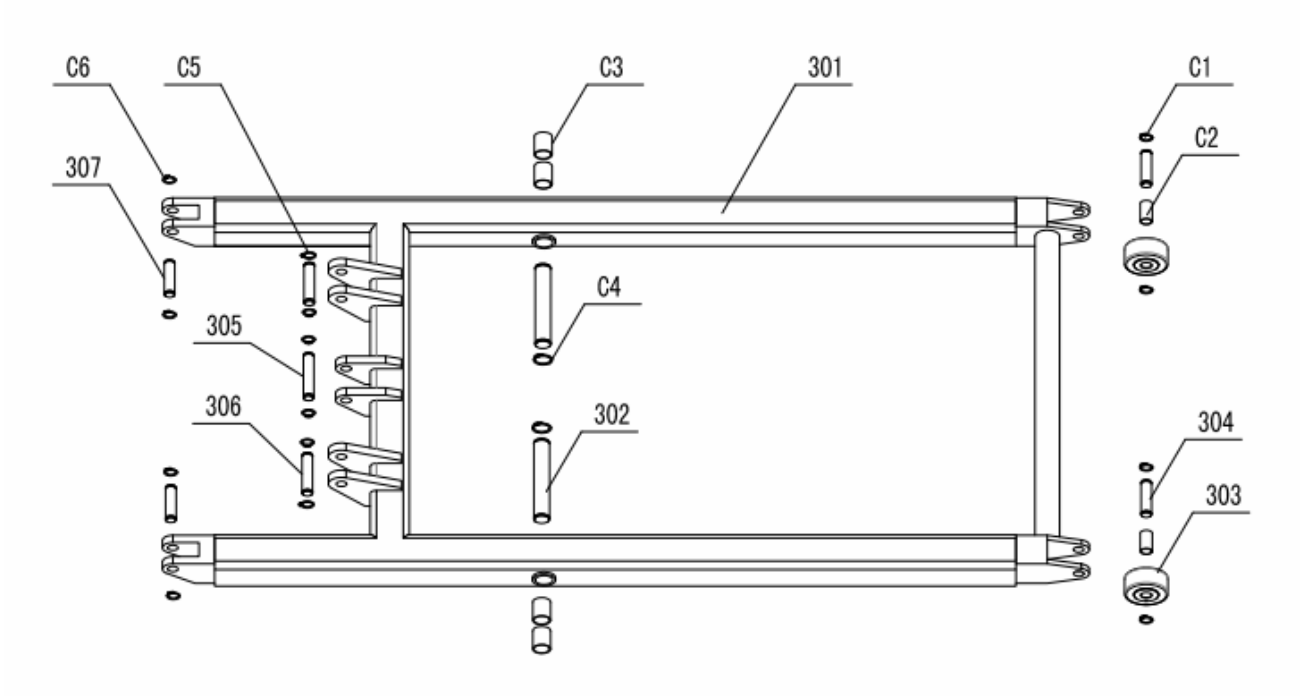
CE

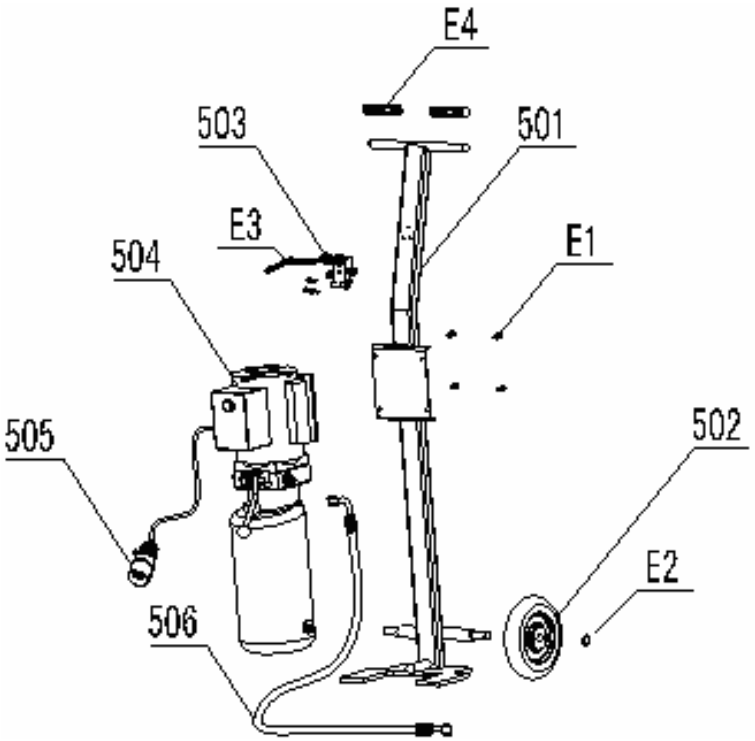
CHAPTER 9 - STRUCTURE AND ACCESSORIES






209
210
B7
211
B8
B9
213
212
214
B10
B11
206
208
B4
B6
207
205
204
B3
B5
B1
B2
201
202
203


C6
C5
C3
301
C1
C2
307
C4
305
306
302
304
303


E4
503
501
E3
E1
504
505
502
E2
506

APPENDIX A-SPECIAL NOTES

CODE	Name	CODE	Name
1	上台板总成/up plate assemble	B1	30 卡簧/clip
2	外剪臂总成/outer beam assemble	B2	无油轴承 3040/gear
3	内剪臂总成/inner beam assemble	B3	20 卡簧/clip
4	安全锁总成/lock assemble	B4	无油轴承 2040/gear
5	泵站总成/hydraulic station	B5	M6×10 内六角螺钉/screw
101	上盖板总成/up plate assemble	B6	25 卡簧/clip
102	托臂支撑/arms	B7	M6×16 内六角螺钉/screw
103	立式托盘/plate	B8	弹性圆柱销 6×30/pin
104	卧式托盘/plate	B9	M6×10 内六角螺钉/screw
105	T 型螺母/nut	B10	M4 锁紧螺母/nut
A1	M6×10 内六角螺钉/screw	B11	M4×20 内六角螺钉/screw
A2	M20×95 内六角螺钉/screw	B12	M6×10 半圆头螺钉/screw
201	外剪臂/outer side beam	B13	DC24V 电磁铁/coil
202	油缸/cylinder	301	内剪臂/inner beam
203	锁钩支架/basket	302	剪臂中轴/shaft
204	锁齿条总成/gear	303	滚轮/wheel
205	滚轮轴/shaft	304	滚轮轴/shaft
206	滚轮/wheel	305	锁齿轴/shaft
207	锁钩支架轴/shaft	306	油缸上轴/shaft
208	油缸接头 3/8”-1/4”/connector	307	剪臂铰接轴/shaft
209	泵站油管/pipe	C1	20 卡簧/clip
210	油缸油管/pipe	C2	无油轴承 2040/gear
211	板式三通接头/tri –way connector	C3	无油轴承 3040/gear
212	扳杆/plate pole	C4	30 卡簧/clip
213	锁钩/graw	C5	20 卡簧/clip
214	连接轴/shaft	C6	20 卡簧/clip
501	轮子/wheel	E1	bolt
502	支架/base	E2	nuts
503	手柄/handle assemble	E3	handle
504	泵站/motor	E4	rubber
505	主插头 plug		

A.1 DISPOSAL OF USED OIL

Used oil, which is removed from the oil tank and the plant during an oil change, must be treated as a polluting product, in accordance with the legal prescriptions of the country in which the lift is installed.

A.2 MACHINE DEMOLITION

DURING MACHINE DISASSEMBLY, COMPLY WITH ALL THE SAFETY PRECAUTIONS DESCRIBED IN CHAPTER 3, WHICH ARE ALSO VALID FOR ASSEMBLING.

The machine must be d by authorized technicians, just like for assembling. The metallic parts can be scrapped as iron. In any case, all the materials deriving from the demolition must be disposed of in accordance with the current standards of the country in which the rack is installed. Finally, it should be recalled that for tax purposes, demolition must be documented; submitting claims and documents according to the current laws in the country in which the rack is installed at the time the machine is demolished.

APPENDIX B-SPARE PARTS

B.1 SPARE PARTS

When replacing parts and making repairs, comply with ALL THE SAFETY PRECAUTIONS described in chapter **6 MAINTENANCE** and in chapter **3 SAFETY**

Take all the necessary precautions to **AVOID ACCIDENTAL START-UP OF THE LIFT**

1. The switch on the control box must be blocked.
2. The key of the lock must be kept by the maintenance fitter during the maintenance operation.

B.2 PROCEDURE FOR ORDERING SPARE PARTS

To order spare parts:

1. Indicate the serial number of the lift and the year built
2. Indicate the code of the piece requested (see the CODE” columns in the tables)
3. Indicate the quantity required.