Masterlift

46AT

SUPER NARROW



MASTERLIFT.COM.AU

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Danger

Non-compliance with the instructions and safety rules in this manual will lead to death or serious injury events.

Can not operate unless:

☑You have learned and practiced the rules of safe operation of machines in this operating manual.

1 Avoid dangerous situations.
Know and understand the safety rules before proceeding to the next step.

2 Always perform checks before operation.

3 Always perform function tests before use.

4 Check the workplace.

5 Use the machine only according to its design intent.

☑shall read, understand and comply with manufacturer instructions and safety rules ——— safety operating manuals and machine stickers.

☑shall read, understand and comply with user safety rules and work site regulations.

☑must read, understand and comply with all applicable government laws and regulations.

☑you are properly trained to operate the machine safely.

Classification of hazards

The symbols, color marks and symbolic characters used in the products are as follows:

⚠A safety warning sign —— used to warn of personal injury. comply with all safety prompt information after the sign to avoid possible person injury or death. DANGER Red indicates dangerous situation. If not avoided, it will result in death or serious injury. Warning Orange indicates a dangerous situation. If avoided, it may result in death or serious personal injury. Careful Yellow indicates a dangerous situation. If not avoided, it may cause minor or

moderate personal injury.

ATTENTION Blue indicates a dangerous situation. If not avoided, may result in property loss.

Design purpose

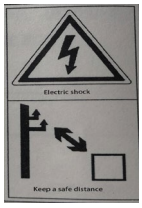
The use of this machine is limited to lifting personnel and their tools and materials to the air workplace.

Security marking maintenance

Replace any missing or damaged safety signs so that the operator always keeps safety in mind.
Use neutral soap and water to clean the safety signs.
Do not use solvent-based cleaners as such cleaners may damage the material of the safety mark.

Electrical hazard

This machine is not insulated and does not provide electric shock protection when touching or near the wire.



Maintain adequate safety distance from power cord and power equipment as stated in applicable government laws and regulations and the following table.

Voltage voltage	Required clearance
~300 V	No Touch
300V~50 KV	3.05 m
50KV~ KV 200	4.60 m
200KV~350 KV	6.10 m
350KV~ KV 500	7.62 m
500KV~750 KV	10.67 m
750KV~1000 KV	13.72 m

The influence of strong wind or gust on the movement of the platform, the swing of the wire and the relaxation should be considered.
Keep away from the machine if the machine touches live wires. Before cutting off the power supply, people on the ground or platform are forbidden to touch or operate the machine.
Do not operate the machine when there is lightning or storm.
Do not use the machine as a ground wire during welding.

Risk of tipping

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

Maximum load - 68AT			
Maximum capacity (outdoor)	**2 persons**	Maximum capacity (indoor)	**2 persons**
Maximum working load of extended platform	**113 kg**	Maximum Platform Load	**450 kg**
Maximum load - 810AT			
Maximum capacity (outdoor)	**2 persons**	Maximum capacity (indoor)	**2 persons**
Maximum working load of extended platform	**113 kg**	Maximum Platform Load	**450 kg**
Maximum load - 1012AT			
Maximum capacity (outdoor)	**2**	Maximum capacity (indoor)	**2 persons**
Maximum working load of extended platform	**113 kg**	Maximum Platform Load	**320 kg**
Maximum load - 1214AT			
Maximum capacity (outdoor)	**2**	Maximum capacity (indoor)	**2 persons**
Maximum working load of extended platform	**113 kg**	Maximum Platform Load	**320 kg**

Platform Retraction Platform extension



Extension platform only Platform only

Work area security

Only on a solid, flat horizontal ground can lift the platform. The equipment can not walk when the platform rises

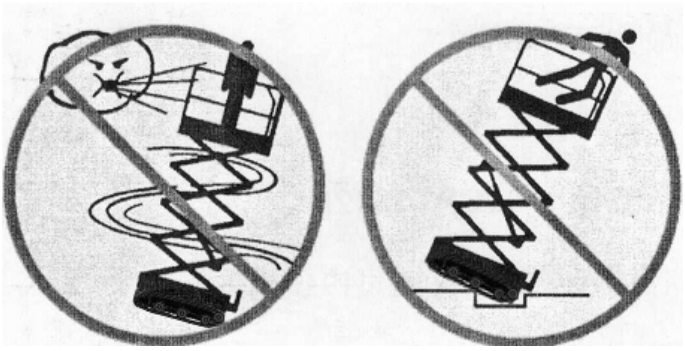
Security rules

do not use the tilt alarm as a horizontal indicator. Only when the machine is heavily tilted will the tilt alarms of the chassis and platform ring.

If the tilt alarm rings:
Lower the platform. Move the machine to a solid horizontal ground. If the tilt alarm rings when lifting the platform, be careful to lower the platform.

For outdoor use, the platform can not be raised when the wind speed may be greater than 12.5 m/s. If the wind speed exceeds 12.5 after rising m/s, the platform should be lowered immediately and the machine can not continue to operate.

The machine can not be operated when strong wind or gust. can not increase the surface area of the platform or load. Increasing the area exposed to the wind will reduce the stability of the machine.



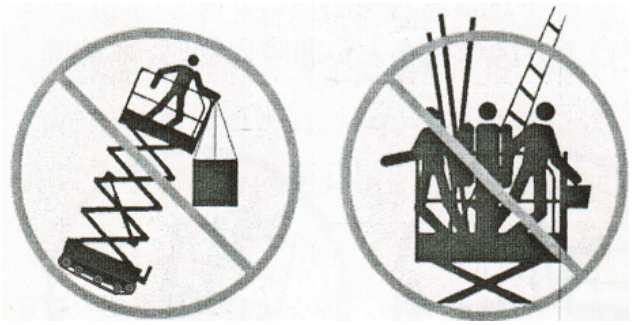
Do not use the platform controller to release the platform when the platform is tripped, jammed, or other objects nearby prevent it from moving normally. All personnel must leave the platform before attempting to release the platform using a ground controller.

In closed state, the machine should be very careful and reduce speed when traveling in uneven terrain, gravel, unstable or smooth surfaces, near openings and steep slopes.
In the ascending state, the machine can not travel under uneven terrain, instability or other dangerous conditions.
No object outside the platform can be pushed or pushed



Model	Applicable occasions	Maximum manual force	Maximum number of crew members
68AT	Indoor	400N	2
	Outdoor	400N	
810AT	Indoor	400N	2
	Outdoor	400N	
1012AT	Indoor	400N	2
	Outdoor	400N	
1214AT	Indoor	400N	2
	Outdoor	400N	

Can't use the machine as a crane. can not be placed, tied fixed or suspended loads on any part of the machine. can't push machine or other object with platform. can not operate the machine with chassis tray open. the platform and adjacent buildings can not be leaned together. the limit switch can not be changed or disabled. the platform can not be bundled on adjacent components. the load can not be placed outside the platform guardrail.



Do not modify or modify the aerial work platform without the written permission of the manufacturer. Installing additional devices on platforms, kick boards, or guardrails for tools or other materials increases platform weight and surface area or load. can not change or damage any parts that may affect machine safety and stability.

The key parts that affect the stability of the machine can not be replaced with parts of different weights or specifications.

No ladder or scaffold can be placed inside the platform or against any part of the machine.

Only tools and materials that are evenly distributed and can be safely moved by people on the platform can be transported.

Do not use machines on moving or moving surfaces and vehicles. Ensure all tires are in good condition and nuts are properly tightened.

Risk of smashing

Don't put your hands and arms close to areas that are in danger of being cut or crushed.
When folding railings, do not put your hands where they may be pinched.
Unplug the guardrail lock pin always hold the guardrail to prevent the platform guardrail
Down.
When operating the machine with a controller on the ground, maintain normal judgment and have planning. keep a safe distance between the operator, the machine and the fixed object.

Danger of operation on slopes

Do not exceed machine slopes and side slopes rated for slopes
To drive the machine. The ramp rating applies to machines in closed state.

Type	closure status	Closing status
	Max ramp rating	Max slope rating
68AT	**30%(16.7°)**	**30%(° 16.7)**
810AT	**30%(16.7°)**	**30%(° 16.7)**
1012AT	**30%(16.7°)**	**30%(° 16.7)**
1214AT	**30%(16.7°)**	**30%(° 16.7)**

Note: Slope ratings are limited by ground conditions and traction.

Risk of falling

During operation, the staff on the platform must wear a full body safety device and fasten it to the approved rope fixing point with a seat belt hook. Each rope fixing point can only tie a hook.
Do not climb or sit on the fence of the platform. Stand steadily on the platform floor at all times.

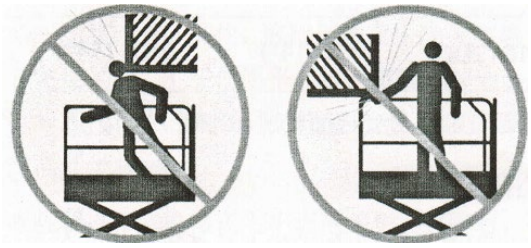


When the platform rises, can not climb down from the platform.
keep the platform floor free of debris.
Please close the entrance door before operation.
If the fence is not properly installed, or the entrance door can not guarantee safe operation, please do not operate the machine.
Do not enter or leave the platform unless the machine is closed.

Risk of collision



When starting or operating the machine, attention should be paid to the sight range and the existence of blind spots.
Please pay attention to the position of the extension platform when moving the machine.
Check the work area to avoid obstacles or other possible hazards overhead.



When grasping the platform fence, be careful of the danger of squeezing.

Users must follow the rules of the employer, workplace and government laws and regulations regarding the use of personal protective equipment.

The driving and steering function direction arrows on the platform controller and platform sticker nameplate shall be observed and used.

The machine can not be operated on the route of any crane or moving overhead machinery unless the crane controller is locked and/or precautions have been taken to prevent any potential collision.

When operating the machine, do not dangerous driving or playful operation.
Only when there are no people and obstacles in the area below the platform can the platform be lowered.



Based on ground conditions, congestion, slope, people
position of the member, and any other factors that may cause the collision, limiting the travel speed.

Hazard of component damage

Can not use any battery charger more than 48 V to charge the battery. Do not use the machine as a ground wire during welding.

Explosive and fire hazards

Do not use or charge machines where flammable or explosive gases or particles may be present.

Danger of machine damage

Do not use machines that have been damaged or malfunctioned.

Before each change of work, the machine should be thoroughly checked before operation, and all functions should be tested. The damaged or faulty machine should be marked immediately and stop operation.

Ensure that all maintenance operations have been carried out in accordance with the provisions in this manual.

Ensure that all labeling positions are appropriate and easy to identify.

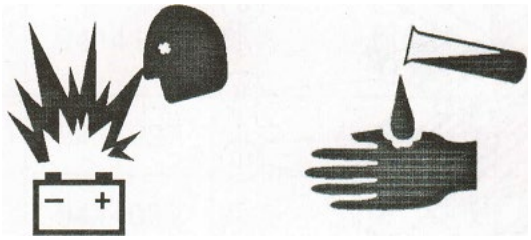
Ensure that this manual is kept in the manual box in the platform.

Risk of physical injury

Do not operate the machine when hydraulic oil or air leaks. Hydraulic oil or air leakage may penetrate or burn the skin.
Error touching any component below the cover will cause serious injury. Only trained maintenance personnel can repair the compartment, it is recommended: only during the inspection before operation, by the operator to repair. All compartments must remain closed and locked during operation.

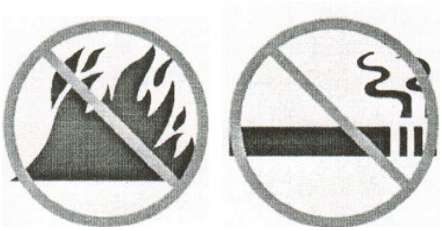
Battery Safety

Burning hazards



The battery contains acid. Wear protective clothing and protective glasses when using batteries. Avoid acid spillage or contact with batteries. Use soda and water to neutralize spilled battery acidity.

Explosive hazard



I The battery can release explosive gas.

The battery tray should remain open throughout the charging period.

Do not use tools that may cause sparks to contact battery terminals or cable clips.

Hazard of component damage

Can not use any battery charger more than 48 V to charge the battery.

Electric shock/burn hazards



Only the battery charger can be connected to the grounded AC 3-wire power outlet.

Daily check cable, cable and wiring for damage. Replace damaged items before operation.

Avoid electric shock due to contact with battery terminals. Remove all rings, watches and other accessories.

Risk of tipping

Can not use the weight less than the original battery. The battery not only plays a counterweight role in the chassis, but also is essential to maintain the stability of the machine. Each battery must weigh 28 Kg.

Danger of ascension

When lifting the battery, please use the appropriate number of people and lifting method.

Lock each time

1 Choose a safe parking position that can be a solid horizontal ground, free of obstacles and avoid heavy transportation.

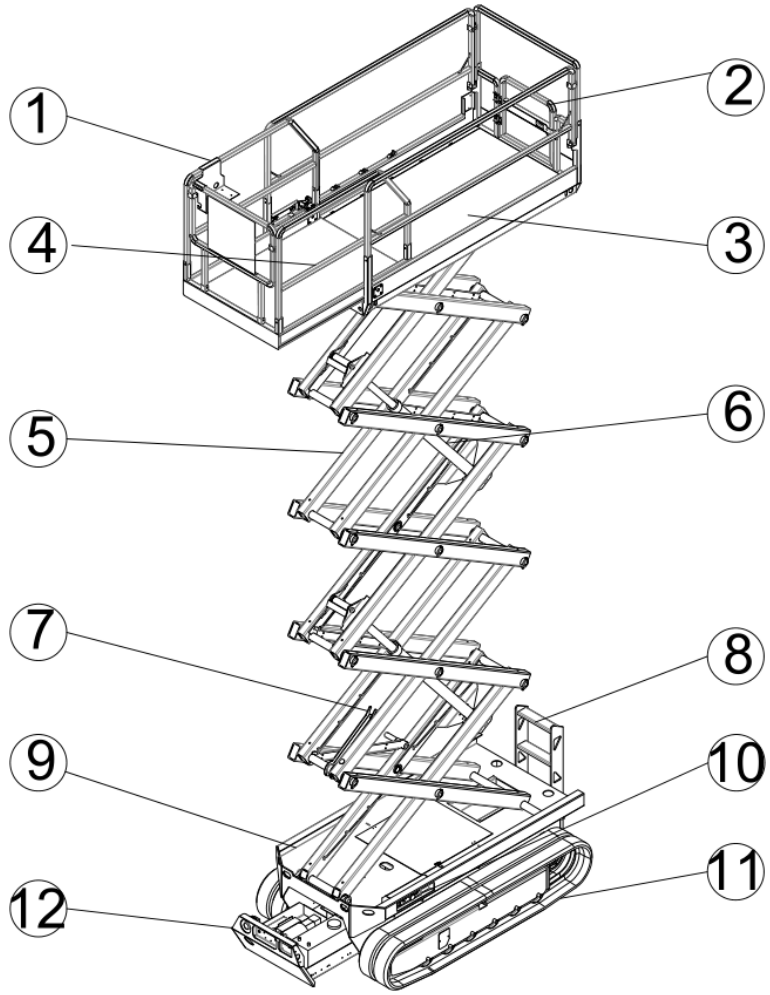
2 Decreased platform.

3 Turn the key switch to the "off" position and unplug the key to avoid unauthorized use.

4 Cushion the wheel with a wedge.

5 Charge the battery.

Legend



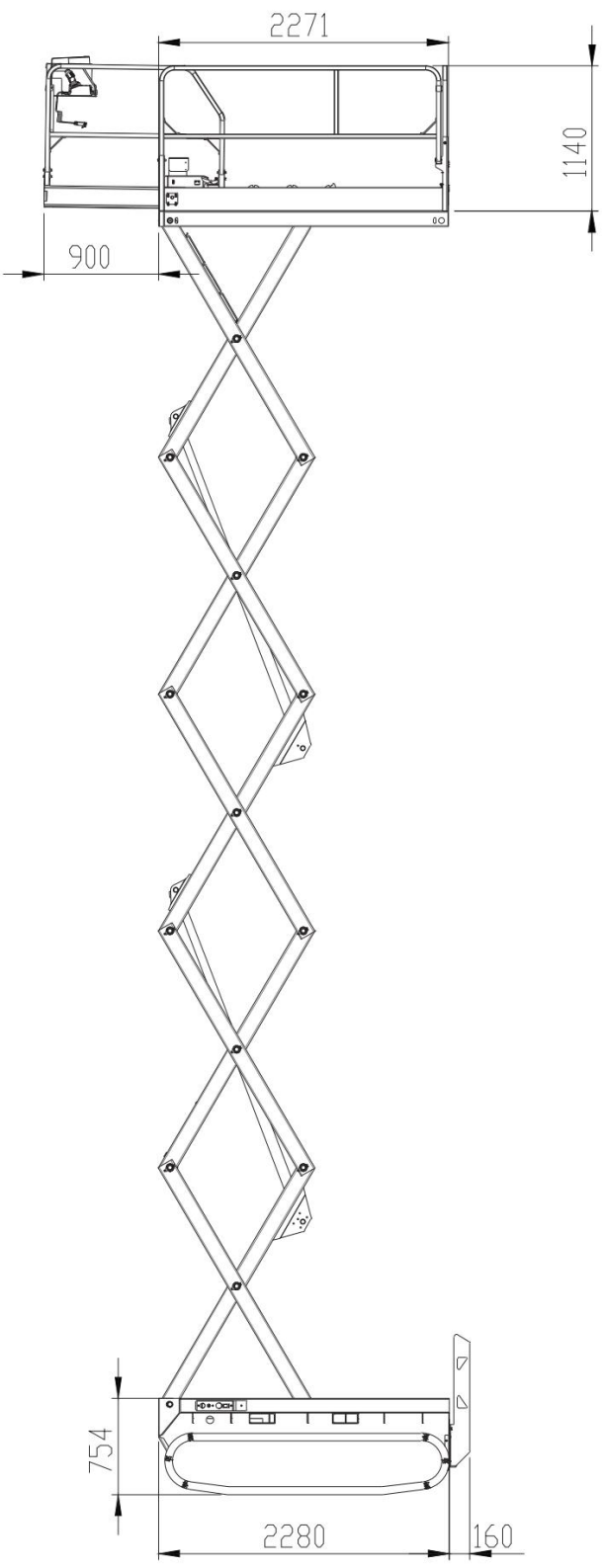
①Handle Box ②Platform Entrance Door

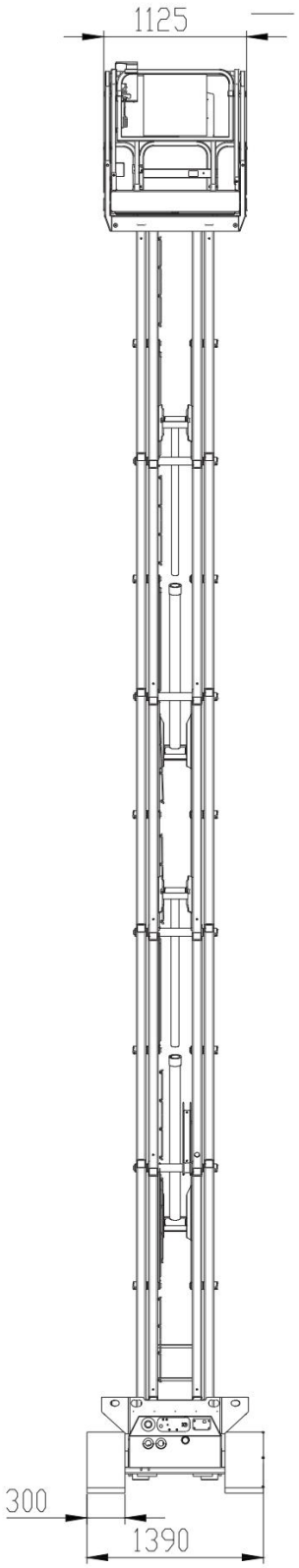
③Fixed Platform ④Extended Platform

⑤ Shears fork arm ⑥ Cylinder ⑦ Safety arm ⑧ Inlet ladder

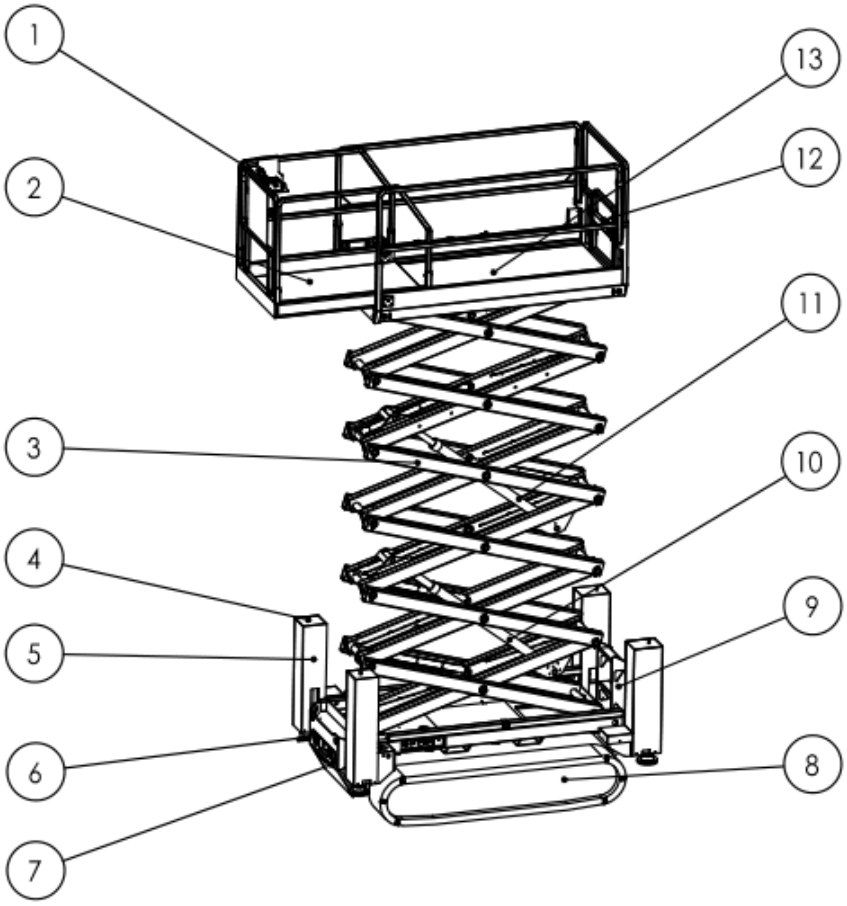
⑨ Chassis ⑩ Ground controller ⑪ Crawler ⑫ Drawers

Dimmension(mm)





Hydraulic support

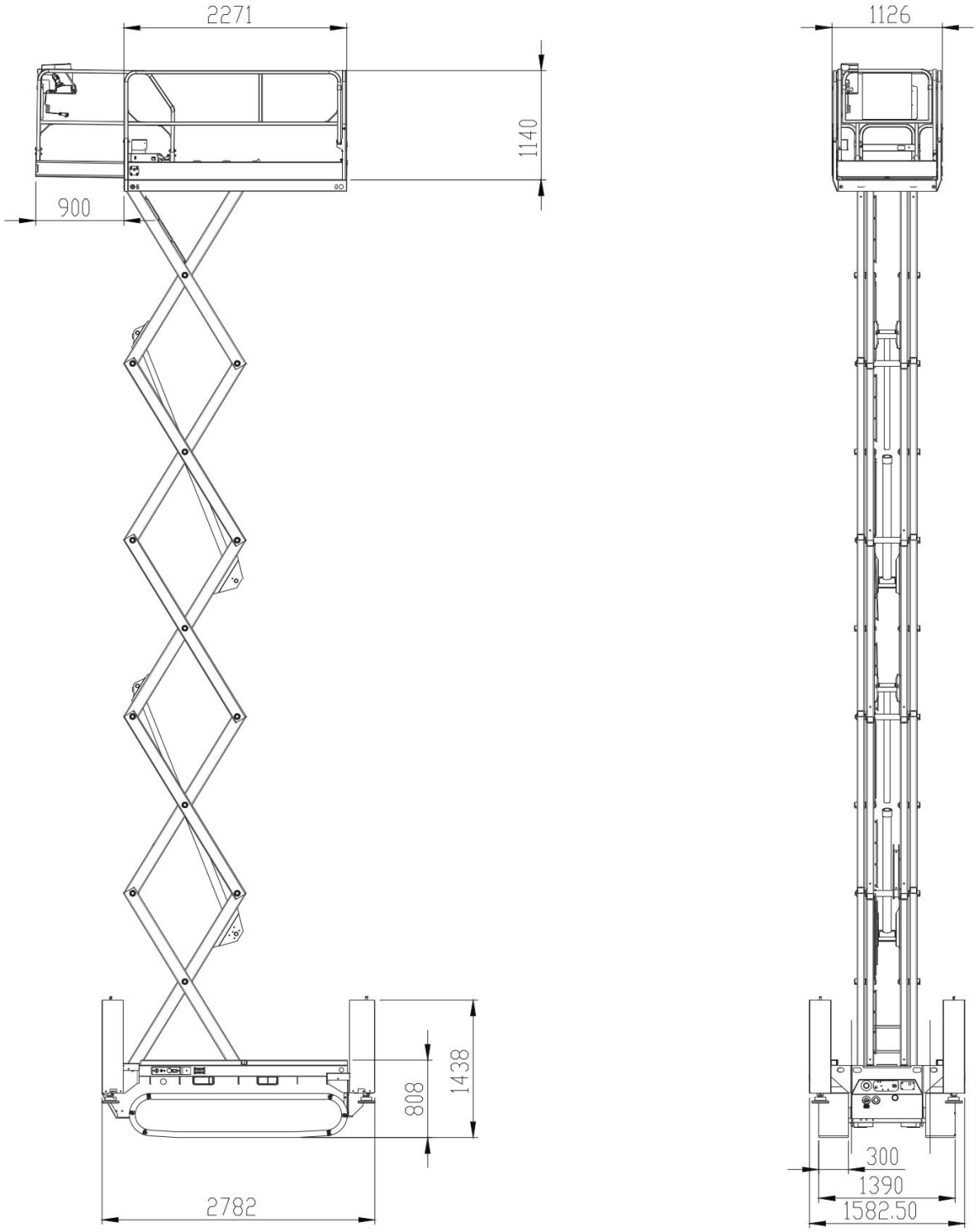


①Joystick box ②extension platform ③shear fork arm

④ guide column⑤ support leg cover ⑥support leg foot plate

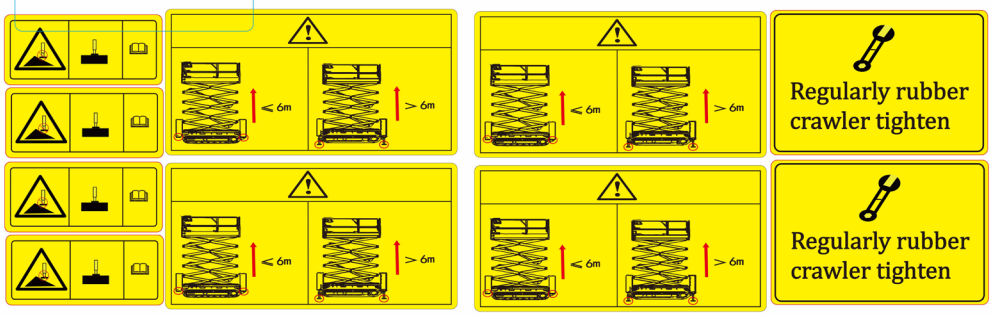
⑦ drawer ⑧ track chassis⑨ ladder ⑩ lower cylinder ⑪upper cylinder ⑫ platform door⑬ Fixed platform

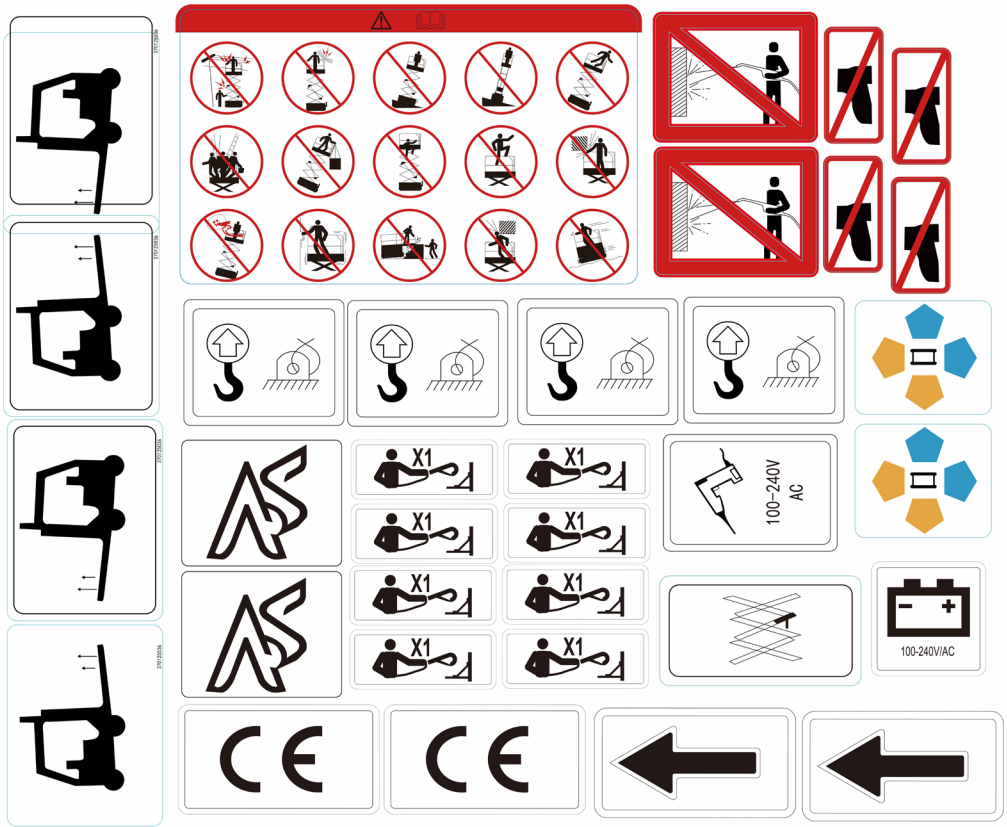
Dimmension(mm)

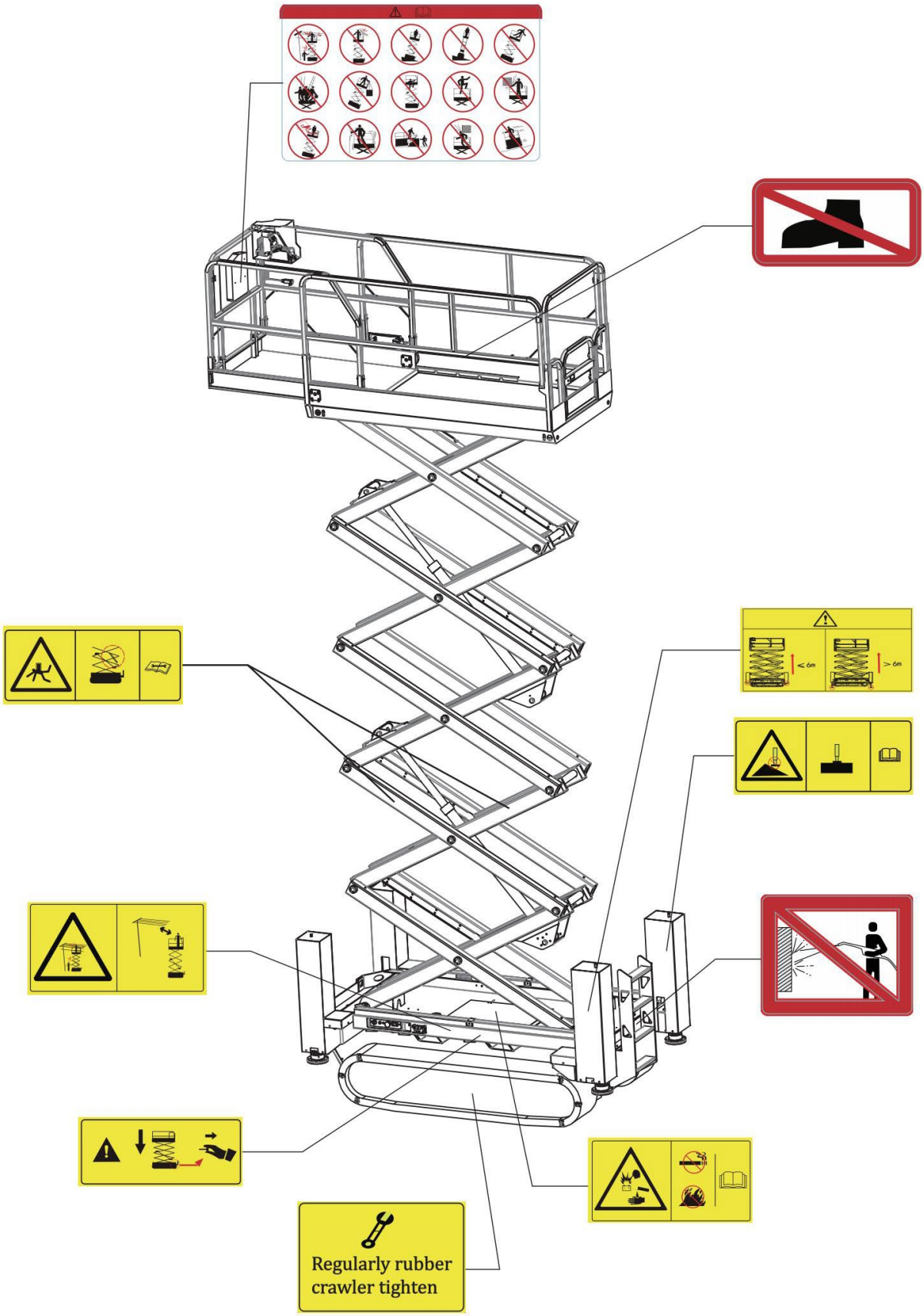


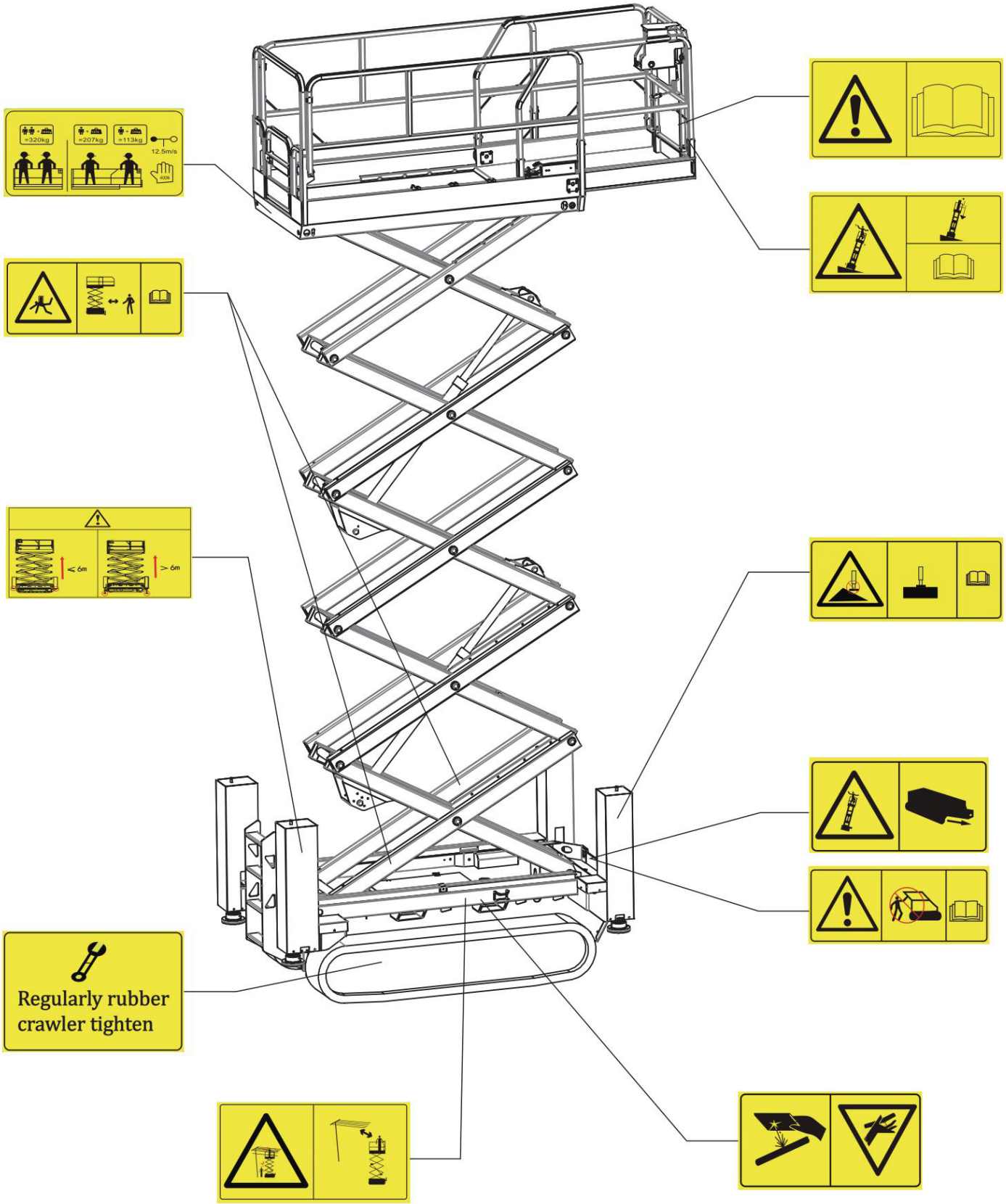
Symbol and Hazard Pictorials Definitions








Regularly rubber
crawler tighten


≈320kg
≈207kg
≈113kg
12.5m/s
< 6m
> 6m
Regularly rubber crawler tighten

Model 68AT

Maximum working height	8m		Platform AC socket (optional)	16A
Maximum platform height	6m		Maximum working pressure	mpa 24
Maximum height of stowed state (railing up)	2.275 m		Power supply voltage	48V
			Track size	2215X300mm
Maximum height of stowed state (railing down)	1.765 m		Air noise radiation Workspace operating normally Maximum noise level	< 80 dB (A level)
Platform Indent Length	2.27 m		Vibration value not exceeding	5.5 m/s^2
Platform extension length	3.17 m		Maximum ramp rating (stowed state)	30%
Platform size			Maximum slope rating (stowed state)	30%
（Length × width)	2.27×1.12 m		Note: Slope ratings are limited by ground conditions and traction	
Platform extension length	0.9 m		Maximum allowable tilt angle	X-2°, Y-3°
Rated load	450 kg		Drive speed	
Maximum allowable wind speed	12.5 m/s		Machine speed (closing)	2km/h
Weight (varies according to selection)	2400 kg		Machine speed (lift)	0km/h
Power supply			Ground carrying information	
	8×6 V/225Ah			
Controller	Proportion		Possession pressure	3.36kPa

Note: Ground bearer information is approximate information and different options configuration factors are not included. this information can be used only with a sufficiently high safety factor.

The information contained in the manual, technical parameters, legend and so on are the latest valid information when the manual is published. Due to the technological progress, product renewal and the improvement of the requirements of laws and regulations, Masterlift will reserve the right to update the technical parameters and related information without prior notice. if the technical parameters and information of this manual and your actual machine status can not be matched, please contact the regional distributor and agent of Masterlift in time for updated information.

Model 68AT

Maximum working height	8m
Maximum platform height	6m
Maximum height of stowed state (railing up)	2.275 m
Maximum height of stowed state (railing down)	1.765 m
Platform Indent Length	2.27 m
Platform extension length	3.17 m
Platform size （Length × width)	2.27×1.12 m
Platform extension length	0.9 m
Rated load	450 kg
Maximum allowable wind speed	12.5 m/s
Weight (varies according to selection)	2800 kg
Power supply	8×6 V/225Ah
Controller	Proportion

Platform AC socket (optional)	16A
Maximum working pressure	24 mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation Workspace operating normally Maximum noise level	< 80dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable tilt angle	X-2°, Y-3°
Drive speed	
Machine speed (closing)	2km/h
Machine speed (lift)	0km/h
Ground carrying information	
Possession pressure	3.44 kPa

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Model 810AT

Maximum working height	10 m
Maximum platform height	8 m
Maximum height of stowed state (railing up)	2.4 m
Maximum height of stowed state (railing down)	1.89 m
Machine width	1.39 m
Platform Indent Length	2.27 m
Platform extension length	3.17 m
Platform size (length × width)	2.27×1.12 m
Platform extension length	0.9 m
Rated load	450 kg
Maximum allowable wind speed	12.5m/s
Weight (varies according to selection)	2550kg
Power supply	8×6 V/225Ah

Controller	Proportion
Platform AC socket (optional)	16A
Maximum working pressure	24 mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation When the workspace is working properly Maximum noise level	< 80 dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable inclination angle	X-2°, Y-3°
Machine speed (closing)	2km/h
Machine speed (lift)	0km/h
Ground carrying information	
Possession pressure	3.62kPa

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Model 810AT

Maximum working height	10m
Maximum platform height	8m
Maximum height of stowed state (railing up)	2.4m
Maximum height of stowed state (railing down)	1.89m
Machine width	1.585m
Platform Indent Length	2.27 m
Platform extension length	3.17 m
Platform size (length × width)	2.27×1.12 m
Platform extension length	0.9m
Rated load	450kg
Maximum allowable wind speed	12.5m/s
Weight (varies according to selection)	2950kg
Power supply	8×6 V/225Ah

Controller	Proportion
Platform AC socket (optional)	16A
Maximum working pressure	24mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation When the workspace is working properly Maximum noise level	< 80dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable inclination angle	X-2°, Y-3°
Machine speed (closing)	2km/h
Machine speed (lift)	0km/h
Ground carrying information	
Possession pressure	4.52kPa

Note: Ground bearer information is approximate information and different options configuration factors are not included. this information can be used only with a sufficiently high safety factor. The information contained in the manual, technical parameters, legend and so on are the latest valid information when the manual is published. due to the technological progress, product renewal and the improvement of the requirements of laws and regulations, Masterlift will reserve the right to update the technical parameters and related information without prior notice. if the technical parameters and information of this manual and your actual machine status can not be matched, please contact the regional distributor and agent of Masterlift in time for updated information.

Model 1012AT

Maximum working height	12m
Maximum platform height	9.75m
Maximum height of stowed state (railing up)	2.525m
Maximum height of stowed state (railing down)	2.015 m
Machine width	1.39 m
Platform Indent Length	2.27 m
Platform extension length	3.17 m
Platform size (length × width)	2.27×1.12 m
Platform extension length	0.9 m
Rated load	320 kg
Maximum allowable wind speed	0m/s
Weight (varies according to selection)	2840kg
Battery	8×6 V/225Ah

Controller	Proportion
Platform AC socket (optional)	16A
Maximum working pressure	24mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation When the workspace is working properly Maximum noise level	< 80dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable inclination angle	X-2°, Y-3°
Machine speed (closing)	2km/h
Machine speed (lift)	0km/h
Ground carrying information	
Possession pressure	8.63kPa

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Model 1012AT

Maximum working height	12m
Maximum platform height	9.75 m
Maximum height of stowed state (railing up)	2.525 m
Maximum height of stowed state (railing down)	2.015 m
Machine width	1.585 m
Platform Indent Length	2.27 m
Platform extension length	3.17 m
Platform size (length × width)	2.27×1.12 m
Platform extension length	0.9 m
Rated load	320 kg
Maximum allowable wind speed	0m/s
Weight (varies according to selection)	2840 kg
Battery	8×6 V/225Ah

Controller	Proportion
Platform AC socket (optional)	16A
Maximum working pressure	24mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation When the workspace is working properly Maximum noise level	< 80dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable inclination angle	X-2°, Y-3°
Machine speed (closing)	2km/h
Machine speed (lift)	0km/h
Ground carrying information	
Possession pressure	9.24Pa

Note: Ground bearer information is approximate information and different options configuration factors are not included. this information can be used only with a sufficiently high safety factor. The information contained in the manual, technical parameters, legend and so on are the latest valid information when the manual is published. due to the technological progress, product renewal and the improvement of the requirements of laws and regulations, Masterlift will reserve the right to update the technical parameters and related information without prior notice. If the technical parameters and information of this manual and your actual machine status can not be matched, please contact the regional distributor and agent of Masterlift in time for updated information.

Model 1214AT

Maximum working height	13.8m
Maximum platform height	11.8m
Maximum height of stowed state (railing up)	2.75m
Maximum height of stowed state (railing down)	2.14m
Machine width	1.390m
Platform Indent Length	2.27 m
Platform extension length	3.17m
Platform size (length × width)	2.27×1.12 m
Platform extension length	0.9 m
Rated load	320kg
Maximum allowable wind speed	0m/s
Weight (varies according to selection)	3000kg
Power supply	8×6 V/225Ah

Controller	Proportion
Platform AC socket	16A
Maximum working pressure	24mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation When the workspace is working properly Maximum noise level	< 80dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable inclination angle	X-2°, Y-3°
Machine speed (closing)	2 km/h
Machine speed (lift)	0 km/h
Ground carrying information	
Possession pressure	8.63kPa

Note: Ground bearer information is approximate information and different options configuration factors are not included. this information can be used only with a sufficiently high safety factor. The information contained in the manual, technical parameters, legend and so on are the latest valid information when the manual is published. due to the technological progress, product renewal and the improvement of the requirements of laws and regulations, Masterlift will reserve the right to update the technical parameters and related information without prior notice. if the technical parameters and information of this manual and your actual machine status can not be matched, please contact the regional distributor and agent of Masterlift in time for updated information.

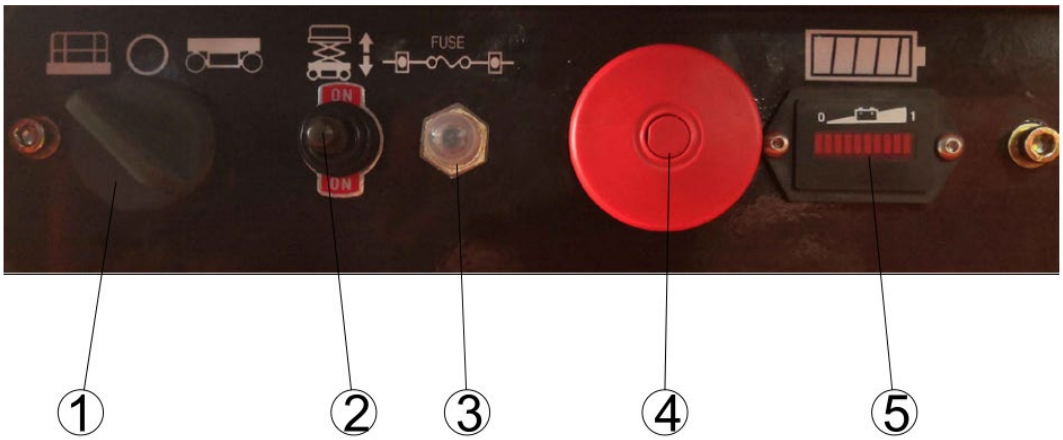
Model 1214AT

Maximum working height	13.8 m
Maximum platform height	11.8 m
Maximum height of stowed state (railing up)	2.75 m
Maximum height of stowed state (railing down)	2.14 m
Machine width	1.585 m
Platform Indent Length	2.27 m
Platform extension length	3.17 m
Platform size (length × width)	2.27×1.12 m
Platform extension length	0.9 m
Rated load	320 kg
Maximum allowable wind speed	0 m/s
Weight (varies according to selection)	3000kg
Power supply	8×6 V/225Ah

Controller	Proportion
Platform AC socket	16A
Maximum working pressure	24mpa
Power supply voltage	48V
Track size	2215X300mm
Air noise radiation When the workspace is working properly Maximum noise level	< 80dB (A level)
Vibration value not exceeding	5.5 m/s^2
Maximum ramp rating (stowed state)	30%
Maximum slope rating (stowed state)	30%
Note: Slope ratings are limited by ground conditions and traction	
Maximum allowable inclination angle	X-2°, Y-3°
Machine speed (closing)	2km/h
Machine speed (lift)	0km/h
Ground carrying information	
Possession pressure	8.63 kPa

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Ground controller

1. The key switch turns the key switch to the platform position, allowing the control operation on the platform; turns the key switch to the off position, and the machine will turn off. Turn the key switch to the ground position, allowing the ground to control the lift.

2. Switch up platform lift switch, platform will rise;Switch down platform lift switch, platform will fall.

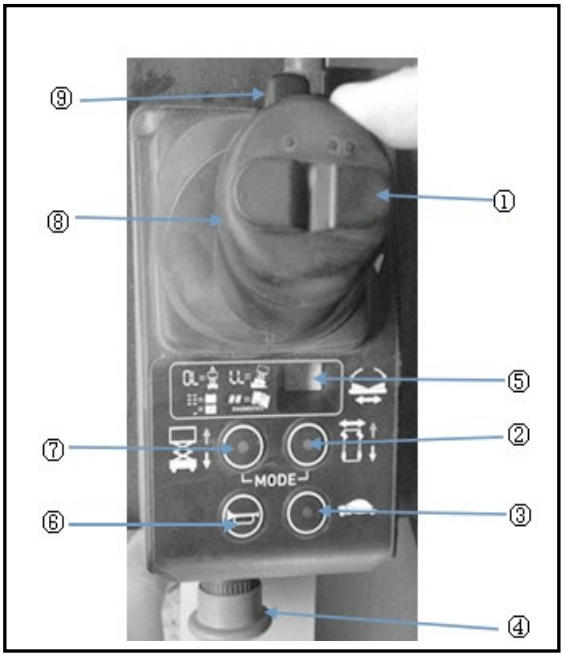
3. Self-reset fuse

4. Push the red emergency stop button inward to the "off" position to stop all functions. Turn on to "on" position, can operate the machine.

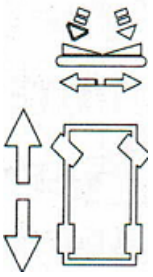
5. Electricity display.

Platform Controller

1. Thumb rocker switch
2. Driver function Select button
3. Drive Speed Select button
4. Red emergency stop button
5. LED
6. Horn button
7. Lift function selection button
8. Control handle
9. Function enable button



Platform Controller



1. The thumb rocker switch can activate the steering function by pressing the thu switch in either direction.

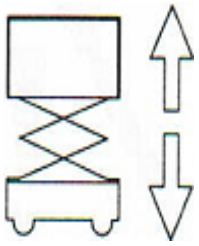
2. Press this button to activate the driver function.

3. Press this button to activate the slow or fast drive function.

4. Push the red emergency stop button inward to the "off" position to stop all functions. Turn on to "on" position, can operate the machine.

5. LED diagnostic reading device and battery charging indicator.

6. Press the horn button and the horn will ring. Release the horn button and the horn stops ringing.



7. Press this button to activate the lift function.

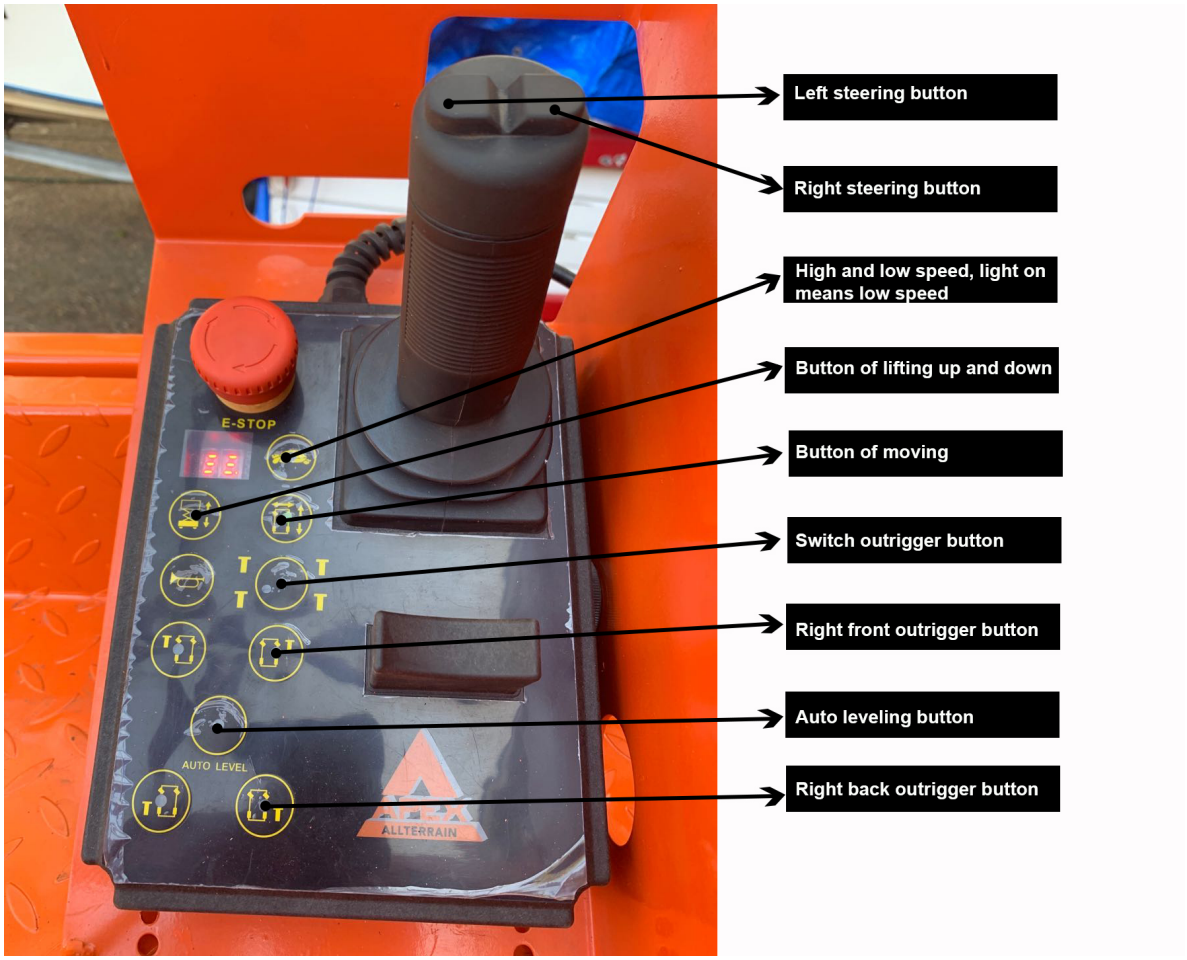
8. Control handles

9. Function Enable button

Lifting function: Hold down the function enable button on the platform control handle to enable the lifting function. move the control handle in the direction indicated by the blue arrow and the platform will rise. move the control handle in the direction indicated by the yellow arrow and the platform will drop. When the platform drops, the drop alarm should ring.

Drive function: Hold down the function enable button on the platform control handle to enable the drive function. move the control handle in the direction indicated by the blue arrow on the control panel, and the machine will move in the direction indicated by the blue arrow. move the control handle in the direction indicated by the yellow arrow on the control panel, and the machine will move in the direction indicated by the yellow arrow.

Platform Controller of crawler scissor lift with auto leveling legs



1,For walking action, press the Button of moving,holding the handle,Holding the handle, pushing the handle forward means walking forward, pulling the handle backward means going backward.

2,For Steering action, press the Button of moving, holding the handle,press the Right steering button means turn right,press the left steering button means turn left,

3,For lifting action, press the Button of lifting up and down, holding the handle,pushing the handle forward means lifting up, pulling the handle backward means lifting down.

4,To operate the track outrigger, press the Switch outrigger button.

4.1 Keep pressing the Right front outrigger button,do not release it.holding the handle,pushing the handle forward means close the outrigger, pulling the handle backward means open the outrigger.

4.2 Same operation of other three outriggers.

4.3 Keep pressing the auto leveling button,do not release it.holding the handle,pushing the handle forward means close the outrigger, pulling the handle backward means open the outrigger. (The four outriggers are automatically leveled, and the buzzer will prompt when the leveling is in place).

4.4 When the indicator light on a certain outrigger button is on, it means the outrigger touches the ground.

5,Remarks:
After pressing the switch outrigger button, when you want to operate the walking and lifting actions again, you need to press the outrigger switch button again first.



Can not operate unless:

You have learned and practiced the rules of safe operation of machines in this operating manual.

1.Avoid dangerous situations.

2.Always perform checks before operation.

Check before proceeding to understand the operation.

3.Check the workplace.

4.Always perform function tests before use.

5.Use the machine only according to its design intent.

Basic principles

It is the responsibility of the operator to perform inspection before operation and routine maintenance. Inspection before operation is an intuitive inspection process performed by the operator before each change of work. The purpose of the inspection is to find out whether the machine has obvious problems before the operator performs the function test.

Checks before operation can also be used to determine whether routine maintenance procedures are required. the operator can only perform routine maintenance items specified in this manual.

Please review the list in the next page and check each item.

If damage or any unauthorized change different from ex-factory status is found, the machine should be marked and stopped.

Only qualified maintenance technicians can repair the machine according to the manufacturer's regulations. After maintenance, the operator must check again before performing the operation before continuing the function test.

Regular maintenance inspections shall be performed by qualified maintenance technicians according to the specification parameters and manual requirements provided by the manufacturer.

Check the whole machine for:

☐ Cracks in welds or structural parts
☐ Dent or damage to the machine
☐ Ensure that all structural and other critical components are complete, all relevant fasteners and pins are in the correct position and tightened.
☐ Guardrail is installed, guardrail pin is installed in place and bolts are properly tightened.
☐ Ensure chassis battery tray and oil pump tray are closed and locked, battery link is correct.

Inspection before operation

☐ Ensure that the manual is complete, easy to read and kept in the manual box in the platform.
☐ Ensure all stickers are clear, legible and properly positioned. Refer to the "label" section.
☐ Check whether the hydraulic oil is leaking and whether the oil level is appropriate, and refuel as needed. Refer to the "maintenance" section.
☐ Check whether the battery fluid is leaking and whether the liquid level is appropriate. Add distilled water as needed. Refer to the "maintenance" section. Check the following parts or areas for damage, improper installation or missing parts and unauthorized changes:
☐ Electrical components, wiring and cables
☐ Hydraulic hoses, joints, hydraulic cylinders and hydraulic valve blocks
☐ Batteries and connections
☐ Drive motor/motor
☐ Wear-resistant sliders and liners
☐ Tracks and chains
☐ Ground lead
☐ Limit switches, alarms and horns
☐ Nuts, bolts and other fasteners
☐ Platform overload components
☐ Platform entrance gate
☐ Indicator lights and alarms (if equipped)
☐ Safety arm
☐ Extension platform
☐ Clip arm pins and fasteners
☐ Platform control handle
☐ Brake Release Parts
Note: If the platform must be raised to check the machine, make sure the safety arm is in the correct position.



Basic principles

Workplace inspection helps the operator decide whether the workplace can guarantee safe operation of the machine. The operator should do this first before moving the machine to the workplace.

Understanding and remembering workplace hazards is the responsibility of the operator, which can be noted and avoided when moving, installing and operating the machine.

Workplace inspections

Beware and avoid the following dangerous situations:

- steep slopes or caves
- protrusions, ground obstacles or debris
- Tilt surface
- Not firm or smooth surface
- Air obstacles and high voltage wires
- Dangerous places

Surface support not sufficient to withstand the full load applied by the machine

Wind and weather conditions

- The presence of unauthorized personnel

Other possible insecurity

Can not operate unless:

You have learned and practiced the rules of safe operation of machines in this operating manual.

1.Avoid dangerous situations.

2.Always perform checks before operation.

3.Check the workplace.

4.Always perform function tests before use.

5.Use the machine only according to its design intent.

Check before proceeding to understand and understand the operation.

Basic principles

The function test is used to detect faults before starting to use the machine.

The operator must follow the step instructions to test all functions of the machine.

Do not use faulty machines. If a fault is found, the machine must be marked and stopped using. Only qualified maintenance technicians can repair the machine according to the manufacturer's regulations.

After maintenance, the operator must perform the inspection and function test again before starting to use the machine.

1.Select a solid, horizontal and barrier-free test area.

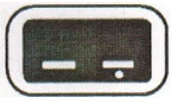
2.Make sure the battery pack is connected.

On the ground controller

3.Pull the red emergency stop button on the platform and ground to "on" position.

4.Transfer the key switch to the ground controller.

5.Observe the LED on the platform controller

Diagnostic reading device. 

○ result: LED should be as shown on the right.

Test emergency shutdown

6.Push the ground red emergency stop button inward to "off" position.
○ result: no function can run.
7.Pull out the red emergency stop button to the on position.

Test Up/down function and function enable

The central alarm system controls the alarm sounds issued by the buzzer at different frequencies. Drop alarm sounds 60 times a minute. The pit protection device is not in place and the alarm sounds 150 times a minute when the machine is tilted. An optional car horn can also be provided.
8.Turn the key switch to the platform control or off position.
9.Dial and hold the platform lift switch.
○ result: the platform does not rise.
10.Turn key switch to ground control position.
11.Pull up and hold the platform lift switch.
○ result: platform should rise.
12.Dial and hold the platform lift switch.
○ result: platform should be down. When the platform drops, the drop alarm should ring. Platform drop to 2m when stop drop.
13.Once again dial and hold the platform lift switch.

○ result: the platform should be dropped to the lowest position. When the platform drops, the drop alarm should ring.

Test aid drop

14.Platform lift switch up platform lift about 60 cm.
15.Pull out the emergency drop control button on the side of the machine entry ladder.
○ result: platform should be down. Drop alarm doesn't ring.
16.Turn the key switch to the platform controller.

Testing on platform controllers

Emergency shutdown

17.Push platform red emergency stop button to "off" position.
○ result: all functions will not run.
18.Pull out the red emergency stop button to "on" position.
○ result: LED diagnostic reading device indicator light will turn on.

Test horn

19.Press the horn button.

○ result: the horn will honk.

Test Up/down function and function enable

20.Do not hold the function enable button on the control handle

21.Slowly move the control handle in the direction indicated by the blue arrow and then in the direction indicated by the yellow arrow.

○ result: all functions will not run.

22.Press the Up function selection button.

23.Hold down the function enable button on the control handle.

24.Release control handle.

○ result: the platform should stop rising.

25.Hold down the function enable button. slowly move the control handle in the direction indicated by the yellow arrow.

○ result: platform should be down. When the platform drops, the drop alarm should ring.

Test steering

Note: When performing steering and driving function tests, stand on the platform, facing the steering end of the machine.

26.Press the drive function selection button and the indicator light is on.

27.Hold down the function enable button on the control handle.

28.Press the thumb rocker switch at the top of the control handle in the direction indicated by the left arrow on the control panel.

○ result: the steering wheel should rotate in the direction indicated by the left arrow on the control panel.

29.Press the thumb rocker switch in the direction indicated by the right arrow on the control panel.

○ result: the steering wheel should rotate in the direction indicated by the right arrow on the drive chassis.

Test drive and brake function

30.Hold down the function enable button on the control handle.

31.Follow the direction indicated by the upward arrow on the control panel, slowly move the control handle until the machine begins to move, then restore the handle to the center position.

○ result: the machine should move in the direction indicated by the upward arrow on the control panel and then stop suddenly.

32.Hold down the function enable button on the control handle.

33.Follow the direction indicated by the down arrow on the control panel, slowly move the control handle until the machine starts moving, then restore the handle to the center position.

○ result: the machine should move in the direction indicated by the down arrow on the control panel and then stop suddenly.

Note: The brakes must be able to hold the machine on any slope that can be climbed.

Test tilt sensor operation

Note: This test is performed on the ground with a platform controller. Don't stand in the platform.
36.Fully down the platform.
37.Two wheels on one side are driven to a 5.5×20 cm pad.
38.Platform lift up at least 2 m.
○ result: the platform should stop moving and the tilt alarm should be sounded 150 times per minute.
39.Move the drive control handle in the direction indicated by the upward arrow, and then move in the direction indicated by the downward arrow.
Result: The drive function should not work in either direction.
40.Lower the platform and drive the machine away from the barrier.



Can not operate unless:

You have learned and practiced the rules of safe operation of machines in this operating manual.

1.Avoid dangerous situations.

2.Always perform checks before operation.

3.Check the workplace.

4.Always perform function tests before use.

5.Use the machine only according to its design intent.

Basic principles

The machine is a self-propelled hydraulic lifting device equipped with a working platform on the cutting fork mechanism. The vibration generated when the machine works is not dangerous for the operator standing on the working platform. This machine can be used to load the staff and their tools to a certain height from the ground, or to a work area above the machine or equipment.

Only trained and authorized personnel can operate the machine. if more than one operator uses the same machine at different times of the same work shift, then they must all be qualified operators and follow all safety rules and instructions on the operation maintenance manual. This means that every new operator should perform checks before operation, function test and workplace check before using the machine.

SISTEMA is an analysis and diagnosis of the reliability of the subsystems that make up the machine, software to determine whether the safety grade (PL grade) of the whole machine meets the requirements of the machine safety grade in clause 5.11 of the EN280 standard.

Using SISTEMA software to evaluate and analyze MEWP series of products produced by Masterlift and its safety level fully meets the requirements of EN280 Standard 5.11,

Compliance ENIS0 Requirements in security standards 13849-1⁄2. And also meet AS/NZS 1418.10:2011 requirments

The operation instructions section provides specific instructions for all aspects of machine operation. It is the responsibility of the operator to follow all safety rules and instructions on the operation maintenance manual.

In addition to lifting personnel and their tools and materials to the air workplace, the use of this machine for other purposes is unsafe or even dangerous.

Emergency shutdown

Push the red emergency stop button of the ground or platform controller to the "off" position to stop all functions.

Repairing of any operation function shall be performed when pressing the red emergency stop button.

Emergency decline

1. pull the emergency drop control knob outward.

Operate on the ground

1. Turn the key switch to the ground controller position.
2. Pull out the red emergency stop button of both the ground and platform to the "on" position.
3. Make sure batteries are well connected before operating the machine.

Adjust the platform position

Move the platform lift switch according to the mark on the control panel. Drive and steering function is unable to use via ground controller.

Operating on the platform

1. Turn the key switch to the platform controller.
2. Pull out the red emergency stop button of both the ground and platform to the "on" position.
3. Make sure the batteries are well connected before operating the machine.

Adjust the platform position

1. Press the ‘UP’ button.
2. Hold the function enable button on the joystick.
3. Move the joystick according to the mark on it.

Steering

1. Press the drive function button.
2. Hold the function enable button on the joystick.
3. Turn the tracked scissor lift with the thumb rocker switch located at the top of the control handle.

Drive

1.Press the drive function button.

2.Hold the function enable button on the joystick.

3.Increase speed: Slowly move the joystick to move away from the center position.

Reduce speed: Slowly move the joystick to move towards the center position.

Stop: Make the joystick back to center position or release the function enable button.

Use the joystick and the direction arrows on the platform to determine the direction of the

machine.

The machine movement speed is limited when the platform rises. The state of batteries will affect the performance of the machine. When the level indicator light of the battery flashes, the drive speed and function speed of the machine will decrease.

Drive Speed Selection

The drive controller can be operated in two different drive speed modes. The slow drive speed mode is active when the drive speed selection button lights up. The fast drive speed mode is active when the drive speed selection button light goes out. Press the drive speed selection button to select the desired drive speed.

Driving on slopes

Determine the slope and side slope rating and slope gradient
of the machine. **68AT, 810AT, 1012AT, 1214AT**

Maximum slope rating, 30% @ stowed position

Maximum slope rating ,30% @stowed position

Note: Slope ratings are limited by ground conditions and traction effect.

Press the drive speed selection button to select fast drive speed mode.

Determination of slope gradient:

Measure slopes with a digital in clinometer or follow the following steps.

You need the following tools:

Woodworking ruler

A straight block at least 1m length

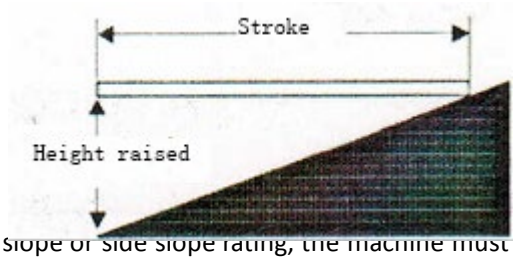
Tape

Place the block on the slope.

At the end of the downhill, place the woodworking ruler on the upper edge of the block and lift the end of the block until horizontal.

Keep the block level and measure the distance from the bottom of the block to the ground.

Divide the length (stroke) of the block by a tape measure distance (raised height) and multiply by 100.



For example:

Stroke =3.6 m

Height rise =0.3 m

0.3 m÷3.6 m=0.083 X 100m=8.3%

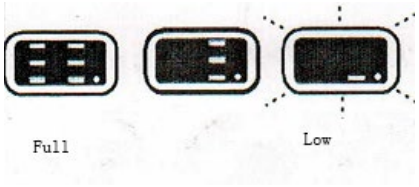
If the slope gradient exceeds the maximum slope or side slope rating, the machine must be lifted up or transported up and down along the slope. Please refer to "shipping and lifting" section.

Operate with a controller on the ground

Keep a safe distance between the operator, machine and fixed object.

Attention should be paid to the direction of the machine when using the controller.

Battery level indicator



Determine battery level using LED reading device.

Use of Safety Arm

1. Raise platform to about 2.5 m high from the ground.
2.Lift the safety arm, move it to the middle of the shaft sleeve, and rotate upward to the vertical state.
3. Reduce the platform height until the safety arm is in safe contact with the shaft sleeve. When lowering the platform, keep away from the moving part.

⚠ Danger no load on the platform when using safety arm support.

How to fold the guardrail

The platform guardrail system contains a folding guardrail part of an extension platform and a folding guardrail part of a main platform. All parts are fixed in proper positions by four wire lock pins.
1. Completely lower the platform and indent the extended platform.
2. Remove the platform controller.
3. From the inside of the platform, remove the two wire lock pins at the front of the extension platform.
4. Fold front guardrail parts of the extension platform inward. Don't put your hands where they might get caught.
5. Install the two removed pins back to each side of the guardrail bracket.
6. Turn inward and extend the right guardrail of the platform. Do not put your hand where it may be clamped.
7. Turn inward and extend the left guardrail of the platform. Do not put your hand where it may be clamped.
8. Carefully open the door and move to a ladder or ground.
9. Remove the wire lock pin at the back of the right guardrail of the main platform.
10. Fold the right guardrail component of the main platform from a ladder or ground. Don't put your hands where they might get caught.
11. Install the removed pins back into the guardrail bracket.
12. Remove the wire lock pin at the rear of the left guardrail of the main platform.
13.Fold the left guardrail part of the main platform. Don't put your hands where they might get caught.
14. Install the removed pins back into the guardrail bracket.
15. Flip the rear fence forward and do not place your hands where they may be caught.

How to raise the guardrail

follow the guardrail folding instructions, but in reverse order.

Extend and Indent Platform

1. Put your foot on the positioning pedals on the extension platform.
2. Push to extend the platform guardrail and extend the platform to the desired position.

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

Fault code

Please pull the emergency stop button back and forth if LED diagnostic reading device displays error code (e.g. LL) to enable system reset.

Table 2： Error code

Display	Description	Machine reaction
01	Error in system initialization (may display 10 in PCU)	Stop all actions
02	Error in system communication (may display 20 in PCU)	Stop all actions
03	Invalid option setting error	Stop all actions
10	You can see on the PCU: System initialization error	Stop all actions
12	Open error for chassis rise or fall button when started	Stop chassis operation
31	Pressure sensor error	Stop all actions
32	Angle sensor error	Stop all actions
42	Left turn button error when started	Just alarm
43	Right turn button error when started	Just alarm
46	Error in handle action when started	Stop platform operation
47	Joystick is not zero position when started	Just alarm
54	Lifting coil error	Stop lifting and walking
55	Descending coil error	Stop lifting and walking
58	Brake coil error (now temporarily shielded because brake coil has no output)	Stop lifting and walking
68	Low Voltage Alarm	Stop all actions
80	Over 80% Load Alarm	Only alarm
90	Over 90% Load Alarm	Only alarm
99	Over 99% Load Alarm	Only alarm
OL	Platform Overload Error	Stop all actions
LL	Machine tilt over safety limit error	Stop lifting and walking

Table 3： Solutions

Display	Description
01	System initialization error: ECU may fail, replace ECU.
02	system communication error: check the connection of communication lines and other lines. Try replacing PCU or ECU. if you still can't solve the problem
03	Invalid option setting error: set the appropriate option for the machine
12	Chassis up or down button error when started: Check the toggle switch wiring or see if the toggle switch is stuck
31	Pressure sensor error: Check the wiring of the sensor and the sensor. Also check that options for the weight sensor are selected correctly
32	Angle sensor error: Check wiring of the sensor and the sensor. Also check that options for the weight sensor are selected correctly
42	Left steering button error when started: Make sure nothing presses the button on the handle. Should OK, consider replacing the handle or PCU.
43	Turn the right turn button on when starting: Make sure nothing is pressing the button on the joystick. If OK, consider replacing the joystick or PCU.
46	When start the joystick enable switch error: Make sure nothing is pressing the enable switch on the joystick, also check the zero position parameter. If OK, consider replacing the joystick or PCU.
47	The joystick is not at zero position error when started: Make sure the joystick is in zero position (vertical position). check that the zero position parameter is set in the CFMG scissor lift program. If OK, consider replacing the joystick or PCU.
54	Rising coil error: check the connection of the coils to make sure they are correct. If correct, check if the coil is broken or short circuit.
55	Descending coil error: check coil connections to make sure they are correct. If correct, check if the coil is broken or short circuit.
58	Brake coil error: Check the connection of the coils to make sure they are correct. If correct, check if the coil is broken or short circuit.
68	Low voltage error: Check battery voltage and charge if needed. Check the connection of battery and switch, reinforce or clean it. check the voltage of ECU and PCU.
80	Over 80% load alarm: the platform is already close to its limit load. Consider not adding load.
90	Over 90% load alarm: the platform is already close to its limit load. Consider not adding load.
99	Over 99% load alarm: the platform has reached its load cap. Do not add any more load.
0L	Platform overload error: Remove excess load immediately.
LL	Machine tilt over safety limit error: If machine tilt, find a way to make it horizontal. If the machine is horizontal, check the wiring of the horizontal sensor and the sensor itself.

For more details, please contact the after-sales service department of Masterlift.



Description of batteries and charger

Compliance and obedience:

Do not use external charger or boost battery.
Charge the battery in a well ventilated place.
Charge using the correct AC input voltage indicated on the charger.
Use only the batteries and chargers approved by Masterlift.

Charging the battery

1.Make sure the battery is connected before charging.
2.Open the chassis battery tray. The battery tray should remain open throughout the charging process.

Maintenance-free batteries

3.Connect the battery charger to the grounded AC circuit.
4.The charger will give instructions when the battery is full.

Standard Battery

5.Remove the battery hood and check the battery electrolyte level. If necessary, add only distilled water sufficient to pass the plate. Do not add excessive liquid before charging.
6.Put back the battery hood.
7.Connect the battery charger to the grounded AC circuit.
8.The charger will give instructions when the battery is full.
9.Check battery electrolyte level at the end of charging cycle. Add distilled water to the bottom of the adding tube. Do not add too much.

Adding water to dry battery and charging it

1.Remove the plastic seal from the battery vent by removing the battery cover well.
2.Add the battery electrolyte (electrolyte) to each battery until the liquid level can not pass the electrode plate.
Do not add to the highest level until the battery charging process is over. Excessive liquid addition can lead to battery electrolyte overflow during charging. Use soda and water to neutralize spilled battery acidity.
3. Put back the battery cover.
4.Charge the battery.
5. Check battery electrolyte level when the charging cycle ends. Add distilled water to the bottom of the adding tube. Do not add too excessive

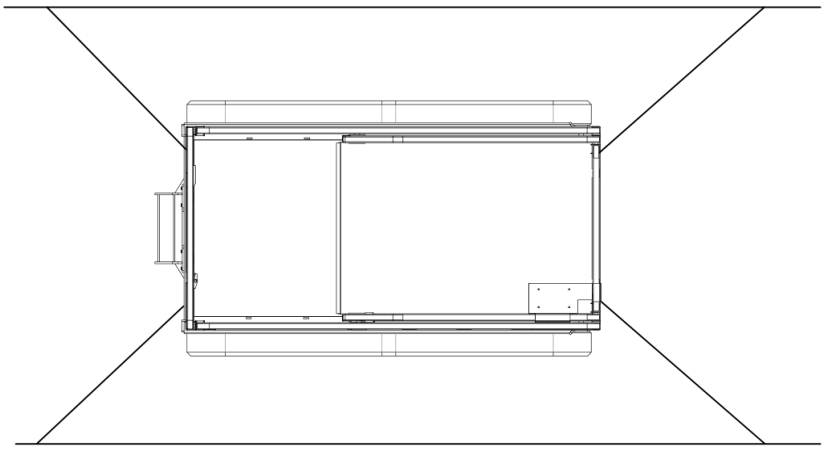


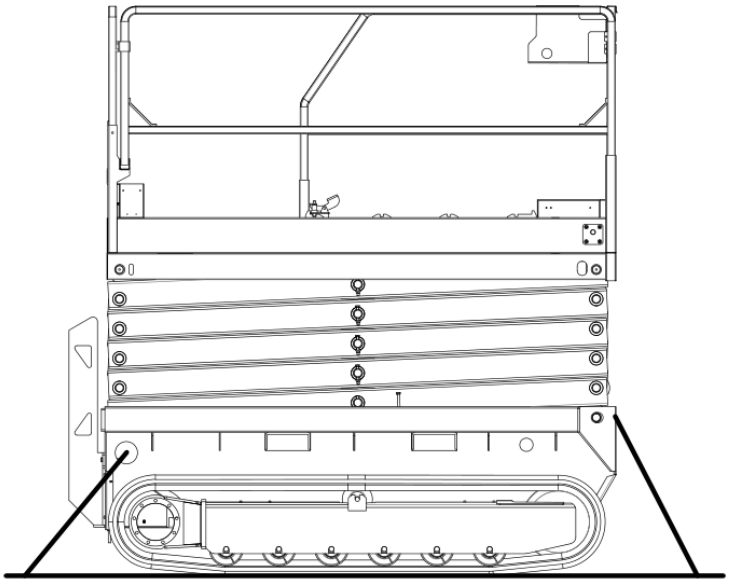
Compliance and obedience:

When using the crane to lift the machine, please maintain normal judgment and planning to control the movement of the machine. Only personnel with high-altitude lifting operation qualification can load and unload the machine. Transport vehicles must be parked on horizontal ground. When loading the machine, the transport vehicle must be fixed to prevent movement. Ensure that the vehicle capacity, loading surface, chain or belt is sufficient to support the weight of the machine. Please see the nameplate to understand the machine weight. Before releasing the brake, the machine must be on the horizontal plane or fixed. When removing the pins, prevent the guardrail from falling. Always hold onto the guardrail when folding it. Do not drive the machine on slopes that exceed the machine uphill, downhill or slope rating. Please refer to "driving on the ramp" in the operation instructions section. If the slope of the transport vehicle exceeds the maximum slope rating, the machine must be loaded and unloaded using a winch as described in the brake release operation.

Ensuring transport safety

When preparing for transportation, the machine wheels should always be locked. Retract and fix the extension platform. Before transportation, turn the key switch to the "off" position and then remove the key. Check the machine thoroughly to prevent loose or unfixed parts. Fix the machine to the transport surface through the fastening part on the chassis. Use at least four chains or belts. Ensure that the chain or belt used has sufficient load strength.
If the guardrail has been folded, use belt for fixation before transportation .





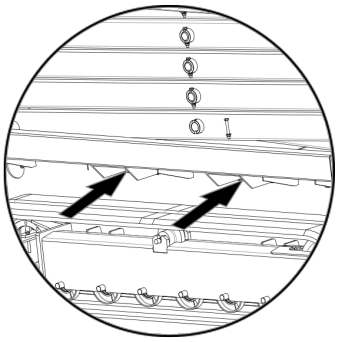


Compliance and obedience:

Only qualified hookers can assemble rigging and lift the machine. Only personnel with forklift operation qualification can use forklift for loading and unloading the machine. Ensure that the lifting capacity, loading surface, belt or rope of the crane is sufficient to bear the weight of the machine. Please refer to the nameplate.

Use forklift to lift machine

Ensure that the extension platform, controller and chassis tray are secured safely and reliably. Remove all movable parts on the machine. Completely descend the platform. The platform must remain closed during all shipments. Use the fork lift slots on both sides of the ladder.



Place forklift fork foot in the position of forklift slots. Drive forward and insert the fork completely into the slots. Lift the machine 15 cm up, and then tilt the fork slightly backward to keep the machine stable. Ensure machine level when descend fork. Note lifting the machine from the front side will cause component damage



Compliance and obedience:

□ Operators can only perform routine maintenance items specified in this manual.

□ According to the requirements stipulated by the manufacturer, the qualified maintenance technicians shall complete the regular maintenance inspection.

Maintenance symbol legend

Note Use the following symbols in this manual to help express the relevant meanings in the usage instructions. Maintenance procedures

When one or more symbols appear before, the meaning expressed is as follows.

Indicates that a tool is required to execute this program.

indicates that new parts are required to perform this procedure.

Indicates that the execution of this procedure requires the dealer to operate.

Check batteries



Battery condition is critical to performance and safe operation. Improper electrolyte level or damaged cables and wiring may cause damage to components and create dangerous conditions.

Note: This inspection is not required for machines with sealed or maintenance-free batteries.

Warning Risk of electric shocks

Live operation may result in serious personal injury or death. Remove all rings, watches and other accessories during operation.

Warning Risk of physical injury

Battery electrolyte is corrosive. Avoid contact with spilled electrolyte by hand or other parts of the body to avoid injury. Use baking soda to neutralize the spilled electrolyte.

Note: The following checks should be carried out with sufficient battery power.

1.Wear protective clothing and protective glasses.

2.Ensure that the battery cable wiring is firm and not corroded.

3. Make sure the battery lock rod is stable.

4.Remove the battery hood.

5.Check battery electrolyte level. If necessary, replenish distilled water from the bottom of the battery plus liquid tube. Do not add excess.

6. Install the ventilation cover.

Note: The addition of terminal protectors and anti-corrosion sealants will help to eliminate corrosion to battery terminals and cables.

Check hydraulic oil level



The hydraulic fluid level is in the right position is crucial to the operation of the machine. If the hydraulic oil is in an inappropriate position, it may damage the hydraulic parts. Through daily inspection, the inspector is able to determine the change of hydraulic fluid level, which can indicate the problems existing in the hydraulic system.



Execute this program in the platform being closed.

1 Visually inspect the liquid level on the side of the hydraulic tank.

○ result: the hydraulic oil level should be at the mark of the tank.

Refuel as needed. Do not add excess.

Hydraulic fluid specification: L-HV46

Preparation report before delivery

The report prepared before delivery includes all types of inspection items.

prepare report before delivery for each inspection. Save as required after filling.

Maintenance schedule

There are daily, quarterly, semi-annual, yearly, and biennial maintenance inspections that must be performed according to the schedule. The product maintenance plan and preparation report before delivery are divided into five sub-items of ABCDE. The steps for each inspection are shown in the table below.

Inspection cycle	**Inspection items**
Daily or every 8 hours	A
Quarterly or every 250 hours	A+B
Half a year or 500 hours	A+B+C
per year or every 1000 hours	A+B+C+D
Every two years or 2000 hours	A+B+C+D+E

Maintenance inspection reports

The maintenance inspection report includes all types of inspection items.

Prepare maintenance inspection report for each inspection at least 4 years after completion of the inspection, or in accordance with the laws and regulations issued by the employer, the workplace and the government.

Preparation report before delivery

Basic principles

Dealers are obliged to complete preparations before delivery.
Preparation before delivery should be given priority before each product is delivered. This check is to find out whether the equipment has obvious problems before use.

Damaged and modified equipment is never allowed to be used. Once damage is found or inconsistent with the delivery of the equipment, the machine must be immediately marked and stopped working.

Equipment repair must be done by a certified technician according to the manufacturer's specifications.

Maintenance inspection must be done by a certified technician according to the manufacturer's specifications and the requirements in this manual.

Note

Use the operating manual on the equipment.

Preparation before delivery consists of operation inspection, maintenance items and functional testing.

Use tables to record results. According to the instructions of the operation manual, after each item is completed, fill in the corresponding form.

If the result of any inspection is N, stop the device working. repair and recheck. After completion mark R position
Y= completed N= No, not completed R= repaired.

Evaluation

Preparation for delivery	Y	N	R
Operation check completed			
Maintenance project completed			
Functional testing completed			
Model			
Serial number			
Date			
Master			
Inspection Unit (to be printed)			
Signature of inspector			
Title of inspector			
Inspection companies			

Maintenance inspection reports

Model
Serial number
Date
Total
Master
Inspection Unit (to be printed)
Signature of inspector
Title of inspector
Inspection companies

Note

:: One report per inspection.

Select the appropriate checklist based on the inspection items.

Daily or every 8 hours	A
Quarterly or every 250 hours	A+B
Half a year or 500 hours	A+B+C
per year or every 1000 hours	A+B+C+D
Every two years or 2000 hours	A+B+C+D+E

Legend description

Checklist A	B-10 Slow
A-1 inspection manuals and stickers	B-11 hydraulic oil analysis
Check A-2 before operation	B-12 exhaust system
A-3 Function Test	B-13 chassis pallet parts
40 hours later	B-14 test upper limit switch
A-4 30 days of maintenance	
	Checklist C
Checklist B	C-1 platform overload system
B-1 batteries	C-2 replacement of hydraulic mailbox ventilation
B-2 wire	
B-3 track	**Checklist D**
Emergency B-4 stop	D-1 check shear fork arm wear-resistant slider
B-5 key switch	D-2 hydraulic return filter replacement
B-6 horn	
B-7 brake	**Checklist E**
Drive speed B-8 closed state	E-1 hydraulic oil
Driving speed in B-9 up state	

Check list A steps

A-1 Inspection manuals and stickers

To ensure that the operation and maintenance manual is in good condition is the key to safe operation. Each device has a manual which is stored in the box of the platform. Manuals with vague handwriting or missing pages do not provide sufficient information to ensure safe operation.

In addition, make sure all safety stickers are good. Label warning operators use machine safety risks. It also provides users with operation and maintenance information. Fuzzy stickers will not serve as a warning and may lead to dangerous operating environments.

1. check and make sure the operation maintenance manual is in the manual box of the platform.

2． Check the manual to make sure the handwriting is clear and there is no missing page.

○ results: the manual and model match, all manual handwriting clear, no missing pages.

⌑ Results: The manual does not match the model, or the handwriting of the manual is vague or missing pages. Stop the machine work before manual replacement.

3． Open the label check chart, carefully check whether the label is blurred or damaged.

○ result: all stickers are complete, clear and complete.

⌑ Result: Label missing, blurred or damaged. Stop the machine before the sticker is replaced.

4.After the manual is used, the object is put in place.

Hint: If you need to change the manual or label, please contact the distributor of Chufeng Heavy Industry or Chufeng Heavy Industry.

A-2 Inspection before operation

Checks before operation is essential for the safe operation of the machine. Checks before operation is done by visual inspection before machine running. This check is used to detect apparent problems with the machine before a functional test, and can also be used to determine whether routine maintenance procedures are required.

For the complete inspection procedure, please refer to the "Inspect before Operation" section of this manual.

A-3 Functional testing

Completion of functional testing is critical to the safe operation of the machine. Functional testing is used to detect whether the machine has functional defects before the machine works. defective machine can not be used. Once the function defect is found, mark the machine immediately and stop using.

complete inspection procedures may be referred to the "functional testing" section of this manual.

A-4 30 days of maintenance



The 30-day maintenance is the one-time maintenance after the first 30-day or 40-hour operation of the machine. After this step is completed, continue to check the maintenance items on the list.

The following steps are maintained: **B-3 track** :: Replacement of D-2 hydraulic return filter

Check list B steps

B-1 check battery



The inspection is conducted every 250 hours or a quarter, whichever comes first.

Good battery condition is critical to machine performance and operational safety. incorrect electrolyte level and damaged cable or joint can cause damage and dangerous condition of machine parts.



Electrical hazard

Live operation may result in serious personal injury or death. Remove all rings, watches and other accessories during operation.



Risk of physical injury

Battery electrolyte is corrosive. Avoid contact with spilled electrolyte by hand or other parts of the body to avoid injury. neutralize the spilled electrolyte with baking soda water.

1. wear protective clothing and goggles.
2. loosen the door lock of the battery tray on the side of the chassis and turn the chassis battery tray outward.
3. ensure the battery cable connector is not corroded.

Tip: add terminal protection device, apply anti-corrosion glue can avoid battery connector cable corrosion.

4. make sure the battery and cable are fixed firmly.
5. charge the battery and rest for at least 24 hours.

For non-maintenance and sealed batteries:

6. open the battery cover, check the specific gravity with liquid hydrometer and record.
7. check ambient temperature and adjust the liquid specific gravity of each cell as described below:

• Add 0.004 per 5.5℃ above 26.7.

• Less 0.004 per 5.5℃ below 26.7.

○ result: all battery blocks adjusted to specific gravity greater than 1.277. the battery is charged, proceed step 12.

⌑ Result: The specific gravity of one or more battery blocks is less than 1.217. Step 9.

8. a balanced charge or full charge. Rest for at least 6 hours.
9. open the battery cover, check the specific gravity with liquid hydrometer and record.
10. Check ambient temperature and adjust the liquid specific gravity of each cell as described below

When above 26.7℃, add 0.004 per 5.5℃.

• Less 0.004 per 5.5℃ below 26.7.

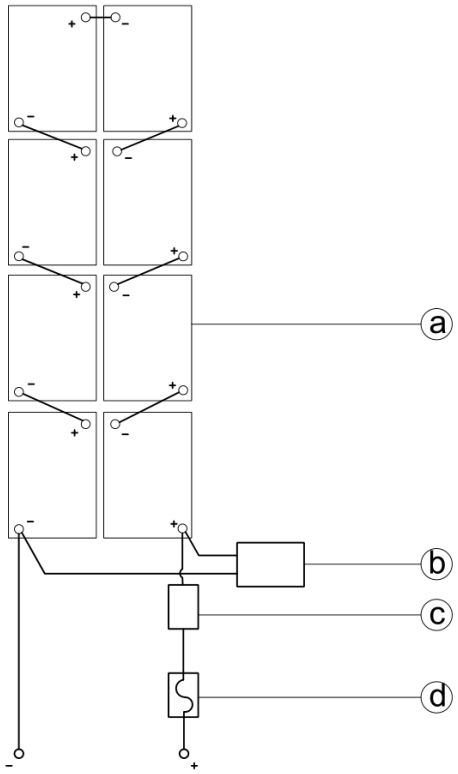
○ result: all battery blocks adjusted to specific gravity greater than 1.277. the battery is charged, proceed step 12.

⌑ Results: The liquid specific gravity difference between the battery blocks is greater than 0.1, or

the specific gravity of more than one battery is less than 1.217, replace the battery.

11. Check the battery electrolyte height and, if necessary, replenish 3 mm of distilled water. Don't add too much.

12. Cover the battery with baking soda and splash electrolyte.



a. Battery b. Charger c. DC master switch d. Insurance

Suitable for all batteries:

13.Check that the cells in each battery pack are connected correctly.

14.Check battery charger plug and wire insulation layer for excessive wear and damage, if please replace in time.

15.**Connect the battery charger correctly to the AC power supply V50/60HZ 110-230.**

○ result: charger operation, charging battery.

⌑ Result: The alarm sound of the charger rings and the indicator light flashes, check and correct the connection between the fuse and the charger. Make sure the charger is running properly and start charging the battery.

Note: For good results, please choose the appropriate length of wire, the total length should not exceed 15 m.

Note: If you want to know more about the charger operation, please contact the after-sales service department.

B-2 check wires



This inspection is conducted every 250 hours or a quarter, whichever comes first.
Keeping wires in good condition is critical for safe operation and good machine performance. Failure to detect and replace burned, scraped, corroded or bent wires will result in access to an unsafe operating environment and may cause damage to machine parts.



Electric shock/explosion hazard

Contact with heat or electrical conductors can cause serious casualties. Do not wear rings, watches and other jewelry.

1. check if ground wire under chassis is missing
2. check the following areas for burns, scratches, corrosion, bending or loose wires:
:: Inside the ground control box
:: Hydraulic valve wiring in oil pump tray
:: Battery area wires in battery tray
:: Inside the platform control box
3. turn the key switch to the platform controller and pull the red emergency stop button on the ground and platform controller.
4. raise the platform to about 2.5 m height from the ground.
5. lift the safety arm, move the safety arm to the middle of the shear fork shaft sleeve, and rotate upward to the vertical state.
6. reduce the platform height until the safety arm is in full contact with the shaft casing.



Risk of smashing

When the platform drops, make sure the hand is in the correct position of the safety arm.
7.Check chassis and shear fork areas for burns, scratches, corrosion, bending and loose wires
8. check the following areas for burns, scratches, corrosion, bending and loose wires:
:: Cutting fork-arm wires
:: ECU to the platform
:: Wire harness connections to the platform
9. check the following position insulation oil free coating:
:: Wire harness connections between ECU and platform controllers
:: All wire harness connections to horizontal sensors
10. Lift the platform and restore the safety arm to the installation position.
11. Close the machine when the platform is lowered to the closing position.

B-3 inspection track



This inspection is conducted every 250 hours or a quarter, whichever comes first.

Keeping track in good condition is essential for safe operation and good performance.The failure of the track may cause the machine to roll over. If not found and repaired in time will also cause machine parts damage.

1.Check for scratches, cracks, puncture and other abnormal wear on the surface and side of the track.

2.Check the chain for damage, bending and cracking.

Model suitable for hydraulic drive

3.Remove the opening pin to check the torque of the nut.

note: A new cotter pin must be used when re-installing.

4. install and lock the new open pin.

Nut torque without lubrication	406.7Nm
Torque of lubricated nuts	305Nm

Model suitable for electric drive

Check all bolt torque	
Nut torque without lubrication	50.5Nm
Lubricating Bolt Torque	37.8Nm

B-4 check emergency stop function

The inspection is conducted every 250 hours or a quarter, whichever is the first.
Normal emergency stop function is essential for safe operation of the machine. The abnormal red emergency stop button will not be able to cut off the power supply and can not stop all the functions of the machine, resulting in a dangerous situation.
As a security function, in addition to the red emergency stop button function on the platform, the selection and operation of the ground controller takes precedence over the platform controller.

1.Turn the key switch to ground control and pull out the red emergency stop button on the ground and platform controller.

2.press the ground controller red emergency stop button to the closed position.
○ result: machine without any action.

3.Turn the key switch to the platform control and pull out the red emergency stop button on the ground and platform controller.
4.press the platform controller red emergency stop button to the closed position.
○ result: machine without any action.
Note: The red emergency stop button of the ground controller can stop all operation of the machine, even if the key switch is switched to control platform.

B-5 test key switch

This inspection is conducted every 250 hours or a quarter, whichever comes first.
The correct key switch action and response is critical to the safe operation of the equipment. The machine can be operated by a ground controller or a platform controller and switched by a key switch. Failure of the switch may cause dangerous operation.
You need to use a platform controller on the ground to perform this step, so don't stand on the platform.

1. pull the red emergency stop button on the ground and platform controller.

2. turn the key switch to platform control.

3. check up and down function in ground controller.

○ result: machine without any action.

4. transfer the key switch to ground control.

5. check rise and fall function in platform controller.

○ result: machine without any action.

6. turn the key switch to the off position.

○ result: machine without any action.

B-6 test car horn

This inspection is conducted every 250 hours or a quarter, whichever comes first.

The horn is used by the personnel controlled on the platform to warn the voice of the ground personnel. Abnormally functioning horns cannot alert people on the ground of dangerous or unsafe conditions.
1. turn the key switch to the platform control and pull out the red emergency stop button on the ground and platform controller.
2. press the horn button in the platform controller.

○ result: the horn honks.

B-7 test drive brake function



This inspection is conducted every 250 hours or a quarter, whichever comes first. Correct braking action is critical to operational safety. Brake requirements smooth, no delay, bumps and abnormal noise. Hydraulic release. The brake system should also perform normally.

To complete the brake function test, the machine must be carried out on a solid, horizontal and barrier-free ground to ensure that the machine is in a closed shape state and extend the platform to be fully retracted.

1. Draw the reference test line on the ground.
2. Turn the key switch to the platform control and pull out the red emergency stop button on the ground and platform controller.
3. Lower the platform position.
4. Press the drive function selection button.
5. Select a point on the machine (for example: Touch point on wheels) as a mark for visual crossing the reference test line.
6. Drive the machine to the highest speed and release the handle instantly when the reference point crosses the ground test line.
7. Measure the distance between the reference point and the test line.

○ result: the machine stops within the specified braking distance. No need for any action.
□Result: The machine does not stop within the specified braking distance.

NOTE: The brake must be able to be effective within the range of climbing capability permitted by the machine.

8. Replace the brake, repeat the above process from step 1.

Maximum braking distance	**61 cm±30 cm**

B-8 test drive speed - closed state



This inspection is conducted every 250 hours or a quarter, whichever comes first.

The normal drive function is critical for operational safety. The drive function shall respond to the operator quickly and smoothly. There can be no delay, bump and abnormal noise during normal operation.

The completion of the drive speed test must be performed on a solid, horizontal and barrier-free ground.

1. Draw two lines of 12.2 meters apart on the ground as the starting line and the end line.
2. Turn the key switch to the platform control and pull out the red emergency stop button on the ground and platform controller.
3. Lower the platform position.
4. Press the drive function selection button.
5. Select a point on the machine (example the touch point on the wheel) as a reference for visual crossing the starting and finishing lines.
6. Turn the machine to maximum speed and start timing when the reference point crosses the starting line.
7. Keep full speed and record the time to cross the termination line.

See specification.

B-9 test drive speed - up state



This inspection is conducted every 250 hours or a quarter, whichever comes first. The normal drive function is critical for operational safety. The drive function shall respond to the operator quickly and smoothly. There can be no delay, bump and abnormal noise during normal operation. Completion of the drive speed test must be performed on a solid, horizontal and barrier-free ground.

1. draw two lines of 12.2 meters apart on the ground as the starting line and the end line.
2. turn the key switch to the platform control and pull out the red emergency stop button on the ground and platform controller.
3. press the lifting function selection button.
4. hold down the function enable button.
5. lift platform to about 2 meters from the ground height.
6. press the drive function selection button.
7. select a point on the machine (example the touch point on the wheel) as a reference for visual crossing the starting and termination lines.
8. turn the machine to maximum speed and start timing when the reference point crosses the

starting line.
9. keep full speed and record the time to cross the termination line.
See specification.

B-10 test drive speed - slow speed



This inspection is conducted every 250 hours or a quarter, whichever comes first.
the normal drive function is critical for operational safety. The drive function shall respond to the operator quickly and smoothly. There can be no delay, bump and abnormal noise during normal operation.
The drive speed test must be performed on a solid, horizontal and barrier-free ground.
1. draw two lines of 12.2 meters apart on the ground as the starting line and the end line.
2. turn the key switch to the platform control and pull out the red emergency stop button on the ground and platform controller.
3. reduce platform to close position.
4. press the drive speed selection button.
5. select a point on the machine (example the touch point on the wheel) as a reference for visual crossing the starting and termination lines.
6. turn the machine to maximum speed and start timing when the reference point crosses the starting line.
7. keep full speed and record the time to cross the termination line. time is not less than 25 seconds.

B-11 hydraulic oil analysis



This inspection is conducted every 250 hours or a quarter, whichever comes first.

Replacement or testing of hydraulic oil is critical to the performance and service life of the equipment. Contaminated hydraulic fluids may affect equipment
performance, continuous use will cause equipment damage. Bad working environment should be checked more often.

Before replacing the hydraulic oil, it is possible to test whether it is necessary through the oil separator.

If the hydraulic oil is not replaced for two years, it should be tested quarterly, if it can not pass the test, replace the hydraulic oil.

See E-1, test or replace hydraulic oil.

B-12 Check hydraulic tank cover ventilation system



This inspection is conducted every 250 hours or a quarter, whichever comes first.

The hydraulic tank cover with smooth exhaust is very important to achieve good mechanical performance and service life. Dirty or clogged rows
The air cap may cause the performance of the machine to deteriorate. Bad working environment should be checked more often.
1. remove the exhaust cover from the hydraulic tank.
2. ventilation check.
○ result: air can pass through the exhaust cover.

□Result: If the air can not pass through the exhaust cover, clean or replace the exhaust cover. Continue with step 3.

Note: When checking the tank cover for ventilation and exhaust, the air should be free to pass through.

3. use mild solvent to carefully clean the tank exhaust cover and dry with low pressure compressed air. Repeat step 2.

4. install hydraulic tank exhaust cover.

B-13 Check Chassis Tray Lock Components



This inspection is conducted every 250 hours or a quarter, whichever comes first.

Chassis tray lock parts in good condition is critical to the performance and service life of the equipment. Damaged chassis tray lock parts, may cause the tray to open accidentally, causing safety risks.

1. check the wear and damage of each chassis tray lock parts.
2. lubricate the spring and rotating latch mechanism of each tray lock with light oil.

B-14 check upper limit switch



This inspection is conducted every 250 hours or a quarter, whichever comes first.

Good limit switches are critical to the performance and safe operation of the machine. Machines that operate defective limit switches reduce machine performance and lead to potentially unsafe working environments.

Complete this function check machine must be on solid, level and barrier free ground.

1. turn the key switch to ground control and raise the platform to a height of about 2.5 m from the ground.
2. lift the safety arm, move the safety arm to the middle of the shear sleeve, and rotate upward to the vertical state.
3. reduce the platform height until the safety arm is in full contact with the shaft casing.



Risk of smashing

Make sure the hand is in the correct position of the safety arm when the platform drops.

4. open the limit switch seat cover mounted on the chassis.
5. slightly up the platform, restore the safety arm.
6. use the ground controller to lift the platform while pressing the upper limit switch arm to activate the upper limit switch.

○ result: the platform stops rising and the machine function is normal.

¤ Result: The platform continues to rise, adjust or replace the upper limit switch.

¤

Check list C steps

C-1 Test platform overload system

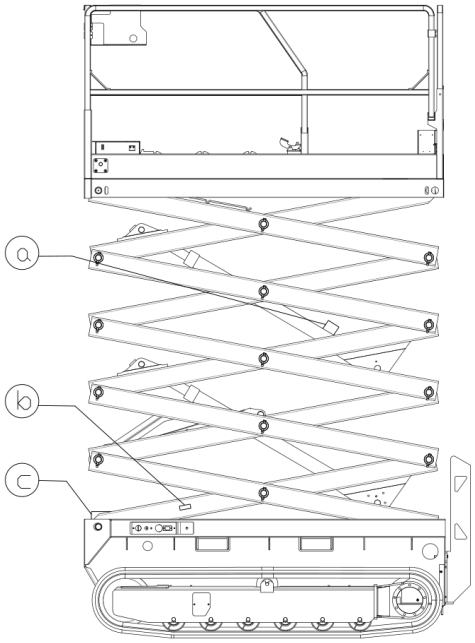


Perform this step every 500 hours or 6 months, whichever comes first, or immediately check when the machine is overloaded.

Frequent testing of platform overload mechanisms is critical to the safe operation of the machine.

Continuous error operation on the platform will cause the system can not sense the platform overload information. The stability of the machine will be affected and the equipment will be overturned.

The platform overload system is to prevent overloading in the case of operating the machine. It is composed of two electrical components: an overload pressure switch and a tilt sensor.
The overload pressure switch is adjustable and is used to determine the pressure of the cylinder to feed back to the platform overload system. when the pressure is too high, the pressure switch will send a signal to stop all functions of the ECU, machine until the excess load is removed from the platform.
the tilt sensor located in the inner shear fork arm 1 is used to measure the tilt angle of the shear fork to determine the height of the platform.



a.Overload pressure switch b.Tilt sensor c.Limit switch cover

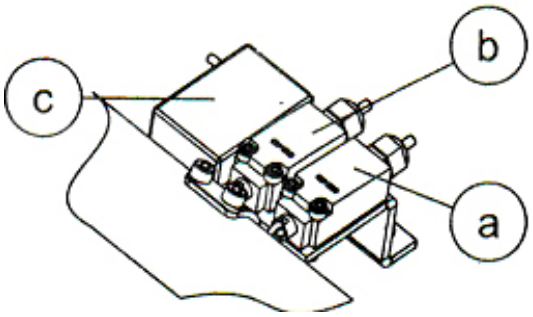
1. turn the key switch to ground control and raise the platform to a height of about 2.5 m from the ground.
2. lift the safety arm, move the safety arm to the middle of the shear fork shaft sleeve, and rotate upward to the vertical state.
3. reduce the platform height until the safety arm is in full contact with the shaft casing.



Risk of smashing

4. When the platform drops, make sure the hand is in the correct position of the safety arm.

5. Open the limit switch seat cover mounted on the chassis. Remove the lid of the limit switch.



a.Upper limit switch b.Lower limit switch c.Dip sensor

6. Mark and disassemble the two lines of the upper limit switch.
7. Connect the two broken wires together.
8. Turn the key switch to ground control and pull out two red emergency stop buttons for ground and platform control.
9. Slightly up the platform, restore the safety arm.
10. Lift the platform to the highest position and continue to press the lift function selection button.

○ Result: alarm sounds

☒Result: No alarm sound, calibration platform overload system.

11.Use manual drop function to reduce platform to close state.
12. Carefully disconnect the short connection of the upper limit switch.
13. Lift the platform to the highest position and continue to press the lift function selection button.

○ Result: the alarm is not sound. The system is functional.

☒Results: The alarm sound sounded and the platform overload system function was not normal. Troubleshooting of limit switches, wires for limit switches and mounting brackets, etc. or overloading systems need to be calibrated.

14. The descent platform is about 2.5 m above the ground level.
15. Lift the safety arm, move the safety arm to the middle of the axle sleeve and rotate upward to a vertical state.
16. Lower the height of the platform until the safety arm is in full contact with the casing.

⚠ Warning Risk of smashing

Make sure the hand is in the correct position of the safety arm when the platform drops.

17. Connect the limit switch as it is and install the limit switch cover.
18. Install back the lid of the limit switch seat.
19. Install the cover of the platform limit switch seat.
20. Lift the platform slightly and restore the security arm.
21. Down platform to closing position.

C-2 Replacement of hydraulic tank exhaust



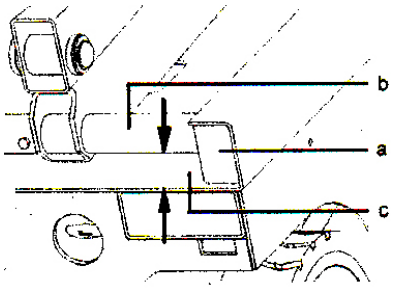
This step is performed every 500 hours or every six months, whichever comes first.
The hydraulic tank is a ventilated tank. There is an air filter inside the exhaust cover, which may be blocked over time. If the exhaust cover failure or improper installation once impurities into the hydraulic system, may cause damage to components. The exhaust cover should be checked frequently in bad working environment.
1. Remove the hydraulic tank exhaust cover.
2. Replace the new hydraulic tank exhaust cover.

Check list D steps

D-1 Check the wear-resistant slider of the shear fork arm



Perform this step every 1000 hours or annually, whichever comes first.
The quality of the wear-resistant slider of the shearing fork arm is very important for the safe operation of the machine. The use of worn wear-resistant sliders may lead to parts damage and unsafe work hazards.
To check the wear-resistant pad in the platform closed state.
1. measure the distance of the inner connecting rod casing to the bottom plate plane on the side of the ground controller at the non-steering end.



a wear-resistant slider b inner connecting rod casing c bottom plate
○ results: measurement results greater than or equal to 31 mm. Implement step 2.
□Result: The measurement result is less than 31mm. Replace the wear-resistant slider.
2. Measure the distance of the inner connecting rod casing to the bottom plate plane on the side of the battery pack at the non-steering end.

○ Results: measurement results greater than or equal to 31 mm. Implement step 3.
□Result: If the measurement result is less than 31mm. Replace the wear-resistant slider.

3.Apply lubricant between chassis slide rail and wear resistant slider.

D-2 replacement of hydraulic fuel tank return filter assembly



Perform this step every 1000 hours or annually, whichever comes first.
Replacement of the oil return filter is essential for the good performance and service life of the machine. Dirty or clogged filters may affect the machine device performance, continuous use will cause part damage. The filter should be changed more frequently in bad working conditions.



Danger of burns

Beware of hot oil. Exposure to hot oil may lead to severe burns.



Return of the hydraulic tank

The filter is installed in the middle area between the functional valve block and the hydraulic power unit.

1. clean the hydraulic oil spilled around the filter. Remove the filter with a wrench.
2. apply a layer of hydraulic oil to the sealing ring of the new filter.
3. install the new filter and tighten it by hand.
4. use marker to mark down the replacement time and date on the filter replacement table.
5. turn the key switch to ground control and pull the red emergency stop button on the ground and platform controller.
6. hold down and select the button to the dial up function.
7. check the filter parts for oil leakage.
8. clean up the spilled hydraulic oil around.

Check list E steps

E-1 test or replace hydraulic oil



This procedure is checked every 2000 hours or every two years, first-come is preferred.
Replacement or testing of hydraulic oil is essential for good machine performance and service life. The dirty hydraulic oil and oil suction filter will affect the performance of the machine, and continuous use will cause damage to the parts. This should be done more frequently in harsh working conditions.
Verify the need for replacement with oil separator before replacing hydraulic oil.
If the hydraulic oil has not been replaced for two years, it should be tested once every quarter, and the hydraulic oil should be replaced when the test is not qualified.
Note: This procedure should be performed in machine closure.
1. disconnect the battery pack on the machine.



Electrical shock/burn hazards

Operation in a live circuit may cause serious injury or death. Remove rings, watches and other

accessories during operation.

2. open the hydraulic power unit to install the tray.

3. mark and disconnect the return tubing from the hydraulic filter to the hydraulic tank and remove the line from the tank. Top of pipe joint

To prevent dust.

4. mark and disconnect the suction pipe of the hydraulic pump and tank, remove the tubing. The pipe joint is covered to prevent dust.

5. loosen the hydraulic tank fastener and remove the hydraulic tank.

6. remove the discharge plug at the bottom of the hydraulic tank.

7. put the oil in a suitable container.



Risk of physical injury

The ejected hydraulic oil can penetrate the skin. Loosen the hydraulic joint slowly, allowing the oil pressure to gradually weaken. Don't do it

Let the oil spray out.

8. Clean the spilled hydraulic oil and use the released hydraulic oil correctly.

9. Use mild solvent to clean the hydraulic tank and air dry thoroughly.

10. Tighten the discharge plug. Torque according to the following requirements:

Torque specification	
Without lubricated hydraulic oil tank drain plug	4.5Nm
Lubricating hydraulic tank discharge plug	3.4Nm

11.Load back the hydraulic tank and install the fasteners to tighten the hydraulic tank.

Button to press the following requirements:

Torque specification	
Without lubricated hydraulic tank fasteners	4Nm
Lubricated hydraulic tank fasteners	2.9Nm

12. Connect the hydraulic pump tubing to the tank.

13. Connect the hydraulic pump return tubing to the return oil filter.

14. Fill the tank with hydraulic oil and be careful not to overflow.

15. The starting pump fills the hydraulic fluid with the entire hydraulic system to remove air from the hydraulic system.

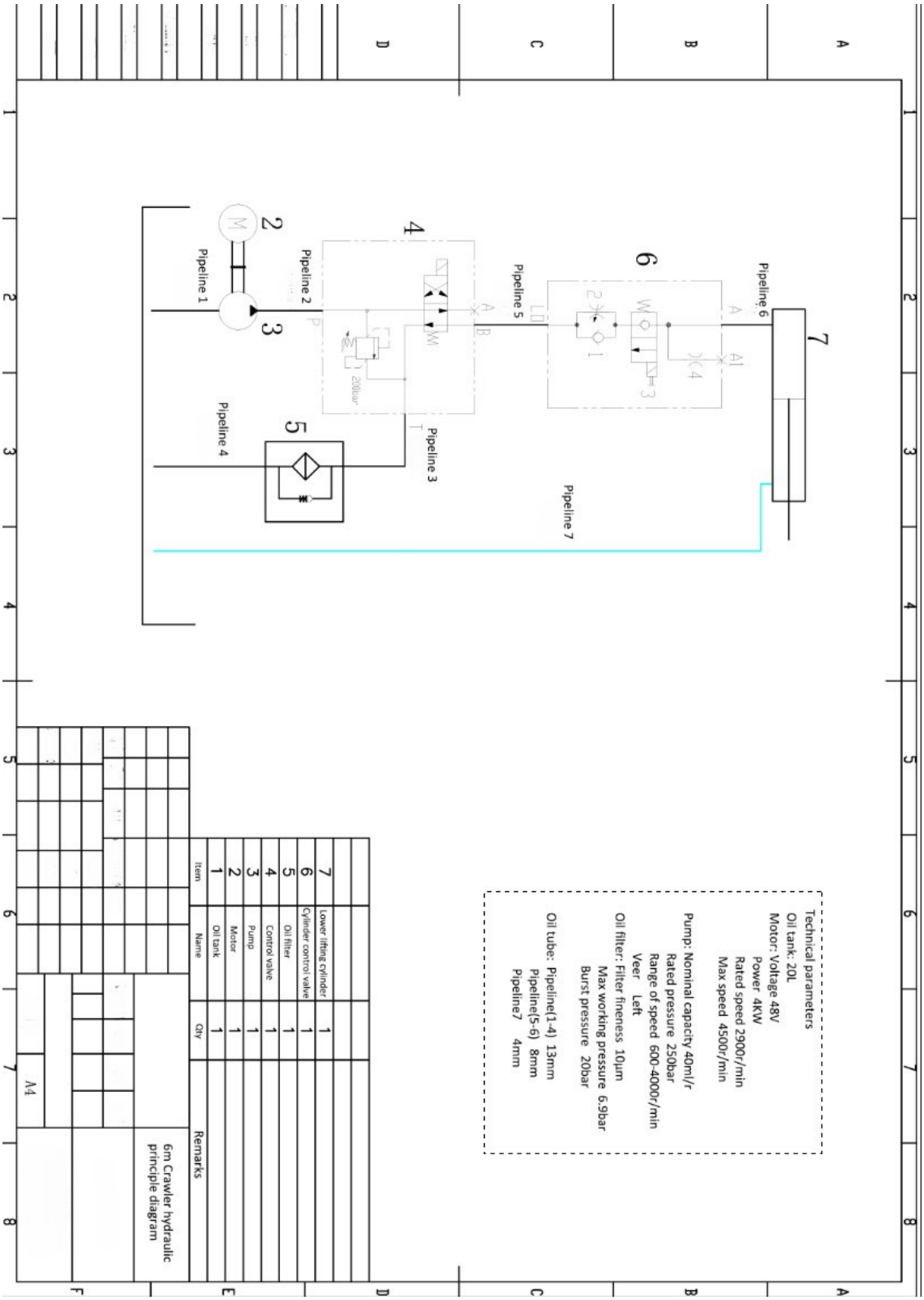


Risk of component damage

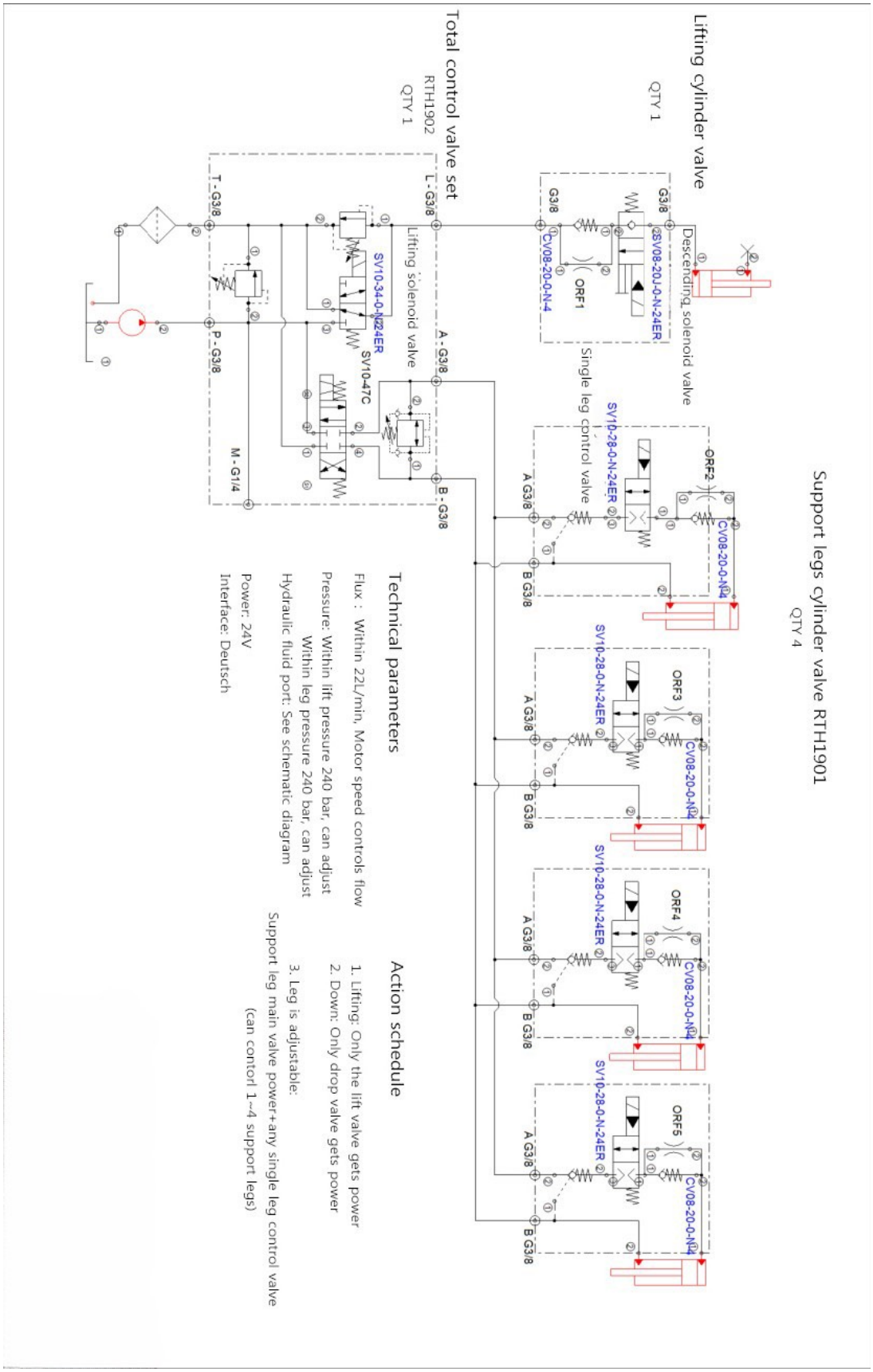
Operation without oil, may cause damage to the hydraulic pump. When filling the hydraulic system, take care to empty the tank. Do not let the hydraulic pump cavitation.

Hydraulic schematic

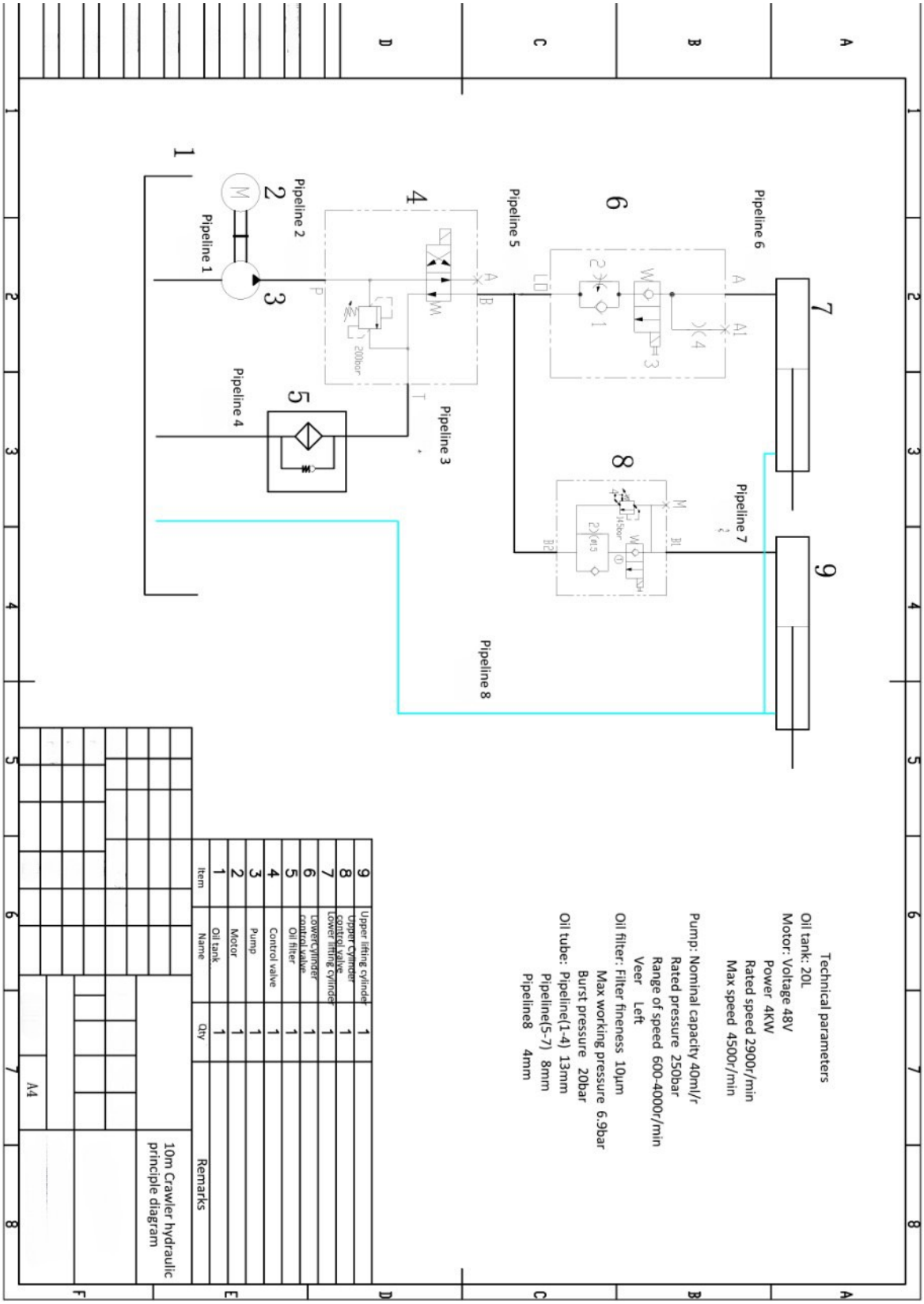
diagram 68AT 810AT



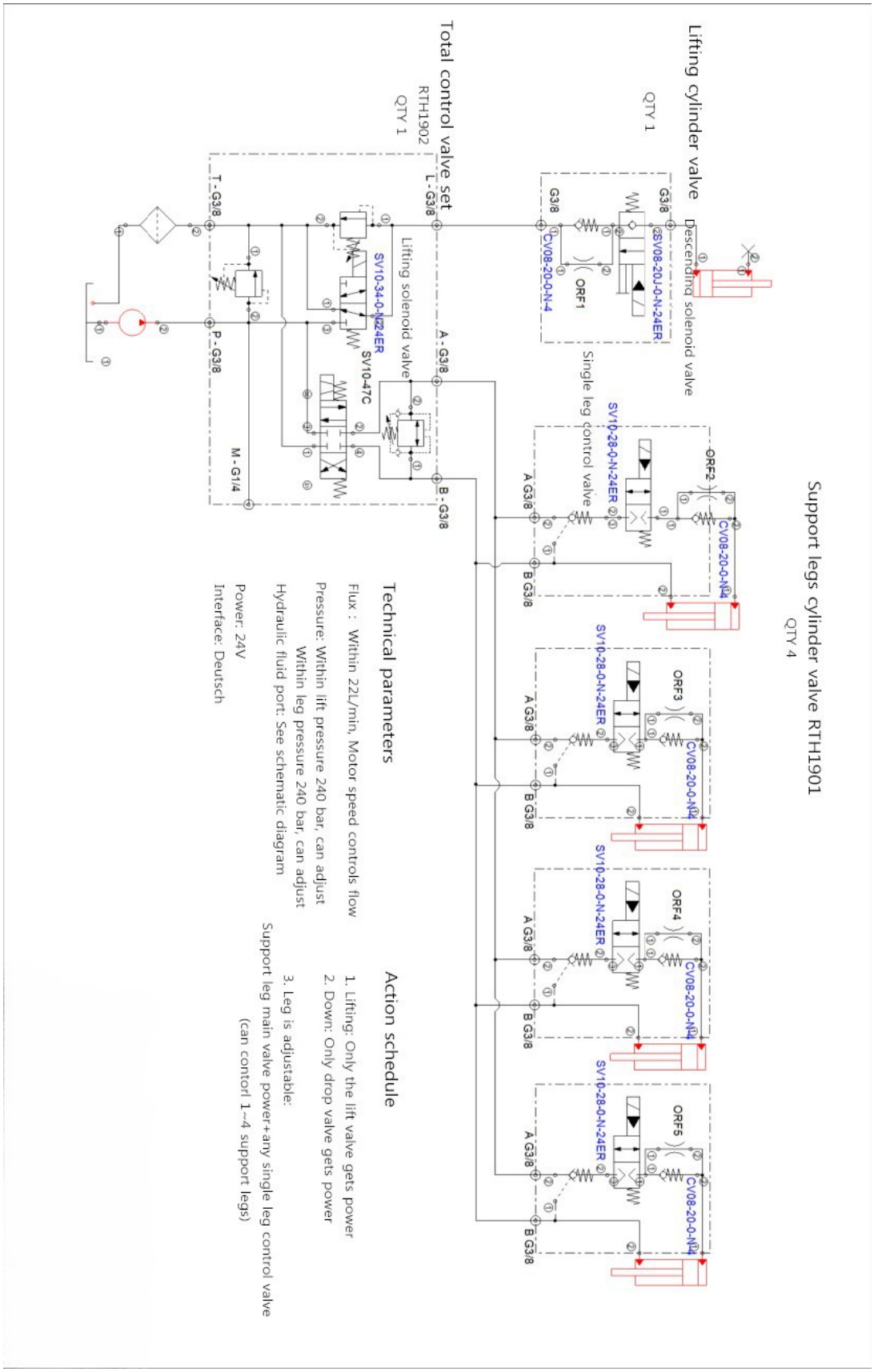
68AT / 810AT


Support legs cylinder valve RTH1901
QTY 4
Lifting cylinder valve
QTY 1
Descending solenoid valve
SV08-20J-0-N-24ER
CV08-20-0-N-4
ORF1
Single leg control valve
SV10-28-0-N-24ER
CV08-20-0-N4
ORF2
ORF3
ORF4
ORF5
Total control valve set
RTH1902
QTY 1
Lifting solenoid valve
SV10-34-0-N-24ER
SV10-47C
T - G3/8
P - G3/8
L - G3/8
A - G3/8
B - G3/8
M - G1/4
Technical parameters
Flux : Within 22L/min, Motor speed controls flow
Pressure: Within lift pressure 240 bar, can adjust
Within leg pressure 240 bar, can adjust
Hydraulic fluid port: See schematic diagram
Power: 24V
Interface: Deutsch
Action schedule
1. Lifting: Only the lift valve gets power
2. Down: Only drop valve gets power
3. Leg is adjustable:
Support leg main valve power+any single leg control valve
(can contorl 1~4 support legs)

1012AT / 1214AT



1012AT / 1214AT



Electrical schematic diagram

68AT 810AT，1012AT **/ 1214AT**

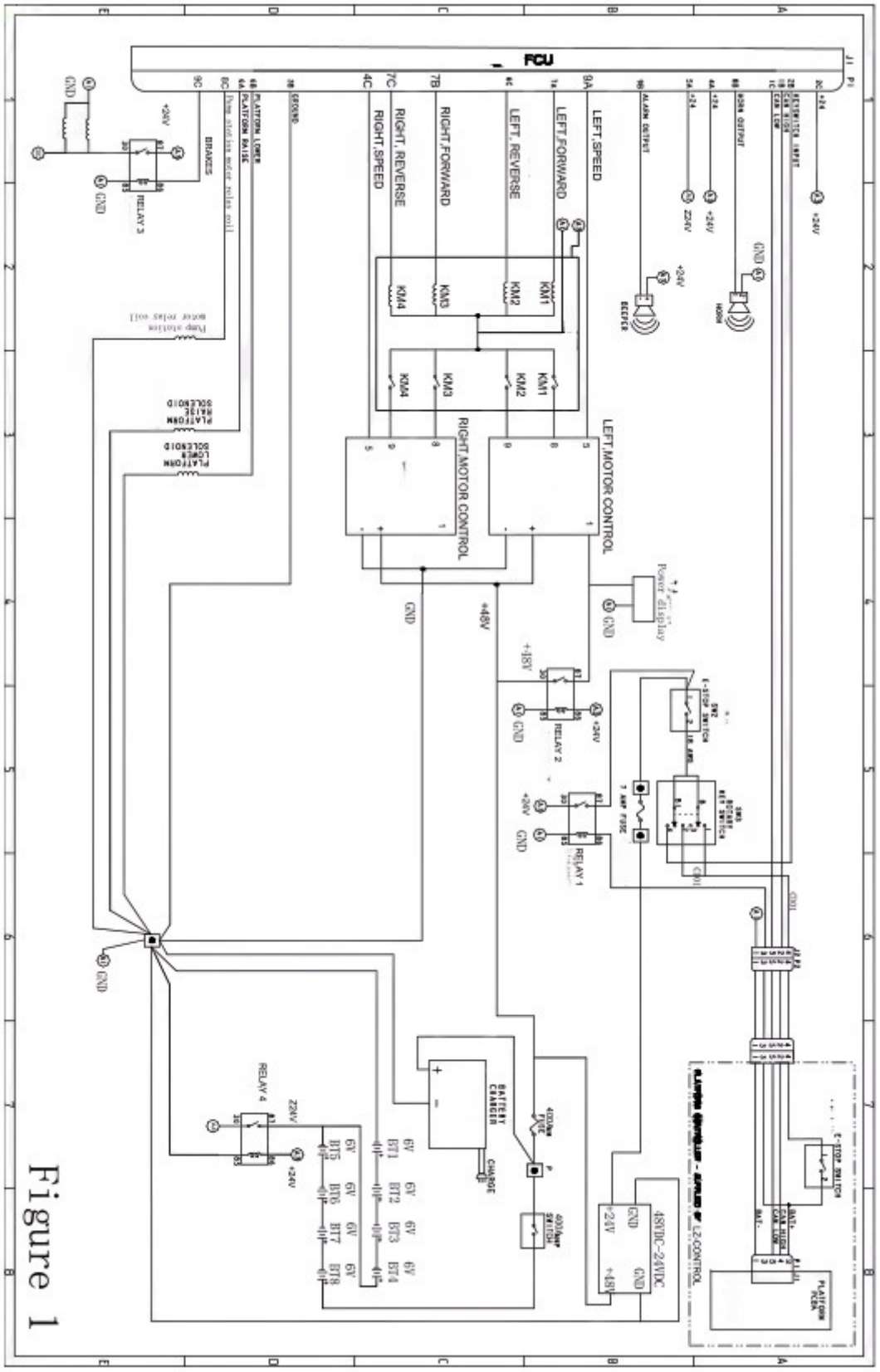


Figure 1

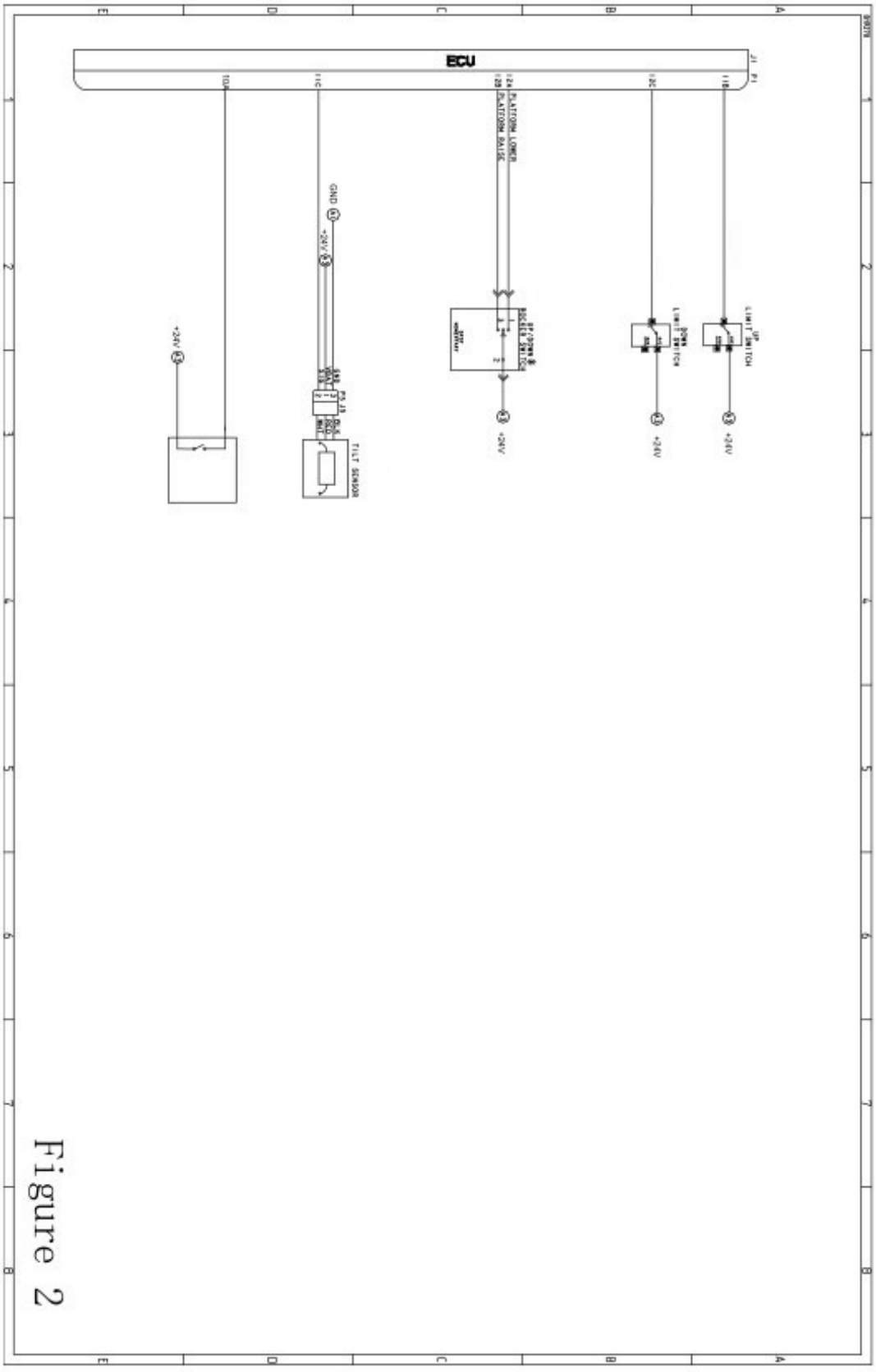

ECU
PLATFORM LOWER
PLATFORM RAISE
GND
+24V
TILT SENSOR
LIMIT SWITCH
UP
+24V

Figure 2

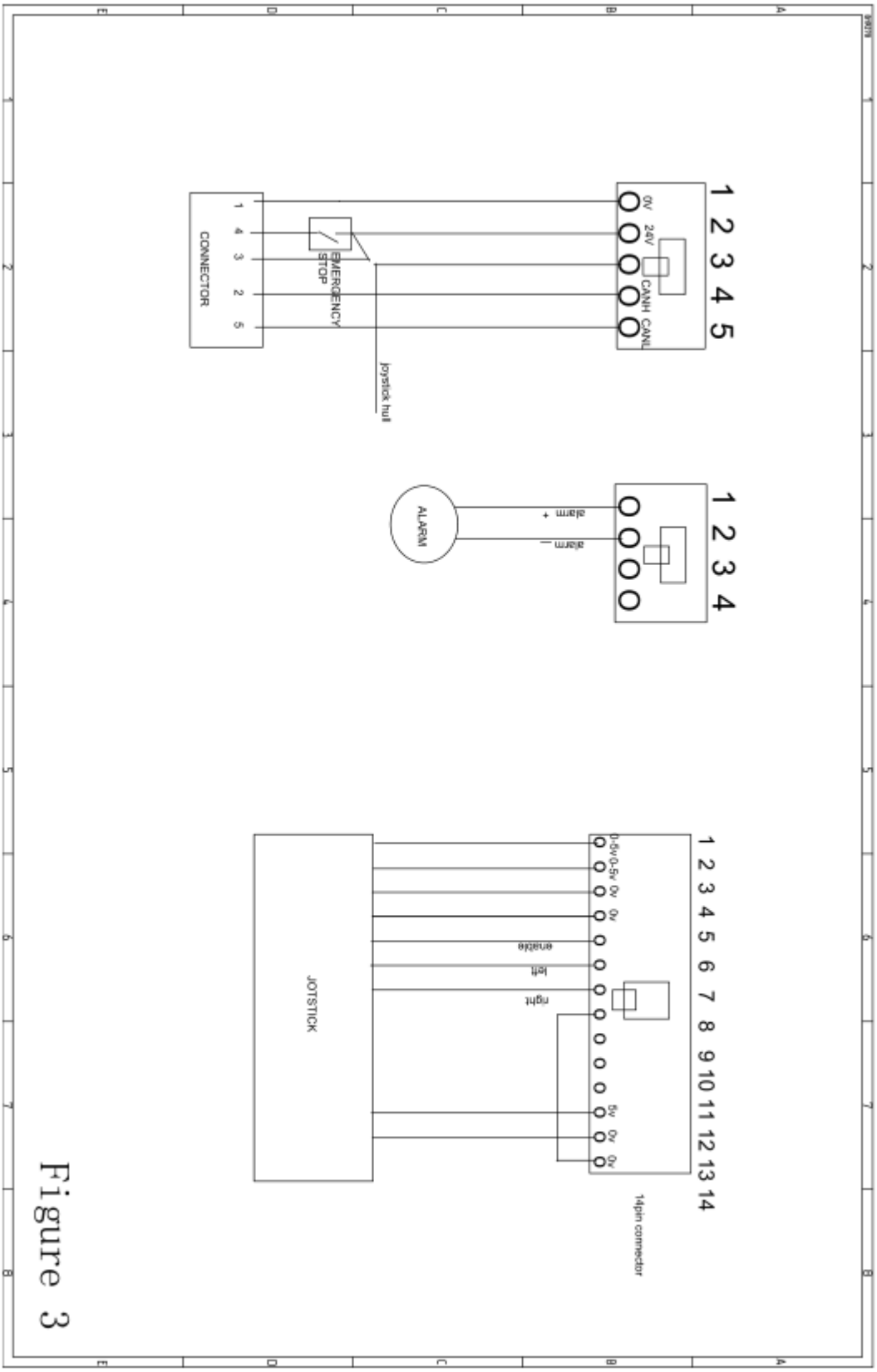
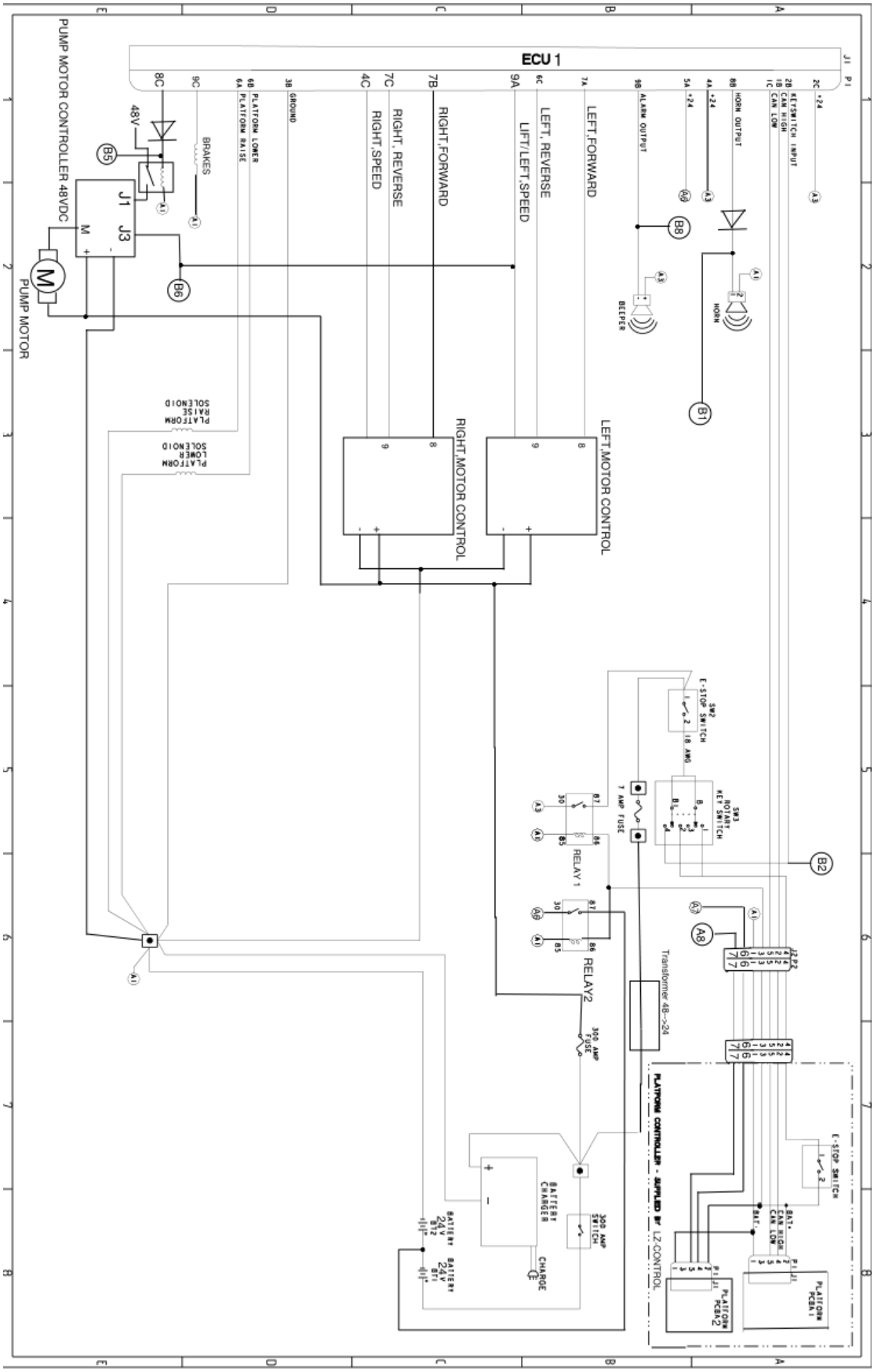
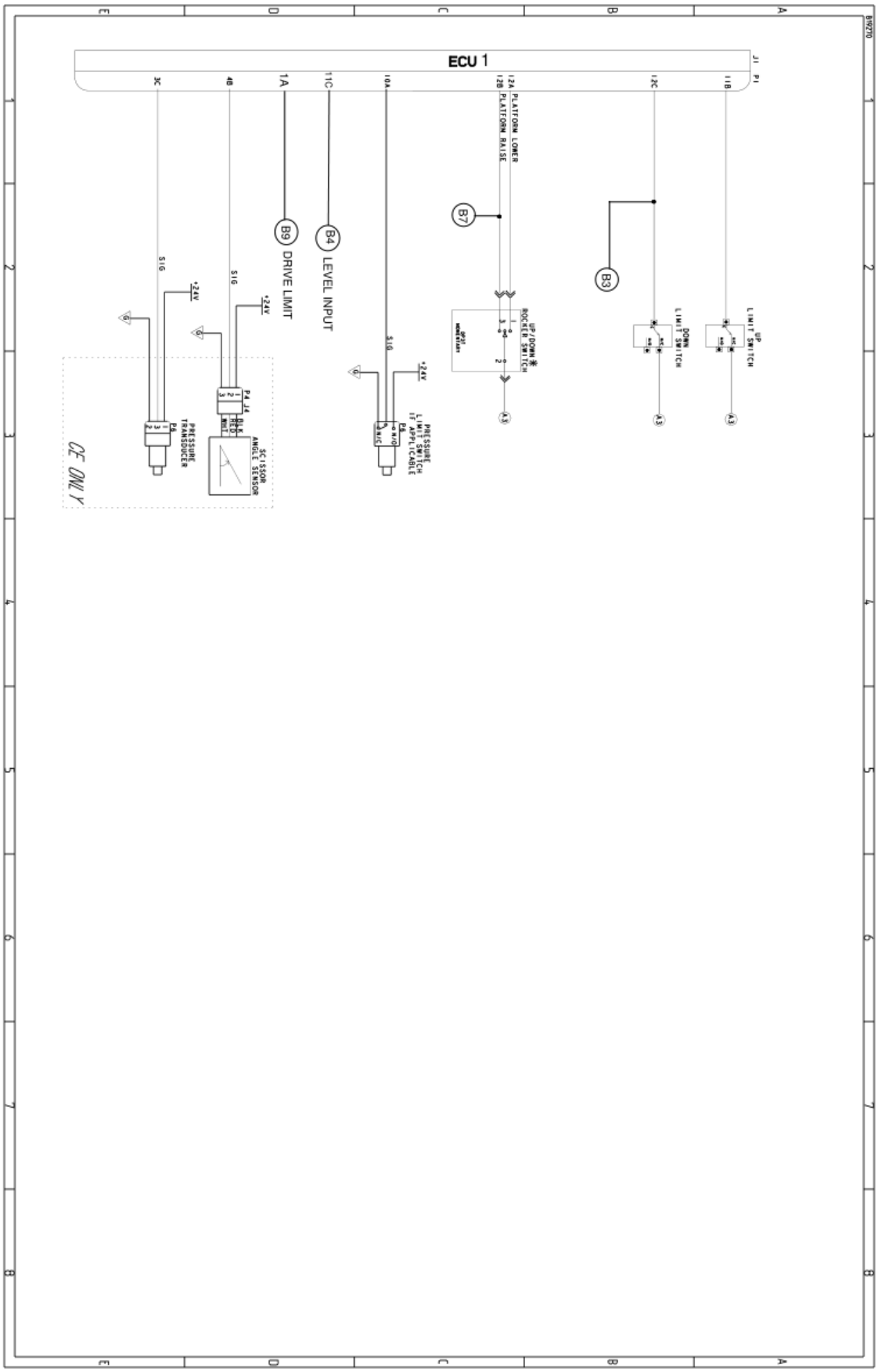
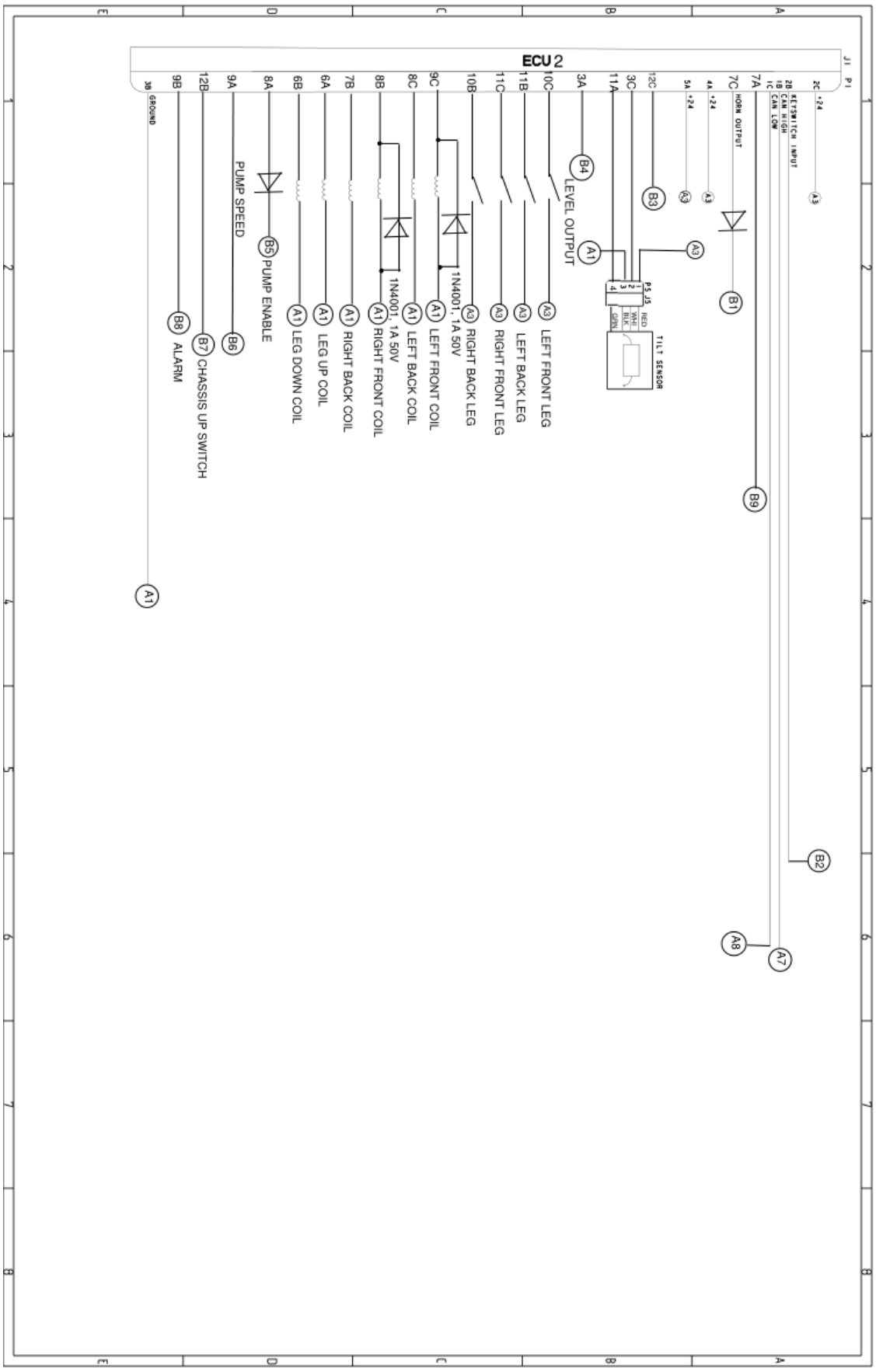

1 2 3 4 5
0V
24V
CANH
CANL
1 4 3 2 5
CONNECTOR
EMERGENCY STOP
joystick hull
1 2 3 4
alarm +
alarm —
ALARM
1 2 3 4 5 6 7 8 9 10 11 12 13 14
0-5v
0-5v
0v
0v
analog
left
right
5v
0v
0v
14pin connector
JOTSTICK

Figure 3

68AT/810AT，1012AT/1214AT




ECU 1
B9 DRIVE LIMIT
B4 LEVEL INPUT
B7
B3
PLATFORM LOWER
PLATFORM RAISE
UP/DOWN ROCKER SWITCH
DOWN LIMIT SWITCH
UP LIMIT SWITCH
PRESSURE TRANSDUCER
SCISSOR ANGLE SENSOR
PRESSURE LIMIT SWITCH IF APPLICABLE
CE ONLY
+24V
SIG


ECU 2
J1 P1
2C +24
2B KEYSWITCH INPUT
1B CAN HIGH
1C CAN LOW
7C HORN OUTPUT
7A
4A +24
5A +24
12C
3C
11A
3A
10C
11B
11C
10B
9C
8C
8B
7B
6A
6B
8A
9A
12B
9B
30 GROUND
LEVEL OUTPUT
LEFT FRONT LEG
LEFT BACK LEG
RIGHT FRONT LEG
RIGHT BACK LEG
1N4001, 1A 50V
LEFT FRONT COIL
LEFT BACK COIL
1N4001, 1A 50V
RIGHT FRONT COIL
RIGHT BACK COIL
LEG UP COIL
LEG DOWN COIL
PUMP ENABLE
PUMP SPEED
CHASSIS UP SWITCH
ALARM
P5 J5
RED
WHI
BLK
GRN
TILT SENSOR
B1
B2
B3
B4
B5
B6
B7
B8
B9
A1
A3
A7
A8

Maintenance records

Date	Remarks