

Ever-Eternal

## EE-6503/6503E

Full Rise Scissor Lift In-ground Mounted Lifting Capacity: $\mathbf{3 0 0 0}$ KG

## INSTALLATION, OPERATION AND MAINTENANCE MANUAL



Read this entire manual carefully and completely before installation or operation of the lift.

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## 1. Important safety instructions

### 1.1 Important notices

We will offer one-year's quality warranty for the whole machine, during which any quality problem will be properly solved to the user's satisfaction. However, we will not take any responsibility for whatever bad consequence resulted from improper installation and operation, overload running or unqualified ground condition.
This model is specially designed for lifting motor vehicles that weighs within its outmost lifting capacity. Users are not allowed to use it for any other purposes. Otherwise, we, as well as our sales agency, will not bear any responsibility for accidents or damages of the lift.
Make sure to pay careful attention to the label of the lifting capacity attached on the lift and never try to lift cars with its weight beyond.
Read this manual carefully before operating the machine so as to avoid economic loss or personnel casualty incurred by wrong operation.
Without our professional advice, users are not permitted to make any modification to the control unit or whatever mechanical unit.

### 1.2 Qualified personnel

1.2.1 Only these qualified staff, who have been properly trained, can operate the lift.
1.2.2 Electrical connection must be done by a competent electrician.
1.2.3 People who are not concerned are not allowed in the lifting area.

### 1.3 Danger notices

1.3.1 Do not install the lift on any asphalt surface.
1.3.2 Read and understand all safety warnings before operating the lift.
1.3.3 Do not leave the controls while the lift is still in motion.
1.3.4 Keep hands and feet away from any moving parts. Keep feet clear of the lift when lowering.
1.3.5 Only these properly trained personnel can operate the lift.
1.3.6 Do not wear unfit clothes such as large clothes with flounces, tires, etc, which could be caught by moving parts of the lift.
1.3.7 To prevent evitable incidents, surrounding areas of the lift must be tidy and with nothing unconcerned.
1.3.8 The lift is simply designed to lift the entire body of vehicles, with its maximum weight within the lifting capacity.
1.3.9 Always insure the safety locks are engaged before any attempt to work near or under the vehicle. Never remove safety related components from the lift. Do not use if safety related components are damaged or missing.
1.3.10 Do not rock the vehicle while on the lift or remove any heavy component from vehicle that may cause excessive weight shift.
1.3.11 Check at any time the parts of the lift to ensure the agility of moving parts and the performance of synchronization. Ensure regular maintenance and if anything abnormal occurs, stop using the lift immediately and contact our dealers for help.
1.3.12 Lower the lift to its lowest position and do remember to cut off the power source when service finishes.
1.3.13 Do not modify any parts of the lift without manufacturer's advice.
1.3.14 If the lift is going to be left unused for a long time, users are required to:
a. Disconnect the power source;
b. Empty the oil tank;
c. Lubricate the moving parts with hydraulic oil.

## Attention: For environment protection, please dispose the disused oil in a proper way.

 1.4 Warning signsAll safety warning signs attached on the machine are for the purpose of drawing the user's attention to safety operation. The labels must be kept clean and need to be replaced when they are worn-out or have dropped. Read the explanations of the labels carefully and try to memorize them.


Read and understand the manual first.


Only trained operator can use the lift.


Keep the lifting area unobstructed.


Don't stay under the vehicle when lowering or raising.


Ensure gravity of the vehicle bcated center of the lift.


Remove auxiliary stands before lowering.


Stay clear of the lift when lowering.


Avoid excessive rocking of vehicle while on the lift.


Clear area if vehicle is in danger of falling.


Avoid touching pinch points when lift is moving.


Do not lift with vehicle staying only on one platform.


Do not make any change on the safety assembly.


High voltage! Never touch!

### 1.5 Sound Level

The sound emitted from the lift should not exceed 75DB. For the sake of your health, we suggest putting a noise detector in your working area.

### 1.6 Training

Only these qualified people, who have been properly trained, can operate the lift. We are quite willing to provide professional
training for the users when necessary.

## 2. Overview of the lift

### 2.1 General descriptions

This model is in-ground mounted and is mainly composed by two lifting platforms, two base plates, two oil cylinders and a set of power unit. The gear pump works when power supply is connected and meanwhile oil in the pump will push upwards the pistons of oil cylnders. Thus, scissor brackets of the lift rise accordingly. In the process of rising, the mechanical lock will automatically engaged so as to avoid sudden drop down caused by failure of hydraulic system.
Besides, designs like, 24 V working voltage of control box and limit switch, low-height alarming buzzer, anti-surge valves, etc have fully considered your personal security.

## Safety structure:



### 2.2 Technical data

| Model | Lifting capacity | Lifting time | Lifting height | Electrical requirement |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| EE-6503 | 3000 kg | 50 Sec | 1800 mm | $220 \mathrm{~V} / 240 \mathrm{~V}$, Single Phrase | $380 \mathrm{~V} / 415 \mathrm{~V}$, Three Phrase |
| EE-6503E | 3000 kg | 50 Sec | 1800 mm | $220 \mathrm{~V} / 240 \mathrm{~V}$, Single Phrase | $380 \mathrm{~V} / 415 \mathrm{~V}$, Three Phrase |

### 2.3 Construction of the lift

## Lifting platform



## 3. Installation instructions

### 3.1 Preparations before installation

### 3.1.1 Tools and equipments needed

$\checkmark$ Electrical drill
$\checkmark$ Open wrenches
$\checkmark$ Screw drivers
$\checkmark$ Adjustable spanner

### 3.1.2 List for parts checking ---Annex 1 ( Packing list )

Unfold the package and check if any parts missed as per Annex 1. Do not hesitate to contact us in case any parts missed, but if you do not contact us and insist installing upon the lack of some parts, we as well as our dealers will not bear any responsibility for this and will charge for any parts subsequently demanded by the buyer.

### 3.1.3 Ground conditions

The lift should be fixed on a smooth and solid concrete ground with its strength more than 3000 psi, tolerance of flatness less than 5 mm and minimum thickness of 200 mm . In addition, newly built concrete ground must undergo more than 28days' cure and reinforcement.

### 3.2 Precautions for installation

3.2.2 Joints of oil hose and wiring must be firmly connected in order to avoid leakage of oil hose and looseness of electrical wires.
3.2.3 All bolts should be firmly screwed up.
3.2.4 Do not place any vehicle on the lift in the case of trial running.

### 3.3 Installation

Step1:Use a fork lift to place the machine at installation site as required. See Annex 3 for space requirements on the installation site.

Step 2: Connect the oil hose as per the diagram for oil hose connection and the following pictures. (This step is very important


Step 3: Connect the pneumatic release system by referring the following pictures.


Notes: Air hose 1 is to be connected between the compressed air supply and air filter.
Air hose 3 is to be connected between two pneumatic solenoid valves on the control box and the main oil cylinder. Air hose 4 is to be connected with the pneumatic solenoid valve on the assistant cylinder.
Step 4; Connect the power supply and the two quick plugs of the limit switch.


Step 5: Pour 16 liters of anti-abrasion hydraulic oil into the oil tank. The level of oil shall be 10 mm to 40 mm distance from the top of the tank. (you may measure by the feeler attached on the cover of the tank)
Step 6: Leveling

Electrical leveling:

1) Connect the power supply and switch on the power button on the control panel until the green indicator light shines.
2) Switch the option switch in the control box to working condition and press the "UP"button for 30 seconds. Normally at least one of the platforms will rise at this movement. (In the case the machine is equipped with three phase power supply and the motor works but the platform does not move upwards after the "UP"button has been pressed for $\mathbf{3 0}$ seconds, the operators needs to change the phase order of the motor's wiring )
3) Switch the option switch to leveling condition and now you can press "UP" or "DOWN"button to adjust the height of the assistant platform until it reaches the same height as the main platform. Switch the option switch to working condition and press the "UP" and "DOWN" button to check the synchronization of the two platforms. If synchronization is still not achieved, repeat the above leveling steps until synchronization reached.

Manual leveling:

1) Connect the power supply and switch on the power button on the control panel until the green indicator light shines.
2) Switch the option switch in the control box to working condition and press the "UP"button for 30 seconds. Normally at least one of the platforms will rise at this movement. (In the case the machine is equipped with three phase power supply and the motor works but the platform does not move upwards after the "UP"button has been pressed for 30 seconds, the operators needs to change the phase order of the motor's wiring )
3) Manually open the valve in the control box by moving the handle pointing opposite to the hydraulic block and then you can press the "UP" or "DOWN" button to adjust the height of the assistant platform until it reached the same height as the main platform. Close the valve by removing the handle to its initial position and press the "UP" and "DOWN" button to check the synchronization of the two platforms. If synchronization is still not achieved, repeat the above leveling steps until synchronization reached.
3.4 Items to be checked after installation.

| S/N | Check items | YES | NO |
| :---: | :--- | :---: | :---: |
| 1 | Are two platforms adjusted with the same level? |  |  |
| 2 | Are oil hose tightly connected? |  |  |
| 3 | Are all electric connections correct? |  |  |
| 4 | Are valves of the pump unit oil tight? |  |  |

## 4. Operation instructions

### 4.1 Precautions

4.1.1 Check all the joints of oil hose. Only when there is no leakage, the lift can start work.
4.1.2 The lift, if its safety device malfunctions, shall not be used.
4.1.3 The machine shall not lift or lower an automobile if its center of gravity is not positioned midway of the rising platforms.

Otherwise, we as well as our dealers will not bear any responsibility for any consequence resulted thereby.
4.1.4 Operators and other personnel concerned should stand in a safety area during lifting and lowering process.
4.1.5 When platforms being raised to the desired height, switch off the power at once to prevent any wrong operation done by unconcerned people.
4.1.6. Make sure the safety lock of the lift is engaged before start working under the vehicle and no people under the vehicle during lifting and lowering process.
4.2 Descriptions of control box


### 4.3 Flow chart for operation



### 4.4 Operation instructions

## Raise the lift

1. Make sure that you have read and understood the operation manual before operation.
2. Drive and park the vehicle midway between two platforms.
3. Place the four rubber pads under the prop-points of the vehicle and ensure car's gravity have fallen on the rubber pads.
4. Press the UP button on the control box until rubber pads have touched the prop-points of vehicle.
5. Keep on pressing the UP button to lift the vehicle a bit higher from the ground and check again if the vehicle is in a safe position.
6. Having raised the vehicle to the required height, operators must press down the safety lock button to ensure the mechanical safety lock is engaged. Switch off and check again the stability before performing maintenance or repair work,

## Lower the lift

1.Switch on.
2. Press the DOWN I button to lower the lift. It will stop lowering when clearance between the platforms and the ground reached
to 500 mm .
3. Press DOWN II button to continue lowering the platforms. Alarming buzz will be heard unless you stop pressing DOWN II.
4. Drive the vehicle away

### 4.5 Emergency lowering in case of no power Pneumatic lock is not engaged

1. Pull up the safety teeth with steel rope to release the safety lock.

2. Screw loose the core of the solenoid unloading valve fixed on the hydraulic block.


## Pneumatic safety lock is engaged.

1. Take down the removable plug from the hydraulic block.

2. Connect the optional hand pump to hydraulic block at the point where the removable plug used to be fitted.

3. Press the handle of the optional hand pump to raise the platform to have the safety teeth unlocked. Then, pull up the safety teeth with steel rope to release the safety lock.

4. Screw loose the core of solenoid unloading valve fixed on the hydraulic block.

t be fixed by yourself, please do not hesitate to contact us for help. We will offer our service at the earliest time we can. By the way, your troubles will be judged and solved much faster if you could provide us more details or pictures of the trouble.

| TROUBLES | CAUSE | SOLUTION |
| :--- | :--- | :--- |
| Motor does not run and <br> will not raise | The wire connection is loose. | Check and make a good connection. |
|  | The motor is burnt | Replace it. |
|  | The limit switch is damaged or the wire <br> connection is loose. | Connect it or adjust or replace the limit <br> switch. |
| Motor runs but will not <br> raise | The motor run reversely. | Check the wire connection. |
|  | Overflow valve is loose or jammed. | Clean or adjust it. |


|  | The gear pump is damaged. | Replace it. |
| :---: | :---: | :---: |
|  | Oil level is too low. | Add oil. |
|  | The oil hose became loose or dropped off. | Tighten it. |
|  | The cushion valve became loose or jammed. | Clean or adjusts it. |
| Platforms go down slowly after being raised | The oil hose leaks. | Check or replace it. |
|  | The oil cylinder is not tightened. | Replace the seal. |
|  | The single valve leaks. | Clean or replace it. |
|  | The overflow valve leaks. | Clean or replace it. |
|  | Electrical unloading valve leaks. | Clean or replace it. |
| Raising too slow | The oil filter is jammed. | Clean or replace it. |
|  | Oil level is too low. | Add oil. |
|  | The overflow valve is not adjusted to the right position. | Adjust it. |
|  | The hydraulic oil is too hot (above $45^{\circ}$ ). | Change the oil. |
|  | The seal of the cylinder is abraded. | Replace the seal. |
| Lowering too slow | The throttle valve jammed. | Clean or replace. |
|  | The hydraulic oil is dirty. | Change the oil. |
|  | The anti-surge valve jammed. | Clean it. |
|  | The oil hose jammed. | Replace it. |

## 6. Maintenance

Easy and low cost routine maintenance can ensure the lift work normally and safely. Following are requirements for routine maintenance. You may choose the frequency of routine maintenance by consulting your lift's working conditions and time.

The following parts need to be lubricated.

| S/N | Description |
| :---: | :--- |
| 1 | Pin shaft |
| 2 | Pin shaft B |
| 3 | Rotor shaft |
| 4 | Rotor shaft |
| 5 | Pin shaft B |



| 6 | Shaft |
| :--- | :--- |
| 7 | Shaft |

### 6.1. Daily checking items before operation

The user must perform daily check. Daily check of safety system is very important - the discovery of device failure before action could save your time and prevent you from great loss, injury or casualty.
-Check whether oil hose well connected. No leakage is allowed.
-Check the electric connections.Make sure all connections are in good condition.
-Check whether the expansion bolts well anchored .
-Check if safety teeth and safety block matched well or not.

### 6.2. Weekly checking items

-Check the flexibility of moving parts.
-Check the working conditions of safety parts.
.Check the amount of oil left in the oil tank. Oil is enough if the carriage can be raised to highest position. Otherwise, oil is insufficient.
-Check whether the expansion bolts well anchored.

### 6.3. Monthly checking items

-Check whether the expansion bolts well anchored.
. Check the tightness of the hydraulic system and screw firm the joints if it leaks.
-Check the lubrication and abrasion circumstance of moving parts.

### 6.4. Yearly checking items

-Empty the oil tank and check the quality of hydraulic oil.
-Wash and clean the oil filter.
If users strictly follow the above maintenance requirements, the lift will keep in a good working condition and meanwhile accidents could be avoided to a large extent.

## 7. ANNEX

Annex 1, Packing List of the whole lift

| 1 | Scissor lift | $6503-01$ | Assembly | 1 |
| :---: | :--- | :--- | :---: | :---: |
| 2 | Expansion bolt | $\mathrm{M} 16^{*} 125$ | Standard | 8 |
| 3 | Control unit |  | Assembly | 1 |

Annex2, Overall diagram


Annex3, Diagram for ground fixing



For manual leveling


1. Main oil cylinder
2. Assistant oil cylinder
3. Manual oil supplementing valve
4. Electrical unloading valve
5. Lowering throttle valve
6. Motor
7. Gear pump
8. Single-way valve
9. Over-flow valve
10. Anti-surge valve
11. Emergent unloading valve

## Solenoid valve

 (use manually or electrically )

For electrical leveling


1. Emergent unloading valve
2. Electrical unloading valve
3. Single-way valve
4. Overflow valve
5. Lowering throttle valve
6. Oil supplementing valve
7. Oil supplementing valve
8. Cushion valve
9. Gear pump
10. Motor
11. Oil filter
12. Main oil cylinder
13. Assistant oil cylinder
14. Coupling
15. Anti-surge valve

## Annex6, Wiring diagram

Circuit for manual leveling


| $\oplus$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\Theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\oplus$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | - | - | - | - | - | - | - | - | - | * | e | - | * | 。 | - | - | - | - | - | * |
| $\oplus$ | $\Theta$ | $\ominus$ | $\Theta$ | $\theta$ | $\theta$ | $\Theta$ | $\ominus$ | $\theta$ | $\ominus$ | $\Theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\theta$ | $\ominus$ | $\theta$ | $\theta$ | $\theta$ | $\oplus$ |
| PE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 15 | 17 | 18 | 19 | PE |
|  | $\cup$ | V | W | 5 | 8 | 11 | 14 | 9 | 15 | 1 | 16 | 1 |  |  |  |  | L1 | 12 | 13 |  |
|  | N3 |  | R2 |  |  |  |  |  |  |  |  |  |  |  |  |  | L1 |  | N |  |

VEHICLE LIFT SPECIALIST

| S/N | Symbol | Name | Specification | Qty | Note |
| :---: | :---: | :--- | :--- | :---: | :---: |
| 1 | VD | Bridge rectifier | KBPC5A-35A | 1 |  |
| 2 | YV | Solenoid unloading valve | DC24V | 1 |  |
| 3 | YA | Pneumatic solenoid valve | 3V210-08/DC24V | 4 |  |
| 4 | C | Capacitor | 4700 uf-50V | 1 |  |
| 5 | JBK | Transformer | JBK3 63VA 380V-AC24V | 1 | JBK3 63VA220V-AC24 |
| 6 | HL | Power Indicator | AD17-22AC24V-G | 1 |  |
| 7 | SQ1,SQ2 | Limit Switch | D4MC-5020 | 2 |  |
| 8 | KM | AC Contactor | CJX2-1210/AC24 | 1 |  |
| 9 | HK | Power Switch | Lw26GS-20/04 | 1 |  |
| 10 | QS1 | Circuit Breaker | DZ24-63 C3/1P | 1 |  |
| 11 | QS2 | Circuit Breaker | DZ24-63 C16/3P | 1 | DZ47-63 C32/2P |
| 12 | QS | Circuit Breaker | DZ24-63 C3/1P | 1 |  |
| 13 | M | Motor | $380 v 220 \mathrm{~V} 2.2 k w$ | 1 |  |
| 14 | SB3 SB4 | Button | Y090 | 2 | Down 1, 2 |
| 15 | SB2 | Button | Y090 | 1 | Lock |
| 16 | SB1 | Button | Y090-20BN | 1 | Up |
| 17 | KA | Relay | MY4NJ/DC24V | 1 |  |
| 18 | FM | Buzzer | AD17-22SM | 1 |  |

## Circuit for electrical leveling



Three Phase

| S/N | Symbol | Name | Specification | Qty | Note |
| :---: | :--- | :--- | :--- | :---: | :---: |
| 1 | VD | Bridge rectifier | KBPC5A-35A | 1 |  |
| 2 | YV | Solenoid unloading valve | DC24V | 1 |  |
| 3 | YA | Pneumatic solenoid valve | 3V210-08/DC24V | 4 |  |
| 4 | C | Capacitor | 4700 uf-50V | 1 |  |
| 5 | JBK | Transformer | JBK3 63VA 380V-AC24V | 1 | JBK3 63VA220V-AC24 |
| 6 | HL | Power indicator | AD17-22AC24V-G | 1 |  |
| 7 | SQ1,SQ2 | Limit switch | D4MC-5020 | 2 |  |
| 8 | KM | AC contactor | CJX2-1210/AC24 | 1 |  |
| 9 | HK | Power switch | Lw26GS-20/04 | 1 |  |
| 10 | QF2 | Circuit breaker | DZ24-63 C3/1P | 1 |  |
| 11 | QF1 | Circuit breaker | DZ24-63 C16/3P | 1 | DZ47-63 C32/2P |
| 12 | QF | Circuit breaker | DZ24-63 C3/1P | 1 |  |
| 13 | M | Motor | $380 v 220 \mathrm{v} 2.2 k w$ | 1 |  |
| 14 | SA | Option switch | Y090-11x | 2 |  |
| 15 | SB2,3,4 | Button | Y090-11bn | 3 |  |
| 16 | SB1 | Button | Y090-20BN | 1 |  |
| 17 | KA | Relay | MY4NJ/DC24V | 1 |  |
| 18 | FM | Buzzer | AD17-22SM | 1 |  |
| 19 | YV1 YV2 | Leveling solenoid valve | DC24V | 2 |  |
| 20 | SA | Option switch | Y090-11x | 1 |  |

## Annex7,Diagram for air supply connection



1, Air Filter
2, Solenoid Directional Valve
3. Driving cylinder locking

4, Assistant cylinder locking

## Annex 8, Separate diagrams for the lift

## For the pump:



| S/N | DESCRIPTION | QTY |
| ---: | :--- | :---: |
| 1 | Motor | 1 |
| 2 | Hydraulic block | 1 |
| 3 | Overflow valve | 1 |
| 4 | Fitting | 2 |
| 5 | Cushion valve | 1 |
| 6 | Absorbing oil hose | 1 |
| 7 | Oil filter | 1 |
| 8 | Throttle valve | 1 |
| 9 | Oil hose tie-in | 1 |
| 10 | Electrical unloading valve | 1 |
| 11 | One-way valve | 1 |
| 12 | Gear pump | 1 |
| 13 | Oil tank | 1 |
| 14 | Oil tank cover | 1 |
| 15 | Oil back hose | 1 |

For mechanical assembly


| S/N | Name | Drawing\#/Spec. | Qty | Note |
| :---: | :--- | :--- | :--- | :--- |
| 1 | Base plate | EE-6503-A1-B1 | 1 |  |
| 2 | Hex nut | M16 | 8 | GB/T41-85 |
| 3 | Bolt | M16X50 | 4 | GB/T781-86 |
| 4 | Bushing | 3028 | 2 | SF-1 |
| 5 | Pin shaft A | EE-6503-A2 | 2 | 45 |
| 6 | Circlip | Ф30 | 4 | GB/T894.1 |
| 7 | Pin shaft B | EE-6503-A5-B5 | 2 | 45 |
| 8 | Bushing | 3060 | 2 | SF-1 |
| 9 | Flat wahser | Ф24 | 2 | GB/T95 |
| 10 | Nut | M24 | 2 | GB/T6178 |
| 11 | Split pin |  | 2 | GB/T91 |
| 12 | Washer | EE-6503-A5-B2-C5 | 2 |  |
| 13 | Bushing | EE-6503-A5-B2-C4 | 2 | SF-1 |
| 14 | Rotor wheel | Ф30 | 2 | 45 |
| 15 | Circlip | M4X40 | 2 | GB/T894.1 |
| 16 | Inside hex bolt | EE-6503-A1-B7 | 2 | GB/T70 |
| 17 | Baffle B for limit switch | EE-6503-A1-B8 | 1 | Q235 |
| 18 | Up fixing block | EE-6503-A1-B9 | 1 | Q235 |
| 19 | Down fixing block | EE-6503-A1-B6 | 1 | Q235 |
| 20 | Pulling rod | EE-6501-A1-B3 | 1 | Q235 |
| 21 | Baffle A for limit switch | M4X16 | 1 | Q235 |
| 22 | Round headed bolt | EE-6503-A1-B2 | 2 | GB/T818 |
| 23 | Cover | M4X40 | 1 | Q235 |
| 24 | Inside hex bolt | EE-6503-A1-B5 | 4 | GB/T70 |
| 25 | Limit switch | EE-6503-A1-B10 | 2 | EN60947-5-1 |
| 26 | Padding plate for limit switch | EE-6503-A1-B4 | 2 | Q235 |
| 27 | Movable plate | M4X16 | 1 |  |
| 28 | Block for limit switch | 2 |  |  |
| 29 | Round headed bolt | 4 | GB/T818 |  |
|  |  |  |  |  |



| S/N | Name | Drawing\#/Spec. | Qty | Note |
| :---: | :--- | :--- | :---: | :---: |
| 30 | Oil cylinder | EE-6503-A4-B1 | 1 |  |
| 31 | Spacer | EE-6503-A3-B4 | 2 | Q235 |
| 32 | Rotor shaft | EE-6503-A3-B1 | 1 | 45 |
| 33 | Circlip | Ф35 | 2 | GB/T894.1 |
| 34 | Rotor arm B | EE-6503-A5-B2 | 1 |  |
| 35 | Pin shaft | EE-6503-A2 | 4 | 45 |
| 36 | Circlip | Ф30 | 8 | GB/T894.1 |
| 37 | Oil-adding helper | Ф8 | 4 | GB/T1155 |
| 38 | Bead flange | EE-6503-A5-B6 | 8 | Q235 |
| 39 | Bushing | 3028 | 4 | SF-1 |
| 40 | Rotor arm C | EE-6503-A5-B3 | 1 |  |
| 41 | Circlip | Ф35 | 2 | GB/T894.1 |
| 42 | Plate for air cylinder | EE-6503-A3-B5 | 1 |  |
| 43 | Sheave for oil cylinder | EE-6503-A3-B3 | 1 |  |
| 44 | Rotor shaft | EE-6503-A3-B1 |  |  |
| 45 | Tie-in of oil cylinder | EE-6503-A3-B6 | 1 |  |
| 46 | Bushing | 3550 | 2 | SF-1 |
| 47 | Spacer | EE-6503-A3-B4 | 2 |  |
| 48 | Rotor arm D | EE-6503-A5-B4 | 1 |  |
| 49 | Rotor arm A | EE-6503-A5-B1 | 1 |  |



| S/N | Name | Drawing\#/Spec. | Qty | Note |
| :---: | :--- | :--- | :---: | :--- |
| 50 | Pin shaft B | EE-6503-A5-B5 | 2 | 45 |
| 51 | Bushing | 3060 | 2 | SF-1 |
| 52 | Flat washer | $\Phi 24$ | 2 | GB/T95 |
| 53 | Nut | M24 | 2 | GB/T6178 |
| 54 | Split pin |  | 2 | GB/T91 |
| 55 | Circlip | Ф30 | 4 | GB/T894.1 |
| 56 | Pin shaft | EE-6503-A2 | 2 | 45 |
| 57 | Bushing | 3028 | 2 | SF-1 |
| 58 | Lifting platform | EE-6503-A6-B2 | 1 |  |
| 59 | Platform extension | EE-6503-A6-B3 | 1 |  |
| 60 | Inside hex bolt | M8X10 | 2 | GB/T70 |
| 61 | Bushing | 3025 | 2 | SF-1 |
| 62 | Rotor wheel | EE-6503-A5-B2-C4 | 2 | 45 |
| 63 | Circlip | $\Phi 30$ | 2 | GB/T894.1 |

## Annex 9, Spare parts list

| S/N | Name | Drawing\#/Spec. | Qty | Note |
| :---: | :--- | :--- | :---: | :---: |
| 1 | Baffle block B for limit switch | EE-6503-A1-B7 | 1 | Q235 |
| 2 | Up fixing block | EE-6503-A1-B8 | 1 | Q235 |
| 3 | Down fixing block | EE-6503-A1-B9 | 1 | Q235 |
| 4 | Pulling rod | EE-6503-A1-B6 | 1 | Q235 |
| 5 | Baffle block A for limit switch | EE-6501-A1-B3 | 1 | Q235 |
| 6 | Sheath | EE-6503-A1-B2 | 1 | Q235 |
| 7 | Limit switch | EN60947-5-1 | 2 |  |
| 8 | Movable plate | EE-6503-A1-B10 | 1 |  |
| 9 | Block for limit switch | EE-6503-A1-B4 | 2 |  |
| 10 | Spacer | EE-6503-A3-B4 | 2 | Q235 |
| 11 | Oil-adding helper | Ф8 | 4 |  |
| 12 | Circlip | EE-6503-A5-B6 | 8 | Q235 |
| 13 | Spacer | EE-6503-A3-B4 | 2 |  |

## Annex10, Size and weight requirements on the vehicles



