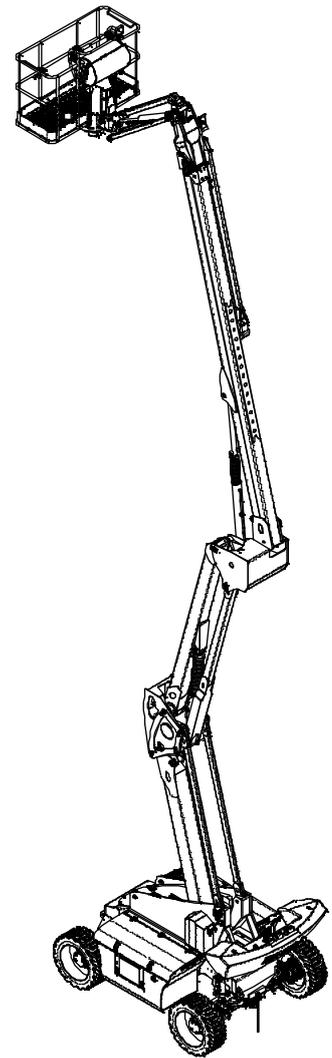


Operator's Manual

with Maintenance Information

BA22CERT2
BA20CERT2
BA18CERT2
BA16CERT2

From SN BAEC023H00037



Part Number: SM042310113
Version Number: Rev1.1
September 2024 Printing

Original Instructions

Version of the Record

Version of the Record

Version Number	Create Date
SM042310113_Rev1.0	2023-09
SM042310113_Rev1.1	2023-12

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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Marking

Marking

09210036

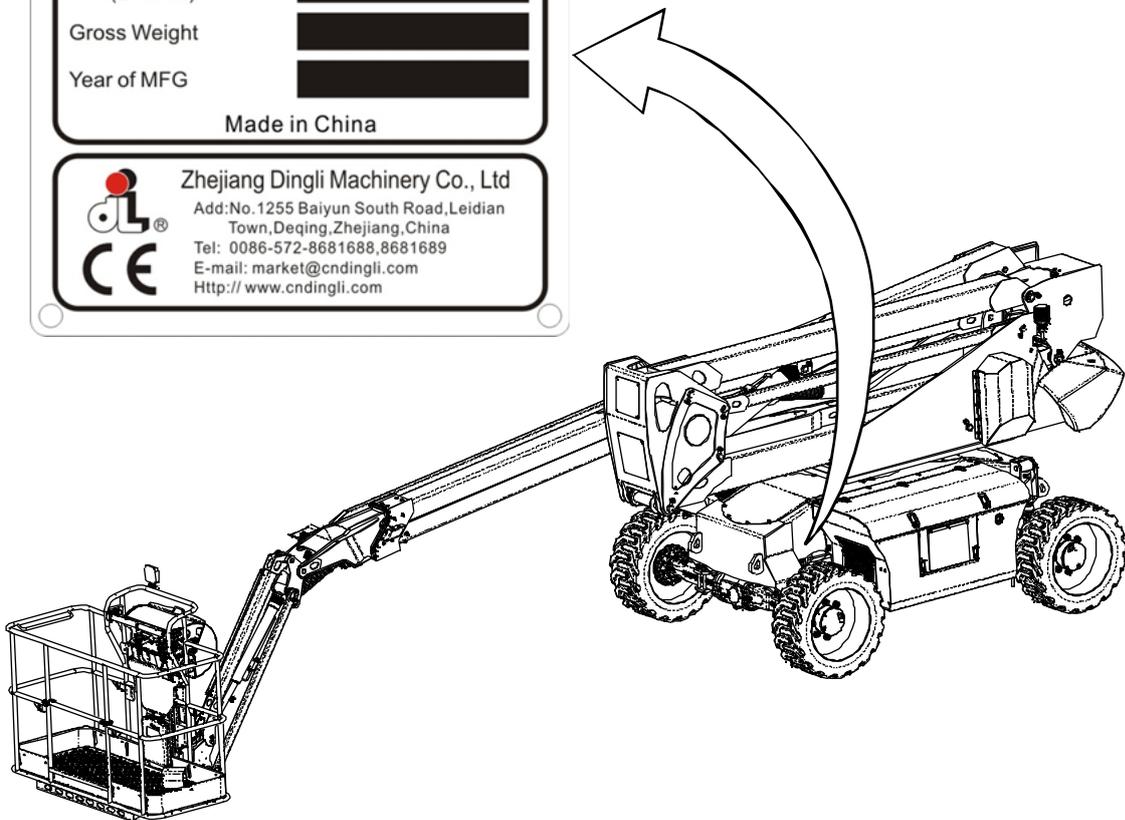
Self-Propelled
Articulating Boom Lifts

Model	
Serial No.	
Power	
Rated Load	
Max. Working Height	
Max. Inclination	
Max. Wind Speed	
Max. Manual Force	
Max. Work Pressure	
Charge Voltage	
Up and Over Clearance	
Overall Dimension (L×W×H)	
Gross Weight	
Year of MFG	

Made in China

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The identification tag bearing the manufacturing number and CE marking shown here is affixed on the RH side 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

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.

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.

Safety Rules

⚠ 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
BA22CERT2	320kg(Std)	2
	300kg(Opt)	2
BA20CERT2	320kg(Std)	2
	300kg(Opt)	2
BA18CERT2	320kg(Std)	2
	300kg(Opt)	2
BA16CERT2	320kg(Std)	2
	300kg(Opt)	2

Do not overload the work platform.

If accessories are used, read, understand and 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

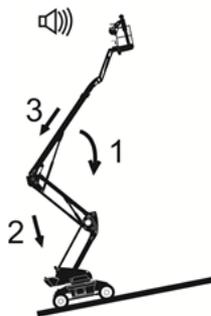
Safety Rules

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.

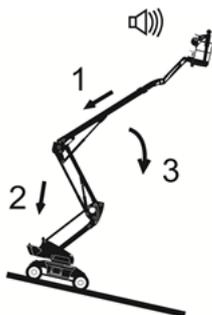
If the inclination alarm sounds while the platform is lifted, use it with utmost care. The indicator lights up if the machine is not level and the side-shift function in one or both directions is not operative. Stabilise the position of the boom with respect to the slope as shown below. Follow the procedure 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 main boom.
- 2 Lower the tower boom.
- 3 Retract the main boom.

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



- 1 Retract the main boom.
- 2 Lower the tower boom.
- 3 Lower the main 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.



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.

Safety Rules

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.



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

Safety Rules

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

	BA20CERT2	BA22CERT2	BA18CERT2	BA16CERT2
Maximum slope for traveling in descent	19.3°(35%)	21.8°(40%)		
Maximum slope for traveling in ascent	19.3°(35%)	21.8°(40%)		
Maximum side slope for traveling	14°(25%)	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.

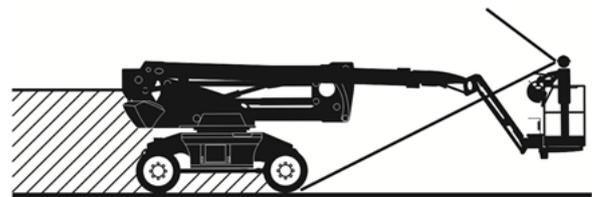
Do not get on and off the work platform when elevated.

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.



Safety Rules

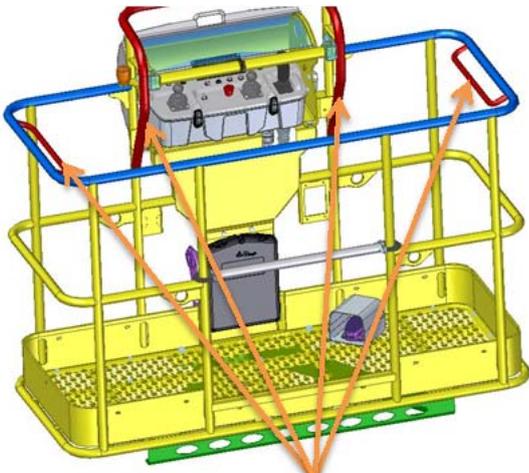


Check the work area to make sure there are no obstacles at a height or other potential hazards.



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

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.



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.



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.

▲ 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.

▲ Danger of explosion and fire

Do not start up the motor if there is an odour or trace of LPG, petrol, diesel or other explosive substances.

Do not recharge the machine if the electrical motor is switched on.

Recharge the machine solely in a well-ventilated area far away from sparks, flames and lighted cigarettes.

Safety Rules

Do not use the machine in hazardous ambient or in the presence of gas or flammable or explosive materials or in areas with explosive atmosphere.

▲ 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 Li battery (If equipped)

High voltage danger, Electric shock.

Possible serious injury of life-threatening

Users do not disassemble any parts or repairs.

It is strongly recommended to use a special charger to charge the battery.

Do not short-circuit the battery by connecting the positive and negative terminals directly.

Do not strike the battery, avoid severe impact, vibration, or extrusion of the battery.

Do not attempt to disassembly the battery in any way or position the battery in water, acidity,

basicity or saline liquid, preventing from rainwater.

For long-time storage, please place it in a cool and dry environment, and fully recharge it every three months.

▲ 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.

▲ Hazards linked to the work area

Do not use the machine in environmental temperatures below -20°C or above 49°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.

Do not attempt to disassembly the battery in any way or position the battery in water, acidity, basicity or saline liquid, preventing from rainwater.

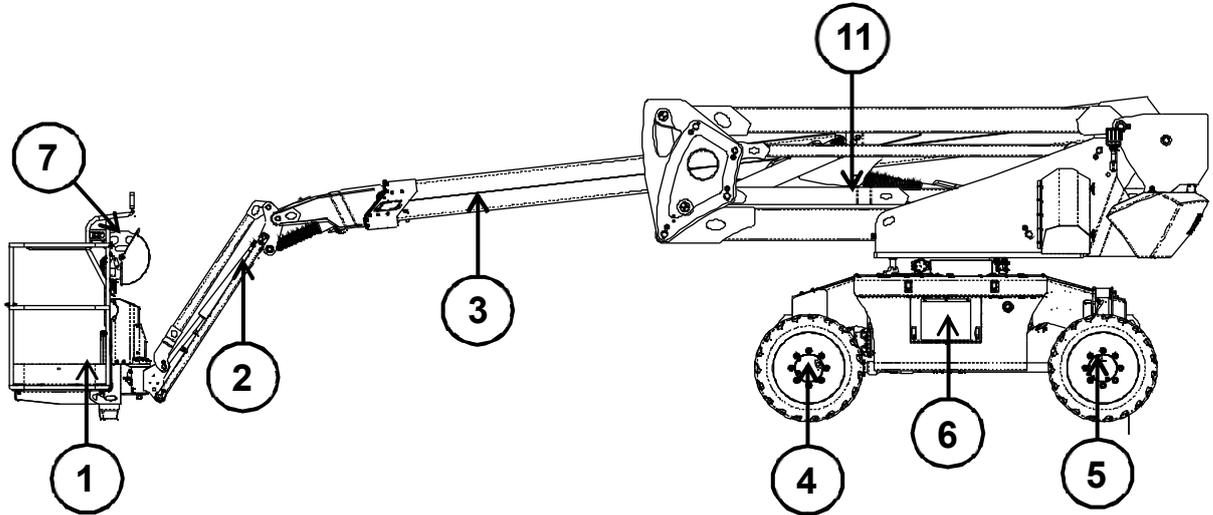
Block after every use

- 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 unauthorised personnel.

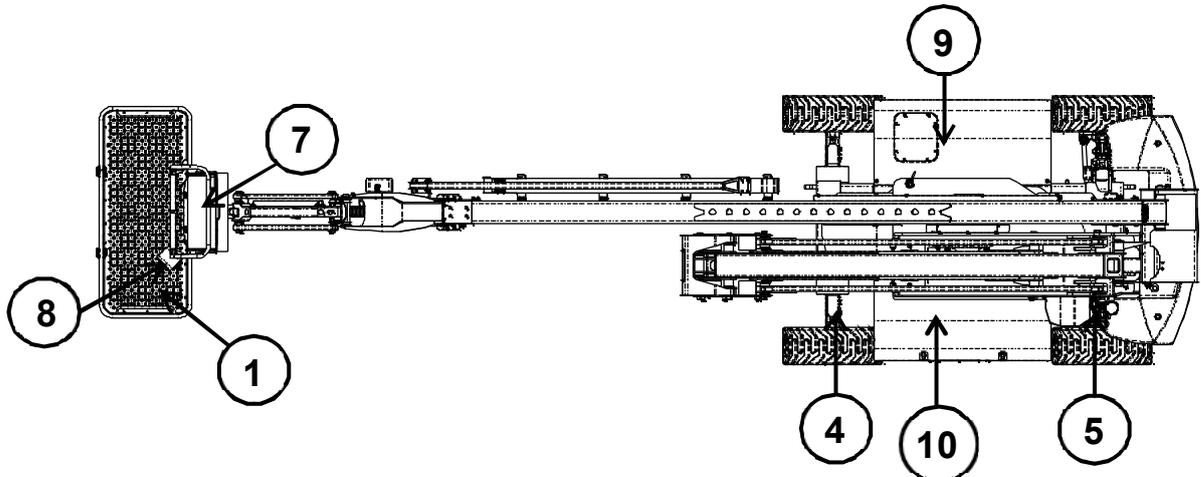
Legend

Legend

LH view



Top view



1 - Aerial platform

2 - Jib

3 - Primary telescopic boom

4 - Rear wheels axle

5 - Front wheels axle

6 - Control panel on the ground

7 - Control panel on platform

8 - Pedal-operated enable switch

9 - Battery compartment

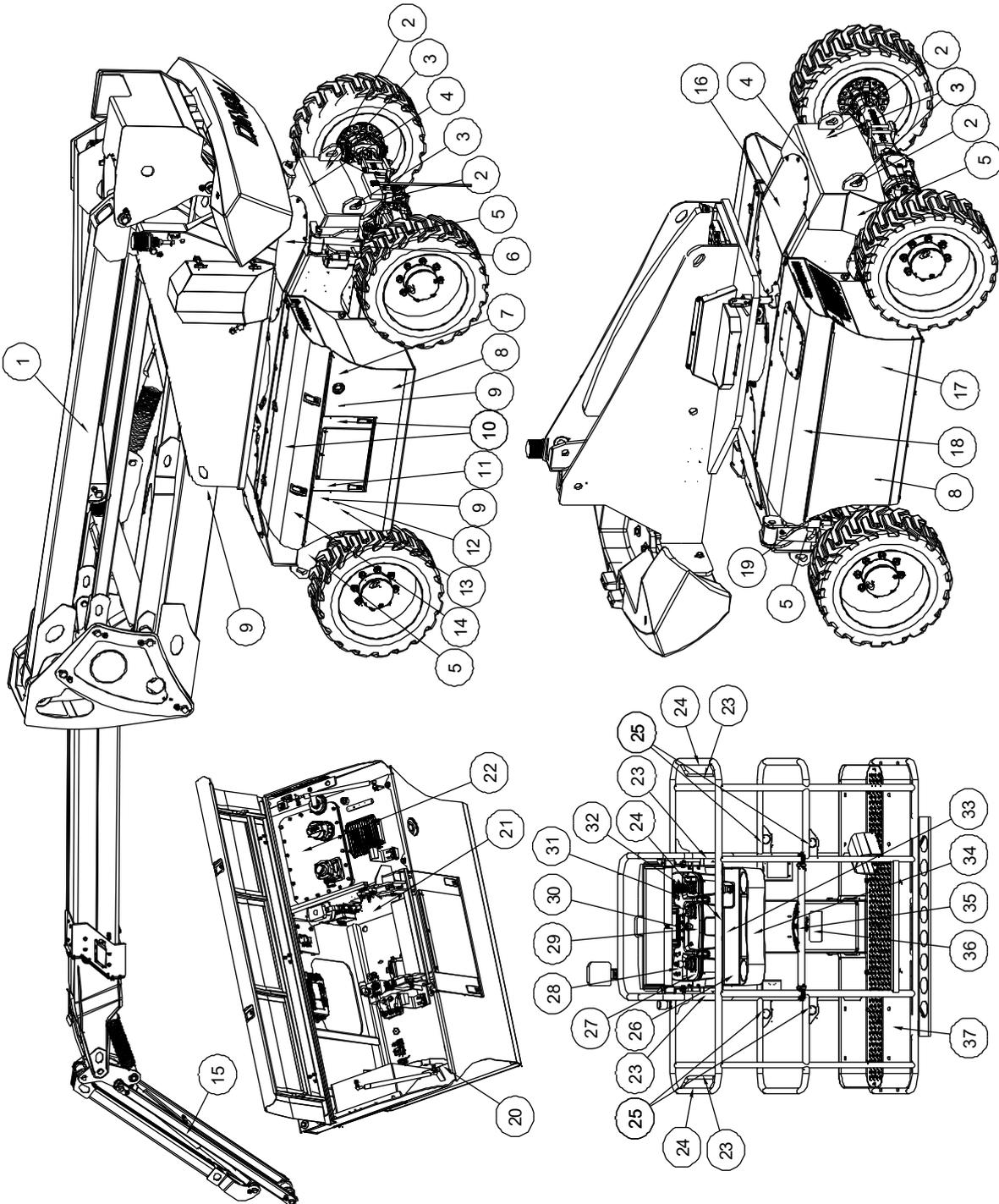
10 - Tanks compartment

11 - Second telescopic boom

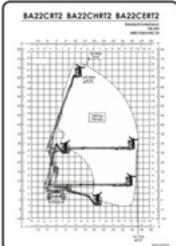
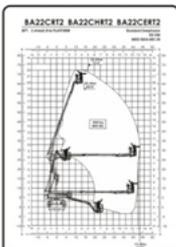
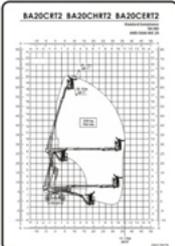
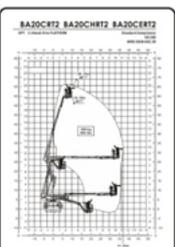
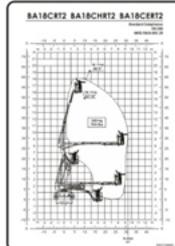
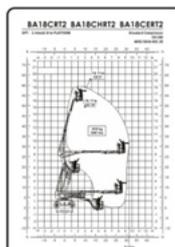
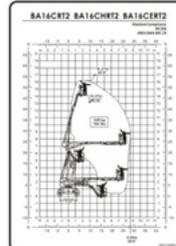
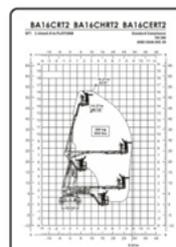
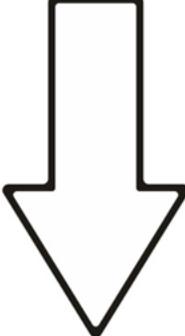
Decals

Placards and Decals

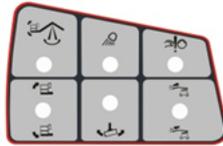
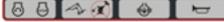
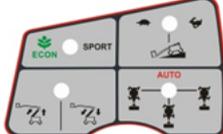
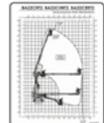
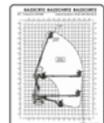
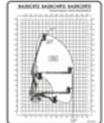
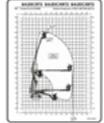
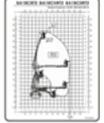
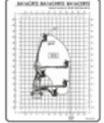
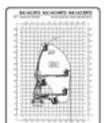
Read and understand all placards and decals. Do not operate any machine on which DANGER, WARNING, CAUTION OR INSTRUCTION PLACARDS OR DECALS ARE MISSING OR ILLEGIBLE. Replace placards and decals if damaged, missing or illegible.



Decals

<p>① 09630224 BA22CERT2</p> <p>① 09630225 BA20CERT2</p> <p>① 09630226 BA18CERT2</p> <p>① 09630227 BA16CERT2</p>	<p>② 09310366 </p> <p>③ 09320014 </p> <p>④ 09410117 </p>	<p>⑤ 09310207 </p> <p>⑤ 09310140 </p> <p>⑤ 09310199 </p>	
<p>⑦ 09310527 </p> <p>⑨ 09410118 </p>	<p>⑥ 09310251 </p>	<p>⑧ 09610194 BA22CERT2</p> <p>⑧ 09610195 BA20CERT2</p> <p>⑧ 09610196 BA18CERT2</p> <p>⑧ 09610197 BA16CERT2</p>	<p>⑩ 09410279 </p> <p>⑪ 09410151 </p>
<p>⑬ 09310676 </p> <p>⑬ 09310677 </p>	<p>⑬ 09310678 </p> <p>⑬ 09310679 </p>	<p>⑬ 09310680 </p> <p>⑬ 09310681 </p>	<p>⑬ 09310682 </p> <p>⑬ 09310683 </p>
<p>⑫ 09410244 </p> <p>⑫ 09410245 </p> <p>⑮ 09430049 </p>	<p>⑭ 09910139 DINGLI </p> <p>⑭ 09910140 DINGLI </p> <p>⑭ 09910141 DINGLI </p> <p>⑭ 09910142 DINGLI </p>	<p>⑯ 09310250 </p>	

Decals

<p>18 09910126 DINGLI 22m </p> <p>18 09910107 DINGLI 20m </p> <p>18 09910108 DINGLI 18m </p> <p>18 09910109 DINGLI 16m </p> <p>18 09910143 DINGLI 22m </p> <p>18 09910144 DINGLI 20m </p> <p>18 09910145 DINGLI 18m </p> <p>18 09910146 DINGLI 16m </p>	<p>17 09410048 </p> <p>20 09310078 </p> <p>21 09410139 </p> <p>23 09340070 </p> <p>25 09340041 </p> <p>26 09440332 </p>	<p>19 09310355 </p> <p>19 09310493 </p> <p>22 09310252 </p> <p>24 09440212 </p> <p>27 09140040 </p>		
<p>28 09140037 </p> <p>29 09140041 </p>	<p>30 09140038 </p> <p>32 09140042 </p>	<p>31 09140084 </p>		
<p>33 09440889 </p>	<p>33 09440898 </p>			
<p>34 09440959 </p> <p>34 09440960 </p> <p>37 09440755 CAPACITY • 320kg </p>	<p>34 09440961 </p> <p>34 09440962 </p> <p>37 09440192 CAPACITY • 300kg </p>	<p>34 09440963 </p> <p>34 09440964 </p>	<p>34 09440965 </p> <p>34 09440966 </p>	<p>35 09340029 </p> <p>36 09340026 </p>

Decals

No.	Parts No.	Description	Qty.	Remark
1	09630224	Decal, Label-BA22CERT2	1	BA22CERT2
	09630225	Decal, Label-BA20CERT2	1	BA20CERT2
	09630226	Decal, Label-BA18CERT2	1	BA18CERT2
	09630227	Decal, Label-BA16CERT2	1	BA16CERT2
2	09310366	Decal, Instructions-Tie down point	4	
3	09320014	Decal, Instructions-Lift point	4	
4	09410117	Decal, Symbols-Crushing hazard	2	
5	09310207	Decal, Instructions-Maximum wheel load 4520kg	4	BA22CERT2
	09310140	Decal, Instructions-Maximum wheel load 4030kg	4	BA20CERT2 BA18CERT2
	09310199	Decal, Instructions-Maximum wheel load 3830kg	4	BA16CERT2
6	09310251	Decal, Instructions-Black arrow forward	1	
7	09310527	Decal, Notice-Check the hydraulic oil level	1	
8	09610194	Decal, Label-BA22CERT2	2	BA22CERT2
	09610195	Decal, Label-BA20CERT2	2	BA20CERT2
	09610196	Decal, Label-BA18CERT2	2	BA18CERT2
	09610197	Decal, Label-BA16CERT2	2	BA16CERT2
9	09410118	Decal, Symbols-Hand crushing hazard	4	
10	09410279	Decal, Danger-It is forbidden to store anything in the cabin	2	
11	09410151	Decal, Warning-Emergency system overriding	1	
12	09410244	Decal, Symbols-Slope rating	1	BA22CERT2
	09410245	Decal, Symbols-Slope rating	1	BA16CERT2 BA18CERT2 BA20CERT2
13	09310676	Decal, Instructions-Work area	1	BA22CERT2(Standard)
	09310678	Decal, Instructions-Work area	1	BA20CERT2(Standard)
	09310680	Decal, Instructions-Work area	1	BA18CERT2(Standard)

Decals

No.	Parts No.	Description	Qty.	Remark
13	09310682	Decal, Instructions-Work area	1	BA16CERT2(Standard)
	09310677	Decal, Instructions-Work area	1	BA22CERT2(Optional)
	09310679	Decal, Instructions-Work area	1	BA20CERT2(Optional)
	09310681	Decal, Instructions-Work area	1	BA18CERT2(Optional)
	09310683	Decal, Instructions-Work area	1	BA16CERT2(Optional)
14	09910139	Decal, Label-22m	1	BA22CERT2
	09910140	Decal, Label-20m	1	BA20CERT2
	09910141	Decal, Label-18m	1	BA18CERT2
	09910142	Decal, Label-16m	1	BA16CERT2
15	09430049	Decal, Danger-Do not lifting	2	
16	09310250	Decal, Instructions-White arrow reverse	1	
17	09410048	Decal, Symbols-Explosion/burn hazard	1	
18	09910126	Decal, Label-22m	1	2WS,
	09910107	Decal, Label-20m	1	2WS
	09910108	Decal, Label-18m	1	2WS
	09910109	Decal, Label-16m	1	2WS
	09910143	Decal, Label-22m	1	4WS
	09910144	Decal, Label-20m	1	4WS
	09910145	Decal, Label-18m	1	4WS
	09910146	Decal, Label-16m	1	4WS
19	09310355	Decal, Symbols-Battery charging instructions	1	(Standard)
	09310493	Decal, Symbols-Battery charging instructions	1	(Optional)
20	09310078	Decal, Symbols-Main power switch operation	1	
21	09410139	Decal, Symbols-Injection hazard	1	
22	09310252	Decal, Instructions-Hydraulic	1	

Decals

No.	Parts No.	Description	Qty.	Remark
23	09340070	Decal, Symbols-Non operating hand position	4	
24	09440212	Decal, Warning-Crushing hazard	3	
25	09340041	Decal, Label-Lanyard anchorage point	4	
26	09440332	Decal, Danger-Axle release hazard	1	
27	09140040	Decal, Platform control panel	1	
28	09140037	Decal, Platform control panel	1	
29	09140041	Decal, Platform control panel	1	
30	09140038	Decal, Platform control panel	1	
31	09140084	Decal, Platform control panel	1	
32	09140042	Decal, Platform control panel	1	
33	09440889	Decal, Danger-General safety rules	1	Standard
	09440898	Decal, Danger-General safety rules	1	Optional
34	09440959	Decal, Instructions-Work area	1	BA22CERT2 (Standard)
	09440961	Decal, Instructions-Work area	1	BA20CERT2 (Standard)
	09440963	Decal, Instructions-Work area	1	BA18CERT2 (Standard)
	09440965	Decal, Instructions-Work area	1	BA16CERT2 (Standard)
	09440960	Decal, Instructions-Work area	1	BA22CERT2 (Optional)
	09440962	Decal, Instructions-Work area	1	BA20CERT2 (Optional)
	09440964	Decal, Instructions-Work area	1	BA18CERT2 (Optional)
	09440966	Decal, Instructions-Work area	1	BA16CERT2 (Optional)
35	09340029	Decal, Instructions-Open/close	1	
36	09340026	Decal, Symbols-Refer the operator to the instructions for use	1	
37	09440755	Decal, Label-Capacity 320kg	1	Standard
	09440192	Decal, Label-Capacity 300kg	1	Optional

Specifications

Machine Specification

Item		model			
		BA22CERT2	BA20CERT2	BA18CERT2	BA16CERT2
Stowed Dimension					
Overall Length (transported)	Standard platform	7.36m	6.41m	5.47m	5.17m
	Option platform	7.38m	6.43m	5.49m	5.19m
Overall Width (transported)		2.44m			
Overall Height (transported)	Standard platform	2.59m			2.58m
	Option platform	2.69m			2.64m
Rated Load					
Rated Load	Standard platform	320kg			
	Option platform	300kg			
Max. occupants		2			
Platform Size					
Platform Length	Standard platform	1.83m			
	Option platform	2.44m			
Platform Width	Standard platform	0.79m			
	Option platform	0.91m			
Operation Dimension					
Maximum Platform Height		20.04m	18.15m	16.11m	14.27m
Maximum Working Height		22.04m	20.15m	18.11m	16.27m
Maximum Platform Radius	Standard platform	12.57m	10.53m	8.85m	8.09m
	Option platform	12.69m	10.65m	8.97m	8.21m
Maximum Working Radius	Standard platform	13.17m	11.13m	9.45m	8.69m
	Option platform	13.29m	11.25m	9.57m	8.81m
Maximum boom up Angle		75°	73°	75°	
Maximum Up and Over Height		8.18m			7.3m
Maximum Depth of Descend		1.74m	1.25m	0.68m	0.42m
Maximum boom down Angle		-15°	-15°	-15°	-15°

Specifications

model		BA22CERT2	BA20CERT2	BA18CERT2	BA16CERT2
Item					
Minimum turning radius, front wheel steering, inside/ outside	3m/4.73m				
Minimum turning radius, coordinated steering, inside/ outside	1.31m/2.58m				
Grade ability (Stowed)	35%	40%			
Maximum inclination	X-5°(side to side), Y-5°(front to rear)				
Turntable rotation	360° (continuously)				
Platform rotation	180°				
Jib lifting angle	+75°/-57°				
Tail Swing	0.7m	0.65m	0.13m	0m	
Wheel Base	2.4m				
Gross Machine Weight	Lead-Acid Battery	10300kg	9050kg	8650kg	8300kg
	Li Battery	9700kg	8450kg	8200kg	7850kg
Ground Clearance	0.31m				
Battery					
Type		Lead-Acid Battery			
		Li Battery			
Capacity (20 hours rate)	Lead-Acid Battery	450Ah*		375Ah*	
	Li Battery	350Ah*		350Ah*	
Nominal Voltage		48V			
*The above battery capacity is a theoretical value, regard to the actual battery capacity of the machine, please check the nameplate of battery.					
Tire and Wheels					
Type		Foam Filled Tire And Wheel			
Model		315/55-20			
Outer Diameter		830mm			
Width		319mm			
Tire contact pressure	Lead-Acid Battery	2322Kpa	1984KPa	1847KPa	1729KPa
	Li Battery	2187Kpa	1853KPa	1751KPa	1635KPa

Specifications

model	BA22CERT2	BA20CERT2	BA18CERT2	BA16CERT2
Item				
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

Model	BA22CERT2	BA20CERT2	BA18CERT2	BA16CERT2
Item				
Driving Speed (Boom Stowed, high range) (km/h)	≥6			
Driving Speed (Boom Raised or Extended) (km/h)	≥1.1			
Main Boom Lift Up (s)	30~40			
Main Boom Lift Down (s)	25~30			
Main Boom Telescope Extent Out (s)	40~45	30~40	20~25	15~20
Main Boom Telescope Retract In s	30~35	20~25	15~20	10~15
Swing Right & Left (Fully retracted) (s)	120~150			
Articulate Boom Lift Up (s)	30~40			
Articulate Boom Lift Down (s)	25~30			
Jib Up (s)	30~35			
Jib Down (s)	25~30			
Platform Rotate R & L (s)	10~15			
Speeds for lifting and lowering of the work platform (m/s)	0.15~0.28			
Speeds for telescoping of the boom (m/s)	0.09~0.10			
Speeds for slewing or rotation in stowed condition (m/s)	0.36~0.42	0.31~0.36	0.26~0.30	0.21~0.26
Speeds for slewing or rotation in the condition of maximum platform Radius (m/s)	0.39~0.44	0.33~0.37	0.28~0.31	0.25~0.28

Machine Orientation When Doing Speed Tests

Lift: Boom Retracted. Telescope Retracted. Lift Up, Record Time, Lift Down, Record Time. The

Specifications

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 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.

Test Notes

- 1 Stop watch should be started with the function, not with the controller or switch.
- 2 Drive test results reflect 315/55-20 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	differential oil		moderate	
3	grease or oil for lubricating rotating parts		moderate	refer to the chapter of lubrication

Specifications

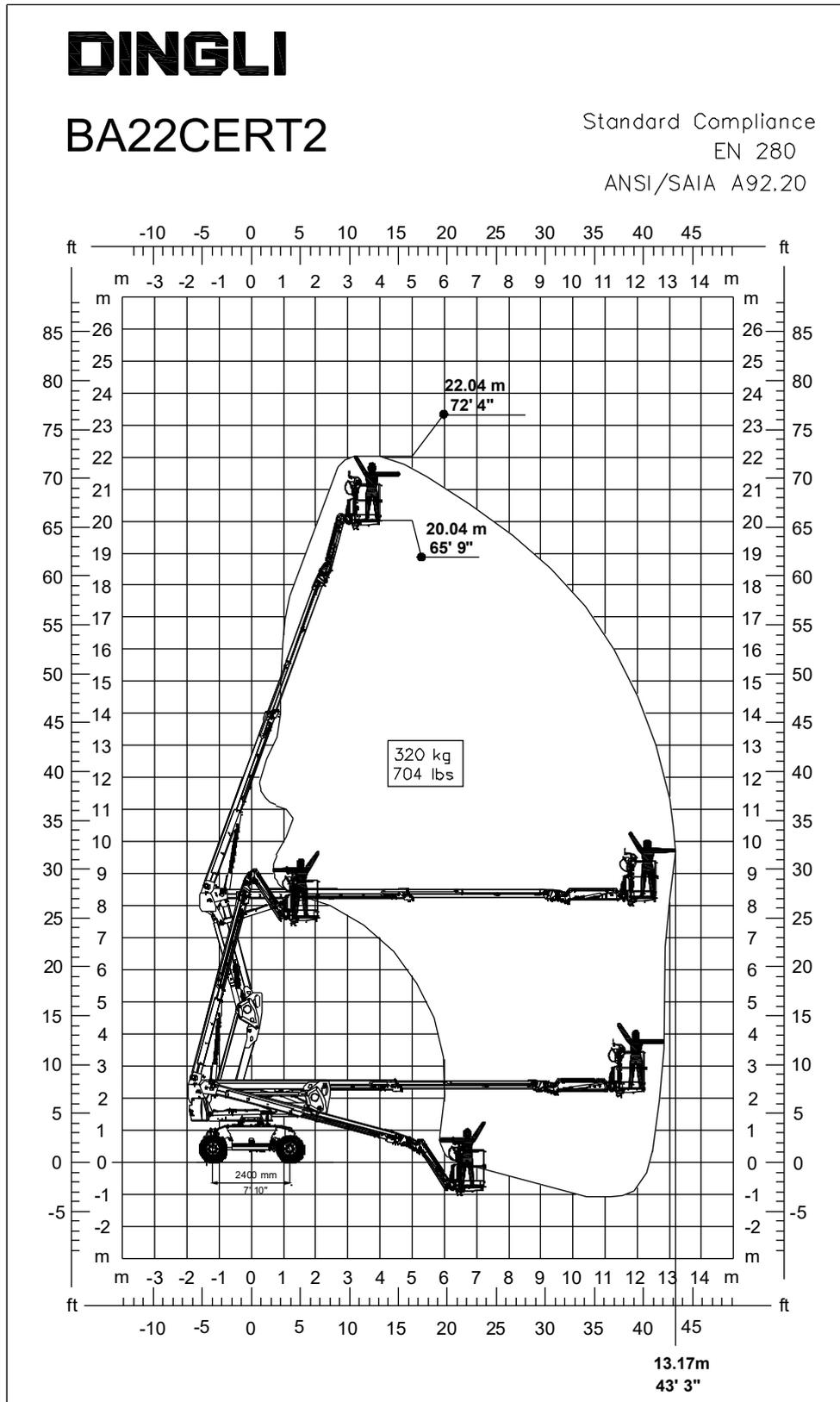
Item	Name	mode	Dosage	Remark
4	Hydraulic oil	L-HM46	130L	Fill the hydraulic tank with the oil as the customer command. But the hydraulic tank would be filled with L-HM46, without special command. Attention, the customer should confirm to change the oil according to the local environment

Hydraulic System Specification

Function Pump	
Type	Gear pump
Rated Working Pressure	250bar
Displacement per revolution	6+3 cc
PVG	
Function Main Relief Pressure	220bar
Main Boom Telescopic Extent Pressure Setting	180bar
Main Boom Telescopic Retract Pressure Setting	160bar
Main Boom Lift Up Pressure Setting	185bar
Main Boom Lift Down Pressure Setting	135bar
Articulate Boom Lift Up Pressure Setting	200bar
Articulate Boom Lift Down Pressure Setting	100bar
Rotating pressure setting	100bar
Jib levelling up pressure setting	200bar
Jib levelling down pressure setting	150bar
Platform valve pressure setting	200bar
Hydraulic Reservoir	
Maximum Capacity	145L
Auxiliary Pump Unit	
Model	ET135AK/X0 100/1,7 S 819
Displacement	1.7cc

Specifications

Work Scope(with standard platform)

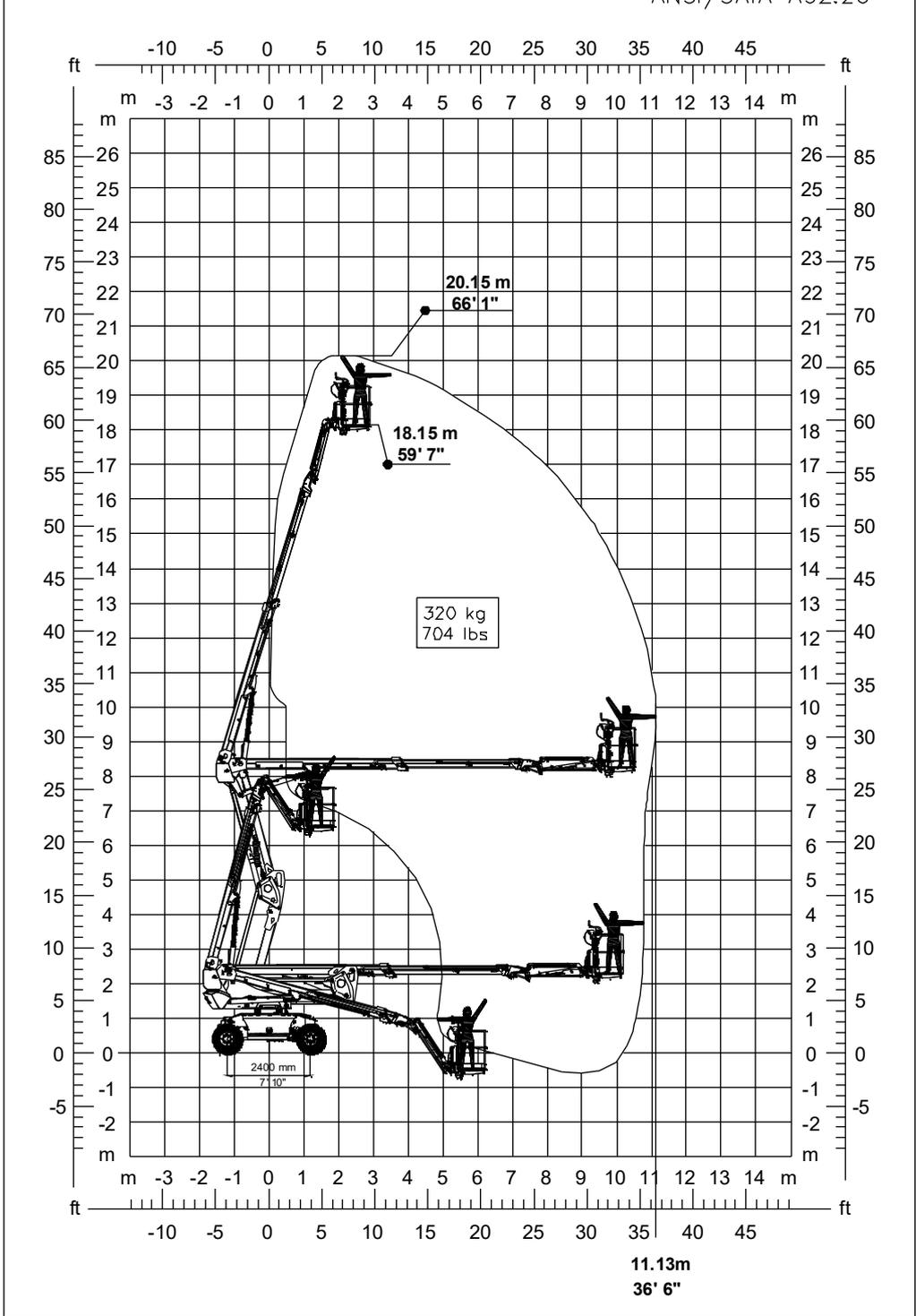


Specifications

DINGLI

BA20CERT2

Standard Compliance
EN 280
ANSI/SAIA A92.20

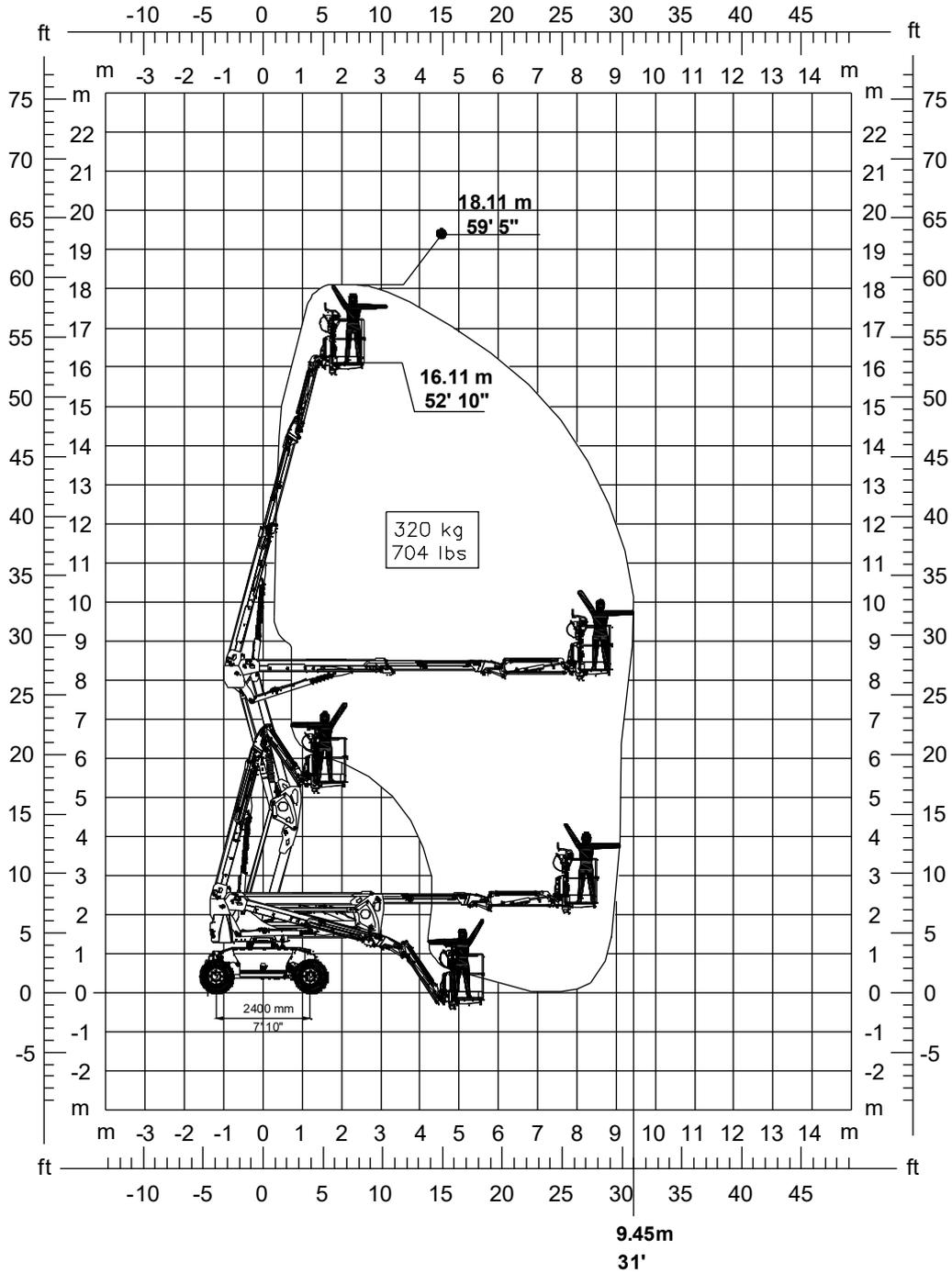


Specifications

DINGLI

BA18CERT2

Standard Compliance
EN 280
ANSI/SAIA A92.20



Specifications

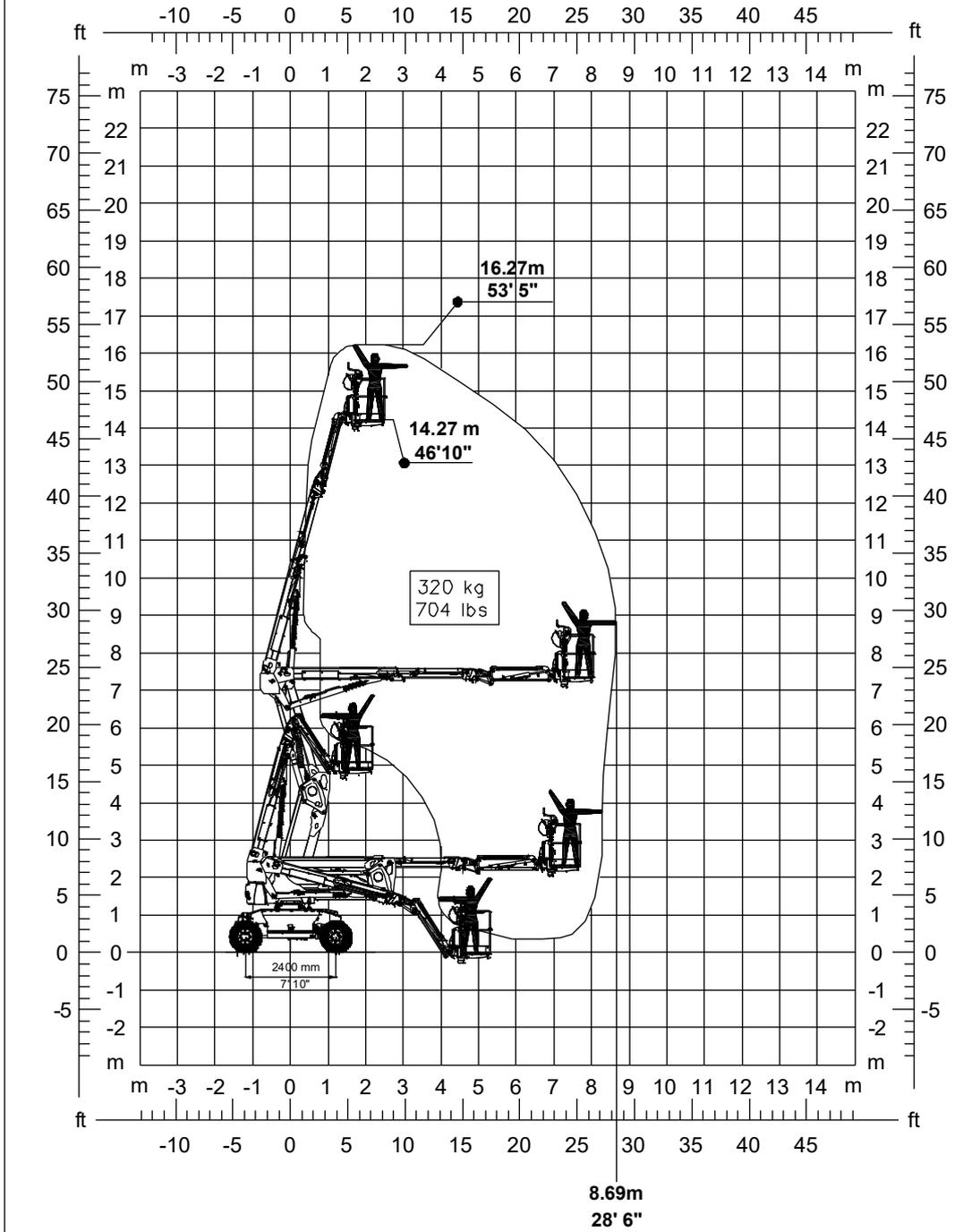
DINGLI

BA16CERT2

Standard Compliance

EN 280

ANSI/SAIA A92.20

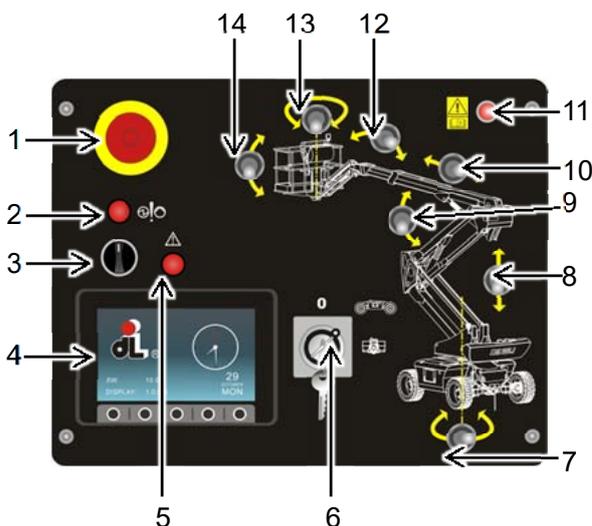


Controls

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.

The control panel on the chassis is housed in a hinged compartment placed on the LH side of the chassis near the fuel tank. To lift it, press both the latches to release the handles and raise it as pictured below



- 1 Red emergency stop button

To stop all the functions and switch off the system, press down the red emergency stop button. To activate the machine, pull up the red emergency stop button to the ON position.

- 2 Auxiliary power supply button

Use the auxiliary power supply in case of a fault in the main power supply (pump motor).

Press and hold the button for activation then activate the corresponding function to recover the machine.

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

- 3 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.

- 4 Diagnostics panel



This panel contains the basic information for monitoring the working of the truck. The pages and options available are displayed in the lower part of the screen [A] and are controlled by the corresponding buttons present below [B].

Main page

Controls

The upper band shows:

- alarm indicator light;
- steering mode selection indicator light;
- parking brake active indicator light;
- work lights active indicator light;
- differential block active indicator light;
- movement speed selection indicator light: slow/fast;
- controls position indicator light; ground/basket.

The central band shows:

- the motor rev counter to the LH, 0-6000r/min;
- Load monitoring function on/off. voltage and percent of battery capacity;
- the motor rev counter to the RH, 0-4000r/min.

The bottom band shows the indications of the pages that can be consulted:

- motor data interface (rpm, temperature and current of driven motor and pump motor, the setting rpm of driven motor and pump motor, voltage of system.);
- operational data (angular inclination of boom, inclination of the platform, inclination of the truck on the horizontal plane, load measured on platform);

Only authorized personnel can carry out the following settings.

- options settings (activation/deactivation of basket safety system, transport mode

activation/deactivation)



The setting interface could be entered by depressing setting button and hold on for one second. The optional function can be turned on or off without password, after entering setting interface. The procedures are as follows:



- Depressing  or  is used to choose the item separately. For example "Anti_Pinch On Cage", "Transport Mode Enable", and so on. The chosen item would be shown in yellow background.
- Depressing  and holding on is used to turn on or off corresponding function.
- Save the modified value by depressing the button .
- Modifying "Transport Mode Enable", "excluding "Anti_Pinch on cage" and

Controls

“Front Wheel Angle Sensor Enable” is only valid in condition of power on. It will return back at the moment of interruption of power supply.

E When the temperature of hydraulic oil is too low, the normal function of the machine will be affected. Turn “Hydraulic Preheat Enable” function on, the hydraulic pump will automatically work for 3 minutes, the machine is not allowed to operate during the pump working.

F It returns back to main interface, when the button **Esc** is depressed.

NOTE: The modification of transport mode is no longer possible after one of the following conditions are activated.

- ✓ Platform control is chosen.
- ✓ The degree of chassis inclining exceeds 5.
- ✓ The angle of main boom lifting exceeds 20.
- ✓ Main boom extends more than one meter.
- ✓ Articulate boom limited switch released.

- exit button
- MENU button

5 Basket signal bypass selector

To enable movements from the control panel on the ground with the red emergency button pressed from the platform, keep the selector enabled together with the enable key activated and the movement selectors concerned.

6 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.

7 Turntable slewing selector

To slew the turntable counter clockwise, turn the selector to the LH.

To slew the turntable clockwise, turn the selector to the RH.

8 Tower boom lift selector

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

To lower the tower boom, move the selector down.

9 Main boom lifting selector

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

To lower the main boom, move the selector down.

10 Main boom extension selector

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

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

11 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.

Controls

12 Jib lifting selector

To lift the jib, turn up the selector.

To lower the jib, turn down the selector.

13 Platform rotation selector

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

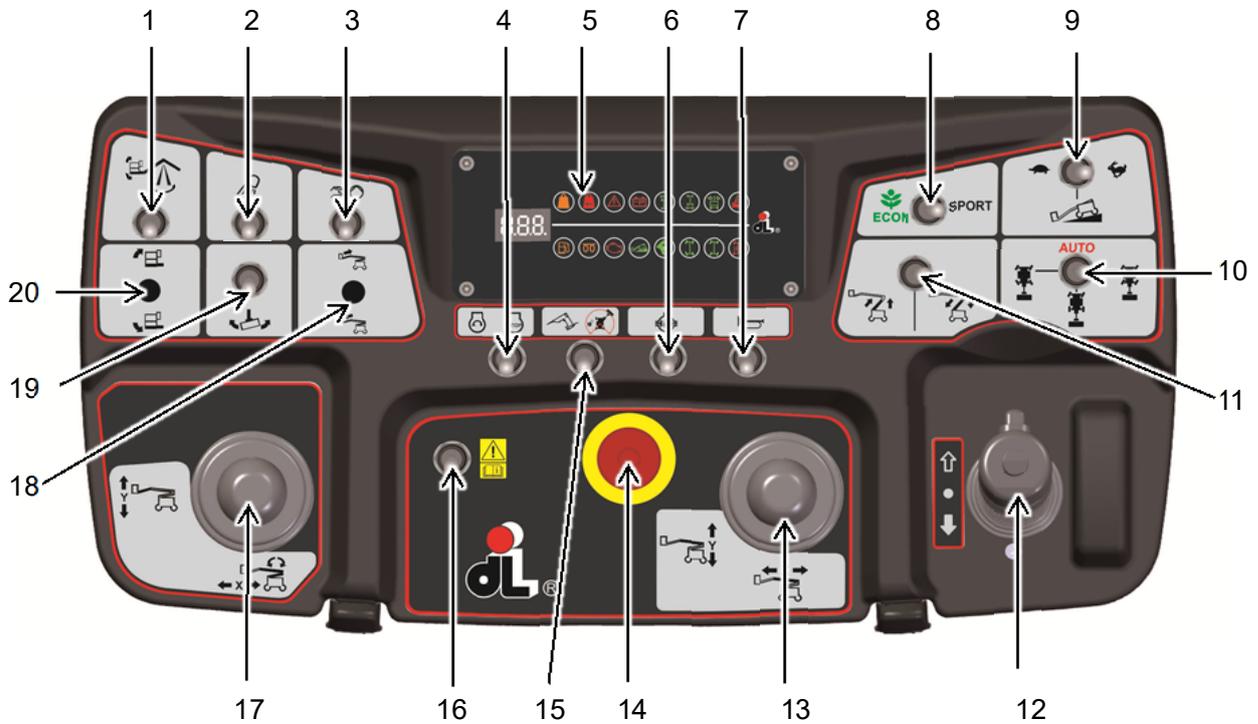
To rotate the platform clockwise, turn the selector to the RH.

14 Platform leveling selector

To level up the platform, move the selector upwards.

To lower the platform, move the selector downwards.

Control panel on platform



▲ To 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 Work lights

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

3 Auxiliary pump

Use the auxiliary power supply in case of a fault in the main power supply (battery or pump motor).

Activate the auxiliary power supply button and function enable selector switch, hold during function operation to recover the machine.

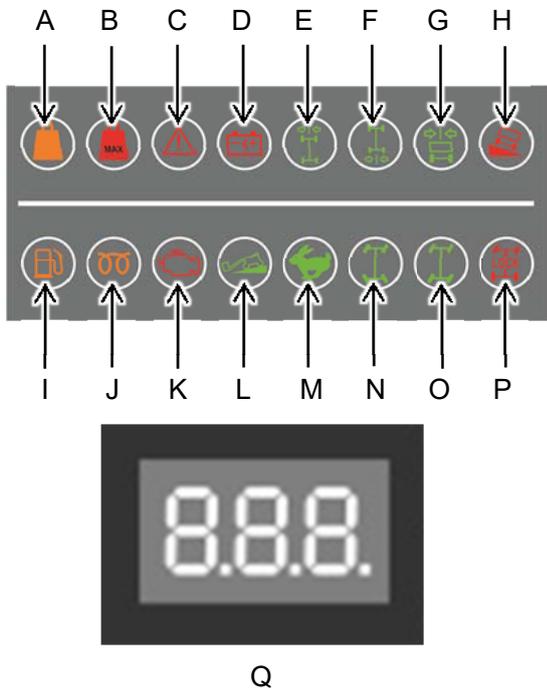
▲ Extended use will affect the battery charge: only use in case of emergency.

4 Engine start up

Spare.

Controls

5 Indicator lights panel



A Load indicator on platform

The orange indicator lights up to indicate that the load in the platform has exceeded the permitted load when the platform is at the permitted location.

B Maximum load indicator

The red indicator lights up to indicate that the load in the platform has exceeded the maximum permitted load.

C Generic hazard indicator

The red indicator lights up in hazard conditions of the truck (together with the specific signalling) or in case of mechanical fault of the truck.

In this situation, stop the vehicle after lowering the platform and check the signals highlighted on the diagnostics panel.

D Batteries low voltage indicator light

The red indicator light switches on when the battery voltage level is below the threshold allowable for the correct working of the truck.

If the indicator still lights up after completing charging it, the battery should be checked or replaced.

E Front axle wheels alignment

The green indicator light indicates the alignment of the front axle wheels with the truck axis.

F Rear axle wheels alignment (if equipped)

The green indicator light indicates the alignment of the front axle wheels with the truck axis.

Turntable/telescopic boom alignment

The green indicator light indicates the alignment of the turret/telescopic boom with the truck axis.

G Turret/telescopic boom alignment

The green indicator light indicates the alignment of the turret/telescopic boom with the truck axis.

H Roll-over indicator light

The red light indicates that the maximum slope with respect to the horizontal plane of the platform is reached. The side shift function in one or both directions will not be operational.

Only movements for restoring safety and levelling to the vertical plane are enabled.

I Fuel level indicator

Controls

- Spare.
- J Spark plugs pre-heating
- Spare.
- K Engine fault
- Spare.
- L Climbing drive mode
- The green light indicates activation of the transfer mode for moving over sloping sections.
- M High speed drive mode
- The green light indicates activation of the transfer mode at maximum speed.
- N Coordinated steering mode(if equipped)
- The green light indicates selection of steering mode with opposite axles to reduce the steering radius on the ground.
- O Crab steering mode (if equipped)
- The green light indicates selection of steering mode with the axles parallel for lateral movements.
- P Differential lock
- The red light indicates activation of the differential block
- Q Digital display
- It is used to show the capacity of battery and code of fault.
- 6 Differential block
- Keeping the selector activated activates the differential block, increasing the traction of the wheels on the rear axle
- 7 Warning buzzer
- Use the selector to activate the acoustic signal.
- 8 Sport mode / Economy mode selector
- Sport mode: Slide the toggle switch to the right.
- Machine power performance is enhanced;
- Drive speed is increased;
- Lifting/telescoping speed of the main boom is accelerated;
- Lifting speed of the Tower boom is accelerated.
- Economy mode: Slide the toggle switch to the left.
- Reduces Machine power consumption and extends operational runtime.
- Drive speed is decreased;
- Lifting /telescoping speed of the main boom is reduced;
- Lifting speed of the Tower boom is reduced..
- 9 Speed selector
- position : low speed,
 - 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.
 - position : high speed.
- The movement speed is controlled by the position of the primary telescopic boom: high speed can only be used: with controls from the platform, with boom completely lowered, retracted and with turret rotation centred.

Controls

As soon as one of the conditions described above is not respected, the speed changes automatically to slow.

10 Steering mode selector(if equipped)

- axles with round steering;
- only steers the front axle;
- axles with parallel steering:

Note: The four wheels should be at original position before changing the steering mode.

11 Tower boom lift selector

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

To lower the tower boom, move the selector down.

12 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.

13 Main 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 main boom.

14 Red emergency stop button

To stop all the functions and switch off the system, press the red emergency stop button To activate the machine, pull up the red emergency stop button to the ON position.

15 Hydraulic generator (optional)

When present, the selector activates the power socket on the platform to power up the work tools.

16 Basket signal bypass selector

To enable movements from the control panel on the platform when something wrong with the machine happened, keep the selector enabled together with the enable key activated and the movement selectors concerned.

Note: When a failure warning alarm occurs, excluding a security alarm, and the machine has to be moved or loaded, the Bypass switch can be used provided the occupants in the platform and those in the vicinity of the machine remain safe. Monitoring of the machine configuration throughout movement must occur at all times. Arbitrary use of the switch may result in damage and serious injury.

17 Turret rotation /jib lifting selector

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

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

18 Jib (if present) extension

Not used.

19 Platform rotation

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

20 Leveling the platform

Not used.

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 hydraulic system and check the correct oil level. Add oil if necessary. Consult the Maintenance chapter.
- Check if the level of the battery is correct, if not, charge it.
- Always carry out pre-operative inspection after storage before use.**

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.
- Hydraulic tanks.
- Motors for movement of the slewing ring gear and transmission hubs.
- Braking sliding blocks.
- Tyres and wheels.
- Electric motor 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 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 49°C
- presence of explosive atmosphere
- poor or insufficient lighting
- insufficient ventilation
- hazardous environments
- presence of unauthorised workers
- other potential hazard conditions
- altitude exceeding 1000m.

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

The power switch is installed in the hydraulic reservoir cabin.



The test steps for the power switch are as follows:

- Elevate the cover of hydraulic cabin.



- 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.

Emergency stop test

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

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.

Checking the errors

- Select from the control panel the alarm pages and check for the absence of alarms.

Function Tests

- 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.

Emergency stop test

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

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.
- Do not press the pedal switch down and test each function of the machine: none of the functions must be operative.
- Press the pedal switch and try to make an operation of any functional motion: any motion should be ok.

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 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.

Testing the steering methods

- Operate on the selector concerned and check the working of the three types of steering of the wheels (if equipped).

Testing the warning sound

- Push up the switch of the warning sound and check its working.

Testing the selection of the movement speed

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

- high movement speed (position ) of 5 km/h that can only be activated with the primary telescopic boom completely lowered and retracted.
- low movement speed (position ) of 1 km/h, that can be activated with the boom in the operating position.
- 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

Function Tests

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; with the primary telescopic boom lowered and retracted slowly activate the movement: the machine moves at a speed of 1.4 m/s (5 km/h).

- With the primary telescopic boom in the completely lowered and retracted position, lift it by exceeding 0° and slowly activate the movement: the truck must not exceed a speed of 30 cm/s (1 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 1.00 m and slowly activate the movement: the truck must not exceed a speed of 30 cm/s (1 km/h).
- Restore the boom to the completely lowered hold position.
- If the movement speed with the primary telescopic boom raised and extended exceeds 30 cm/sec (1 km/h), stop the truck immediately and call an authorised service centre.

Testing the movement and braking

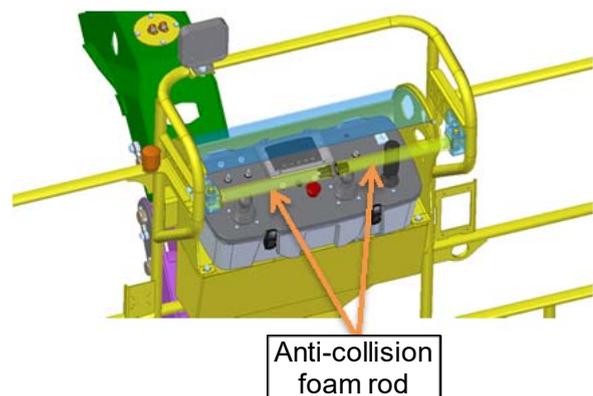
- Press the pedal switch down.
- Slowly move the movement control knob in the direction indicated by the black arrow on the control panel until the machine starts moving, then restore the knob to the central position.
- Result: the machine must move in the direction shown by the black arrow on the truck 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.

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.



Oscillating Axle Lockout Test (If Equipped)

NOTICE

- **Lockout system test must be carried out termly.**

Function Tests

- **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 20cm 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 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 8 inches (20 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.

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.

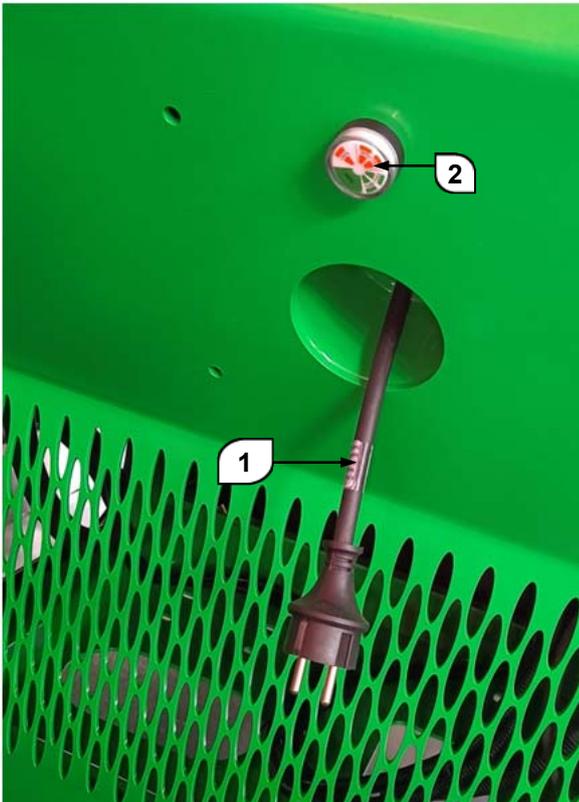
Operating Instructions

Recharge

It is necessary to recharge the battery when the battery runs low or after completing long-time operation.

The input voltage of the charger installed in the hydraulic cabin is 100-240VAC and the frequency is 50-60Hz

There are one connector plug 1 in the socket and one indicator itemed 2, near the front axle, showed in the follow figure.



To recharge the machine, connect the connector plug 1 with the AC source with output voltage being 100-240V.

Note: *The source must be AC source with output voltage of 100-240V and the frequency is 50-60Hz.*

Note: *Do not operate the machine during mains power charging.*

Note: *To maintain optimal Li battery*

condition, users must fully recharge the battery every 15 days. Otherwise the display will show: SOC long time not full.

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.

Operating Instructions

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

When a failure warning alarm occurs, excluding a security alarm, and the machine has to be moved or loaded, using the platform control panel select and hold the Bypass toggle switch, activate the footswitch, and activate the corresponding machine function to complete movement.

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	/
7	Articulate boom retracted completely sensor 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
2	Lower the platform after completing step 1	main boom retracting
3	retract main boom completely after step 2	main boom lifting down
		turret rotation
4	Turn the turret originally after step 3	Lowering articulate boom
		Move forward and backward

Operating Instructions

Class B

Item	Fault	Restriction logic
1	moving joystick fault	1 restrict moving, showing code 46 2 moving joystick initialization fault after restarting up system, restrict moving and show code 36
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 and show code 36
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 and show code 36
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 and show code 36
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 and show code 36

Class C

Item	Fault	Restriction logic
1	PVG fault	1 No restriction 2 Show corresponding faulty code.
2	tower sensor for articulate boom fault	1 No restriction for operation system, but showing code 92 when moving.

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.

Operating Instructions

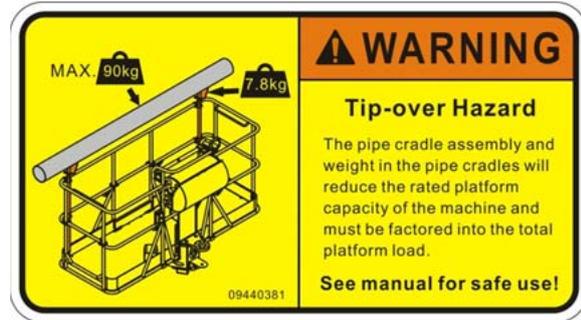
Pipe cradle assembly (option)

The pipe cradle assembly is not a part of the machine, but an accessory satisfying the special customer application. Read, understand and obey the safety rules and all instructions before using a pipe cradle assembly. If there is some questions, call after-sale department of Dingli for help.

1. Contents of pipe cradle assembly kit

The pipe cradle assembly consists of two pipe cradle weldments and four pipe cradle mount weldments, positioned at either side of the platform and mounted to the guardrails with U-bolts and butterfly screws.

Item	Part Number	Description	Qty
1	92101182	Pipe cradle weldment	2
2	92101186	Pipe cradle weldment 2	4
3	50005411	U-bolt	8
4	00002599	Bolt, GB/T 5782 M6×65	4
5	00002586	Butterfly screw, M8×16	4
6	00000620	Flat washer, GB/T 97.1 6	4
7	00001033	Nut, GB/T 6182 M6	2
8	00000608	Flat washer, GB/T 97.1 8	8
9	00001163	Nut, GB/T 6182 M8	8
10	09440381	Decals	2



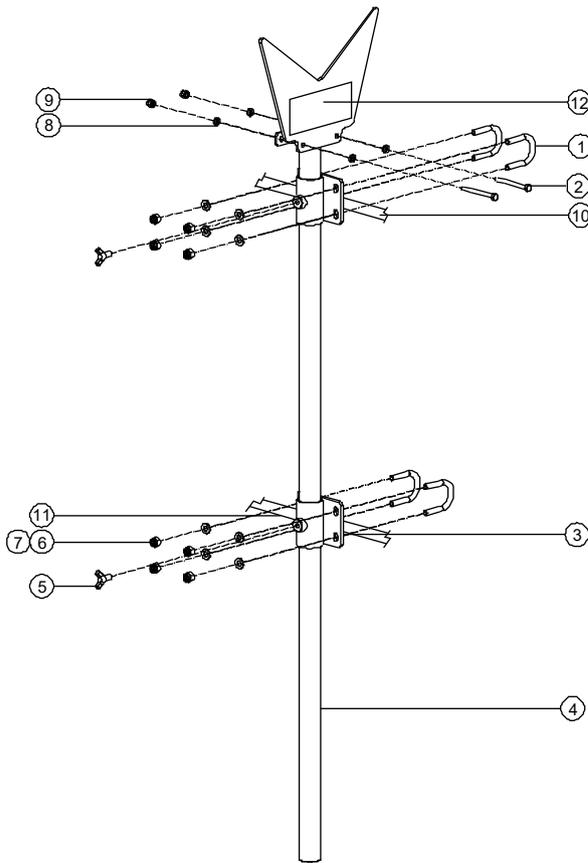
2. Installation

Before installation, the following items must be observed and obeyed.

- The pipe cradle assembly is designed to be used in the standard platform. It is important to call the marketing department or after-sale department of Dingli whether it is appropriate to be used in the other customized platform.
- Pipe cradles must be installed on the inside of the platform.
- The bottom of the pipe cradle tube must rest on the platform floor.
- Pipe cradles must not obstruct the platform control or the platform entrance.
- Be sure the platform is level before installation.

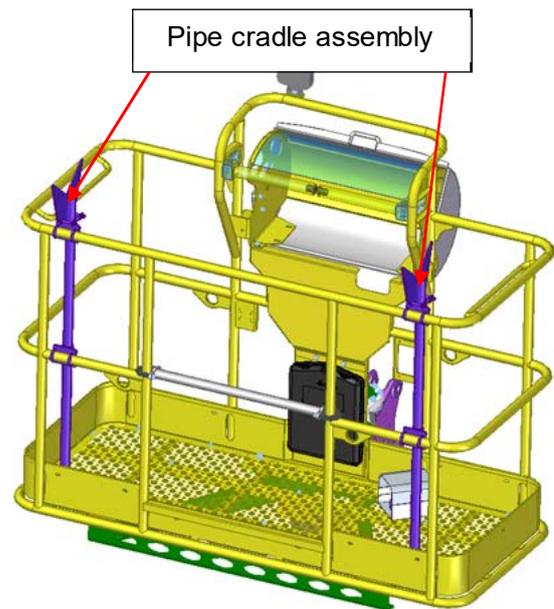
(1) Install a pipe cradle weldment on each inside of the platform. Refer to the following illustration.

Operating Instructions



(2) Install provided U-bolts from the outside of the platform rails through each pipe cradle mount, and fix them with provided flat washers and nuts.

(3) The pipe cradle assembly is the purple parts showed in the figure followed after completing installation.



Item	Part Number	Description
1	50005411	U-bolt
2	00002599	Bolt, GB/T 5782 M6×65
3	92101186	Pipe cradle weldment 2
4	92101182	Pipe cradle weldment
5	00002586	Butterfly screw, M8×16
6	00001163	Nut, GB/T 6182 M8
7	00000608	Flat washer, GB/T 97.1 8
8	00000620	Flat washer, GB/T 97.1 6
9	00001033	Nut, GB/T 6182 M6
10		Upper platform railing
11		Middle platform railing
12	09440381	Decals

3、 Pipe cradle operation



- The rated capacity of platform includes the weight of pipe cradle assembly and the load in the pipe cradles.
- The weight of pipe cradle assembly and the load in the pipe cradles must be factored into the total platform load, before load in the platform.
- The weight of the pipe cradle assembly and the load in the pipe cradles may limit the maximum number of occupants in the platform.

Maximum pipe cradle capacity **90kg**

Weight of pipe cradle assembly **7.8kg**

Operating Instructions

Maximum length of pipe	6m
Maximum diameter of pipe	225mm
Maximum occupants in platform equipped with pipe cradles	2
Maximum wind speed	8m/s

(1) Be sure the pipe cradle assembly and installation instructions have been followed properly and that the pipe cradles are secured to the platform railings.

(2) Place the load so that it rests in both pipe cradles completely.

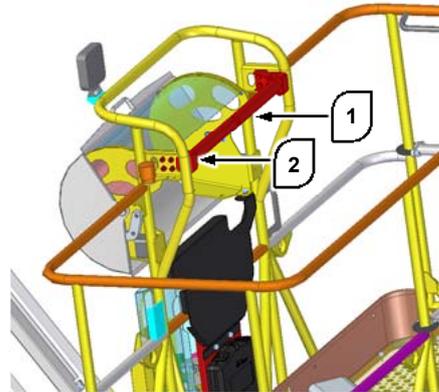
(3) Move the load in the axial direction to secure the center of gravity of the load is near to the center between the two pipe cradles.

(4) Place and strap the pipe in both pipe cradles.

(5) Gently push and pull on the load to make sure the pipe cradles and the load are secure.

(6) Pay attention to operations of the machine to prevent colliding with obstacles.

Operational instruction of the Anti-extrusion device on boom lift



1—Right Anti-pinch Bar

2—Left Anti-pinch Bar

- As a safety device to protect the operator from accidental injury, the Anti-pinch device is configured of 2 anti-pinch bars, in a 'Barn Door' style movement. The bars are independently monitored by a safety switch. Each bar, left and right are separate circuits activated by non contact magnetic switch on a mechanical spring loaded hinge system, located at the opposite ends of the control panel.
- As either bar or both are activated by pressing forwards, the safety system will engage.



Operating Instructions

- When the operator's body is pressed against the bars from above and behind structure, that contact will engage the bars in a forward direction. The Anti-pinch bar(s) will activate the safety switch accompanied by audible alarm and visual warning light; this will automatically cut out all ongoing functional movements. Further collision is avoided at this point to the operator as the machine will be locked out from movements, further protecting the operator, if injured and unable to move.
 - When the Anti-pinch device is activated, the operator will still be able to operate the machine, by pushing the auxiliary switch, the bypass switch and the corresponding function switch to operate the machine, however if the elevate or extend function of the articulating boom is in use at that instance, the main boom will stay locked out.
 - Only when both Anti-pinch bars are both in the normal operation position the system will reset and functions will resume. Auditable alarm and visual warning light will be turned off. Standard operations by pressing the footswitch and function of choice will be allowed.
- 2 Retract and lower the tower and main booms to the stowed position.
 - 3 While stored for a short time less than two days, it is allowable to lift the retracted tower booms with the main booms retracted, and the intersection angle of main booms and tower booms is less than 60°.
 - 4 Rotate the turntable so that the boom is between the non-steer wheels.
 - 5 Perform a complete pre-operation Inspection referring to the chapter of pre-operation.
 - 6 Refer to the Schedule Maintenance section and complete each lubrication procedure.
 - 7 Turn the key switch, Emergency Stop Switch and power switch to the off position and remove the key to avoid unauthorized use.
 - 8 Remove and store the batteries if the time of storage is longer than half of one year. Other than, start the machine and run for one hour every three months.
 - 9 If needed, refill some fuel before starting machine every time.
 - 10 Keep the machine dry and clean during storage.

Machine storage

Properly preparing and stowing the machine for storage will make it easier to put the machine back into service.

- 1 Select a location—firm level surface, clear of obstruction and traffic, dry and well-ventilated.

NOTICE *The environment*

temperature should be at -20 °C~49 °C and

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

Transport and Lifting Instructions



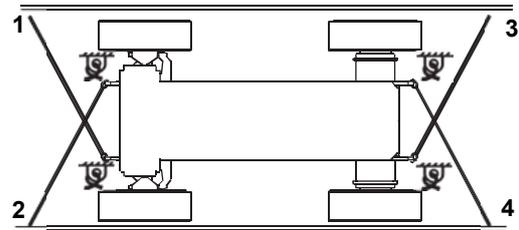
Setting the machines in safety correctly and choosing appropriate transport means according to the provisions of the Ministry of Industry and Public Transport, the regulatory standards in force and the corporate policies are solely the responsibility of the owner of the machine.

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.
- Make sure the rotation block of the slewing ring gear positioned on the RH side of the turret is activated and turret is locked before proceeding with transport.

- Release the slewing ring gear before restoring the working of the machine.
- 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.

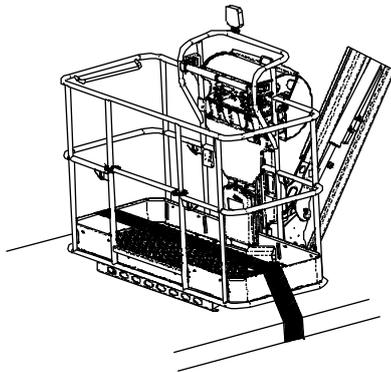


Transport and Lifting Instructions

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.

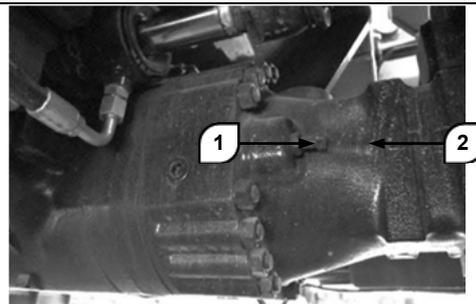
A faulty machine can only be towed for short distances and at speeds not exceeding 10km/h. If necessary, to transport the vehicle over longer distances and at greater speeds, use a suitable vehicle for transport.

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

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.

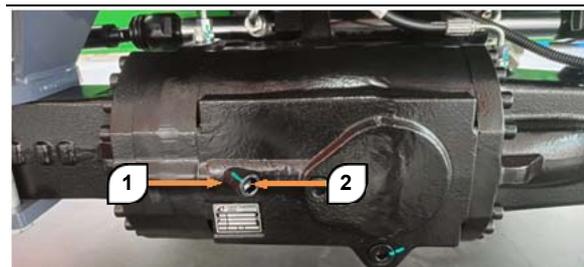
Connect one end of the cable to the two front eyelets on the towing vehicle. Connect the other end of the cable to the two front eyelets of the vehicle to be towed.

DANA axle with brake release screws



- Go under the vehicle near the rear axle.
- Unscrew lock nut 1 of power screw 2.
- Tighten the power screw to fit flush to disengage the negative command brake.
- Repeat the operation for other three screws on the same axle.

Comer axle with brake release screws

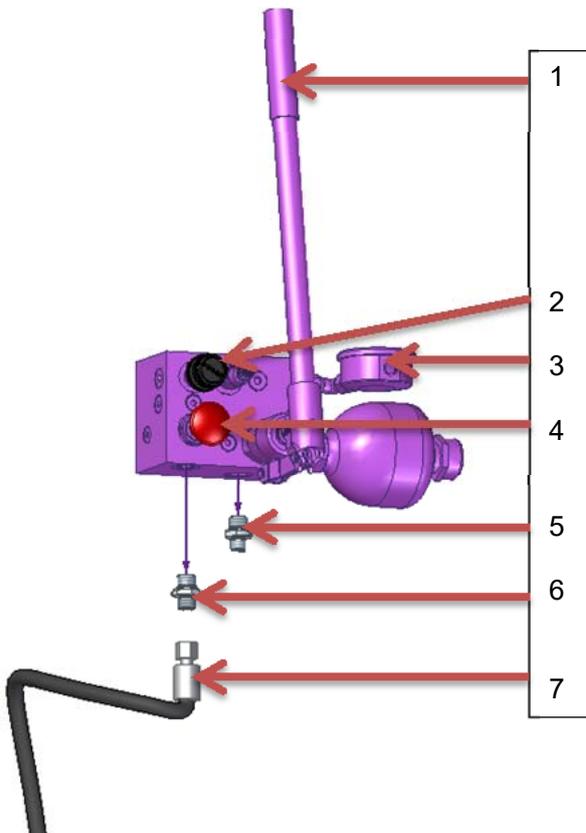


- Go under the vehicle near the rear axle.
- Remove the screw 2 from the hole.
- Remove the pad 1 and screw back and tighten the screw 2 to disengage the negative command brake.

Comer axle without brake release screws

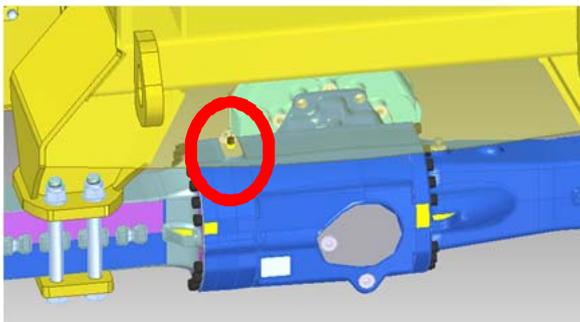
Release the brake with the following instrument.

Transport and Lifting Instructions



- 1、 Jointed arm of hand pump
- 2、 Handwheel
- 3、 Garge
- 4、 Hand shank of directional valve
- 5、 Fitting on P Port
- 6、 Fitting on A port
- 7、 Hoses for brake release

- Go under the vehicle near the rear axle.



- Remove the hoses from the fitting circled above and then connect it to the fitting 5.
- Connect the free end of the hoses 7 to the fitting on the axle, circled above.
- Turn the hand wheel 2 clockwise to the limited position.
- Pull out the hand shank of directional valve and turn it clockwise 90° .
- Pull and push the jointed arm of hand pump repeatedly. Stop when the degrees showed on the gauge up to 28bar.

Note: 1. The operations of towing could be carried out, only after completing all steps above.

2. An observer must stand in a safe position to check the outcome of the operations. The observer must not stand on the vehicle to be towed.

3. The degrees showed on the gauge 3 must exceed 20bar during towing. Otherwise, pull and push repeatedly until the degrees showed on the gauge turn back to 28bar.

- Tighten the tow cable slowly. Avoid sudden movements to avoid overload on the cable. Keep the angle between the machine and the towing cable minimum; it must not exceed 30° in any case whatsoever.
- Because of the impossibility of listing all the precautions and towing procedures for all the situations, it is advisable to consult your Dealer for assistance.

Transport and Lifting Instructions

Lifting

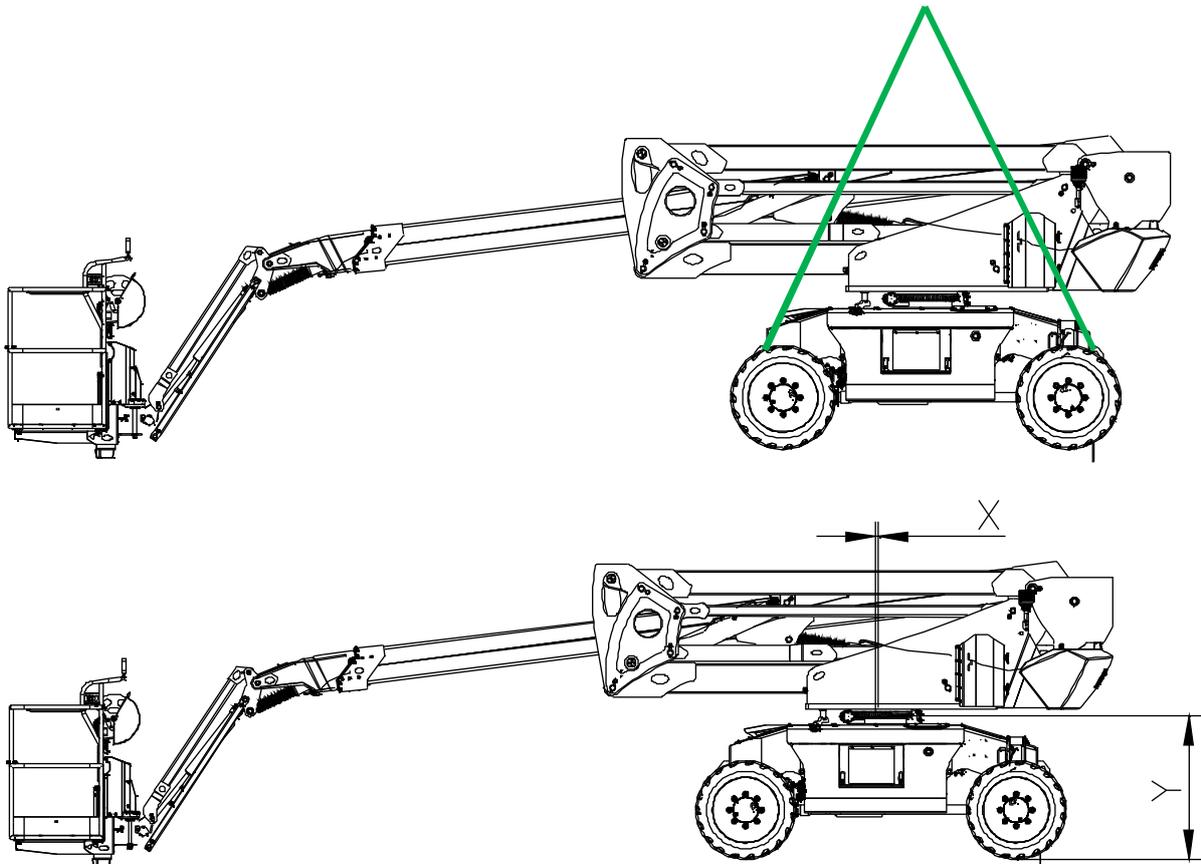
Use only devices suitable for the movement concerned: make sure the capacity of the lifting crane, chains, ropes and relative hooks are able to support the weight of the machine; to check the data, consult the manufacturer's ID plate affixed on the chassis.

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)
BA22CERT2	2	1310
BA20CERT2	3.5	1278
BA18CERT2	-188	1276
BA16CERT2	-221	1262

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



**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 Anti-crush device on boom lifts – check

B Every 50 hours of operation or every 2 weeks

- B-1 Axles - lubrication of oscillation bushes
- B-2 Hydraulic oil level - check
- B-3 Telescopic boom sliding blocks - lubrication
- B-4 Turret rotation slewing ring gear - lubrication
- B-5 Wheels - check tightening of nuts
- B-6 Steering elements – lubrication

C Every 250 hours of operation or every 3 months

- C-1 Differentials oil - check
- C-2 Wheel reduction gears oil - check
- C-3 Dropbox oil - check

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

E Every 1000 hours of operation or every year

- E-1 Differentials oil - change
- E-2 Wheel reduction gears oil - change
- E-3 Telescopic boom sliding blocks - adjust the play
- E-4 Overload sensor – calibration
- E-5 Dropbox oil - change

F Every 1500 hours of operation

G Every 2000 hours of operation or every 2 years

- G-1 Hydraulic fluid – change

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 fluid levels such as hydraulic oil and lubrication oil.
- 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 Remove the dust guard gaskets at the head of the extensions and 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.

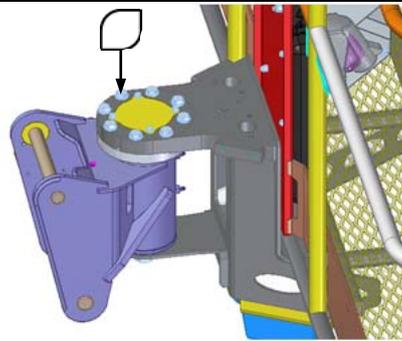
To confirm the correct working, deactivate the emergency electric pump and restart the system.

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 depressing down the Data button on the ground control contation.

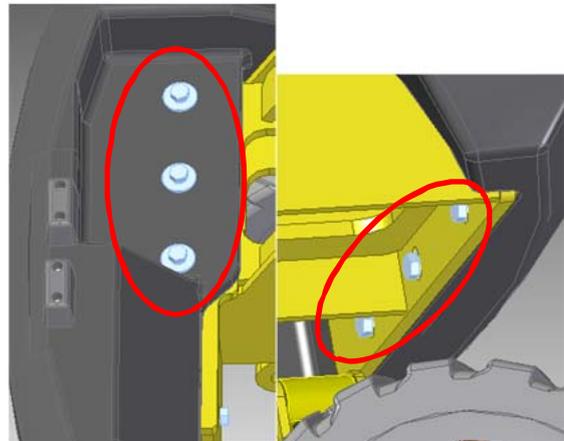
MAIN BOOM ANGLE	-5.5 deg
JIB ANGLE	0.9 deg
CHASSIS TILT ANGLE X	-0.2 deg
CHASSIS TILT ANGLE Y	0.6 deg
SOC	63.3 %
CAGE LOAD	9.1 kg
LOADCHART	250.0 kg
Motor	Data
Set	Esc
Menu	

- 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 320kg at the moment of 320kg being added in the platform.
- 5 Continue to add load in platform, and then the alarm will be activated when the load is up to 420kg. Otherwise, stop to ask for repairing.
- 6 The accuracy of weighting is $\pm 10\%$. 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.

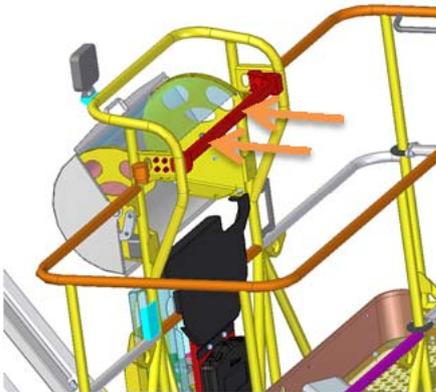


Check the balance weight fixing nuts on the turret. Check for rusted, slackened or missing nuts.

Contact your dealer in case of serious problems.

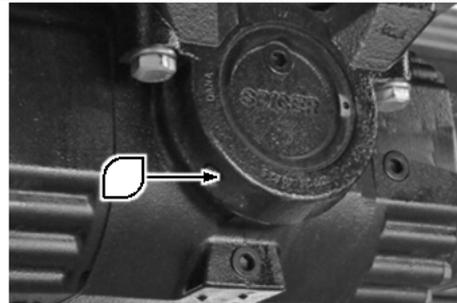
Maintenance

A-6 Anti-crush device on boom lifts – check



Operate any movement of the machine on the platform control station, at the same time, push forward the anti-crush bars by inclining. The movement being operated should be invalid, and the alarm appears. Releasing the all switches pressed, the alarm should disappear. If not, ask the professional persons for help and take the machine into work after completing the repair.

B-1 Axles-lubrication of oscillation bushes



Set the vehicle in the parking position. Make sure no one approaches the work area.

Stand near the front axle oscillation bushes. Inject grease in the grease nipples present on both sides of the axle (front and rear).

Repeat the lubrication for the rear axle.

Note: lubricate every 10 hours firstly.

B-2 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 oil level in the hydraulic system must be near the centre line of the level indicator present on the tanks.



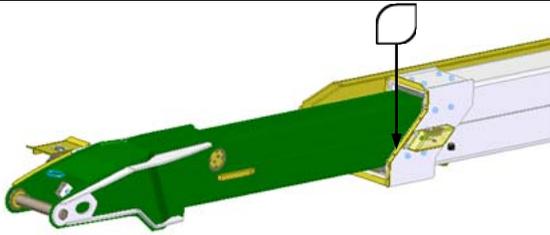
If necessary, open the cover of the hydraulic tank and take off the cover showed in the follow figure to add oil. Do not exceed the level indicated. After completing adding oil, install back the cover.



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

Maintenance

B-3 Telescopic booms sliding blocks - Lubrication



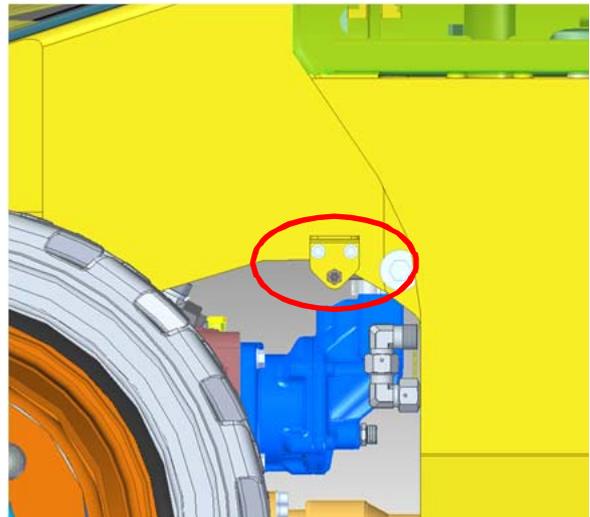
- 1 Position the machine in an area with sufficient clearance around it; center the turret and bring the telescopic boom to the horizontal position. Extend the telescopic boom completely.
- 2 Remove the dust guard gaskets at the head of the extension and clean all the sliding surfaces thoroughly.
- 3 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.
- 5 Remove excess grease to prevent dirt build-up and refit the dust guard gaskets.

B-4 Turret rotation slewing ring gear - Lubrication

The Lubrication of Turret rotation slewing ring gear is made of the Lubrication of the part A and Part B

Lubrication of the part A:

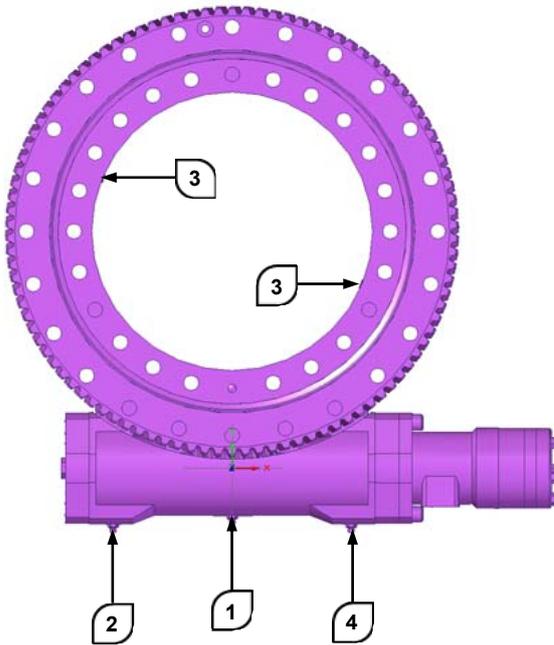
- 1 Apply grease manually to the outer teeth with a brush symmetrically and remove excrescent grease.
- 2 Keeping turning the turret, fill moderate grease into the raceway through the fittings 3 with a greasing gun, if the followed optional equipment circled is not equipped.
- 3 Keeping turning the turret, fill moderate grease into the raceway through the circled fittings in the followed figure with a greasing gun, replacing the step 2, if the followed optional equipment circled is equipped.



Lubrication of the part B:

Keeping turning the turret, fill moderate grease through the fittings 1 , 2 and 4 with a greasing gun.

Maintenance



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, ask DingLi for the grease and cycle.

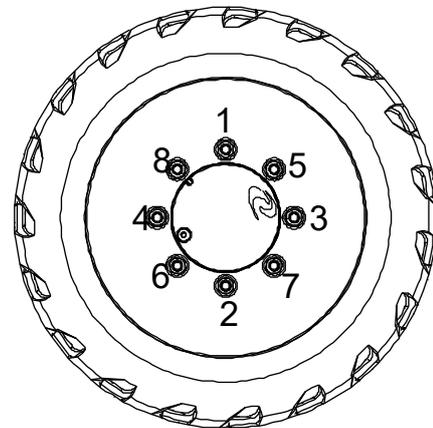
B-5 Wheels - check tightening of nuts

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:

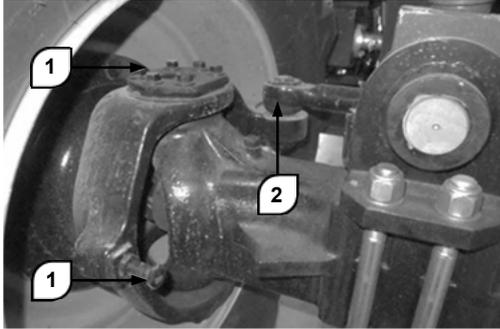
- 1 Set the torque wrench to 450Nm.
- 2 Tighten nuts in the following sequence:



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

Maintenance

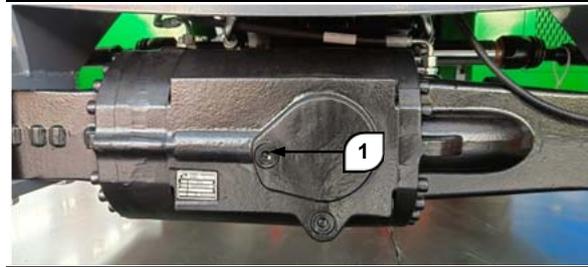
B-6 Steering elements - Lubrication



- 1 Lubricate the wheels rotation pins 1 by injecting grease in the grease nipples provided for the purpose. Remove the excess grease.
- 2 Lubricate the ball joint 2 injecting grease in the grease nipples provided for the purpose. Remove the excess grease.

Note: lubricate every 10 hours firstly.

C-1 Differentials oil - Check

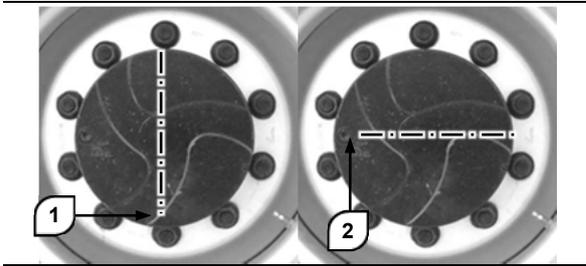


- 1 Set the vehicle in the parking position. Make sure no one approaches the work area.
- 2 Remove level cap 1. The oil must flow out through the opening.
- 3 If necessary. Add oil to the correct level. Close level cap 1. Clean the axle surfaces.
- 4 Repeat the operations for the front and rear differential.

Note: check it every 10 hours firstly.

Maintenance

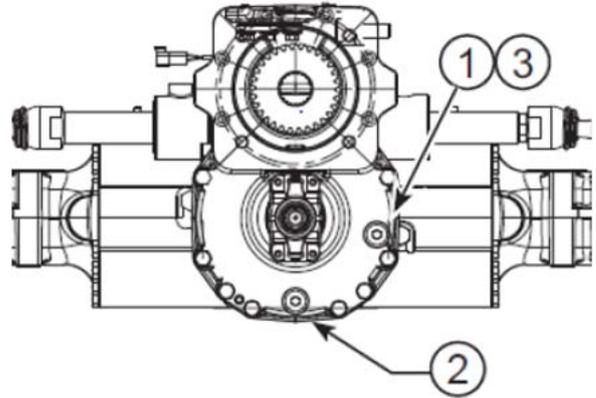
C-2 Wheel reduction gears oil - Check



- 1 Set the vehicle in the parking position. Turn the reduction gear cap in the horizontal position 2.
- 2 Remove the cap. The oil level is correct when the oil flows out through the filler hole.
- 3 If necessary, top up with oil (photo) 2 to the correct level.
- 4 Refit the cap.
- 5 Repeat this operation for each wheel.

Note: check it every 10 hours firstly.

C-3 Dropbox oil - Check



- 1 Set the vehicle in the parking position. Make sure no one approaches the work area.
- 2 Remove level cap 1. The oil must flow out through the opening.
- 3 If necessary, Add oil to the correct level. Close level cap 1. Clean the axle surfaces.

Note: check it every 10 hours firstly.

Maintenance

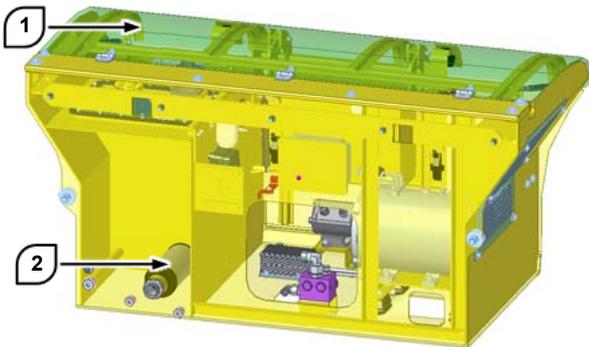
D-1 Hydraulic oil filter - replacement



ATTENTION

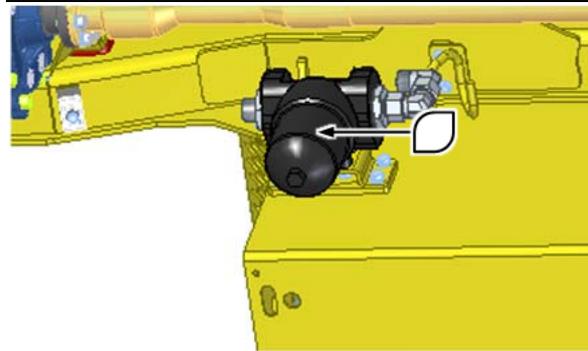
The machines use four filters for hydraulic fluid: one filter of WU type is located in the suction seat of the hydraulic tank for functional pump. The other two filters are PLFA series filters used in the pressure line of hydraulic system. One is placed on the back side of the hydraulic tank, and the other is placed on the end of the third boom. The last one is RF filter located on the top of hydraulic tank.

WU filter



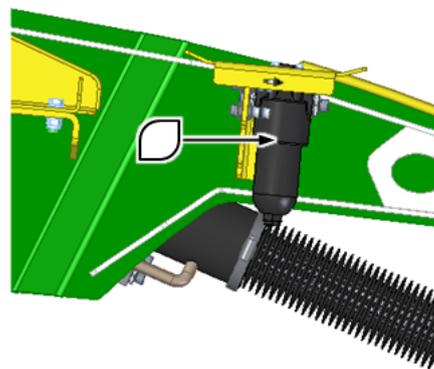
- 1 Open the cover 1.
- 2 Clean the area near the window of the hydraulic tank
- 3 Remove the bolts fixed the cover on the window and take off the cover. And then remove the filter 2.
- 4 Twist one new filter in the seat.
- 5 Install back the cover on the window of hydraulic tank.
- 6 Close the cover 1.

PLFA filter (outlet of pump)



- 1 Clean the area around the oil filter, and then remove the cap components.
- 2 Pull out the filter element from the filter assembly chamber.
- 3 Install the new filter element to the filter assembly chamber.
- 4 Refit the cap components and tighten it. Clean up any oil that may have spilled during the replacement procedure.

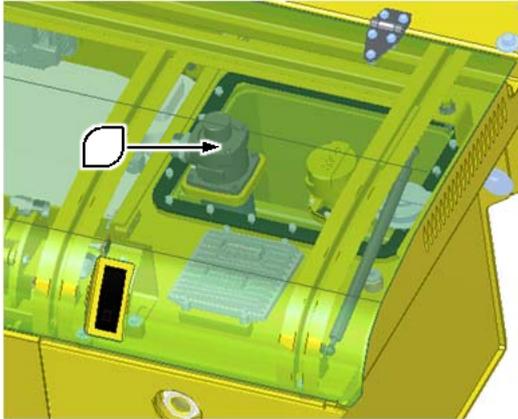
PLFA filter (Inlet of upper control valve)



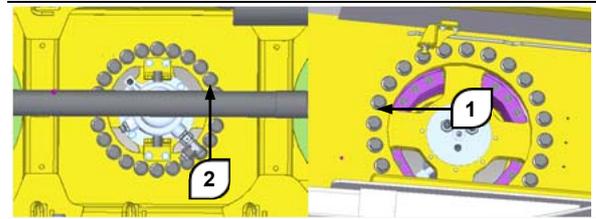
- 1 Clean the area around the oil filter, and then remove the cap components.
- 2 Pull out the filter element from the filter assembly chamber.
- 3 Install the new filter element to the filter assembly chamber.

Maintenance

- 4 Refit the cap components and tighten it.
Clean up any oil that may have spilled during the replacement procedure.

RF filter

- 1 Open the cover.
- 2 Remove the cap of the filter
- 3 Pull out the filter element from the filter assembly chamber.
- 4 Install one new filter element into the filter assembly chamber.
- 5 Refit the cap components and tighten it.
Clean up any oil that may have spilled during the replacement procedure.
- 6 Close the cover.

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

Inspect the bolts fixed on the chassis and turret for slacking, missing or rust.

Contact your dealer in case of serious problems.

Lift the booms to check the torque carried on the bolts.

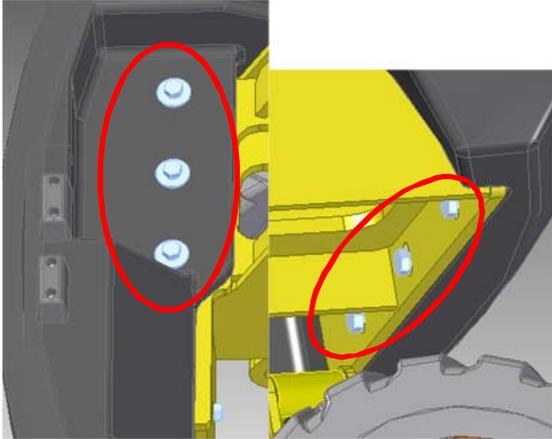
Inspect the torque of the bolt 1 and 2 one by one, using the torque wrench with 560N.m.

Maintenance

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

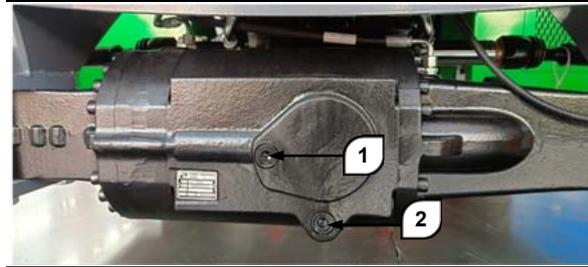


It is necessary to check the moment of force on the bolts fixing the balance weight.



Tighten one by one of the bolts fixing the balance weight with the torsion wrench, set point of 600N.m.

E-1 Differentials oil - Change

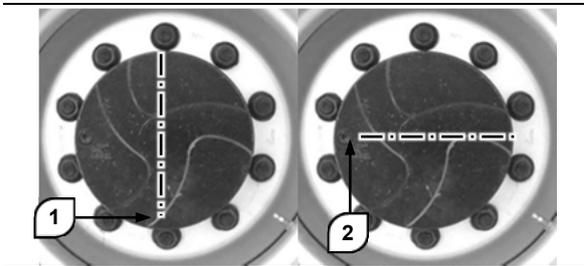


- 1 Place suitable sized containers under the axle. Remove the drainage cap 2. Wait for the oil to drain out completely. To speed up the operation, remove filler cap 1.
- 2 Refit caps 2 and tighten adequately. Remove level cap 1.
- 3 Pour fresh oil of the correct type through hole 1. Fill in stages and check the flow of oil through level hole 1.
- 4 When the correct level is reached, refit filler cap 1.

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

Maintenance

E-2 Wheel reduction gears oil - Change

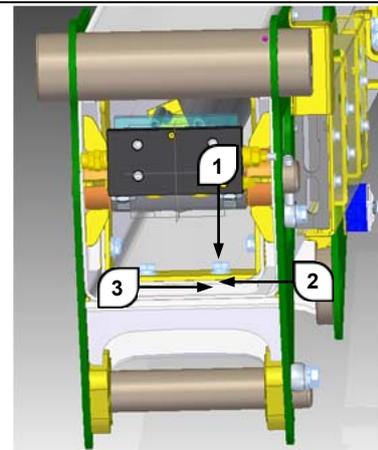


- 1 Place a suitable sized container under the reduction gear. Turn the reduction gear cap in position 1.
- 2 Remove the cap and wait for the oil to drain out completely.
- 3 Turn the reduction gear cap in position 2. Fill oil through the hole to the correct level.
- 4 Refit the cap. Repeat this operation for each wheel.

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

E-3 Telescopic boom sliding blocks - Adjusting the play

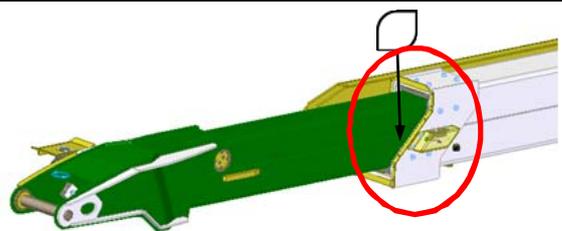
- 1 Park the vehicle in a suitable sized area. Remove the accessory from the quick-fit coupling. Centre the turret and set the telescopic boom in the horizontal position. Retract the telescopic boom completely.



- 2 Remove the cover on the rear part of the boom.
- 3 Slacken all the bolt 1 of the upper and lower sliding blocks of the first extension stage. If the space between the sliding surface of the block 3 and the sliding surface of the first boom exceeds 0.5mm, some pads 2 need to be added. And then tighten bolts 1.

Tightening torque: 100 Nm.

- 4 Repeat the adjustment operations for the lateral sliding blocks.



Maintenance

- 5 Move to the front of the boom, and identify the sliding blocks of the first extension stage.
- 6 Slacken all the bolt 1 of the upper and lower sliding blocks of the first extension stage. If the space between the sliding surface of the block 3 and the sliding surface of the first boom exceeds 0.5mm, some pads 2 need to be added. And then tighten bolts 1.

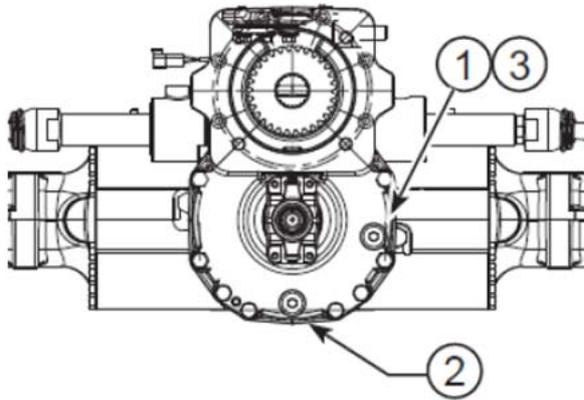
Tightening torque: 100 Nm.
- 7 Repeat the adjustment operations for the lateral sliding blocks.
- 8 Always try to adjust the sliding blocks symmetrically, so that each stage is centered with respect to the adjacent ones.
- 9 After completing the operations try to extend and retract the boom to check the boom movement is smooth. If the movement of the boom is not smooth, repeat the adjustments.

E-4 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.

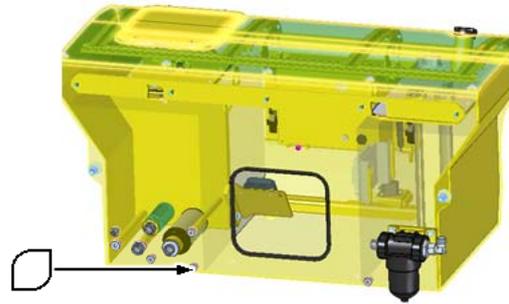
Calibration

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-5 Differentials oil - Change**

- 1 Place suitable sized containers under the axle. Remove the oil fill plug 1, Wait until the internal pressure is completely released. Remove the oil drain plug and wait for the oil to drain out completely.
- 2 Refit the cap 2 and tighten adequately.
- 3 Pour fresh oil of the correct type through hole 1. Fill in stages and check the flow of oil through level hole 1.
- 4 When the correct level is reached, refit level cap 1.

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

G-1 Hydraulic fluid - change

- 1 Go under the vehicle to access the tanks drainage caps.
- 2 Place a suitable sized container under the drainage cap. Unscrew the cap and drain out the oil. To speed up the operation, also unscrew the filler cap.
- 3 Install the plug on the drain port. Fill the tank with hydraulic oil filtered with a 20um filter and applied to the local environment until the level is correct. Not overfill.
- 4 Look around for enough space for extending and lifting completely.
- 5 Place a suitable sized container under the PVG.
- 6 Disconnect the lifting down hose from B port of PVG and block the B port with plug.
- 7 Start the engine, and lift up the boom completely to lead the oil from the cylinder rod chamber into the container.
- 8 Recover the hose.
- 9 Repeat the step 4-8 for leading oil out from the other cylinder rod chamber.
- 10 Park the vehicle and check the hydraulic oil level. Add it, if necessary.

Disposal

Disposal

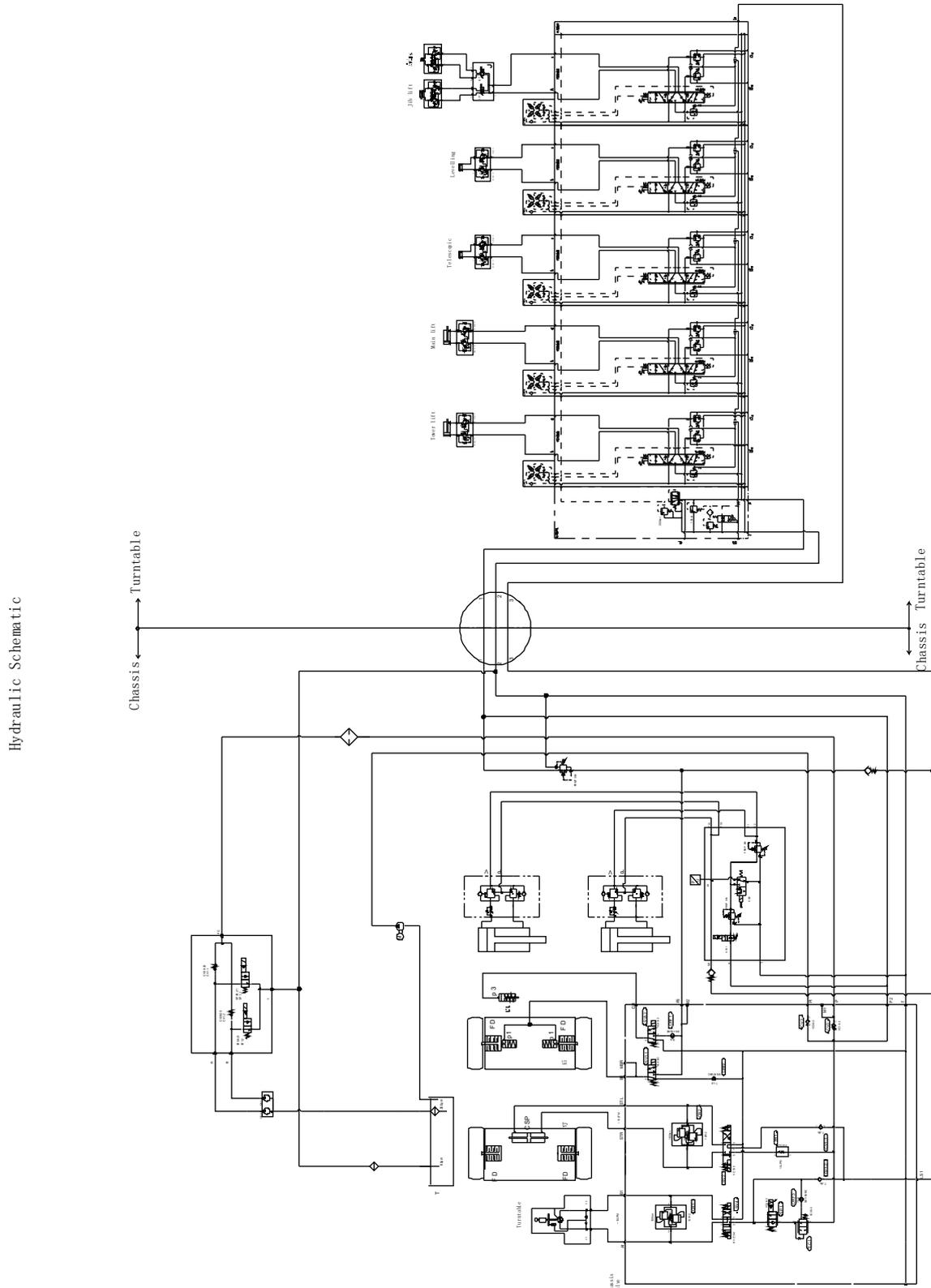
When the MEWP is damaged, contact Dingli for further evaluation. If it cannot be repaired for safe use, the MEWP must be disposed. Always follow your local law or regulations to dispose the MEWP and spare parts.

To prevent pollution, pay attention to waste disposal:

Drain the hydraulic oil into a container, in place of the ground, sewers, oceans or lakes. Observe local laws and regulations for the disposal of hazardous substance such as hydraulic, battery etc.

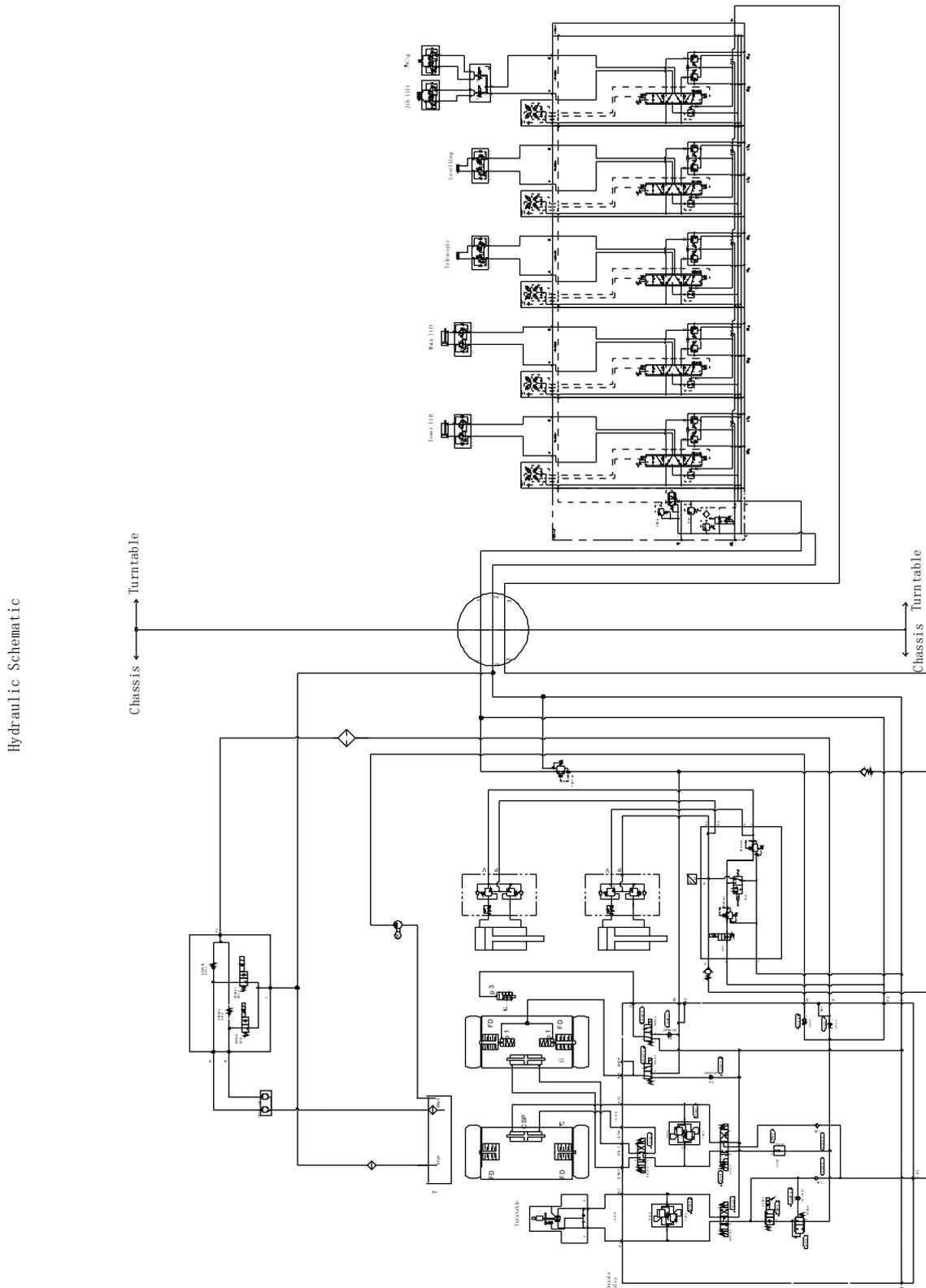
Properly dispose of the machine and spare parts according to laws and regulations.

Hydraulic Schematic (Two Wheels Steering)

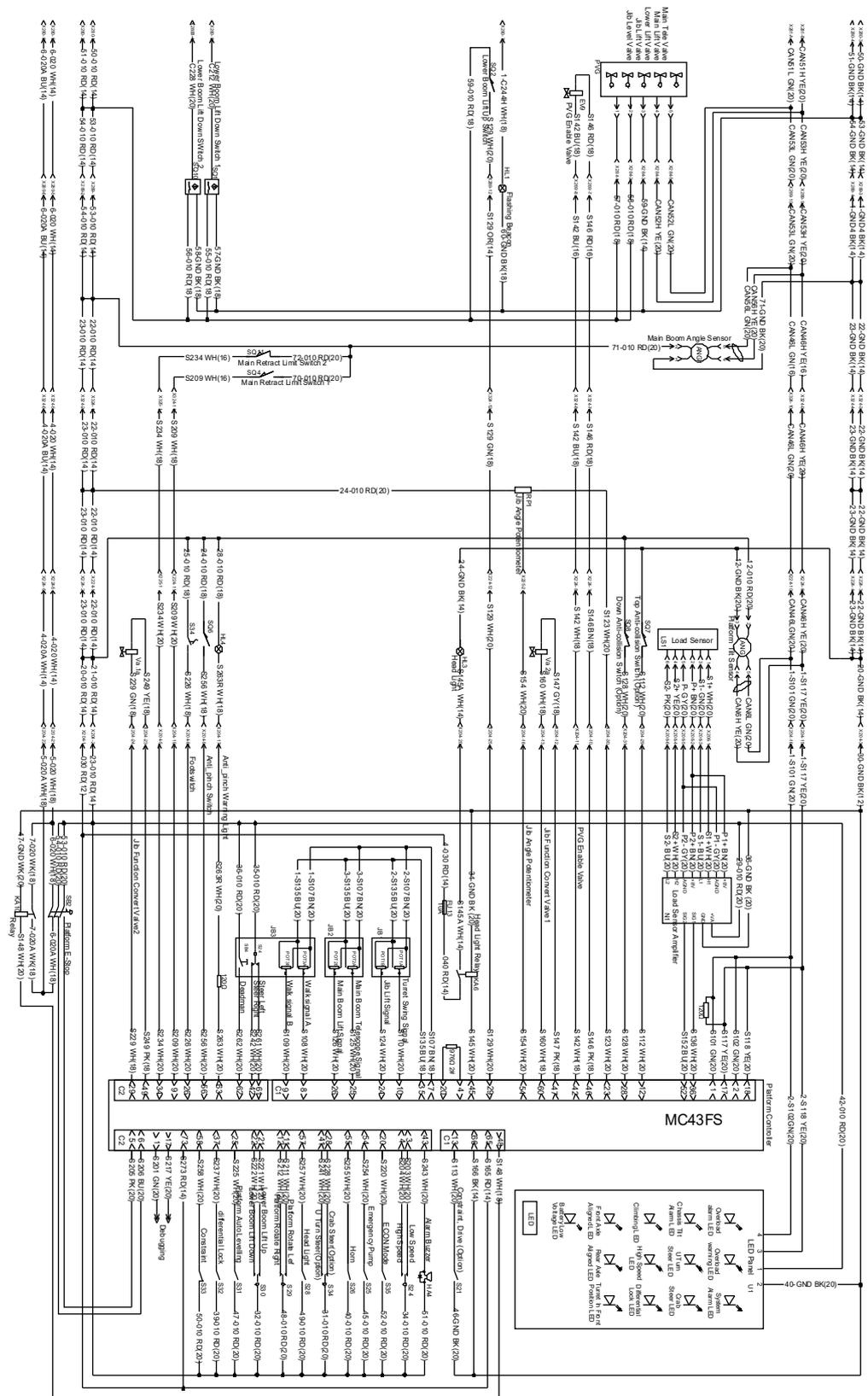


Schematic

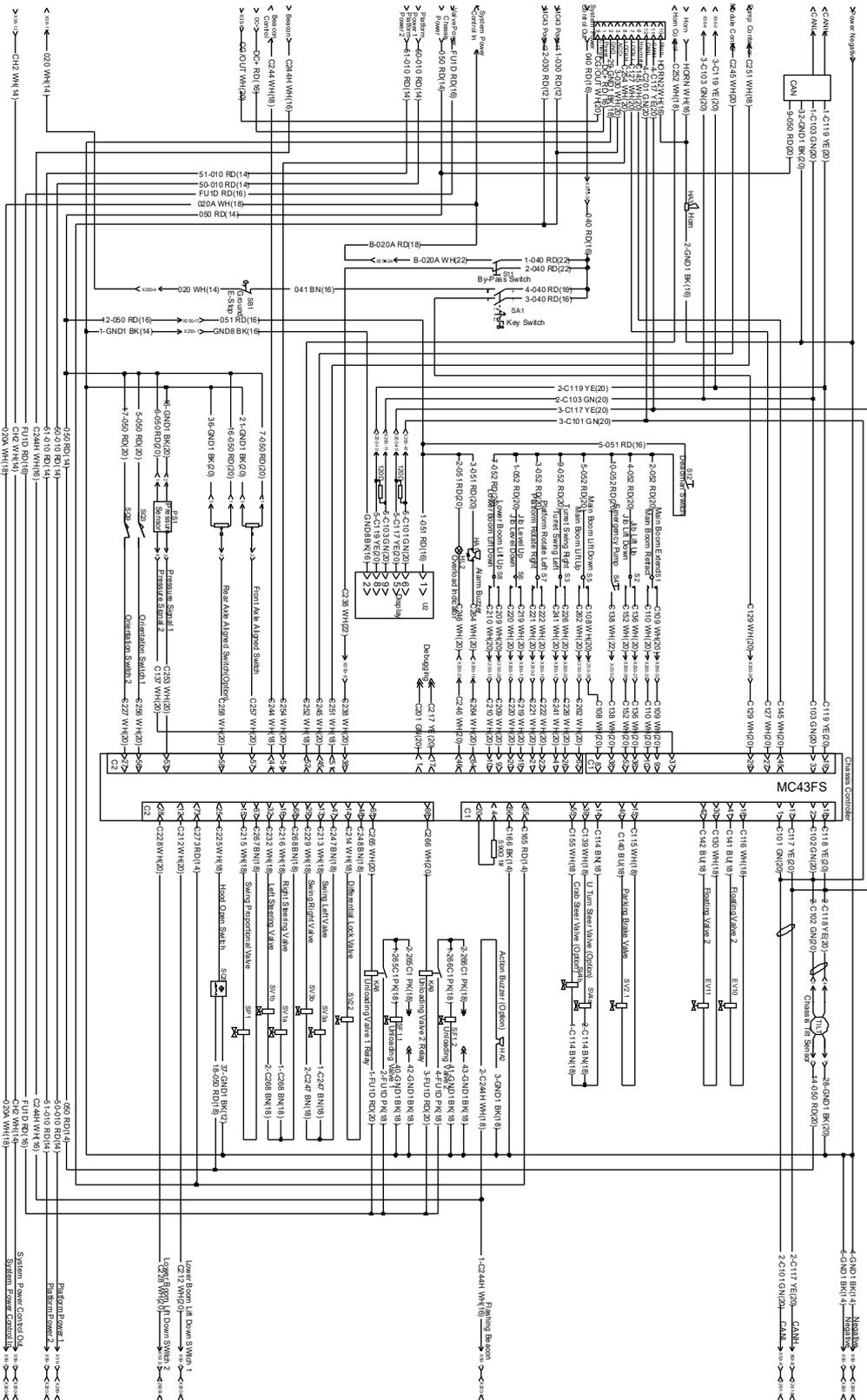
Hydraulic Schematic (Four Wheels Steering)



Schematic



Schematic



EC Declaration of Conformity



EC Declaration of Conformity



Zhejiang Dingli Machinery Co., Ltd hereby declares that the machinery described below complies with the provisions of the following Directives:

1. EC Directive 2006/42/EC, Machinery Directive, under consideration of harmonized European standard EN280-1:2022 , issued by:
<variable field>. Address: <variable field>.
Identification number: <variable field>
EC type examination, test certificate no. <variable field>
EC type examination, Report no. <variable field>
2. EC Directive 2014/35/EU, Low Voltage Directive, under consideration of harmonized European standard EN 60204-1:2018.
3. EC Directive 2014/30/EU, EMC Directive, under consideration of harmonized European standard EN61000-6-2:2019 and EN 61000-6-4:2019.

Test Report:

This machine has been tested and passed prior to entering the market.

1. BRAKES: Brakes working properly in forward and reverse.
2. OVERLOAD: Overload tested at XXX% rated load.
3. FUNCTIONAL: Smooth operation at XXX% rated load.
4. FUNCTIONAL: AI safety devices working correctly.
5. FUNCTIONAL: Speeds set within permitted specification.

All of technical documentation ,e.g. quality assurance measures for design and production Name and address of the person (established in the Community) compiled the technical file:

Dingli AWP Europe Trading Limited B.V.

Zuidplein 116, Tower H, Level 14, 1077XV Amsterdam, the Netherlands

Model / Type:	<variable field>
Product:	<variable field>
Type Designation:	<variable field>
Serial Number:	<variable field>
Manufacture Date:	<variable field>
Manufacturers : Zhejiang Dingli Machinery Co., Ltd No. 1225 Baiyun South Road, Leidian Town, Deqing, Zhejiang 313219, P.R. China	

Person responsible for making this declaration

Name ,Surname: <variable field>

Position/ Title: <variable field>

<variable field>
(Place)

<variable field>
(Date)

<variable field>
(Company stamp and legal signature)

Zhejiang Dingli Machinery Co., Ltd.

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DINGLI