



Shandong Chufeng Heavy Industry Machinery Group Co., Ltd

Tracked Scissor Lift

Operation and Maintenance Manual



Warning

The relevant regulations and requirements in the instruction manual must be read carefully before operating the machine. Any violation thereof, operator shall be liable for all consequences therefrom.



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I. Operation Manual

1. Overview

The tracked scissor lift, which is developed by CFMG, is featured of easy movement, simple operation, wide application, ideal for goods and people lifting. The tracked scissor lift adopts scissor type lifting structure, which is made of high-quality rectangular manganese steel tube, with merits of high overall strength, large load capacity and good lifting stability. The strong, and low-consumption servo motor is used to provide the driving power, which is highly praised by users.

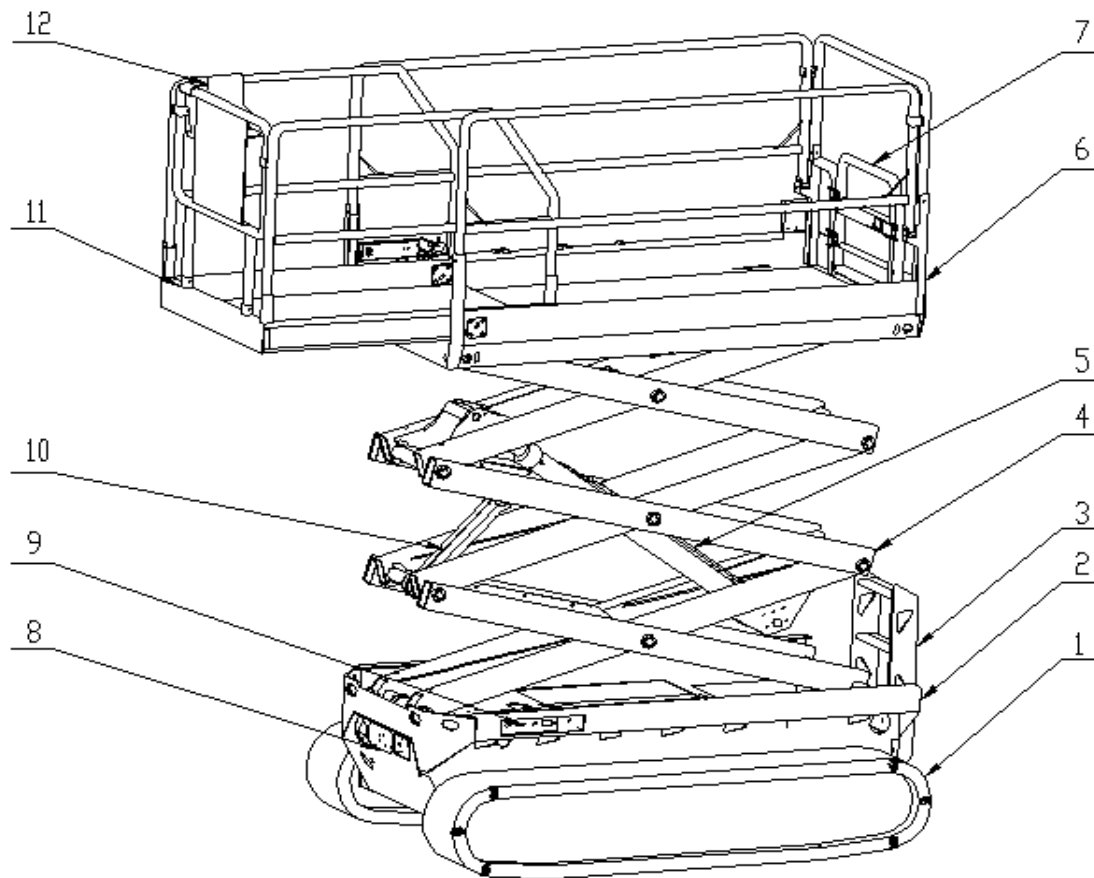
Application:

1. Aerial installation and maintenance work;
2. Municipal, outdoor advertising operations;
3. Urban construction, oilfield operations;
4. Excellent for rough terrain conditions, such as desert, sandstone, mud, etc.



Tracked Scissor Lift

2. Main Components of Product



1. Crawler 2. Chassis 3. Ladder 4. Scissors 5. Lifting Oil Cylinder 6. Platform 7. Platform Door
 8. Hydraulic and Electric Control Box 9. Ground Control Panel 10. Maintenance Support 11. Extendible Platform 12. Joystick



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3. Operation Procedures of Tracked scissor lift

Basic Principles:

1. Performing pre-operational inspection and routine maintenance is the responsibility of the operator. Pre-operational inspection is a very intuitive inspection process that should be performed by the operator before each shift. Purpose of the inspection is to find out if there is an obvious problem with the machine before the operator performs functional test.
2. Pre-operational check can also be served to determine if a routine maintenance procedure is required. The operator can only perform the routine maintenance items specified in this manual.

Precautions:

- ◆ Ensure that the operator does not experience dizziness and other high phenomena at high altitudes.
- ◆ Ensure that no other persons are involved in the equipment before operation

Pre-operation check

- Make sure the manual is complete, legible, and well kept.
- Make sure all labels are clear, legible and in the right place. See the "Post Labels" section.
- Check if the hydraulic oil leaks and the oil level is appropriate and refuel it as needed. See the "Maintenance" section.
- Check if the battery fluid leaks and the liquid level is appropriate. Add distilled water as needed. See the "Maintenance" section. Inspect the following parts or areas for damage, improper installation, or missing parts and unauthorized changes:
 - Electrical components, wiring and cables
 - Hydraulic hoses, fittings, hydraulic cylinders and hydraulic valve blocks



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- Batteries and their wiring
- Drive motor
- Wear-resistant sliders and pads
- Crawlers and wheels
- Ground wire
- Limit switch, alarm and horn
- Nuts, bolts and other fasteners
- Platform overload parts
- Platform entrance door
- Indicators and sirens (if any)
- Safe arm
- Extendible platform
- Scissor arm pins and fasteners
- Joystick
- Pothole protection device

Note: If the platform must be raised to check the machine, make sure the safety arm is in the correct position.

Step 1: Check the Lift



1. Check if the square tube is broken



2. Check if there is oil leakage or circuit damage in the electrical system.

Step 2: Turn on the Main Power Switch

- ◆ Find the Main Power Switch



1. Turn on the red switch and pull it out

- ◆ Find the Ground Power Switch



2. Hold the red switch and turn it clockwise about half a turn. The switch pops up to open the switch.

◆ Find the Platform Power Switch



1. Find the red button at the joystick

◆ Turn on the Red Switch



2. Hold the red switch and turn it clockwise about half a turn. The switch pops up to open the lower switch.

Step 3: Select Operation Position

- ◆ Find the key switch next to the red ground switch



Turn left the key for selecting platform operation

Turn right the key for selecting ground operation

- ◆ Select Ground Operation



When the key hits the ground position (as shown), lift up the right button for lifting the equipment; and press down the button for lowering the lift

◆ Select Platform Operation



When the key hits the platform position (as shown), the operator can climb to the platform for operation.

Step 4: Platform Control

- ◆ Use the joystick for operation



- ◆ Walking:

1. Press button **B** to perform the walking function.
2. Hold the handle (Position **3**), press the position **2** at the handle, push the handle forward to go ahead, pull it back to go back, press position **1** to turn.

- ◆ Up and Down:

1. Press button **A** for going up and down.
2. Hold the handle (Position **3**), press the button **2** at the handle, push the handle forward for going up, and pull it back for going down.

- ◆ Horn:

1. Press 5, the horn sounds to remind the surrounding people to pay attention to safety.

- ◆ Turtle speed:

1. Press **4** , the vehicle speed is reduced.

Emergency processing function

- ◆ Manual lowering (for vehicle down fault)



Pull the plug in the picture to release the device manually (pull it by hand), the platform is lowered

Step 5: Turn off Main Power

1. Turn off the ground power



After use, turn the key switch to the vertical position and pull it out. Press the red switch at the bottom to turn off the power (Turn off the power supply is ok)

2. Turn off the Main Power



Turn off the main power as shown

4. Safety rules for lifting operation

4.1 Notes

- The work vehicle must not be lifting operation, when it is not placed on a level, sturdy ground.
- It is strictly forbidden to work on unstable ground, especially on the ground with holes and unstable surface.



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- When the work platform is overhauled, it must be shut down for maintenance.
- It is strictly forbidden to use the work platform as a welding ground wire.
- Lifting work is strictly prohibited when the wind force of the work site is greater than 6 or above.
- It is strictly forbidden to work in thunderstorms and storms.
- It is strictly forbidden to sit, stand or climb the edge of the work bucket.
- Overloading is strictly prohibited.
- It is strictly forbidden to hang various items outside the work bucket.
- It is strictly forbidden to make any modifications to the equipment that affect stability
- This machine is not insulated and does not provide electrical shock protection when in contact with or near electrical wiring.
- It is strictly forbidden to have obstacles under the working arm and under the bucket during operation to avoid danger.



4.2 Danger of Tipping

The personnel, equipment and materials on the platform shall not exceed the maximum capacity of the platform and the extension platform.

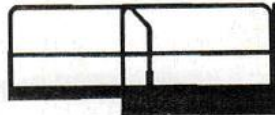
| | | | |
|--|----------------|--|----------------|
| Maximum load capacity--GTJZ0608LD | | | |
| Max. number of people (indoor) | 2people | Max. number of people (outdoor) | 2people |
| Max. working load of the platform | 450kg | Max. working load of the extended platform | 113 kg |

Platform retraction

Platform extension

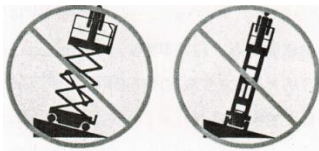


Platform only



Extend platform only

4.3 Safety rules



1. Lift the platform only on a solid, flat level ground.
2. The tilt alarm cannot be used as a level indicator. The tilting alarms on the chassis and platform will only sound when the machine is heavily tilted.
3. If the tilt alarm sounds:
Lower the platform. Move the machine to a solid level of ground. If the tilting alarm sounds when lifting the platform, be careful to lower the platform.
4. For outdoor use, the platform cannot be raised when the wind speed may be greater than 12.5 m/s. If the wind speed exceeds 12.5 m/s after the rise, the platform should be lowered immediately and the machine cannot be operated.
5. Do not operate the machine during strong winds or gusts. It is not possible to increase the surface area of the platform or load. Increasing the area exposed to the wind will reduce the stability of the machine.
6. Do not use the platform controller to release the platform when the platform is caught, jammed, or other nearby objects are blocking its normal movement. All personnel must leave the platform before intending to use the ground controller to release the platform.
7. In the closed state, the machine should be very careful and reduce the speed when driving on uneven terrain, gravel, unstable or smooth surface, near the hole and steep slope.
8. Can not push and pull any object outside the platform
9. Do not put your hands and arms close to areas where there is a risk of being cut or crushed.



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10 When folding the railing, do not put your hand in a place where it may be pinched. Always grasp the guardrail when removing the guardrail locking pin to prevent the platform guardrail from falling down.

11. When using the controller to operate the machine on the ground, keep normal judgment and plan. Maintain a safe distance between the operator, the machine and the stationary object.

⚠ Danger of operating on slopes

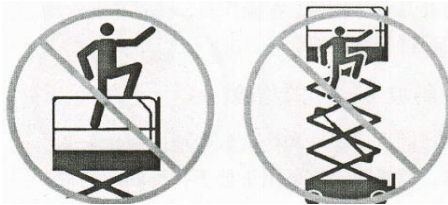
Do not drive the machine on slopes that exceed the machine ramp and side slope rating. The ramp rating applies to the machine in the collapsed state.

| Model | Collapse status | Collapse status |
|------------|----------------------|---------------------------|
| | Maximum slope rating | Maximum side slope rating |
| GTJZ0608LD | 25%(14°) | 25%(14°) |

Note: The slope rating is limited by ground conditions and traction.

⚠ Falling danger

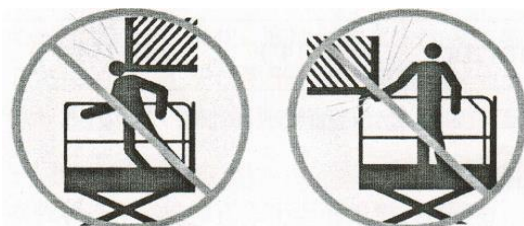
1. During operation, the personnel on the platform must wear full body safety devices and secure them to the approved rope attachment points with safety belt hooks. Only one hook can be tied to each rope fixing point.
2. Do not climb or sit on the guardrail of the platform. Stand on the platform floor at all times.



3. When the platform is lifted, it cannot climb down from the platform.
4. Keep the platform floor free of debris.
5. Close the entrance door before operation.
6. Do not operate the machine if the fence is not installed correctly or the entrance door does not guarantee safe operation.
7. Do not enter or exit the platform unless the machine is in a closed state.

⚠ Collision risk

1. When starting or operating the machine, attention should be paid to the sight range and the existence of blind spots.
2. When moving the machine, please pay attention to the position of the extended platform.





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3. Check the work area to avoid obstacles or other possible dangers on the top of the head.
4. When grasping the platform fence, be careful of the danger of extrusion.
5. Users must abide by the rules governing the use of habeas corpus equipment in employers, workplaces and government laws and regulations.
6. The driving and steering arrows on the platform controller and the platform label should be observed and used.
7. Machines should not be operated on any crane or mobile elevated machinery route unless the crane controller is locked and/or precautions against any potential collision have been taken.
8. When operating the machine, do not drive dangerously or play with it.
9. Only when there are no people and obstacles in the area below the platform, can the platform be lowered.

⚠ Risk of Machine Damage

1. Do not use damaged or malfunctioning machines.
2. Before each change of work, the machine should be thoroughly checked before operation, and all functions should be tested. The damaged or malfunctioning machine should be marked immediately and stopped operation.
3. Ensure that all maintenance operations have been carried out in accordance with the provisions of this manual.
4. Ensure that all label positions are appropriate and easy to identify.

Lock it after use.

1. Choose a safe parking location, which can be a solid horizontal ground, free of obstacles and avoid busy transportation.
2. Make the platform down.
3. Turn the key switch to the "off" position and unplug the key to avoid unauthorized use.
4. Charge the battery.

5. Ways to Fold Guardrail

The platform guardrail system consists of a folding guardrail part of an extended platform and a folding guardrail part of a main platform. All parts are fixed in proper position by four steel wire lock pins.

1. Make the platform down completely and indent the extended platform.
2. Remove the platform controller.
3. Remove the two steel wire locks the front of the extending platform from the inside of the platform.
4. The front guardrail of the extended platform is folded inward. Do not place your hands where they may be pinched.
5. Install the two dismantled pins back to the guardrail brackets on each side.
6. Turn inward the extend platform guardrail on the right. Do not place your hands where they may be pinched.
7. Turn inward the extend platform guardrail on the left. Do not place your hand where it may be pinched.
8. Open the door carefully and move to a ladder or floor.
9. Remove the steel wire lock pin at the back of the right guardrail of the main platform.
10. Fold the right guardrail of the main platform from the ladder or on the ground. Do not place your hands where they may be pinched.
11. Install the detached pin back to the guardrail bracket.
12. Remove the steel wire lock pin at the rear of the left guardrail of the main platform.
13. Fold the left guardrail of the main platform. Do not place your hands where they may be pinched.
14. Install the detached pins back into the guardrail bracket.
15. Turn the back guardrail forward. Don't put your hand where it might be pinched.



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Following Instructions of Fold the guardrail, but in reverse order.

How to Extend and stow platform?

1. Put the foot on the positioning pedal which is on the extended platform.
2. Promote the extension of platform guardrail and extend the platform to the desired position.

Note: When trying to extend the platform, do not stand on the extended platform.

6. Specifications

| 嘉峰集团 | GTJZ0608LD | GTJZ0810LD | GTJZ1012LD |
|--|-------------|--------------------|--------------------|
| Safe working load | 450Kg | 450Kg | 320Kg |
| Safety Work Load of Extended Platform | 113Kg | 113Kg | 113Kg |
| Maximum number of workers | 3 | 3 | 3 |
| Maximum working height | 8m | 10m | 12m |
| Maximum platform height | 6m | 8m | 10m |
| Length of equipment (with ladder) | 2470mm | 2470mm | 2470mm |
| Length of equipment (without ladder) | 2350mm | 2350mm | 2350mm |
| Width of equipment | 1450mm | 1450mm | 1450mm |
| Height of equipment (Guardrail not folded) | 2275mm | 2400mm | 2525mm |
| Height of equipment (Guardrail folding) | 1765mm | 1890mm | 2015mm |
| Working platform size | 2270X1120mm | 2270X1120mm X700mm | 2270X1120mm X700mm |
| Platform extension size | 900mm | 900mm | 900mm |
| Minimum turning radius | 0m | 0m | 0m |
| Lifting motor | 48V/2.2Kw | 48V/2.2Kw | 48V/2.2Kw |
| Walking motor | 2X48v/4Kw | 2X48v/4Kw | 2X48v/4Kw |
| Machine running speed(closing) | 2Km/h | 2Km/h | 2Km/h |
| Machine running speed(lifting) | 0.5Km/h | 0.5Km/h | 0.5Km/h |
| Rate of rise/fall | 24/34sec | 28/38sec | 38/46sec |
| Battery | 8X6V/225Ah | 8X6V/225Ah | 8X6V/225Ah |
| Charger | 48V/25A | 48V/25A | 48V/25A |
| Maximum climbing ability | 30% | 30% | 30% |
| Maximum permissible working Angle | 1.5° /3° | 1.5° /3° | 1.5° /3° |
| Machine weight | 2750Kg | 2870Kg | 3030Kg |



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I. Maintenance Manual

1. Battery and charging instructions

Obey the rules:

1. Do not use an external charger or booster battery.
2. Charge the battery in a well ventilated area.
3. Using the correct AC input voltage indicated on the charger.
4. Use only batteries and chargers approved by our company-CFMG Group

Charging the battery

1. Make sure the battery is connected well before charging.

Maintenance free battery

2. Connect the battery charger to a grounded AC circuit.
3. The charger will give an indication when the battery is fully charged.

Standard battery

4. Remove the battery vent cover and check the battery electrolyte level. If necessary, add only enough distilled water that has not over through the plates. Do not add excess.



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5. Replace the battery vent cover.

6. Connect the battery charger to a grounded AC circuit.

7. The charger will give an indication when the battery is fully charged.

8. Check the battery electrolyte level at the end of the charge cycle. Add distilled water to the bottom of the dosing tube. Do not add too much.

Dry battery filling and charging instructions

1. Remove the plastic venting cover from the battery vent and remove the plastic seal.

2. The battery electrolyte (electrolyte) is filled into each battery until the liquid level can over through the electrode plate.

Do not raise to the highest level before the battery charging process is complete. Excessive addition of liquid can cause the battery electrolyte to overflow during charging, Soda and water are used to neutralize the overflowing battery acid.

3. Install the battery vent cover.

4. Charge the battery.

5. Check the battery electrolyte level at the end of the charge cycle. Add distilled water to the bottom of the dosing tube. Do not add too much.



Compliance and obedience:

When using a crane to lift the machine, maintain proper judgment and planning to control the movement of the machine. Only the personnel who are qualified for high-altitude lifting operation can load and unload the machine. Transport vehicles must be parked on level ground. When loading the machine, the transport vehicle must be fixed to prevent movement. Ensure the vehicle capacity, loading surface, chain or belt is sufficient to support the weight of the machine. Please refer to the nameplate for machine weight. Before releasing the brake, the machine must be on a horizontal surface or be fixed. Remove the bolt to prevent the guardrail from falling. Fold guardrail when want to hold guardrail tightly all the time. Do not drive the machine on slopes exceeding the upper, lower or slope ratings of the machine. refer to "driving on slopes" in the "instructions" section. If the vehicle's slope exceeds the maximum slope rating, the winch must be used to load and unload the machine as described in the brake release operation.

2. Maintain safety rules

- 1) The equipment shall be operated and maintained by trained personnel.
- 2) In the process of using the equipment, if the meter shows that the power is insufficient, please charge it in time. The charging time is 8-10 hours. When the equipment is not used for a long time, it is necessary to ensure charging once a month, so as to protect the battery and extend its service life.
- 3) The hydraulic oil is changed every six months. Use 32 # antiwear hydraulic oil in winter and 46 # antiwear hydraulic oil in summer.
- 4) When the equipment is not in use, it should be properly stored, dust cover should be added, and outdoor storage is strictly prohibited.
- 5) Check and maintain the platform once a month or once a year according to the frequency of use of the platform.



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- [1] check whether the pin shaft nut at each link of the platform is loose or detached
- [2] check whether the hydraulic pipeline is broken and whether the joints are leaking or loose
- [3] check whether the hydraulic pipeline is not connected well and bare
- [4] check whether the connectors of the electrical box are loose and whether the indicator light works normally
- [5] check whether the control handles and buttons of electrical and hydraulic valve blocks are flexible
- [6] check whether the upper and lower limit switches on the platform are loose or damaged
- [7] check the lubrication condition of platform support pin shaft and cylinder pin, and inject enough lubricating oil
- [8] keep the sliding way on the platform and the platform in a lubricating state, and the sliding way shall not be short of lubricating oil



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3. Common fault analysis and processing

| LED CODE | | Description | Troubleshooting |
|--|--|-------------------------|---|
| Green light out | | No power or not working | <ol style="list-style-type: none"> 1. It is necessary to check if the wiring is correct when there is no power. 2. Check the fuse and power switch. |
| Green light is always on | | Normal operation | |
| Red and green lights are on at the same time | | | <ol style="list-style-type: none"> 1. Software updating. 2. Overvoltage or undervoltage reset 3. The controller is damaged, please contact us. |
| The red light is darker, but it is always bright | | | <ol style="list-style-type: none"> 1. Output 5V short circuit. 2. Check the connection |
| RED LED ERROR CODE | | | |
| 1, 2 | | Overvoltage error | <ol style="list-style-type: none"> 1. The battery voltage is higher than the maximum operating voltage of the controller. Please check the battery voltage. 2. The battery voltage is too high during power generation. The controller will stop generating electricity. <p>The controller may detect an overvoltage with a 2% error.</p> |
| 1, 3 | | Low voltage error | <ol style="list-style-type: none"> 1. If the voltage returns to normal after 5 seconds, the controller will attempt to automatically clear the fault code. 2. Check the battery voltage. <p>Charge the battery if necessary.</p> |



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| | | | |
|------|----------------|------------------------------|--|
| 1, 4 | ☒ ☒☒ ☒☒ | Temperature warning | The temperature of the controller housing is above 90 ° C. At this point the controller will weaken the output current. It is recommended to stop the output or reduce the output to lower the temperature to protect the controller. |
| 2, 1 | ☒ ☒ ☒ | The motor can not be started | Two seconds after the controller starts outputting, the motor speed does not reach 25 electrical RPM, which is probably a problem with Hall or phase line. |
| 2, 2 | ☒ ☒ ☒☒ | Internal voltage error | <p>1. Please check that the battery voltage and control voltage are correct, Maybe the control voltage is too low.</p> <p>2. Check the load of 5V voltage, maybe the load of 5V voltage is too high, the load voltage is so high maybe because of the incorrect external device wiring.</p> <p>3. The controller is damaged, please contact us. .</p> |
| 2, 3 | ☒☒ ☒ ☒☒ | Over temperature error | <p>1. At this time, the temperature of the controller case exceeds 100 ° C, and the controller stops output to protect the controller.</p> <p>2. At this point, the controller needs to be turned off to lower the temperature. When the temperature of the controller is lower than 80 ° C, the controller will continue to work.</p> |
| 2, 4 | ☒☒ ☒☒☒☒ | Pedal error at startup | <p>1. The controller is turned on, and the error occurs when the accelerator pedal is in the active area (the default 20%-80% interval is valid. For example: 0-5K pedal is actually 1K starting as 1%, 4K is regarded as 100%), Resetting the pedal effective range through the configuration program.</p> <p>If the pedal is turned on, the power-off failure will disappear after the accelerator pedal released.</p> |



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| | | | |
|------|-----------------|---|---|
| 3, 1 | ☒ ☒ ☒ ☒ | The controller performs multiple resets | <p>1. Controller overcurrent protection.</p> <p>2. May be caused by problems such as motor failure and poor ground contact.</p> <p>If you have a repeated reset, please contact us.</p> |
| 3, 2 | ☒ ☒ ☒ ☒☒ | A reset was performed inside the controller | There is no need to care when the controller is reset due to overcurrent and battery voltage is too high or too low occasionally. |
| 3, 4 | ☒☒☒ ☒☒☒☒ | The pedal would have signal when switching the direction | 1.The controller will stop outputting. And it will return to normal after the releasing the pedal. |
| 4, 1 | ☒ ☒ ☒ ☒ ☒ | Overvoltage errors during regenerative electric power or startup. | 1.The overvoltage controller would not start the motor if there is overvoltage after power-on. The error controller would reduce the volt or even stop generating if there is overvoltage during the generating. And the overvoltage value could be set on the graphical user interface, up to 1.25 times the rated voltage of the controller. for example, the overvoltage could be set at 60V for a 48V controller. |
| 4, 2 | ☒☒☒☒ ☒☒ | Signal error of Hall sensor | <p>1.This error occurs when the 120 degree Hall motor has 60 degree Hall code, or the 60 degree Hall motor has 120 degree Hall code. The user should correct the type of angle through the software.</p> <p>2.The wiring is incorrect.</p> <p>3.The Hall sensor is damaged or intermittent appearance.</p> |
| 4, 3 | ☒☒☒☒ ☒☒☒ | Motor is overheat | <p>1. When the temperature is higher than the set of the sensor, the motor would stop until it cool down to the recovery temperature.</p> <p>2. The overheat temperature could be changed through the calibration software.</p> |



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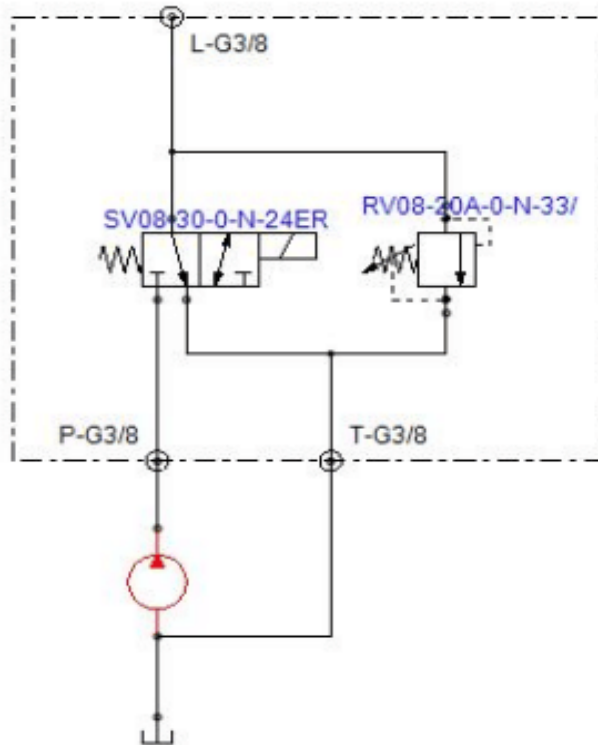
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| | | | |
|------|-------------------------|----------------|--|
| 4, 4 | <p>○○○○</p> <p>○○○○</p> | Motor stalling | <p>1. When there is stalling, the controller would limit the maximum output to 90% before the stall occurs. And when the stalling disappears, this error alarm code will disappear automatically. The max output would back to normal.</p> |
|------|-------------------------|----------------|--|

When the red LED flashing, it indicates an error. For example, 1, 2 mean that the LED flashing one and after one second flashing another two times, this means there is an overvoltage error. The time of the on and off for the LED is 0.5 seconds, after one error was displayed, the LED would be off for two seconds and then display another error until the errors were cleared.

4. Working principle

Drawing of Hydraulic principle:



Working pressure is less than 241BAR

Working flow is less than 11L/min



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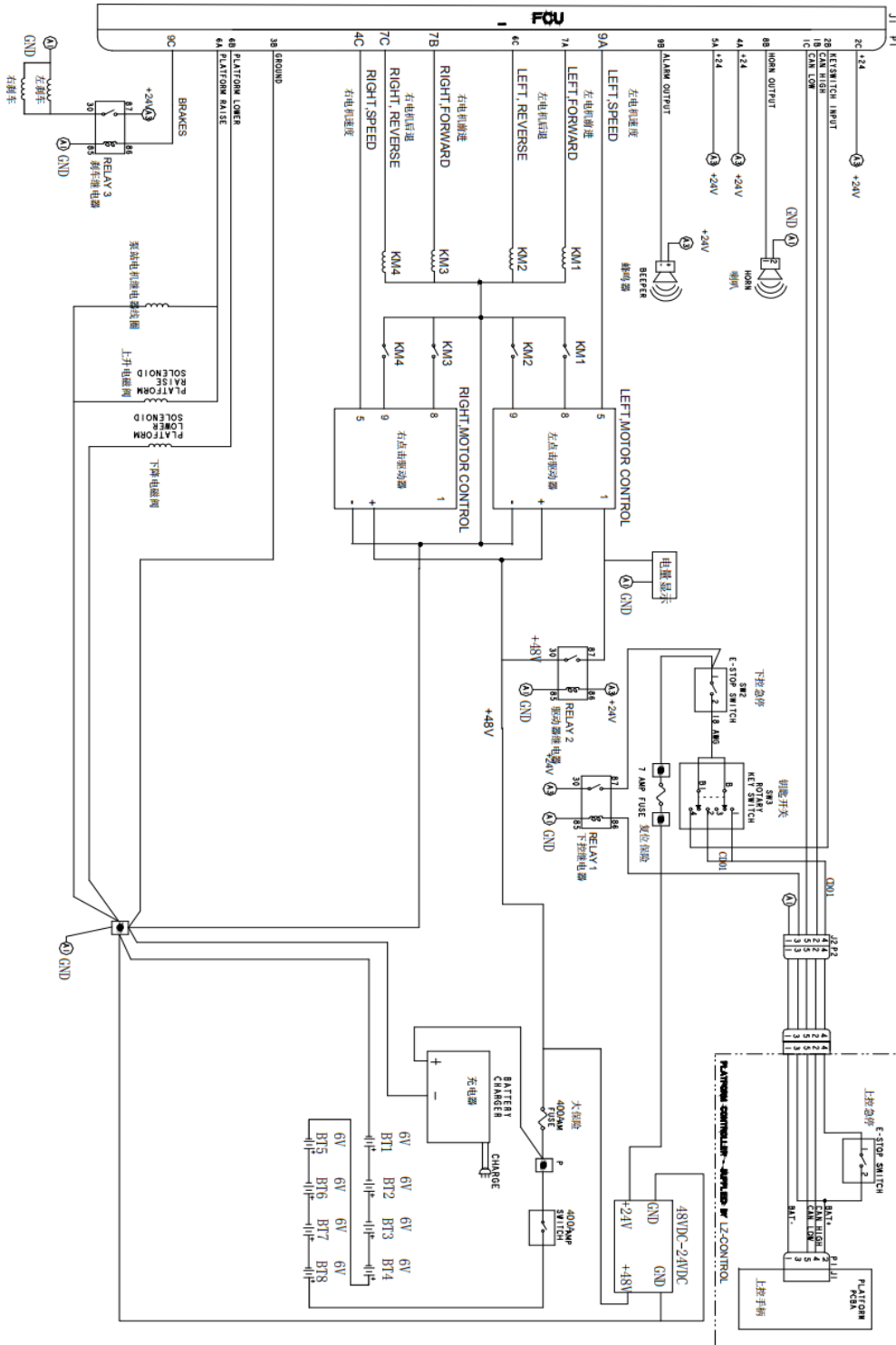
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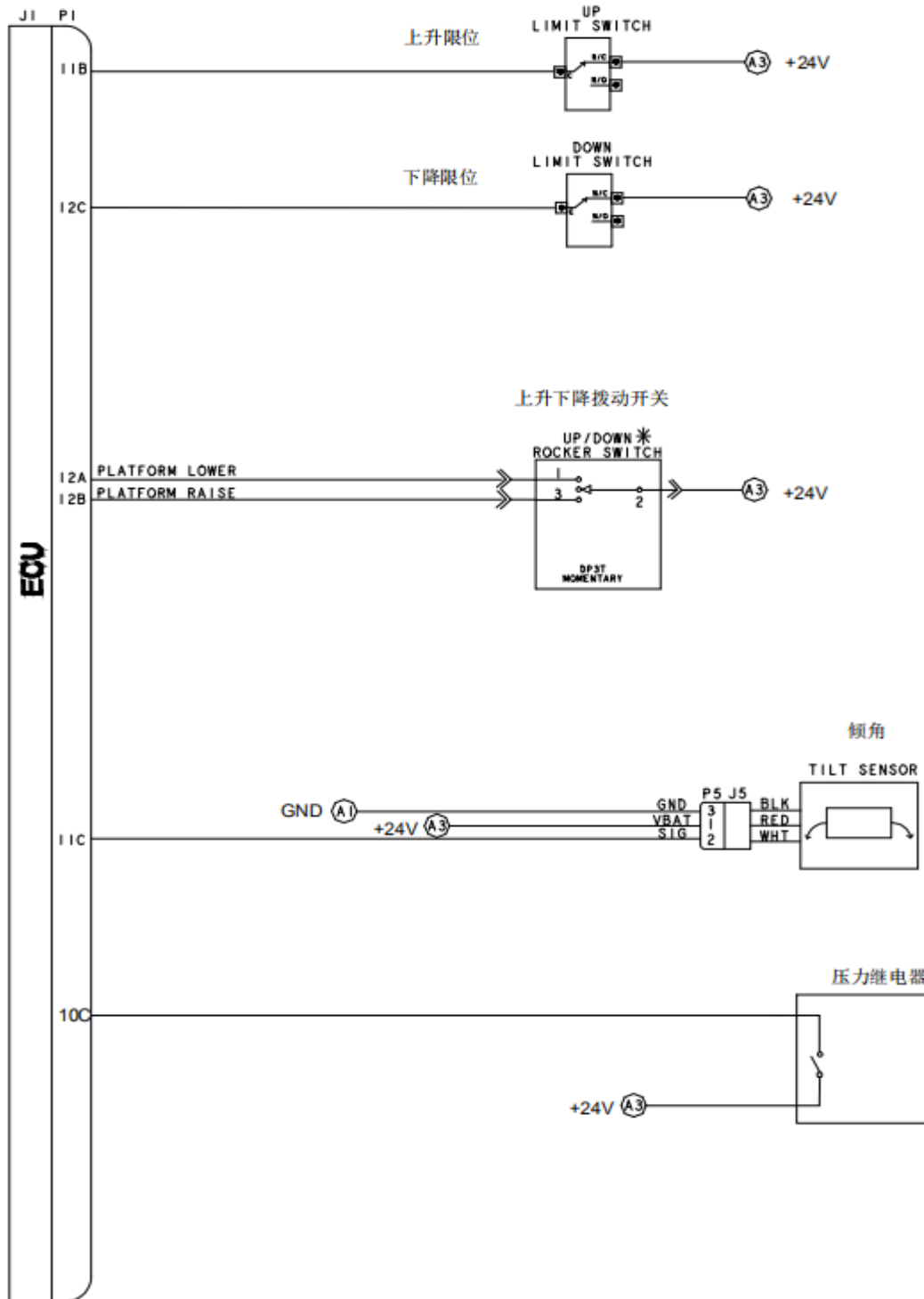
Drawing of electrical principle:



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II. Part List of Self-Propelled Scissor Lift

| No. | Item | Specification | Position | Unit | Qty |
|-----|---------------------|------------------------|--|------|-----|
| 1 | φ13-410 | M22*1.5 — 90° | Fuel tank outlet to gear pump suction port | Pcs | 1 |
| 2 | φ13-350 | M22*1.5 | Gear pump outlet to main valve interface P | Pcs | 1 |
| 3 | φ8-4500 | M16*1.5 | Main valve interface CSE to lower lift cylinder lock valve interface | Pcs | 1 |
| 4 | φ13-365 | M22*1.5 — 45° | Main valve interface T3 to oil filter | Pcs | 1 |
| 5 | φ13-420 | M22*1.5 — 45° | Oil filter to tank return port | Pcs | 1 |
| 6 | Connector | M22*1.5 | Main valve inlet | Pcs | 1 |
| 7 | Connector | M18*1.5/M22*1.5H | Main valve inlet change direction | Pcs | 1 |
| 8 | Connector | M18*1.5/M22*1.5H | Main valve return port | Pcs | 1 |
| 9 | Connector | M18*1.5/M16*1.5H | Main valve lift port | Pcs | 1 |
| 10 | Connector | G3/8/M16×1.5H | Lower cylinder lock valve port joint | Pcs | 2 |
| 11 | Three-way connector | M16X1.5H (| Lower cylinder lock valve port joint | Pcs | 1 |
| 12 | Connector | 2001/4/27 | Cylinder exhaust port connector | Pcs | 1 |
| 13 | Connector | RC3/4/M22X1.5 | Oil filter connector | Pcs | 2 |
| 14 | Connector | M22X1.5/M22X1.5 (90 °) | Fuel tank return port connector | Pcs | 1 |
| 15 | Connector | M27X2/M27X2 | Fuel tank connector | Pcs | 1 |



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|----|----------------------------|---------|--------------------------|-----|----|
| 16 | Connector | | Telescopic platform | Set | 1 |
| 17 | Hinge, torsion spring, pin | | Platform door | Set | 2 |
| 18 | D-pin | | Guardrail | Pcs | 4 |
| 19 | Bearing | 6204 | Platform wheel | Pcs | 4 |
| 20 | Inner circlip | 47 | Platform wheel | Pcs | 4 |
| 21 | Nylon roller | φ125 | Telescopic platform | Pcs | 2 |
| 22 | Nylon small roller | φ120 | Fixed platform | Pcs | 2 |
| 23 | Small slider | | Upper platform | Pcs | 4 |
| 24 | Rubber septum | | Fixed platform guardrail | Pcs | 4 |
| 25 | bolt | | Platform door | Pcs | 1 |
| 26 | Door spring | | bolt | Pcs | 2 |
| 27 | Small cotter pin | 2 | Platform door hinge | Pcs | 2 |
| 28 | Bolt flat spring pad | M10*25 | Foot lock | Set | 2 |
| 29 | Bolt | M8*50 | Platform door hinge | Set | 8 |
| 30 | Flat pad | M8*60 | Folding fence | Set | 12 |
| 31 | Self-locking nuts | M10*50 | Door lock | Set | 1 |
| 32 | Countersunk bolt | M8*60 | Platform roller mount | Pcs | 16 |
| 33 | Self-tapping screw | M4*30 | Rubber septum | Pcs | 4 |
| 34 | Pole pin 1 | φ38*660 | | Pcs | 4 |
| 35 | Strut pin 2 | φ38*220 | | Pcs | 4 |
| 36 | Lower slider pin | φ38*370 | | Pcs | 2 |



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|----|---------------------------------------|-------------|---------------------------------------|-----|----|
| 37 | Upper slider pin | φ38*150 | | Pcs | 2 |
| 38 | Cylinder pin 3 | φ38*160 | | Pcs | 1 |
| 39 | Strut pin 2 | φ38*230 | | Pcs | 2 |
| 40 | Bracket cushion | | Strut | Pcs | 32 |
| 41 | C-type retaining ring | | Pole shaft fixed wire frame | Pcs | 2 |
| 42 | U-ring | | Safety support | Pcs | 2 |
| 43 | Fiber sleeve | φ44*φ38*50 | Strut | Pcs | 6 |
| 44 | Fiber sleeve | φ44*φ38*30 | Strut | Pcs | 18 |
| 45 | Lower cylinder | φ80 | Scissor assembly | Pcs | 1 |
| 46 | Lower cylinder valve block | ST3720-AC00 | Lower cylinder | Pcs | 1 |
| 47 | Soft shaft cable | 12K | Lower cylinder lock valve | Pcs | 1 |
| 48 | Bolt Flat pad Self-locking nuts | M10*100 | Slider | Set | 4 |
| 49 | | M10*75 | Fixed strut pin | Set | 11 |
| 50 | | M10*40 | Cylinder anti-rotation | Set | 2 |
| 51 | | M6*20 | Cylinder valve block and cable holder | Set | 6 |
| 52 | Countersunk bolt | M6*15 | C-type retaining ring | Set | 3 |
| 53 | Hex bolts | M10*40 | Scissor support | Set | 2 |
| 54 | Outer circlip | 38*2.5 | Pole pin | Pcs | 5 |
| 55 | Flat pad | φ38*φ60-4 | Pole pin | Pcs | 5 |
| 56 | Anti-reduction | φ10-80 | Cylinder pin | Pcs | 4 |
| 57 | Large slider | | Outsole scissor | Pcs | 2 |
| 58 | Plastic tee | φ8 | Oil return pipe | Pcs | 1 |



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|----|--------------------------|-------------|----------------------|-----|----|
| 59 | Motor | 4.5Kw | Pump station box | Pcs | 1 |
| 60 | tank | 25L | Pump station box | Pcs | 1 |
| 61 | Pipeline filter | SP-06/08X25 | Pump station box | Pcs | 1 |
| 62 | Gear pump | 45cc/r | Pump station box | Pcs | 1 |
| 63 | battery | | battery box | Pcs | 8 |
| 64 | charger | 35A/48V | battery box | Pcs | 1 |
| 65 | switch | | battery box | Pcs | 1 |
| 66 | Big insurance | 400A | battery box | Pcs | 1 |
| 67 | horn | DL225 | battery box | Pcs | 1 |
| 68 | buzzer | BJ-1I | battery box | Pcs | 1 |
| 69 | Battery cap | red + black | battery box | Pcs | 24 |
| 70 | Key switch | 3/set | Ground control panel | Set | 1 |
| 71 | Emergency stop switch | 1/set | Ground control panel | Set | 1 |
| 72 | Toggle switch | 1/set | Ground control panel | Set | 1 |
| 73 | Self-resetting insurance | 7A | Ground control panel | Pcs | 1 |
| 74 | Relay | | Ground control panel | Pcs | 1 |
| 75 | Emergency stop | | Ground control panel | Pcs | 1 |
| 76 | Lower control panel | | Chassis | Pcs | 1 |
| 77 | LED small light | | Ground control panel | Pcs | 1 |
| 78 | Limit switch | | Flap | Set | 4 |
| 79 | Waterproof connector | | Limit switch | Pcs | 4 |



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|----|---------------------------|-----------|----------------------|-----|---|
| 80 | Strobe light | | Chassis | Pcs | 1 |
| 81 | Door lock | | Electric control box | Pcs | 1 |
| 82 | Drawer slide | | Electric control box | Pcs | 2 |
| 83 | Optocoupler converter | | Electric control box | Pcs | 1 |
| 84 | DC converter | DC48-DC24 | Electric control box | Pcs | 1 |
| 85 | motor driver | | Rear of the chassis | Pcs | 2 |
| 86 | Drag chain | 1.5m | battery box | Pcs | 1 |
| 87 | Travel limit block | | Limit switch | Pcs | 1 |
| 88 | Round head Phillips screw | M6*15 | Lower control panel | Set | 2 |
| 89 | Hexagon socket bolt | M5*15 | Limit switch cover | Set | 4 |
| 90 | Hexagon socket bolt | M8*25 | Motor installation | Set | 4 |
| 91 | Round head Phillips screw | M4*20 | ECU | Set | 4 |
| 92 | Hexagon socket bolt | M6*20 | Pipeline filter | Set | 4 |
| 93 | Semi-round head bolt | M4*15 | charging port | Set | 2 |
| 94 | Semi-round head bolt | M6*15 | switch | Set | 2 |
| 95 | Countersunk head hex bolt | M8*25 | tank | Set | 4 |
| 96 | Countersunk head hex bolt | M8*25 | Motor base | Set | 4 |



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|-----|------------------------------|--------|-----------------------------|-----|---|
| 97 | Hexagon socket bolt | M6*15 | horn | Set | 2 |
| 98 | Hexagon socket bolt | M6*15 | Big insurance | Set | 2 |
| 99 | Hexagon socket bolt | M6*10 | buzzer | Set | 2 |
| 100 | Hexagon socket bolt | M8*20 | Valve block | Pcs | 2 |
| 101 | Semicircular head cross bolt | M5*10 | Optocoupler converter | Pcs | 2 |
| 102 | Hexagon socket bolt | M6*20 | charger | Set | 2 |
| 103 | Hexagon socket bolt | M6*15 | motor driver | Set | 8 |
| 104 | Hexagon flange bolt | M6*15 | Door lock | Set | 5 |
| 105 | | M12*40 | Back ladder | Set | 2 |
| 106 | | M6*20 | Oil filter | Pcs | 2 |
| 107 | Control System | | Harness. Dip. Control. ECU. | Set | 1 |