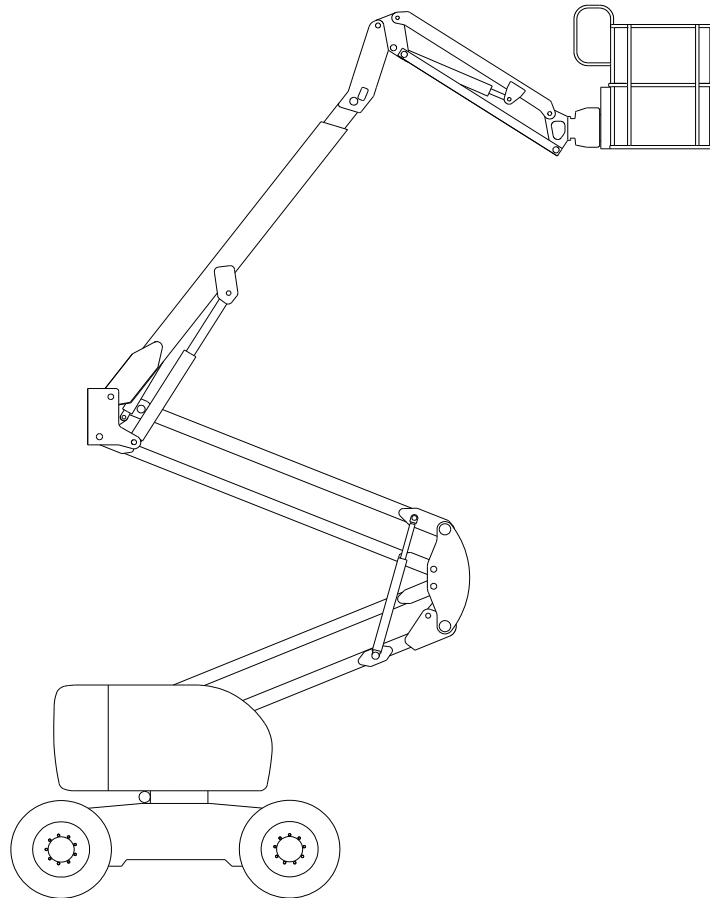




SINOBROOM
星邦重工

Operation Manual

GTZZ15 & GTZZ15J



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Important

You shall read, understand and obey the related safety rules and operator's manual before any maintenance or repair procedures are to be done on the GTZZ15>ZZ15J. Only those through training, or authorization can operate the machine.

This manual is for GTZZ15>ZZ15J, and should be stored together with the machine.

This manual is to provide detailed maintenance instruction for the owner and manufacturer of the product and solutions and procedures to the faults inspection and maintenance for the qualified servicemen.

It shall first know the basic information about the mechanism, hydraulic and electricity to carry out the maintenance procedures; and some particular skills, tools, lifting devices and suitable work places will be required for some maintenance procedures meanwhile. Thus, it is recommended to maintenance and repair the product in the assigned service centers by Sinoboom.

Sinoboom will greatly provide you with the accurate information and excellent service. However, it is Sinoboom's policy to constantly improve our products and the technical specifications may vary without notice, so please update your maintenance books timely.

Sinoboom encourages the readers to inform us the defects and provide the solutions and we will carefully consider all the opinions and make it as the reference for the maintenance books the other manuals revise and updating.

Please be free to contact Sinoboom if you get any question for Sinoboom products.

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1. Safety Rules



Danger

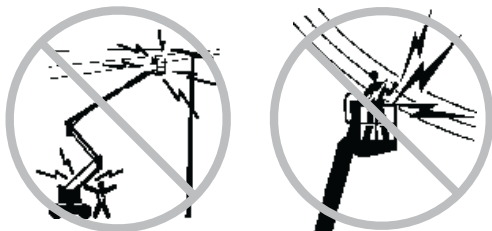
It will cause death or serious injury if failed to obey the instructions and safety rules in this manual.

Do NOT operate unless:

- ✓ You understood fully and operated the safe operation rules in this manual.
 1. Avoid dangerous situations.
 - Knew and understood the above rules before going to next steps
 2. Inspect the machine before operation.
 3. Test the functions before operation.
 4. Inspect the workplace before operation.
 5. Only use the machine as per its design intention.
- ✓ Should read, understand and obey the instruction and safety rules by manufacturer :
 1. safety manual, operation manual and the pasted labels on the machine ;
 2. the operator's safety rules and workplace rules ;
 3. the applicable rules by the related government .
- ✓ You are trained about the safe operation to the machine .

1.1 Electrocutation Hazard

This machine is NOT insulated, and it provides NO electrocutation protection.



Keep away from the power lines and machine according to the governmental regulars and the instructions in the table below.

Voltage (phase to phase)	Min. safety distance (m)
0 to 300V	NO touch
300V to 50KV	3.1
50KV to 200 KV	4.6
200KV to 350 KV	6.1
350KV to 500 KV	7.62
500KV to 750 KV	10.67
750KV to 1000 KV	13.72

When operating the machine, it should take the machine and platform movements into account, as well as the effect on the safety distance by the cables swing or loosen in the strong wind or gusty wind, to increase the safety distance properly.

Please keep away from the machine if the machine is connected to the live cables. No touch by the persons on the ground and NO operation by the persons in the platform before the power are cut off.

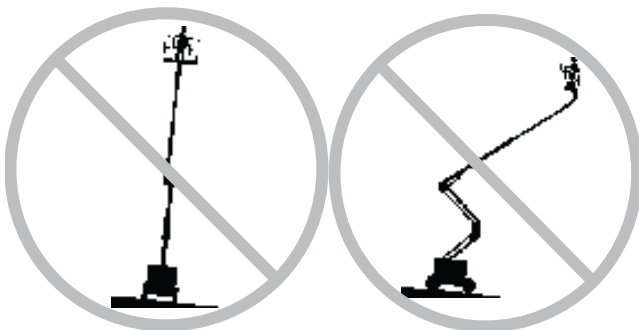
Do not use the machine to weld, unless the machine is installed the weld line options to the platform and installed correctly.

1.2 Tip-over Hazard

It shall not exceed the max. platform capacity for the persons, devices and materials.

Platform capacity max.	250kg
Persons allowed max.	2

The boom can only be lifted or extended when the machine is on the solid and flat ground.



Do NOT regard the tilt alarm as the level indicator. The tilt alarm on the platform will sound only when the machine is severely tilted.

If the tilt alarm sounds, then:

- ※ Do not extend, rotate the boom or vary its amplitude.
- ※ Move the machine to the solid and horizontal ground.

※ Carefully enough stow the boom and drop down the platform if the tilt alarm sounds as the platform is lifting, and Do NOT rotate the boom during the dropping process. Move the machine to the solid and horizontal ground before lifting the platform.

※ Do NOT use the platform controller to release the platform when it is tripped, clipped or hindered its normal movements by other nearby objects. If the platform is planned to be released by the ground controller, it shall be not operated until all people leave the platform.

※ Do NOT change or damage the limit-switch.

※ Do NOT operate the machine in strong or gusty wind.

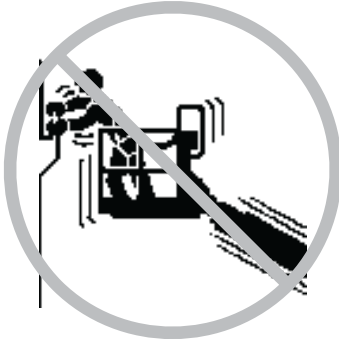
※ Do NOT increase the area of the platform or loads which is exposed in the wind, otherwise it will reduce the stability of the machine.



※ When stowed, it shall be driven extremely carefully and slow down the drive speed on the uneven or steep slope areas, unstable with gravel or slippery ground or approaching area near the cave, etc.

※ When boom raised or extended, it shall NOT be driven on or near the slope, unstable ground, in other dangerous conditions or near the dangerous areas.

※ Do NOT push or pull any objects outside the platform.



Max. allowable force	
For ANSI and CSA	667N
For CE and AS	400N

※ Do NOT change, or damage any components which may influence the safety and stability of the whole machine

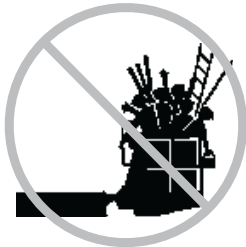
※ Do NOT adopt the components which vary the weight or specifications from the key components to replace them, which may influence the stability.

※ Do NOT modify or amend the aerial work platform without the written permission by the manufacturer.

※ It will increase the platform weight and platform surface area or loads if some additional devices which are used to place tools or other materials are installed on the platform, footswitch or guardrails.



※ Do NOT lay or tie some overhung loads on any parts of the machine.



※ Do NOT place the ladders or scaffoldings inside the platform, or close to any parts of the machine.

※ Do NOT use the machine on the moving vehicles or board, or floating ground.

※ Be sure that all tires are in good condition and slotted bolts are screwed tightly. Do NOT use the pneumatic treys.

Safety rules

Do NOT take the machine as crane.

Do NOT push other objects by the machine booms.

Do NOT place the boom together with the nearby objects.

Do NOT place the boom or platform together with the nearby objects.

Do NOT put the load outside of the platform.

1.3 Falling Hazard



Every person to enter the platform shall wear the safety belt or use other security devices in accordance with the governmental regulations. And all the lacing wires shall be tied at some fixed points on the platform.

Operator must put on qualified safety helmet before operating the machine.



Do NOT sit in, stand on or climb the guardrails on the platform. Persons in the platform shall stand steadily on the bottom plate at any time.



Do NOT climb down the platform or boom

Keep NO barrier on the bottom plate of the platform.

Lay down the mid-rail of the platform guardrails or lock the entrance gate before operation.

1.4 Human Body Injury Hazard

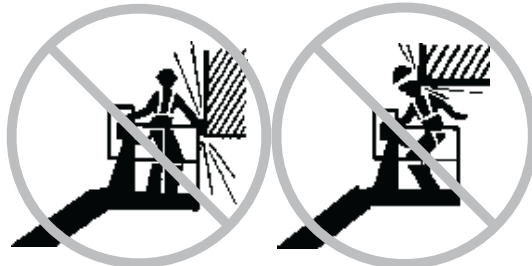
Do NOT operate the machine in case of hydraulic oil or compressed gas leakage, as they may penetrate through or burn the skin.

1.5 Crush Hazard



When operate the machine, the objects in the range of visibility and/or blind spots should be paid attention to.

When rotating the turntable, please take care of the position of the boom.



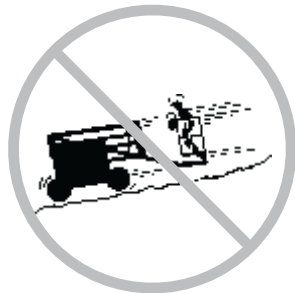
Inspect the working area, to prevent bumping heads on the barriers or other possible crush hazard occurred.

Beware of the danger of hand being squeezed when gripping the guardrails of the platform.

Observation and use: there are circular and square marks and arrows indicating the driving and steering directions on the control panel of the platform controller and drive chassis.



It cannot lift down the boom until there is NO person or barrier in the area underneath



It shall limit the travel speed according to the ground condition, crowdedness, slope grade, person position and other possible factors may cause crush accident.

Do NOT operate the boom on any crane route unless the crane controller has been locked and/or taken precautions to prevent any potential crush hazard.

Do NOT drive or operate the machine in risk, savagely or with fun or in any un-proper manner.

1.6 Explosion and Fire Hazard

Do NOT start the engine if any liquefied petroleum gas(LPG), gasoline, diesel fuel or other explosive materials are smelt or detected.

Do NOT fill the fuel when running the engine.

It shall not fill the fuel and charge the battery unless it is in the open and well-ventilated area which is also away from fire sources such as sparkle, flame and lit cigarettes etc.

Do NOT use the machine in the area which is dangerous or full of flammable or explosive gas or particles.

1.7 Damage Hazard to the Machine

Do NOT use the damaged or faulty machine.

For each work transferring or shifting, the machine should be fully checked before operation, and all the functions must be tested. The damaged or faulty machine should be marked and no operation allowed.

Be sure that it has completed all the maintenance operation according to this manual and related maintenance manual.

Be sure that all the labels are in correct position and easy to be identified.

Be sure the operator's, safety and responsibilities manuals are complete, legible and in the storage container located on the platform for easy availability.

1.8 Safety on the Storage Battery

Burn Injury

Storage battery contains acid materials, when doing maintenance on it exposure suit and glasses should be wore to keep away from any acid material leakage. Soda water can be used to counteract the leaked acid material leakage.

Explosion Injury

Fire sources such as sparkle, flame and lit cigarettes etc are forbidden to be close to the storage battery, as it may release flammable gas.

Electric shock risk

Avoid touching electriferous terminal block.

1.9 Parts Damage Hazard

Do NOT use any storage battery or charger which is more than 12V to start the engine.

Do not regard the machine as earth wire when doing welding jobs.

Ensure of having turn on the hydraulic valve (near the hydraulic oil container) before starting the engine.

2. Label Definition



Safety warning symbol—to indicate the potential body injury. It shall obey all the safety tips of the label, to prevent the possible injury or death.

Red—to indicate the dangerous or urgent situation occurred, which would result in death or bad injury if it is not avoided.

Orange—to indicate the potential dangers existing, which would result in death or bad injury if it is not avoided.

Yellow and safety warning symbol—to indicate the potential dangers existing, which would result minor or some body injury if it is not avoided.

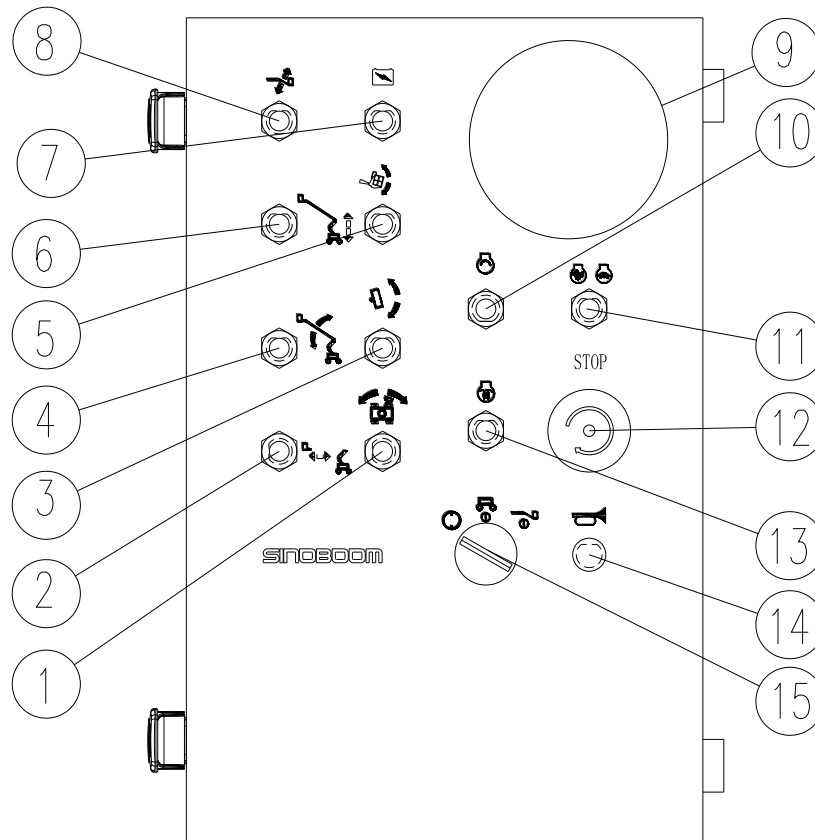
Yellow without safety warning symbol—to indicate the potential dangers existing, which would result in property loss.

Green—to indicate the operation or maintenance instruction.

Control Panel

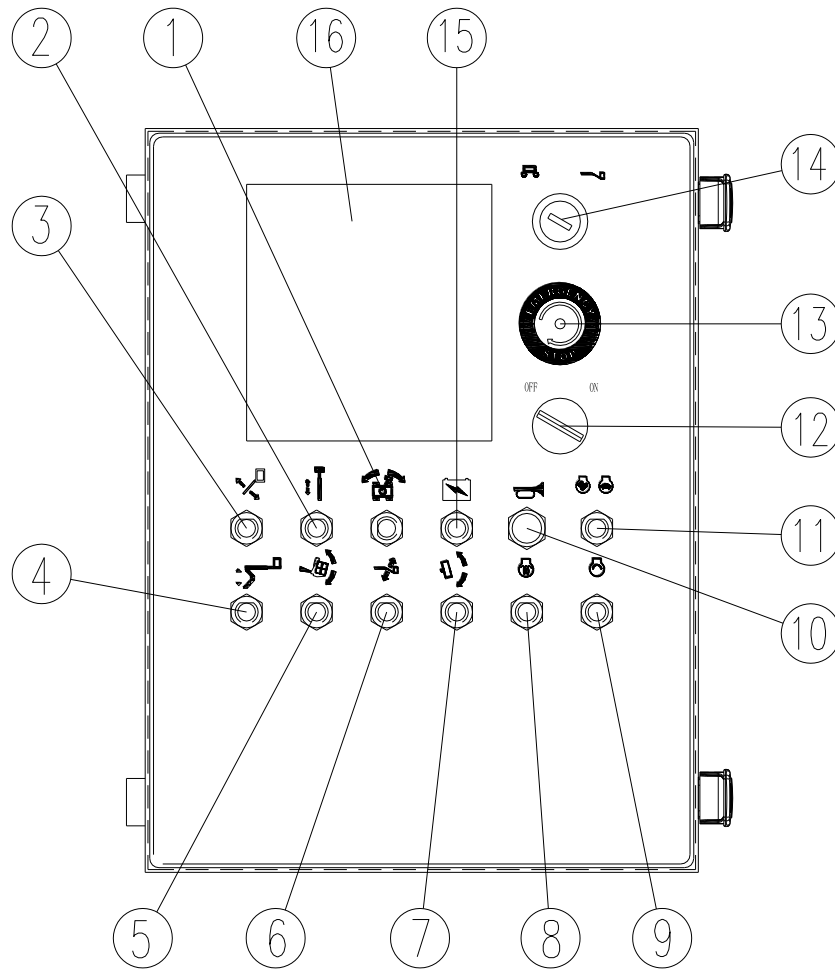
There are two controller, one is located in the ground control panel on the turntable, other is in the platform control panel in the platform.

Ground control panel: GTZZ15



- | | |
|---|--|
| 1. switch for turntable rotation | 9. Fuel Hour Meter |
| 2. Switch for boom extension and retraction | 10. Engine start switch |
| 3. switch for platform rotation | 11. Engine high/low speed switch |
| 4. Switch for boom up and down | 12. Emergency stop button |
| 5. Switch for platform manual leveling | 13. Engine pre-heating switch |
| 6. Switch for articulated boom up and down | 14. Horn switch |
| 7. Auxiliary power switch | 15. Switch for ground / platform control shift |
| 8. Switch for fly-jib up and down | |

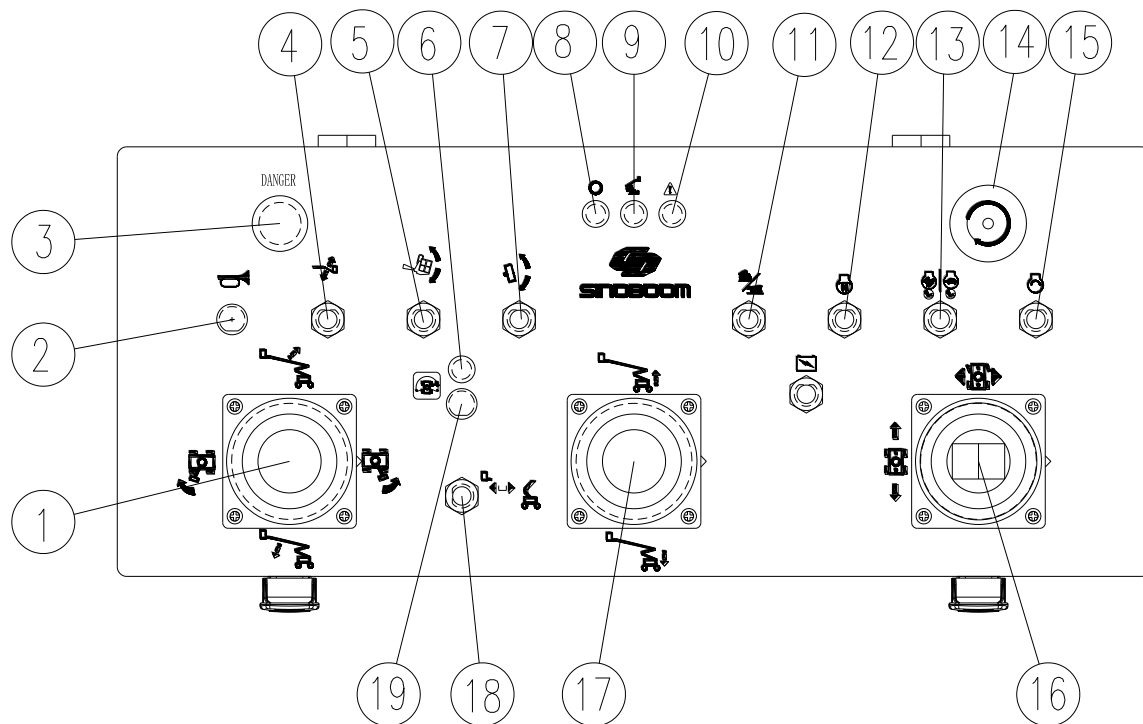
Ground control panel: GTZZ15J



- | | |
|---|--|
| 1. switch for turnable rotation | 9. Engine start switch |
| 2. Switch for boom extension and retraction | 10. Horn switch |
| 3. Switch for boom up and down | 11. Engine high/low speed switch |
| 4. Switch for articulated boom up and down | 12. Key switch |
| 5. Switch for platform manual leveling | 13. Emergency stop button |
| 6. Switch for jib up and down | 14. Switch for ground / platform control shift |
| 7. switch for platform rotation | 15. Auxiliary power switch |
| 8. Engine pre-heating switch | 16. Display |

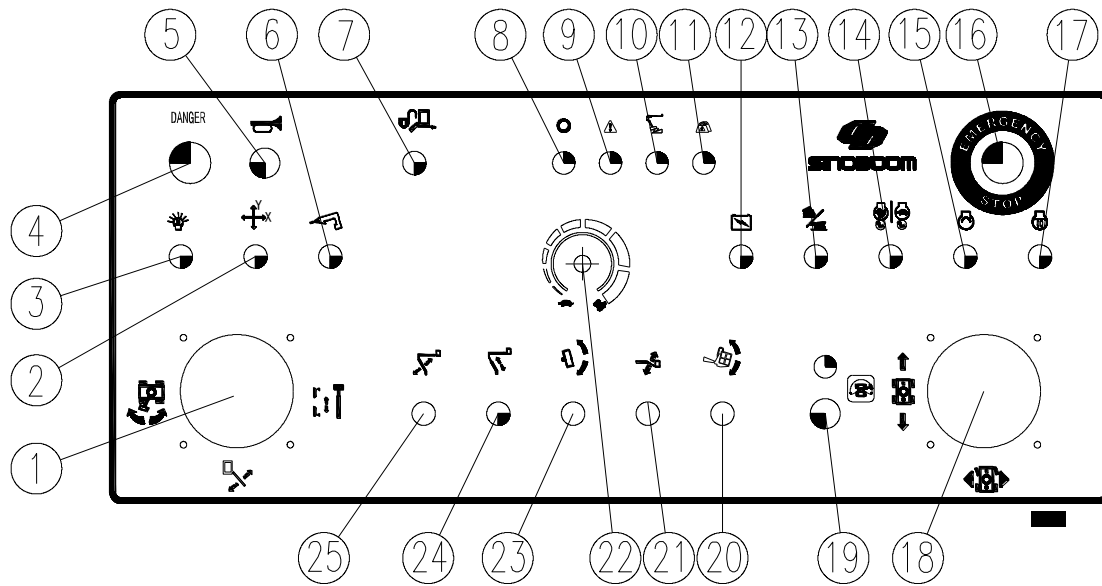
Platform control panel:

GTZZ15



- | | |
|---|--|
| 1. Telescopic extended/descended and turntable slewing two axes ratio control handle. | 11. Driving high/low speed switch |
| 2. Horn button | 12. Engine pre-heating switch |
| 3. Buzzer /Indicator | 13. Engine high/low speed switch |
| 4. Switch for jib up/down | 14. Emergency stop button |
| 5. Switch for platform manual leveling | 15. Engine start switch |
| 6. Indicator light for rear area | 16. Proportional joystick for driving and rotation |
| 7. Switch for platform rotation | 17. Switch for articulated boom up and down |
| 8. Power Indicator | 18. Switch for basic boom extension and retraction |
| 9. Alert indicator light for tilt chassis | 19. The back of drive start button. |
| 10. Alert indicator light for failure | |

GTZZ15J



1. Telescopic extended/descended and turntable slewing two axes ratio control handle.

2. beeline switch

3. Work night

4. Buzzer /Indicator

5. Horn button

6. Switch of dynamotor

7. Soft touch

8. Power Indicator

9. Alert indicator light for failure

10. Alert indicator light for tilt chassis

11. Alert indicator light for overweight

12. Engine pre-heating switch

13. Driving high/low speed switch

14. Engine high/low speed switch

15. Engine start switch

16. Emergency stop button

17. Engine pre-heating switch

18. Proportional joystick for driving and rotation

19. The back of drive start button.

20. Switch for platform manual leveling

21. Jib for up and down

22. Function speed control

23. Platform rotate

24. Main boom telescope

25. Tower boom lift

Inspection before operation



Do NOT operate, unless:

- ✓ You have known and practiced the safe operation rules in this manual.
 1. to avoid dangerous situation occurred.
 2. to understand and know clearly the rules above before next steps
 3. always to inspect before operation
 4. always to do the function tests before operation.
 5. to inspect the work place.
 6. only to use the machine as per its design intention.

Basic procedures

It is every operator's responsibility to conduct inspection before operation and regular maintenance.

It is an intuitive process to inspect before operation and shall be carried out by operators before every shift. It aims to check whether there are obvious problems in the machine before operators functions test.

It can be sure whether the regular maintenance procedures are needed via inspection before operation. Only the regular maintenance procedures can be carried out by the operators.

Please search the list in the following page to check whether there is any part changed, damaged, loosened or missed in every item and position.

It is not allowed to use the damaged or amended machines. It shall mark the machines and stop using when any difference or damage is found from its release from the manufacturer.

Only the qualified technician can repair the machine according to the rules by manufacturer. The operators shall inspect the machine before operation again after the repair and before the functions tests.

In accordance with the requirements by manufacturer and listed in the responsibility manual, it should be carried out the periodical maintenance and repair by the qualified technicians.

Checklist before operation

- ✧ Be sure the operator's, safety and responsibilities manuals are complete, legible and in the storage container located on the platform for easy availability.
- ✧ Be sure all the label are clear and easy for reading in the right and proper position, here please refer to the "Label" instructions.
- ✧ Check whether the engine fuel leaks or it is at a suitable level and fill it when required. Please see to the "maintenance" instructions.
- ✧ Check whether the hydraulic oil leaks or it is at a suitable level and fill it when required. Please see to "maintenance" instructions.
- ✧ Check whether the engine coolant oil leaks or it is at a suitable level and fill distilled water when required. Please see to "maintenance" instructions.

Check whether the following parts or areas are damaged and whether any parts are improperly installed, loosened or missed.

- Electric parts, connecting wires and cables.
 - Hydraulic hose, coupling, cylinder and counterbalance valve.
 - Fuel and hydraulic tank.
 - Drive motor, drive gear reducer, wheel hub, turntable gear reducer and all motors.
 - The rods and gaskets for the boom and axle.
 - Tire and rim
 - Engine and some related parts.
 - Limit switch, sensors and horn
 - Alarm and indicator light(if equipped)
 - Nuts, bolts and other fastening items.
 - The mid-rail or gate of platform access
-
- ✧ Be sure that all the structural parts and other key parts, all the related fastening items and dowels are in right position and screwed fully.
 - ✧ Be sure that all the bulkhead covers are in right position and locked fully.

Check the whole machine to find:

- ✧ Weld seam or the seam on the structural parts.
- ✧ Dents or damages on the machine
- ✧ Be sure that all the structural parts and other key parts are completed, and all the related fastening items and dowels are in right position and screwed fully.
- ✧ Be sure that all the bulkhead covers are in right position and locked fully.

3. Maintenance



Comply with and obey the following rules:

- ✓ The operators can only implement the routine maintenance items of this manual.
- ✓ According to the manufacturer's rules and specified requirements of this manual, the routine maintenance inspection must be completed by qualified maintenance technician.
- ✓

Label Definition for Maintenance

NOTICE

The following signs are used in this manual to help explain the relevant meaning of usage expression. One or more signs appear in front of the maintenance procedure express different meaning as follow.



Indicate implementation of this procedure needs tools.



Indicate implementation of this procedure needs new spare parts.



Indicate the engine must be in cold status before implement this procedure.

Check the engine oil level



Keeping appropriate engine oil level is essential for maintaining good engine performance and service life. Operating the machines with inappropriate oil level will damage engine parts.

NOTICE

Shut down the engine and check oil level.

Check engine oil level gauge, add oil as required.

Result: oil level is within the "Safe" area level range in the oil gauge.

1.YANMAR Engine

oil viscosity requirement when temperature is:

Lower than 15.5°C	5W-20
-------------------	-------

-23°C through to 32°C	10W-20
-----------------------	--------

Higher than -23°C	15W-20
-------------------	--------

Higher than -40°C	20W-50
-------------------	--------

Engine oil should refer to the grade of CC/SE,CD/SE,CF/SE or CF/CD, classified by America API.

2.YUCHAI Engine

oil viscosity requirement when temperature is:

Lower than 15.5°C	5W-20
-------------------	-------

-23°C through to 32°C	10W-20
-----------------------	--------

Higher than -23°C	15W-20
-------------------	--------

Higher than -40°C	20W-50
-------------------	--------

Engine oil should refer to the grade of CC/SE,CD/SE,CF/SE or CF/CD, classified by America API.

3.PERKINS Engine

oil viscosity requirement when temperature is:

Lower than 15.5°C	5W-20
-------------------	-------

-23°C through to 32°C	10W-20
-----------------------	--------

Higher than -23°C	15W-20
-------------------	--------

Higher than -40°C	20W-50
-------------------	--------

Engine oil should refer to the grade of CC/SE,CD/SE,CF/SE or CF/CD, classified by America API.

4.DEUTZ Engine

oil viscosity requirement when temperature is :

Lower than 15.5°C	5W-20
-------------------	-------

-23°C through to 32°C	10W-20
-----------------------	--------

Higher than -23°C	15W-20
-------------------	--------

Higher than -40°C	20W-50
-------------------	--------

Engine oil should refer to the grade of CC/SE,CD/SE,CF/SE or CF/CD, classified by America API.

Check the engine coolant oil level



Keeping appropriate engine coolant oil level is essential for the engine lifespan. Hydraulic components will be damaged or the engine cooling will be influenced if engine coolant oil level is inappropriate. Inspectors can determine the position change of coolant oil level through routine inspections and this change may indicate problems occurred in cooling system.

NOTICE

Take care of scorching engine parts and coolant oil, any touch of it may cause serious scald.

Check the coolant level in the coolant water container, and add coolant when required.

- ◆ Result: coolant level should be at the FULL mark level.

NOTICE

Do NOT dismantle the heat radiator cover.

Check the battery

Sound battery condition is essential for good engine performance and safe operation. Inappropriate electrolyte liquid level or damaged cables and wiring could lead to damage of engine parts and dangerous situations.

⚠ WARNING



Risk of electric shock Touch an electric circuit could lead to death or serious injury. Remove all rings, watches and other accouterments.

⚠ WARNING



Risk of body injury There's acid material in the battery. Please prevent acid leakage from the battery and exposure of them. Counteract leaked acid from batteries with soda water.

- 1、 Wearing exposure suit and protective lens.
- 2、 Ensuring the connected wirings of battery cable has not been corrosive.
- 3、 Ensuring the battery firmly fixed, and connected wiring of cable fastens well.
- 4、 Remove the ventilation cover of the battery.
- 5、 Check acid liquid level of the battery. Add distilled water to the bottom of the pipette of the batteries if needed. Please not to over-filled.
- 6、 Fitted with ventilation cover.

Adding terminal protectors and anti-corrosion sealant will help eliminate the corrosion on battery terminals and cable.

NOTICE

Time Schedule

There are five types of maintenance inspection in accordance with the time schedule – daily inspection, quarterly inspection, six months' inspection, annual inspection and biennial inspection. Considering the duplicate procedures, "Scheduled maintenance procedures" and "maintenance inspection report" is made up as five segments, A, B, C, D and E. You can determine the necessary procedures combination according to the following table to implement scheduled inspections.

Inspections Time Schedule	Inspection tablelist
Daily or every 8 hours	A
Quarterly or every 250 hours	A+B
Every 6 months or every 500 hours	A+B+C
Annually or every 1000 hours	A+B+C+D
Biennially or every 2000 hours	A+B+C+D+E

Maintenance & Repair Reports

Maintenance inspection report contains every type of periodical inspection checklist.

Maintenance inspection reports are copied for each inspection. All reports will be kept for three years.

Function Test



Do not operate the machine unless:

- ✓ You have mastered and practiced the safe operation rules of this machine in this operation manual.
 - 1、 To avoid dangerous situations
 - 2、 Always inspect the machine before operation.
 - 3、 Always implement function test before application.

Understand the above rules before your next step.

- 4、 Check work place.

-
5. Use the machine only according to the design purpose of the machine.

Basic Principle

The purpose of function test is to find faults before use the machine. Operators must follow explanations of every step to test all the function of the machine.

It is prohibit using machines with faults. The machine must be marked and stop using if any faults was found. According to the manufacturer's stipulation, only qualified technicians can repair the machine.

After the maintenance, operators must implement Inspections before operation and function inspection before using the machine.

Symbol instruction

◆ Instructing the possible particular result after finishing the serial of procedures.

1. Choose a strong, horizontal region without barriers as test zone.

For the Turntable Controller

1. Turn select switch to Turntable controller

2. Pull out red "Emergency Stop" to "ON" position

◆ Result: the indictor light (if equipped) will flash.

3. Start the engine. (Please see to "Instruction of Operation")

Test the Emergency Stop

1. Press red "Emergency Stop" to "OFF" position

◆ Result: The engine will be stopped in 2 or 3 seconds.

2. Pull out red "Emergency Stop" to "ON" position and restart engine.

Test the machine functions

1. Do NOT turn the Function start switch to any side and try to start the function switch of every boom and the platform.

◆ Result: all the functions of the chassis and platform can not be operated.

2. Turn the function start switch to any side and start the function switch of every boom and platform.

Test the auxiliary control

1. Turn the key switch to the turntable controller and then stop the engine.

2. Pull out the red "Emergency Stop" to the "ON" position

3. Meanwhile, keep the auxiliary control switch at the ON position and start the function

switch of every boom.

Note: To save battery power, please test each function in the segment of the circle.

◆ Results: All functions should be run.

For the platform controller

Test the Emergency Stop

1. Turn the key switch to the platform controller and restart the engine.
2. Turn the red “Emergency stop” switch of the platform controller to the “OFF” position

◆ Result: The engine will be stopped in 2 or 3 seconds.

3. Pull out red “Emergency Stop” and then restart the engine.

Test the horn

1. Press horn button.

◆ Result: The horn can be sounded.

Test the footswitch

2. Turn the red “Emergency Stop” button to the “OFF” position
3. Turn the red “Emergency Stop” button to the “ON” position but do NOT start the engine.
4. Press down the footswitch and try to start the engine by pulling the “start engine” button

◆ Result: The engine can NOT be activated.

5. Re-start the engine without pulling the footswitch.

◆ Result: The engine can be activated.

6. Test every function of the machine without pulling the footswitch.

◆ Result: the functions of the machine can NOT be activated.

Test the functions of the machine

7. Press the footswitch.
8. Activate every function-control handle or switch of the machine respectively.

◆ Result: all the functions can be normally operated.

Test the steer function

9. Press the footswitch.
10. Press down the seesaw switch at the head of the drive control handle according to the

direction pointed by the blue triangle on the control panel.

- ◆ Result: the steering tire should be steered as the direction pointed by the blue triangle on the drive chassis.

11. Press down the seesaw switch at the head of the drive control handle according to the direction by the yellow triangle on the control panel.

- ◆ Result: The steering tire should be steered as the direction pointed by the yellow triangle on the drive chassis.

Test the drive and brake function

12. Press footswitch.

13. Please move drive control handle slowly in accordance with the direction of yellow arrow on the control panel until the machine start to move, and then return the handle to the center place.

- ◆ Result: the machine should be moved in accordance with the direction of yellow arrow on the drive chassis, and then suddenly stop.

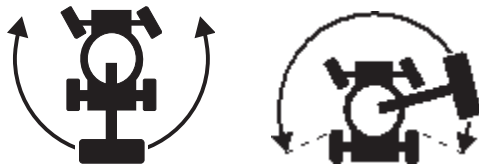
14. Move drive control handler slowly in accordance with the direction of yellow arrow on the control panel until the machine start to move, and then return the handle to the center place.

- ◆ Results: The machine should be move in accordance with the direction of the yellow arrow and then suddenly stop.

Test the drive activation function

15. Press down the footswitch and then stow the booms to the saved position.

16. Rotate the turntable, till the boom structure has been rotated over a non-steering wheel.



- ◆ Result: the indicator light of the drive activation function will turn on when the boom structure is in the scale as the figure showed above.

17. Move the drive control handler until it deviate from the center location.

- ◆ Result: The drive function can NOT be operated.

18. Press down the drive function button and operate the drive function handle slowly to make it deviate from the center location.

- ◆ Result: the drive function can be operated.

Note: the machine will move to the opposite direction of the traveling handle moving when the drive function is run.

Test the limited drive speed

19. Press down the footswitch.

20. Raise the boom structure to about 62cm high.

-
21. Operate the drive control handle slowly, till it reach the maximum operation position.
 - ◆ Result: the maximum drive speed can reach no higher than 0.3m/s as the major boom is raised.
 22. Low the first boom to the stowed position.
 23. Raise the secondary boom to about 62cm high.
 24. Operate the drive control handle slowly to the maximum operation position.
 - ◆ Result: the maximum travel speed can reach no higher than 0.3m/s as the secondary boom is stowed.
 25. Stow the secondary boom to the saved position.

Test the oscillating axis

26. Test the engine from the platform controller.
27. Drive the right steering wheel to the barrier or road border at 15cm high.
 - ◆ Result: the other three wheels should cling to the ground.
28. Drive the left steering wheel to the barrier or the road border at 15cm.
 - ◆ Result: the other three wheels should cling to the ground.
29. Drive the two steering wheels to the barrier or the road border at 15cm high.
 - ◆ Result: the non-steering wheels should cling to the ground.

Test the auxiliary control

30. Stop the engine.
31. Pull out the red “Emergency Stop” button to the “ON” position.
32. Press down the footswitch.
33. Keep the auxiliary power button is ON and activate control handler or switch for each function of the boom structure.
 - ◆ Results: All the boom and steering function will be run.

Note: To save battery power, please test each function in segments of the circle.

4. Workplace Inspection



Do not operate unless:

- ✓ You have mastered and practiced the safe operation rules in this operation manual.
 1. To avoid dangerous situation
 2. Always check before operation.

Please understand the above rules before your next step.

3. Always implement function test before operation.
4. Check the work place
5. Using the machine only according to the design purpose of the machine.

Basic Principle

“Workplace Inspection” will help operations to determine whether the workplace is fit for the safe operation of the machine. Operators should be carried out this work prior to the machine move to the workplace.

It is the operator’s responsibility to understand and remember the issue of risk in workplace. Operations may pay attention and avoid these problems when move, install and operate the machine.

Workplace Inspections

Be careful and avoid the emergence of the following dangerous situations:

- ✓ Steep slopes or caves.
- ✓ Protruding objects, ground barriers or debris.
- ✓ Air barrier and high-voltage wires
- ✓ Dangerous position
- ✓ Surface that cannot support all loads imposed by the machine.
- ✓ Wind and atmospheric conditions
- ✓ Emergency of unauthorized personnel
- ✓ Other unsafe situations that may occur.

5. Operation Instruction



Do not operate the machine, unless

- You've known about the safe operation rules stipulated in this operational manual and put it into practice already.
 1. To avoid dangerous cases
 2. Always conduct check-up before the operationKnow and understand the above rules before you go ahead with this manual.
- 3. Always conduct performance-test before the use.
- 4. To check up the work site.
- 5. Only use this machine as per its designed intention

Basic principles

“Operation Manual” provides detailed guidelines for each machine performance. It's the operator's duty to obey the operational manual and safety guidelines

Except for sending human and tools to the height, all the others purpose is not safe and will lead to danger situations.

Only well trained and authorized people can be permitted to operate the machine. If more than one people in different working shift operate the machine in different working time, then all of them must be qualified operator and to obey all the operational manual and all the safety guidelines, which means the checking up before start, performance test and checking up work site should all be done before each operator starts the machine.

Start engine

1. Turn the key switch to the required position on the ground controller.
2. Keep the red “Emergency Stop” buttons, both on the ground controller and platform controller, are pulled out to “ON” position
3. Press the switch to start the engine. If engine failed to start or down, then press the start switch again but the interval must be longer than three seconds.

If still failed 15 minutes after the starting, please define the root causes and fix any problems. Another 60 seconds should be waited before one more try of starting.

In the cold weather, the engine should be pre-heated for a 5-minuts to pretend the hydraulic system from ruining.

Emergency stop

Press down the red Emergency stop button to the OFF position, all the functions and the engine will be stopped.

All maintenance operation shall be done as the Emergency stop button is pressed down.

Auxiliary control

If there is any failure in the engine, please use the auxiliary power to instead.

1. Turn the switch to ground or platform controller.
2. Pull out the red emergency stop button to "ON" position.
3. Step on the footswitch when operating the auxiliary controller.
4. Keep the auxiliary power switch is in the ON position and starts the needed functions.

It can not be operated when the auxiliary power is being used for the drive and steering functions.

Operation on the ground

- 1、 Turn the switch to ground controller.
- 2、 Pull the red emergency stop button to "ON" position.
- 3、 Start the engine.
- 4、 Select the switch for the required function to be operated and then start the function.
- 5、 It is NOT operated for the drive and steering functions on the ground controller.

Operation on the platform

- 1、 Turn the switch to platform controller.
- 2、 Pull the red emergency stop buttons on the ground controller and the platform controller to "ON" position.
- 3、 Start the engine. Do NOT step down the footswitch when starting the engine.
- 4、 Press down the footswitch and select the needed function switches to operate.

Adjust the platform position

- 1、 Press down the footswitch.
- 2、 Operate the related function switches or the control handles slowly based on the symbols on the control panel.

Steering

- 1、 Press down the footswitch.
- 2、 Use the seesaw switch at the head of the drive handle to rotate the steering wheel.

The colorful direction arrow on the platform controller and on the drive chassis helps to define the direction of steering.

Traveling

- 1、 Press footswitch.
- 2、 To increase the speed: move the travel handle slowly to make it deviate from the center position.

To slow down the speed: move the travel handle slowly and make it point to the center.

Stop: return the travel handle to the center position, or loose the footswitch.

The colorful direction arrow on the platform controller and on the drive chassis helps to define the direction of steering.

The travel speed will be restricted when the boom structure is raise.

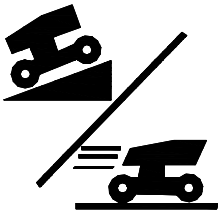
Drive start

As the rear indicator light is on, the boom structure has already moved over one non-steering wheel and the drive function has been stopped.

Press down the drive function button if drive function is required. And press down the footswitch and move slowly the drive control handle to make it deviate from the center position.

The colorful direction arrow on the platform controller and on the drive chassis helps to define the travel direction.

Drive speed selection

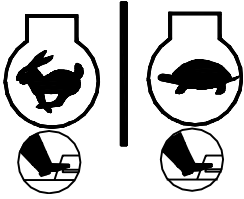


Symbol of the machine slopes: Please operate the machine in the low speed range if the machine slopes.

Symbol of the machine on horizontal level: to gain the maximum drive speed operated in the high speed range.

Engine idle speed selection

Press selection button on the control panel to select the engine idle



Symbol of Rabbit: engine high idle speed

Symbol of Tortoise: engine low idle speed

Check the engine (if equipped)

The indicator light on and engine stopped: mark the machine and stop using.

The indicator light off and the engine working: please contact the serviceman in 24 hours.

Stop the engine

Press down the red Emergency stop button and turn the key switch to the OFF position.

Every time after machine use

1. Stop the machine in a safe place which could be solid leveling ground surface, without obstacles and busy transportation.
2. Boom retracted and lowered to stowed position.
3. Turn the rotation with the boom right between the non-steer tires.
4. Press down the red Emergency button and turn the key to OFF position, to avoid unauthorized usage.
5. Lock the wheels.

6. Transportation



When being transported below rules must be followed:

- ✓ Transport vehicle must be paused on the leveling ground.
- ✓ When loading, the transport vehicle must be fixed to avoid rolling.
- ✓ Ensure the transport vehicle volume, loading surface, fasten belt or rigging enough to support the machine weight. (the weight refers to the specification)
- ✓ Ensure the front wheel has been locked by rotation lock; unlock when start to operate the machine.

Ensure safe transport by truck or trailer

Using rotation lock when transport the machine every time.

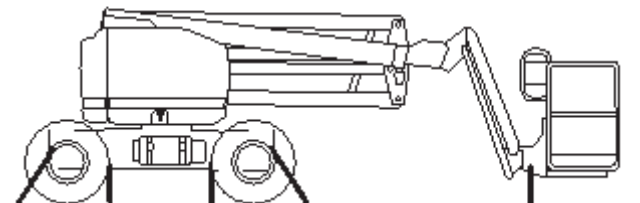
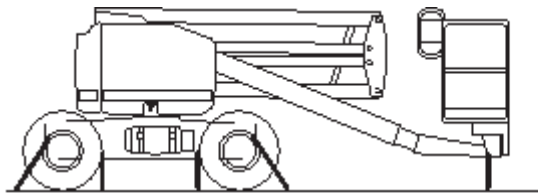
Always lock the machine wheels for transportation.

Fix the machine on the transport surface through the fastening point on the chassis.

Use chain or belt strong enough.

Turn the key to “OFF” position before transportation and un plug the key.

Fully check the machine to ensure no loose nor unfixed parts.

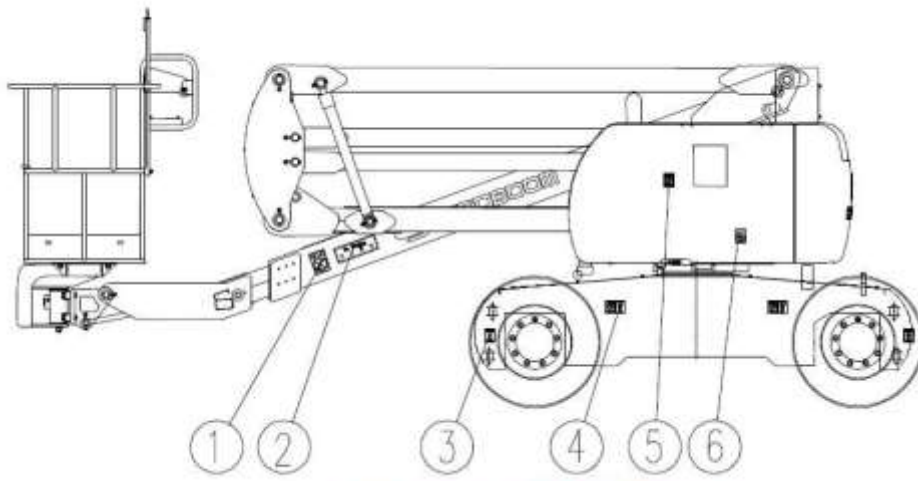


7. Nameplate

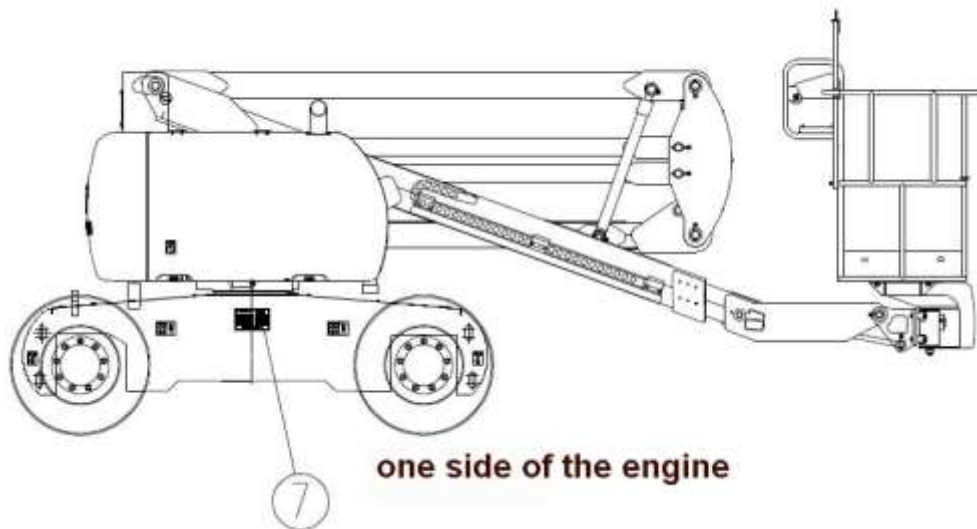
Check whether the nameplate is pasted properly or not as per below table and demonstration.

The following list is the instruction and quantity included:

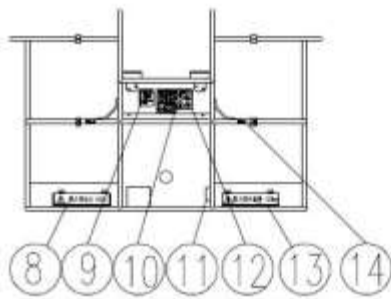
Serial	Description	Qty
1	No Climbing	1
2	No Climbing on the Alarm board	1
3	The lifting points	6
4	No working on slope and max load for each tire is 7000kg.	4
5	Not insulated, keep away from electricity	2
6	No Smoking and Flame around the fuel tank	1
7	Name plate	1
8	Max Force for Working on Platform	1
9	Operation Direction	1
10	Keep away from circuit line when working, no operation when wind speed is above level-6 or 13m/s, observation on underside and flat ground surface is needed when lowering the platform	1
11	Footswitch point	1
12	Wear gloves, anti-slip shoes, safety helmet, safety belt when working	1
13	Platform Rated Load	1
14	Safety belt hung point	2
15	Direction for machine moving forward	1
16	Direction for machine moving rearward	1



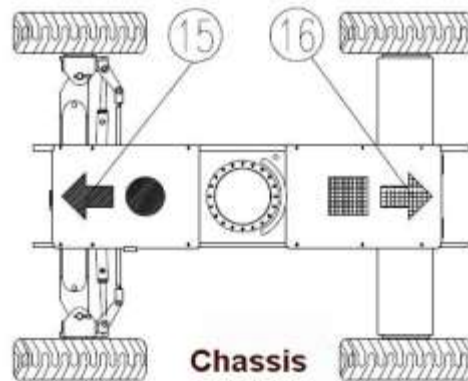
one side of the controller



one side of the engine



Platform



Chassis

7 Specification

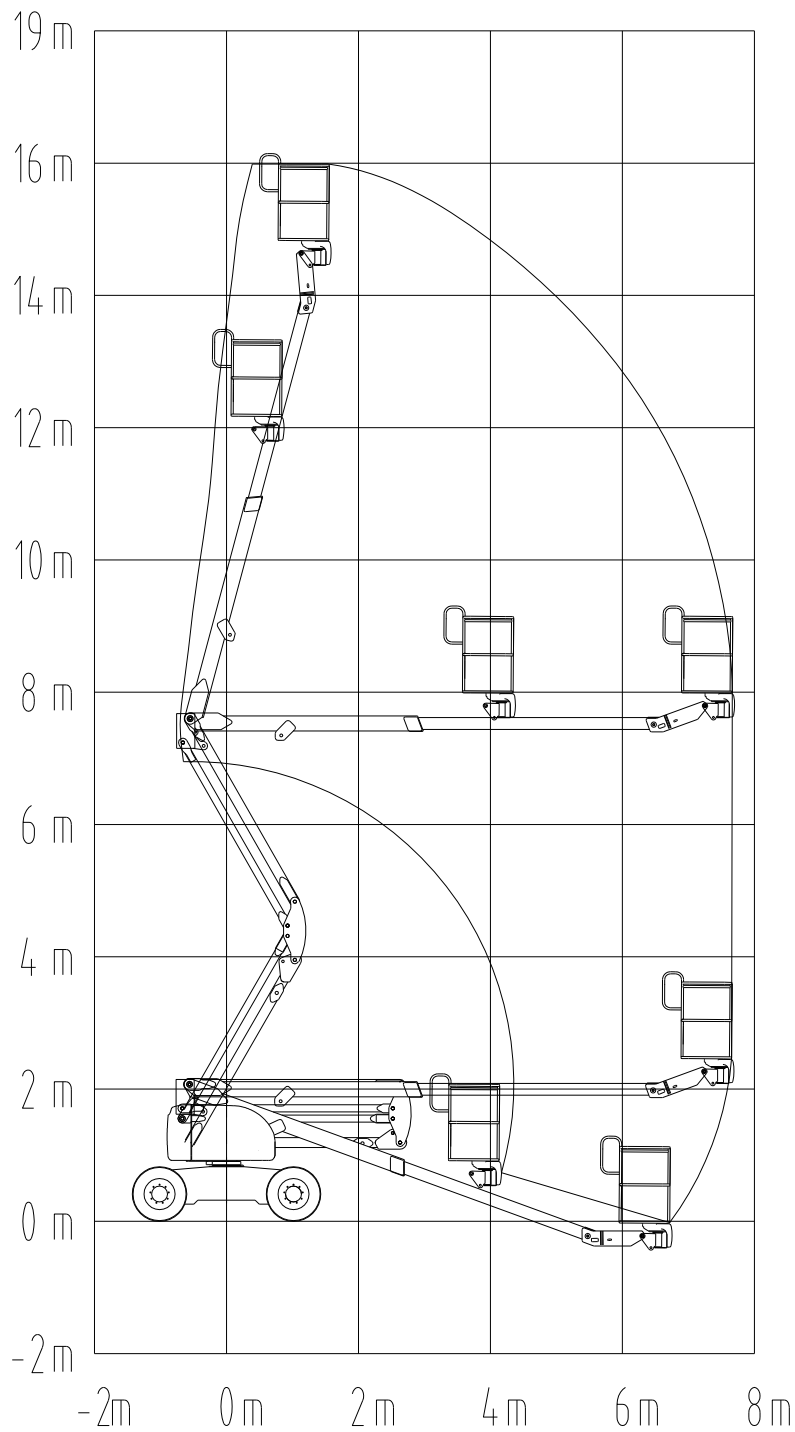
GTZZ15J

Item		Unit	Specification
Working height max.		m	16.7
Platform height max.		m	15
Horizontal reach max.		m	8.5
Height--stowed		m	2.16
Width	2WD	m	2.244
	4WD	m	2.26
Length--stowed		m	7.68
Load capacity		kg	250
Wheelbase		m	2.03
Turning radius——outside		m	4.5
Turning radius——inside		m	1.8
Turntable rotation		°	355
Power	YANMAR	hp	Diesel engine,48hp
	YUCHAI		Diesel engine,45hp
	PERKINS		Diesel engine,45hp
	DEUTZ		Diesel engine,45hp
Travel speed——stowed		km/h	8
Travel speed——boom raised		km/h	1.1
Ground clearance		cm	32
Controller voltage		V	12
Weight		kg	about 6570
Platform dimension (L*W*H)		mm	1830×760×1100
Platform rotation		°	160
Hydraulic pressure		bar	210
Tire specification			300-15
Gradeability	2WD	%	30
	4WD	%	40
Hydraulic tank volume		L	110
Fuel tank volume		L	70

GTZZ15

Item		Unit	Specification
Working height max.		m	16.5
Platform height max.		m	14.8
Horizontal reach max.		m	7.62
Height--stowed		m	2.18
Width	2WD	m	2.1
	4WD	m	2.07
Length--stowed		m	5.56
Load capacity		kg	250
Wheelbase		m	2.2
Turning radius——outside		m	4.5
Turning radius——inside		m	1.7
Turntable rotation		°	355
Power	YANMAR		Diesel engine,48hp
	YUCHAI		Diesel engine,45hp
	PERKINS		Diesel engine,45hp
	DEUTZ		Diesel engine,45hp
Travel speed——stowed		km/h	8
Travel speed——boom raised		km/h	1.1
Ground clearance		cm	32
Controller voltage		V	12
Weight		kg	about 6500
Platform dimension (L*W*H)		mm	1830×760×1100
Platform rotation		°	180
Hydraulic pressure		bar	210
Tire specification			300-15
Gradeability	2WD	%	30
	4WD	%	42
Hydraulic tank volume		L	110
Fuel tank volume		L	70

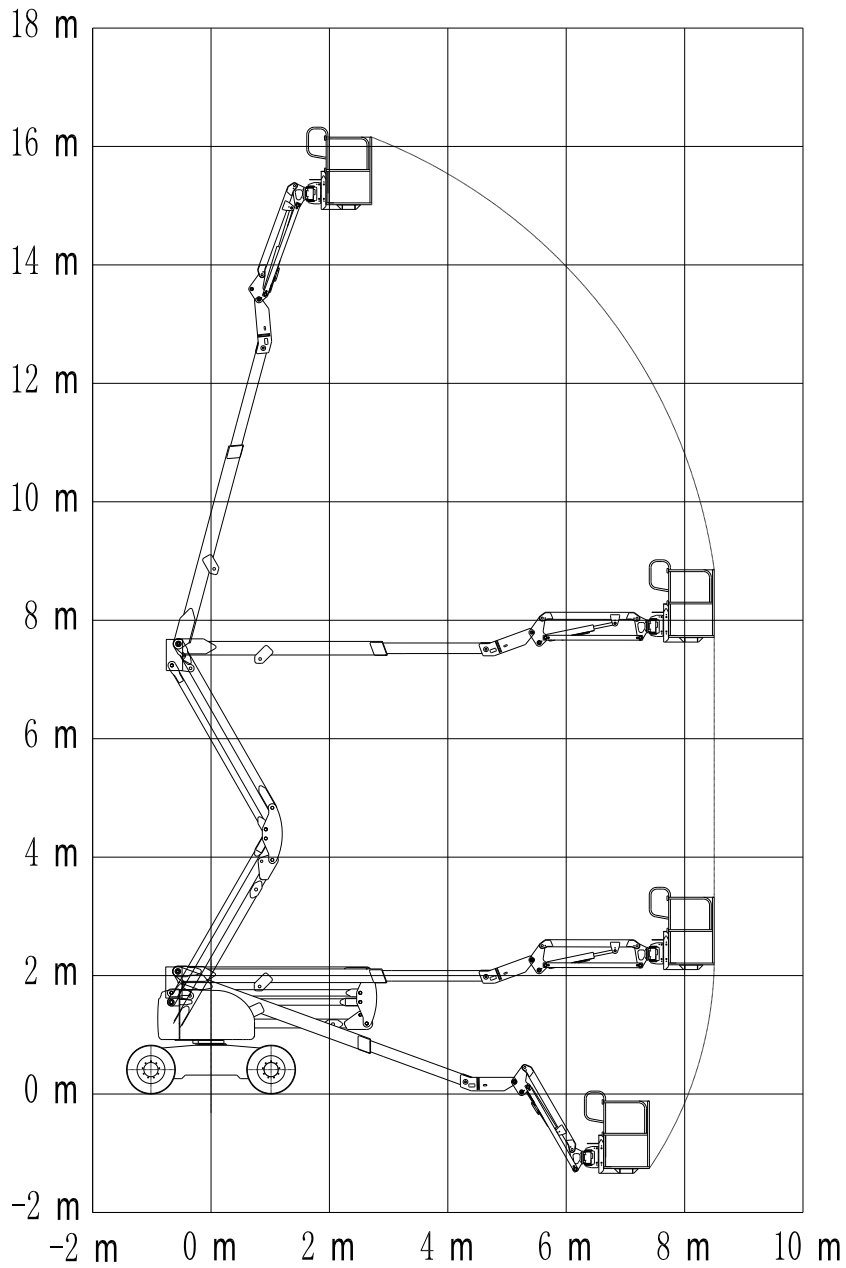
GTZZ15 LIFTING RAIDUS DIAGRAM



Hunan Sinoboom Heavy Industry Co.,Ltd

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GTZZ15J LIFTING RAIDUS DIAGRAM



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