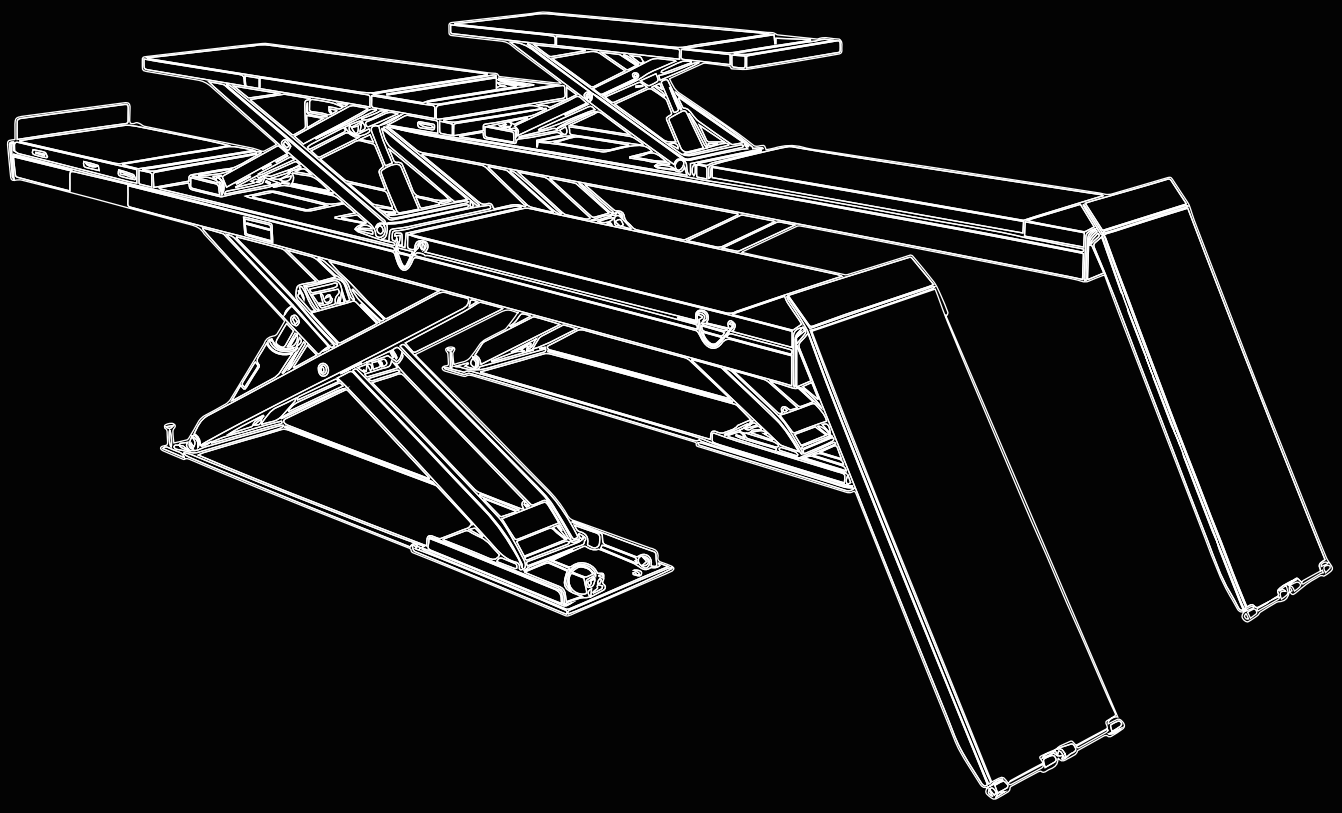
# AUTOOL ATL-4SHU

## Ultra-low Twin Scissor (Main & Auxiliary) Lift for Wheel Alignment

## User Manual



www.autooltech.com

# CONTENTS

# COPYRIGHT INFORMATION

**Copyright**



**Trademark**

# SAFETY PRECAUTIONS

**Warning**

- This manual is an essential part of the product. Please read it carefully.
- Keep this manual properly for future reference during maintenance.
- Operate according to this manual and only use accessories recommended by the manufacturer.
- This machine is intended for the specific purposes stated in the design; do not use it for any other purposes.
- Important Statement: The warranty period for the complete machine is 3 years (excluding consumable parts). However, the company is not responsible for any consequences caused by improper installation, non-compliant grounding, overload, or incorrect operation.

**Precautions**

- This machine must be operated by trained and qualified personnel. Unauthorized modification of machine parts or usage outside the scope specified in the manual may cause direct or indirect damage to the machine.
- This machine is for indoor installation only. The installation environment should not be excessively humid, and installation on asphalt surfaces is strictly prohibited. The thickness of the concrete must meet the requirements.
- Do not place the lift in extreme temperature or humidity conditions. Avoid placing it near heating devices, faucets, humidifiers, or stoves.
- Keep the lift away from excessive dust, ammonia, alcohol, thinners, or spray adhesives.
- When the machine is operating, non-operators should stay away from it.
- Operators should ensure their hands and feet are kept away from the lift's moving parts.
- Perform daily inspections on the lift. Do not operate the lift if it is faulty or if any parts are damaged. When repairing or replacing parts, use original equipment parts.
- The lift should not be overloaded. The rated load capacity of the lift is marked on both the main body and the nameplate.
- Do not lift the vehicle when there are people inside it. During operation, customers and bystanders should stay out of the lift area.
- Keep the lift area free of obstacles, grease, oil, debris, and other impurities.
- Adjust the lift's support device to make contact with the manufacturer's recommended lifting points. Raise the lift and ensure that the support is in close contact with the vehicle. Lift the machine to the appropriate working height. Before starting work under the lifted vehicle, ensure that the lift’s safety locks are engaged.

- For certain vehicles, the removal (or installation) of parts may cause a significant shift in the center of gravity, leading to vehicle instability. Safety supports should be used to maintain vehicle balance.
- Before the vehicle leaves the lifting area, position the lift's arms and supports to avoid obstruction during vehicle movement.
- Pay attention to regular maintenance, check all components for damage, inspect the machine's synchronization and the flexibility of moving parts.
- If any abnormalities are found, stop using the machine immediately and contact the dealer.
- Use appropriate equipment, tools, and safety protective measures, such as work clothing, safety shoes, etc.
- Pay special attention to the safety labels affixed to the machine.
- During the operation of the lift, operators must stay out of the danger area (the range of the lift's moving parts) and must not touch any moving parts with hands or other body parts.
- Pay special attention not to remove or disable the machine's safety devices.
- Do not disassemble any hydraulic components when the equipment's pressure system has not been fully depressurized.
- After work is completed, lower the machine to its minimum height and turn off the power.
- The hydraulic oil used in this machine is N32 or N46 mechanical oil. Be sure to use it within the safe range.
- When the machine is not used for a long time, the user should: a. cut off the power; b. drain the hydraulic oil; c. lubricate moving parts that may be damaged by dust or dryness.
- Note: The lift is a high-risk piece of equipment. Improper installation or operation, or unauthorized modification of mechanical parts, may result in personal injury or death. Please read the manual carefully and operate strictly according to the instructions! The safety warnings and instructions in this manual do not cover every possible situation. Operators must possess sufficient safety knowledge.
- **AUTOOL is committed to continuously improving product quality and updating technical specifications. Changes may be made without prior notice.**

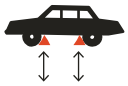
- Before using the lift, carefully read the user manual and the installation and commissioning guide.

- Proper maintenance and inspection are required to ensure safe operation.

- Do not operate a damaged lift.

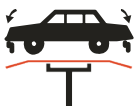
- The lift may only be operated by trained personnel.

- Only authorized personnel are allowed in the lift area.



- The vehicle manufacturer's recommended lifting points should be used.

- Safety supports must always be used when removing or installing heavy components.



- Using auxiliary supports will reduce the lift's load capacity.

- When there is a risk of vehicle tipping, the surrounding area should be kept clear.

- The vehicle's center of gravity must be between the two support arms.

- When raising or lowering the vehicle, ensure the area around the lift is clear of obstacles.

- Avoid excessive rocking of the vehicle while it is on the lift.

- Single-side lifting of the vehicle is strictly prohibited.

- Keep feet away from the lift while it is lowering.

- Do not stand under the support arms or lifting platform while the lift is raising or lowering a load.

- The operator is not allowed to stay under the vehicle being serviced during operation.

- The operator and standby personnel should not stay too close to the machine but should remain in the safety area.

- Only trained technicians are permitted to operate the lift.

- When the lift is lowering, no auxiliary stand or wooden stick should be used.

- Do not shake the vehicle forcefully while it is still resting on the lift arms.

- Take care of your feet when the equipment is lifting or lowering.

- It is not allowed to lift or lower just one side of the track.

- Do not alter the safety system of the lift.

- Be cautious of your feet when the lift is lowering.

- Ensure the lifting weight is balanced on both tracks to avoid tilting or sliding.

- Keep the equipment groove clean.

- Please read the operation manual carefully before operation.

- Keep the vehicle being serviced parallel to the lifting tracks.

- There is high voltage in the control box.

- If the warnings are ignored, not only can the equipment encounter issues, but it can also pose a danger to the operator.
- Regular equipment maintenance helps ensure long service life and operator safety.

# PRODUCT FEATURES AND PARAMETERS

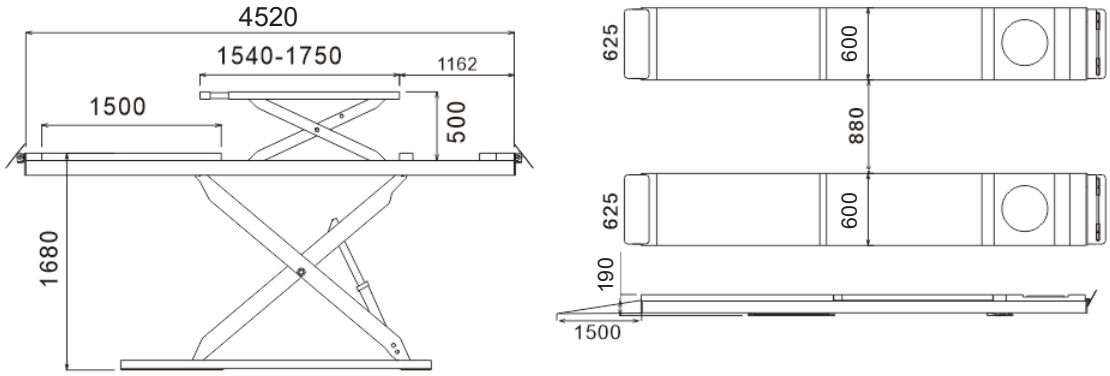
**Product feature**

- Ultra-low body, no pit is required.
- Platform extended to 5,000mm.
- Aluminum alloy motor with fast heat dissipation.

**Technical parameters**

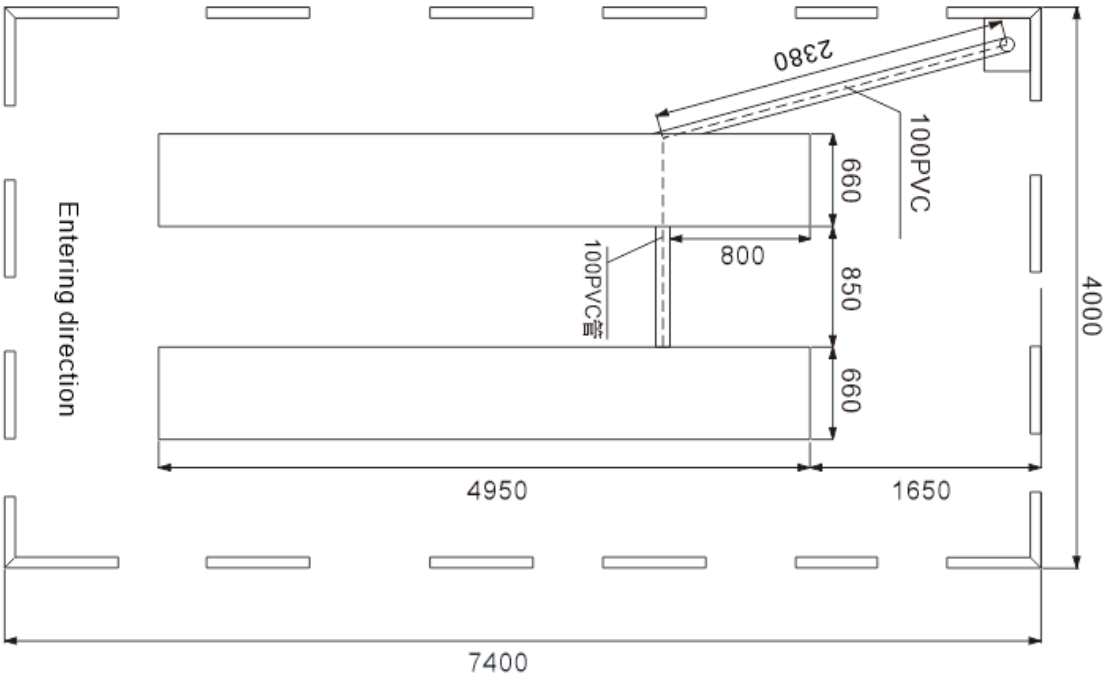
| | | |
|---|---|---|
| Drive mode | | **Direct-acting hydraulic cylinder** |
| Rated lifting capacity of main lift | | **4000kg** |
| Rated lifting capacity of sub lift | | **4000kg** |
| Lifting height of main lift | | **1680mm** |
| Lifting height of sub lift | | **500mm** |
| Initial height of platform(excluding the side slide plate) | | **190mm** |
| Length of main lift platform | | **4520mm** |
| Width of main lift platform | | **600mm** |
| Total width of whole machine platform | | **2130mm** |
| Power | ATL-4SHU | **1PH, 220VAC, 3kW, motor with an aluminum alloy housing** |
| | | **3PH, 380VAC, 3kW, motor with an aluminum alloy housing** |
| Hydraulic oil | | **46# anti-wear hydraulic oil** |
| Air supply pressure | | **6~8 bar** |

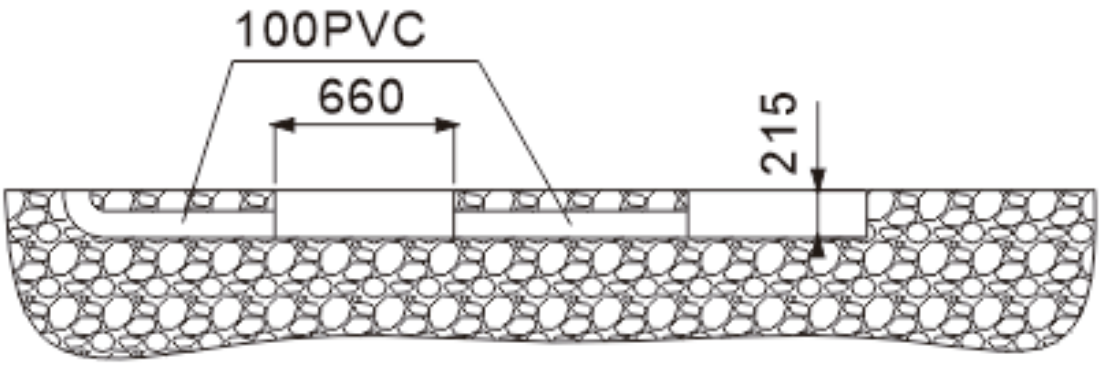
**Dimension diagram of ultra-thin large scissor lift**




**Foundation diagram of the product:**

- 220V: Incoming power wire 4mm², ground wire 2.5mm².
- 380V: Incoming power wire 2.5mm², ground wire 1.5mm².
- Air supply pressure 6-8kg.

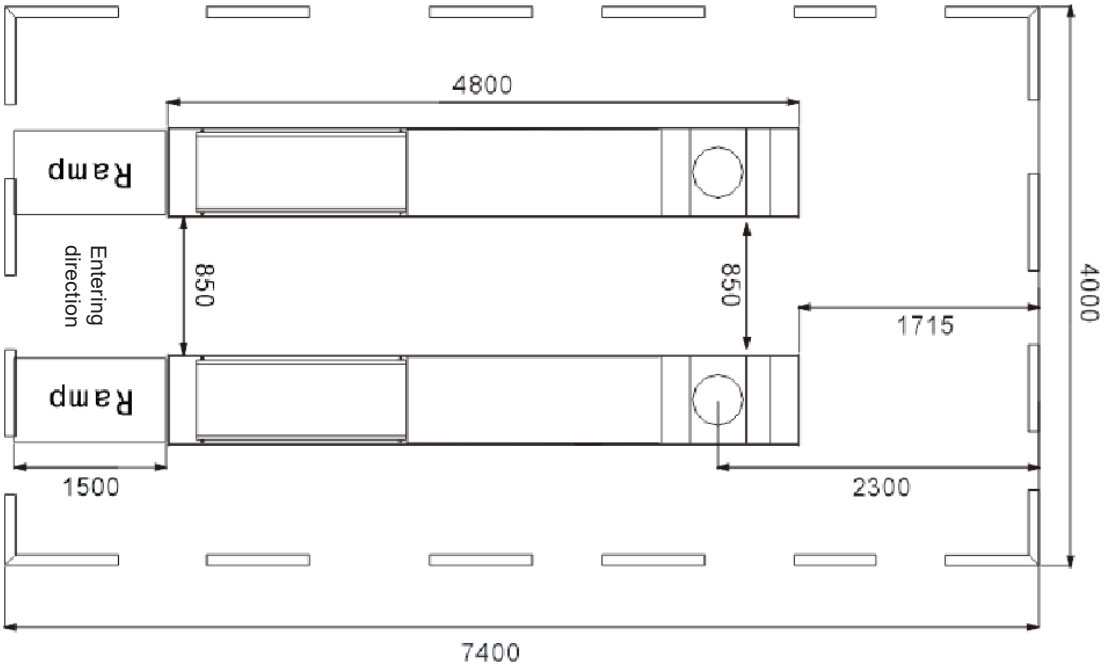


**⚠ NOTE**

- The foundation pit shall be 140mm deep with a flat bottom surface, the levelness of which not greater than 1.5mm. Vertical side walls, and upper edges covered with 40*40 angle steel.
- The concrete shall be reintorced with steel, and have a thickness greater than 250mm and acompresslve strength not lower than 25MPa. The gradeo the foundation concrete shallbe greater than C25.
- A φ50mm PVC pipe shall be buried 140mm deep between the two places respectively for the distribution box of the station and the control cabinet oflit.

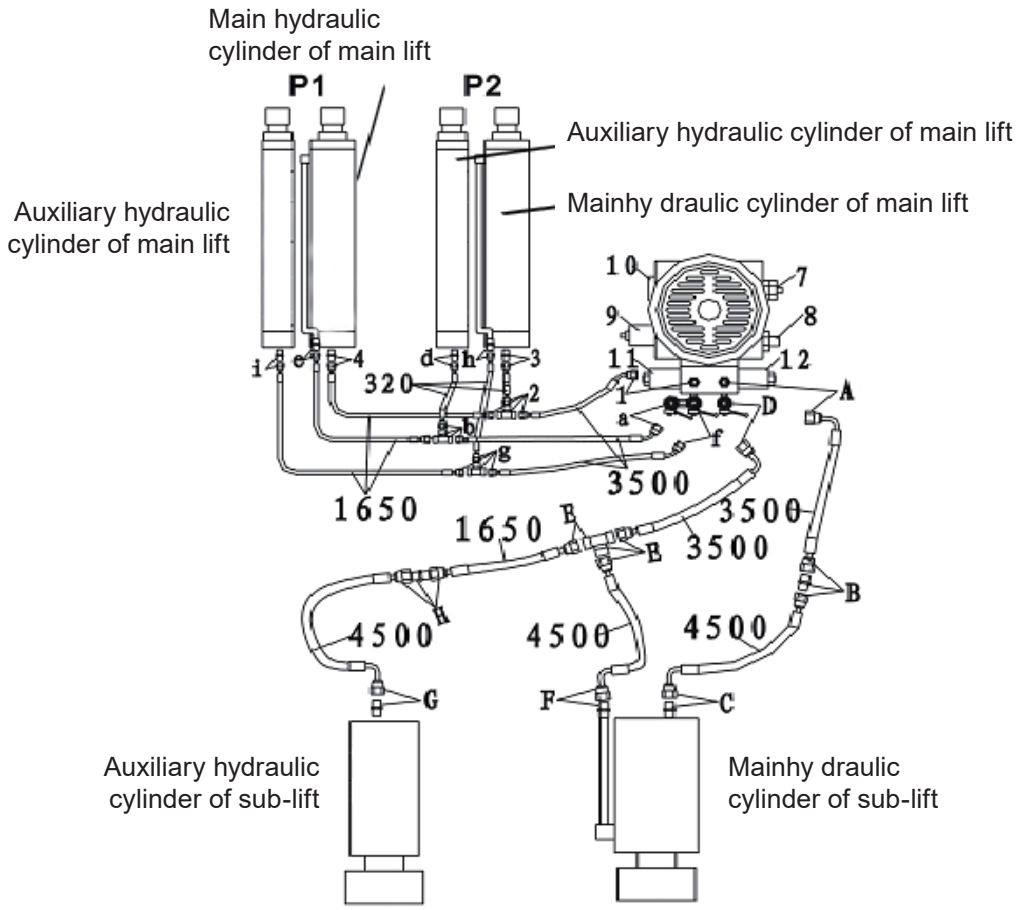
## Schematic diagram




## Oil pipe diagram

**⚠ NOTE**

- Adjustment is needed only when the platform is not balanced on both sides.




Handle position of debugging and oil filling (valve open).

Handle position of normal use (valveclosed).

| | | | |
|---|---|---|---|
| 3 | oil filling valve of main lift | 9 | oil return electromagnetic valve |
| D | oil filling valve of sub-lift | 10 | One-way valve |
| 7 | load requlation valve (largening if tightened) | 11 | electromagnetic valve of main lift |
| 8 | speed reduction valve (slowing down if tightened) | 12 | electromagnetic valve of sub-lift |

**⚠ NOTE**

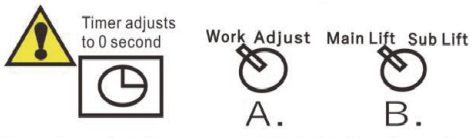
▶ Adjustment is needed only when the platform is not balanced on both sides.

**Tips for leveling and oil-filling**

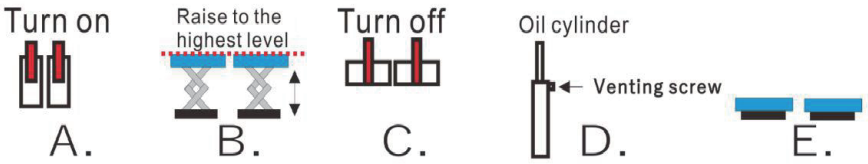
Please read this instrution first before the operation.

**Main Lift Adiustment**

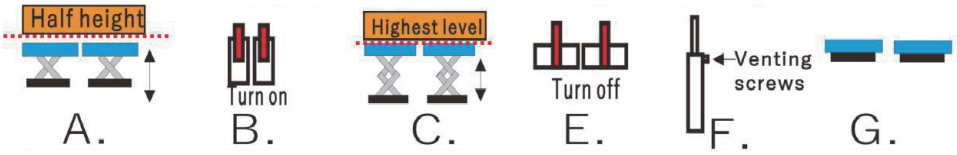
- Make sure air pipe has been connected and Air pressure adjusted to 0.6MPa-0.8MPa.
- Set timer to 0 second. Optional switch change to “Work” and “Main lift”. Determine whether the motor direction of rotation is clockwise (viewing from the top down). If the motor reversed, cut power first and then exchange posequence of the power input wires.




- Open two red handle valves (at the same side). Raise two platforms to the highest level. Turn off two red handle valves and loose the venting screws for a while, then tighten them.Lower the lift to the bottom.




- Open two red handle valves (at the same side). Raise two platforms to the highest level. Turn off two red handle valves and loose the venting screw for a while, then tighten it. Lower the lift to the bottom. Step3 should be repeated 3-5times (When normal use,two red handle valves must be turned off, optional switch should be changed to work.)




**⚠ NOTE**

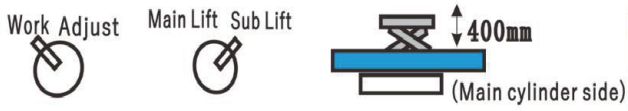
▶ When normal use, two red handle valves must be turn off and timer should be adjusted to 1.5-2.0s.

**Sub-lift Adjustment**

- Optional switches choose “Work” and “Sub-lift”. Press “Up” bottom to raise the lift to the level of 400mm. Press “Lower” button to the lowest level.Then raise the lift again to the level of 400mm.

**⚠ NOTE**

▶ Make sure the machenical.
▶ safety are unlock while.
▶ pressing "Raise" botton.



- Optional switch change to "Adjust", turn on the red handle button (the right one) and ralse the other slde lift to the 300mm (it can not be raised too high). Lower this side of lift to the lowest level and repeat Step 2 5~6 times. At the last time, press "Ralse" button until two sides of the lift at the same level. Turn off red handle valve and optlonal switch change to "Work". Timer should be adjustedto 1.5-2.0 seconds.


**⚠ NOTE**

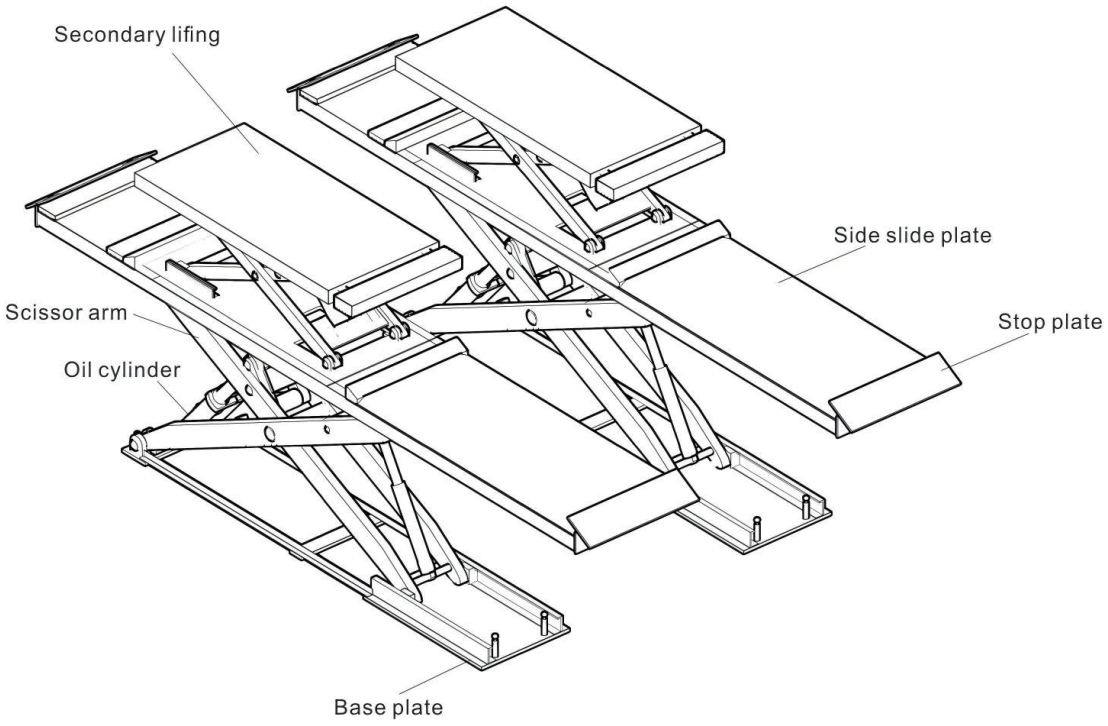
▶ Turn off red handle valve and optlonal switch change to "Work". Timer should be adjusted to 1.5~2.0 seconds.

**Emergency manual lowering procedures at power failure**

- Lift the safety jaws above the cylinders for both platforms and insert paper blocks under the safety jaws to separate them from the safety gear rack. Cut off the power and open the control cabinet cover to locate the oil return solenoid valve. Loosen the copper cap at the end of the oil return solenoid valve (2) so that the platforms can descend. When the platforms have descended, tighten the copper cap at the end of oil return solenoid valve timely to avoid unnecessary trouble. Otherwise, the hydraulic oil will directly return to the tank and thus cannot drive the cylinders to raise the lifts when the voltage is supplied normally and the lifts have ascended. Manual lowering is not recommended unless in case of emergency.

**Schematic diagram for main components**

- Turntable recess: Used to accommodate turntable for four-wheel alignment.
- Side slide plate: prevent rear wheel side sliding during four-wheel alignment.
- Stop plate: Used to prevent the vehicle from slipping out of the platform, and is set level at the lowest position.
- Secondary lifting trolley: Used to lift the vehicle.
- Safety gear rack: safety mechanism for mechanical locking.
- Control cabinet: control unit, providing the power takeoff.


Secondary lifing
Side slide plate
Scissor arm
Stop plate
Oil cylinder
Base plate

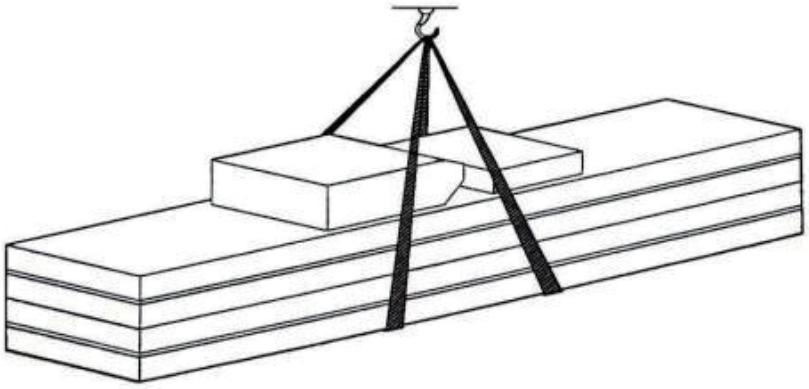
# PREPARATION FOR INSTALLATION

**Unpacking**

All packing, loading/unloading, transportation and unpacking operations must be performed by professional personnel.

Transportation:

- The scissor lift shall be loaded/unloaded and moved by a lifting machine and forklift with capacity over 3 tons. To prevent the scissor lift falling off, one person shall pay attention to the scissor lift during the lifting operation for fear of accidents. The scissor lift shall be transported by an automobile or ship.
- The lift shall be inspected for completeness when it arrives, for fear of damage or loss during transportation. If the packing box is broken during transportation, inspect the broken box according to the Packing List, confirm the damaged articles and lost components, and at the same time, inform the carrier immediately.
- The scissor lift is a heavy cargo. Therefore, manpower loading/unloading and handling are forbidden. Safety is of much importance. In addition, the hoisting of scissor lift during loading/unloading shall be operated as illustrated.



Storage:

- Machinery equipment shall be stored in an indoor warehouse, and waterproof treatment shall be adopted in case of outdoor storage. A van truck shall be used for highway transportation, and a container for waterway transport. The control cabinet must be placed upright during transportation, and be protected from squeezing by other goods.

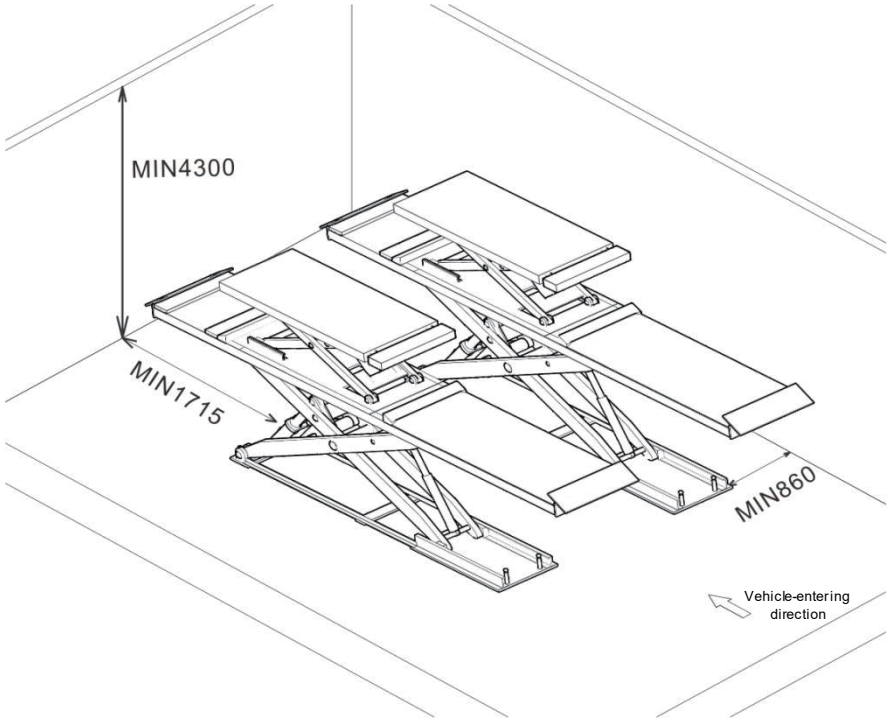
**Installation**

**⚠ NOTE**

- Only professionals are allowed to conduct the installation work.Moreover, they shall read and follow the operation instructions below carefully to prevent machine damage or injuries.
- Only authorized technicians are allowed to install the lift.

**Installation requirements**

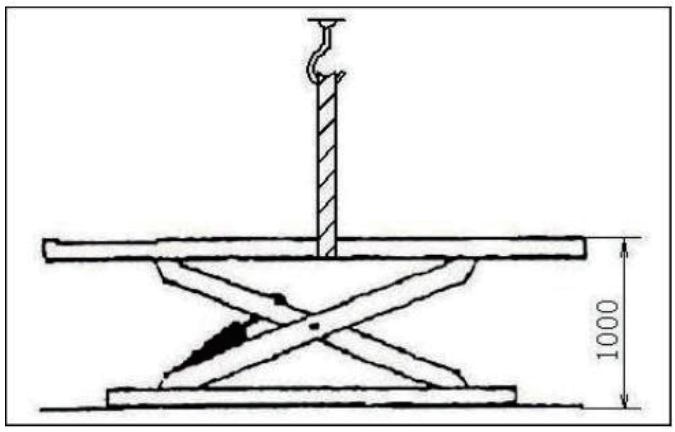
- The lift must be installed in accordance with the specified safe distances from walls, columns and other equipment, including the minimum distance 1000 mm from walls. To prevent any emergencies and for the convenience of operation, a sufficient space for exit passageway shall also be considered. On the installation site, power supply and air supply shall be provided and connected with the control cabinet station in advance, and the ceiling height cannot be less than 4000mm. It is recommended to install the lift in a pit, and construct the foundation as required in Nevertheless, the lift can be installed on any indoor floor, provided that the floor meets the leveling requirements and has enough bearing capacity (25MPa).
- During installation, there shall be sufficient light to ensure the safe operation of commissioning and repair. Strong light shall be avoided, because it would affect personnel sight and cause eyestrain.




The arrived goods shall be inspected for completeness before installation of scissor lift. The movement and installation of the lift shall be carried out by the professionals.
For the transportation and storage of the machine, refer to the “Transportation and Storage”.

### Installation of lifting platforms

Insert adjusting sizing blocks under the platform, lift the lifting platform with a forklift or other lifting equipment to about 1000 mm, so as to ensure that the mechanical safety device is activated and locked.




- To avoid the failure of the mechanical safety device, a wood block can be inserted at the middle of the connecting rod. When the hydraulic system is not fully filled with hydraulic oil and has the lifting and lowering actions, do not work under the lift. Move the lifting platforms, adjust the distance between two platforms to make them parallel, and connect the electric circuit, oil circuit, and air circuit of two platforms as specified in the Electrical Wiring Diagram and Oil Circuit Connection Diagram.
- Only after the hydraulic system connection is completed, the pneumatic circuit connection can be conducted. Oil pipes, electric wires, and air pipes shall not be damaged.
- When inserting the oil pipes and air pipes into the pit from the control cabinet via PVC ducts, pay special attention to the protection of pipe joints so as to prevent the damage to hydraulic system caused by foreign matter entering the oil circuit and pneumatic circuit.
- Connection of electrical circuit: Connect the electrical circuit according to the wire diameter and wire size specified in the Electrical Wiring Diagram.

### Installation of electric circuit

**⚠ NOTE**

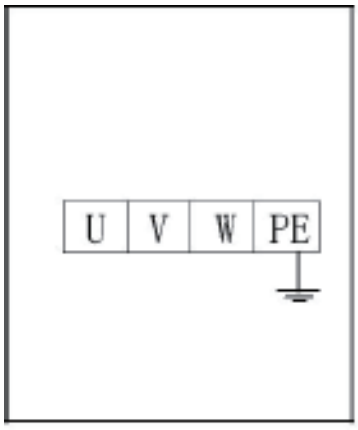
▶ A four-pole leakage protection switch with a neutral wire shall be used as the external leakage protection switch for the user.

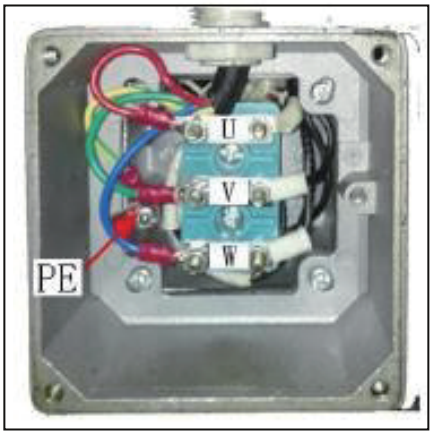
| Voltage | Power | Start current | Operating current | Wire size | Air switch |
|---|---|---|---|---|---|
| 380V | 3kW | 21A-35A | 8.5A | At least 2.5 mm² | C63 |
| 220V | 3kW | 60A | 21A-25A | At least 4mm² | C63 |
| 380V | 2.2kW | 18A-30A | 7.5A | At least 2.5 mm² | C63 |
| 220V | 2.2kW | 60A | 20A-22A | At least 4mm² | C63 |
| **Applicable to** | | Scissor lift | Two posts, the gantry, four posts | | |
| | | Scissor lift | Two posts, the gantry, four posts | | |

Only the professionals qualified for electrical operation are allowed to conduct the electrical installation. Open the cover on the control cabinet first.

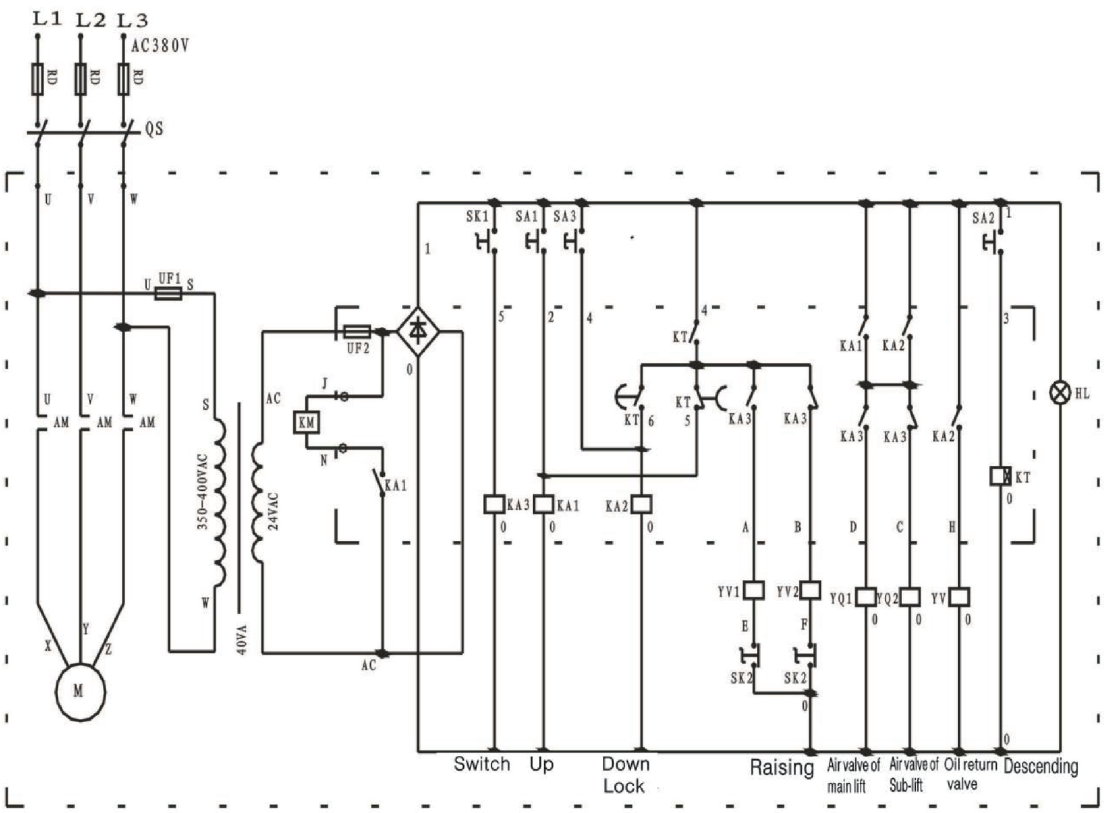
**⚠ NOTE**

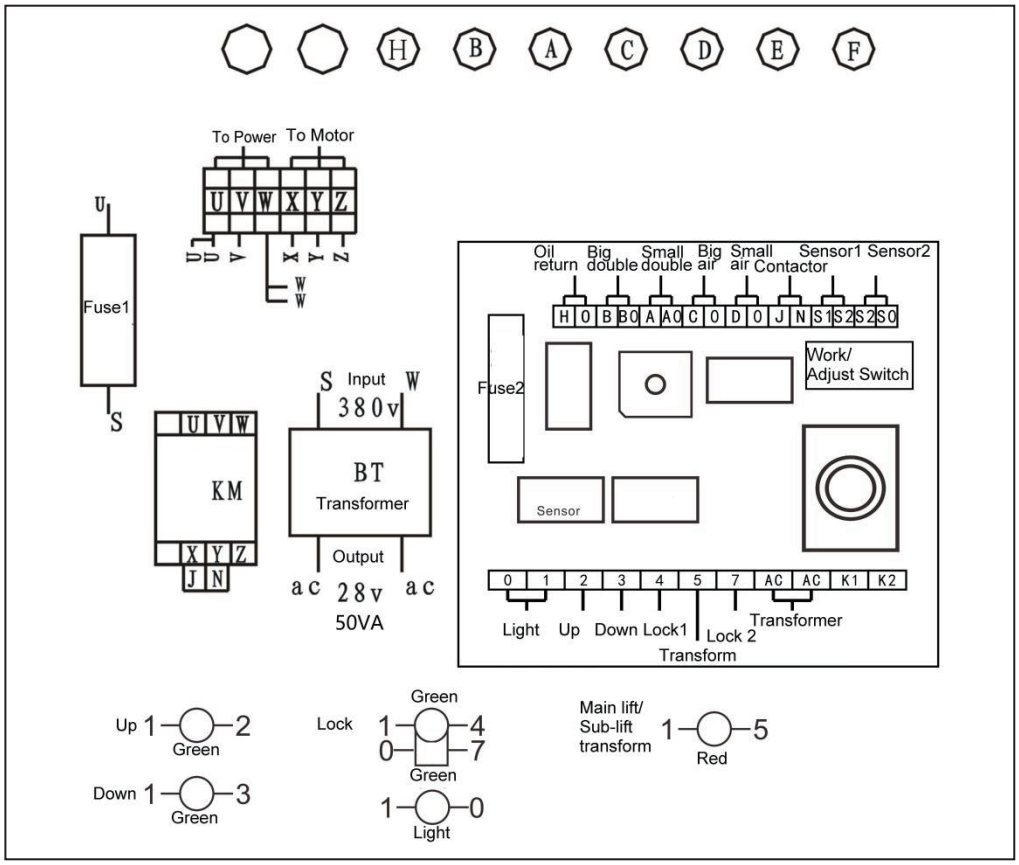
- Connection of power line: Connect the 380V three-phase four-wire power line (cable of 3×2.5 mm² + 1×1.5 mm²) to the control cabinet interfaces L1, L2, L3 and input terminal, and connect the PE ground wire to the marked ground bolt firstly and then to the marked ground bolts at the bottom of the two platforms.
- Wiring of the three-phase motor is as shown below.



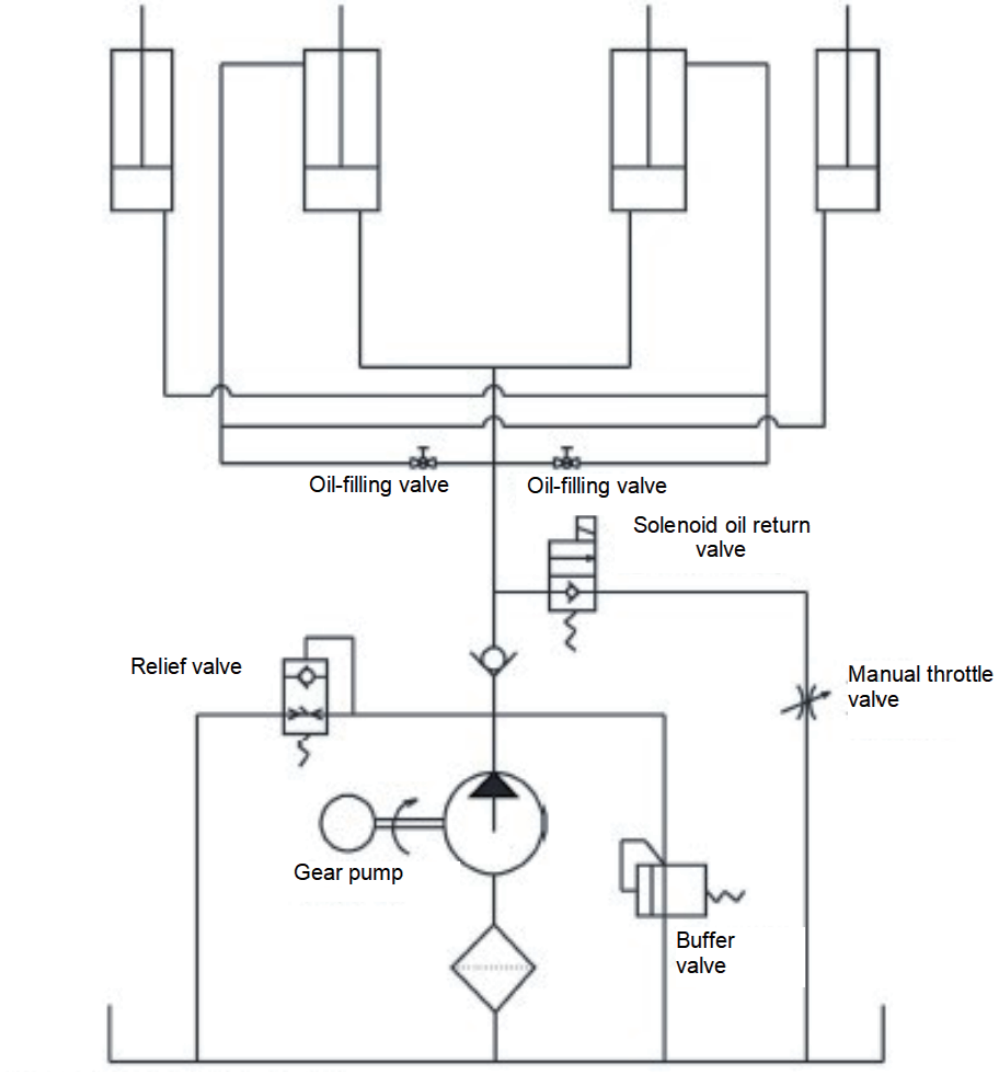



## Electrical diagram

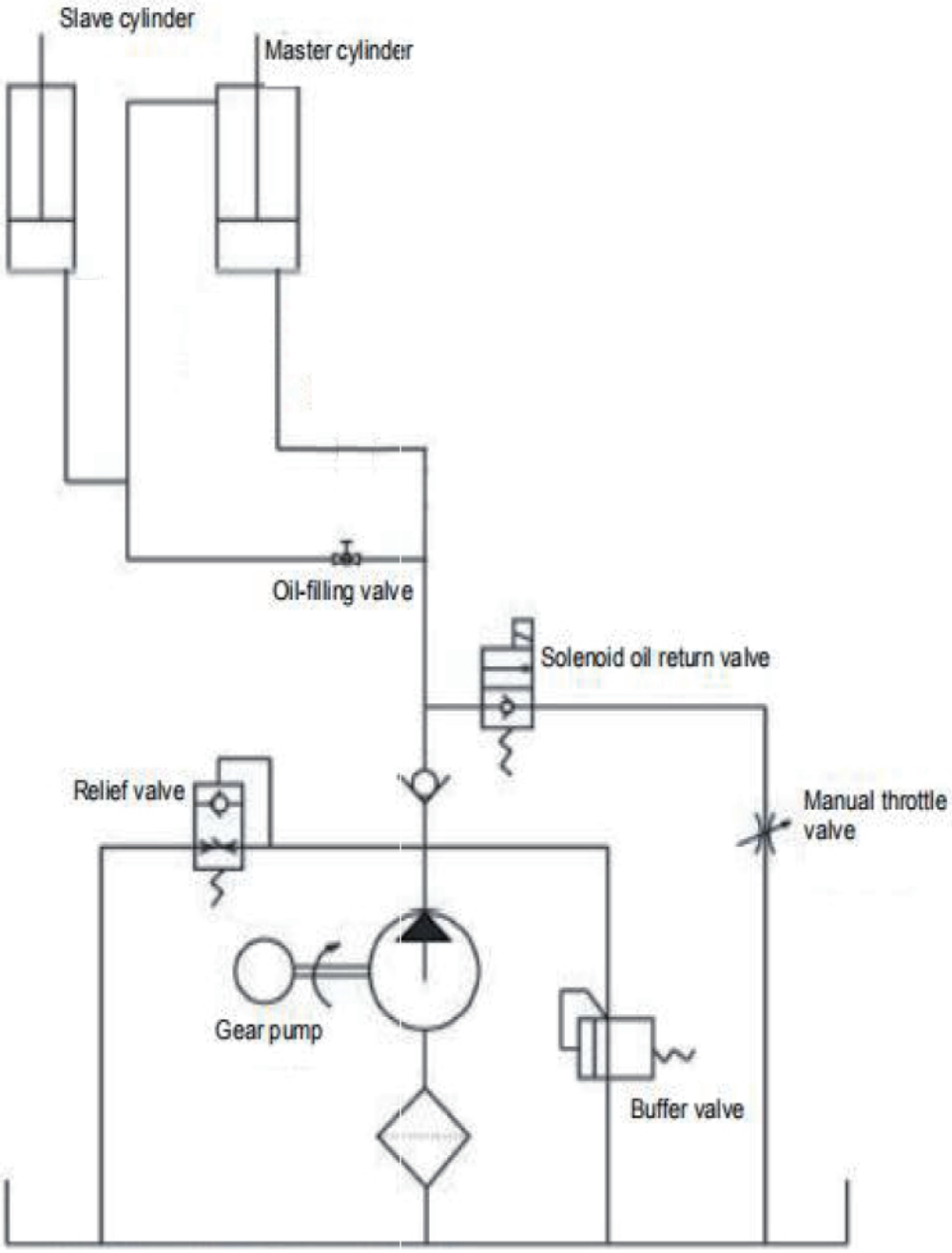


Hydraulic schematic diagram




- Oil-filling valve: used to adjust the amount of oil in the slave cylinder Solenoid oil return valve:controlling the oil circuit for lowering Manual throttle.
- Valve: adjusting the speed of lowering.
- Relief valve: controlling the maximum pressure Gear.
- Pump: supplying oil pressure.
- Buffer valve: reducing the motor load when the motor starts.

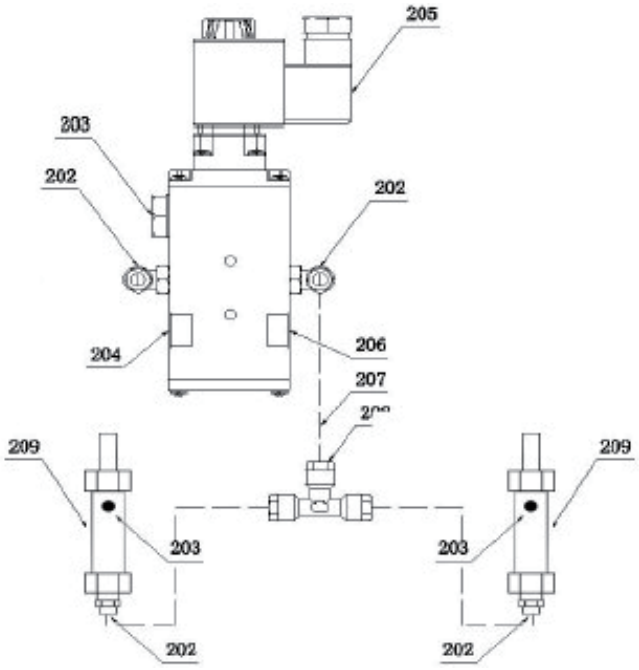



Pay special attention to the protection of the oil pipe joint

- Lead the high-pressure oil pipe out from the main lift solenoid valve in the control cabinet and then connect it to the oil cylinder of the main lift through the PVC pipe as per the numbers of oil pipes (for details, see the Oil Circuit Connection Diagram).
- During connection, wrap the oil pipe joint to prevent foreign matter from entering the hydraulic circuit.

Connect the oil pipes as per colors indicated on the oil circuit diagram.
Only the authorized and qualified technicians are allowed to conduct the installation.

- Connect the Ø8×6 compressed air intake pipe to the intake port of the control cabinet.
- Lead the Φ6×5 compressed air pipe out from the air outlet of the pneumatic solenoid valve of main lift and then connect it to the uplifted-pawl air valve of the main lift according to the Pneumatic Circuit Connection Diagram.
- When passing through the PVC pipe, the air pipe joint shall be wrapped to prevent any foreign matter from entering the compressed air circuit.




| | Item | QTY. |
|---|---|---|
| 203 | **Muffler** | 3 |
| 204 | **Plug 1/8** | 1 |
| 205 | **Solenoid valve** | 1 |
| 206 | **Plug 1/4** | 1 |
| 207 | **Air pipe PU0604** | 1 |
| 208 | **T-joint APE6** | 1 |
| 209 | **Small cylinder** | 2 |
| 211 | **Air pipe PU0806** | |

To main scissor cylinder.

- The air pipe of the main lift shall be connected on the side close to the cabinet.
- Hydraulic/air pipes passing through the PVC pipe shall not be bent or knotted, for fear of clogged or blocked air circuits.

# COMMISSIONING

**Oil-filling and inspection**

Install the lift, connect the hydraulic circuit, electrical circuit and pneumatic circuit, and then follow the following procedures:

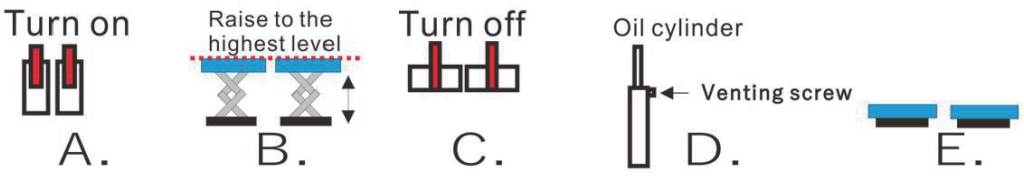
- 1.1 Open the cover of the control cabinet and fill the hydraulic tank with 16L 46# anti-wear & anti- freezing hydraulic oil (provided by the user) with a funnel.
- 1.2 Make sure the hydraulic oil is clean before filling the oil. No impurity shall enter into the oil circuit, which may lead the oil circuit blockage and the solenoid valve failure.
- 1.3 Turn on the main switch of the power supply, press the “Up” button and inspect that the motor's rotation is anticlockwise (viewed downward). Otherwise, cut off the power supply and adjust the phase sequence of power supply.
- 1.4 After the power supply is switched on, there is a risk of high-voltage electric shock in the control cabinet. Only the authorized professionals who are qualified and experienced in electrical operation are allowed to conduct the operation for fear of the electric shock.

Inspection: inspect if the operation of safety devices on two safety jaws of the main lift is flexible and reliable and if the oil circuit and pneumatic circuit leak.

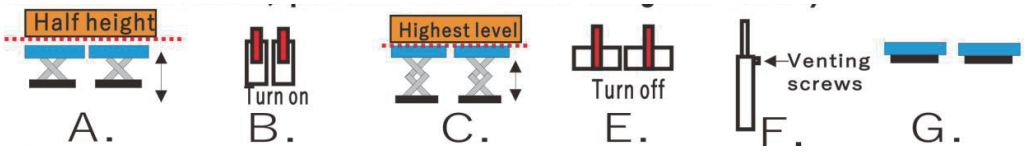
**Tips for leveling and oil-filling**

Schematic diagram for leveling and oil-filling.

- 2.1 Connect the oil pipes according to the oil circuit diagram, while being careful to prevent foreign matter such as sand and stones from entering the oil pipe.
- 2.2 Open the two red handle valves (on the same side). Raise the two platforms to the highest level. Turn off the two red handle valves and loosen the venting screws for a while, then tighten them. Lower the lift to the bottom.




- 2.3 Open two red handle valves (at the same side). Raise two platforms to the highest level. Turn off two red handle valves and loose the venting screw for a while, then tighten it. Lower the lift to the bottom. Step 3 should be repeated 3-5 times. (When normal use, two red handle valves must be turned off,optional switch should be changed to “Work”.)



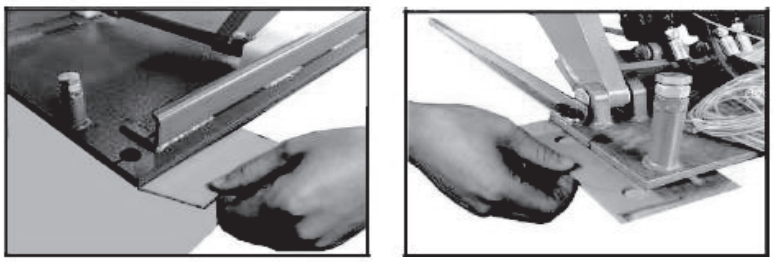

- 2.2 Perform step 2.2 and 2.3 for 3 to 5 times (2 ball valves are closed and the time relay is set to 1.5-2.0 seconds during normal operation after adjustment).

**⚠ NOTE**

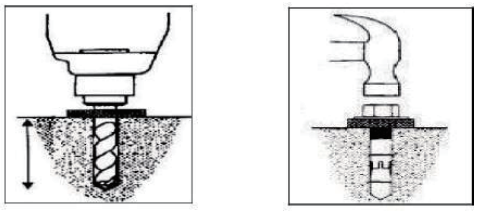
- During normal operation, 2 ball valves are closed.
- During normal operation, please ensure that the time relay is set to 1.5-2.0s.

**Platform level adjustment**

Insert metallic sizing blocks under the platform to avoid uneven horizontal leveling of the lift on uneven ground.

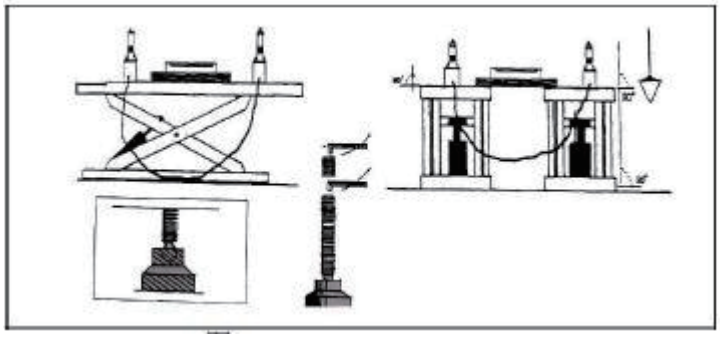


Drive a Φ18 percussion bit to 160 mm depth in the ground from the holes on the base plate with an electric hammer, clean the hole, and fix foundation bolts into the holes with a light hammer (without inserting the central expansion screws of the foundation bolts, which shall be fixed after the leveling is completed).



Leveling: The level precision of the machine is a precondition of the precise detection for four- wheel alignment,therefore the machine leveling is significant.

- Lift the main lift platform to the fifth or sixth gear, then press the “Lock” button to fasten the safety jaws of the left and right platforms into the safety gear rack firmly.
- Inspect that the surfaces of the left and right platforms are level laterally and longitudinally with a transparent leveling pipe or level gauge.



- If the uneven platform is caused by the uneven foundation, adjust the adjusting bolts on the base frame of the main lift with a wrench to make the platform's level precision meet the detection requirements of four-wheel alignment.
- After the leveling, insert the central expansion screws of foundation bolts, and fix the expansion screws with a heavy hammer.
- Tighten the nuts of the foundation bolts.
- If the concrete curing period is not over, do not hammer the central expansion screws of the foundation bolts. After leveling, the clearance between the baseplate and the ground must be filled with cement mortar.

Low position leveling: When the main platform is lowered to the lowest position, the level of the platform in the low position can be adjusted by the supporting screw rods at the bottom of the main platform.

- Loosen the tightening nut first.
- Adjust the length of the supporting screw rod to the proper position.
- Then tighten the nut.

---

**Test**

Unladen test of the main lift.

Switch on the power switch, turn the changeover switch to the “Main lift” position and close all oil-filling valves.

- Press the “Up” button, and observe whether the two platforms of main lift ascend stably and synchronously.
- Press the “Lock” button, then observe whether the safety jaws get in place precisely.
- No person or article shall be on or near the lift or within specified areas during the test. Shut down the machine in time if any abnormality is found, and retest it after troubleshooting.

Load test: main lift.

- Turn the switch to the “Main lift” position
- Drive the vehicle not exceeding the maximum lifting capacity onto the platform and apply the parking brake tightly. The person in the vehicle shall leave the vehicle and the platform.
- Press the “Up” button to lift the platforms of the main lift and observe whether the platforms of main lift ascend stably and synchronously.
- Inspect the lift frame and the hydraulic pump unit for abnormal sounds.
- Observe whether the highest position limit of the platforms is precise and reliable.
- Press the “Lock” button, then observe whether the safety jaws get in place precisely.
- No person or article shall be on or near the lift, in the vehicle on the platform or within specified areas during the load test.

The vehicle weight shall not exceed the maximum lifting capacity of the lift. Inspect the oil circuit and pneumatic circuit for oil or air leakage. Shut down the machine in time if any abnormality is found, and retest it after troubleshooting. Only trained operators are allowed to operate the lift. Before operating the lift, inspect the lift as follows.

Operation cautions:

- Eliminate the barriers around and under the machine before operating the machine.
- When lifting, no person shall be on or near the lift, within the specified area, or in the vehicle on the platforms.
- Do not lift the vehicle or other goods that exceed the lifting capacity of the lift.
- During lifting, the vehicle parking brake shall be applied tightly and anti-skid device such as anti-skid wedges (provided by the user) shall be used.
- Always observe if the lift platforms act synchronously during ascending and descending. Shut down the machine in time if any abnormality is found, and restart the machine only after inspection and troubleshooting.
- For maintenance or test and adjustment in four-wheel alignment, press the “Lock” button to lock the safety jaws of two platforms at the same level. After the locking operation, the personnel can enter the lift and work under the vehicle.
- When conducting the lowering operation, please observe whether the two safety jaws are separated from the safety gear rack completely, if not, stop the lowering operation.
- The platforms shall be lowered to the lowest position, drive away the vehicle and cut off the power supply according to the instruction for electric operation when the machine will not be in use for a long time or overnight.

Main lift (Sub lift) lowering:

- When the “Up” button is pressed, the oil pump runs to send the hydraulic oil to the hydraulic cylinder via the solenoid valve of the main lift or the sub lift, and then the platform is lifted.

Main lift (Sub lift) lifting:

- When the “Down” button is pressed, the oil pump runs, the main lift (sub lift) rises first (after the safety jaws are released), and after a 2-2.5 s delay, the motor stops running, the air cylinder's safety device opens, then the oil return solenoid valve opens, at this time, the lift starts lowering.
- Locking: When the “Lock” button is pressed, the oil return solenoid valve starts to return oil, and the mechanical safety mechanism is locked.

## MAINTENANCE

- The maintenance of the lift shall be performed by trained personnel.
- Apply oil at all hinged shafts of this machine with an oiler once a week.
- Apply lubricating grease on the moving parts including the safety gear rack and the vertical- movement sliding blocks once a month.
- Disassemble the side slide plate and apply lubricating grease once a year.
- After the new machine is used for three months, the hydraulic oil must be changed for the first time. After that the hydraulic oil must be changed once a year, and the oil inlet filter of pump unit and oil filler port filter shall be cleaned. The oil level shall always be kept at the upper limit.
- Safety determination of the structural strength of the lift must be conducted by the specialized department every five years.
- For replacement of hydraulic oil, lower the machine to the lowest position and discharge the old oil from the hydraulic tank. The fresh oil added into the hydraulic tank shall be filtered.
- Inspect the pneumatic safety device for flexibility and reliability per shift.

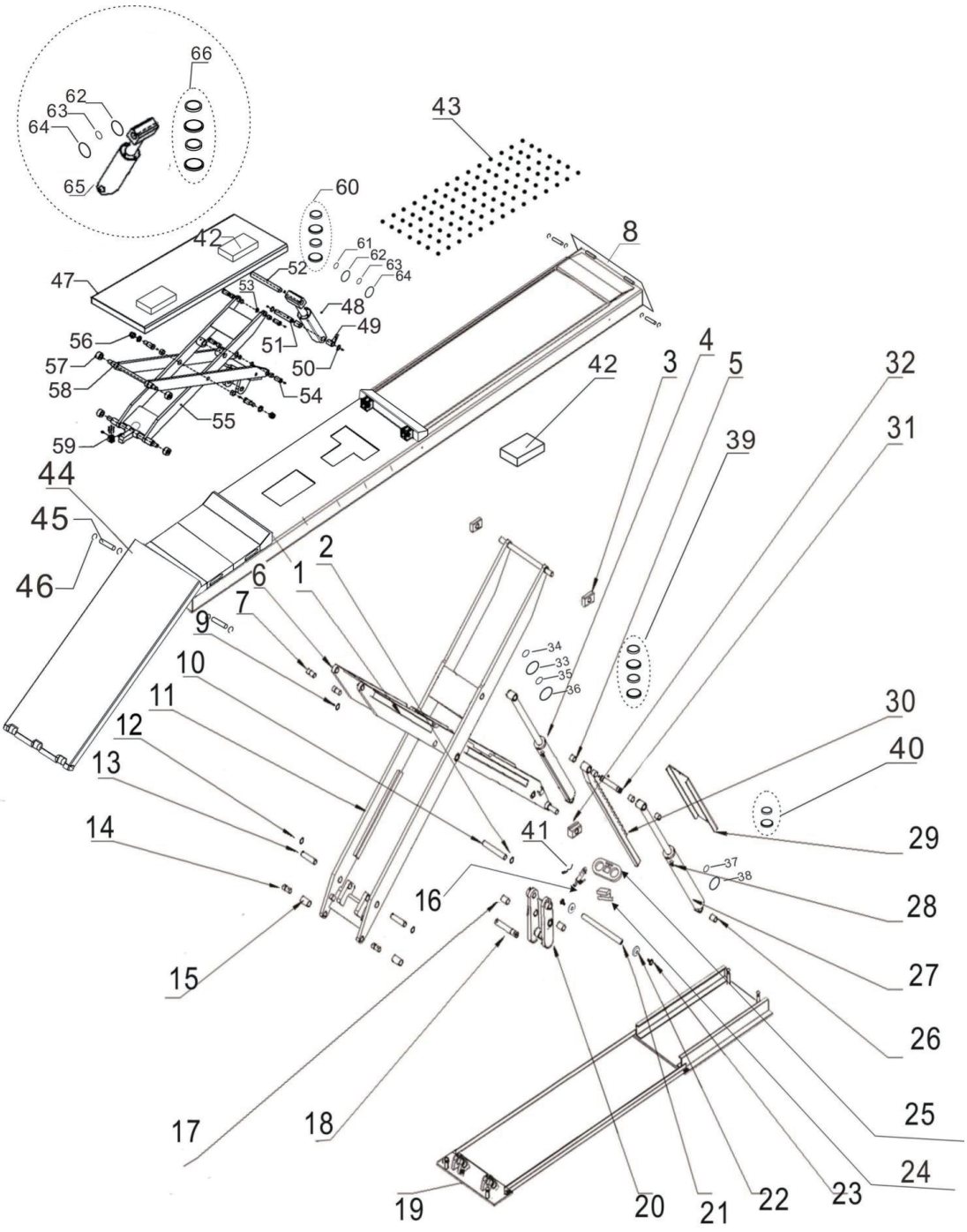
# TROUBLESHOOTING AND SOLUTIONS

| Fault symptom | Cause | Troubleshooting method |
|---|---|---|
| The motor does not rotate when the UP button is pressed. | The power supply is abnormal. | Perform inspection and troubleshooting, and connect the electric wires. |
| | The AC contactor of the pump motor main circuit does not pull in. | The motor will run if the contactor is pressed with an insulating rod forcibly. Inspect the control circuit, and replace the contactor if the voltage at the contactor coil terminal is normal. |
| | Phase loss. | Use a multimeter to check if the three phases are 380V.<br>Note: A tester cannot be used to check if the phase is lost. |
| | The button switch is faulty. | Inspect the button contacts and wires and perform troubleshooting. |
| The motor rotates but the platform does not rise when the UP button is pressed. | The motor rotates reversely. | Exchange the phase sequence of the incoming power wires. |
| | The platform ascends with light load but does not ascend with heavy load. | Increase the safe pressure setting of the relief valve by rightward rotating the valve slightly. If there is dirt in the valve core of the lowering solenoid valve, clean the valve core. |
| | The hydraulic oil is insufficient or the grade is incorrect. | Refill or change the hydraulic oil. |
| | The manual oil drain plug of the solenoid valve is not tightened. | Tighten the oil drain plug of the main lift or sub lift. |
| | The solenoid valve connector is blown. | Replace the solenoid valve connector of the main lift or the sub lift. |
| The lift does not descend when the DOWN button is pressed. | The safety jaw is not separated from the safety gear rack. | Extend the delay time of the time delay slightly. |
| | The safety jaw is not uplifted. | The air pressure is insufficient, the safety jaw gets stuck or the air pipe is broken. Adjust the pressure of the air compressor, inspect the air pipe and perform troubleshooting. |

| | | |
|---|---|---|
| The lift does not descend when the DOWN button is pressed. | The pneumatic solenoid valve does not work. | If the pneumatic circuit is blocked for the energized pneumatic solenoid valve does not work, inspect or replace the pneumatic solenoid valve. |
| | The lowering solenoid valve does not work. | Inspect the connector and coil of the lowering solenoid valve and inspect whether the copper nut at the end of solenoid valve is rightward tightened. |
| | The explosion-proof valve is blocked. | Remove the “explosion-proof valve” from the oil inlet port at the cylinder bottom of main lift or sub lift cylinders, and clean explosion-proof valve. |
| The lift descends slowly with normal load. | The hydraulic oil is too viscous or frozen and deteriorated (in winter). | Change the hydraulic oil or increase the room temperature according to the instruction. |
| | The “explosion-proof valve” preventing the blowout of the oil pipe is blocked. | Remove or close the intake pipe to lock the safety jaw without lifting, remove the “explosion-proof valve” from the oil inlet port at the bottom of the oil cylinder and clean it. |
| The left and right platforms are out of sync and not at the same height. | The air in the oil cylinder is not bled completely. | Refer to the procedures for oil filling and leveling. |
| | The oil pipe or joint leaks oil. | Tighten the joint or replace the oil seal, and then fill oil and perform leveling. |
| | The “oil filling shutoff valve” can not be closed tightly, and therefore oil filling is required almost everyday. | Replace the oil filling shutoff valve, and then fill oil and perform leveling. |
| There is noise during raising and lowering. | Insufficient lubrication. | Apply oil at all hinges and moving parts (including piston rods) to lubricate them. |
| | The foundation or the machine is distorted. | Readjust the machine to make it level and fill (pad) the foundation. |
| The platform always rises when the Down button is pressed. | The time relay is loose or damaged. | Reinsert or replace the time relay. |
| Main lift and sub lift rise synchronously. | The solenoid valves of the main lift and sub lift cannot return due to the foreign matter in the valve cores. | Turn the valve cores around or disassemble the valve cores to clean them with diesel and air gun. |

- Troubleshooting must be conducted by trained and experienced technicians.

# EXPLODED VIEW OF MAIN LIFT



| S/N | Name | S/N | Name |
|---|---|---|---|
| 1 | Inner scissor arm | 24 | Safety lock |
| 2 | Auxiliary arm central shaft circlip | 25 | Cylinder positioning board |
| 3 | Upper sliding block | 26 | Cylinder bottom bushing |
| 4 | Master cylinder | 27 | Slave cylinder |
| 5 | Cylinder Tee bushing | 28 | Cylinder muffler |
| 6 | Inner scissor arm bushing | 29 | Oil cylinder cover plate |
| 7 | Upper hinged shaft for inner scissor arm | 30 | Safety gear rack |
| 8 | Stop plate | 31 | Upper shaft for auxiliary arm cylinder |
| 9 | Circlip for upper hinged shaft of inner scissor arm | 32 | Lower sliding block |
| 10 | Auxiliary arm central shaft | 33 | Outer sealing ring of main cylinder nut |
| 11 | Outer scissor arm | 34 | Inner sealing ring of main cylinder nut |
| 12 | Oil cylinder bottom shaft circlip | 35 | Dust seal of main cylinder nut |
| 13 | Oil cylinder bottom shaft | 36 | Piston sealing ring of main cylinder |
| 14 | Hinged shaft for outer scissor arm | 37 | Dust seal of slave cylinder nut |
| 15 | Bushing for outer scissor arm | 38 | Piston sealing ring of slave cylinder |
| 16 | Safety jaw cylinder | 39 | Sealing group of main oil cylinder |
| 17 | Auxiliary arm central bushing | 40 | Sealing group of slave oil cylinder |
| 18 | Lower wheel shaft for auxiliary arm | 41 | Ultra-low cylinder sense |
| 19 | Baseplate | 42 | Large foam rubber pad |
| 20 | Auxiliary arm | 43 | Slider board ball |
| 21 | Scissor arm central shaft | 44 | Ramps |
| 22 | Scissor arm central shaft chuck | 45 | Ramps shaft |
| 23 | Screw for scissor arm central shaft | 46 | Circlip for Ramps shaft |

# MAINTENANCE SERVICE

Our products are made of long-lasting and durable materials, and we insist on perfect production process. Each product leaves the factory after 35 procedures and 12 times of testing and inspection work, which ensures that each product has excellent quality and performance.

**Maintenance**

To maintain the performance and appearance of the product, it is recommended that the following product care guidelines be read carefully:

- Be careful not to rub the product against rough surfaces or wear the product, especially the sheet metal housing.
- Please regularly check the product parts that need to be tightened and connected. If found loose, please tighten it in time to ensure the safe operation of the equipment. The external and internal parts of the equipment in contact with various chemical media should be frequently treated with anti-corrosion treatment such as rust removal and painting to improve the corrosion resistance of the equipment and extend its service life.
- Comply with the safe operating procedures and do not overload the equipment. The safety guards of the products are complete and reliable. Unsafe factors are to be eliminated in time. The circuit part should be checked thoroughly and the aging wires should be replaced in time.
- Adjust the clearance of various parts and replace worn (broken) parts. Avoid contact with corrosive liquids.
- When not in use, please store the product in a dry place. Do not store the product in hot, humid, or non-ventilated places.

# WARRANTY

From the date of receipt, we provide a three-year warranty for the main unit and all the accessories included are covered by a one-year warranty.

**Warranty access**

- The repair or replacement of products is determined by the actual break-down situation of product.
- It is guaranteed that AUTOOL will use brand new component, accessory or device in terms of repair or replacement.
- If the product fails within 90 days after the customer receives it, the buyer should provide both video and picture, and we will bear the shipping cost and provide the accessories for the customer to replace it free of charge. While the product is received for more than 90 days, the customer will bear the appropriate cost and we will provide the parts to the customer for replacement free of charge.

**These conditions below shall not be in warranty range**

- The product is not purchased through official or authorized channels.
- The product breakdown because the user does not follow product instructions to use or maintain the product.

We AUTOOL pride ourselves on superb design and excellent service. It would be our pleasure to provide you with any further support or services.

**Disclaimer**

- All information, illustrations, and specifications contained in this manual, AUTOOL resumes the right of modify this manual and the machine itself with no prior notice. The physical appearance and color may differ from what is shown in the manual, please refer to the actual product. Every effort has been made to make all descriptions in the book accurate, but inevitably there are still inaccuracies, if in doubt, please contact your dealer or AUTOOL after-service centre, we are not responsible for any consequences arising from misunderstandings.

# RETURN & EXCHANGE SERVICE

**Return & Exchange**

- If you are an AUTOOL user and are not satisfied with the AUTOOL products purchased from the online authorized shopping platform and offline authorized dealers, you can return the products within seven days from the date of receipt; or you may exchange it for another product of the same value within 30 days from the date of delivery.
- Returned and exchanged products must be in fully saleable condition with documentation of the relevant bill of sale, all relevant accessories and original packaging.
- AUTOOL will inspect the returned items to ensure that they are in good condition and eligible. Any item that does not pass inspection will be returned to you and you will not receive a refund for the item.
- You can exchange the product through the customer service center or AUTOOL authorized distributors; the policy of return and exchange is to return the product from where it was purchased. If there are difficulties or problems with your return or exchange, please contact AUTOOL Customer Service.

| | |
|---|---|
| **China** | 400-032-0988 |
| **Oversea Zone** | +86 0755 23304822 |
| **Email** | aftersale@autooltech.com |
| **Facebook** | https://www.facebook.com/autool.vip |
| **YouTube** | https://www.youtube.com/c/autooltech |

**EU DECLARATION OF CONFORMITY**

We as the manufacturer declare that the designated product:

Description: Vehicle Lift, Electric (Model ATL-4SHU)

complies with the requirements of the:

**CE Machinery Directive 2006/42/EC**

**RoHS Directive 2011/65/EU + 2015/863 + 2017/2102**

Applied Standards:

**EN 60204-1:2018, EN ISO 12100:2010**

**IEC 62321-3-1-2013, IEC 62321-5-2013, IEC 62321-5-2013, IEC 62321-4-2013+A1:2017, IEC 62321-7-2:2017, IEC 62321-7-1:2015, IEC 62321-6:2015, IEC 62321-8:2017**

Certificate No.: ICR/VC/HS2601136(ATL-4SHU), HS202601232165, HS202601232163

Test Report No.: HS202601232165-1ER, HS202601232163-1ER

| | |
|---|---|
| **Manufacturer** | Shenzhen AUTOOL Technology Co, Ltd. |
| | Floor 2, Workshop 2, Hezhou Anle Industrial Park, Hezhou Community, Hangcheng Street, Bao'an District, Shenzhen<br>**Email:** aftersale@autooltech.com |
| **EC REP** | Company: XDH Tech |
| | Address: 37 passage du Ponceau Bureau 270, Paris, France<br>Email: xdh.tech@outlook.com<br>Contact Person: MUHAMMAD HAFEEZ ARSHAD |
| **UK REP** | Company: GSG CONSULTING GROUP LIMITED |
| | Address: Montague houses unit 3 Matthew street, Manchester<br>Email: GSG--GROUP@outlook.com |

AUTOOL®

**AUTOOL TECHNOLOGY CO.,LTD**

www.autooltech.com

aftersale@autooltech.com

+86-755-2330 4822 / +86-400 032 0988

Unit 1303, Building 1, Runzhi R&D Center,
Bao'an, Shenzhen, China