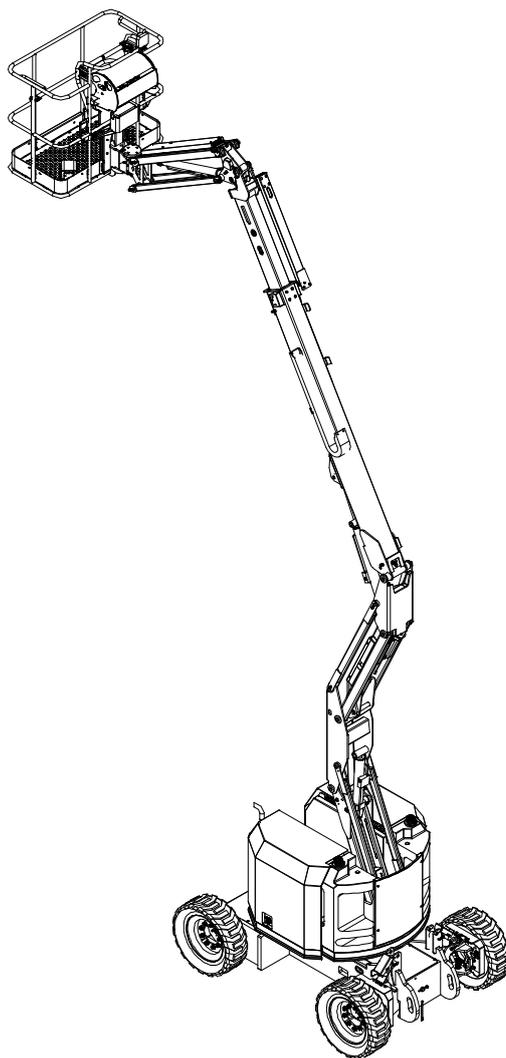


Operator's Manual

with Maintenance Information

BA12RT



Part Number: SM042510311
Version Number: Rev1.0
July 2025 Printing

Original Instructions

Version of the Record

Version of the Record

Version Number

Create Date

SM042510311_Rev1.0 2025-07

Introduction

Important

The manual and certificates should be placed in the platform manual storage container.

Read, understand and obey these safety rules and operating instructions before operating this machine.

Only trained and authorized personnel shall be permitted to operate this machine. This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, please call DINGLI Machinery.

Identification of the Manual

The identification code of the Manual is shown on the cover; it is advisable to note this down in the Inspection Register.

If the Manual is lost, to request a new Manual, mention the code on the cover or the manufacturing number of the machine.

It is advisable to mention the machine manufacturing number on the cover in such a way as to clearly identify the Manual with the machine.

Owners, Users and operators:

We appreciate your choice of our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. We feel that you make a major contribution to safety if you, as the equipment users and operators:

- 1 Comply with employer, job site and governmental rules.
- 2 Read, understand and follow the instructions in this and other manuals supplied with this machine.
- 3 Use good safe work practices in a commonsense way.
- 4 Only have trained / certified operators, directed by informed and knowledgeable supervision, operating the machine.

If there is anything in this manual that is not clear or which you believe should be added, please contact us.

Introduction

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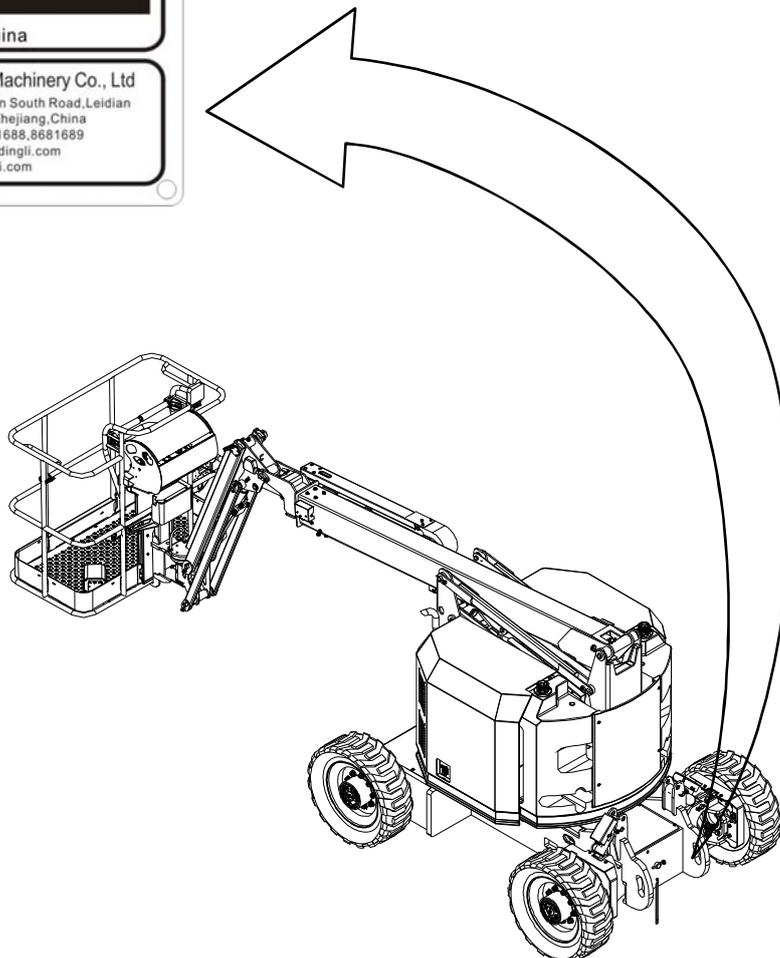
E-mail: market@cndingli.com

Marking

Marking



The identification tag bearing the manufacturing number and CE marking shown here is affixed in the front of the chassis and shows the machine data.



Safety Rules



DANGER

Failure to observe the instructions and safety standards contained in this Manual can cause severe injuries or death.

Before using the vehicle, it is necessary to:

- Understand and apply the fundamental operating principles of the machine in the safety conditions contained in this Operator Manual.

1 Avoid hazard situations.

Read and understand the safety regulations before proceeding with the next section.

- 2 Always carry out the pre-operative inspection.
- 3 Check the work area.
- 4 Always carry out functional test before using the machine.
- 5 Use the machine only for the purposes which it is designed for.

- Read, understand and observe the Manufacturer's instructions and safety regulations, the Safety and Operator's Instruction Manuals and the stickers present on the machine.

- Read, understand and observe the workplace safety standards concerned.
- Read, understand and observe the national regulatory standard in force.
- The machine must be used only by qualified personnel, familiar with the necessary safety standards.

Safety Rules

Hazard Classification

DINGLI product decals use symbols, color coding and signal words to identify the following:



Safety alert symbol — used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Red — used to indicate the presence of an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Orange — used to indicate the presence of a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Yellow with safety alert symbol — used to indicate the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.



Blue without safety alert symbol — used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.

Conditions of use

The machine described in this Manual is designed to lift persons, tools and equipment within the maximum capacity allowed by the platform to the working positions, only for working from the platform. Access to the platform is allowed only from the ground through the entrance gate. The limits of use are described in this Manual.

Any method or condition of use outside the limits of use described or not envisaged by the Manufacturer is strictly forbidden.

Intended Use

This machine is designed only for lifting persons, tools and materials to an aerial work site.

Never use in the conditions outside design without approval of Dingli.

Maintenance of the safety stickers

Replace all missing or damaged safety stickers. Always bear the safety of operators in mind. Use neutral soap and water for cleaning the safety stickers. Do not use cleaning products containing solvents as these can damage the materials of the stickers.

Safety Rules

Protection of personnel from falls

Personal protective equipment (PPE) for protection from falling from heights must be used with this machine.

The workers in the platform must wear a safety belt or harness in compliance with the national regulations in force. Fix the safety cord to the fitting provided on the platform.

The workers must follow the instructions put in place by the employer, the workplace and the national safety standards in force concerning use of the personal protective equipment for protection from falling from a height.

All the PPE must conform to the national safety standards in force and must be checked and used according to the PPE manufacturer's instructions.

⚠ Electrocuting Hazards

The machine has no electrical isolation and does not provide protection from contact or proximity to electricity lines.



Observe the local and national regulatory standards in force concerning the distance required from electricity lines. At least the safety distance indicated in the Table below must be respected.

Line voltage	Minimum distance
From 0 to 50KV	3.05 m
From 50 to 200KV	4.60 m
From 200 to 350KV	6.10 m
From 350 to 500KV	7.62 m
From 500 to 750KV	10.67 m
From 750 to 1,000KV	13.72 m



Move away from the machine in case of contact with live electricity lines. Workers on the ground or on the platform must not touch or operate the machine until the electric power supply has been disconnected.

Do not use the machine in case of thunder storms or lightning. Do not use the machine as earth for carrying out welding operations.

⚠ Danger of tilting over

The workers, equipment and materials must not exceed the maximum capacity of the platform or of the platform extension element.

Maximum platform capacity		
Model	Maximum platform capacity	Maximum number of occupants
BA12RT	Std 272kg	2
	Opt 227kg	2

Do not overload the work platform.

If accessories are used, read, understand and

Safety Rules

follow the indications on the stickers, instructions and Manuals supplied with the accessories.



Do not raise or extend the boom unless the machine is placed on a stable level surface.

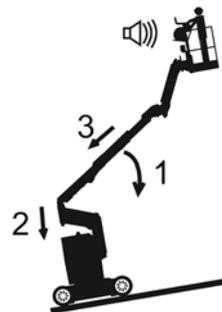
Never exceed the maximum permitted inclination of the truck; the maximum permitted inclination of the truck is indicated in the technical specifications and on the ID plate on-board the machine.

Do not use the inclination alarm as a level indicator. The inclination alarm sounds in the platform only when the machine is on a steep slope.

If the inclination alarm sounds when the boom is lowered, do not extend, rotate or raise the boom with respect to the horizontal position. Move the machine to a stable level surface before lifting the platform.

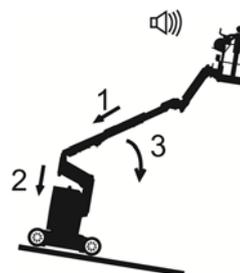
If the inclination alarm sounds while the platform is lifted, use it with utmost care. The indicator lights up if the machine is not level and the side-shift function in one or both directions is not operative. Stabilise the position of the boom with respect to the slope as shown below. Follow the procedure to lower the boom before moving the machine to a stable, level surface. Do not rotate the boom while lowering it.

If the inclination alarm sounds when the platform is oriented towards the ascending part of the slope:



- 1 Lower the primary boom.
- 2 Lower the Articulate boom.
- 3 Retract the main primary.

If the inclination alarm sounds when the platform is oriented towards the descending part of the slope:



- 1 Retract the primary boom.
- 2 Lower the Articulate boom.
- 3 Lower the primary boom.

Do not raise the boom if the wind speed can exceed 12.5 m/s. If the wind speed exceeds 12.5 m/s when the boom is raised, lower the boom and suspend use of the machine.

Do not increase the surface or the load of the platform. The increased surface exposed to the wind reduces the stability of the machine.



Use utmost caution and low speed when the machine is moved with the platform retracted on surfaces that are irregular, unstable, with detritus or slippery, or near ditches and cliffs.

Do not move the machine or close to irregular, unstable surfaces or those with other hazardous conditions when the boom is raised or extended.

Safety Rules



Make sure the ground is able to support the weight of the machine indicated in the technical specifications in the Manual. Do not use the machine on muddy, icy, slippery, uneven ground or where there are holes in the ground.

Do not have spare parts that affect health and safety.

Do not use the machine to lift suspended loads; do not use it as a crane.

Do not use the machine to lift loads in the platform, and it must not be used as a crane.

Do not use the machine to transfer persons from one floor to another one, and do not use it as a lifting device unless in accordance with the operator manual for the machine.

Do not push the machine or other objects using the machine boom.

Do not allow the boom to come in contact with adjacent structures.

Do not fix the boom or platform to adjacent structures.

Do not position loads outside the platform perimeter.



Do not pull or push on any object which is outside the platform.

Maximum permitted manual stress – CE 400 N

Never alter the MEWP without Dingli's written approval.

Do not modify or deactivate or adjust or resetting the components which affect the safety and stability of the machine.

Never re-calibrate any sensor without written approval of the manufacturer or authorized representative.

Always calibrate the sensors in a proper manner.

Do not replace the components crucial for the stability of the machine with components which have different weight or technical specifications.

Do not replace the original tyres with tyres having different technical specifications or different serial number.

Do not replace the tyres with original foam rubber filling with tyres having inner tube. The weight of the wheels is important for the stability of the machine.

The tyres with wide profile must be installed by the machine manufacturer. Do not replace the original standard tyres with models having wide profile.

Do not replace or modify the recharge plug (if equipped) and other electric connectors without written authorization from Dingli

Do not modify or alter an aerial work platform without written authorisation from the manufacturer. Attaching fittings for supporting tools and other materials on the platform, on the foot board or on the platform railing increases the weight and exposed surface of the platform or of the load.

Safety Rules



Do not position or fix weights or loads projecting from any part of the machine.



Do not position ladders or scaffolding inside the platform or against any part of the machine.

Do not transport equipment and materials if the load is not distributed appropriately and if it cannot be controlled by personnel on the platform in safety conditions.

Do not use the machine on a mobile surface or on a moving vehicle.

Make sure all the tyres are in good condition, that the pressure of the tyres with inner tube is appropriate and that the crown nuts are tightened correctly.

Do not use the controls in the platform to free the platform if it is blocked or obstructed in any way by an adjacent structure which prevents its normal movement. All the workers must leave the platform before trying to free it using the controls on the ground.

▲ Danger due to movement on slopes

Do not move the machine on a slope that exceeds the maximum limits established for ascent, descent and lateral movement of the machine. The slope limit only refers to machines in the retracted position.

Maximum slope limit

Maximum slope for traveling in descent	24°(45%)
--	----------

Maximum slope for traveling in ascent	22°(40%)
---------------------------------------	----------

Maximum side slope for traveling	14°(25%)
----------------------------------	----------

Note: The slope limit depends on the conditions of the ground and presupposes an adequate traction. It is forbidden to drive the machine on a slope without switching to climbing mode.

▲ Danger of falling



The workers in the platform must wear a safety belt or harness in compliance with the national regulations in force. Fix the safety cord to the fittings present on the platform and indicated by the graph alongside.



Do not sit, stand or climb on the railings of the platform. Always maintain a stable position on the platform foot board.

Do not climb down from the platform if it is raised.

Keep the platform foot board free of detritus.

Lower the safety bar or close the entrance gate before using the platform.

Safety Rules

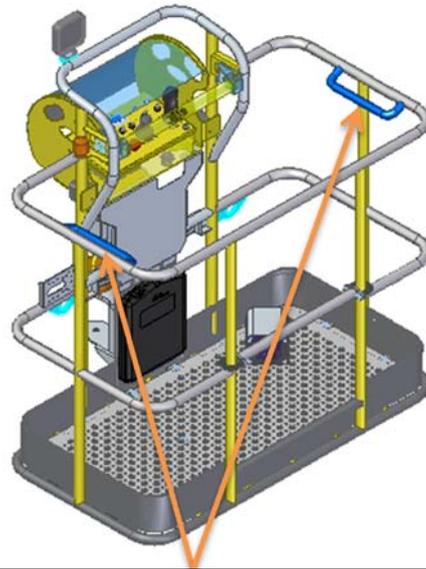
Do not get on and off the work platform when elevated.

Be careful when traveling.

▲ Danger of collision

Take care in situations of poor visibility and blind spots while driving or during the maneuver.

Take into consideration the position of the boom or the turntable positioning during the rotation of the slewing ring gear.



Rods protecting hands from danger

The workers must follow the instructions put in place by the employer, the workplace and the national safety standards in force concerning use of the personal protective equipment for protection from falling from a height.

Always observe the use the direction arrows with color codes on the platform controls and on the chassis and the organs for side-shift and steering operations.



Check the work area to make sure there are no obstacles at a height or other potential hazards.



Take extreme care while gripping the platform railing to prevent danger of crushing.



Do not lower the boom if the area underneath is not clear of persons or obstructions.

Reduce the transfer speed according to the conditions of the ground, the traffic, the slopes, presence of workers or other factors which can cause collisions.

The rods able to grip to protect the hands not being busy operating from the danger of crush, are as follows in the follow figure. Other rods are forbidden to grip.

Safety Rules

▲ Danger of personal injuries

Always use the machine in a well-ventilated area to prevent the risk of poisoning by carbon monoxide.

Do not use the machine if there is an oil or air leak. Hydraulic or air leaks can cause injury to the skin and burns.

Contact with the components present in any of the compartments can cause serious personal injury. Access to the machine compartments must only be allowed for workers qualified for maintenance. Access these compartments only during pre-operative checks. All the compartments must remain closed and locked during the working of the machine.

▲ Explosion and Fire Hazard

Do not start the engine if you smell or detect liquid petroleum gas (LPG), gasoline, diesel fuel or other explosive substances.

Do not refuel the machine with the engine running.

Refuel the machine and charge the battery only in an open, well-ventilated area away from sparks, flames and lighted tobacco.

Do not operate the machine in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.

Do not spray ether into engines equipped with glow plugs.

It is forbidden to store anything in the cabin, which would result in high temperature spontaneous combustion or short circuit and then fire as a disaster.

▲ Dangers due to faulty machine

Do not use damaged or faulty machines.

Proceed with detailed pre-operative checking of the machine and test all the functions before each work shift. Mark and put damaged or faulty machines immediately out of service.

Make sure the maintenance checks have been carried out as specified in this Manual and in the DINGLI Maintenance Manual concerned.

Make sure all the stickers are present and legible.

Make sure the Operator Manual, Manuals on safety and responsibilities are intact, legible and placed safe inside the container concerned on the machine.

▲ Hazards linked to the work area

Do not use the machine in environmental temperatures below -20°C or above 40°C . To operate at other environmental temperatures, contact the manufacturer.

Do not use the machine in the presence of an explosive atmosphere.

Do not use the machine if the environmental lighting does not ensure sufficient visibility in carrying out the jobs or movements in safety conditions.

Do not use the machine if someone is present in the range of actions of the machine and in the immediate vicinity.

Safety Rules

▲ Danger of burns

The batteries may contain acid. Always wear protective clothing and glasses when working with the batteries.

Do not spill the battery acid and avoid contact with it. Neutralise leakage of acid from the batteries with sodium bicarbonate and water.

▲ National traffic regulations

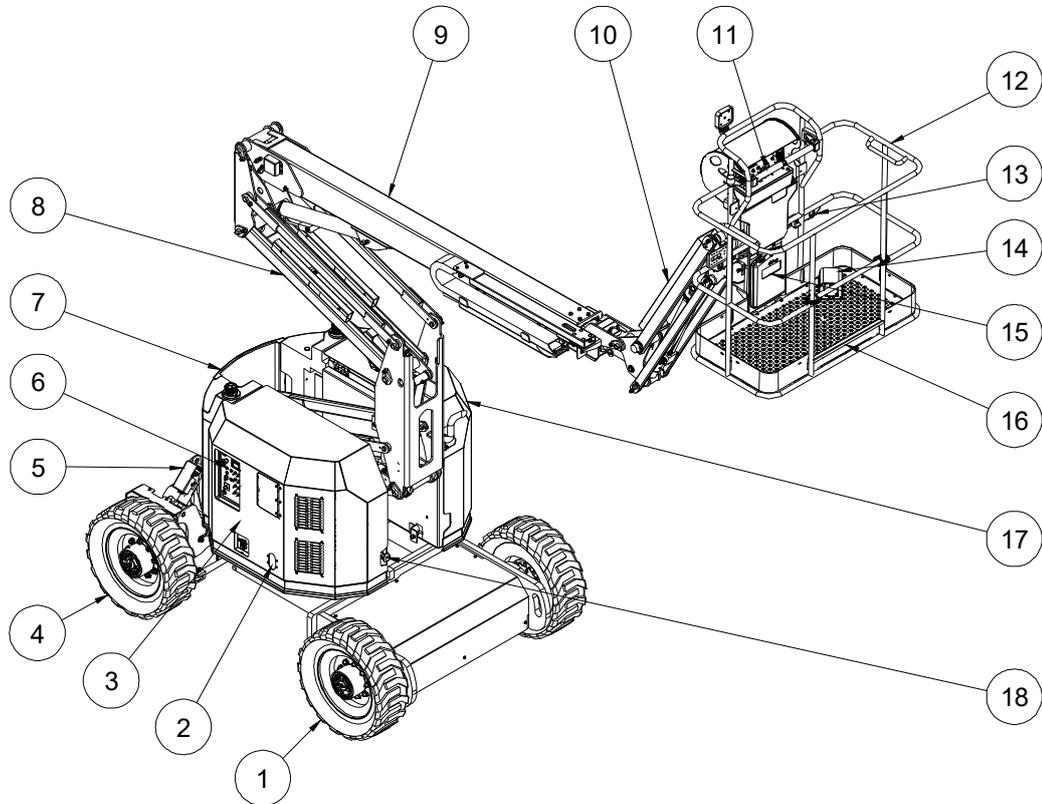
This machine meets the requirements of the EN280 Standard. It can be used on public roads to carry out work at heights. During use, the work area of the platform must be delimited by appropriate signs. Security rules must follow the legislation of the country in which the platform operates. The platform cannot circulate on public roads as it is not approved for road traffic. To move the platform from one work site to another on public roads, the platform must be transported on special vehicles. The platform work area must be authorized by the national road traffic authorities.

Block after every use

- 1 Identify a safe parking area with a level stable surface, free of obstacles and traffic.
- 2 Retract and lower the platform.
- 3 Align the turret with the truck axis.
- 4 Turn the key-operated switch of the control panel on the ground to OFF (O) and remove the key to prevent the machine being used by unauthorized personnel.

Legend

Legend

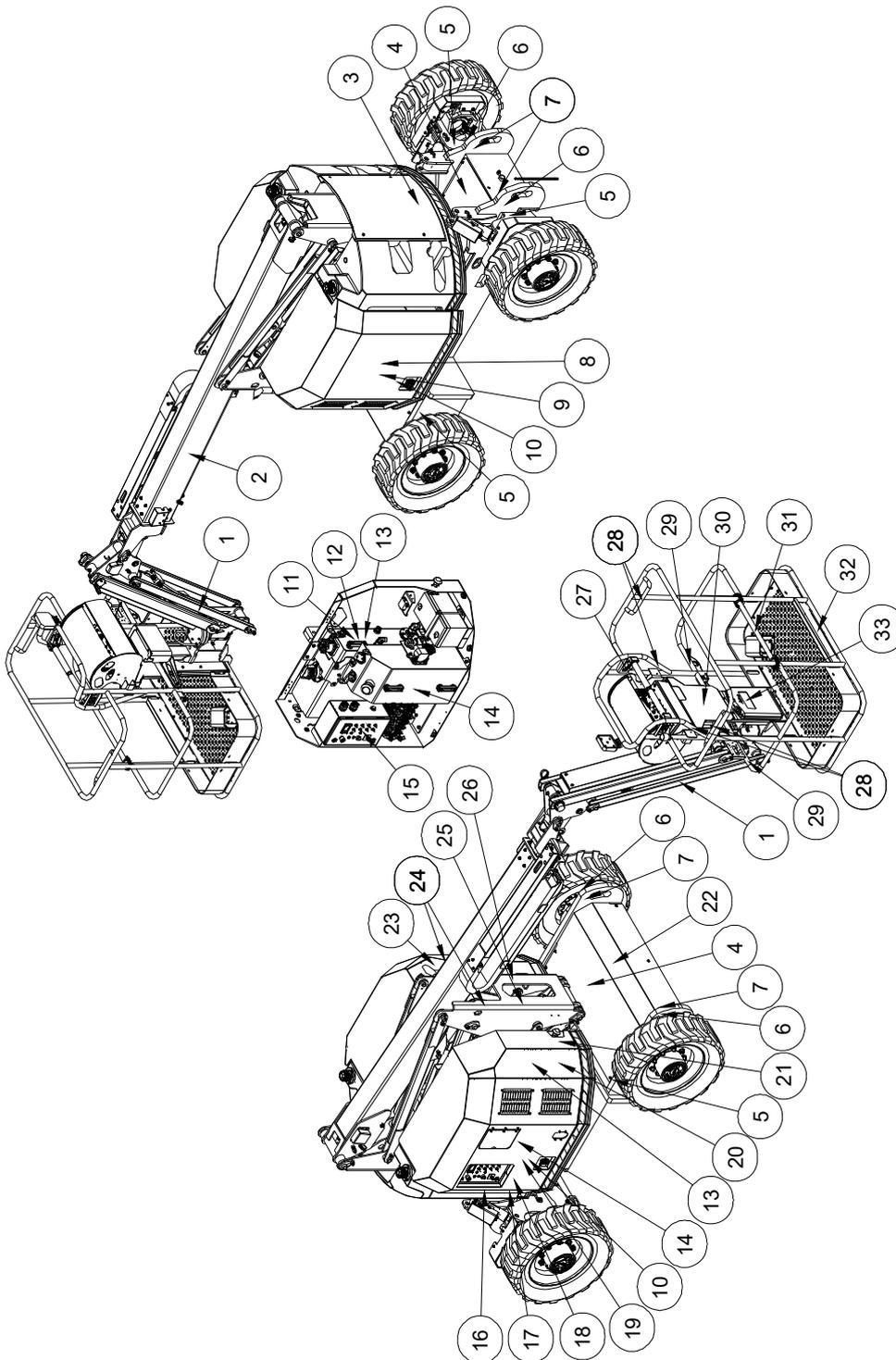


- | | |
|-------------------------------------|---------------------------------|
| 1 Non-steer tire | 10 Jib boom |
| 2 Fuel tanks (behind cover) | 11 Platform control |
| 3 Hydraulic tanks (behind cover) | 12 Platform guard rails |
| 4 Steer tire | 13 Lanyard anchorage point |
| 5 Battery plug (between Steer tire) | 14 Pedal-operated enable switch |
| 6 Ground controls | 15 Manual storage container |
| 7 Counterweight | 16 Platform entry gate |
| 8 Articulate Boom | 17 Engine |
| 9 Primary Boom | 18 Main power switch |

Decals

Placards and Decals

Read and understand all placards and decals. Do not operate any machine on which DANGER, WARNING, CAUTION OR INSTRUCTION PLACARDS OR DECALS ARE MISSING OR ILLEGIBLE. Replace placards and decals if damaged, missing or illegible.



Decals

No.	Parts No.	Description	Qty.	Remark
1	09430049	Decal, Danger-Do not lifting	2	
2	09630285	Decal, Label-BA12RT	1	
3	09420005	Decal, Warning-Crushing hazard	1	
4	09310051	Decal, Instructions-Directional arrows	2	
5	09310583	Decal, Instructions-Maximum wheel load 2615kg	4	
6	09310050	Decal, Instructions-Tie down point	4	
7	09310049	Decal, Instructions-Lift point	4	
8	09420011	Decal, Caution-High temperature	1	
9	09310546	Decal, Instructions-Noise 107dB	1	
10	09410279	Decal, Danger-It is forbidden to store anything in the cabin	2	
11	09310052	Decal, Instructions-Highest oil level	1	
12	09310053	Decal, Instructions-Lowest oil level	1	
13	09310054	Decal, Instructions-Hydraulic	2	
14	09320003	Decal, Instructions-Diesel	2	
15	09120039	Decal, Ground control panel	1	
16	09320041	Decal, Instructions-Work area	1	Standard
	09320042	Decal, Instructions-Work area	1	Optional
17	09410071	Decal, Warning-Injection hazard	1	
18	09410034	Decal, Warning-Electrocution hazard	1	
19	09410271	Decal, Symbols-Slope rating	1	
20	09410032	Decal, Warning-Explosion/fire hazard	1	
21	09310006	Decal, Notice-Main power switch operation	1	
22	09410031	Decal, Warning-Do not stepping	1	
23	09410186	Decal, Symbols-High temperature	1	
24	09410118	Decal, Symbols-Hand crushing hazard	2	
25	09420006	Decal, Warning-Crushing hazard	1	

Decals

No.	Parts No.	Description	Qty.	Remark
26	09420017	Decal, Danger-Do not stand	1	
27	09140092	Decal, Platform control panel	1	
28	09340070	Decal, Symbols-Non operating hand position	4	
29	09440059	Decal, Label-Lanyard anchorage point	2	
30	09441032	Decal, Danger-General safety rules	1	Standard
	09440799	Decal, Danger-General safety rules	1	Optional
31	09340016	Decal, Instructions-Open/close	1	
32	09441040	Decal, Label-Capacity272kg	1	Standard
	09440796	Decal, Label-Capacity227kg	1	Optional
33	09340001	Decal, Notice-Keep the manual with the machine	1	

Specifications

Machine Specification

Stowed Dimension	
Overall Length	5.75m
Width	1.85m
Height	2.02m
Overall Length L1 (transported)	4.12m
Width (transported)	1.85m
Height H1 (transported)	2.1m
Transported	
Rated Load	
Rated Load	272kg (Std)
	227kg (Opt)
Max. occupants (Out door/In Door)	2/2
Platform Size	
Platform Length	1.42m (Std)
	1.80m (Opt)
Platform Width	0.76m
Operation Dimension	
Height, platform maximum	10.54m
Height, working maximum	12.54m
Horizontal extension maximum	6.7m
Angle, main boom up maximum	75°

Specifications

Up and Over Height	4.8m
Angle, main boom down maximum	-4.6°
Minimum turning radius, front wheel steering, inside/ outside	1.8m/4.11m
Maximum slope for traveling in descent	24°(45%)
Maximum slope for traveling in ascent	22°(40%)
Maximum side slope for traveling	14°(25%)
Maximum inclination	3° along×4.5° perpendicular to lift structure
Turntable Slewing	355° (discontinuous)
Platform rotation	180°
Jib lifting angle	+74°/-65°
Tailswing	0
Wheel Base	1.88
Gross Machine Weight	5400kg
Ground Clearance	0.175m
Battery	
Type	lead-acid battery
Capacity	lead-acid battery 110AH
Nominal Voltage	12V
<i>*The above battery capacity is a theoretical value, regard to the actual battery capacity of the machine, please check the nameplate of battery.</i>	
Tire and Wheels	
Type	Foam Filled Tire And Wheel
Model	10-16.5
Outer Diameter	754mm
Width	268mm
Maximum wheel load	2615kg
Tire contact pressure	3.5kg/cm ² (340.7KPa)

Specifications

Ground pressure	1161.3kg/m ² (11.4KPa)
Note: The value of tire contact pressure is for reference only, which is corresponding on many factors, such as material of tire, pavement roughness, machine attitude and temperature.	
Airborne Noise Emission	
Maximum Sound Level in the platform	<70dB
Vibration Value	<2.5m/s ²

Performance Specification

Driving Speed (Boom Stowed, high range) (km/h)	4.8km/h
Driving Speed (Boom Raised or Extended) (km/h)	0.8km/h
Main Boom Lift Up (s)	25~30 sec
Main Boom Lift Down (s)	25~30 sec
Swing Right & Left (Fully retracted) (s)	60-100 sec
Main Boom Telescope Extent Out (s)	15~20 sec
Main Boom Telescope Retract In s	20-23 sec
Platform Rotate R & L	9~12 sec
Jib Up	20~25 sec
Jib Down	20~25 sec
Jib Rotate R & L	13~18 sec
Articulate Boom Lift Up (s)	15~18 sec
Articulate Boom Lift Down (s)	0.11~0.14
Speeds for lifting and lowering of the work platform (m/s)	0.08~0.11
Speeds for telescoping of the boom (m/s)	0.07~0.08
Speeds for slewing or rotation in stowed condition (m/s)	0.13~0.23
Speeds for slewing or rotation in the condition of maximum platform Radius (m/s)	0.20~0.26

Machine Orientation When Doing Speed Tests

Lift: Boom Retracted. Telescope Retracted. Lift Up, Record Time, Lift Down, Record Time. The result will be different when the boom is fully extended.

Swing: Boom at lifted position. Telescope Retracted. Swing the Turntable to the end stop, Record

Specifications

Time. Swing the Opposite Direction, Record Time. Telescope extended, repeat it above.

Telescope: Boom at Full Elevation; Telescope Retracted; Telescope Out, Record Time. Telescope In, and record Time.

Drive: Test to be done on a smooth level surface. Drive Select Switch should be set at high speed mode. Start approximately 8 m from starting point so that the unit is at maximum speed when starting the test. Results should be recorded for a 60 m course. Drive Forward, record time. Drive Reverses, Record Time.

Drive (Above Horizontal): Test should be done on a smooth level surface. Drive Select Switch should be set to low speed mode. This verifies that the switches are working when the boom is above horizontal. Results should be recorded for a 15 m. course. Drive Forward, Record Time. Drive Reverse, Record Time.

Platform Rotate: Platform level and completely rotated one direction. Rotate the opposite direction, Record Time. Rotate the other direction, Record Time.

Articulating Jib: Platform level and centered with the boom. Start with the Jib down. Jib Up, Record Time. Jib Down, Record Time.

Lower Lift: Upper Boom horizontal. Telescoped In. Lower Lift Up, Record Time. Lower Lift Down, Record Time.

Test Notes

- 1 Stop watch should be started with the function, not with the controller or switch.
- 2 Drive test results reflect 10-16.5 tires.
- 3 All speed tests are run from the platform. These speeds do not reflect the ground control operation.
- 4 The platform speed knob control must be turned to rapid position.
- 5 Function speeds may vary due to cold, thick hydraulic oil. Test should be run with the oil temperature above 100° F (38° C).
- 6 Some flow control functions may not work with the speed knob clicked into the creep position.

Oil and Coolant Fluid Capacity Table

Item	Name	mode	Dosage	Remark
1	wheel reduction oil		moderate	
2	grease or oil for lubricating rotating parts		moderate	refer to the chapter of lubrication
3	Hydraulic oil	L-HM46	65L	Fill the hydraulic tank with the oil as the customer command. But the hydraulic tank would be filled with L-HM46, without special command. Attention, the customer should confirm to change the oil according to the local environment

Specifications

Hydraulic System Specification

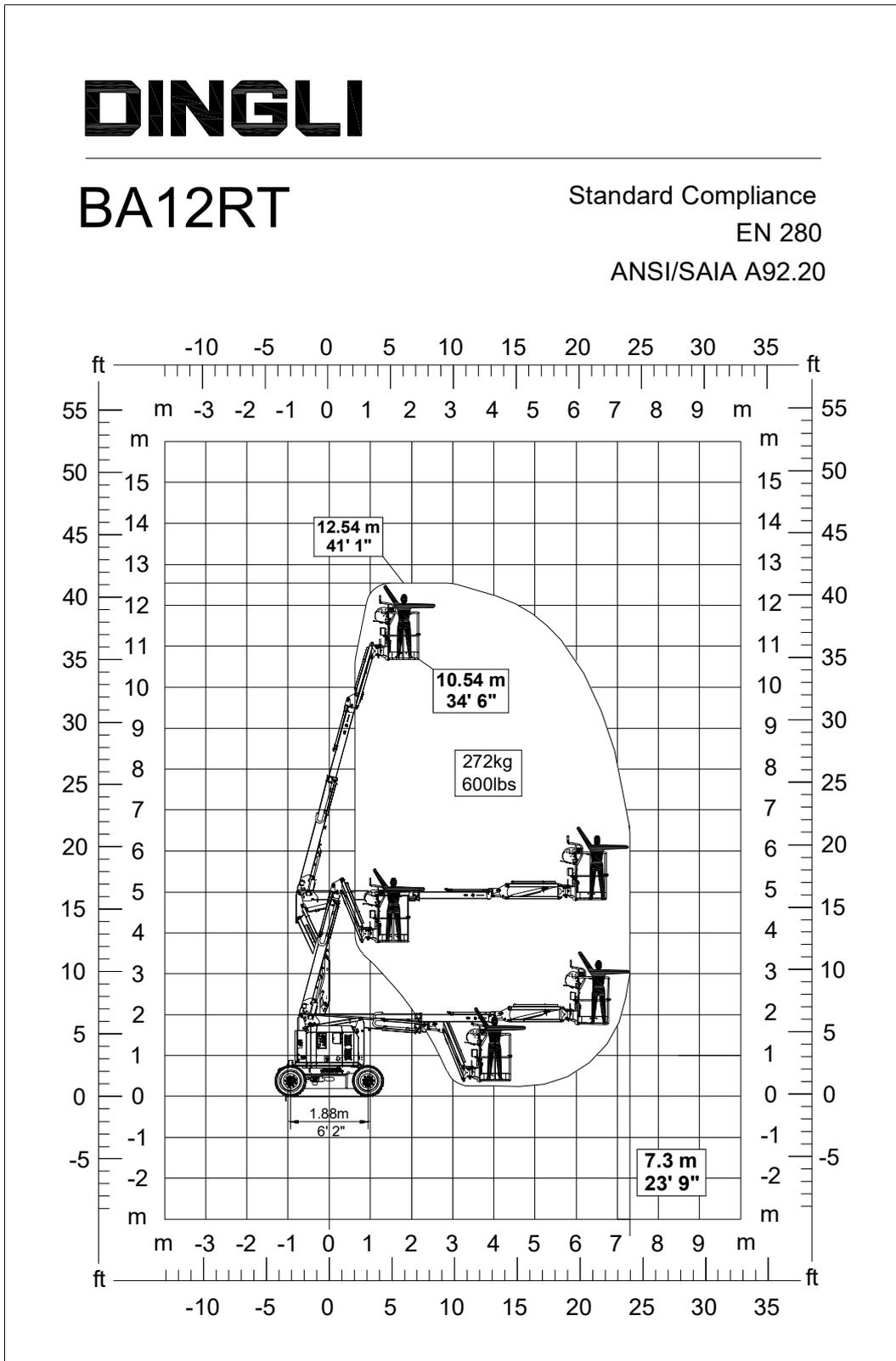
Drive Pump	
Type	Bi-directional Variable Displacement piston pump
Displacement per revolution	28cc
Maximum Peak Pressure	380bar
Maximum Continuous Working Pressure	380bar
Charge pressure	27bar
Driven motor	
Type	Piston motor
Displacement per revolution	25cc
Rated Working Pressure	400bar
Function Pump	
Type	Gear pump
Rated Working Pressure	250Bar
Displacement per revolution	6.5 cc
PVG Valve	
Function Main Relief Pressure	230bar
Main Boom Telescopic Extent Pressure Setting	130bar
Main Boom Telescopic Retract Pressure Setting	170bar
Lift Up Pressure Setting	210bar
Lift Down Pressure Setting	210bar
Articulate Boom Lift Up Pressure Setting	200bar
Articulate Boom Lift Down Pressure Setting	120bar
Rotating pressure setting	60bar
Jib levelling up pressure setting	210bar
Jib levelling down pressure setting	210bar
Platform valve pressure setting	160Bar
Platform control valve	

Specifications

Platform swing pressure setting	160bar
Jib Up and Down Pressure Setting	160bar
Hydraulic Reservoir	
Maximum Capacity	75L
Auxiliary Pump Unit	
Model	2kW
Displacement	1.6cc

Specifications

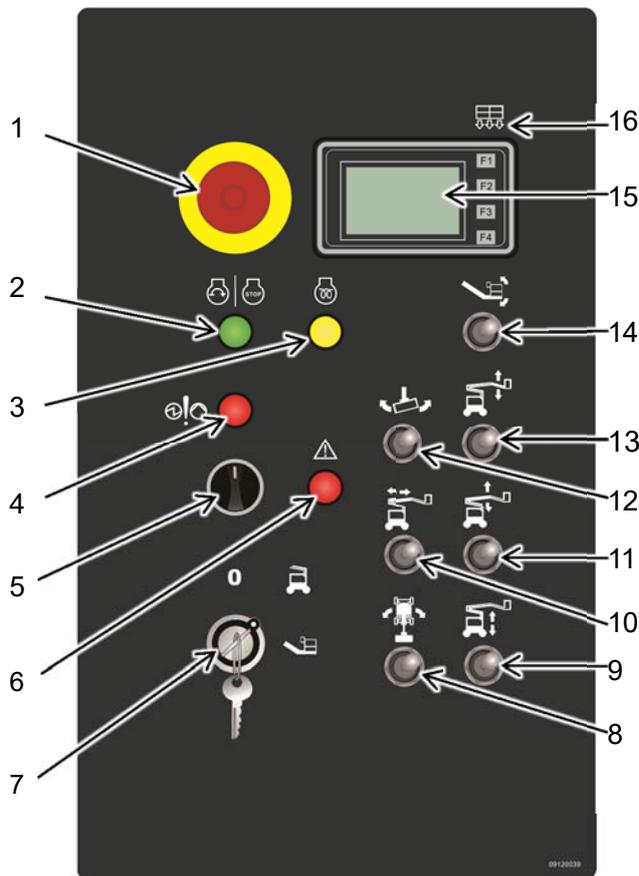
Work Scope



Controls

Ground control panel on the chassis

The ground controls must be used to operate the platform for storage and for operating tests. This control panel can be used in case of emergency to recover an occupant who is unable to move the platform. When the controls on the ground are activated, the controls from the platform are deactivated, except for the emergency stop.



- 1 Red emergency stop button
To stop all the functions, press down the red emergency stop button. To activate the machine, pull up the red emergency stop button to the ON position.
- 2 Engine glow plug button
Press and hold this button to preheat engine
- 3 .Engine start-up button
Press the green button to start up/switch off the engine.
- 4 Auxiliary power supply button
Use the auxiliary power supply in case of a fault in the main power supply (engine).
Activate the auxiliary power supply button and function enable selector switch, hold during function operation to recover the machine.
Extended use will affect the battery charge: only use in case of emergency.
- 5 Function enable selector switch
To enable the hydraulic movements from the ground control panel, turn the enable switch clockwise and hold it in this position.
- 6 Bypass switch
If the function action needs to be enabled from the ground control panel when the red emergency brake button is pressed on the platform, the enable switch and the corresponding action switch need to be turned on by pressing and holding the red button.

When the machine has a fault alarm (the alarm is a non-fatal safety alarm), the switch can be flipped to achieve emergency withdrawal.

Controls

Note: Just when there is some failure warning except deadly security alarm, and the machine has to be moved or loaded, the switch can be used to do, while the persons in the platform and around the machine are safe. Arbitrary usage of the switch will result in damage and serious injury.

7 Key-operated switch

With the key in position 0 the truck is switched off: in another position, if brought to 0 the electric circuit closes, switching off the truck.

To activate the controls on the ground, turn the key-operated switch to the icon representing the truck. To activate the controls in the platform, turn the key-operated switch to the position representing the platform.

8 Turntable rotation selector

To rotate the turntable counter clockwise, turn the selector to the RH.

To rotate the turntable clockwise, turn the selector to the LH.

9 Articulate boom lift selector

To lift up the Articulate boom, move the selector up.

To lower the Articulate boom, move the selector down.

10 Main boom extension selector

To extend the main boom, turn the selector to the RH.

To retract the main boom, turn the selector to the LH.

11 Main boom lifting selector

To lift up the main boom, move the selector up.

To lower the main boom, move the selector down.

12 Platform rotation selector

To rotate the platform counter clockwise, turn the selector to the LH.

To rotate the platform clockwise, turn the selector to the RH.

13 Jib lifting selector

To lift the jib, turn up the selector.

To lower the jib, turn down the selector.

14 Platform leveling selector

To level up the platform, move the selector upwards.

To lower the platform, move the selector downwards.

15 Diagnostics panel

The panel can indicate the basic information used to monitor the vehicle. The optional pages and options, at the bottom of the panel, are chosen by the corresponding button.

Main interface



The icons at the top of the panel are:

- System voltage;
- Control Console chosen indicator: Ground/Platform.

The icons at the middle of the panel are:

Controls

- Speed model indicator: slow/fast;
- Engine rpm

The icons at the bottom of the panel are:

- Tilt alarm indicator;
- Hourmeter;

The icons at the right of the panel from top to bottom are:

- Language select options;
- Code list options;
- Menu;
- Settings (need password);

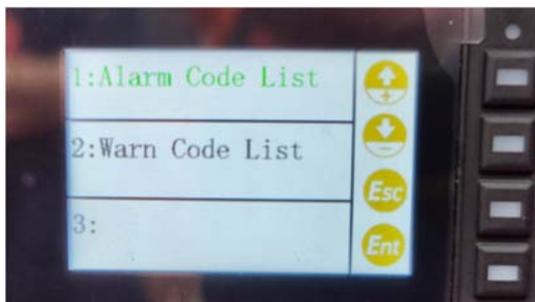
The desired interface can be chosen by depressing the corresponding button.

Language select Interface



Language select Interface can be entered by depressing down Language select button, operator can select language by using the up/down arrow buttons and the confirm button on the right.

Code list Interface



Code list Interface can be entered by depressing down Code list button, operator can view the contents of the current alarm code.

Menu Interface



Menu Interface can be entered by depressing down Menu button, operator can view the Diagnose information ,backlight, machine information, and charge current set.

Settings Interface



This Interface requires password, operator can check the sensor, turn ON/OFF the function and other safety function settings. DINGLI authorization is required.

Alarm/Warning Interface (change automatically)



The interface appears automatically when there is system fault, to warn operator to ask proper service personnel for help.

Controls

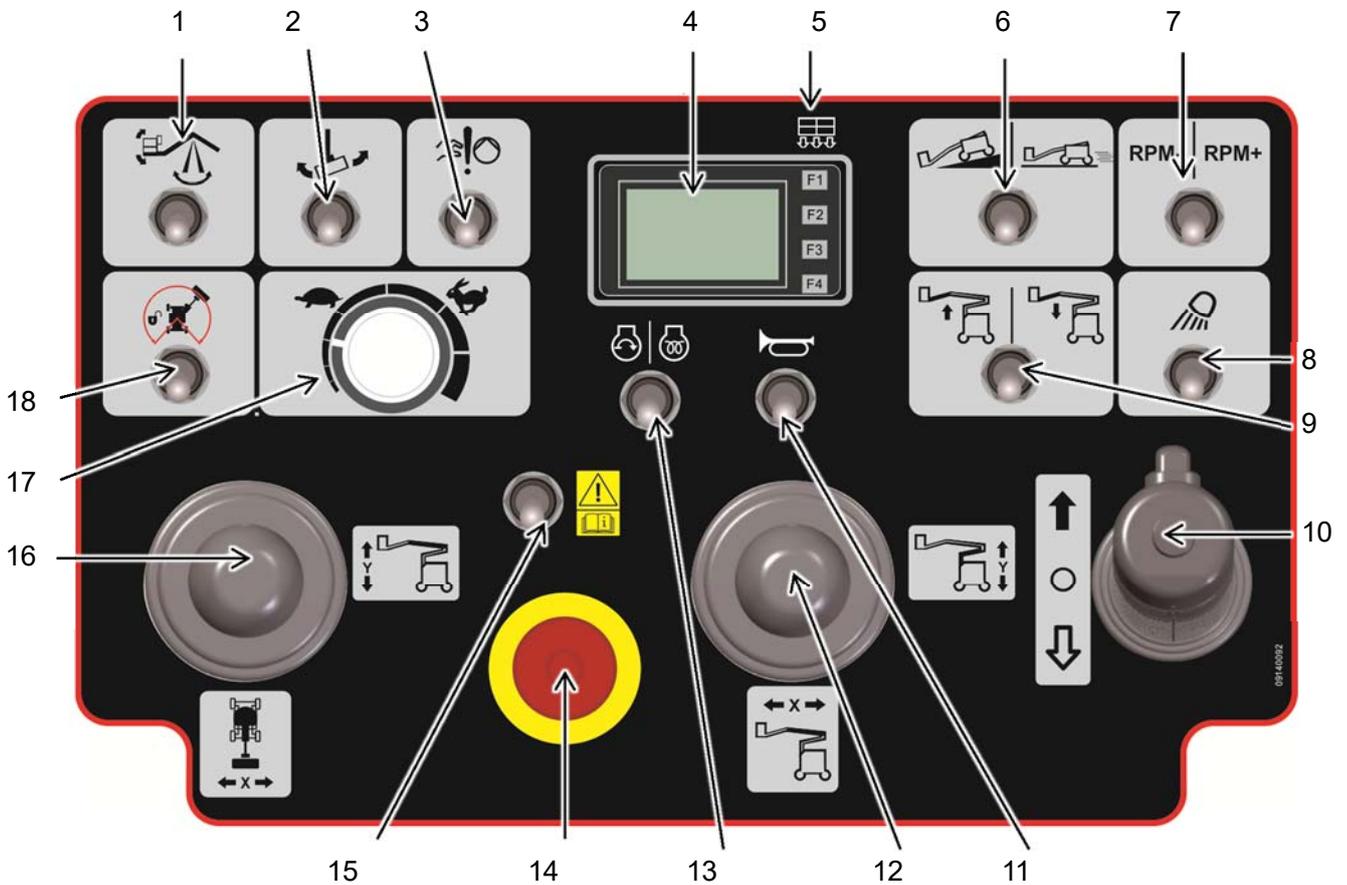
Code list Interface can be entered by depressing down Code list button, operator can view the contents of the current alarm code.

16 Overload indicator light

The red indicator lights up in condition of the load in the platform exceeding the rated load.

Stop to decrease the load until the indicator turns off.

Control panel on platform



▲ o activate the platform controls, first depress the footswitch located on the platform.

1 Levelling the jib

When the Jib boom exceeds the horizontal leveling limit in positive or negative, Push the toggle up and then hold on to recover the correct position.

2 Platform rotation selector

To rotate the platform counter clockwise, turn the selector to the RH.

To rotate the platform clockwise, turn the selector to the LH.

3 Auxiliary pump

Use the emergency power supply in case of a fault in the main power supply (I.C. engine).

Act on the selector for activation.

▲ Extended use will affect the battery charge: only use in case of emergency.

4 Diagnostic Panel

The panel can indicate the basic information used to monitor the vehicle. The optional pages and options, at the bottom of the panel, are chosen by the corresponding button.

Controls

Main interface



The icons at the top of the panel are:

- System voltage;
- Control Console chosen indicator: Ground/Platform.

The icons at the middle of the panel are:

- Speed model indicator: slow/fast;
- Engine rpm

The icons at the bottom of the panel are:

- Tilt alarm indicator;
- Hourmeter;

The icons at the right of the panel from top to bottom are:

- Language select options;
- Code list options;
- Menu;
- Settings (need password);

The desired interface can be chosen by depressing the corresponding button. .

Language select Interface



Language select Interface can be entered by depressing down Language select button, operator can select language by using the up/down arrow buttons and the confirm button on the right.

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Menu Interface can be entered by depressing down Menu button, operator can view the Diagnose information ,backlight, machine information, and charge current set.

Settings Interface



Controls

This Interface requires password, operator can check the sensor, turn ON/OFF the function and other safety function settings. DINGLI authorization is required.

Alarm/Warning Interface (change automatically)



The interface appears automatically when there is system fault, to warn operator to ask proper service personnel for help.

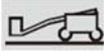
Code list Interface can be entered by depressing down Code list button, operator can view the contents of the current alarm code.

5 Overload indicator light

The red indicator lights up in condition of the load in the platform exceeding the rated load.

Stop to decrease the load until the indicator turns off.

6 Speed selector

- position : level mode. It is forbidden to drive the machine on a level without switching to level mode.
- position : climbing mode, low speed with high rpm of engine because level differences are exceeded. It is forbidden to drive the machine on a slope without switching to climbing mode.

7 Engine rpm control

Activating the selector will increase [+] or decrease [-] the engine rpm.

8 Work lights

Activate the selector to switch on the work lights fitted on the structure

9 Jib boom lift selector

To lift up the Jib boom, move the selector up.

To lower the Jib boom, move the selector down.

10 Lateral movements of the truck

To activate the joystick commands press the enable pedal on the platform as well as the enable button present on the front of the joystick.

To move the truck forwards/backwards, move the joystick on the vertical axis.

To pilot the steering, act on the selector provided at the top of the joystick.

11 The Horn Switch

Use the selector to activate the acoustic signal.

12 Main boom /Articulate boom movement

Move the joystick in both horizontal directions to extend/retract the main boom.

Move the joystick in both vertical directions to raise/lower the articulate boom.

13 Engine start up/Glow plug

Pull the selector left to start up/switch off the engine.

14 Red emergency stop button

To stop all the functions, press the red

Controls

emergency stop button To activate the machine, pull up the red emergency stop button to the ON position.

15 Bypass switch

If the function action needs to be enabled from the platform control panel when the red emergency brake button is pressed on the ground, press and hold the red button to turn on the corresponding action switch.

When the machine has a fault alarm (the alarm is a non-fatal safety alarm), the switch can be flipped to achieve emergency withdrawal.

Note: Just when there is some failure warning except deadly security alarm, and the machine has to be moved or loaded, the switch can be used to do, while the persons in the platform and around the machine are safe. Arbitrary usage of the switch will result in damage and serious injury.

16 Turret rotation /Main boom lifting selector

Move the joystick in both horizontal directions to rotate the turntable.

Move the joystick in both vertical directions to raise/lower the Main boom.

17 Speed selector

- position : low speed,
- position : high speed.

Turn the knob switch counterclockwise, the function of the machine will slow down;

Turn the knob switch clockwise, and the function speed of the whole machine will change.

It mainly affects the speed of turntable

rotation, lower-boom amplitude, main arm amplitude, and main-boom telescope.

18 Travel enable switch

Limit walking when the swing angle exceeds the set value. Walking and steering modes can be activated in 10 seconds and the machine can walk in low speed mode

Pre-operation Inspection



Do Not Operate Unless:

✓ Before using the machine, it is necessary to understand and apply the fundamental principles regarding the working of the machine in the safety conditions contained in this Operator's Manual.

- 1 Avoid hazard situations.
- 2 **Always carry out the pre-operative inspection.**

Read and understand the pre-operative inspection before proceeding with the next section.

- 3 Check the work area.
- 4 Always carry out functional test before using the machine.
- 5 Use the machine only for the purposes for which it is designed: operating instructions.

Fundamental elements of pre-operative inspection

The operator is responsible for carrying out the pre-operative inspection and routine maintenance.

The pre-operative inspection is a visual inspection carried out by the operator before every work shift. The inspection must be carried out on the machine to check for faults before the operator proceeds with testing the functions.

The pre-operative inspection is also meant to establish if routine maintenance procedures are necessary. The operator must only carry out the routine maintenance specified in this Manual.

If damage or unauthorised modification is found on the machine differing from the original conditions, mark and put the machine out of service.

The repairs must be done only by qualified technical personnel, according to the manufacturer's technical specifications. After completing the repairs, the operator must repeat the pre-operative inspection before testing the functions.

The scheduled maintenance must be carried out by qualified technical personnel, according to the manufacturer's technical specifications and the requirements listed in the Operation and Maintenance Manual of this machine.

Pre-operation Inspection

Pre-operative inspections

- Make sure the Operator Manual, Manuals on safety and responsibilities are intact, legible and placed safe inside the container concerned on the platform.
 - Make sure all the stickers are present and legible. Consult the placards and decals chapter.
 - Check for oil leaks from the engine and check the correct oil level. Add oil if necessary. Consult the Maintenance chapter.
 - Check for oil leaks from the hydraulic system and check the correct oil level. Add oil if necessary. Consult the Maintenance chapter.
 - Check for coolant leakage from the engine and check the correct coolant level. Add coolant if necessary. Consult the Maintenance chapter.
 - Check for battery fluid leaks and proper fluid level. Add distilled water if needed. See Maintenance section.
 - Always carry out pre-operative inspection after storage before use.**
- Tyres and wheels.
 - Engine and its components.
 - Limit switches and warning sound.
 - Flashing lights and alarms (if present)
 - Nuts, bolts and other safety retainer devices.
 - Safety bar or platform entrance gate.
 - Cord fixing point.
 - Lanyard anchorage points.

Check the following components or the following areas for damage, missing components or incorrect assembly and unauthorized modifications:

- Electrical components, cables and wiring.
- Hydraulic piping, connections, cylinders and manifolds.
- Fuel and hydraulic tanks.
- Motors for movement of the slewing ring gear and transmission hubs.
- Braking sliding blocks.

Check the entire machine if necessary for the presence of:

- Cracks in the welds or in the structural components.
- Dents or damage to the machine.
- Rust, oxidation or excessive corrosion.
- Make sure that all the structural components and other critical components are present and that all the relative retainers and pins are fitted and tightened properly.

After completing the inspection, make sure all the covers of the compartments are fitted in the correct position and are blocked.

Never use a faulty machine. If faults are found, the machine must be marked and put out of service. The repairs must be done only by qualified technical personnel, according to the manufacturer's technical specifications.

After completing the repairs, the operator must repeat the pre-operative inspection and test the functions before using the machine.

Workplace Inspection



Before using the machine, it is necessary to understand and apply the fundamental principles regarding the working of the machine in the safety conditions contained in this Operator's Manual.

- 1 Avoid hazard situations.
- 2 Always carry out the pre-operative inspection.
- 3 **Check the work area.**

Read and understand the work area before proceeding with the next section.

- 4 Always carry out functional test before using the machine.
- 5 Use the machine only for the purposes for which it is designed: operating instructions.

Fundamental elements of control of the work area

The control of the work area makes it possible for the operator to decide whether the work area is compatible with the working of the machine in safety conditions. The checking must be done by the operator before transporting the machine to the work place.

It is the operator's responsibility to remember the hazards concerning the work area and, consequently, be ready to avoid these during the movement, preparation and the working of the machine.

Inspection of the workplace

Identify and avoid the following hazard situations:

- cliffs or ditches
- dips, obstructions along the floor or detritus
- sloping surfaces
- support surfaces not suitable to withstand the load stresses cause by the machine
- obstacles present above the machine and high voltage electricity lines
- wind exceeding 12.5 m/s and unfavourable atmospheric conditions (rain, snow, etc.)
- ambient temperature less than -20°C or more than 40°C
- presence of explosive atmosphere
- poor or insufficient lighting
- insufficient ventilation
- hazardous environments
- presence of unauthorised workers
- other potential hazard conditions
- altitude exceeding 1000m.
- Presence of explosive atmosphere

Function Tests



Before using the machine, it is necessary to understand and apply the fundamental principles regarding the working of the machine in the safety conditions contained in this Operator's Manual.

- 1 Avoid hazard situations.
- 2 Always carry out the pre-operative inspection.
- 3 Check the work area.
- 4 **Always carry out functional test before using the machine.**

Read and understand the functional test before proceeding with the next section.

- 5 Use the machine only for the purposes for which it is designed: operating instructions.

Fundamental elements of functional test

Functional test makes it possible for the operator to make sure the machine is in safety conditions, before using the machine to work. All the function operation must be done before starting work by the functional test operating procedures.

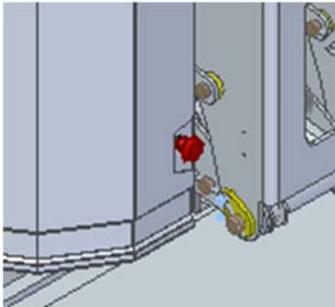
Never use a faulty machine. If faults are found, the machine must be marked and put out of service. The repairs must be done only by qualified technical personnel, according to the manufacturer's technical specifications.

After completing the repairs, the operator must repeat the pre-operative inspection and test the functions before using the machine.

Function Tests

Power switch test

- Push down the switch to the OFF position and then the power is off. All operations would be invalid.
- Pull up the switch to the ON position and then the power is on. All operations would be valid.



Controls on the ground

- Select a stable, level work area free of obstacles.
- Position the key-operated switch of the truck panel on the controls on the ground; the LCD must light up without showing any error message.

Note: in cold climates, the LCD display requires a short warm up time before lighting up.

- Turn the ignition key on the symbol representing the truck then start up the engine by pressing the green button.

Emergency stop test

- Press the red emergency stop button by turning it to the OFF position: the engine must switch off and no function can be operative.
- Turn the red stop emergency button to the ON position and restart the engine.

Testing the machine functions

- Do not activate the function enable selector switch. Activate each of the platform and boom functions buttons: the boom and platform functions must not be operative.
- Activate the-function enable selector switch and activate each of the boom and platform functions buttons: all the platform and boom functions must be operative for a complete cycle.

Auxiliary pump test

- Press the red emergency stop button and then reset it.
- Activate the auxiliary pump and test the movements of the booms and platform.

NOTE: to avoid consuming the batteries, limit the test duration time.

- After confirming the correct working, deactivate the auxiliary pump and restart the engine.

Checking the errors

- Select from the control panel the alarm pages and check for the absence of alarms.
- If this is not the case, immediately proceed with solving the problem.

Controls on the platform

- Position the key-operated switch of the trucks control panel on the controls in the platform and start up the engine.

Emergency stop test

- Press the red emergency stop button on the platform by turning it to the OFF

Function Tests

position: the engine must switch off and no function can be operative

- Turn the red stop emergency button to the ON position and restart the engine.

Testing the pedal switch

- Press the red emergency stop button on the controls in the platform, bringing it to the OFF position.
- Turn the red emergency button to the ON position.
- Press the pedal switch and try to start up the engine: if everything works correctly, the engine will not start up.
- Do not press the pedal switch down and start up the engine: if everything works correctly, the engine will start up.
- Do not press the pedal switch down and test each function of the machine: none of the functions must be operative.

Testing the machine functions

- Do not press the function enable selector switch. Activate the functions of the joysticks for movement and telescopic booms: the functions must not be operative.
- Press the function enable selector switch and act on the joysticks: the functions must be operative.

Auxiliary pump test

- Press the red emergency stop button stop the engine and then reset it.
- Activate the emergency pump and test the movements of the booms and platform.

NOTE: to avoid consuming the batteries, limit the test duration time.

- After confirming the correct working,

deactivate the auxiliary pump and restart the engine.

Testing the steering methods

- Depress the thumb switch on the top of the left drive control : the steer wheels should turn left.
- Depress the thumb switch on the top of the right drive control : the steer wheels should turn right.

Testing the horn sound

- Push up the Horn Switch and the horn will sound.

Testing the selection of the movement speed

It is possible to select mainly 2 speeds from the control panel on the platform:

- Flat driving speed (position ) of 4.8 km/h that can only be activated with the primary telescopic boom completely lowered and retracted;
- climbing mode (position ): low speed with high rpm of engine because level differences are exceeded. It is forbidden to drive the machine on a slope without switching to climbing mode.

The high/low movement speed can be selected not only by the selector mentioned but also electronically by means of software installed on the machine: as soon as the primary telescopic boom moves from the completely lowered, retracted position, the electronic control automatically activates low speed to protect the operators on board.

At the end of the electronic control tests, proceed as described below.

- Select the maximum movement speed;

Function Tests

with the primary telescopic boom lowered and retracted slowly activate the movement: the machine moves at a speed of 1.33 m/s (4.8 km/h).

- With the primary telescopic boom in the completely lowered and retracted position, lift it by exceeding 10° and slowly activate the movement: the truck must not exceed a speed of 22.2cm/s (0.8 km/h).
- Restore the boom to the completely lowered hold position.
- With the primary telescopic boom in the completely lowered and retracted position, extend it by 0.3 m and slowly activate the movement: the truck must not exceed a speed of 22.2 cm/s (0.8 km/h).
- Restore the boom to the completely lowered hold position.
- If the movement speed with the primary telescopic boom raised and extended exceeds 22.2 cm/sec (0.8 km/h), stop the truck immediately and call an authorised service centre.

Testing the movement and braking

- Press the pedal switch down.
 - Slowly move the movement control knob in the direction indicated by the black arrow on the control panel until the machine starts moving, then restore the knob to the central position.
 - Result: the machine must move in the direction shown by the black arrow on the truck then stop suddenly.
 - Slowly move the movement control knob in the direction indicated by the white arrow on the control panel until the machine starts moving, then restore the knob to the central position.
- Result: the machine must move in the direction shown by the white arrow on the truck then stop suddenly.
- Note: the brakes must keep the vehicle stationary on the maximum slope that can be travelled by the vehicle.**

Oscillating Axle Lockout Test (If Equipped)

NOTICE

- **Lockout system test must be carried out termly.**
 - **To preventing from damage to machine and harm to operator, the test must be carried out at once, when any replacement of some parts have been done.**
 - **Ensure boom is fully retracted, lowered and centered between drive wheels prior to beginning lockout cylinder test.**
 - **If oscillating axle lockout does not work, have qualified personnel correct the malfunction prior to any further operation.**
- 1) Place 14cm high block with ascension ramp in front of left front wheel.
 - 2) From platform control station, start engine.
 - 3) Place the Drive control lever to the forward position and carefully drive machine up ascension ramp until left front wheel is on top of block and other three wheels supported on ground.
 - 4) Carefully activate Swing control lever and position boom over right side of machine.
 - 5) With boom over right side of machine, place Drive control lever to Reverse and

Function Tests

drive machine off of block and ramp.

- Results: One of front wheels or rear wheels remains elevated in position off of ground.
- 6) Carefully activate Swing control lever and return boom to stowed position (centered between drive wheels).
- 7) Push or pull the driven handler.
 - Results: The machine should move front or back, with the elevated wheel lower on ground, and then all wheels keep on ground.
- 8) Place the 14 cm high block with ascension ramp in front of right front wheel.
- 9) Place Drive control lever to Forward and carefully drive machine up ascension ramp until right front wheel is on top of block and other three wheels supported on ground.
- 10) Carefully activate Swing control lever and position boom over left side of machine.
- 11) With boom over left side of machine, place Drive control lever to Reverse and drive machine off of block and ramp.
 - Results: One of front wheels or rear wheels remains elevated in position off of ground.
- 12) Carefully activate Swing control lever and return boom to stowed position (centered between drive wheels).
- 13) Push or pull the driven handler.
 - Results: The machine should move front or back, with the elevated wheel lower on ground, and then all wheels keep on ground.

NOTICE

Operations of turntable could be replaced by operations of lifting up or extending

booms during the oscillating axle lockout test.

Test the Drive Enable System

- Press down the foot switch and retract the primary boom to the stowed position.
- Rotate the turntable until the boom moves past one of the non-steer wheels.
- Move the drive control handle off center.
Result: The drive function should not operate.
- Hold the drive enable toggle switch up or down and slowly move the drive control handle off center.



Result: The drive function should operate.

Note: When the drive enable system is in use, the machine may drive in the opposite direction that the drive and steer control handle is moved.

Test Tilt Cutout

- Press down the foot switch, and retract the primary boom to the stowed position.
- With the boom fully stowed, drive the machine onto a slope where the chassis angle (front to back) is greater than 3°.
Result: The machine should continue to drive.
- Return to level ground and raise the primary boom to an out of stowed position (approximately 10° above horizontal).
- Drive the machine onto a slope where the chassis (front to back) angle is greater

Function Tests

than 3°.

Result: The machine should stop once the machine reaches 3° of chassis tilt and the alarm should sound at the platform controls.

- Lower the primary boom to the stowed position.

Result: The machine should drive.

- Return to level ground and extend the primary boom approximately 0.5 m.
- Drive the machine onto a slope where the chassis (front to back) angle is greater than 3°.

Result: The machine should stop once the machine reaches 3° of chassis tilt and the alarm should sound at the platform controls.

- Retract the primary boom to the stowed position.

Result: The machine should drive.

- Return to level ground and stow the boom.
- With the boom fully stowed, drive the machine
- Return to level ground and raise the secondary boom to a level of stowed position..

- With the boom fully stowed, drive the machine onto a slope where the chassis (front to back) angle is greater than 3°.

Result: The machine should stop once the machine reaches 3° of chassis tilt and the alarm should sound at the platform controls.

- Lower the secondary boom to the stowed position

Result: The machine should drive.

- Return to level ground and raise the primary boom to an out of stowed position

(approximately 10° above horizontal).

- Drive the machine onto a slope where the chassis angle (side to side) is greater than 4.5°.

Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.

- Lower the primary boom to the stowed position

Result: The machine should drive.

- Return to level ground and extend the primary boom approximately 0.3 m.
- Drive the machine onto a slope where the chassis angle (side to side) is greater than 4.5°.

- Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.

- Retract the primary boom to the stowed position.

Result: The machine should drive.

- Return to level ground and stow the boom.
- Return to level ground and raise the secondary boom to a level of stowed position.

- With the boom fully stowed, drive the machine onto a slope where the chassis angle (side to side) is greater than 4.5°.

- Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.

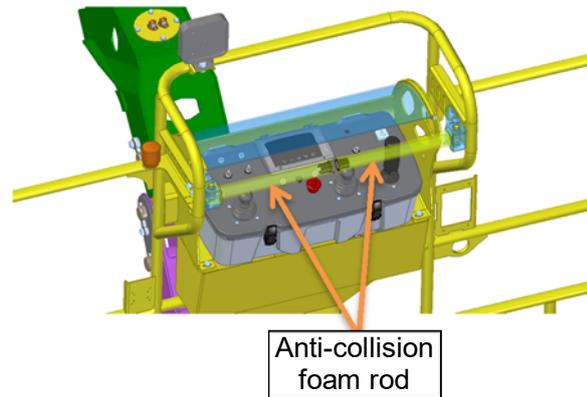
- Lower the secondary boom to the stowed position or drive in the opposite direction.

Result: The machine should drive.

Function Tests

Test the Contact Alarm (if equipped)

- Do not activate the foot switch and press on the contact alarm cable to release the actuator from the switch socket.
Result : the machine horn will not sound.
- Activate the foot switch by pressing the foot switch down, Operate arbitrary machine function.
Result : the machine horn will sound. All machine functions should not operate.
- Insert the actuator into the switch socket.
Result : the machine horn will not sound.
- Activate the foot switch by pressing the foot switch down, Operate arbitrary machine function and press on the contact alarm cable to release the actuator from the switch socket.
Result : the machine horn will sound. All machine functions should not operate.
- Insert the actuator into the switch socket.
Result : the machine horn will not sound.
- Operate each machine function.
- Result: All machine functions should operate.



Platform anti squeezing function test

- Press the platform anti-collision foam rod without stepping down the pedal switch.
- Result: The alarm should not sound.
- Step down the pedal switch and press the platform anti-collision foam rod.
- Result: The alarm should sound.
- Attempt to activate each platform and boom function switch.
- Result: All platform and boom function should not operate.

Operating Instructions



Before using the machine, it is necessary to understand and apply the fundamental operating principles of the machine in the safety conditions contained in this Operator Manual.

- 1 Avoid hazard situations.
- 2 Always carry out the pre-operative inspection.
- 3 Check the work area.
- 4 Always carry out functional test before using the machine.
- 5 **Use the machine only for the purposes for which it is designed: operating instructions.**

Fundamental elements of operating instructions

The machine described in this Manual is designed to lift persons, tools and equipment within the maximum capacity allowed by the platform to the working positions, only for working from the platform. Access to the platform is allowed only from the ground through the entrance gate.

Any method or condition of use outside the limits of use described or not envisaged by the Manufacturer is strictly forbidden.

Only trained and authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's manual. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.

Operating Instructions

Starting the Engine

1. At the ground controls, Turn the ignition key on the symbol representing the truck.
2. Be sure both ground and platform control red Emergency Stop buttons are pulled out to the ON position.
3. Start up the engine by pressing the green button.



If the engine fails to start after 15 seconds of cranking, determine the cause and repair any malfunction. Wait 60 seconds before trying to start again.

Note: in cold climates, the LCD display requires a short warm up time before lighting up.

Emergency Stop

Push in the red Emergency Stop button to the off position at the ground controls or the platform controls to stop all functions.

Repair any function that operates when either red Emergency Stop button is pushed in.

As a safety feature, selecting and operating the ground controls will override the platform controls, except the platform red Emergency Stop button.

Auxiliary Power

Use auxiliary power if the primary power source fails.

- 1 Turn the key switch to ground or platform control.

- 2 Pull out the red Emergency Stop button to the on position.
- 3 Press down the foot switch when operating the auxiliary controls from the platform.
- 4 Simultaneously hold the auxiliary power switch on and activate the desired function.

The drive functions will not operate with emergency power.

Operation from Ground

- 1 Turn the key switch to ground control.
- 2 Pull out the red Emergency Stop button to the on position..
- 3 Start the engine.

To Position Platform

- 1 Hold the function enable switch to either side.
- 2 Move the appropriate toggle switch according to the markings on the control panel.

Note: Drive and steer functions are not available from the ground controls.

Operation from Platform

- 1 Turn the key switch to platform control.
- 2 Pull out both ground and platform red Emergency Stop buttons to the on position.
- 3 Start the engine. Do not press down the foot switch when starting the engine.

To Position Platform

- 1 Press down the foot switch.

Operating Instructions

- 2 Move the appropriate toggle switch according to the markings on the control panel.

To Steer

- 1 Press down the foot switch.
- 2 Turn the steer wheels with the thumb rocker switch located on the top of the control handle.

To Drive

- 1 Press down the foot switch.
- 2 Increase speed: Slowly move the control handle off center.

Decrease speed: Slowly move the control handle toward center.

Stop: Return the control handle to center or release the foot switch.

Use the color-coded direction arrows on the platform controls and the drive chassis to identify the direction the machine will travel.

Machine travel speed is restricted when the booms are raised or extended.

▲ Driving on a slope

Determine the uphill, downhill and side slope ratings for the machine and determine the slope grade.

Maximum slope rating, platform downhill (gradeability): 45% (24°)



Maximum slope rating, platform uphill: 40% (22°)



Maximum side slope rating: 25% (14°)



Note: Slope rating is subject to ground conditions with one person in the platform and

adequate traction. Additional platform weight may reduce slope rating. The term gradeability applies to the platform downhill configuration only.

Be sure the boom is below horizontal and the platform is between the non-steer wheels.

Move the drive speed select switch to machine on incline symbol.

To determine the slope grade:

Measure the slope with a digital inclinometer OR use the following procedure.

You will need:

- carpenter's level
- straight piece of wood, at least 1 m long
- tape measure

Lay the piece of wood on the slope.

At the downhill end, lay the level on the top edge of the piece of wood and lift the end until the piece of wood is level.

While holding the piece of wood level, measure the vertical distance from the bottom of the piece of wood to the ground.

Divide the tape measure distance (rise) by the length of the piece of wood (run) and multiply by 100.

Example:

Run = 3.6 m

Rise = 0.3 m



$0.3 \div 3.6 \text{ m} = 0.083 \times 100 = 8.3\%$

If the slope exceeds the maximum uphill, downhill or side slope rating, then the machine must be winched or transported up or down the slope. See Transport and Lifting section.

Operating Instructions

Platform Overload System

The accuracy of the pressure sensor on the hydraulic cylinder is affected by the hydraulic oil temperature. During the actual use, in addition to the specified time interval, when the working environment temperature changes significantly from the ambient temperature during the last calibration, the platform overload system may appear abnormal conditions. It need to be calibrated again, the platform overload system cannot be used again until the platform overload system get back to normal.

Operating Instructions

Emergency Operation

Use of Ground Controls

Know how to use the ground controls in an emergency situation.

Ground personnel must be thoroughly familiar with the machine operating characteristics and the ground control functions. Training should include operation of the machine, review and understanding of this section and hands-on operation of the controls in simulated emergencies.

Operator Unable to Control Machine

If the Platform Operator Is Pined, Trapped or Unable to Operate or Control the Machine

- 1 Operate the machine from ground controls **ONLY** with the assistance of other personnel and equipment (cranes, overhead hoists, etc.) as may be required to safely remove the danger or emergency condition.
- 2 Other qualified personnel on the platform should not continue operation, and then the assistant on the ground descent the booms slowly.
- 3 Cranes, forklift trucks or other equipment which may be available are to be used to remove platform occupants and stabilize motion of the machine in case machine controls are inadequate or malfunction when used.

Platform or Boom Caught Overhead

If the platform or boom becomes jammed or snagged in overhead structures or equipment, do not continue operation of the machine from either the platform or the ground until the operator and all personnel are safely moved to a secure location. Only then should an attempt be made to free the platform using any necessary equipment and personnel. Do not operate controls to cause one or more wheels to leave the ground.

Processing methods for machine malfunctions

- 1) After the machine malfunction, if it can still be lowered down, it must be ensuring safety when lowering the platform.
- 2) If the faulty machine can not descend the platform normally, please transfer personnel on the platform first, and then descend the platform through emergency operation.
- 3) After ensuring that the machine is in a safe position, turn off the power and evacuate personnel.
- 4) Marking faulty machine.
- 5) Call after-sale department of Dingli for help.

Operating Instructions

Emergency Stowing

Just when there is some failure warning except deadly security alarm and the platform has to be lowered or loaded, push Bypass Switch up and hold on, and then activate the footswitch and corresponding switch to complete it.

The fault is divided into three classes: class A/B/C. Different class, different emergency stowing procedure.

Class A

Item	Fault	Description
1	Load sensor fault	/
2	Platform angle sensor fault	/
3	Jib levelling angle sensor fault	/
4	Chassis inclining sensor fault	/
5	Power on self test fault	/
6	Pedal switch and redundancy fault	/

Lower the platform as the follow procedure when there is one fault or more belonging to class A.

Lowering platform procedure for class A fault

Item	condition	permitted operation
1	Jib operation would be valid at any location.	jib lifting up and down
		jib levelling up and down
		platform rotation
		turret rotation
		Lowering articulate boom
2	Lower the platform after completing step 1	main boom retracting
3	retract main boom completely after step 2	main boom lifting down
4	Turn the turret originally after step 3	Move forward and backward

Operating Instructions

Class B

Item	Fault	Restriction logic
1	moving joystick fault	1 restrict moving, showing alarm code. 2 moving joystick initialization fault after restarting up system, restrict moving.
2	main boom telescopic joystick fault	1 restrict main boom telescopic operation, showing corresponding faulty code. 2 telescopic joystick initialization fault after restarting up system, restrict telescopic.
3	main boom lifting joystick fault	1 restrict main boom lifting operation, showing corresponding faulty code. 2 lifting joystick initialization fault after restarting up system, restrict lifting.
4	jib lifting joystick fault	1 restrict jib lifting operation, showing corresponding faulty code. 2 jib lifting joystick initialization fault after restarting up system, restrict jib lifting.
5	turret rotation joystick fault	1 restrict turret rotation, showing corresponding faulty code. 2 turret rotation joystick initialization fault after restarting up system, restrict turret rotation.

Class C

Item	Fault	Restriction logic
1	Main boom limit switch	1 drive function disable. 2 Show corresponding faulty code.
2	Articulate boom limit switch	1 drive function disable. 2 Show corresponding faulty code.

Lower the platform by activating bypass button on ground console or platform console, and then operating corresponding operation, when there is one fault or more belonging to class B or class C.

Post Incident Inspection and Repair

Following any incident, thoroughly inspect the machine and test all functions first from the ground controls, then from the platform controls. Do not lift above 3 m (10 feet) until you are sure that all damage has been repaired, if required, and that all controls are operating correctly.

Transport and Lifting Instructions

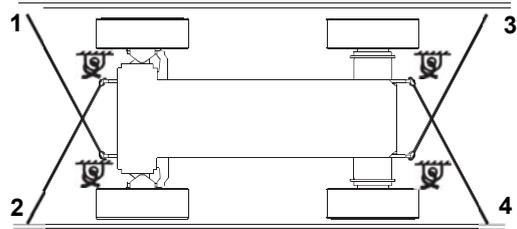


Setting the machines in safety correctly and choosing appropriate transport means according to the provisions of the Ministry of Industry and Public Transport, the regulatory standards in force and the corporate policies are solely the responsibility of the owner of the machine.

DingLi provides the following information regarding the handling and transport of the machine only as recommendation.

- Loading and unloading the machine from a transport vehicle must be done solely by operators skilled in lifting operations.
- Make sure the load capacity of the vehicle, the loading surface, the chains or blocking devices are capable of supporting the machine weight. For the machine weight, refer to the technical data shown on the ID plate of the machine model.
- Check for the presence of any mobile objects on the platform and remove these if necessary.

Securing the chassis

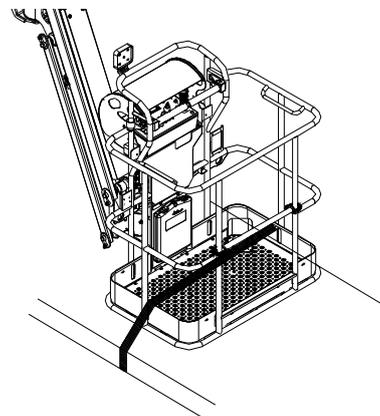


Use all four fixing devices provided on the chassis according to the diagram shown above.

Securing the platform

Fold the platform using the transport mode that can be selected from the control panel on the truck: this option eliminates the operating constraints of the machine, making it possible to fold the telescopic boom back.

If the boom cannot be folded, make sure the primary and secondary parts are completely retracted and that none of the parts touch the loading surface; place the platform on the loading deck and secure it in place on the transport bed using nylon belts.



Transport and Lifting Instructions

Towing the vehicle



Towing the vehicle using an incorrect procedure can cause serious accidents.

Before disengaging the negative brake manually, block the machine to prevent its movement.

Follow the instructions given below to tow the machine correctly.

Chock the wheels to prevent the machine from rolling.

Release the non-steer wheel brakes by turning over the drive hub disconnect caps.

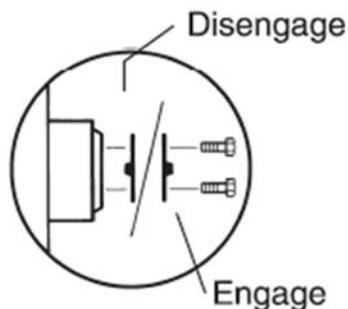
Be sure the winch line is properly secured to the drive chassis tie points and the path is clear of all obstructions.

Reverse the above procedure to reengage the brakes.

Do not use chains for towing the machine. Use steel cables with rings at the ends, or a special rigid tow bar. Make sure the cable is in good condition. Make sure the cable has a nominal carrying capacity 1.5 times the weight of the vehicle to be towed.

Connect one end of the cable to the two front eyelets on the towing vehicle. Connect the other end of the cable to the two front eyelets of the vehicle to be towed.

Towing the machine not recommended. If the machine must be towed, do not exceed 2 mph / 3.2 km/h.



Before towing the vehicle, retract and lower the telescopic boom completely and remove the load.

Transport and Lifting Instructions

Lifting

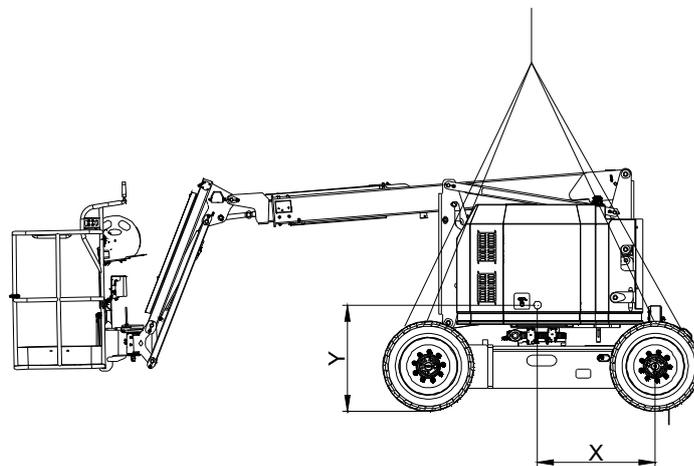
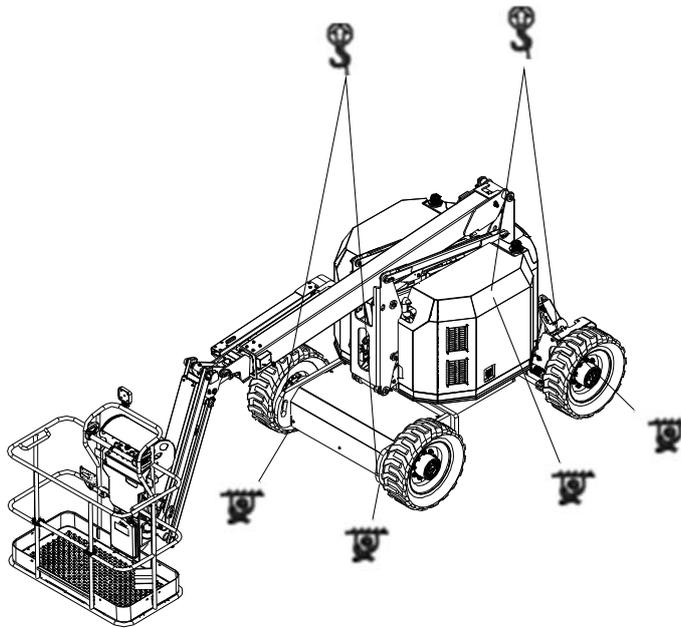
Use only devices suitable for the movement concerned: make sure the capacity of the lifting crane, chains, ropes and relative hooks are able to support the weight of the machine; to check the data, consult the manufacturer's ID plate affixed on the chassis.

Adjust the lifting devices in such a way as to keep the machine level and without causing damage to it.

Centre of gravity

Model	X (mm)	Y (mm)
BA12RT	986.1	891.5

Note: The centre of gravity of every machine is approximate for guidance only.



**Observe and Obey:**

- The storage of the machine shall be as follows, Incorrect storage may affect the performance and service life of the machine
- 1 The machine should be stored indoor coeditor and the ground should be firm and level. If be stored in outdoor condition the machine should be covered to prevent the water and dust.
 - 2 Ensure the machine have been cleaned and the functional before stop to the storage. Repair an maintain it if necessary.
 - 3 Stop the machine in suitable position so as the drive or move the machines conveniently.
 - 4 The environment temperature should be within $-20^{\circ}\text{C}\sim 40^{\circ}\text{C}$ and the environment humidity $\leq 90\%$.

Rust protection

- 1 Before the machine is stored into the storage. Inspecting the paint before the machine is stored into the storage repaint the machine partly all completely against the damage.
- 2 For moving parts grease can be applied to prevent rust, such as bearings, joints and sliding rails

Instructions for brake inspection

- 1 When storing the machine for a long time (1 month ~ half a year), brake release should be performed once a month to prevent the brake pads from sticking.
- 2 If the brake pads are sticking, brake assembly need to be replaced.

Before use after a period of storage

The machine be stored long time or exposed to extreme environmental conditions (heat, cold, humidity, dust, etc,) cannot be used to service until it has been inspected and maintained according to the daily check procedure and function test.

Maintenance



Observe and Obey:

- The operator must only carry out the routine maintenance specified in this Manual.
- The scheduled maintenance activities must be performed by the workers trained and qualified by manufacture and according to the requirements listed in the Maintenance Manual of this machine.
- Dispose of the materials in compliance with the national regulatory standards in force.
- Only use spare parts authorised by DingLi.
- Before maintaining the machine, the workers must wear the personnel protective equipment such as gloves, safety shoes, safety cap and so on.
- Need to comply with local national laws and regulations of regular inspection and inspection frequency requirements.

Preliminary checks

Every time the machine is used by a new owner, make sure the correct Use and Maintenance Manual corresponding to the machine is present on board.

If this is not the case, immediately contact the dealer for the correct Manual.

Check to make sure the plates and stickers are present on the machine and are in good condition.

If they are damaged or illegible, ask your dealer for a replacement copy.

Maintenance

MAINTENANCE SCHEDULE

Read and understand all the warnings and instructions before starting any maintenance operation.

Before carrying out any maintenance operation, make sure all the scheduled actions have been carried out as planned.

A Every 10 hours of operation or daily

- A-1 Visual inspection - checking
- A-2 Telescopic boom sliding blocks - check
- A-3 Auxiliary pump - operating test
- A-4 Overload sensor – check
- A-5 Bolts fixing balance weight-check
- A-6 Check Lanyard anchorage point
- A-7 Check the Batteries – check
- A-8 Test the Oscillate System
- A-9 Check the Engine Oil Level
- A-10 Check the Engine Coolant Level
- A-11 Engine maintenance

B Every 50 hours of operation or every 2 weeks

- B-1 Hydraulic oil level - check
- B-2 Telescopic boom sliding blocks - lubrication
- B-3 Turret rotation slewing ring gear - lubrication
- B-4 Wheels - check tightening of nuts
- B-5 Engine maintenance

Perform every 100 hours:

- B-6 Engine maintenance

Perform every 200 hours:

- B-7 Engine maintenance

C Every 250 hours of operation or every 3 months

- C-1 Wheel reduction gears oil – check
- C-2 Inspect the Battery
- C-3 Fuel and Hydraulic Tank Cap Venting System

Perform every 400 hours:

- C-4 Engine maintenance

D Every 500 hours of operation or every 6 months

- D-1 Hydraulic oil filter - replacement
- D-2 Turret rotation slewing ring gear - check tightening of bolts
- D-3 Moment of force on bolts fixing balance weight-check
- D-4 Engine maintenance

Perform every 800 hours:

- D-5 Engine maintenance

E Every 1000 hours of operation or every year

- E-1 Wheel reduction gears oil - change
- E-2 Telescopic boom sliding blocks - adjust the play
- E-3 Overload sensor – calibration
- E-4 Engine maintenance

F Every 1500 hours of operation

- F-1 Engine maintenance

G Every 2000 hours of operation or every 2 years

- G-1 Hydraulic fluid – change
- G-2 Engine maintenance

Perform every 3000 hours:

- G-3 Engine maintenance

Maintenance

A-1 Visual inspection

To ensure the maximum useful operating life of the vehicle, proceed with a thorough visual inspection before every starting up.

- 1 Look around and under the vehicle, checking to make sure there are no slack or missing bolts, no accumulated dirt, leakage of oil and other liquids, broken or worn parts.
- 2 Check the state of the accessories and hydraulic components.
- 3 Check the state and wear of the tyres. If necessary
- 4 Check the oil, coolant and fluid levels.
- 5 Remove all accumulated dirt and debris. Carry out all the repairs necessary before starting up the vehicle.
- 6 Check the state of the battery for corrosion and cleaning, and volume showed on the display in the ground station for the electric vehicle.

A-2 Telescopic boom sliding blocks - check

- 1 Extend the telescopic boom completely.
- 2 Check to make sure the boom movement is smooth. Ensure that there are no abnormal vibrations, unusual noises, and no part of the boom gets heated due to friction during the movement.
- 3 Check to ensure there is a sufficient layer of grease on the sliding surfaces and on the sliding blocks.

Maintenance

A-3 Auxiliary pump test

Press the red emergency button and reset it.

Activate the emergency pump and test the movements of the booms and platform.

NOTE: to avoid consuming the batteries, limit the test duration time.

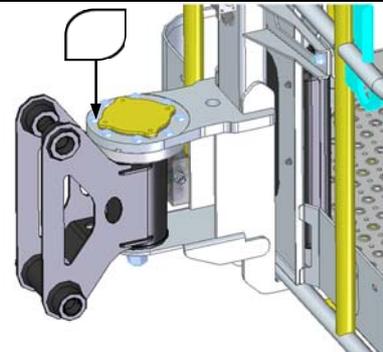
To confirm the correct working, deactivate the emergency electric pump and restart the system.

A-4 Overload Sensor - checking

How much the load weighted by the overload sensor is in the platform will be indicated on the panel on the ground control console. If the load in the platform does not exceed rated load, the vehicle is safe during work.

Otherwise, it is dangerous and the alarm will be activated. So, it is important to make sure the sensor is in good condition before starting work every day.

Bolt -checking



Check if there is some bolts is slacken or missing and the sensor undamaged. If there is abnormal condition, ask for help from DingLi or your agency.

Overload Sensor - checking

It is critically important for safety of life and property of operators to make sure the sensor works well. Checking and Making sure the sensor is in good condition before starting work every day could protect operators from danger. When there is some collision on platform, stop working and to check if the sensor is well. The procedures as follows:

- 1 Vehicle Condition Interface indicating data on vehicle condition can be entered by the following steps

Maintenance



Press the  button to enter the following interface



Press the  button to select machine info, and Press the  button to enter the following interface



Select the Machine States, and Press the  button to enter the following interface



Press the  button to select Cage Act Weight, and Press the  button to enter the following interface

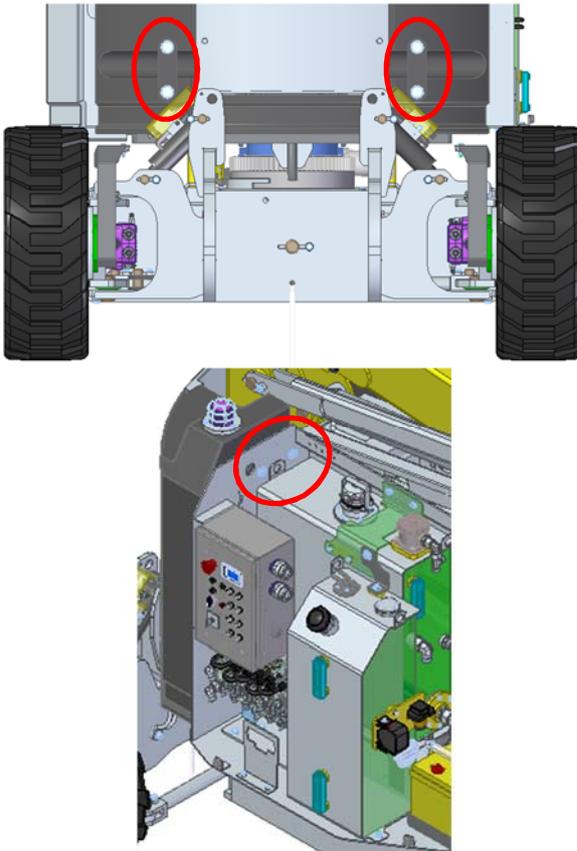


- 2 Cage load parameter shows the current load in the platform.
- 3 Cage load parameter will show 0kg when the load in the platform is removed completely.
- 4 Cage load parameter will show 272kg (227kg) at the moment of 272kg (227kg) being added in the platform.
- 5 Cage load parameter will show 310kg (260kg) the machine horn will sound. Otherwise ,repair immediately.

The accuracy of weighting is $\pm 15\%$. If the data exceeds it, stop to calibrate it, referring to the chapter of Overload sensor - calibration.

A-5 Bolts fixing balance weight-check

It is dangerous that there is something wrong with connecting the balance weight with the machine. So, it is necessary to check the bolts fixing the balance weight.



Check the balance weight fixing nuts on the turret. Check for rusted, slackened or missing nuts.

Contact your dealer in case of serious problems.

A-6 Check Lanyard anchorage point

The lanyard anchorage point is the key component of the high-altitude operation safety system, which is directly related to the personal safety of the operator. Therefore the regular inspection and maintenance of the Lanyard anchorage point are particularly important.

Before each use, the comprehensive inspection of the anchorage points belt should be carried out to ensure that there are no cracks or de-welding phenomena in the welds, and no cracks or deformations in the structural components. Ensure the labels are clear and complete, attach only one lanyard per lanyard anchorage point.

If signs of damage are found at the anchorage points, it should be stopped immediately, and can only be used after the repair is qualified.

Maintenance

A-7 Check the Batteries

Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

Note: This check is not required for machines with lithium batteries, sealed batteries, or Maintenance - free batteries.

⚠ WARNING Electrocutation hazard.

Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

⚠ WARNING Bodily injury hazard.

Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

- 1 Put on protective clothing and eye wear.
- 2 Be sure that the battery cable connections are tight and free of corrosion.
- 3 Be sure that the battery platens are secure.
- 4 Remove the battery vent caps.
- 5 Check the battery acid level. If needed, replenish with distilled water to the bottom of the battery fill tube. Do not overfill.
- 6 Install the vent caps.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

A-8 Test the Oscillate System

The oscillate system is designed so that all four tires maintain firm contact with the ground on unlevel terrain, improving traction and machine stability.

Proper axle oscillation is essential to safe machine operation. If the axle oscillation system is not operating correctly, the stability of the machine is compromised and it may tip over.

Test the Oscillate System (stowed position)

- 1 Drive the left steer tire up onto a 14 cm high ramp.
 - ⊙ Result: All four tires should maintain firm contact with the ground.
- 2 Drive the right steer tire up onto a 14 cm high ramp.
 - ⊙ Result: All four tires should maintain firm contact with the ground.

Note: Verify that there are no fault codes shown on ground control display.

Maintenance

A-9 Check the Engine Oil Level

Maintaining the proper engine oil level is essential to good engine performance and service life.

Operating the machine with an improper oil level can damage engine components.

NOTICE

Check the oil level with the engine off.

- 1 Open the engine cover
- 2 Release the latches on the engine tray and fully rotate out
- 3 Check the oil level dipstick. Add oil as needed.

Oil type	5W-30
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Oil type – cold conditions	0W-20
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A-10 Check the Engine Coolant Level

Maintaining the engine coolant at the proper level is essential to engine service life.

Improper coolant level will affect the engine's cooling capability and damage engine components. Daily checks will allow the inspector to identify changes in coolant level that might indicate cooling system problems.

Check the fluid level in the radiator. Add fluid as needed.

⚠ WARNING

Bodily injury hazard. Fluids in the radiator are under pressure and extremely hot. Use caution when removing cap and adding fluids.

Maintenance

A-11 Perform Engine

Maintenance

Engine specifications require that this procedure be performed every 8 hours or daily, whichever comes first.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

B-1 Hydraulic oil level-check

For correct working of the machine, check to make sure the level of oil in the hydraulic system is sufficient. Incorrect level of oil in the hydraulic system can damage the components. Daily inspections will make it possible to detect changes in the oil level which could indicate the presence of faults in the hydraulic system

- 1 Make sure the boom is in the retracted position.
- 2 Check the oil level indicator on the side of the hydraulic tank.

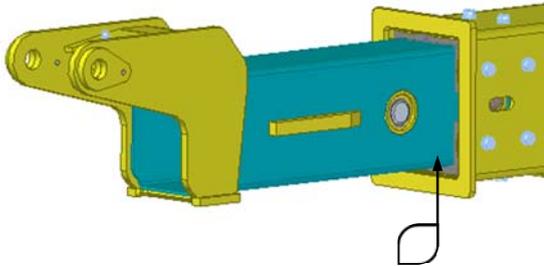
Result: The hydraulic oil level should be between the maximum level and minimum level.

If necessary, open the cover of the hydraulic tank and take off the cover showed in the follow figure to add oil. Do not exceed the level indicated. After completing adding oil, install back the cover.

Note: The hydraulic oil should be applied to the local environment, and be filtered at the accuracy of 20 μ m.

Maintenance

B-2 Telescopic booms sliding blocks - Lubrication



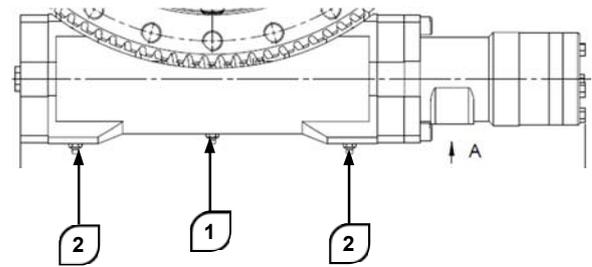
- 1 Position the machine in an area with sufficient clearance around it; center the turret and bring the telescopic boom to the horizontal position. Extend the telescopic boom completely.
- 2 Remove the dust guard gaskets at the head of the extension and clean all the sliding surfaces thoroughly.
- 3 Using a brush, apply a thin layer of grease on the sliding surfaces on all four sides of the boom.
- 4 Retract and extend the telescopic boom a number of times to distribute the grease uniformly.

B-3 Turret rotation slewing ring gear - Lubrication

Lubricate the worm and the teeth by means of the grease nipple 1 provided on the gear box.

Lubricate the outer teeth of the worm. Apply grease manually using a brush. Ensure that the grease is distributed uniformly. Remove grease buildup.

Lubricate the raceway by means of the grease nipple on the inside of worm and the bearing by means of the grease nipple 2 provided on the gear box.



Anyone in the follow table should be chosen when the vehicle is used in the normal environment.

Grease for standard application		
GREASE BRAND	FOR RACEWAY and BEARING	FOR WORM and GEAR TEETH
Mobil	KG-2-B-2	XHP 462 Moly

If the machine is used in the severe environment, refer to DingLi for the grease.

Maintenance

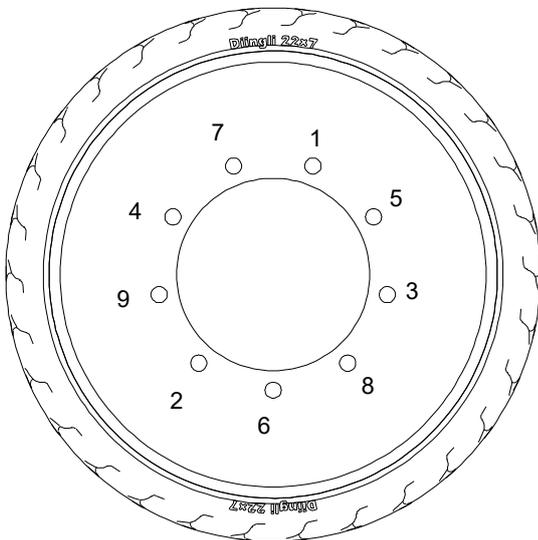
B-4 Wheels - check tightening of nuts

It is extremely important to apply and maintain proper mounting torque.

- ▲ **Tighten the lug nuts to the proper torque to prevent coming loose.**

Wheel nuts should be torque after first 50 hours of operation and after each wheel removal. Use a torque wrench to tighten fasteners. If you do not have a torque wrench, tighten the fasteners with a lug wrench, then immediately have a service garage tighten the lug nuts to the proper torque. Over-tightening result in breaking the studs or permanently deforming mounting stud holes in the wheels. The proper procedure attaching wheels is as follows:

- 1 Set the torque wrench to 237Nm.
- 2 Tighten nuts in the following sequence:



- 3 When there is sound like 'kada', the lug nut is fastened at proper torque.

B-5 Perform Engine Maintenance

Engine specifications require that this procedure be performed every 50 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

Maintenance

B-6 Perform Engine Maintenance

Engine specifications require that this procedure be performed every 100 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

B-7 Perform Engine Maintenance

Engine specifications require that this procedure be performed every 200 hours.

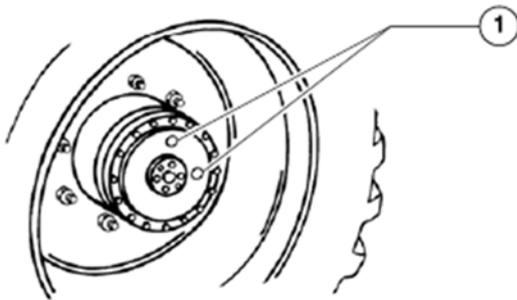
Required maintenance procedures and additional engine information is available in the engine operator's manual.

Maintenance

C-1 Wheel reduction gears oil - Check

Failure to maintain proper drive hub oil levels may cause the machine to perform poorly and continued use may cause component damage

- 1 Drive the machine to rotate the hub until the plugs are located one on top and the other at 90 degrees.



1. drive hub plugs

- 2 Remove the plug located at 90 degrees and check the oil level.
- ⊙ Result: The oil level should be even with the bottom of the plug hole.
- 3 If necessary, remove the top plug and add oil until the oil level is even with the bottom of the side plug hole.
- 4 Install the plug(s) into the drive hub.
- 5 Repeat this procedure for each drive hub

Note: check it every 10 hours firstly.

C-2 Inspect the Battery

Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

⚠ WARNING Electrocution / burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠ WARNING Bodily injury hazard. Battery contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

- 1 Put on protective clothing and eye wear.
- 2 Be sure that the battery cable connections are free of corrosion.

Note: Adding terminal protectors and a corrosion preventative sealant will help eliminate corrosion on the battery terminals and cables.

- 3 Be sure that the battery retainers and cable connections are tight.
- 4 Fully charge the battery. Allow the battery to rest 24 hours before performing this procedure to allow the battery cells to equalize.
- 5 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
- 6 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:
 - Add 0.004 to the reading of each cell for every 5.5° C above 26.7° C.

Maintenance

- Subtract 0.004 from the reading of each cell for every 5.5° C below 26.7° C.
 - ⊙ Result: All battery cells display an adjusted specific gravity of 1 .277 or higher. The battery is fully charged. Proceed to step 10.
 - ⊖ Result: One or more battery cells display a specific gravity of 1.276 or below. Proceed to step 7.
- 7 Perform an equalizing charge OR fully charge the battery and allow the battery to rest at least 6 hours.
 - 8 Remove the battery vent caps and check the specific gravity of each battery cell with a hydrometer. Note the results.
 - 9 Check the ambient air temperature and adjust the specific gravity reading for each cell as follows:
 - Add 0.004 to the reading of each cell for every 5.5° C above 26.7° C.
 - Subtract 0.004 from the reading of each cell for every 5.5° C below 26.7° C.
 - ⊙ Result: All battery cells display a specific gravity of 1 .277 or greater. The battery is fully charged. Proceed to step 10.
 - ⊖ Result: The difference in specific gravity readings between cells is greater than 0.1 OR the specific gravity of one or more cells is less than 1.177 or less. Replace the battery.
 - 10 Check the battery acid level. If needed, replenish with distilled water to 3 mm below the bottom of the battery fill tube. Do not overfill.
 - 11 Install the vent caps and neutralize any electrolyte that may have spilled.

C-3 Inspect the Fuel and Hydraulic Tank Cap Venting System

A free-breathing hydraulic tank cap is essential for good machine performance and service life. A dirty or clogged cap may cause the machine to perform poorly. Extremely dirty conditions may require that the cap be inspected more often.

⚠ DANGER Explosion and fire hazard.

Engine fuels are combustible. Perform this procedure in an open, well-ventilated area away from heaters, sparks, flames and lighted tobacco. Always have an approved fire extinguisher within easy reach

- 1 Remove the breather cap from the fuel tank.
 - 2 Check for proper venting.
 - ⊙ Result: Air passes through the breather cap. Proceed to step 4.
 - ⊖ Result: If air does not pass through the cap, clean or replace the cap. Proceed to step 3.
- Note: When checking for positive tank cap venting, air should pass freely through the cap only in one direction from the tank.
- 3 Using a mild solvent, carefully wash the cap venting system. Dry using low pressure compressed air. Repeat this procedure beginning with step 2.
 - 4 Install the fuel tank cap onto the fuel tank.
 - 5 Remove the breather cap from the hydraulic tank.
 - 6 Check for proper venting.
 - ⊙ Result: Air passes through the fuel tank cap. Proceed to step 8..

Maintenance

- ☐ Result: If air does not pass through the cap, clean or replace the cap. Proceed to step 7.

Note: When checking for positive tank cap venting, air should pass freely through the cap.

- 7 Using a mild solvent, carefully wash the cap venting system. Dry using low pressure compressed air. Repeat this procedure beginning with step 6.
- 8 Install the breather cap onto the hydraulic tank.

C-4 Perform Engine Maintenance

Engine specifications require that this procedure be performed every 400 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

D-1 Hydraulic oil filter - replacement

Replacement of the hydraulic return filter element is essential for good machine performance and service life. A dirty or clogged filter element may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require that the filter element be replaced more often.

▲ CAUTION Bodily injury hazard. Beware of hot oil. Contact with hot oil may cause severe burns.

- 1 Locate the hydraulic return filter housing on top of the hydraulic tank.
- 2 Clean the area around the oil filter housing cap located on top of the reservoir.
- 3 Remove the cap from the housing.
- 4 Lift the handle on the filter element and rotate the element counterclockwise to release the element from the housing.
- 5 Remove the filter element from the filter housing.
- 6 Install the new oil filter element into the filter housing.
- 7 Push the filter element down to be sure the o-ring on the element is fully seated into the housing.
- 8 Rotate the filter element clockwise to lock it in place.
- 9 Install the filter housing cap
- 10 Clean up any oil that may have spilled during the replacement procedure.
- 11 Use a permanent ink marker to write the date and number of hours from the hour meter on the oil filter housing.
- 12 Turn the key switch to ground controls and pull out the red Emergency Stop button to the on position.
- 13 Move and hold the function enable toggle switch to either side and move and hold the primary boom toggle switch in the up direction.
- 14 Inspect the filter housing and related components to be sure that there are no leaks.

Maintenance

D-2 Turret rotation slewing ring gear - check tightening of bolts

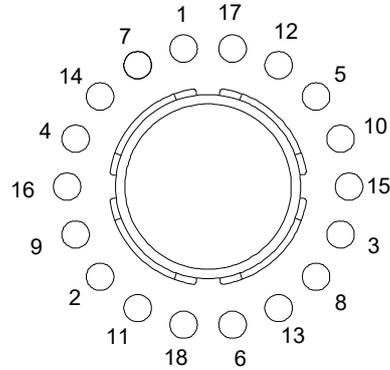
Maintaining proper torque on the turntable bearing bolts is essential to safe machine operation. Improper bolt torque could result in an unsafe operating condition and component damage

- 1 Raise the secondary boom and place a safety check on the lift cylinder rods. Carefully lower the boom onto the lift cylinder safety check.

⚠ WARNING Crushing hazard. Keep hands away from the cylinder and all moving parts when lowering the boom.

Note: The lift cylinder safety check is available through DINGLI Parts Department.

- 2 Open the cover.
- 3 Confirm that each turntable mounting bolt is torqued in sequence to specification. Refer to Specifications, Machine Torque Specifications
- 4 Raise the secondary boom and remove the safety checks.
- 5 Lower the boom to the stowed position.
- 6 Observe the turntable bearing bolt from access hole.
- 7 Torque the lower bearing mounting bolts under the drive chassis in sequence to specification. Refer to Specifications, Machine Torque Specifications.



Bolt torque sequence

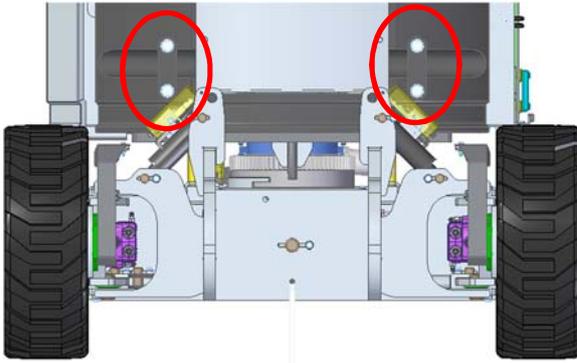
Nut torque	210Nm
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Maintenance

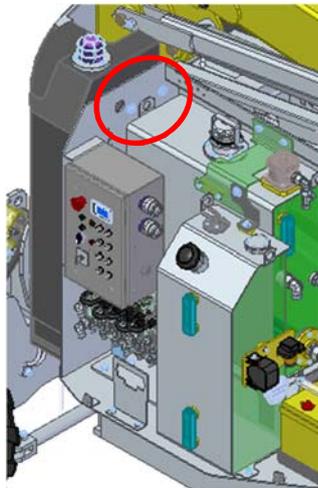
D-3 Moment of force on bolts fixing balance weight-Check



It is necessary to check the moment of force on the bolts fixing the balance weight.



Tighten one by one of the bolts fixing the balance weight with the torsion wrench, set point of 730N.m.



Tighten one by one of the bolts fixing the balance weight with the torsion wrench, set point of 52 N.m

D-4 Perform Engine Maintenance

Engine specifications require that this procedure be performed every 500 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

Maintenance

D-5 Perform Engine Maintenance

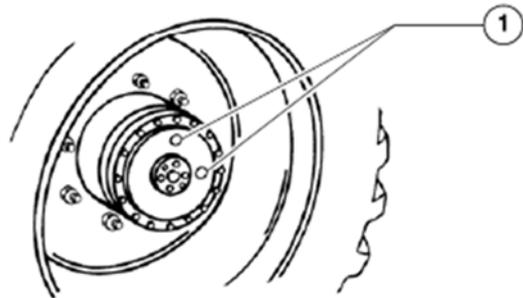
Engine specifications require that this procedure be performed every 800 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

E-1 Wheel reduction gears oil - Change

Replacing the drive hub oil is essential for good machine performance and service life. Failure to replace the drive hub oil at yearly intervals may cause the machine to perform poorly and continued use may result in component damage

- 1 Select the drive hub to be serviced. Drive the machine until one of the two plugs is at the lowest point.
- 2 Remove the plugs and drain the oil into a suitable container.
- 3 Drive the machine until one of the two plugs is at the highest point.
- 4 Fill the hub until the oil level is even with the bottom of the lowest plug hole. Refer to Specifications, Machine Specifications.
- 5 Install the plugs
- 6 Repeat this procedure for each drive hub.



1 drive hub plugs

Note: change the oil every 100-250 hours firstly.

E-2 Telescopic boom sliding blocks - Adjusting the play

Maintaining the boom wear pads in good condition is essential to safe machine operation. Wear pads are placed on boom tube surfaces to provide a low friction, replaceable wear pad between moving parts. Improperly shimmed wear pads or continued use of extremely worn wear pads may result in component damage and unsafe operating conditions.

1. Measure each wear pad. Replace the wear pad once it reaches the minimum allowable thickness. If the wear pad is still within specification, shim as necessary to obtain minimum clearance with zero binding.
2. Extend and retract the boom through the entire range of motion to check for tight spots that may cause binding or scraping of the boom.

Note: Always maintain squareness between the outer and inner boom tubes.

boom wear pad specifications	Minimum
Top and side wear pads (extension end of boom)	11.5mm
side wear pads (extension end of boom)	17.5mm
Bottom wear pads (pivot end of boom)	11.5mm
side wear pads (pivot end of boom)	17.5mm
Top wear pads (pivot end of boom)	9.5mm

E-3 Overload Sensor - calibration

How much the load weighted by the overload sensor is in the platform will be indicated on the panel on the ground control console. If the load in the platform does not exceed rated load, the vehicle is safe during work. Otherwise, it is dangerous and the alarm will be activated. So, the sensor must be calibrated when the data showed on the panel is incorrect.

Calibration

The weighting system must be calibrated termly. The interval is 1000 hours for running or every year. Besides, stop to calibrate the overload sensor at once the data showed on the panel is incorrect.

Maintenance

E-4 Perform Engine

Maintenance

Engine specifications require that this procedure be performed every 1000 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

G-1 Hydraulic fluid - change

Replacement or testing of the hydraulic oil is essential for good machine performance and service life. Dirty oil and a clogged suction strainer or hydraulic filters may cause the machine to perform poorly and continued use may cause component damage. Extremely dirty conditions may require oil changes to be performed more frequently.

NOTICE Component damage hazard.

The work area and surfaces where this procedure will be performed must be clean and free of debris that could get into the hydraulic system.

Before replacing the hydraulic oil, the oil may be tested by an oil distributor for specific levels of contamination to verify that changing the oil is necessary. If the hydraulic oil is not replaced at the two year inspection, test the oil quarterly. Replace the oil when it fails the test.

Note: Perform this procedure with the boom in the stowed position.

⚠ WARNING Electrocutation / burn hazard: Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠ WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

⚠ CAUTION Bodily injury hazard. Beware of hot oil. Contact with hot oil may cause severe burns.

- 1 Disconnect the battery pack from the machine.
- 2 Open the power unit module cover

Maintenance

- 3 Remove the oil drain plug at bottom Drain all of the oil into a suitable container.
- 4 Tag and disconnect the hydraulic tank return line from the hydraulic filter head and remove the line from the tank. Cap the fitting on the filter head.
- 5 Tag and disconnect the hydraulic pump inlet line and remove the line from the tank. Cap the fitting on the pump.
- 6 Remove the hydraulic tank mounting fasteners. Remove the hydraulic tank from the machine.
- 7 Remove the breather cap from the hydraulic tank.
- 8 Disconnect the hydraulic filter inside the hydraulic tank.
- 9 Clean the inside of the hydraulic tank using a mild solvent. Allow the tank to dry completely.
- 10 Install the hydraulic filter inside the hydraulic tank.
- 11 Install the hydraulic pump inlet line into the tank. Install the fitting onto the pump and torque.
- 12 Tighten the drain plug.
- 13 Install the breather cap onto the hydraulic tank.
- 14 Install the hydraulic tank and install and tighten the hydraulic tank retaining fasteners.
- 15 Install the hydraulic pump return line into the tank. Install the fitting onto the hydraulic filter head and torque.
- 16 Add the tank with hydraulic oil until the fluid is equal in the hydraulic tank.
- 17 Activate the pump to fill the hydraulic system with oil and bleed the system of air.

⚠ WARNING Component damage hazard. The pump can be damaged if operated without oil. Be careful not to empty the hydraulic tank while in the process of filling the hydraulic system. Do not allow the pump to cavitate.

Maintenance

G-2 Perform Engine

Maintenance

Engine specifications require that this procedure be performed every 2000 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

G-3 Perform Engine

Maintenance

Engine specifications require that this procedure be performed every 3000 hours.

Required maintenance procedures and additional engine information is available in the engine operator's manual.

Disposal

When the MEWP is damaged, contact Dingli for further evaluation. If it cannot be repaired for safe use, the MEWP must be disposed. Always follow your local law or regulations to dispose the MEWP.

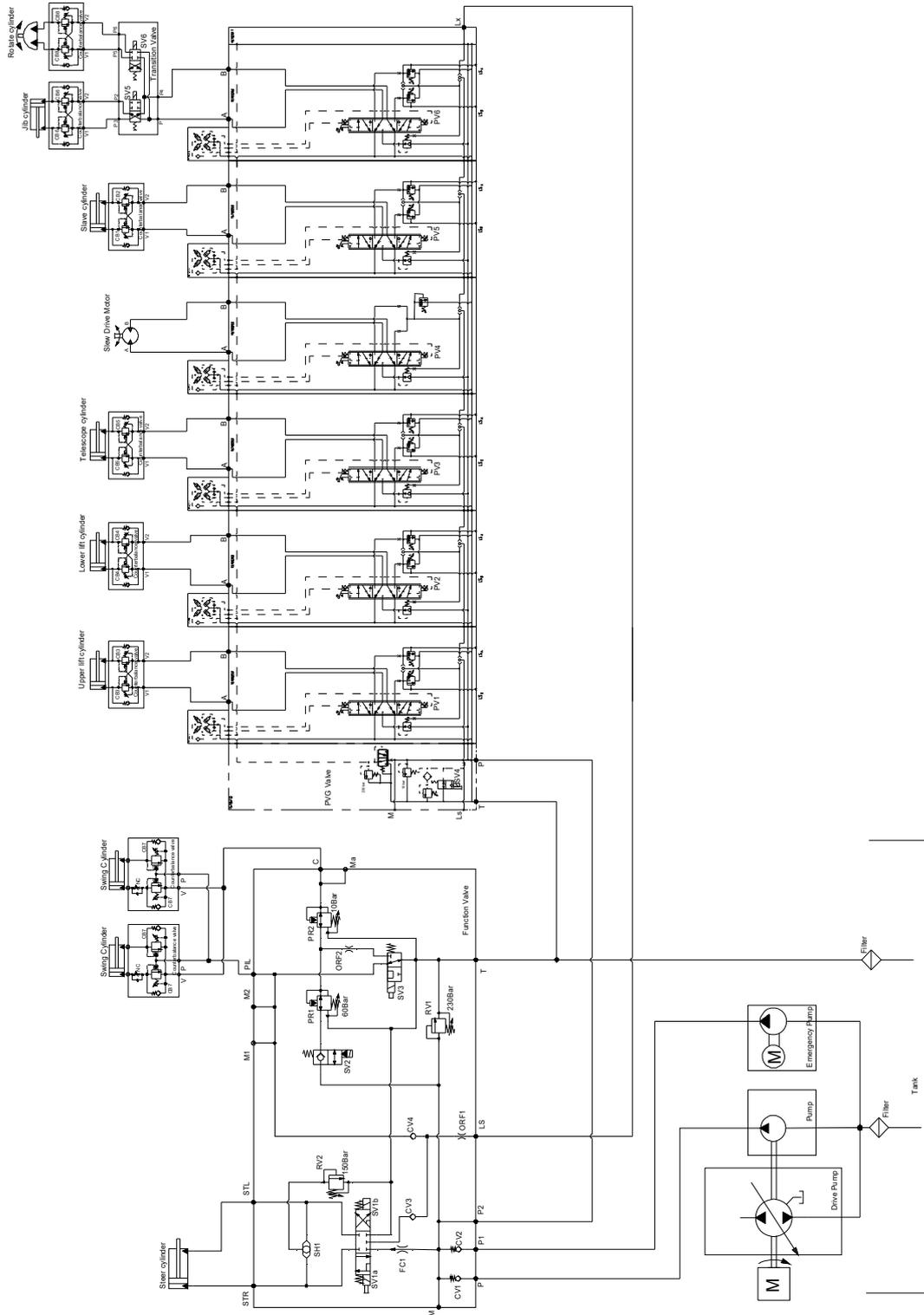
To prevent pollution, pay attention on waste disposal:

Drain the hydraulic oil into a container, do not it directly into the ground, sewers, rivers, oceans or lakes. Follow laws and regulation for the disposal of hazardous substance such as hydraulic, battery etc.

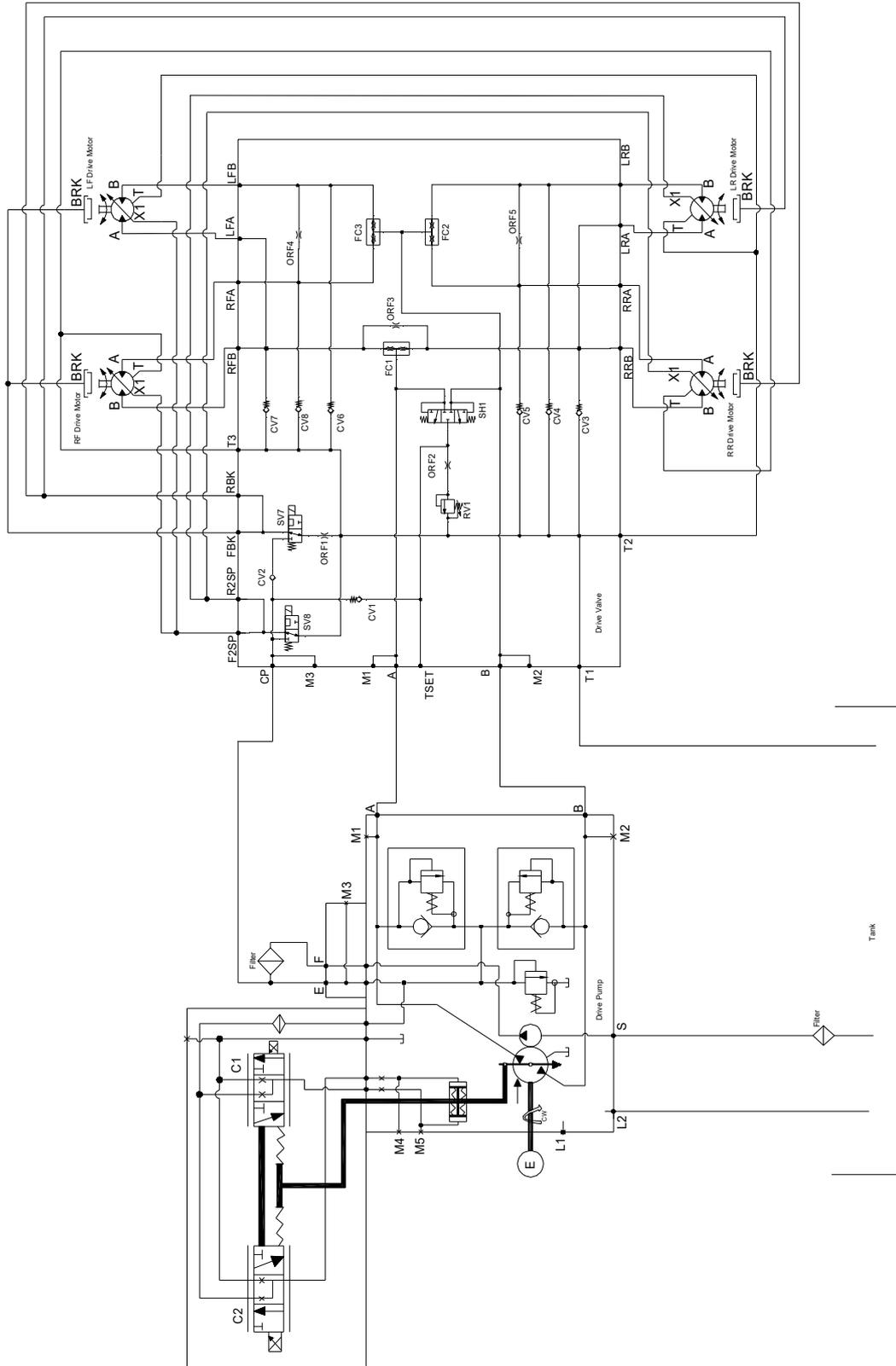
Properly dispose of the machine and spare parts according to laws and regulations.

Schematic

Hydraulic Schematic-Function



Hydraulic Schematic-Drive



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