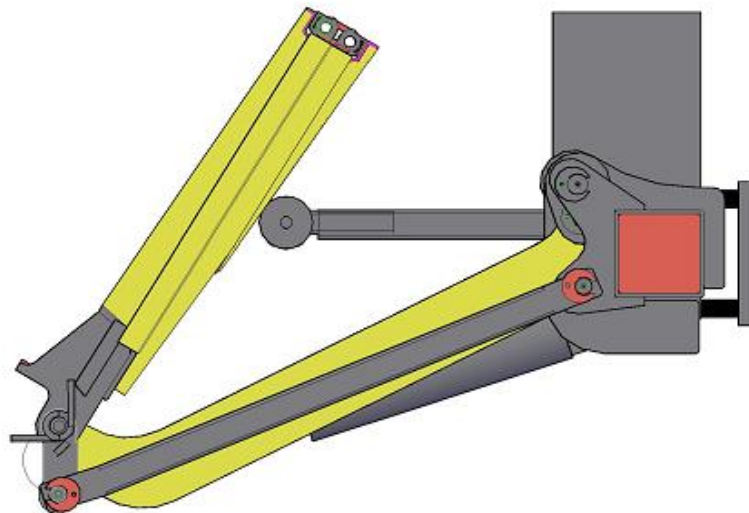
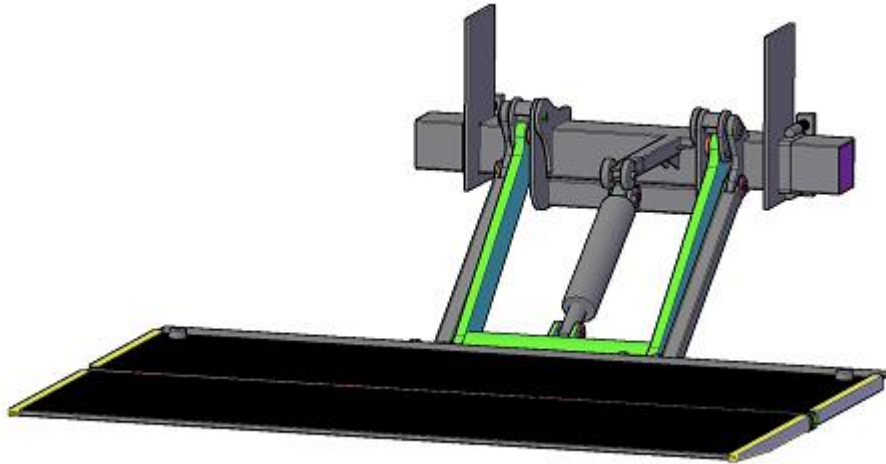


# TUCKAWAY LIFTING SERIES



## INSTALLATION INSTRUCTION

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## INTRODUCE

The EZLIFT-tailgate is electro-hydraulically driven. An electric motor which gets its power from the truck's battery drives a hydraulic pump which supplies oil via hoses and pipes to the working hydraulic cylinders. The system is steered by electrical valves. The hydraulic power unit with all details is built into the lift's support frame. The control system is built into a separate box. Both systems are easy to reach for service and maintenance.

### Manufacturer Responsibility:

We have already released the platform installation, testing dimension and description and the vehicle adjustment (the dimension and description are required by the vehicle manufacturer).

However, the manual is not limited on and our keeps the right changing the productions without notification in advance and without modifying data on this manual.

We will take the responsibility on designing and manufacturing the products. We will not be responsible for the misuse or the damages due to installation the improper platform on the vehicles.

Any modification on platform basic construction must be proposed with written requirement to the technical department. The technical department must reply and follow up timely.

The guarantee will terminate automatically if the item is not observed.

Our principle: excellent work to produce high quality products and promote services to satisfy our customers.

## INSTALLATION

### 1. Preface

Read the user manual and all relating instructions on installation the tail-lift from vehicles manufacturer before installation the tail-lift on the truck.

The installation must be operated by the experienced technicians approved by Ezilift Co., Ltd, to ensure the specifications mentioned in the manual.

The installer is fully responsible for installing the tailgate on the vehicle.

In particular, please refer to the vehicle manufacturer's instructions and our recommendations for any welding or drilling operations to be carried out on the vehicle chassis.

#### Working Clothes

- Do not wear loose clothes preventing blocked by moving parts
- Wear gloves and safety shoes during the operation
- Wear safety cap if possible when working under the car, even cloth caps can prevent slightly scratches (if somebody do not like to wear safety caps).
- Wear goggle and face shield when operating the polishing or such machine and using paintings or solvent.
- Do not wear finger ring, watches or necklace during the operation preventing blocked or conducted.

#### Working Site

Working in a tidy and clean place will get the operator comfortable (sometimes the customer will standby during the installation). Moreover, such working place might reduce the damages.

- Only use the tools in good conditions.
- Place the components disconnected separately and from the vehicles to prevent the accident happened.
- Be sure the ventilation when using the paints or solvent.
- Use the lifting equipment (jack, trolley and crane etc) with correct range in a suitable manner.
- Use the lifting tools (strap, hook, rope and chain etc) in good condition with correct ranges in a suitable manner.
- Connect the hydraulic equipment properly. Be sure no pressure in the system before connecting the hydraulic equipment.
- Do not use the cleaning agent of gasoline, corrosive or alcohol. The inflammables and harmless solvent will be used for cleaning.
- Wear goggle when cleaning the parts with the compressor.
- Clean the tools each time after using.
- Keep working site clean

- Clean the hydraulic oil, lubrication oil, paints, solvent, and fuel residuals.

## 2. Parameter

### Electro-hydraulic equipment

Control box voltage:	12 or 24V DC	
Control box fuse:	10A	
Power support:	12 or 24V DC	
Battery capacity:	12V: 185Ahmin	24V: 2×12V -185A
Alternator capacity::	14V-90Amin	28V-70Amin

### Hydraulic power pack:

Motor rating power:	12V:	1600 Watt
	24V:	2000~2200 Watt
Max. Consumption:	12V:	Amp≥200
	24V:	Amp≥130
Tank capacity:	8L	
Power pack support::	Held by 4 bolts and nuts	
Max setting pressure for relief valve:	172 bar	
Recommended hydraulic mineral oil:	Viscosity at 40°C=32mm <sup>2</sup> /s	

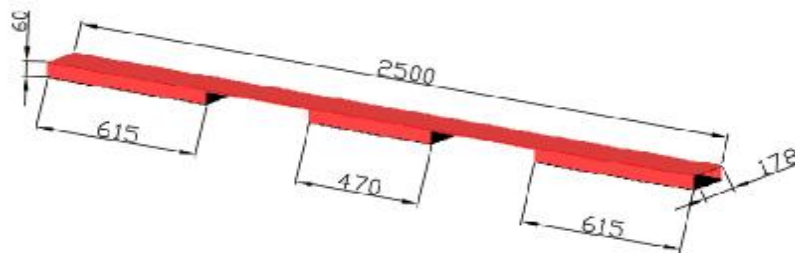
(NOTE: The electro-hydraulic power pack may be deteriorated if another type of oil is used.)

## 3. Mounting

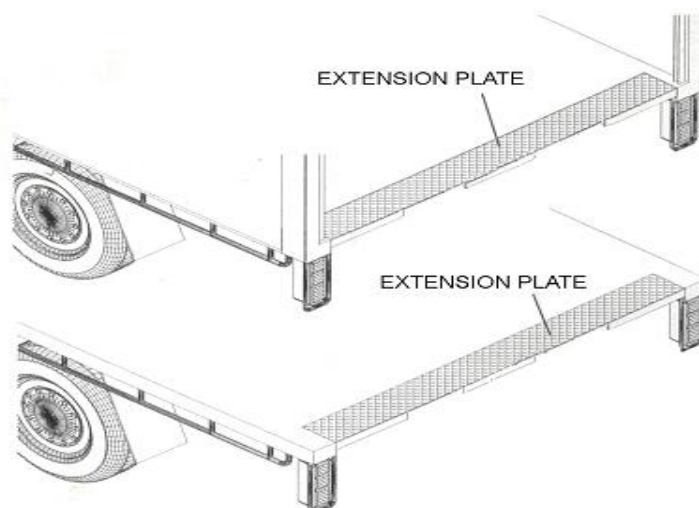
Before welding on the vehicle, disconnecting all the wire connected to the battery (+).

### Installation Procedures:

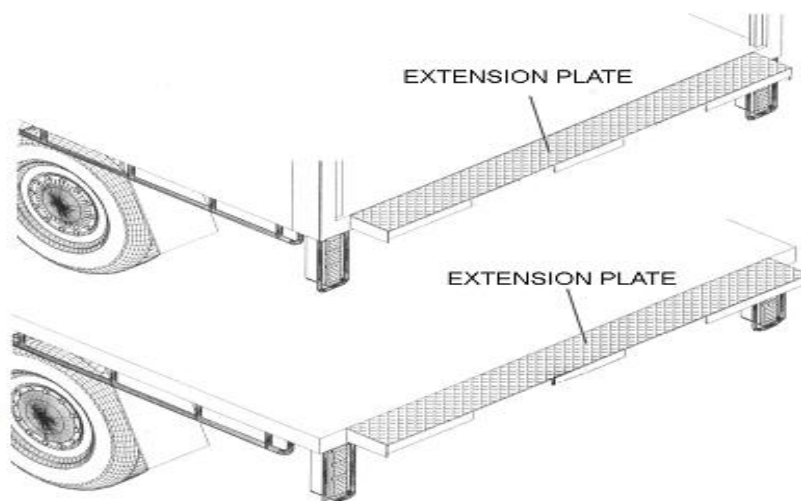
- Dismantle the attachments on the two sides of the rear truck frame. Then, fixing the extension—plate.



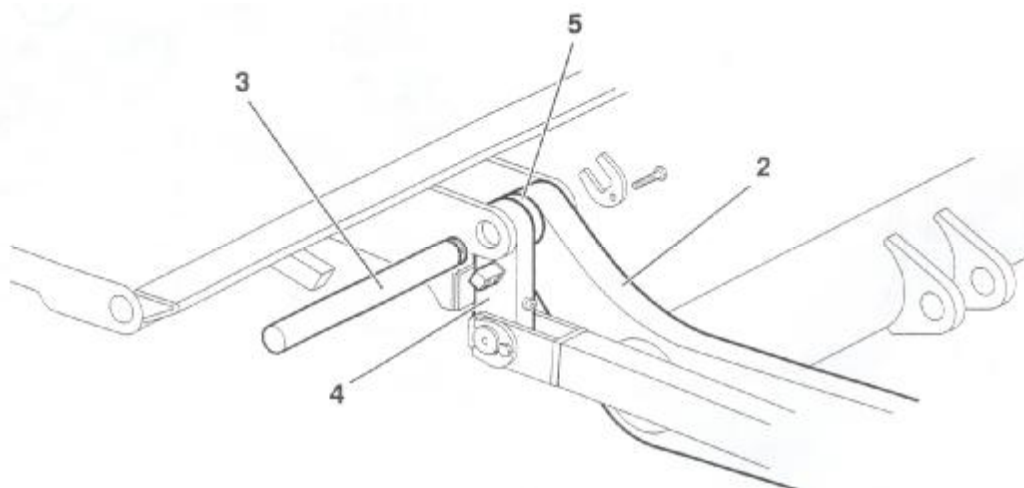
As body in the carriage:



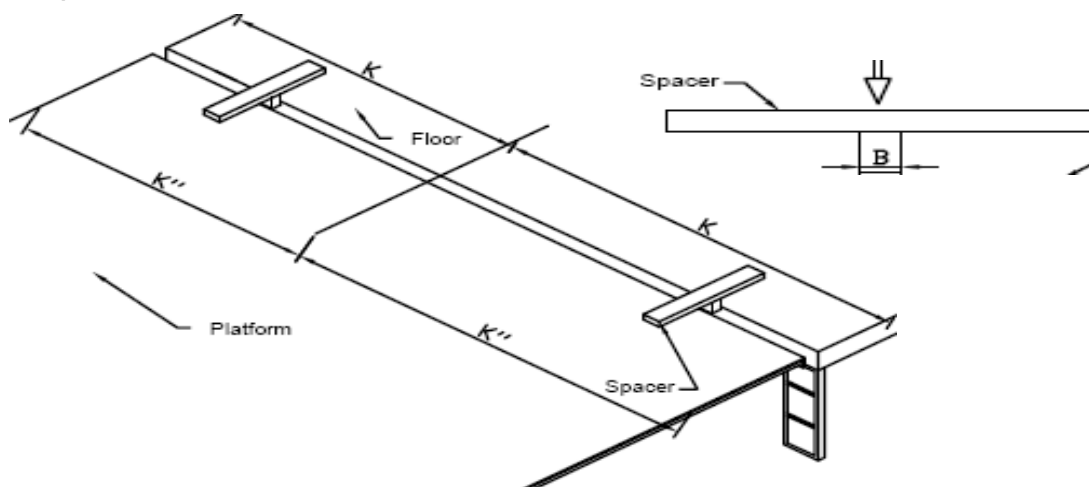
Out of the carriage:



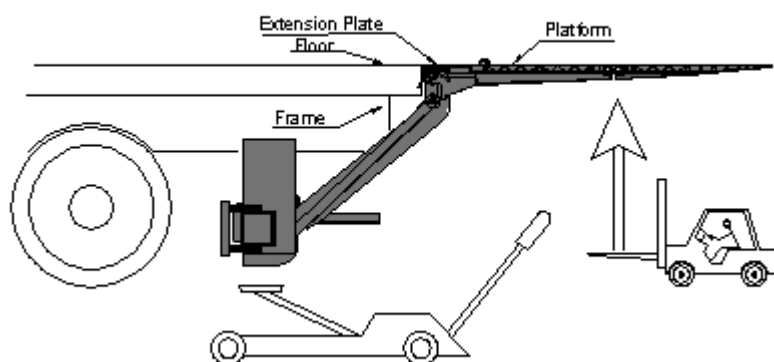
- Mark a tag on the middle of the floor of the rear of vehicle and the platform of the tailgate.
  - Put on the platform with the tuckaway without spring.
- 2 – lift-arm ; 3 – pin for spring ; 4 – Cantilever assemble ; 5 – Spacer



- Lifting the platform to the level position with the floor of the rear of vehicle by forklift.
- Put on spacer between the truck and the platform. Then, pushing and fixing this position.  $B = 12$

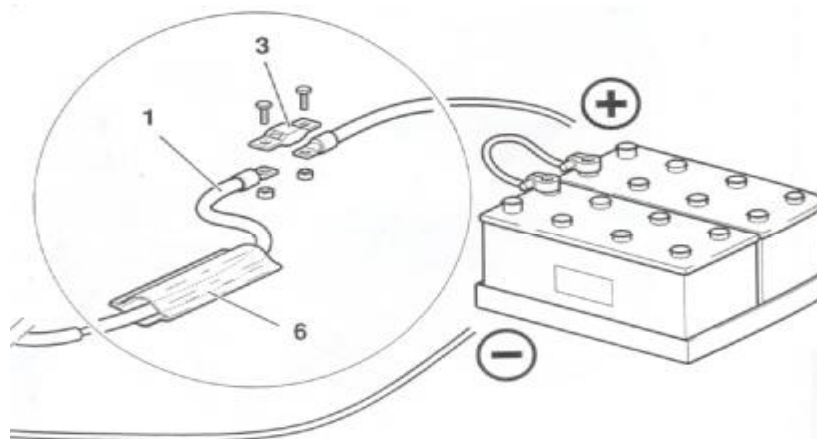


- Lifting the crossbeam of the tailgate by jacks. Check the upper face of the crossbeam whether it is or not parallel to the ground.



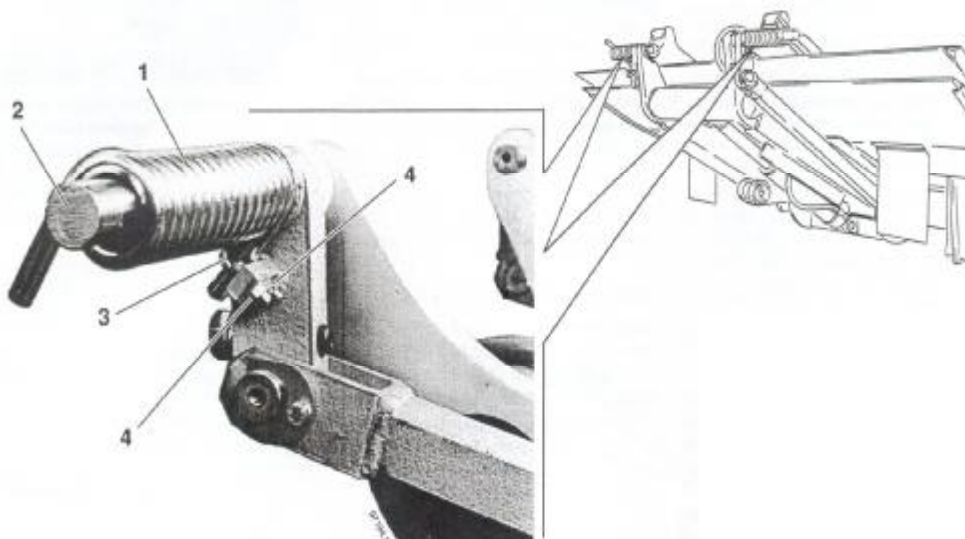
- Bolting the plates on the chassis or can use if these hoses have been good drilled on the vehicle. It is recommended if possible to weld them onto the sub frame (6mm continues weld seam), after bolting the mounting plates.
- Put the power pack on the crossbeam of the tuck-away. Check the oil level of the oil tank.
- Fixing the control boxes on the rear of the vehicle. (Note: it must be one safety side near the road.) Then, Put Circuit sentry on the frame between battery and power pack. Connect the control unit to the battery properly according to the circuit diagram attached.

1 -- Wires of the power pack ; 3 -- Circuit sentry ; 6 -- Heat shrinkable tube



- Install the springs

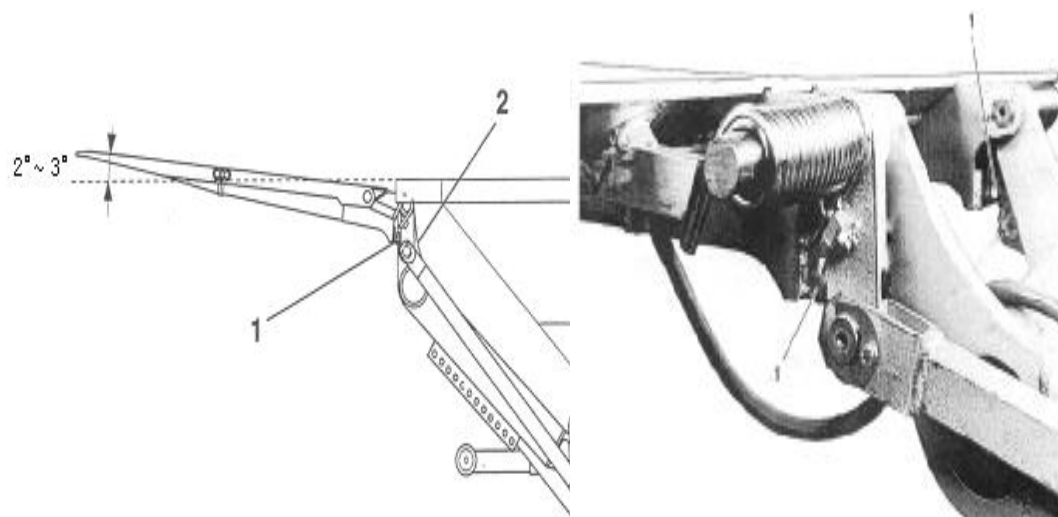
- 1 --springs      2 --pin of the platform      3 --"U" bolts      4 -- nuts



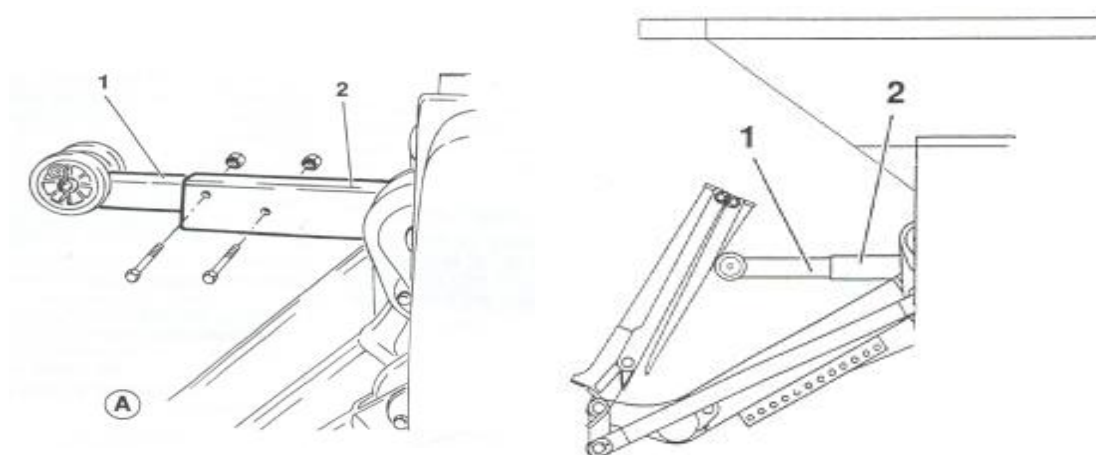
- Adjustment the platform

- 1 -- Ram bolts      2 -- cantilever





- According to the parameters (Vehicle and tailgate limits), removal of a right angle  $\alpha$  on the truck beam
  - Fixing the bar on the crossbeam
- 1 -- Bar for the wheels    2 -- bar of the lift crossbeam



- Double-check the functional of the platform. Fix the attachment of the truck properly. Notify the car owner in time if there is no space for the attachment. Test the tail light of the truck, the fixture and all connections of the tail of the truck.
- Check the appearance of the platform damaged or scratched during the whole installation. Clean and paint the platform if necessary. Moreover, insert the flag and tag on the back of the platform and the operation instruction and the notice etc.

Therefore, the installation for LIFTER is finished.

#### Verification by installer

The installer shall confirm the compatibility between the lift and the vehicle.

Test of operation and safety function:

After the static and dynamic tests have been completed, all function of the tailgate and operations of all safety devices are verified. These tests exclude hydraulic and electrical parts, such as safety valve and insurance assembly. (These items are the subject of a manufacturer's type test.)

Measurements of lowering speeds shall be carried out with the platform carrying its maximum load; all other measurement of speeds shall be carried out with the platform unloading.

Test to verify that the tail-lift can not lift excessive load:

A load of 125% of the maximum load is applied to the platform, positioned at ground level. Actuate the "UP" control and verify that the platform does not lift (tilt up is permissible).

Check the appearance of the platform damaged or scratched during the whole installation. Cleaning and paint the platform, before installing the safety marks.

### Markings safety

EZLIFT markings must be installed on the tail-lift:

In the tail-lift packing, there are:

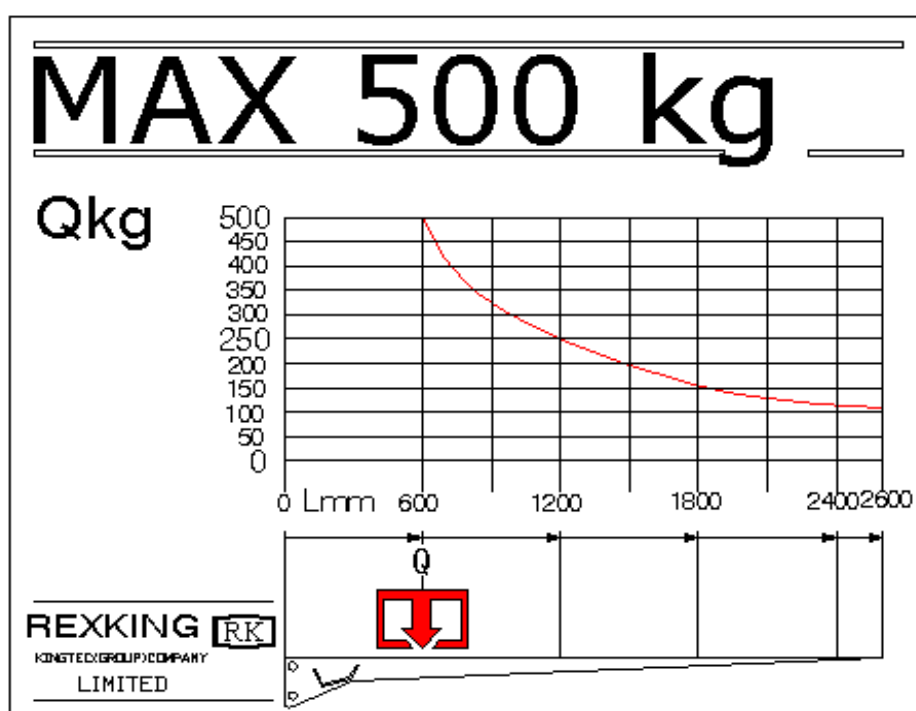
- The bumper to be fixed on lift-arm
- Flags to be attached on the platform
- Stickers to be placed on the platform
- Strips to be stuck on the sides of the platform

Road safety:

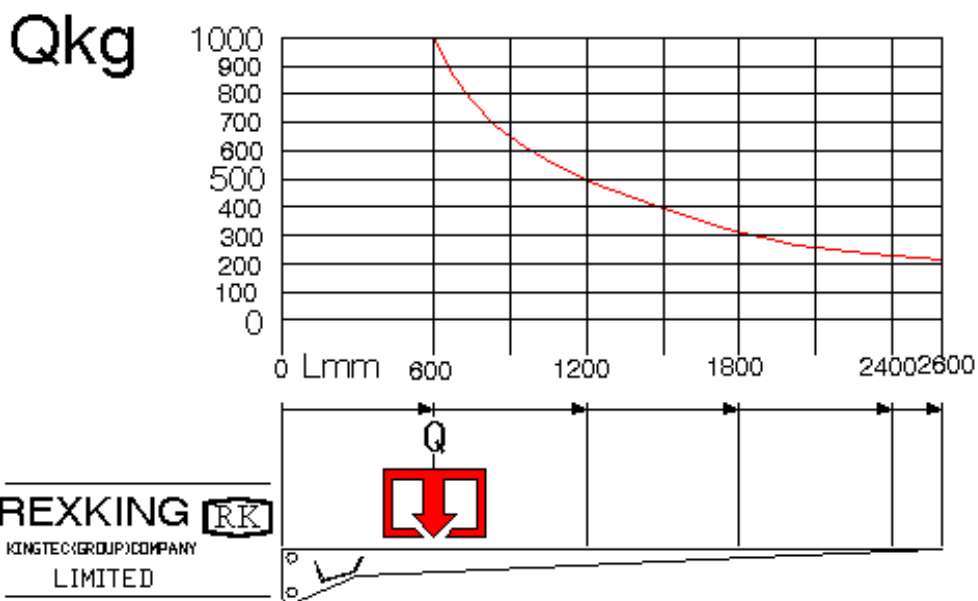
Place a safety hinge hooks between the platform and the vehicle body to prevent the lifter from falling down in case of accident.

Then the bumper is installed for the lift-arm.

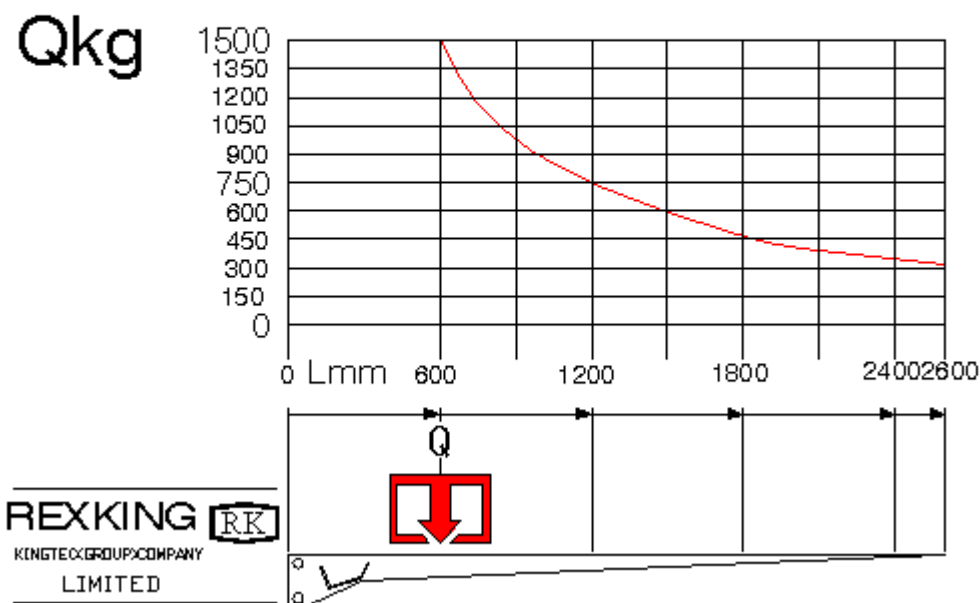
Load charts: Place a load chart close to each control box of the tailgate. Load charts are supplied in the tailgate packing.



# MAX 1000 kg



# MAX 1500 kg



## OPERATION

### 1. General information

Remember:

Please read and understand the contents of this manual before operating the equipment. And also, understand the functions of the tailgate, possible hazards and dangers and the load limits and load positioning for that specific equipment.



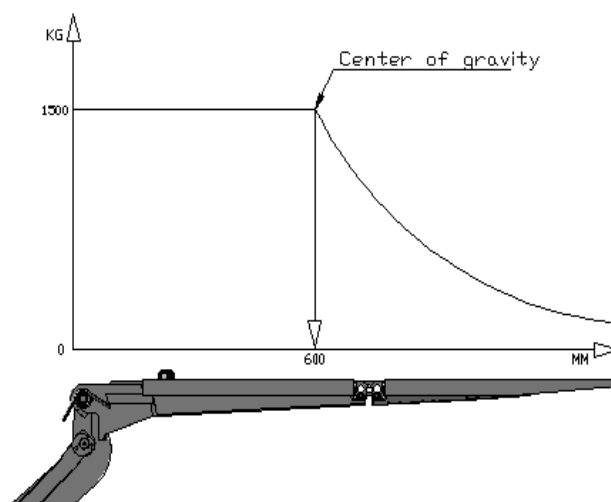
#### IT'S ONLY ONE—MAN OPERATION

Never let an “outside” operates the tailgate when you are loading or unloading the cargo. Or else, serious or fatal damage could result form improper operation.

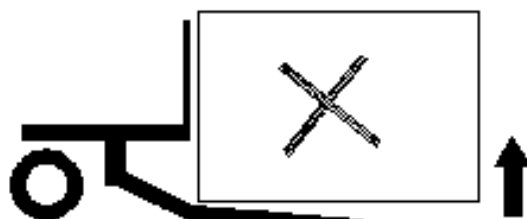
#### IMPORTANT:

Before allowing the operator to use the liftgate, he should be thoroughly conversant with the liftgate's functions and usage according to the following:

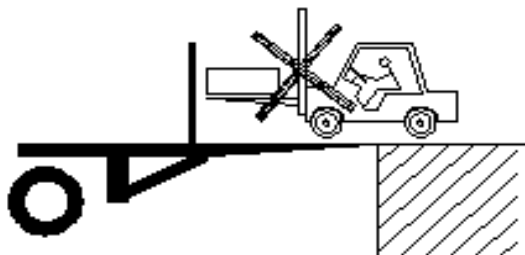
- Be sure the vehicle is properly and securely stopped before using the tailgate.
- Each load should be placed in a stable position as close to the vehicle as possible.



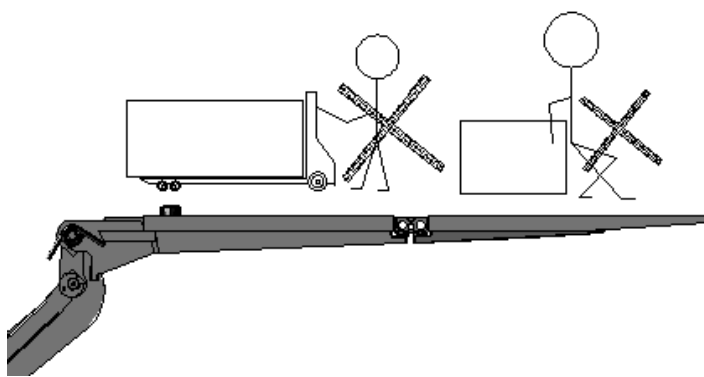
- Do not overload. See rating label on the unit for the rated load. Remember that this limit applies to both lifting and descending operations.



- Do not to use the platform as a bridge for forklift.



- This is not a passenger lift. Do not ride the lift with unstable loads or in such manner that a failure would endanger you. The lift is not equipped with a back-up system to prevent falling in the event of a failure.



- Never stand in or drill through or allow anyone else to stand in or move through the area in which the lift may operate or into which an upset load might fall.



- Improper operation of this lift can result in serious personal injury. Do not operate unless you have been properly instructed and have read and are familiar with the operation instruction. If you do not have a copy of the instructions please obtain them from your employer, distributor or lessor, as appropriate, before you attempt to operate the lift.
- Always inspect this lift for maintenance or damage before using it. If the major parts damage or the platform is slippery, do not use the lift. Do not attempt to repair it by yourself unless you are specifically trained.
- Lay people don't try to repair, please!
- Please kind in mind; otherwise you need take your own responsibility.

## 2. Operating step

### IMPORTANT NOTE:

When used for the first time, some irregular operation may be found (hammering, vibrations, difficulties in handling the platform). This is normal. Correct operation is the only way to let the tail lift smooth operation.

- Remove the platform safety hinge hook. Turn on master switch in the control box.

- Press the button “down”, then the platform to fold out. Manually open the platform.

- Operating the platform by control box or remote control.

- Load or unload.

NOTE: the load must always be positioned on the platform as close to the vehicle as possible; the load must never overhang the edge of the platform;

Refer to the load chart in the present manual.

- Bring the platform into fold up position then lock it.

- Cut off the power using the main switch.

## 3. Maintenance

All maintenance operations must be carried out with the tailgate on the ground (platform tilt to the ground), without any loads on the platform.

### Foreword:

- Never spray pressurized water on the electro—hydraulic power pack and on the outside control box.

- Use a brush or compressed air on these parts.

- The electro—hydraulic power pack is the weak point in your tailgate. Always make sure that it is perfectly clean.

- An electro—hydraulic power pack drain is recommended, at least once a year.

### Checking the oil level:

- Wait 15 seconds until the oil level settles when the platform tilts down the ground.

- The oil must be between 3cm and 4cm from the top of the reservoir. If necessary, top up with mineral oil.

### Change oil:

- Change oil at least once a year.

- Use a good quality of hydraulic oil, ISO32. it is recommended not to mix oils from

different manufacturers; in all cases, never use engine oil or brake oil.

- Referable in the fall before the weather gets cold since the operation of the tailgate will accumulate condensation and some dirt which can interfere with the tailgate functions.

Lubrication:

All grease points must be generously and completely lubricate. For the condition of high efficiency or work intensity, they should be lubricated frequently. Properly lubricate the tailgate will ensure longevity.

- The equipment is fitted with 12 grease nipples;
- On the lift-arm
- On the lift-cylinder pins
- On the tilt-cylinder pins

NOTE: high temperature molybdenum disulphide grease.

We also recommend greasing the grease points each time the tailgate is washed, especially if washed under pressure with detergents.

Battery check:

Check battery charge and make sure that electrical connections are in good condition. An insufficient charge may affect the operation of the electro-hydraulic power pack or even damage the motor.

Check the mechanical locking systems:

Check the mechanical locking systems of the platform (mounted by the builder) on the vehicle body.

Tailgate structure:

Weld seams must be strictly checked.

Inspection tests:

Remember that the tests and inspections mentioned in the check booklet must be made every 2 months. In case of anomalies, stop using your tailgate and contact your nearest repair center.

#### 4. Troubleshooting diagnosis chart

Please check the following points before looking for faults:

- Is the lift switched "on"?
- Is the battery main switch "on" and functioning?
- Is there a main circuit breaker in line to the lifter? Main switch OK for the current supply?
- Is the fuse in power pack OK?
- Are the vehicle batteries OK and charged?



- Is the connection to ground in power pack OK; Is the connection to ground from tail lift to vehicle OK?
- Oil level in oil tank OK?
- Any damages on mechanical or electrical such as damaged cables?

**ATTENTION:**

Please change oil after working on hydraulic unit.

Please turn off main switch of battery while working on the electrical system or disconnect negative connection. Avoid to danger of burning.

Danger of accidents will happens if intervention in the electrical installation?

Dangerous injuries possible if short circuits arise caused by tools on the main battery connections?

## Troubleshooting diagnosis chart

Function	Symptom	Possible cause	Remedy
1.00	No operation	1.10 No power to lift (power circuit problem)	1.11 Battery terminals dirty Clean & tighten
			1.12 Battery defective Replace
			1.13 battery discharged Charged battery
			1.14 circuit sentry off Fix overload & reset
			1.15 ground connection Clean & tighten
			1.16 Circuit sentry defective Replace
		1.17 Power cable Check for loose terminals or broken wire	
	Power to lift but no operation (switch box circuits)	1.20	1.21 Wire terminal Crimp tightly to wire
			1.22 Switch defective Replace
			1.23 Broken wire Replace
		1.24 Loose connection Clean & tighten	
2.00	Down	2.10 No operation	2.11 defective valve in pump Replace
			2.12 Mechanical lockout Check & correct
			2.13 Also see 1.00
			2.14 Flow control valve defective Replace



3.00		2.20 Sluggish operation	2.21 Restriction in lines	Check for dirt or kinks
			2.22 Oil too thick	Thin with diesel fuel -2T.
			2.23 Flow control valve placed backwards	Correct
			2.24 Also see 2.13	
	UP	3.10 No operation	3.11 Motor solenoids	Replace
			3.12 Also see 1.00 & 2.00	
		3.20 Sluggish operation	3.21 Excessive load	Remove excess weight
			3.22 Low oil supply	Add type A transmission oil, check oil level with platform lowered completely
			3.23 Cylinder leaks	Replace
			3.24 Leak in plumbing	Replace
			3.25 Also see 1.10, 2.20	
		3.30 Motor runs but won't lift	3.31 Relief valve set too low	Set at 2000 p.s.i. (Refer to monarch catalog)
			3.32 Down solenoid stuck Open	Check raise/lower switch
3.33 Also see 2.00、 3.20 & 3.23				
3.40 Won't stay up		Dirty valve seat in pump	Flush clean or replace	
		Also see 3.23 & 3.24		

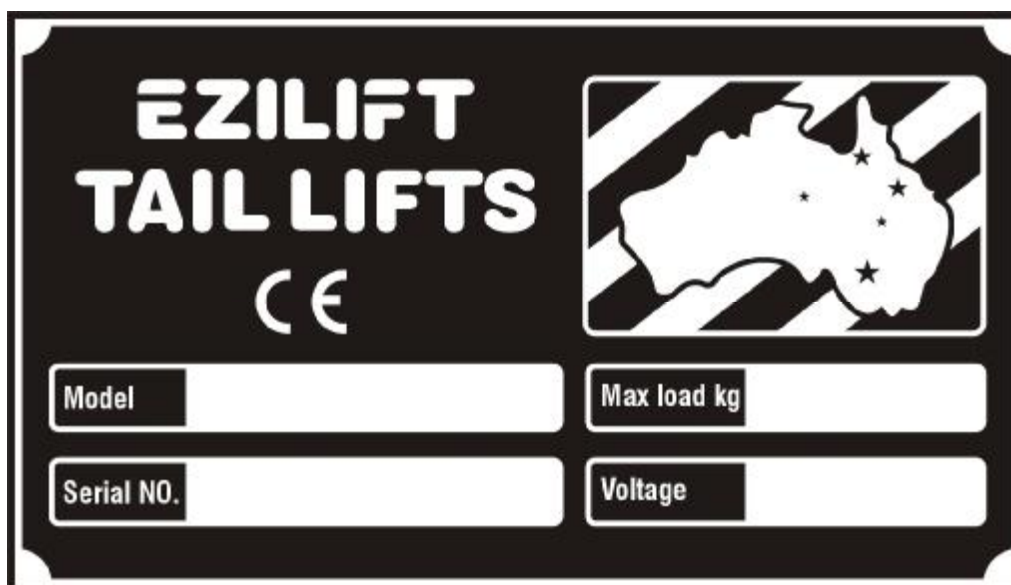
## SPARE PARTS

### 1. ATTENTION:

To order spare parts please do as follow:

- The tailgate model
- The tailgate Serial number
- The part number
- Voltage

Please find the manufacturer plate on the crossbeam, place your order with the below information. Then , check the spare parts manual again.



Tailgate is comprised of three sub-assemblies:

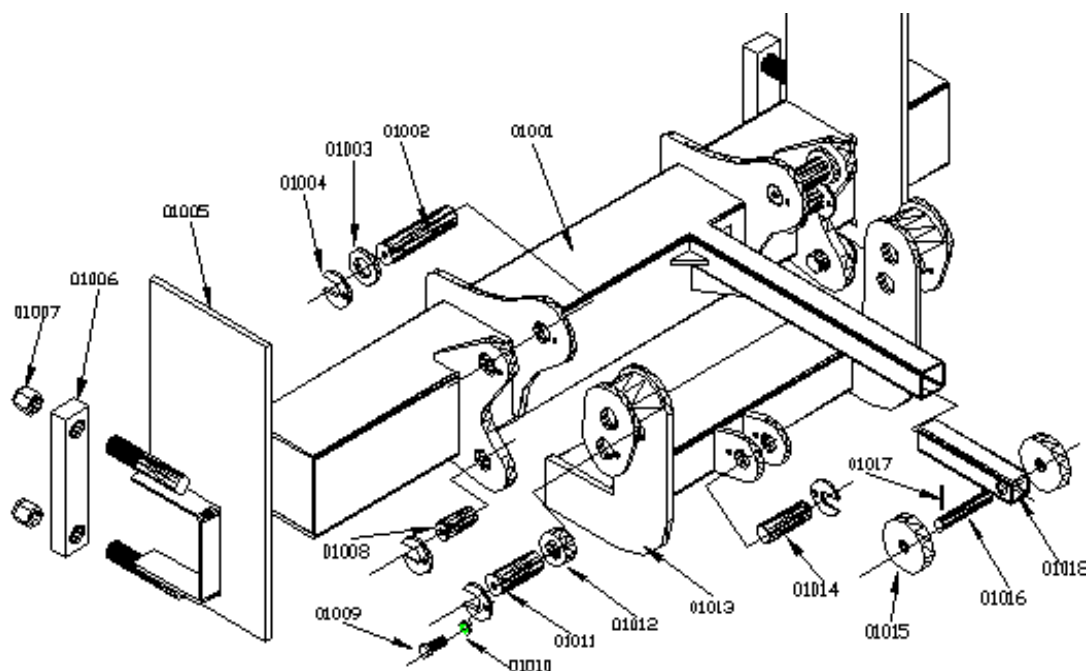
- Mechanical part
- Hydraulic part
- Electrical part

The main materials and elements (Table):

Component Material	C	Si	Mn	P	S	Cr	Ni
45	0.42~0.50	0.17~0.37	0.50~0.80	$\leq$ 0.035	$\leq$ 0.035	$\leq$ 0.2 5	$\leq$ 0.2 5
16Mn	0.12~0.19	0.17~0.37	0.70~1.00	$\leq$ 0.035	$\leq$ 0.035	$\leq$ 0.2 5	$\leq$ 0.2 5
65Mn	0.62~0.70	0.17~0.37	0.90~1.20	$\leq$ 0.035	$\leq$ 0.035	$\leq$ 0.2 5	$\leq$ 0.2 5
0.235A	0.14~0.22	$\leq$ 0.03	0.30~0.65	$\leq$ 0.045	$\leq$ 0.050		

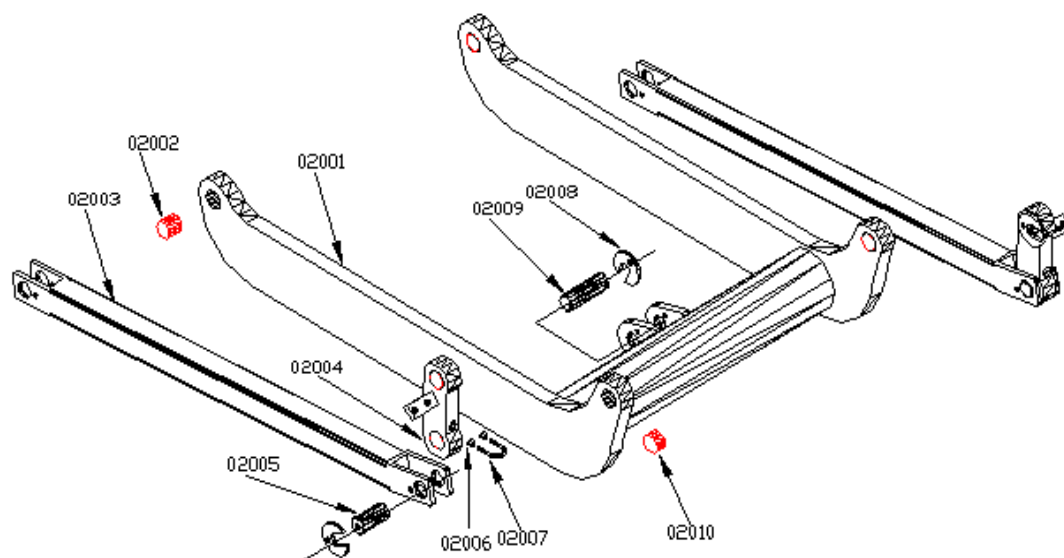
## 2. MECHANICAL PART:

## - Crossbeam



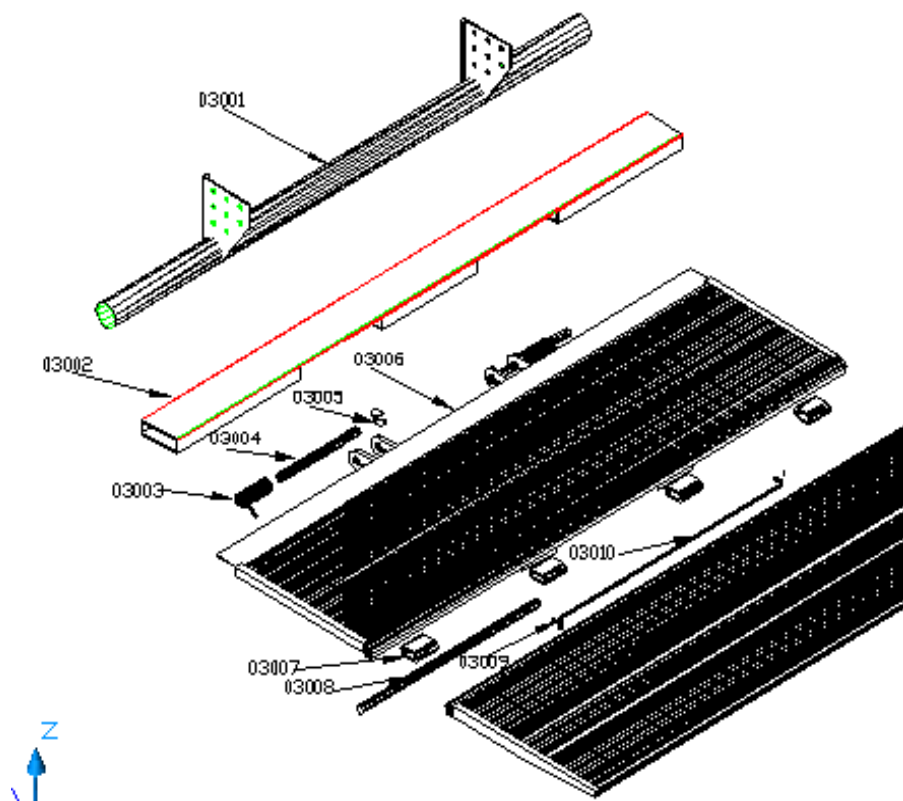
REP	DESIGNATION	QTY	REFERENCE
01001	Crossbeam	1	16Mn
01002	Pins	2	45 #
01003	Spacer	2	Nylon66
01004	Lock plate, pin	7	45 #
01005	Mounting plate	2	16Mn
01006	Brake plate	2	16Mn
01007	Self-lock nut M30	2	GB/T6183-86
01008	Pins	8	45 #
01009	Bolts M8×30	12	GB/T5781-86
01010	Flat washer $\Phi 8$	12	GB/T95-85
01011	Pins	1	45 #
01012	Spacer	2	Plastic
01013	Bracket, cylinder and lift-arm	6	16Mn
01014	Pins	12	45 #
01015	Wheels	6	Nylon66
01016	Pins	1	45 #
01017	Pins	2	45 #
01018	Support tube	1	Q235

## - Lift-arm



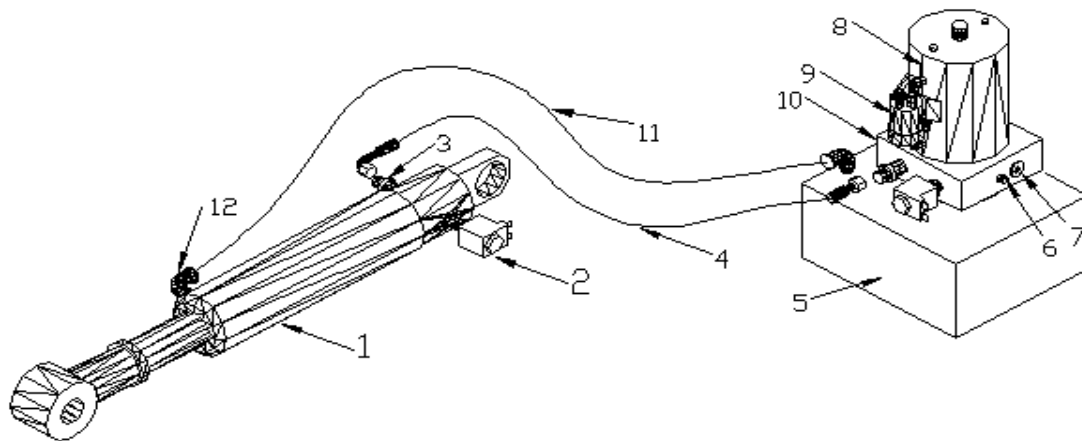
REP	DESIGNATION	QTY	REFERENCE
02001	Lift-arm	1	Q235, 16Mn
02002	Copper bush	2	Copper
02003	Adjunct-arm	2	Q235
02004	Cantilever assemble	2	16Mn
02005	Pins	2	45 #
02006	Self-lock nut	4	GB/T 6183-86
02007	"U" bolts 14	2	JB/ZQ 4321-97
02008	Lock plate	3	45 #
02009	Pins	1	45 #
02010	Copper bush	2	Copper

## - Platform



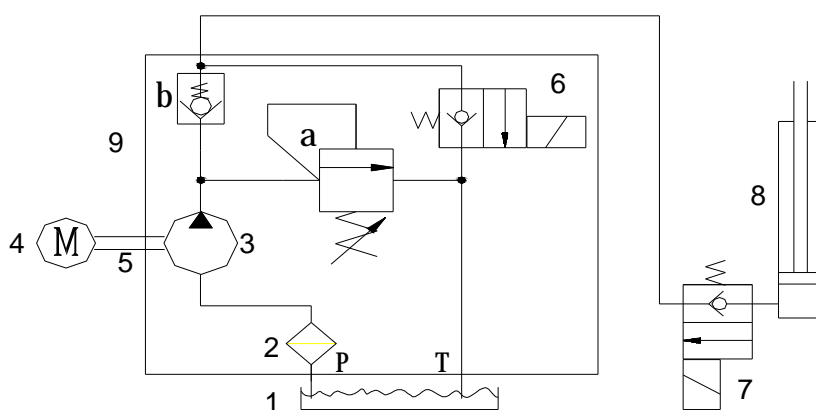
REP	DESIGNATION	QTY	REFERENCE
03001	Bumper	1	Q235
03002	Extension plate	2	Q235
03003	Spring	2	65Mn
03004	Pins	2	45 #
03005	Lock plate	2	45 #
03006	Platform	1	Aluminum 6063-T5
03007	Connector	4	Aluminum 6063-T5
03008	Pins	3	45 #
03009	Screw M8*15	2	GB/T70-1985
03010	spring	1	65Mn

3. Hydraulic part



Item	Descriptions	Qty	Item	Descriptions	Qty
04001	Cylinder	1	04007	Poppet assy	1
04002	Electro-valve	2	04008	Motor	1
04003	Pipe Connector	2	04009	Relays DC12V/24V	1
04004	Oil pipe	1	040010	Manifold assy	1
04005	Oil tank	1	040011	Air pipe	2m
04006	Relief valve	1	040012	Air connector 90°	2

Hydraulic diagram



Item	Descriptions	Item	Descriptions
1	Oil tank	6、7	Two position two way non -return stop valve
2	Filter	8	Hydraulic ram

3	Pump	9	Interface block
4	Motor	a	Release valve
5	Contact pin member	b	Non -return duel - valve

4. Electrical part



05001



05002



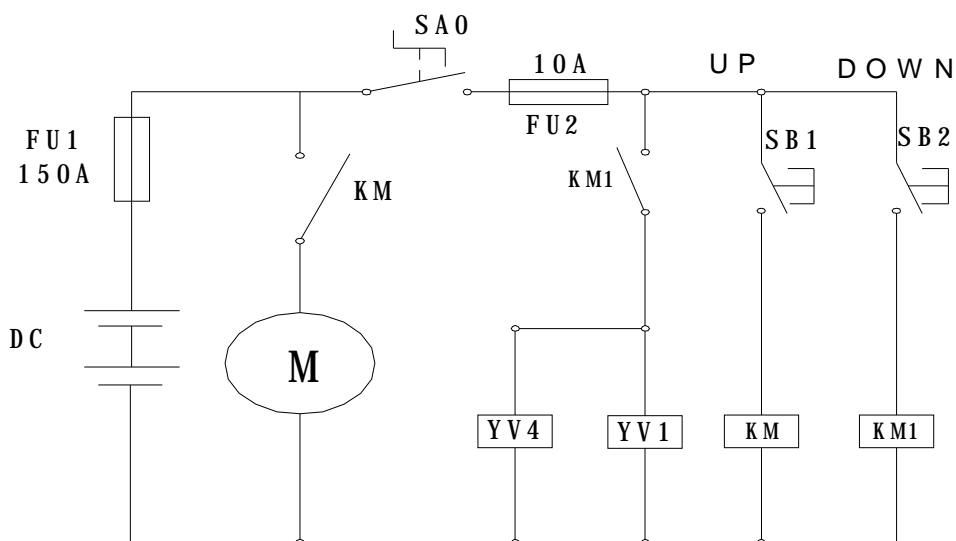
05003



05004

REP	DESIGNATION	ORDER NO.
05001	Power button	WE017-3
05002	Button (green, yellow)	WE016-4,WE016-5
05003	Hoist push button	WE016-2
05004	Fuse assembly	WE019-38

Electrical diagram



KM — (motor) DC contactor ; KM1— (solenoid valve) contactor control;  
YV1— (cylinder) solenoid valve; YV4— (power pack) solenoid valve;

## Repair and Warranty

### Repair

The returned parts for repair must be attached the tag, indicating the address in details and the ranges of repair.

### Guarantee

The returned parts must be followed with the shipping receipt or invoice. We will check the parts damaged according to your instruction within the guarantee. Please specify the reasons and fill in the certificate in details.