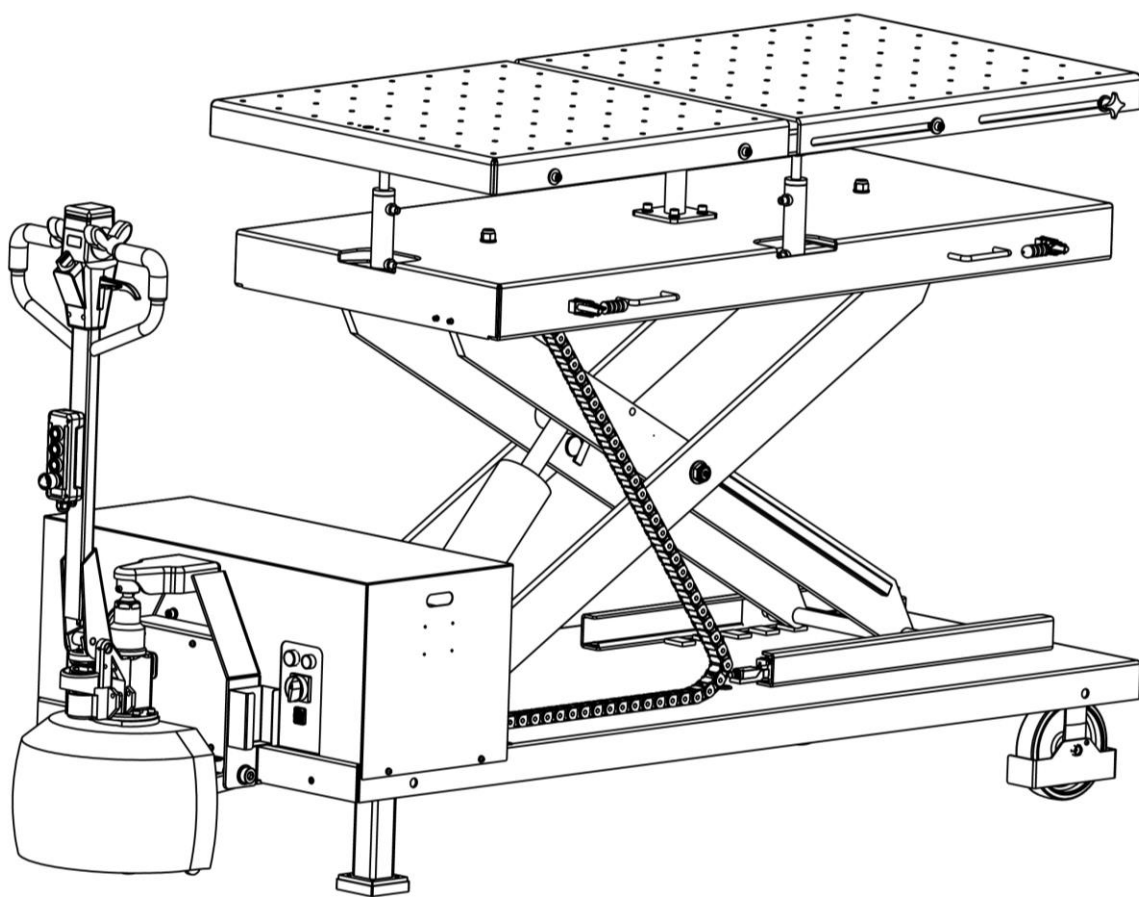


Model No. EE-MS12MF
Mobile Lifting Table
Lifting Capacity, 1200KG

TRANSLATED VERSION
Installation, Operation
and Parts Manual



EAE



Distributed by

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

06/11/2024

www.eae-ae.com

IMPORTANT NOTES

Before start up, connecting and operating EAE products, it is absolutely essential that the operating instructions/owner's manual and, in particular the safety instructions are studied carefully. By doing so you can eliminate any uncertainties in handling EAE products and thus associated safety risks up front; something which is in the interest of you own safety and will ultimately help avoid damage to the device, When an EAE product is handed over to another person, not only the operating instructions but also the safety instructions and information on its designated use must be handed over to the person.

By using the product you agree the following conditions:

Copy right

The enclosed instructions are the property of EAE or its supplier, and are protected against duplication and reproduction by copyright laws, international agreements, and other domestic legislation. The reproduction or disclosure of instructions or an extract thereof is prohibited and offenders are liable to prosecution; EAE reserves the right or initiates criminal proceedings and asserts claims for damages in the event of infringements.

Warranty

The use of non-approved hardware will result in a modification of our products and thus to the exclusion of any liability or warranty, even if such hardware has been removed again in the interim.

It is not permissible to make any changes to our products and these are not only to be used together with genuine accessories and genuine replacement parts. Otherwise any warranty claims will be invalid.

Liability

The liability of EAE is limit to the amount that the customer has actually paid for this product. This exclusion of liability does not apply to damages caused through willful misconduct or gross negligence on the part of EAE.

All information in this manual is believed to be correct at time of publication.

EAE reserves the right to amend and alter technical data and composition without prior notice.

Please confirm at time of ordering.

IMPORTANT NOTES	2
SAFETY NOTES	4
1.1 Operation of the lifting table	4
1.2 Checking of the lifting platforms	4
1.3 Important safety notices	4
1.4 Noise	5
1.5 Warning labels	5
PACKING, STORAGE AND TRANSPORTATION	6
2.1 The lift was packed as whole for transportation	6
2.2 Storage	6
2.3 Lifting and handling	6
PRODUCT DESCRIPTIONS	7
3.1 General descriptions	7
3.2 Construction of the lift	7
3.3 Technical data	7
3.4 Dimensions	8
3.5 Important information about the battery.	8
INSTALLATION	9
COMMISSION	12
4.1 Fill the oil reservoir with hydraulic oil	12
4.2 Safety instructions	12
4.3 Operation instructions	13
4.4 Use the pallet jack	15
4.5 Use the lifting platform	16
TROUBLE SHOOTING	18
MAINTENANCE	19
Annex 1, Electrical diagrams and parts list	21
Annex 2, Hydraulic diagrams and parts list	25
Annex 3, Exploded mechanical drawings and parts list	29

SAFETY NOTES

1.1 Operation of the lifting table

This mobile lifting table is designed for dismantling and fixing batteries of electric vehicles as well as engine, gearbox, drive axle, fuel tank, suspension, bracket and chassis components of traditional vehicles. Users are not allowed to use it for any other purposes. The applicable national regulations, laws and directives must be observed.

Only users aged 18 or above who have been instructed on how to operate the lifting table and have proven their ability to do so to the owner are to be entrusted with unsupervised operation of the lifting table. The task of operating the lifting table must be granted in writing.

Before loading onto the lifting table, users should study the original operation instructions and familiarize themselves with the operating procedures in several trial runs.

Lift within the rated load. Don't attempt to raise with excessive weight.

1.2 Checking of the lifting platforms

Checks are to be based on the following directives and regulations:

- Basic principles for testing lifting tables
- The basic health and safety requirements
- Harmonized European standards
- The applicable accident prevention regulations

The checks are to be organized by the user. The user is responsible for appointing an expert or qualified person to perform checking. It must be ensured that the person chosen satisfies the requirements.

The user bears special responsibility if employees of the company are appointed as experts or qualified persons.

1.3 Important safety notices

1.3.1 The lift is designed for indoor installation only. Do not expose the lift to rain, snow or excessive moisture. Do not use the lift near explosives or open areas containing inflammable liquids.

1.3.2 Only use this lift where the altitude is within 1000 meters and where the foundation is stable and capable of sustaining the load. Do not use on any asphalt surface.

1.3.3 Read and understand all safety warnings before operating the lift.

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, ties, 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 unsecured.

1.3.8 Lift within the rated capacity.

1.3.9 Lower the lift to its lowest position and do remember to turn off the power when service finishes.

1.3.10 Do not modify without manufacturer's advice.

1.3.11 Wear the appropriate personal protection equipment such as safety helmet, safety shoes, safety gloves, etc.

1.3.12 If the lift is going to be left unused for a long time, users are required to:

- a. Disconnect the power;
- b. Empty the oil tank;
- c. Lubricate the moving parts with hydraulic oil.

WARNING: The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.































1.4 Noise

The noise during normal working is less than 70 dB (A). For your health consideration, it is suggested to place a noise detector in your working area.

1.5 Warning labels

All safety warning labels are clearly depicted on the lift to ensure that the operator is aware of and avoid the dangers of using the lift in an incorrect manner. The labels must be kept clean and they have to be replaced if detached or damaged. Please read carefully the meaning of each label and memorize them for future operation.

DO NOT ENTER UNDER THIS PLATFORM UNLESS IT IS MECHANICALLY LOCKED

 CAUTION	 CAUTION	 CAUTION
 Read and digest the complete operation instructions before operating the lifting table.	 Prior to move the table the load platform must have been lowered fully.	 Use only when the lifting table is in a static position. Lock the casters when necessary.
 CAUTION	 CAUTION	 CAUTION
 Before raising operation, run the lifting table without load for a complete cycle to ensure it is in good condition.	 Ensure the load is centered over the carrying table.	 The space under or around load carrying table shall be free of obstructions before use.
 CAUTION	 CAUTION	 CAUTION
 The load carrying table shall be observed by the operator throughout the motion of the table.	 Avoid excessive rocking the lifted load or the carrying table.	 In case of trouble or disruption, turn off the main switch and make sure it cannot be switched on again unintentionally. Inform the supervisor.
 WARNING	 DANGER	The instructions, cautions and warnings written above as well as in the Manual cannot cover all possible conditions and situations that may occur. The Common sense for safety must be always in the mind of the operator. For damages caused through willful misconduct or gross negligence, the manufacturer or its distributors are excluded of liability.
 Don't use on a slope of greater than 2.5 %.	 Load within the maximum load capability. Do not attempt to lift goods with excessive length or width.	
 WARNING	 DANGER	
 Don't use outdoor in strong breeze with the wind speed being more than 14 m/s.	 Keep hands, feet and other parts of the body away from the moving parts to avoid pinching or shearing.	
 WARNING	 DANGER	
 It is for carrying goods only. Travelling on the load carrying platform is forbidden.	 Never try to remove, interrupt or modify the safety related components or devices.	

PACKING, STORAGE AND TRANSPORTATION

Packing, lifting, handling, transporting operations must be performed only by experienced personnel with appropriate knowledge of the lift and after reading this manual.

2.1 The lift was packed as whole for transportation

<i>Item</i>	<i>Packed by</i>	<i>Dimension</i>	<i>Weight</i>	<i>Quantity</i>
<i>MS12MF mobile lifting table</i>	<i>Steel frame</i>	2230*1020*730mm (87 13/16"x40 3/16"x28 3/4")	Approx.750 kg Approx.1650lbs	1
<i>Mobile jack</i>	<i>Wooden case</i>	480*370*1340mm (18 7/8"x14 9/16" x52 3/4")	Approx.60 kg Approx.132lbs	1

2.2 Storage

The packs must be kept in a covered and protected area in a temperature range of -10°C to +40°C . They must not be exposed to direct sunlight, rain or water.

Stacking the packs

We advise against stacking because the packs are not designed for this type of storage. The narrow base, heavy weight and large size of the packs make stacking difficult and potentially dangerous.

If stacking is unavoidable, use all appropriate precautions:

-Never stack more than 2 meters in height.

-Never make stacks of single packs. Always stack pairs of packs in a cross pattern so that the base is bigger and the resulting stack is more stable. Once the stack is complete, restrain it using straps, ropes or other suitable methods.

A maximum of three packs can be stacked on lorries, in containers, and in railway wagons, on condition that the packs are strapped together and restrained to stop them falling.

2.3 Lifting and handling

The packs can be lifted and transported only by using truck lifts.

Opening the packs

When the lift is delivered, make sure that it has not been damaged during transportation and that all the parts are present.

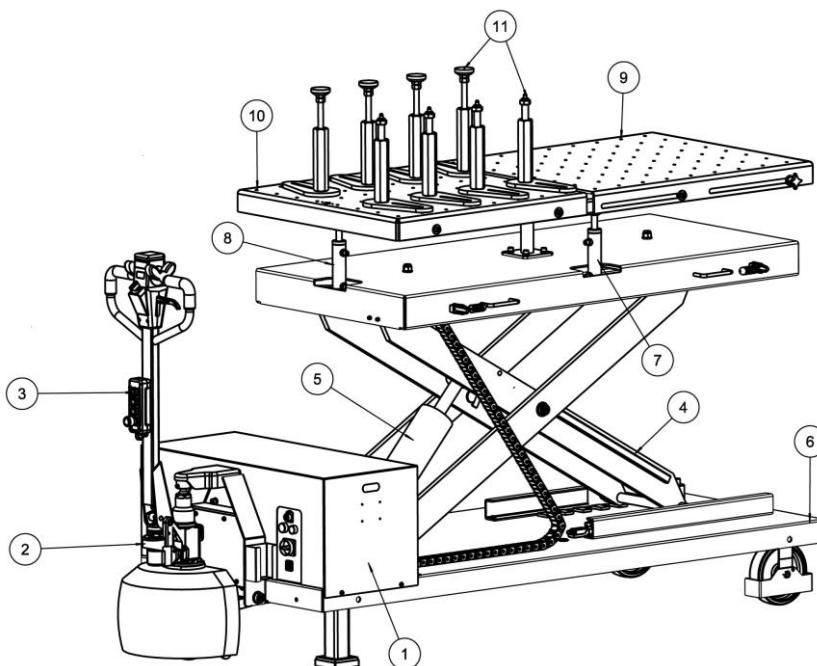
Packs must be opened adopting all the precautions required to avoid injury to persons (Keep at a safe distance when cutting the straps) or damage to parts of the machine. (Be careful that no parts are dropped while you are opening the packs)

PRODUCT DESCRIPTIONS

3.1 General descriptions

This mobile lifting table, which is hydraulic driven with mechanical safety locking protection, is designed for dismantling and fixing batteries of electric vehicles as well as engine, gearbox, drive axle, fuel tank, suspension, bracket and chassis components of traditional vehicles. The mobile and compact structure make it easily enter into the service space. With a maximum lifting capacity of 1200kg and reserved holes (100mm*100mm) on the working table for positioning and fixing components with specialized fixtures. The suspend platform can tilt within a height of 40 mm.

3.2 Construction of the lift

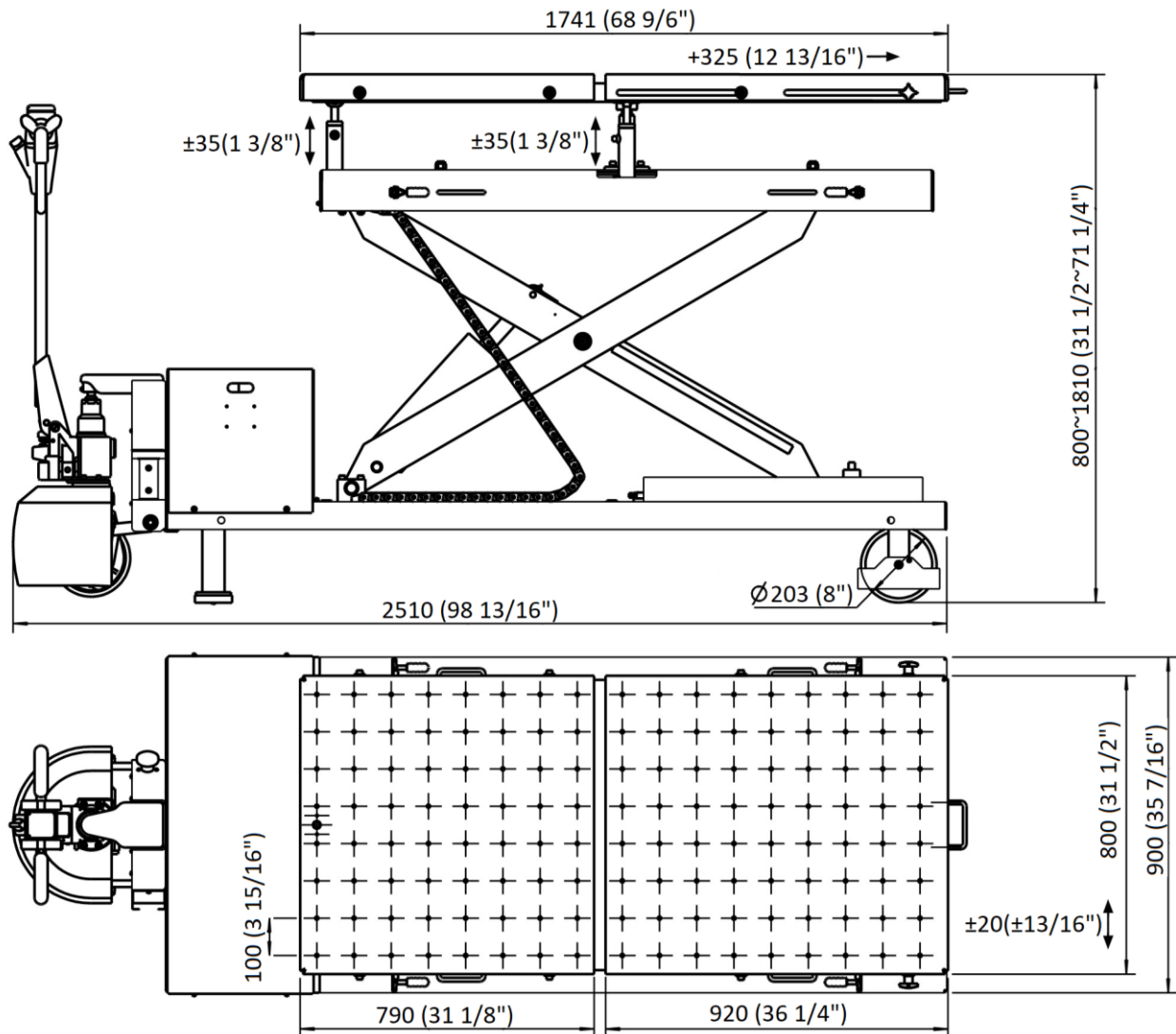


1. Power unit
2. Mobile jack
3. Hand-held control unit
4. Support arm
5. Hydarulic cylinder
6. Base frame
7. Side-tilt adjusting device
8. Front-tilt adjusting device
9. Extendable side of suspended platform
10. Fixed side of suspended platform
11. Adapters (Optional)

3.3 Technical data

Model	EE-MS12MF
Rated capacity	1200kg
Motor	DC24V-2.0kW
Lead-acid battery	80Ah,DC12V
Charger	AC 100-240V,4.5A, 50/60HZ
	Input voltage, AC 200V-240V-1Ph
Full raised height of the lifting platform	1810mm
Full rise time with rated load (normal speed)	Approx.35s
Full rise time with rated load (slower speed)	Approx.80~90s
Full descent time with rated load	Approx.40s
MAX working hydraulic pressure	Approx.18 MPa
Noise	≤75dB(A)
Oil reservoir	4L

3.4 Dimensions



3.5 Important information about the battery.

Normally it takes 8-10 hours to charge a new battery to 100% of its current capacity depending on the temperature of the environment. The normal voltage of a new battery ranges from 12 to 12.9V after being charged for 8 hours and put aside for another 4 hours. In the case that the lift is to be stored and unused for a period of time as listed below, the lift shall be recharged regularly. Recharge the battery by referring to the following TABLE, otherwise the battery may become useless though it is unused or still very new.

Environment temperature(ET)	Time span for recharging	Recharging method
-15°C < ET < 25°C	180 days	Charge the battery at least for 8 hours using the original charger of the lift.
25°C ≤ ET < 35°C	90days	
35°C ≤ ET	45days	

For lead-acid battery, it is normal that the battery lose some portion of capacity as the charging cycle increases. Change the battery with a new one when its voltage is less than 10.5V. Warranty for the battery lasts 12 months starting from the manufacture date of the lift.

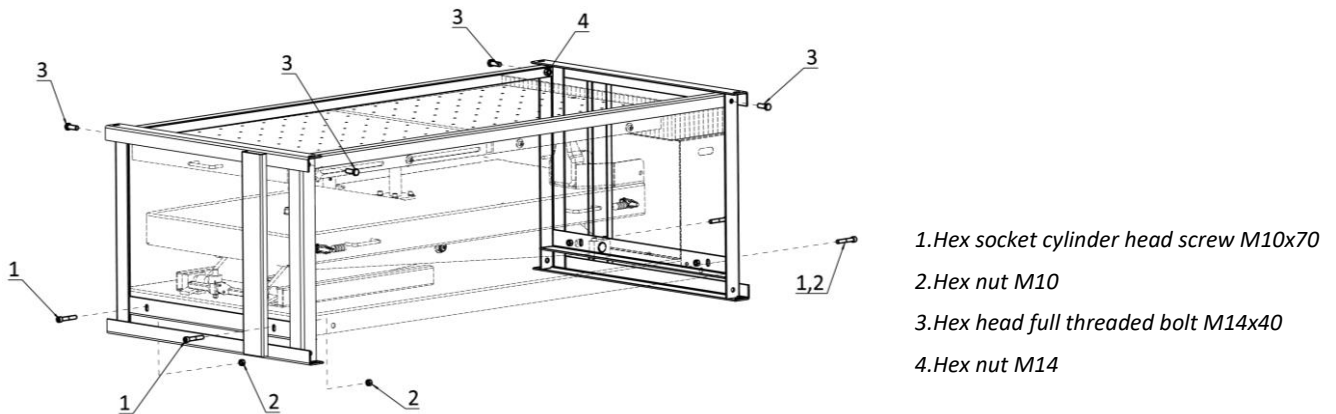
INSTALLATION

ONLY TRAINED AND QUALIFIED INSTALLERS CAN PERFORM LIFT INSTALLATION DUTIES.

Step 1: Remove the packing frames and take out accessories placed under the platform.

Prepare 2 wooden battens with thickness of more than 100mm and length of more than 700mm. (other dependable devices may also applicable). Forklift the packing rack onto two of the battens so as to make its base be clear off the ground.

Unscrew all bolts that fixing the lifting table and its packing frame and take out the accessories placed under the platform.

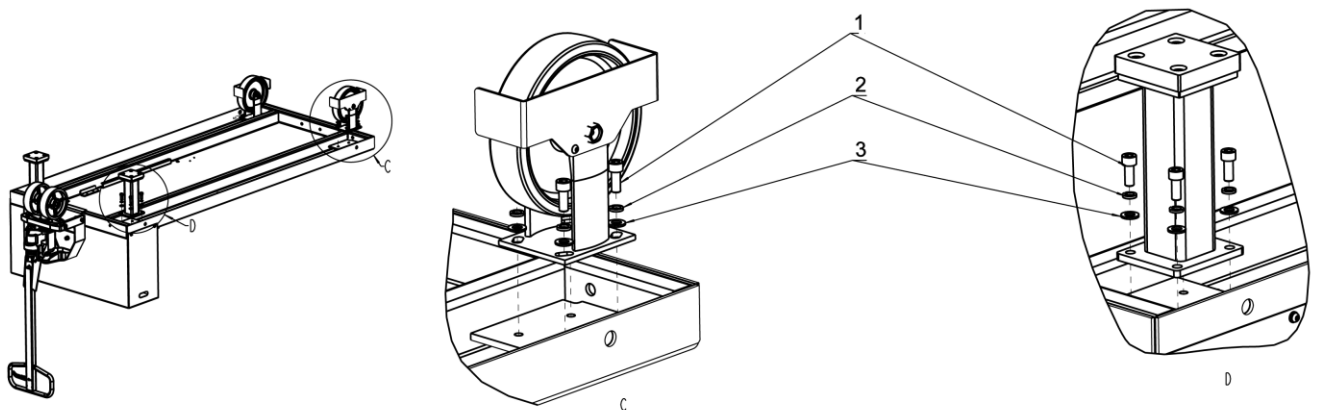


Attention : The packs must be opened adopting all the precautions required to avoid injury to persons (Keep at a safe distance when cutting the straps) or damage to parts of the machine (Be careful that no parts are dropped while you are opening the packing).

Attention: Do not to scratch the painted surface.

Step 2: Install the stands and casters.

Raise the base frame with a forklift until there is enough space to install the two stands and two casters.



1. Hex socket cylinder head screw M10x25
2. Flat washer D10
3. Split washer D10

Step 3: Install the jack.

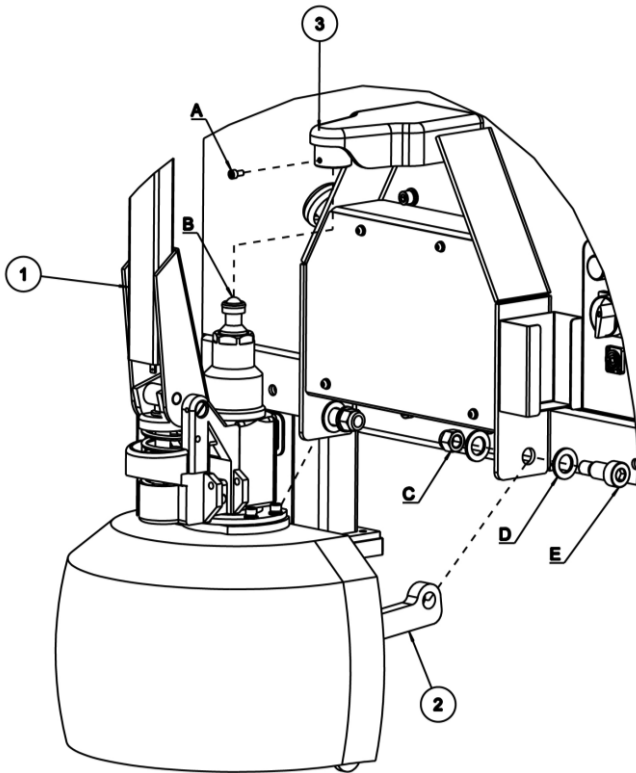
Put the steel ball B into position as indicated in the following FIGURE.

Untighten screw A attached with the component 3.

Insert ball B into component 3, then tighten screw A.

Connect component 3 and component 2 as indicated.

Tighten the screw E.



A: Hex socket cylinder head screw M6x12

B: Steel ball

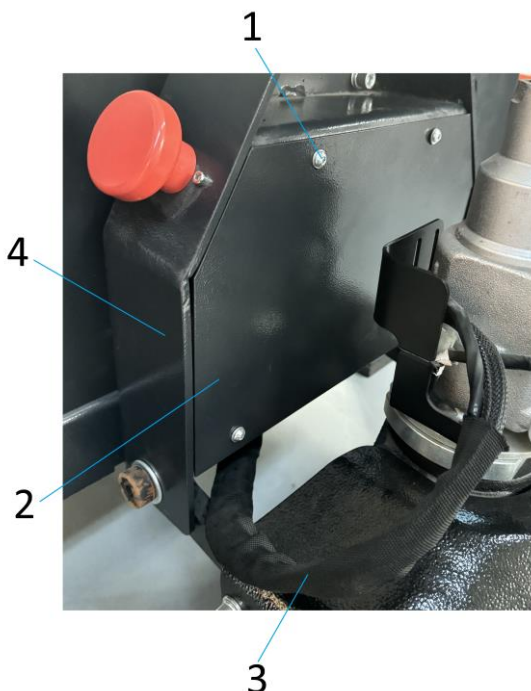
C: Locking nut M10

D: Flat washer D14

E: Hex socket cylinder head screw (with shaft shoulder)

Step 4: Make the electrical connection for mobile jack.

Take off the cover (Pos.2) of the terminal box.



1. Hex socket button head screw M6x12

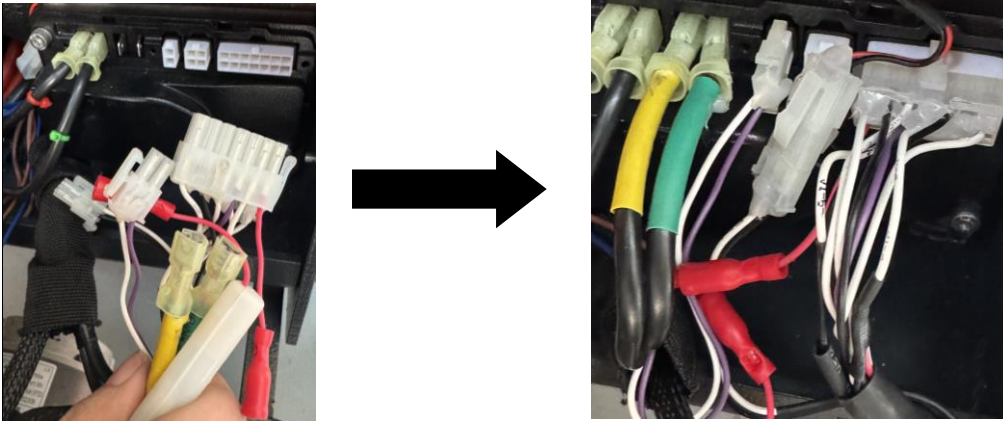
2. Cover

3. Wires for jack

4. Terminal box

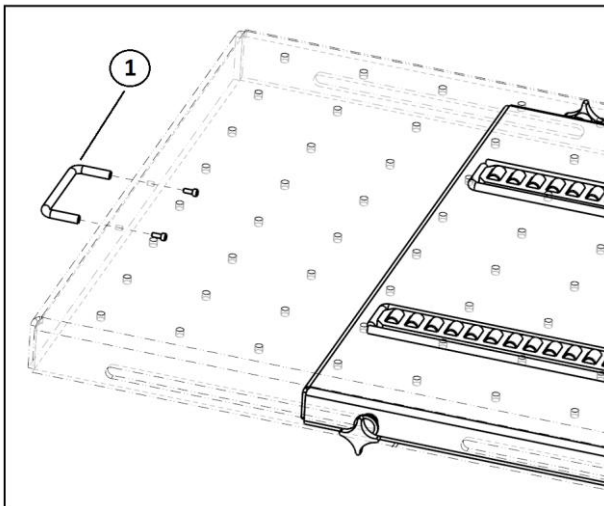
Connect the wires of mobile jack to the corresponding terminals in the box. (See the following fig.)

Fix the cover back.



Step 5: Install the handle.

Tighten the handle (Pos.1) with the platform extending section by two hex socket cylinder head screws M5x12.



COMMISSION

Only authorized persons are allowed to operate the lifting table.

Read and digest the complete operation instructions before operating the lifting table.

4.1 Fill the oil reservoir with hydraulic oil

ONLY CLEAN AND FRESH OIL ONLY. DON'T FILL THE TANK COMPLETELY FULL.

Lift must be fully lowered before changing or adding hydraulic oil.

Fill about 4 liters into the oil tank to run the lift up and down for 2 or 3 cycles.

It is suggested to use HM NO.46 hydraulic oil when average temperature of the location is above 10 degree Celsius and using HM NO.32 hydraulic oil when temperature is below 10 degree Celsius. Change the oil 6 months after initial use and once per year thereafter.

4.2 Safety instructions

Use the lift after carefully reading the instruction manual and understand the contents for safe and proper use.

4.2.1 Before commissioning

- Read and digest the complete operation instructions before operating the lifting table.
- Wear the appropriate personal protection equipment such as safety helmet, safety shoes, safety gloves, etc.
- This lifting table is only designed for loading batteries and engine, gearbox, drive axle, fuel tank, suspension, bracket and chassis components. Do not use for any other purpose.
- Check the hydraulic connection to ensure no leakage before commissioning.
- Only use this lifting table on a surface that is stable, level and dry and not slippery, and capable of sustaining the load.
- Lower the pallet jack and use only when the lifting table is in a static position.
- Prior to move the lifting table, its load platform must have been lowered fully.
- Before loading operation, run the lifting table without load for a complete cycle to ensure it is in good condition.
- Do not use the lifting table whenever any of the safety devices are not operating properly.
- The space under or around load carrying table shall be free of obstructions before use.
- Check and remove oil or foreign materials on the lifting platform.
- Check if the safety lock device is working properly before operation.

4.2.2 During commissioning

- The load shall be centered and well fixed on the carrying table.
- Do not attempt to raise or lower whatever loads that exceed the rated capacity.
- Only raise and lower after verifying that load is properly positioned or fixed.
- It is for carrying goods only. No person is allowed to stand or sit on the lift table. Travelling on the load carrying devices is forbidden.
- The load carrying table shall be observed by the operator throughout the motion of the lift table.
- Do not shake the load during raising or lowering the lifting table. If the load is tilting to one side, stop the motion of the lift immediately.
- Keep hands, feet and other parts of the body away from the moving parts to avoid pinching or shearing.
- When lowering lifting table, make sure nothing will interfere with its descent.

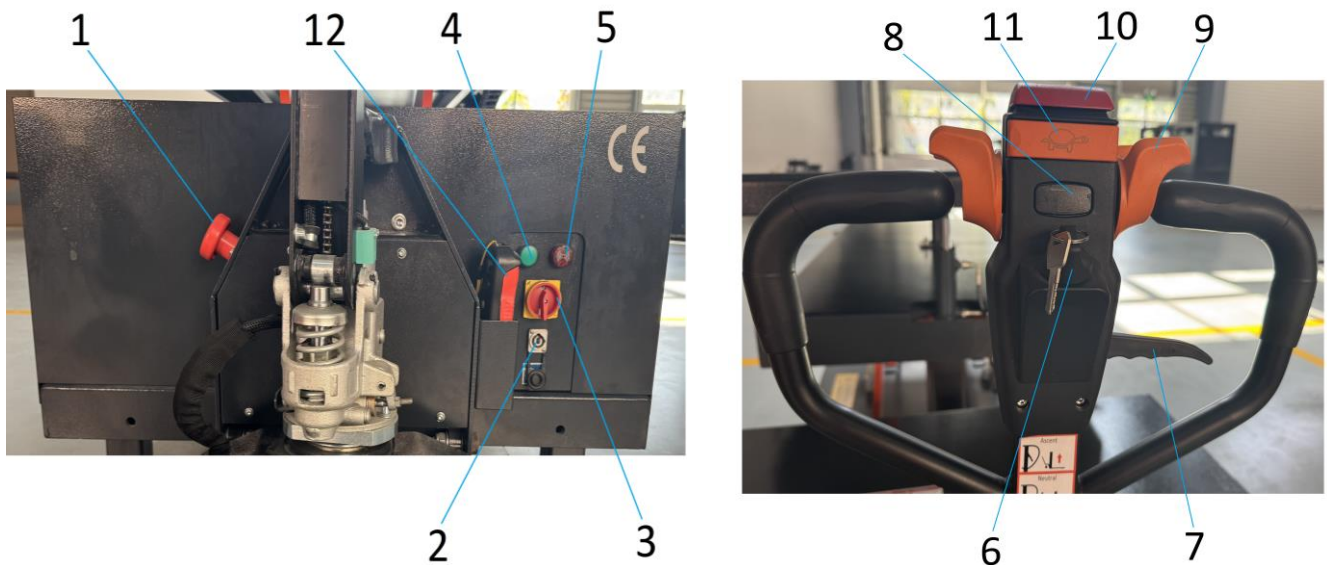
4.2.3 Others

- This lifting table is not designed to be waterproof. Do not expose it to rain, snow or excessive moisture. Do not use the lifting table near explosives or open areas containing inflammable liquids.
- Don't use on a slope of greater than 2.5 %.
- Don't use outdoor in strong breeze with the wind speed being more than 14 m/s.
- Only move the lifting table when it is completely lowered.
- When the lifting table is not in use, lower it completely.
- Only authorized persons from using the lifting table.

- Do not change or modify without permission. Otherwise the lift may not operate properly, or a serious accident may occur.
- If you find a problem with the lifting table during use or inspection, stop using it and request maintenance. Do not use until it is repaired.
- Use the lifting table after reading the instruction manual carefully and understand the contents of them for safe and proper use.

4.3 Operation instructions

4.3.1 Descriptions for the switches and buttons



S/N	Description	Functions
1	Main power button	Power on or power off.
2	Charger port	Connect the charger.
3	Main switch	Turn on and turn off the power supply for lifting system.
4	Power indicator	Indicate if power is on.
5	Alarm buzzer	Audible warning for excessive load. The platform cannot rise or lower. Audible warning during full descent movement.
6	Key switch	Turn on and turn off the power for mobile jack.
7	Jack Lever	Push down the LEVER and move up and down the hand grip to raise the base frame of the lift. Keep the LEVER at neutral position when moving the lift. Pull up the LEVER to descend the base frame of the lift.
8	Indicating lamp	Display battery level.
9	The starter of the jack	Push forward or backward to move the jack correspondingly.
10	Slower speed button	Push this button to move the pallet jack slowly.
11	Anti-crush protection	Guard against crushing. Once the button is pressed, the jack will move in opposite direction.
12	Hand-held control	Control raising and lowering movement. Tilt the suspended platform.

4.3.2 Hand-held control



S/N	Description	Functions
1	Stop button	Push it to deactivate all the control buttons on hand-held control. Rotate this button and push the main switch (Pos.2) to resume the function of all control buttons.
2	Main switch	Turn on and turn off hand-held control.
3	UP button	Push to rise with normal speed.
4	UP button	Push to rise with slower speed.
5	DOWN button	Control the lowering movement.
6	TILT button	Tilt the suspended platform forward.
7	TILT button	Tilt the suspended platform backward.
8	TILT button	Tilt the suspended platform left.
9	TILT button	Tilt the suspended platform right.

4.4 Use the pallet jack

Prior to move the table, the load platform must have been lowered fully.

The pallet jack is used to move the lift by lifting its base off the floor.

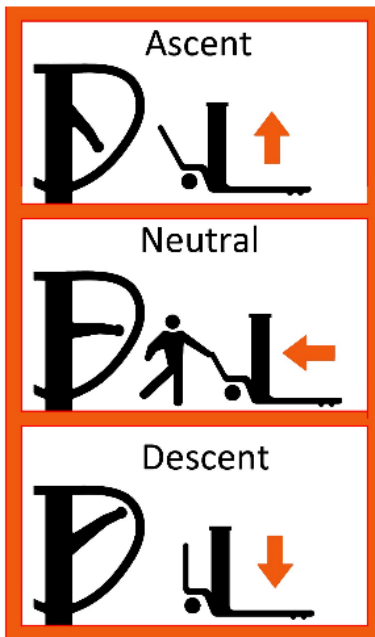
Always descend the base onto the floor before raising.

The pallet jack is operated by a hand grip and a lever inside the grip.

Push down the LEVER and move up and down the hand grip to raise the base frame of the lift.

Keep the LEVER at neutral position when moving the lift.

Pull up the LEVER to descend the base frame of the lift.



Attention! It is only possible to move the jack when the limit switch fixed at the bottom of its hand grip is activated.



limit switch

4.5 Use the lifting platform

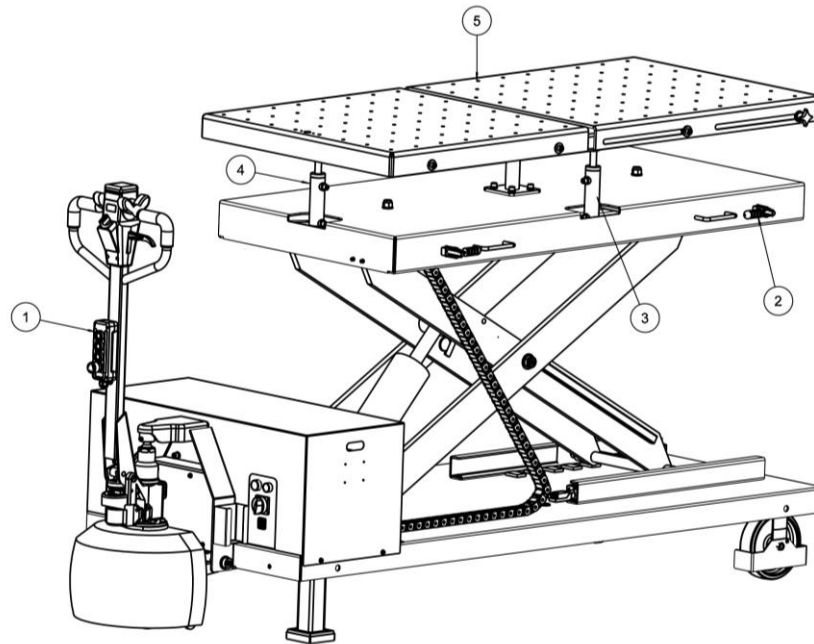
Before loading operation, run the lifting table without load for a complete cycle to ensure it is in good condition.

Get familiar with lift controls by running the lift without load through a few cycles.

The load carrying table shall be observed by the operator throughout the motion of the lift table.

Do not try to move the lifting table when its platform is raised with load.

ONLY move when the lifting table is completely lowered.



Pos.	Description	Functions
1	Hand-held control unit	Control raising and lowering movement.
2	Swing device	The lower platform can be horizontally moved within 40mm by releasing the grips. When there is a slight deviation to align the fixture, release the grip and the lower platform can be moved to certain position that is suitable to align the fixture with the intended load. When the alignment is finished, push the grip back to make the platform static.
3	Front and back-tilt adjusting cylinder	In case the intended load is not perfectly horizontal, tilt the platform slightly can assure better contact between the platform and load. Tilt by adjusting the hydraulic cylinder.
4	Left and right-tilt adjusting cylinder	In case the intended load is not perfectly horizontal, tilt the platform slightly can assure better contact between the platform and load. Tilt by adjusting the hydraulic cylinder.
5	Extendable platform	Use when it is necessary to fix extra fixture during maintenance service or to carry longer loads.

Ascend

Ensure the load is centered over the carrying table.

1. Make sure that you have read and understood the operation manual before operation.
2. Push the lifting table under the load to be lifted. Lower the mobile pallet jack.
3. Push the UP button until expected height.
4. Turn off the power switch before starting service work.

Descend

When lowering the lift pay careful attention that all personnel and objects are kept clear.

1. Turn on the power switch
2. Push the DOWN button until lower to expected height.

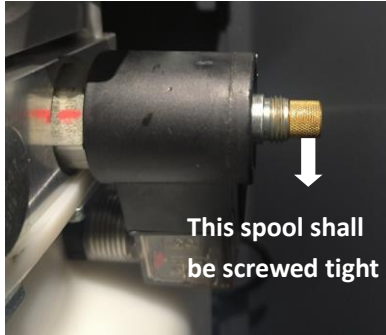
Attention:

In case the mechanical safety locking plate is engaged and it is unable to lower the lifting platform, please check and push slightly the UP button to disengage the mechanical locking plate before pushing the DOWN button for lowering.

The platform will not rise or lower and an audible warning will be heard in case of excessive load on the platform at a raised position. To get rid of the warning, the load exceeding the capacity has to be removed.

TROUBLE SHOOTING

ATTENTION: If the trouble could not 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	POSSIBLE CAUSES	SOLUTIONS
Motor does not run and will not raise.	Loose wire connection	Check and make a good connection.
	Burnt motor.	Replace it.
Motor runs but will not raise.	Relief valve is not well screwed up or jammed. (Pos.3 in the hydraulic scheme)	Clean or make adjustment
	Damaged gear pump. (Pos.22 in the hydraulic scheme)	Replace it.
	Too low oil level.	Add oil.
	The hose connection is loose. (Pos. D in hydraulic line) (Pos.40 in the hydraulic scheme)	Tighten it.
	The cushion valve is not well screwed up or jammed. (Pos.23 in the hydraulic scheme)	Clean or make adjustment
	Solenoid valve (YV8) fails to work well.	Check the electrical line or replace the solenoid valve
	The spool, attached with the solenoid unloading valve, for emergency descent was not screwed tight (Pos.35 in the hydraulic scheme)	Tighten the spool. 
The table goes down slowly after being raised.	The oil hose leaks.	Check or replace it.
	Untightened oil cylinder.	Replace the seal.
	The non-return valve leaks. (Pos.4 in the hydraulic scheme)	Clean or replace it.
	Solenoid unloading valve fails to work well. (Pos.35, Pos.38 in the hydraulic scheme)	Clean or replace it.
	Unloading valve leaks.	Check and adjust the tightness.
Raising too slow.	Jammed oil filter (Pos.29 in the hydraulic scheme)	Clean or replace it.

TROUBLES	POSSIBLE CAUSES	SOLUTIONS
	Too low oil level.	Add oil.
	The relief valve is not adjusted to the right position.	Make adjustment.
	Too hot hydraulic oil (above 60°) .	Change the oil.
	Abraded seal of the cylinder	Replace the seal.
Lowering too slowly.	Jammed pressure compensating valve (Pos.34, Pos.39 in the hydraulic scheme)	Clean or replace it.
	Dirty hydraulic oil	Clean or replace.
	Jammed oil hose	Clean or replace.
	Jammed restrictive valve (Pos. D in hydraulic line)	Clean or replace.

MAINTENANCE

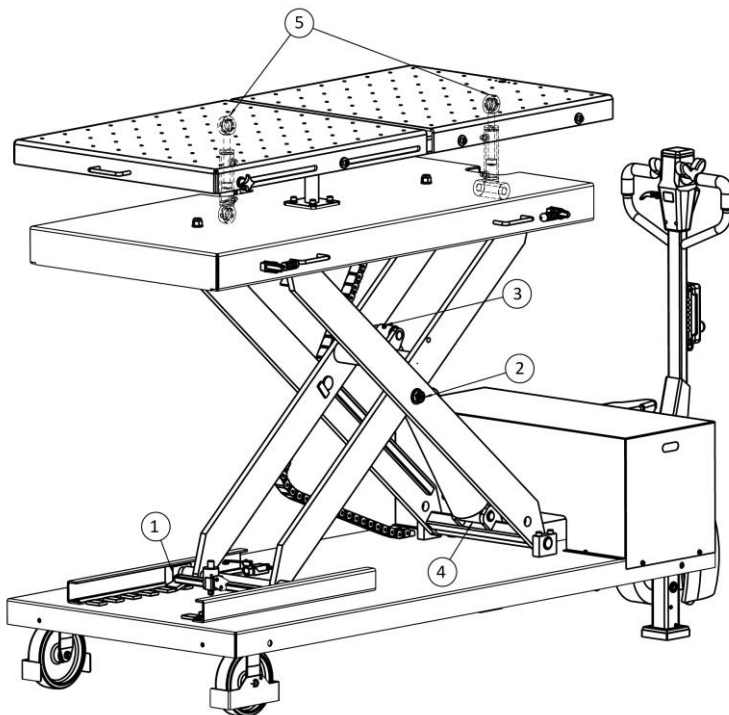
Easy and low cost routine maintenance can ensure the lift work normally and safely.

Following are requirements for routine maintenance.

1. Lubrication before first use

Lubricate the moving parts with NO.1 lithium grease.

Regularly add grease for every 3 months.

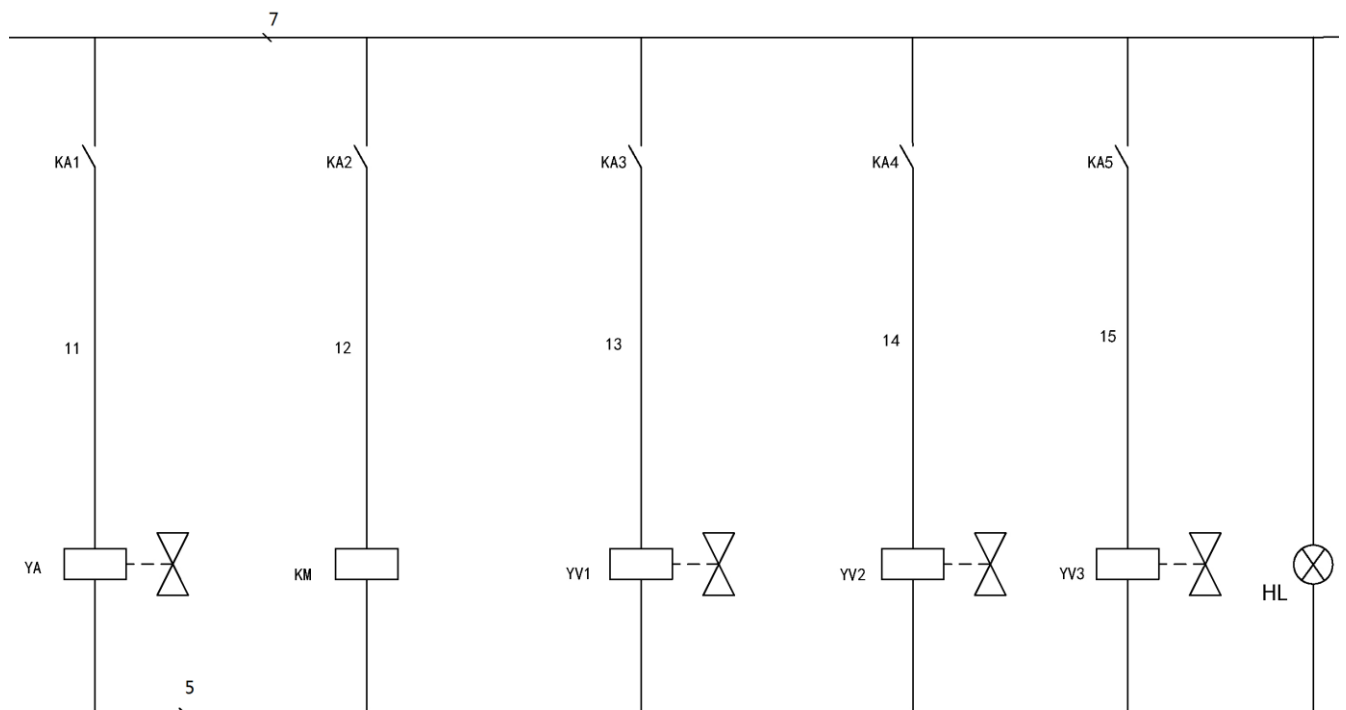
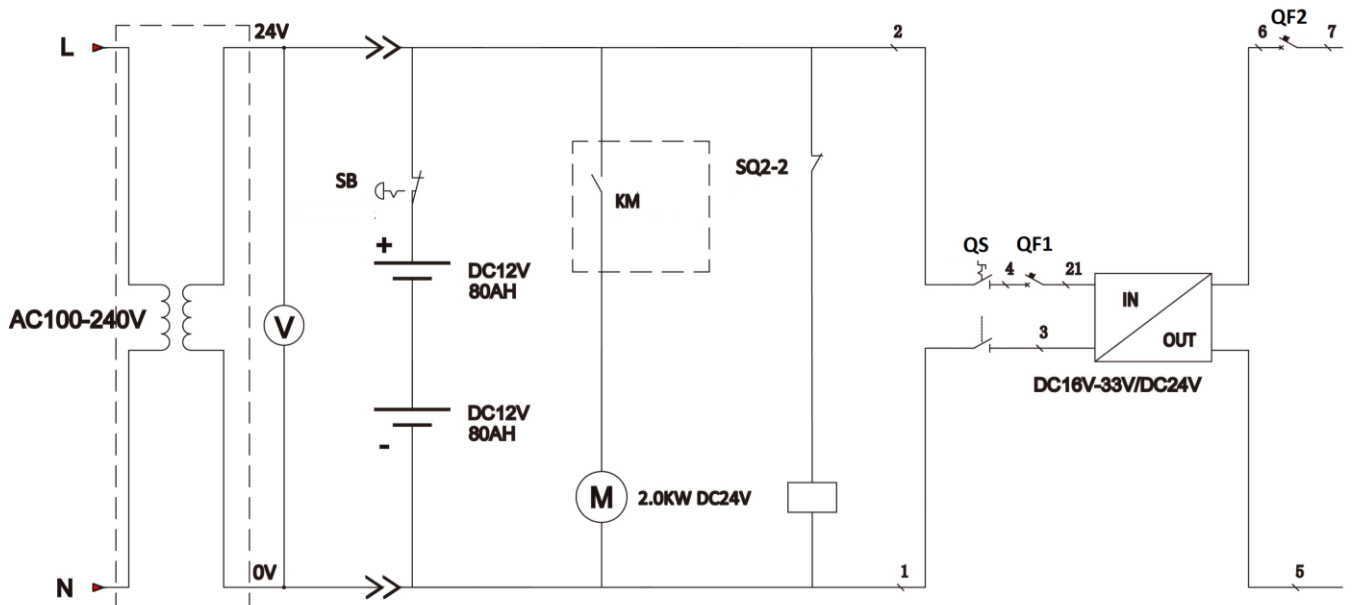


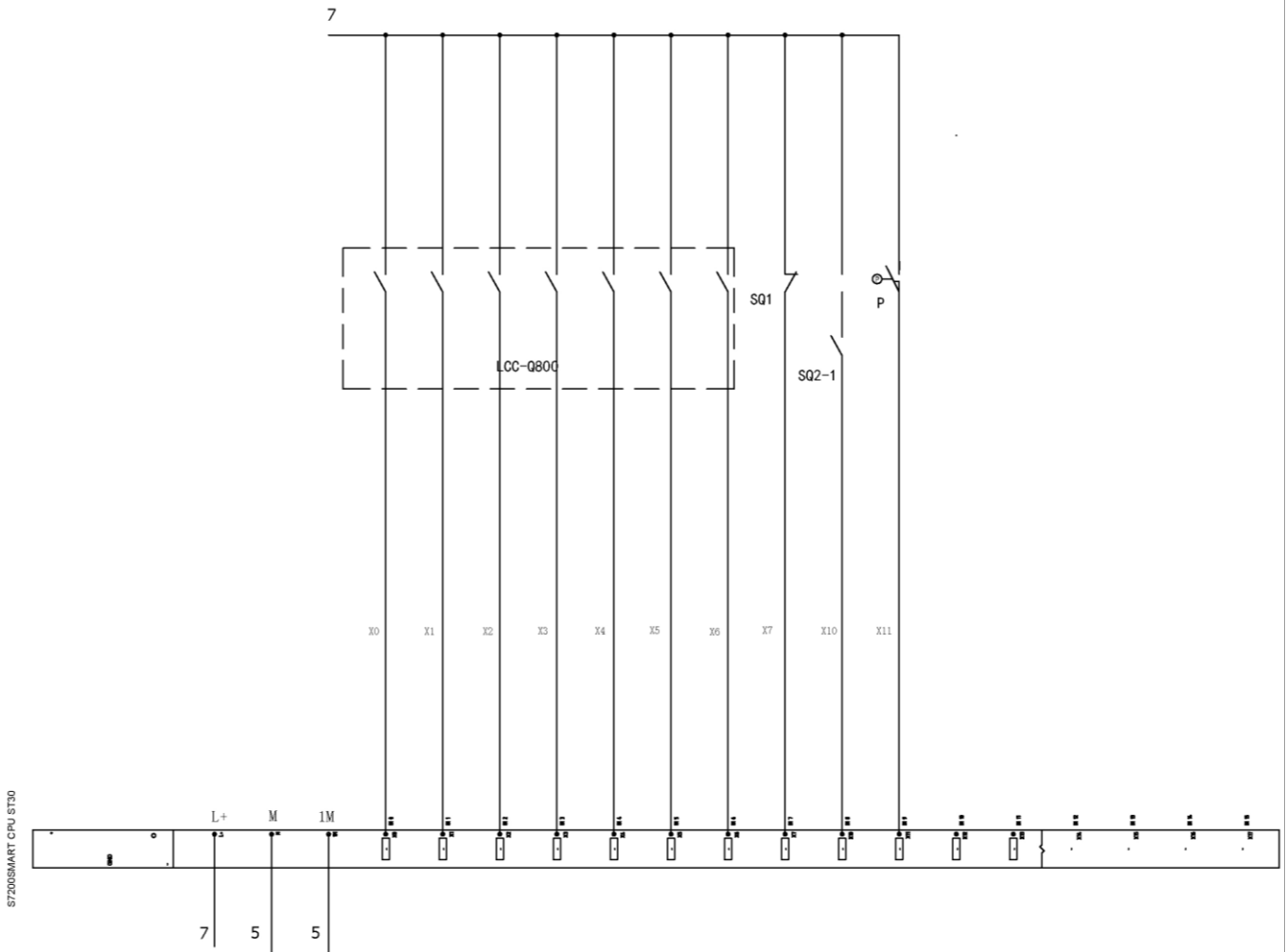
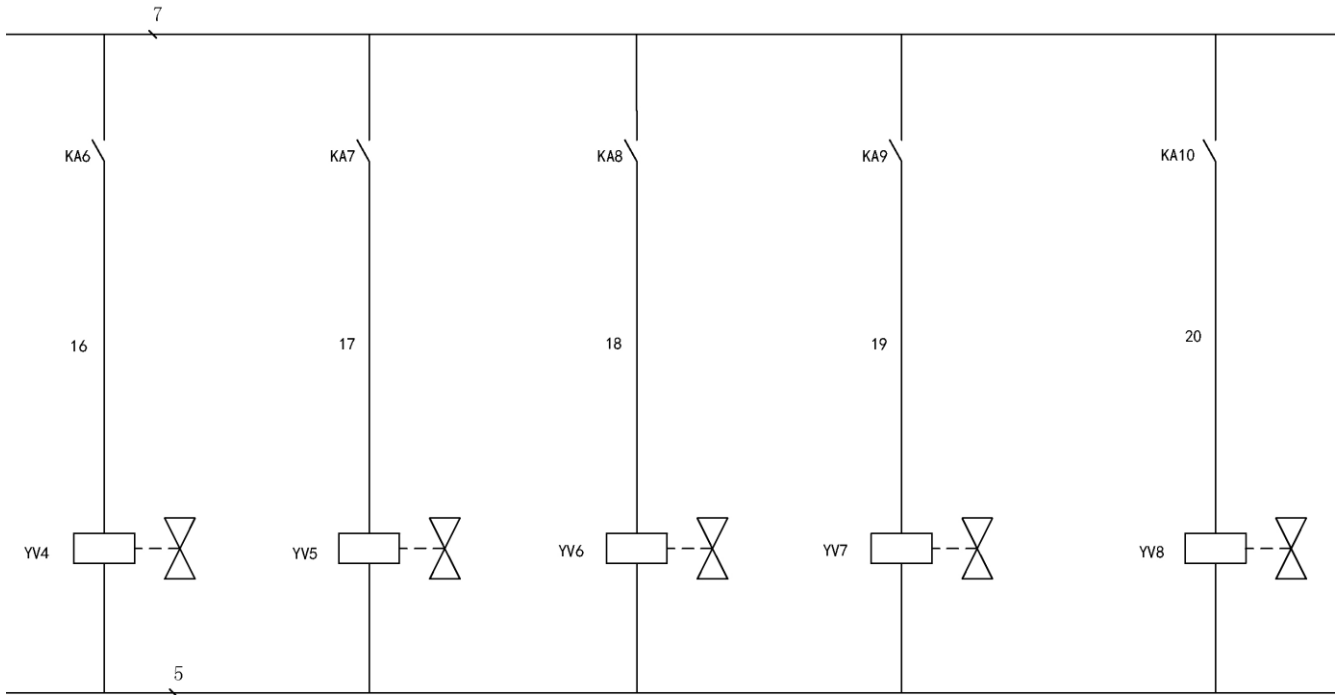
- ① Sliding blocks
- ② Middle shaft of the support arm
- ③ Upside shaft of the cylinder
- ④ Downside shaft of the cylinder
- ⑤ Threaded adjusting rod

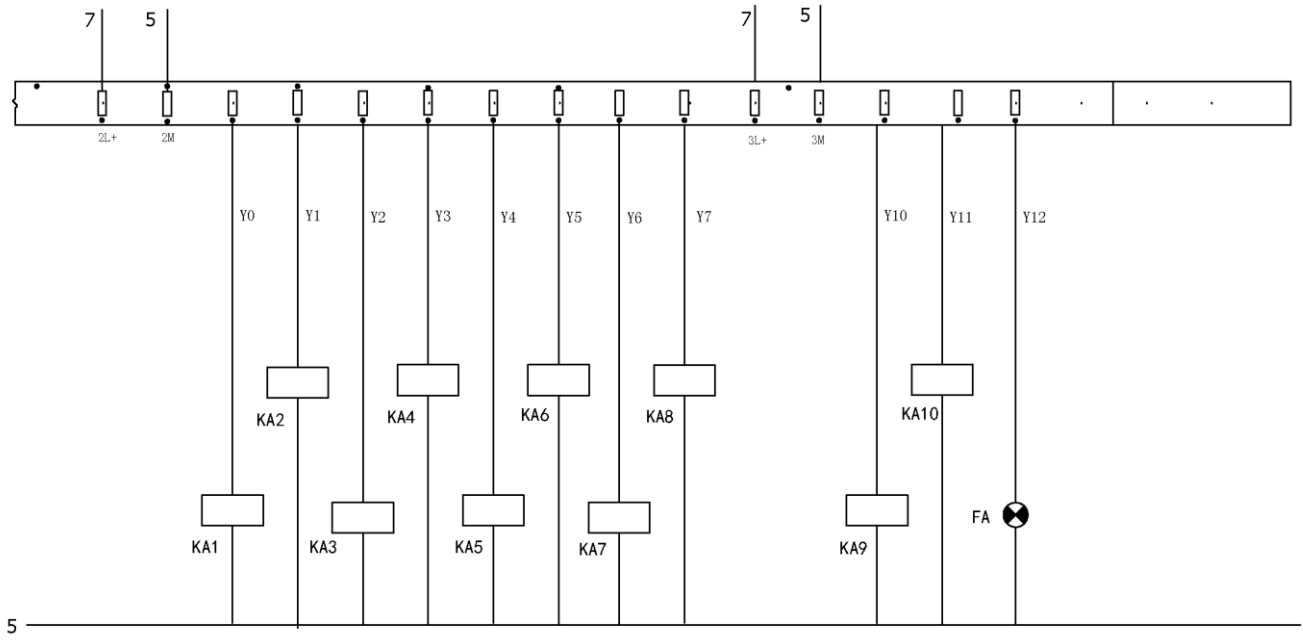
2. Routine maintenance

S/N	ITEM	METHODS	PERIOD
1	Foot casters	Push and turn around the lifting cable to check the flexibility of the casters.	Every day
2	Surface of the load-carrying platform	Inspect and wipe off the oil and stains before use.	Every day
3	Control buttons	Check if control buttons work as "hold- to -run " and check if they work as the function indicated.	Every day
4	Mechanical safety catch	Check if it can engage and disengage by pushing control buttons.	Every day
5	Circlip	Inspect if any circlip goes off its groove. Make sure they are positioned in the grooves.	Every month
6	Sliding blocks and tracks	Push the UP and DOWN button to check if any slider is over-worn. Add grease to ensure smooth running. Change over-worn sliders.	Every month
7	Entire lifting platform	Running the lifting table for several cycles with and without rated load. The table can run steadily and smoothly with no abnormal noise.	Every month
8	Hydraulic blocks	Inspect if the valves leak or not. Clean or change the valve if any leakage.	Every month
9	Oil hose and cylinder fitting	Inspect to ensure no leakage before using the lift.	Every month
10	Hydraulic oil	Change the oil 6 months after initial use and once per year thereafter. Inspect the hydraulic oil and change the oil if the oil becomes black or there is dirt in the oil tank. It is advised to use HM NO.46 hydraulic oil.	Every year

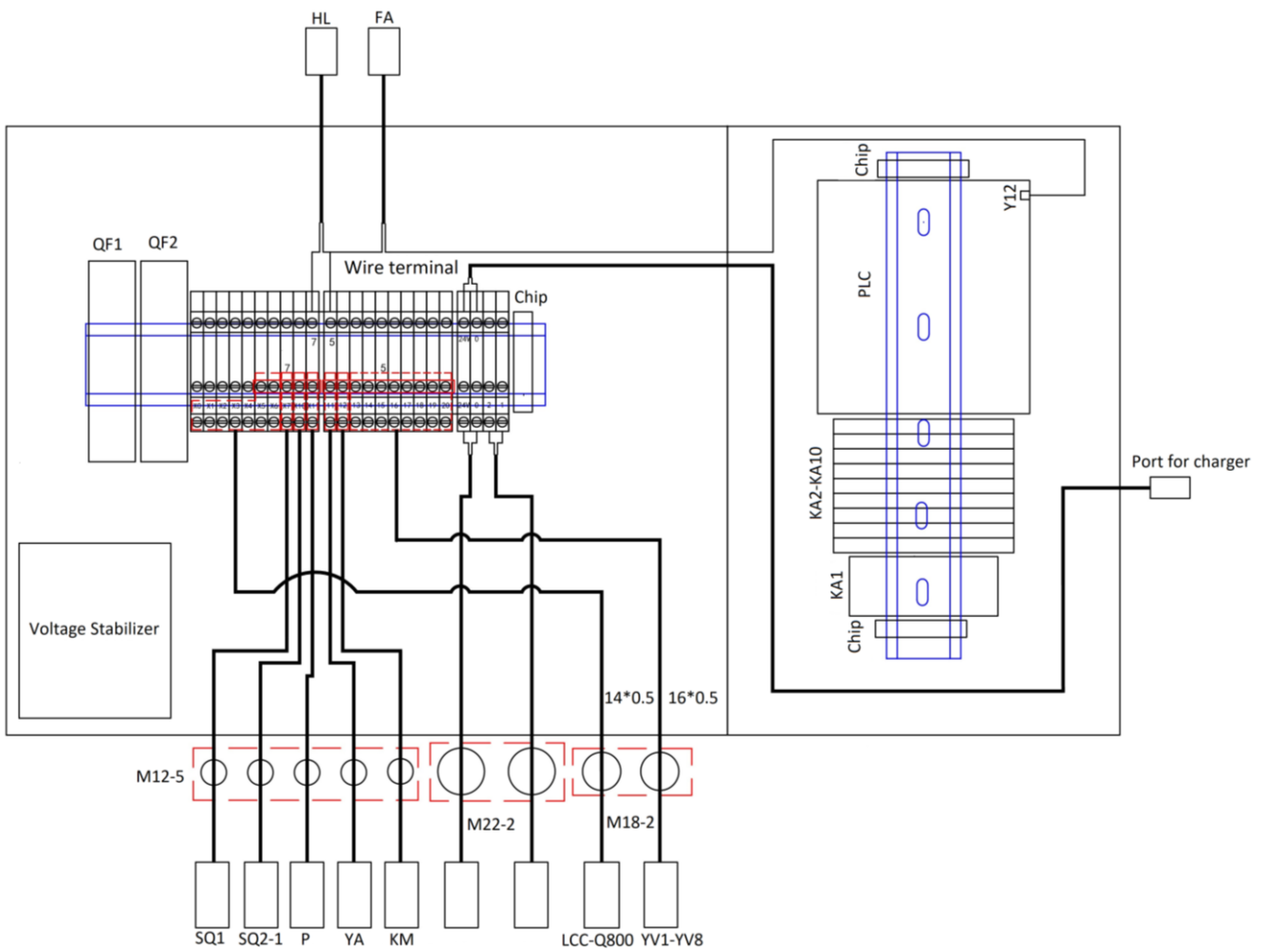
If users stick to the above maintenance requirements, the lift will always keep a good working condition and its service life could be extended.

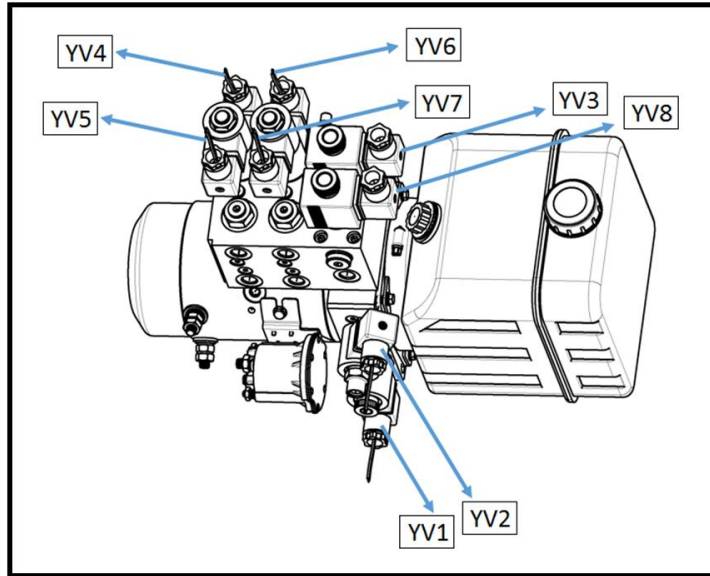
Annex 1, Electrical diagrams and parts list




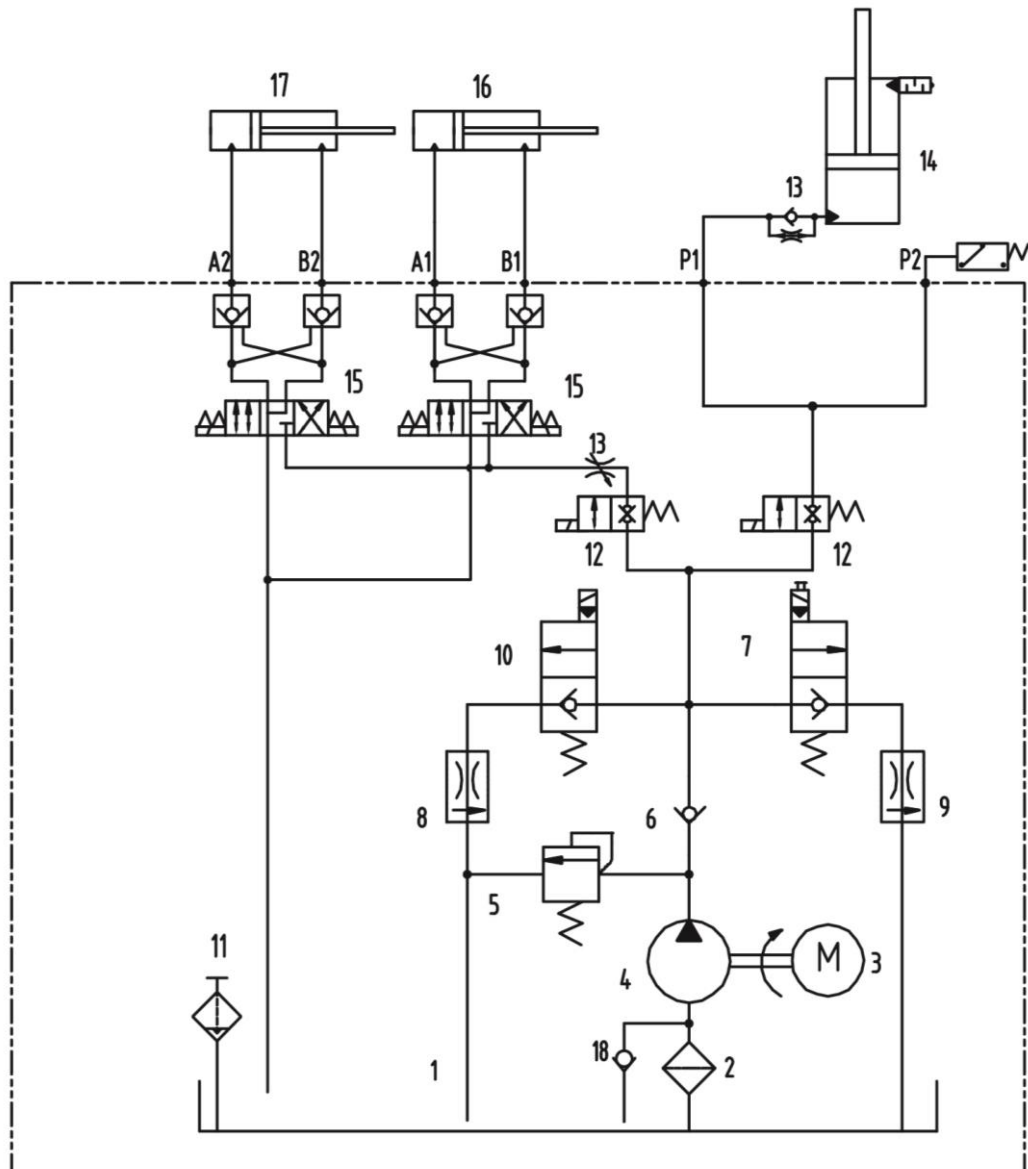


5

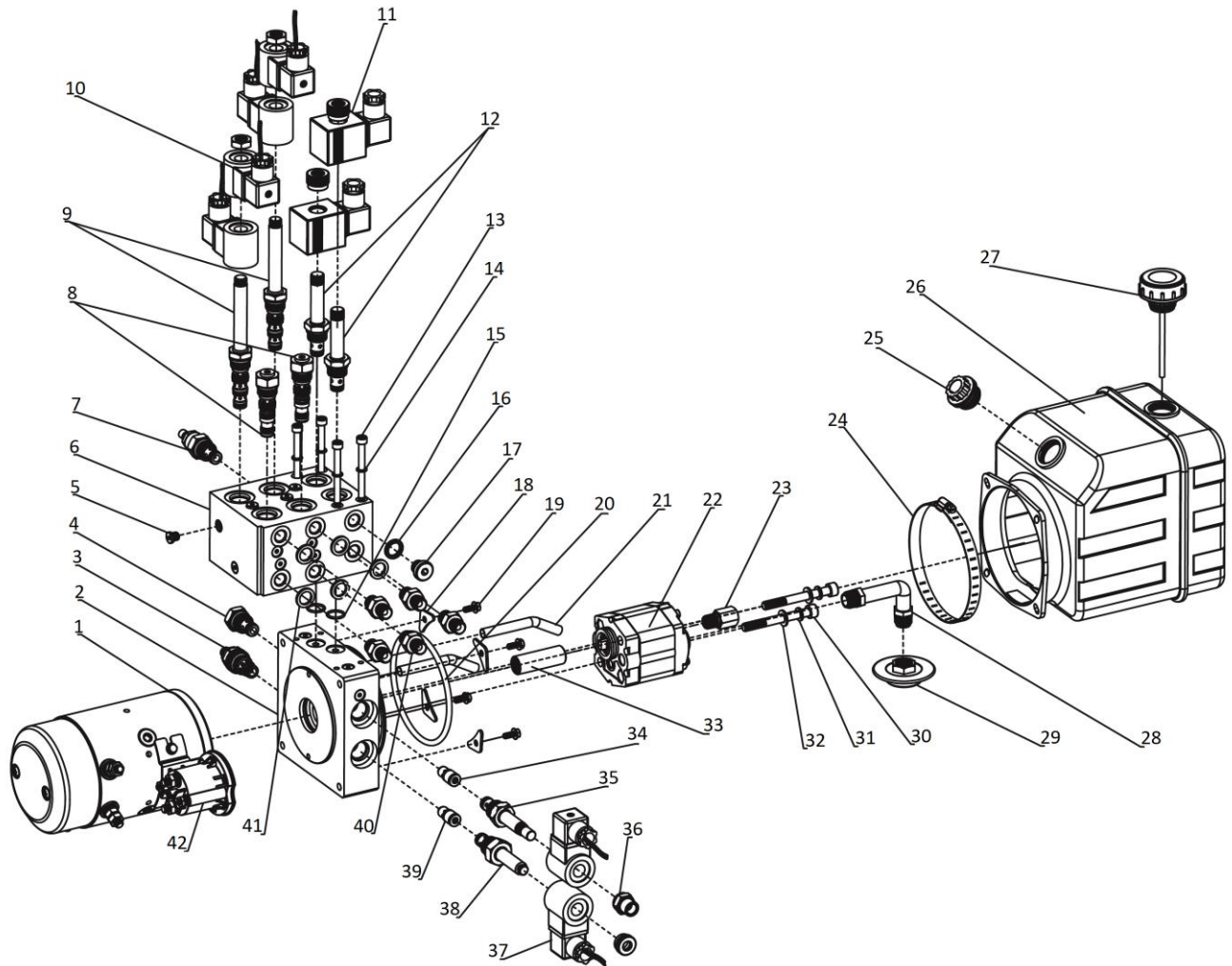




S/N	Component Code	Code	Descriptions	Specification	Qty
1		321203251	Battery	6-EVF-80	2
2		322000004	Electro-driven unit (exclude battery, charger, emergency stop switch)	HELI-DC24V	1
3	SQ1	320301011	Limit switch	TZ8108	1
4	SQ2-1	320301028	Limit switch	TZ-8112	1
5	QS	320307036	Power switch	LW26-20GS/04-1(48mm*48mm)	1
6	SB	320307050	Disconnect power switch	JK250A	1
7	KA1	320601005	Relay	HH62P-L/DC24V-10A (LY2NJ)(ZYR1-LY2L)	1
8		320601009	Relay holder	PTF-08A-E (RS-NXJ-2ZH/C2 10A 250AC)	1
9		320601018	Relay feet fixer	Relay feet fixer	2
10	KA2-KA10	320602017	Relay	DC24	9
11	QF1,QF2	320804024	Circuit breaker	DZ47SZ/6A (CB-63DC-1P-C6)	2
12	YA	330310018	Electromagnet	DCT45X20	1
13		321004077	Charging port and plug (Water-proof)	YF-24/IP65 (include charging port and plug)	1
14		321004133	Voltage Stabilizer	XW-0936-24-240W	1
15	LC-0800	321004159	Wireless remote control	LCC-Q800	1
16	HL	321201001	Indicating lamp (green)	ND16-22DS-2	1
17	FA	321202001	Alarm buzzer	AD118-22SM/R/AC/DC/24V	1
18		321203239	Battery charger	DC24V 10A	1
19	PLC	321301030	Programmable controller	S7-200SMART CPU ST30	1

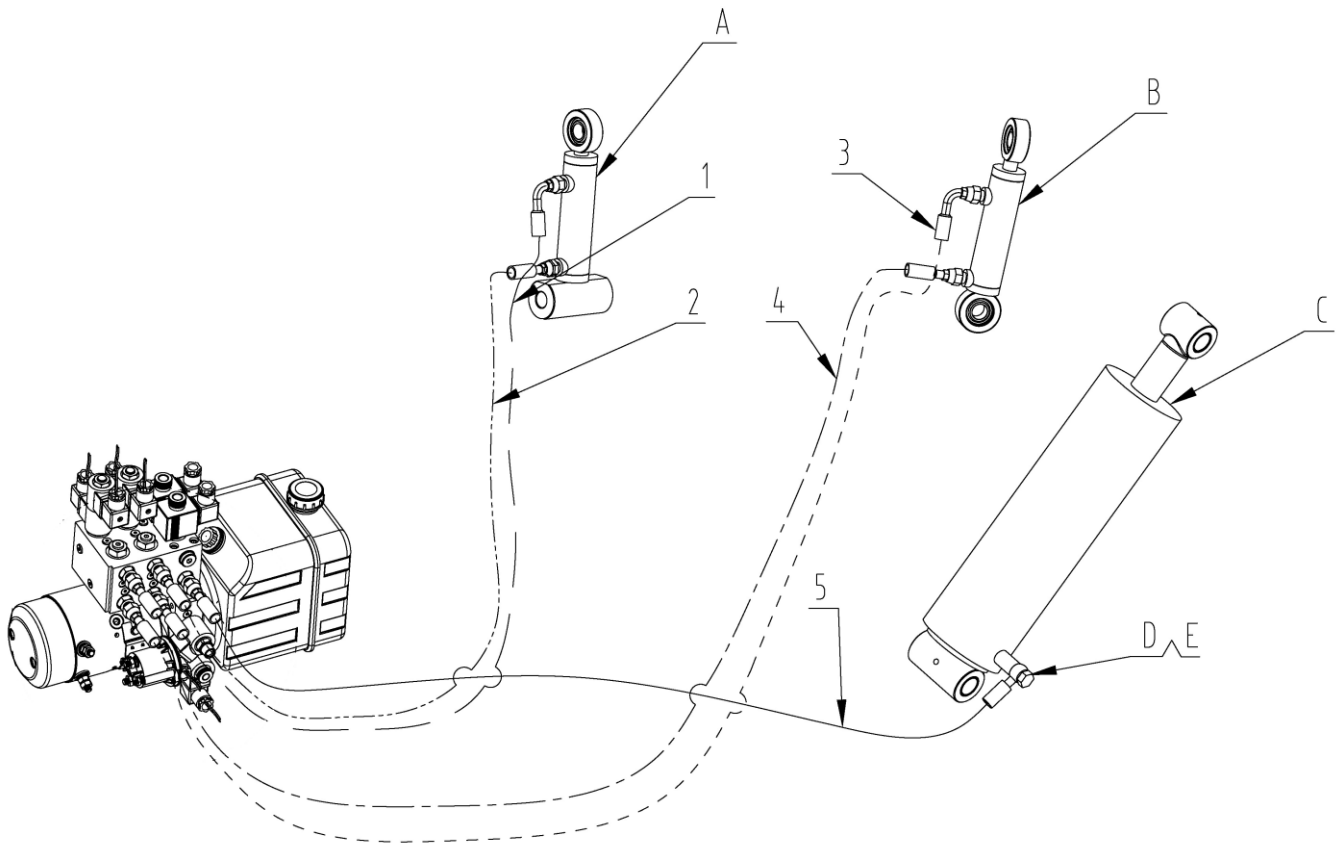
Annex 2, Hydraulic diagrams and parts list


- | | | | |
|---|---|----|---|
| 1 | Plastic oil tank | 9 | Pressure compensating valve |
| 2 | Oil-sucking filter | 10 | Solenoid valve (2P2W, for normal descent) |
| 3 | Motor | 11 | Oil tank lid |
| 4 | Gear pump | 12 | Solenoid valve (2P2W, shift the hydraulic line) |
| 5 | Relief valve | 13 | Cylinder connector (restrictive valve included) |
| 6 | Non-return valve | 14 | Oil cylinder |
| 7 | Solenoid valve (2P2W, for slower descent) | 15 | Solenoid valve (3P4W) |
| 8 | Pressure compensating valve | 16 | Front-tilt adjusting cylinder |
| | | 17 | Side-tilt adjusting cylinder |
| | | 18 | Cushion valve |

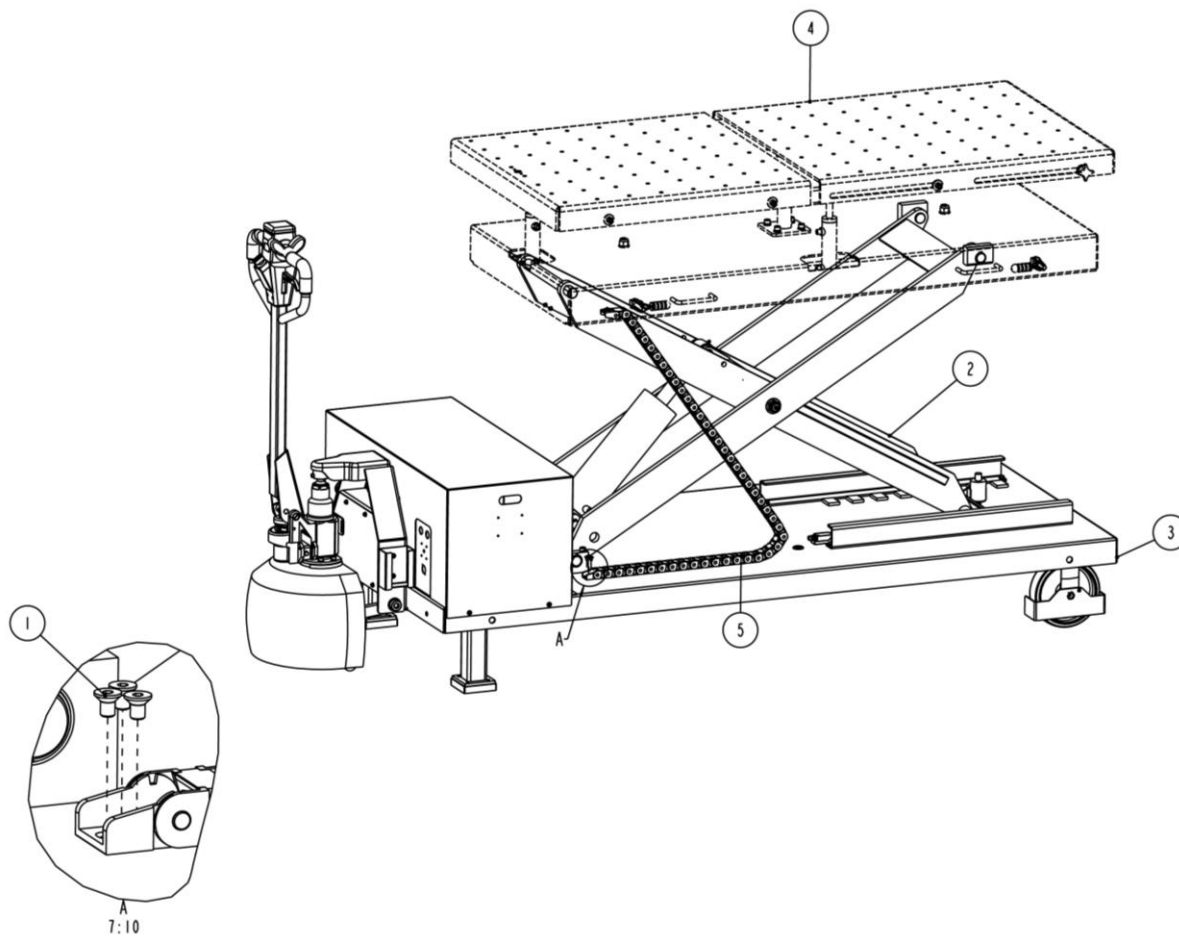


Pos.	Code	Descriptions	Specification	Qty
1	320204313	Motor	DM22-2AWU-3BA2R-O,24VDC,2.0kW	1
2	330105078	Hydraulic block	LBZ-T547TK-1,6061	1
3	330304307	Relief valve	YF08-40	1
4	330302006	Non-return valve	DF08-01-00	1
5	210101015	Fitting	YBZ1-PG02A,5/16-24UNF,35	23
6	330105032	Hydraulic block	YBZ5-F1.2A2A547A/WUUIT1-01	1
7	330305025	Flow-restrictive valve	LF08-01	1
8	330503037	Hydraulic lock	LDPC-08-0.4	2
9	330308055	Solenoid valve (3P4W)	LSV-08-34-M, type-Y	2
10	330308057	Solenoid coil	LC3-08-S-2H,24VDC	6
11	330308056	Solenoid coil	LC2-08-C-2H,24VDC	2
12	330308054	Solenoid valve (2P2W)	LSV2-08-2NCSP-LM	2
13	212109131	Hex socket cylinder head screw	M6*80	4
14	204201003	Spring washer	GB/T859,6	4
15	207101185	Type O seal ring	GB/T3452.1,15*1.8	2
16	207103083	Composite seal ring	JB982-77,14A	1
17	210101017	Fitting	YBZ-PG1/4A,35	1
18	430025028	Protection washer	SLYX-FHDP-01,Q235,δ=2	4

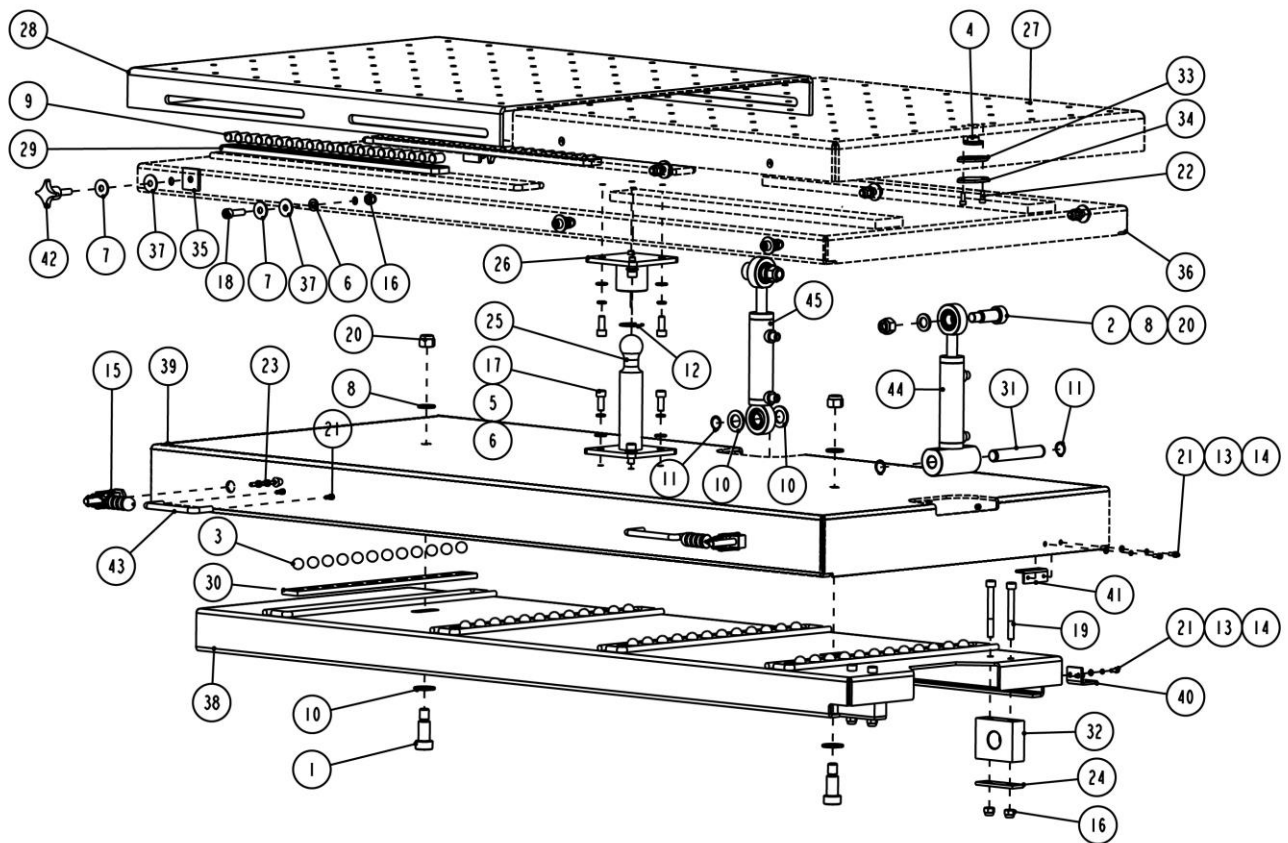
Pos.	Code	Descriptions	Specification	Qty
19	202109008	Hex socket cylinder head screw	M5*12	4
20	207101098	Type O seal ring	GB/T3452.1,109*5.3	1
21	330402020	Oil-back pipe	YBZ-F1.2Z1/1-01,φ9.5*85,Q235	2
22	330201918	Gear pump	CBKA-F1.2DF2	1
23	330301003	Cushion valve assembly	HCF-Z1/4	1
24	330503030	Stainless steel bind	JB/T8870,105-127*12	1
25	210101016	Fitting for oil tank	G3/4	1
26	330405064	Plastic oil tank	YBZ-SLYX-4L-N	1
27	330502015	Oil tank lid	YBZ-BT-G3/4-C,	1
28	330401019	Oil-sucking pipe	YBZ-4-003,nylon 1010	1
29	330403009	Oil-sucking filter	YBZ-GLQ-G3/8,φ62.5*20*G3/8	1
30	202109071	Hex socket cylinder head screw	GB/T70.1,M8*80,8.8 class	2
31	204201011	Spring washer	GB/T859,8	2
32	204101005	Flat washer	GB/T95,8	2
33	330404013	Coupling	YBZ-E2.1Y1W14/1-01,L=54mm	1
34	330308037	Pressure compensating valve	BL-I2.0	1
35	330308053	Solenoid valve (2P2W)	LSV2-08-2NCP-M	1
36	330503036	Locking nut	YBZ5-F2.52/OO0IT1-05	1
37	330308032	Solenoid plug	DIN43650,DC	1
38	330308052	Solenoid valve (2P2W)	LSV-08-2NCP	1
39	330313002	Pressure compensating valve	BL-I1.5	1
40	310101010	Straight connector	G1/4---G1/4	5
41	207103025	Composite washer	13_7X20X1_5	5
42	320402019	Start switch	684-24C1-212-17,24VDC	1



Pos.	Code	Descriptions	Specification	Qty
1	624008179	Oil hose	Φ4,L=2800mm	1
2	624008177	Oil hose	Φ4,L=2700mm	1
3	624008180	Oil hose	Φ4,L=3200mm	1
4	624008178	Oil hose	Φ4,L=3100mm	1
5	624002021B	Oil hose	φ6,L=500mm	1
A	625000017	Front and back-tilt adjusting cylinder	YG32-42-20-70-215	1
B	625000016	Left and right-tilt adjusting cylinder	YG32-42-20-70-225	1
C	615062206	Oil cylinder	YG100-117-40-280	1
D	310102038	Cylinder connector (restrictive valve included)	MLH600-A1-B1	1
E	207103025	Composite washer	13_7X20X1_5	2

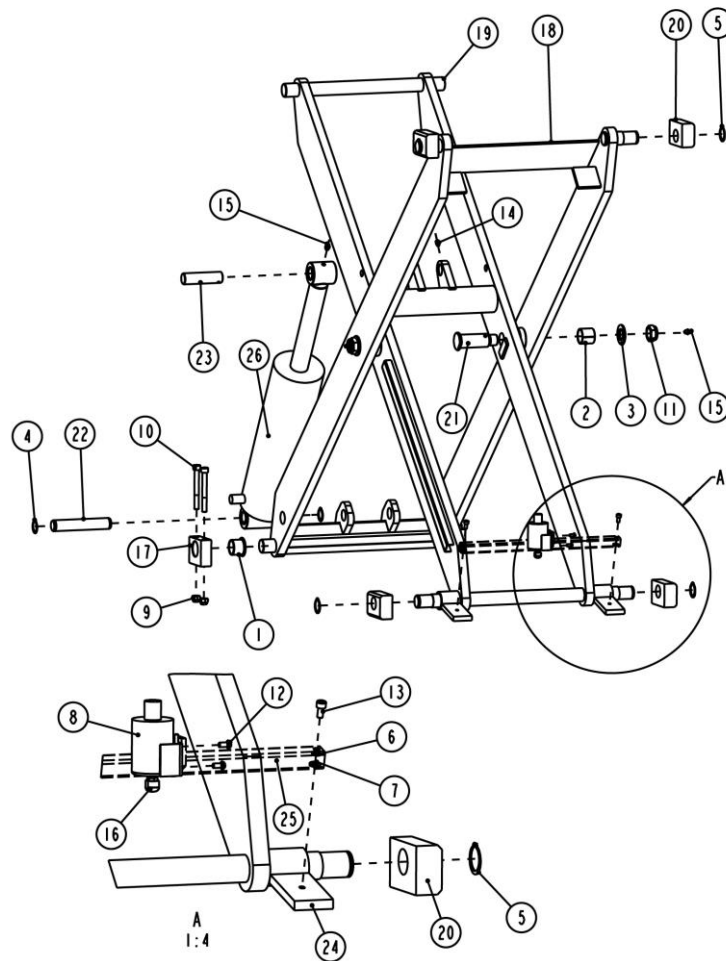
Annex 3, Exploded mechanical drawings and parts list


Pos.	Code	Descriptions	Specification	Qty
1	202111001	Hex socket flat head screw	M5X10-GB70_3	1
2	615062207	Arm assembly	MS12M-A2	1
3	615068626	Mobile jack	MS12MF-A1	1
4	615068628	Platform assembly	MS12MF-A3	1
5	208108015	Tank chain	VBD32_F25_R38_N45	1



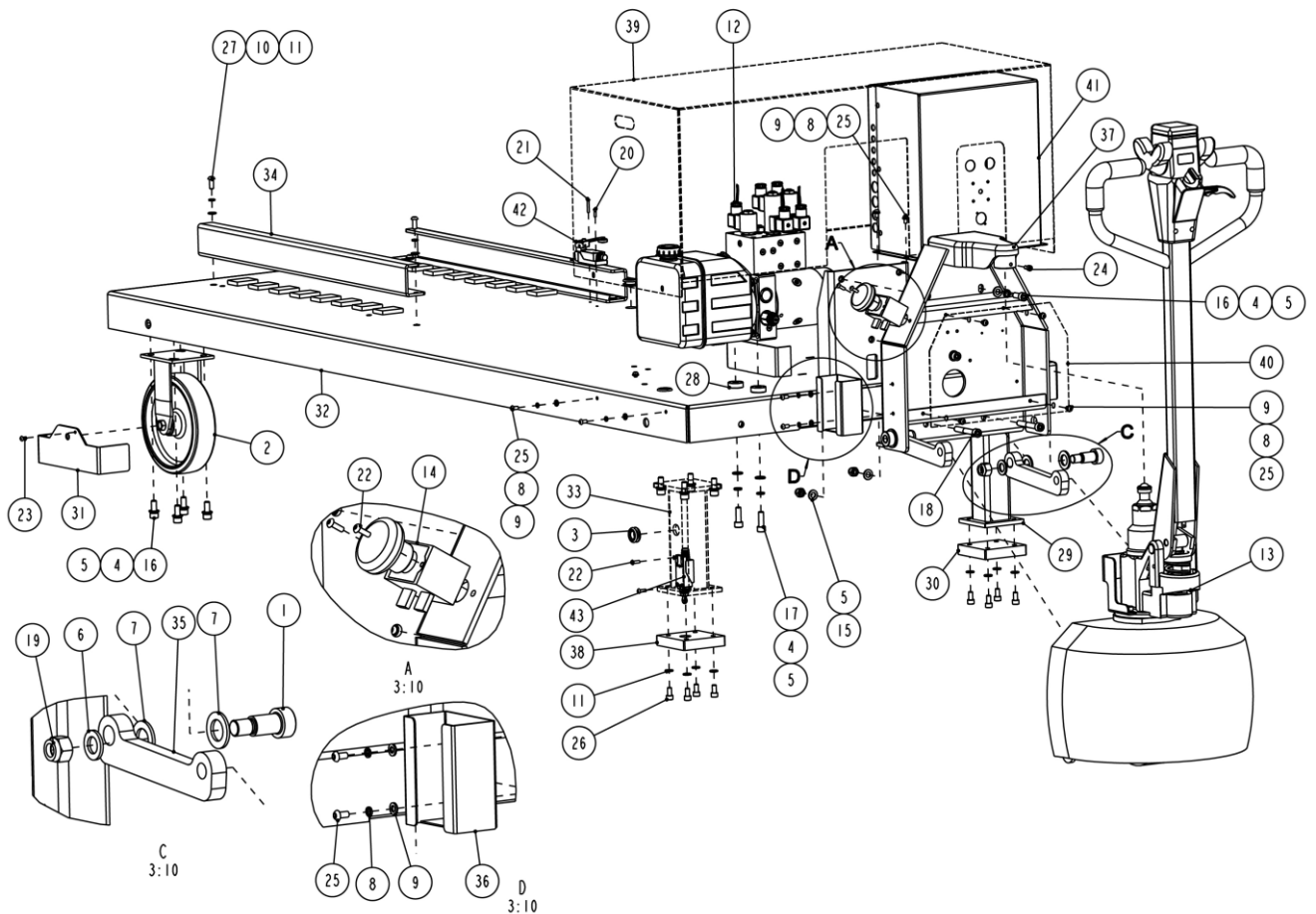
Pos.	Code	Descriptions	Specification	Qty
1	202208008	Hex socket cylinder head screw (with shaft shoulder)	20-M16X35-GB5281	2
2	202208009	Hex socket cylinder head screw (with shaft shoulder)	20-M16X40-GB5281	2
3	420270280	Rolling ball	6435B-A21	48
4	208107015	Levelling bubble scale	BFHD-3412	1
5	204201005	Spring washer	D10-GB93	8
6	204101006	Flat washer	D10-GB95	14
7	201104001	Big washer	D10-GB96	8
8	204101009	Flat washer	D16-GB95	4
9	206101014	Cylindrical pin	D16X25-GB119_2	42
10	204101011	Flat washer	D20-GB95	4
11	204301007	Circlip	D20-GB894_2	3
12	204301205	Circlip	D40-GB893_1	1
13	204201002	Spring washer	D5-GB93	4
14	204101003	Flat washer	D5-GB95	4
15	208109022	Quick clamp	GH-36204M	4
16	203103007	Hex locking screw	M10-GB889_1	10
17	202109042	Hex socket cylinder head screw	M10X25-GB70_1	8
18	202109044	Hex socket cylinder head screw	M10X35-GB70_1	6
19	202109142	Hex socket cylinder head screw	M10X90-GB70_1	4
20	203103019	Hex locking screw	M16-GB889	4
21	202109008	Hex socket cylinder head screw	M5X12-GB70_1	14

Pos.	Code	Descriptions	Specification	Qty
22	202109020	Hex socket cylinder head screw	M6X15-GB70_1	2
23	208109020	Rubber pressing head	M8X75	4
24	410563111	Padding plate	MS12AC-A2-B6	2
25	614059209	Cardan joint holder	MS12AC-A3-B3	1
26	614059210	Cardan joint cap	MS12AC-A3-B4	1
27	410563303B	Fixed platform	MS12AC-A3-B6	1
28	410563313	Platform extension	MS12AC-A3-B7	1
29	420560060B	Needle roller cage	MS12AC-A3-B8	2
30	420560070	Ball roller holder	MS12AC-A3-B9	4
31	410562741	Shaft	MS12AC-A3-B10	1
32	420560040	Support holder	MS12AC-A3-B13	2
33	410563393	lining plate	MS12AC-A3-B14	1
34	410563403	Padding plate for levelling bubble scale	MS12AC-A3-B15	1
35	410901097	Installation plate for hand-held bar	MS12AC-A3-B16	2
36	614901032	Tilting platform	MS12M-A3-B5	1
37	420680104	Nylon washer	MS12M-A3-B19	4
38	614901687	Lower side platform	MS12MF-A3-B1	1
39	614901688	Supporting platform	MS12MF-A3-B2	1
40	410911474	Fixation bracket for tank chain	MS12MF-A3-B8	1
41	410911476	Limitation plate of oil hose	MS12MF-A3-B9	1
42	208109026	Cross knob	NCRM10-35	2
43	208109019	Stainless steel knob	US10-120	5
44	625000017	Front and back tilt adjusting cylinder	YG32-42-20-70-215	1
45	625000016	Left and right-tilt adjusting cylinder	YG32-42-20-70-225	1



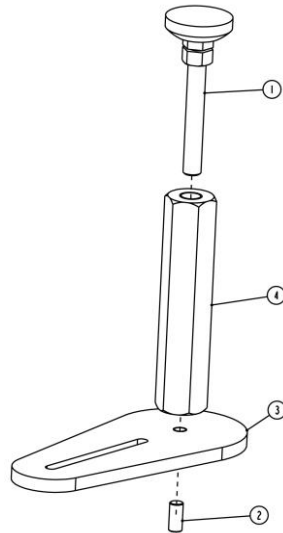
Pos.	Code	Descriptions	Specification	Qty
1	205103004	Flange bearing	3026-SF-1F	2
2	205101054	Bearing	3030-SF-2X	2
3	204101012	Flat washer	D24-GB95	2
4	204301009	Circlip	D25-GB894_2	2
5	204301010	Circlip	D28-GB894_2	4
6	204201003	Spring washer	D6-GB93	2
7	204101004	Flat washer	D6-GB95	2
8	330310018	Electromagnet	DCT45X20	1
9	203103007	Hex locking nut	M10-GB889_1	4
10	202109142	Hex socket cylinder head screw	M10X90-GB70_1	4
11	203103018	Hex locking nut	M24X3-GB6172_2	2
12	202101021	Cross socket cap head screw	M5X10-GB818	2
13	202109019	Hex socket cylinder head screw	M6X12-GB70_1	2
14	202209002	Hex socket tapping screw	M8X12-GB79	1
15	208106001	Straight oil cup	M8YB-JB9740_1	4
16	420550010	Adjustable head	MR35E-A09-B02	1
17	410563353	Support holder	MS12AC-A2-B1	2

Pos.	Code	Descriptions	Specification	Qty
18	614059203	Outside support arm	MS12AC-A2-B2	1
19	614059204	Inside support arm	MS12AC-A2-B3	1
20	420560050	Sliding block	MS12AC-A2-B4	4
21	410562291	Middle shaft of the support bracket	MS12AC-A2-B5	2
22	410562301	Downside shaft of the cylinder	MS12AC-A2-B7	1
23	410562311	Upside shaft of the cylinder	MS12AC-A2-B8	1
24	612059205B	Mechanical safety block	MS12AC-A2-B9	2
25	614059206B	Connection rod of the lock assembly	MS12AC-A2-B10	1
26	615062206	Cylinder	YG100/117-40-280	1

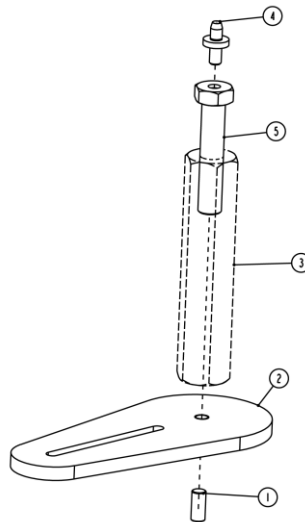


Pos.	Code	Descriptions	Specification	Qty
1	202208012	Hex socket cylinder head screw (with shaft shoulder)	20-M16X30-GB5281	2
2	420680063	TPU caster	47-08252	2
3	420040020	Protection ring D20	6254E-A22	4
4	204101006	Spring washer	D10-GB93	21
5	204101006	Flat washer	D10-GB95	23

Pos.	Code	Descriptions	Specification	Qty
6	204101009	Flat washer	D16-GB95	2
7	204101011	Flat washer	D20-GB95	4
8	204201003	Spring washer	D6-GB93	17
9	204101004	Flat washer	D6-GB95	17
10	204201004	Spring washer	D8-GB93	4
11	204101005	Flat washer	D8-GB95	12
12	622034385	Power unit	DC24V-2KW-F1_2-DC24	1
13	322000004	Electro-driven unit	HELI-DC24V	1
14	320307050	Disconnect power switch	JK250A	1
15	203103007	Hex locking nut	M10-GB889_1	2
16	202109042	Hex socket cylinder head screw	M10X25-GB70_1	19
17	202109043	Hex socket cylinder head screw	M10X30-GB70_1	2
18	202109080	Hex socket cylinder head screw	M10X70-GB70_1	2
19	203103019	Hex locking nut	M16-GB889	2
20	202101009	Cross socket cap head screw	M4X14-GB818	1
21	202101010	Cross socket cap head screw	M4X25-GB818	1
22	202110009	Hex socket button head screw	M5X16-GB70_2	4
23	202110001	Hex socket button head screw	M5X8-GB70_2	2
24	202109019	Hex socket cylinder head screw	M6X12-GB70_1	1
25	202110003	Hex socket button head screw	M6X12-GB70_2	17
26	202109028	Hex socket cylinder head screw	M8X16-GB70_1	8
27	202110005	Hex socket button head screw	M8X20-GB70_2	4
28	420680072	Anti-vibrating pad	MS12M-A1-B3	2
29	614059219	Support tube assembly	MS12M-A1-B7	1
30	420680064	Rubber pad	MS12M-A1-B9	1
31	410901269	Wheel deflector	MS12M-A1-B10	2
32	614901684	Mobile base frame assembly	MS12MF-A1-B1	1
33	614901686	Support tube assembly	MS12MF-A1-B3	1
34	410911468	Downside guiding track	MS12MF-A1-B4	2
35	410911470	Connection rod	MS12MF-A1-B6	2
36	410911486	Hand-held control unit box	MS12MF-A1-B7	1
37	614901696	Top cover of the pallet jack	MS12MF-A1-B8	1
38	420680146	Rubber pad	MS12MF-A1-B9	1
39	410911532	Control unit cover	MS12MF-A1-B11	1
40	410911472	Covering plate	MS12MF-A1-B13	1
41	615068627	Control unit frame	MS12MF-A1-B15	1
42	320301011	Limit switch	TZ8108	1
43	320301028	Limit switch	TZ-8112	1

Optional Adapter 1


Pos.	Code	Descriptions	Specification	Qty
1	208109024	Adjustable foot	D80-M20x100	1
2	202205013	Hex socket tight screw	M12x30	1
3	410562011	Pad plate	MS10-A08-B01	1
4	410563381	Support rod	MS10-A08-B02	1

Optional Adapter 2


Pos.	Code	Descriptions	Specification	Qty
1	202205013	Hex socket tight screw	M12x30	1
2	410562011	Pad plate	MS10-A08-B01	1
3	410563381	Support rod	MS10-A08-B02	1
4	410563361	Orientation pin	MS10-A08-B03	1
5	410563371	Adjustable screw	MS10-A08-B04	1