Operation Manual

AS 10896.1

H1840

Telehandler

PART No.OM-2537050404

Original Instructions

Original Instructions

Thank you for choosing to use this Telehandler from LGMG, All models are designed and manufactured according to AS 10896.1.

This manual is a guide for safe and proper operation and maintenance of the machine, which introduces technical parameters and mechanism and operation herein.

We sincerely hope that you will read through this manual before attempting to operate the machine for the first time and before repairing and maintaining the machine, and that you will master the operation and maintenance described therein.

The information contained in this manual is correct at the time of publication. However, LGMG has endeavored to deliver the highest degree of accuracy possible. And continuous improvement of our product is a LGMG policy. Therefore, product specifications are subject to change without notice.

Due to the impossibility of foreseeing all possible hazards, therefore, it is not possible to include all safety precautions in this manual and the machine's safety precautions in this manual and the machine's safety instructions. If some operations that are not recommended in this manual, you must ensure that you and others are safe and will not damage the machine. If the security of certain operations cannot be determined, please call LGMG industries or dealer service center.

The precautions for operation and maintenance contained in this manual are only applicable when the machine is used for the specified use. If the machine is used within the scope not listed in this manual, our company will not assume any safety responsibility, which is borne by the user and operator in such operations.

Any prohibited operations in this manual shall not be performed.

This manual should always be placed in the designated location for read. This manual is part of the machine, when the ownership or use right of the machine is transferred, please hand over this manual together. If the manual is lost, damaged or illegible, please replace it promptly.

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Safety Notices

The operator shall understand and abide by the current national and local safety regulations. If such regulations are not available, the safety instructions in this manual shall prevail.

Most accidents are caused by failure to obey operation and maintenance specifications of the machine. To avoid unnecessary accident, please read and follow all warnings and precautions in this manual and on the machine before operation or maintenance.

The safety measures are detailed in the "safety" content in chapter I.

Considering the fact that not all possible hazards are foreseeable, it is impossible for safety notices in this manual and on the machine to cover all safety precautions. If it is necessary to take steps and operations not recommended herein, always protect the safety of yourself and others, and keep the machine from any damage. If the safety of some operations remains uncertain, please consult us or dealers.

The operation and maintenance precautions referred to herein apply only to the intended use of this machine. If the machine is to be used for other purposes than those listed herein, it is the user or operator instead of us that shall take the safety liabilities therefrom.

In no case shall any operations expressively prohibited herein be performed.

For the purpose of this manual, the following signal words are applied to identify safety instructions:

⚠ DANGER - Indicating any existing dangers that, if not avoided, will cause serious injury or even death, and also serious machine damage.

⚠ WARNING - Indicating any potential dangers that, if not avoided, may cause death or serious injury, and also serious machine damage.

⚠ CAUTION - Indicating situations that, if not avoided, may cause minor or moderate injury, and also machine damage or shortened machine service life.

Contents

Chapter 1 Safety

DANGER: Failure to comply with the instructions and safety rules in this manual will result in the occurrence of death or serious injury.

WARNING: Do not operate unless

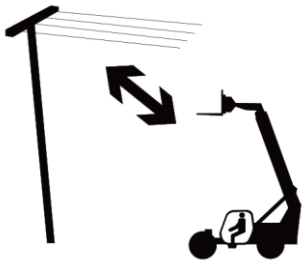
- **You have understood and practiced the rules of safe operation of the machine in this operation manual.**
- **Avoid dangerous situations. Know and understand the safety rules before proceeding to the next step.**
- **Always perform the inspection before operation.**
- **Always perform pre-use functional testing.**
- **Check the workplace**
- **Use the machine only according to its design intent.**
- **The manufacturer's instructions and safety rules--safety operation manual and machine labels shall be read, understood and observed.**
- **You shall read, understand and comply with the user safety rules and workplace regulations.**
- **You must read, understand and comply with all applicable government laws and regulations.**
- **You have received proper training on the safe operation of the machine.**

1.1 Unauthorized installation

Any refit may cause danger. Please consult with Lingong Heavy Machinery Co., Ltd. (LGMG for short) before refitting the machine. LGMG shall not be liable for any damage caused by unauthorized refit.

1.2 Classification of hazardous situations

Electric shock hazard:



- **The machine is not insulated and does not provide protection from electric shock when in contact with or near the wires. Keep adequate safety distances from the power lines and electrical equipment in accordance with applicable government laws and regulations and the instructions in the following table.**

Voltage	Required clearance
0~300 V	Do not touch
300V ~ 50 kV	3m
50 kV ~ 200 kV	5 m
200 kV ~ 350 kV	6 m
350 kV ~ 500 kV	8 m
500 kV ~ 750 kV	11 m
750 kV ~ 1000 kV	14 m

- **The influence of strong winds or gusts on the movement of the Fork, the swing and relaxation of the wires shall be considered.**
- **Keep away from the machine if it comes into contact with live wires. Before cutting off the power supply, it is forbidden for any person to contact or operate the machine.**
- **Do not operate the machine when there is lightning or storm.**

Windscale	Description	Wind speed(m/s)	Wind speed(km/h)	Effects on land
0	Calm	< 0.3	0-1	Smoke rises vertically.
1	Light air	0.3-1.5	1-5	Direction of wind shown by smoke.
2	Light breeze	1.6-3.3	6-11	Wind felt on face; leaves rustle; wind vane moves.
3	Gentle breeze	3.4-5.4	12-19	Leaves and small twigs in constant motion; wind extends light flag.
4	Moderate breeze	5.5-7.9	20-28	Wind raises dust and paper; small branches move.
5	Fresh breeze	8-10.7	29-38	Small trees with leaves begin to sway; crested wavelets form on inland waters.
6	Strong breeze	10.8-13.8	39-49	Large branches move; wires and ventilation ducts whistle; umbrellas difficult to control.
7	Near gale	13.9-17.1	50-61	Whole trees sway; walking against wind is difficult.
8	Gale	17.2-20.7	62-74	Twigs break off trees; progress on foot is seriously impeded.
9	Strong gale	20.8-24.4	75-88	Buildings slightly damaged; roof and chimney tiles blow off.

- Do not use the machine as a ground wire during welding.

⚠ Danger of scalding at high temperature:

- When the operation was just completed, the temperature of hydraulic oil, oil and water in the engine, oil and water in the radiator is still very high and there is still pressure. At this time, open the tank cap, radiator cap, draining oil or water, or replacing the filter may cause serious burns. The above operations shall be carried out until the temperature drops and the prescribed procedures shall be followed.
- Do not touch the relay when the engine is hot to avoid scalding.
- Do not remove the engine oil temperature sensor, water temperature sensor and air conditioning water pipe to avoid scalding.

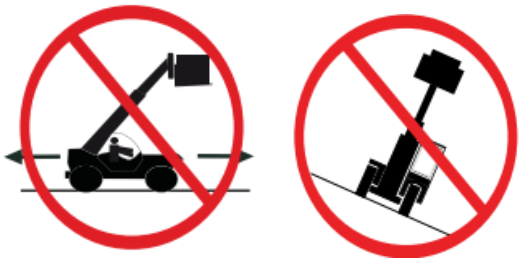
⚠ Danger of misuse:

- If the telescopic handler is not equipped with platform accessories, do not lift personnel.
- It is forbidden to use faulty or poorly maintained machines. Stop using defective/damaged machines.
- It is forbidden to lean the machine against the structure to stabilize the structure.
- Do not climb onto the machine cover.
- It is forbidden to replace parts that are vital to the stability of the machine with parts of different weights or specifications.
- It is forbidden to replace factory-installed tires with tires of different specifications or layers.
- Machine parts that affect safety and stability in any way shall not be changed or disabled.
- Do not disable the safety device.
- Do not operate the machine controls suddenly.
- During cleaning, it is forbidden to directly align the water gun with the engine exhaust port, electrical parts, and batteries, etc.

Danger of falling:

- **Access to the cab using suitable handrails and provided steps; Keep 3 contact points (hands and feet) on the steps and handrails for access to the cab.**
- **Never grasp the joystick or steering wheel when installing or removing the machine.**
- **It is forbidden to use fork truck to lift personnel.**
- **It is forbidden to drill holes in the fork, and do not heat or weld the fork.**

Danger of tip-over:



- **Increase the load strictly according to the load curve graph.**
- **Ensure that the center of gravity of goods are close to the inside of the fork and do not drag the goods.**
- **Ensure that the road surface can support the machine weight, including the rated load.**
- **Avoid sudden start-stop, steering and driving, and prevent load from overturning.**
- **Do not use the machine at wind speeds above level 6.**
- **Do not drive and raise boom on slope exceeds the rated slope of the machine.**
- **Do not replace components of different weights or specifications that are critical to stability.**
- **It is forbidden to use outrigger or leveling cylinder to turn the machine over. The leveling cylinder and outrigger are only used to adjust the machine to level.**
- **Do not exceed the rated load of the machine.**
- **Do not drive at high speed under boom lift conditions.**
- **In high-speed driving mode, only front-wheel steering can be used.**
- **Transport the goods as low as possible and bind the load to limit its movement.**
- **Always keep the tire pressure within the normal range.**
- **Do not raise the boom when the chassis is not horizontal (0 °).**

Danger while driving:

- **Before moving the machine, make sure the road is clear and sound the horn.**
- **Check the working condition of the**

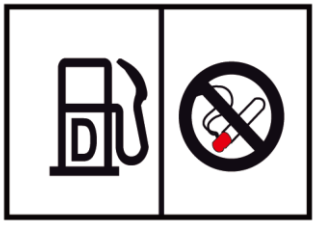
rearview mirror.

- The steering mode can only be changed when the machine is stationary or stopped.
- It is forbidden to go downhill at high speed.
- It is forbidden to drive fast in narrow or messy areas. The vehicle speed shall be controlled during turning or sharp turning.
- Excessively steep slope or unstable surfaces shall be avoided.
- Under no circumstances should you drive on an excessively steep slope.
- Never put the machine at N gear when going downhill.
- It is forbidden to drive on slope that exceeds the rated slope of the machine.

Danger of explosion/fire:

- The battery contains acidic substance. Wear protective clothing and glasses when using battery.
- Avoid spillage or contact with the acidic substance in the battery. Neutralize spilled battery acidic substance with soda and water.
- Do not operate the machine in an explosive or flammable environment.
- Do not touch high temperature parts.
- Do not touch battery terminals with metal objects.
- Do not repair the machine near sparks, open flames, lighted cigarettes.
- Do not expose batteries or electrical component to water, (high-pressure spray gun or rain).

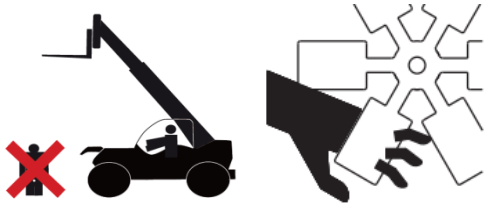
Chemical hazard:



- Do not allow engine to operate in a closed, narrow place, which can lead to the accumulation of toxic gases.
- Do not add fuel while the engine is running, and do not allow the fuel system to work near open flames, sparks, or high temperature. The engine fuel is flammable and may cause fire and explosion.
- Do not attempt to repair or tighten any hydraulic hose or joints while the engine is running or the hydraulic system is under pressure.
- Do not check by hand for leaks, pressurized hydraulic oil may penetrate the skin. Replace with cardboard or paper.

When checking the hydraulic system, wear gloves and goggles to prevent liquid splashing.

Danger of crushing and collision:



- When lifting and lowering the boom or before driving, check whether there are obstacles in the working area and whether there are any obstacles next to and under the boom.
- It is forbidden for personnel to work, stand or walk under the raised boom.
- When driving, non-operators must stay away from the machine.
- When driving, adjust the position of the boom to provide the best possible visibility and avoid any blind spots.
- When driving, the seat belt must be fastened.
- When driving, consider the parking distance of the machine, the influence of visibility reduction and blind spots.
- Keep away from the rotating parts on the machine and the parts that may be clamped.
- When operating the machine, please stay away from the tires, chassis, and other steering components.
- When rotating the turntable, pay attention to clarify the position of the boom and the tail of the turret.
- Make sure that the turret is fixed with a turret rotation lock before transportation.
- Make sure to unlock the turret during operation.

Danger of uncontrolled movement:

- Never use damaged or faulty machines.

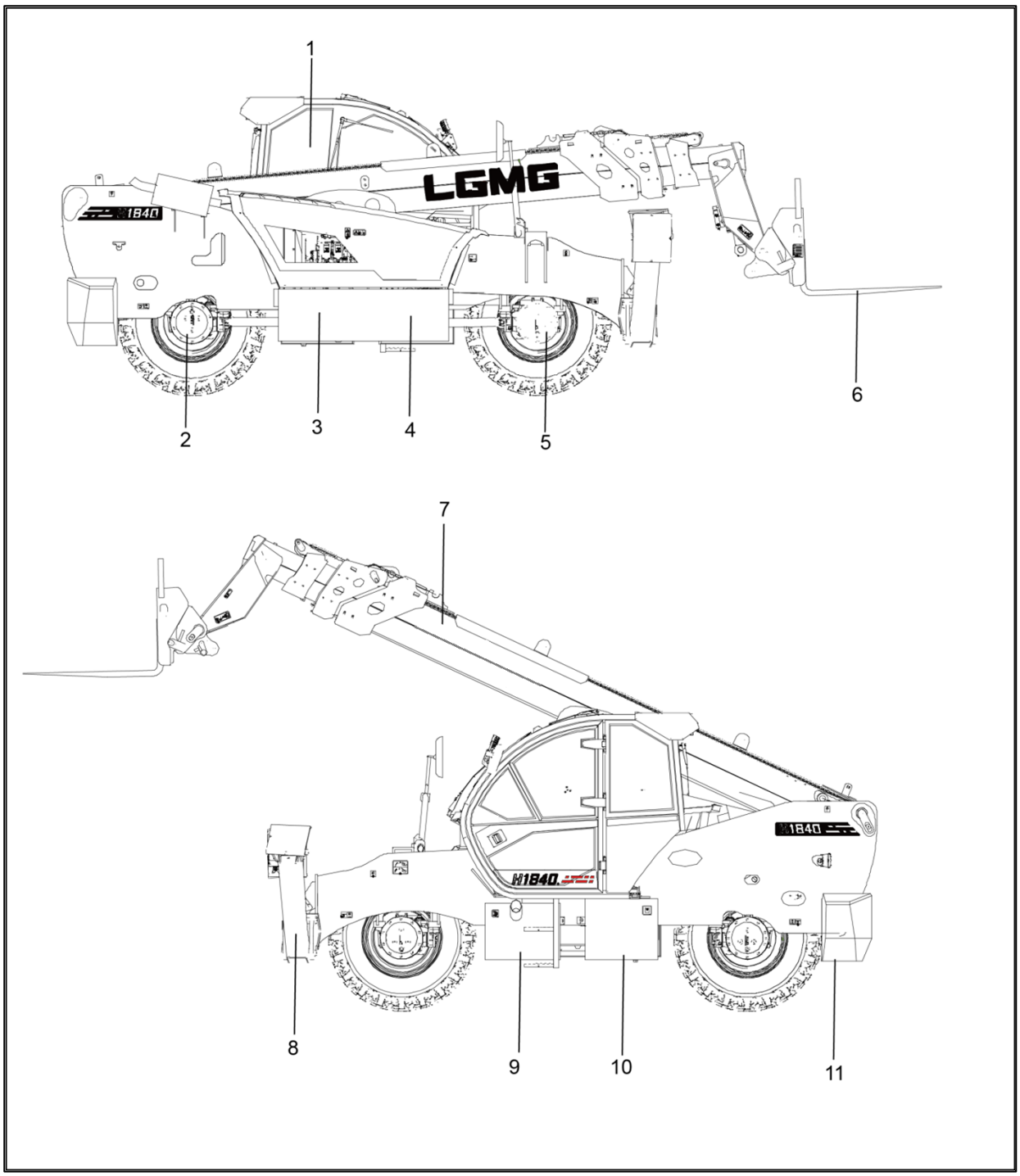
Always comply with the following rules:

- Keep a sufficient distance from the high-voltage line.
- Keep sufficient distance from generator, radar and electromagnetic field.

Chapter 2 Product Introduction

2.1 Legend of the whole machine

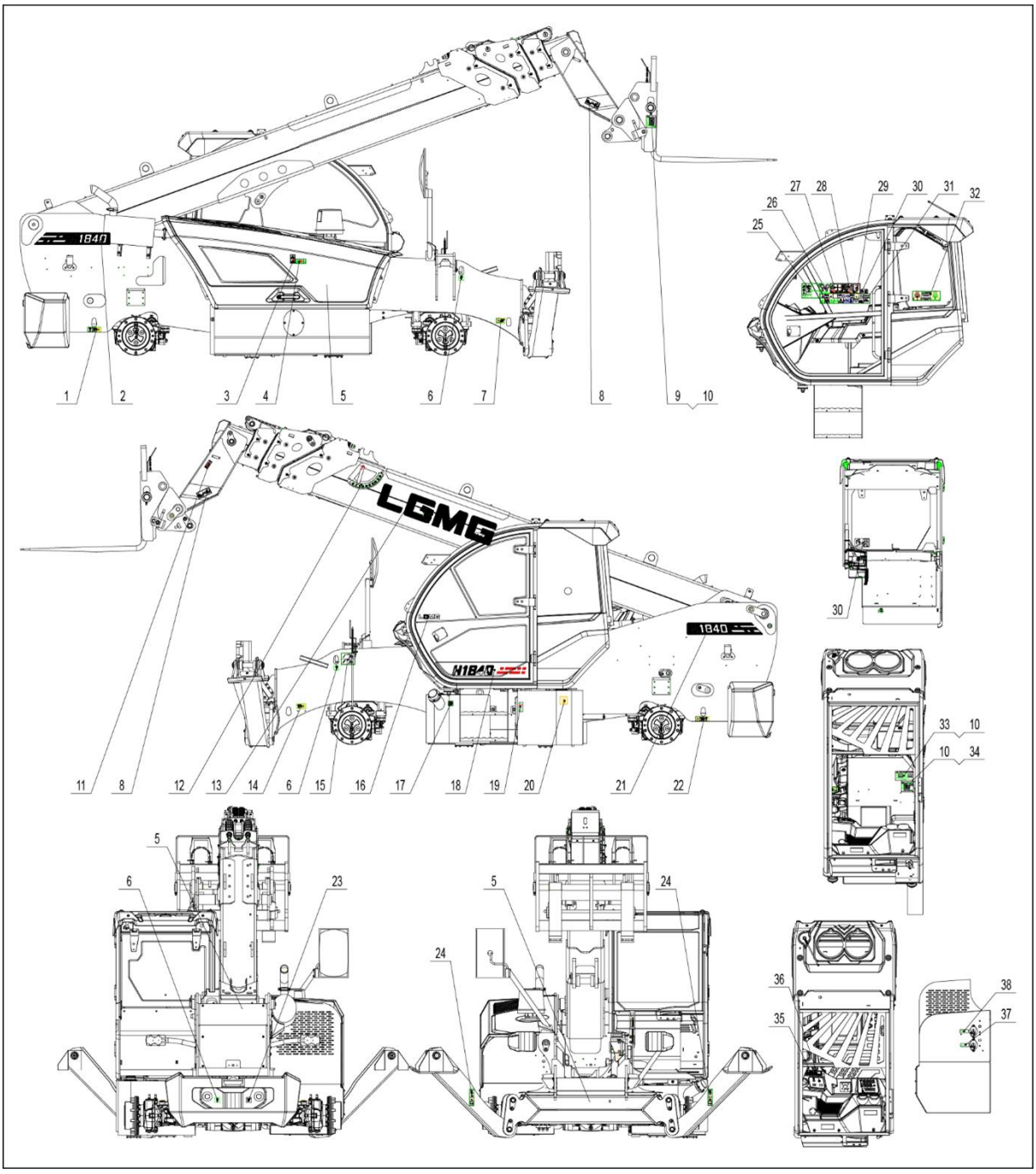
Legend of whole machine H1840

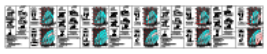
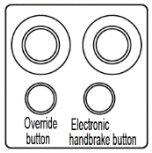
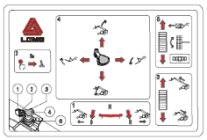
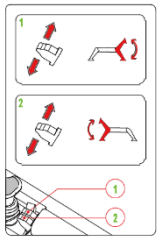
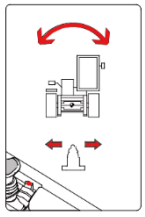


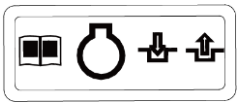
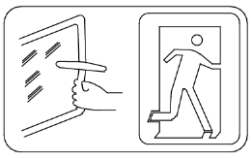
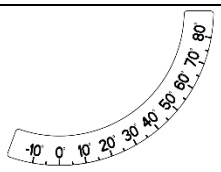
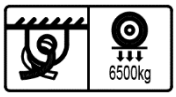
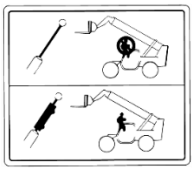
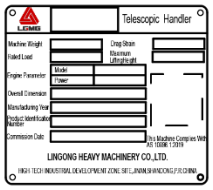
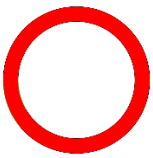
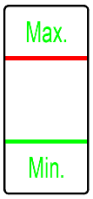
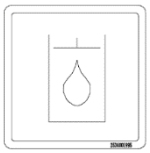
No.	Name	No.	Name
1	Cab	7	Boom
2	Rear axle	8	Outrigger mechanism
3	Engine and accessories	9	Fuel tank
4	Transmission	10	Hydraulic oil tank
5	Front axle	11	Counterweight
6	Accessory - fork		

2.2 Machine identification

H1840 mark



Name	Decal	Name	Decal
1.Decal-Tire hanging-H1840 (RH)		21.Decal-Model on the (LH) H1840	
2.Decal-RH model decal (H1840)		22.Decal-Tire hanging-H1840 (LH)	
3.DECAL		23.Decal-lifting eye	
4.Decal-In-box maintenance attention		24.Decal-Outrigger load decal	
5.Decal-LOGO-English-120		25.Decal-Range of motion-H1840 (AS)	
6.Decal-Lifting decal		26.Decal-Button description-H1840	
7.Decal-Anchoring & wheel load-H1840 (RH)		27.Decal-Combination handle operation decal	
8.Decal-Anti-squeeze safety		28.Decal-Outrigger handle operation decal	
9.Apparatus nameplate		29.Decal-Body leveling handle decal	

11.Decal-Change the instructions quickly decal		30.Decal-Safe escape	
12.Boom angle ruler		31.Decal-Warnings (cab, AS)	
13.Decal-LOGO-English-230		32.Power line electric shock mark	
14.Decal-Anchoring & wheel load-H1840 (LH)		33.Cab nameplate	
15.Decal-Maintenance attention decal		34.Complete machine nameplate	
16.Decal-Metal word on door		35.Decal	
17.Decal		36.Decal	
18.Decal-Model decal on cab		37.Start motor isolation	
19.Decal		38.Decal-Battery isolation decal	
20.Decal-Hyd oil decal			

2.3 Machine purpose

This machine is a telescopic boom fork loading truck equipped with telescopic boom for lifting, moving and placing materials.

WARNING:

- All other uses or modifications must be approved by Lingong Heavy Machinery Co., Ltd.
- Driving on soft, unstable or messy ground is not allowed.
- It is strictly prohibited to use it in places with strong magnetic fields that exceed the maximum allowable wind speed, explosive enoadvironment, storm.

2.4 Machine parameters

H1840 Machine parameters

1. Overall performance parameters

Item	Parameter	Item	Parameter
Rated load (kg)	4000	Boom lifting time (s)	11~17.5
Total weight (kg)	12350	Boom lowering time (s)	16~23.5
Maximum working height (m)	17.6	Boom extension time (s)	15~22.5
Maximum horizontal reach (m)	13.1	Boom retraction time (s)	11~18
First gear speed (km/h)	5	Extension time of leveling cylinder (s)	6~14
Second gear speed (km/h)	12	Retraction time of leveling cylinder (s)	9~16
Third gear speed (km/h)	20	Extension time of outrigger cylinder (s)	15~23
Fourth gear speed (km/h)	30	Retraction time of outrigger cylinder (s)	11~18
First reverse gear speed (km/h)	5	Minimum turning radius (m)	4.2
Second reverse gear speed (km/h)	12	Theoretical max. gradeability (no-load, stowed)	65%
Third reverse gear speed (km/h)	20	Leftward/rightward inclination angle of frame	±9°
Max. braking distance (no-load, stowed) (20 km/h) (m)	5.5	Drive type	4WD, 4WS

2. Main dimensions

Item	Parameter	Item	Parameter
Overall length (mm)	6280	Wheelbase (mm)	3070
Overall width (mm)	2442	Track width (mm)	1960
Overall height (mm)	2677	Min. ground clearance (mm)	410

3. Engine system

Item	Parameter	Item	Parameter
Model	1104D-E44T	Rated speed (r/min)	2200
Displacement (ml)	4400	Maximum torque (Nm)	420/1400rpm
Rated power (kW)	74.5	Emission standard	EU Stage III

4. Drive train

Item			Parameter
Transmission	Type		A/MT
	Gear		4 forward gears and 3 reverse gears
	Gear ratio	Forward gear	4.945/2.289/1.159/0.821
		Reverse gear	4.945/2.289/1.159
Front axle	Overall gear ratio		20.14
	Brake type		Multi-disc wet brake
Rear axle	Overall gear ratio		20.14
	Brake type		Multi-disc wet brake
Wheel assembly	Tire Model		440/80 R24
	Inflation pressure (MPa)		0.5

5. Hydraulic system

Item	Parameter
Type	Load sensitive system
Pump displacement (ml/r)	63
Maximum working pressure (MPa)	26
Steering system pressure (MPa)	19
Brake system pressure (MPa)	3.4

6. Electronic control system

Battery(Total)	Output voltage (V)	12
	20-hour Ah	180
Control system	Voltage (V)	12

7. Refilling capacity

Item	Condition	Grade	Capacity	Remarks
Hydraulic oil	Minimum temperature>-25 ℃	L-HV46 low temp. hydraulic oil	180L	Recommended Chevron
	-40 ℃ <minimum temp.≤-25 ℃	L-HS32 ultra-low temp. hydraulic oil		
	Minimum air temp.≤-40 ℃	No. 10 Aviation hydraulic fluid		
Engine oil	Working environment temp.-20℃ ~ 40℃	15W-40	9.5L	API CH-4
	Working environment temperature: -25℃ ~ 30℃	10W-30		
	Working environment temperature: -30℃ ~ 30℃	5W-30		
	Working environment temperature: -35℃ ~ 20℃	0W-20		
Diesel fuel	Ambient temp.≥4°C	#0 diesel fuel	150L	EN590

	Ambient temp.≥ -5ºC	#-10 diesel fuel		
	Ambient temp.≥ -14°C	#-20 diesel fuel		
	Ambient temp.≥ -29°C	#-35 diesel fuel		
Antifreeze	The lowest temp.≥ -25°C	The ethylene glycol content is 50%	12.5L	Meet ASTM D6210 standard

Item	Parameter	Item	Parameter
Hydraulic oil	180L (shrinkage state)	Front axle gear oil	10.6 L
Diesel fuel	150 L	Rear axle gear oil	10.6 L
Engine oil	9.5 L	Transmission gear oil	21.75 L
Antifreeze	12.5L		

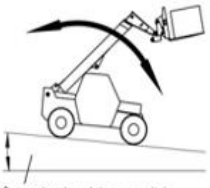
8. Vibration data

Measuring position	**Test basis**	**Driver**	**Mean value of vibration acceleration/(m/s²)**
Whole body vibration in the seat	EN 13059	75kg	0.75

9. Range of motion

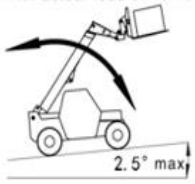
LIFTING
(stationary)

With actual load on forks

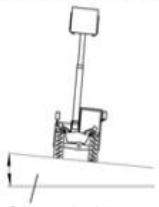


0° MAX(With stabilizing media)
0.55° MAX(Without stabilizing media)

With actual load on forks

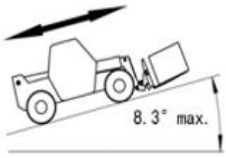


With actual load on forks

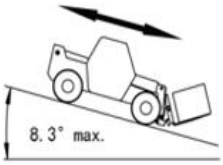


0.55° MAX(With stabilizing media)
0.5° MAX(Without stabilizing media)

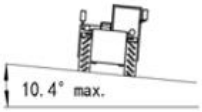
TRAVELLING
(pick & carry)



With rated load on forks



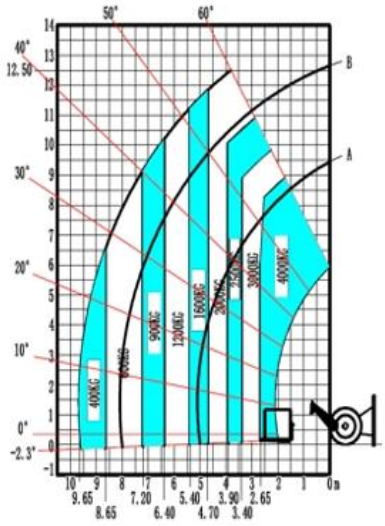
With rated load on forks

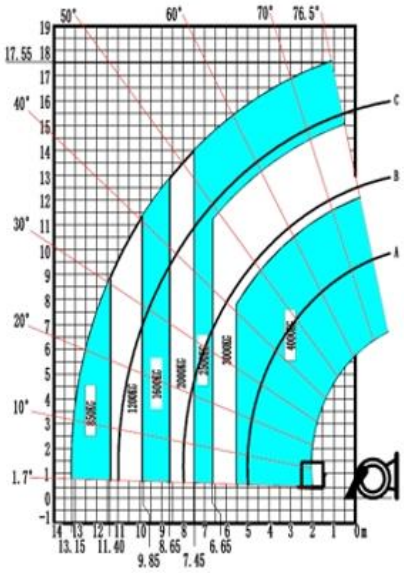


With rated load on forks

Pick & carry information
Truck configuration—
fully retracted with rated load no more than 300 mm above the ground

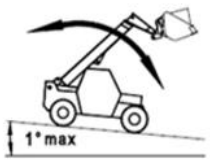
SPECFICATIONS FOR SAFE USE
1 Tyre size: 440/80R24(15.5/80R24)IND
2 Tyre pressure: 500kpa
3 Load centre distance: 600mm
4 Ground conditions:
solid surfaces for both lifting and travelling
slope ratings listed above for both configurations
5 Standard used: AS ISO 10896.1
6 Type of tyres: TL



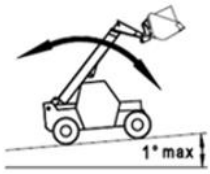


LIFTING
(stationary)

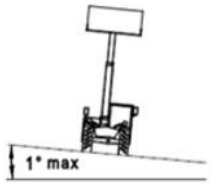
With actual load on bucket



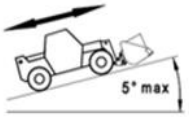
With actual load on bucket



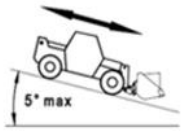
With actual load on bucket



TRAVELLING
(pick & carry)



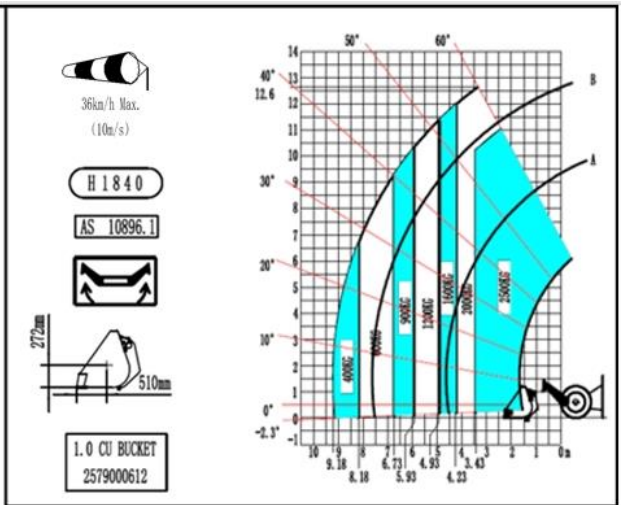
With rated load on bucket

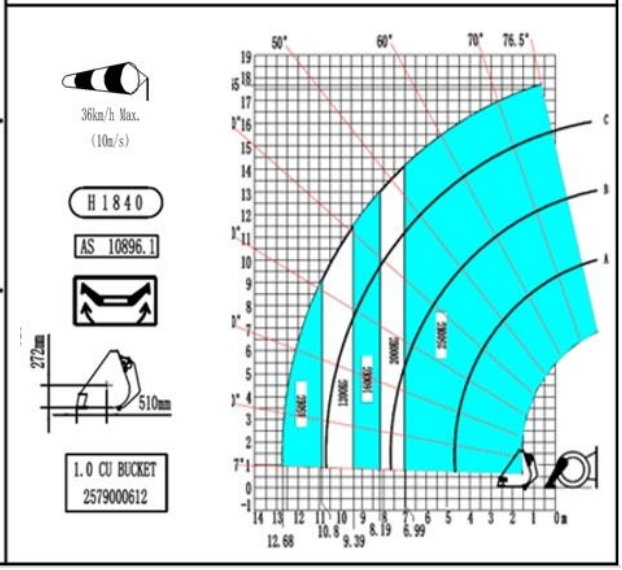


With rated load on bucket

With rated load on bucket

Pick & carry information
Truck configuration—
fully retracted with rated load no more than 300 mm above the ground

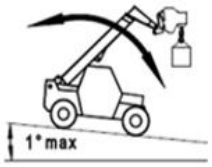




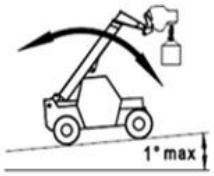
SPECFICATIONS FOR SAFE USE
1 Tyre size: 440/80R24(15.5/80R24)IND
2 Tyre pressure: 500kpa
3 Load centre distance: 249mm
4 Ground conditions:
solid surfaces for both lifting and travelling
slope ratings listed above for both configurations
5 Standard used: AS ISO 10896.1
6 Type of tyres: TL

LIFTING
(stationary)

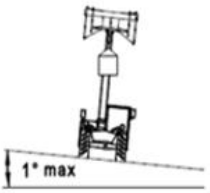
With actual load on hook



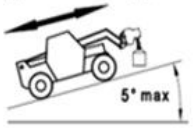
With actual load on hook



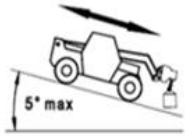
With actual load on hook



TRAVELLING
(pick & carry)



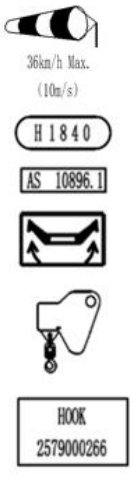
With rated load on hook

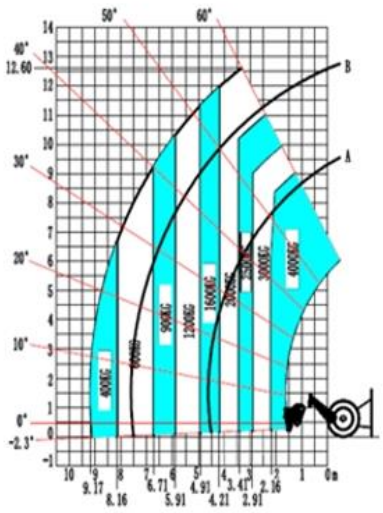


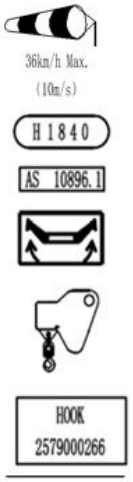
With rated load on hook

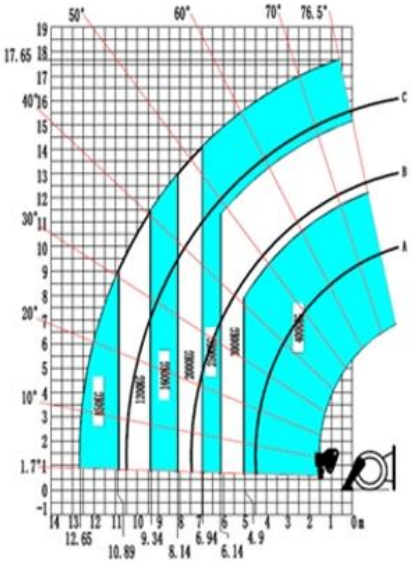
With rated load on hook

Pick & carry information
Truck configuration—
fully retracted with rated load no more than 300 mm above the ground





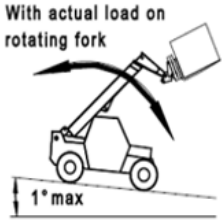




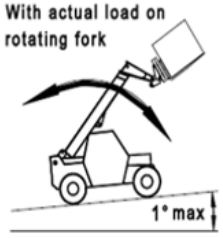
SPECFICATIONS FOR SAFE USE
1 Tyre size: 440/80R24(15.5/80R24)IND
2 Tyre pressure: 500kpa
3 Load centre distance: 339mm
4 Ground conditions:
solid surfaces for both lifting and travelling
slope ratings listed above for both configurations
5 Standard used: AS ISO 10896.1
6 Type of tyres: TL

LIFTING
(stationary)

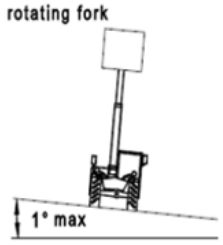
With actual load on rotating fork



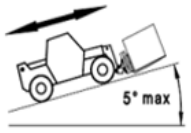
With actual load on rotating fork



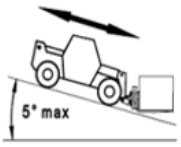
With actual load on rotating fork



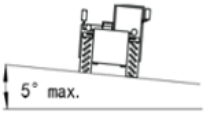
TRAVELLING
(pick & carry)



With rated load on rotating fork



With rated load on rotating fork

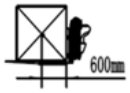


With rated load on rotating fork

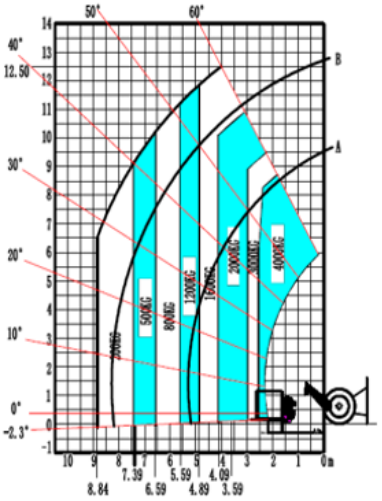
Pick & carry information
Truck configuration—
fully retracted with rated load no more than 300 mm above the ground

H 1840

AS 10896.1

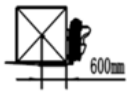


ROTATING FORKS
2579000601

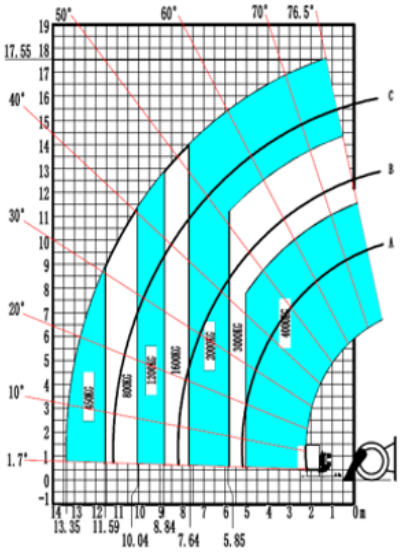


H 1840

AS 10896.1



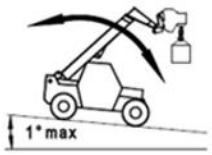
ROTATING FORKS
2579000601



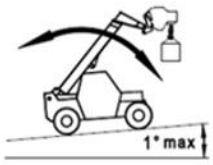
2 Tyre pressure: 500kpa
3 Load centre distance: 600mm
4 Ground conditions:
solid surfaces for both lifting and travelling
slope ratings listed above for both configurations
5 Standard used: AS ISO 10896.1
6 Type of tyres: TL

LIFTING
(stationary)

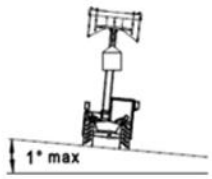
With actual load on hook



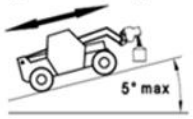
With actual load on hook



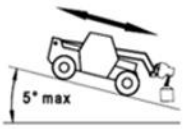
With actual load on hook



TRAVELLING
(pick & carry)



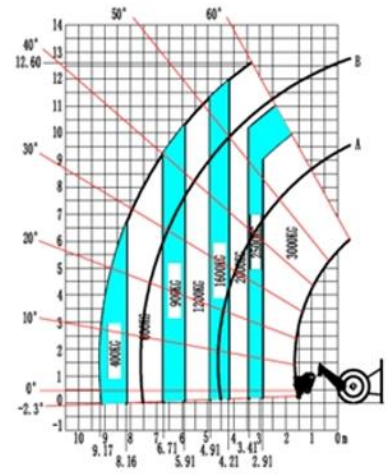
With rated load on hook

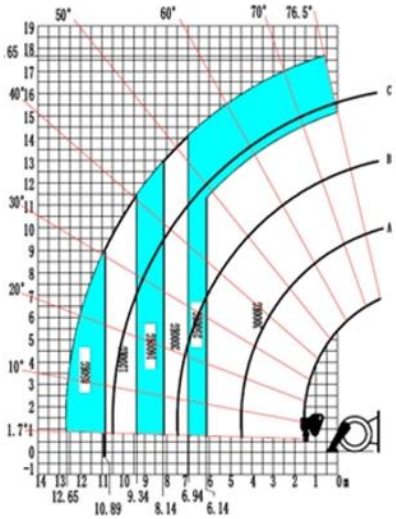


With rated load on hook

With rated load on hook

Pick & carry information
Truck configuration—
fully retracted with rated load no more than 300 mm above the ground

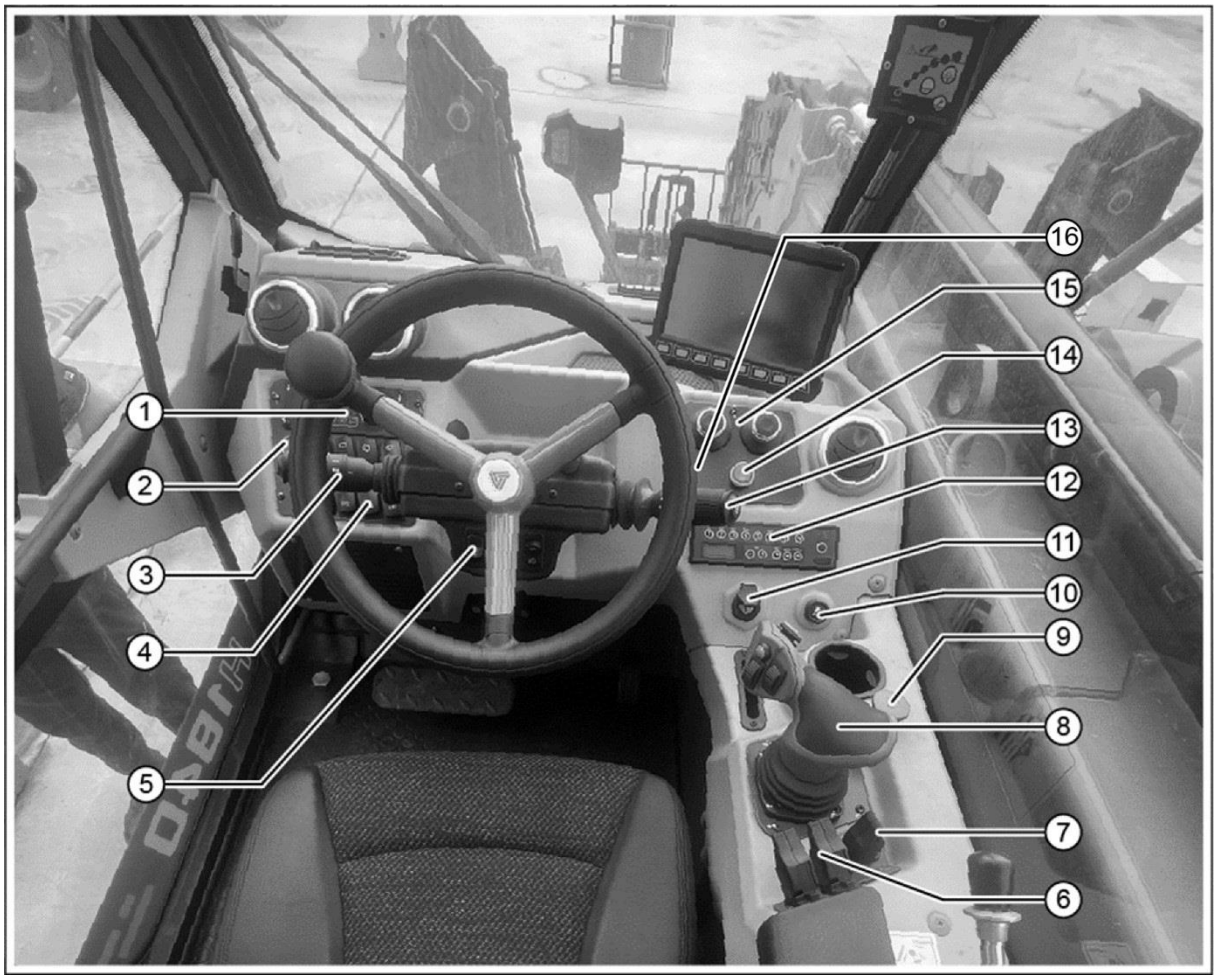




SPECFICATIONS FOR SAFE USE
1 Tyre size: 440/80R24(15.5/80R24)IND
2 Tyre pressure: 500kpa
3 Load centre distance: 339mm
4 Ground conditions:
solid surfaces for both lifting and travelling
slope ratings listed above for both configurations
5 Standard used: AS ISO 10896.1
6 Type of tyres: TL

Chapter 3 Use of Vehicles

3.1 H1840



Item	Name	Item	Name
1	Air conditioning panel	9	Emergency stop button
2	DPF Regeneration inhibit button	10	Cigarette lighter
3	Gear selector switch	11	Key switch
4	Rocker switch	12	Radio
5	Rocker switch	13	Combination switch knob
6	Outrigger controller	14	Electronic parking brake
7	Vehicle tilt correction controller	15	Mode selector switch (if equipped)
8	Hydraulic joystick	16	Override button

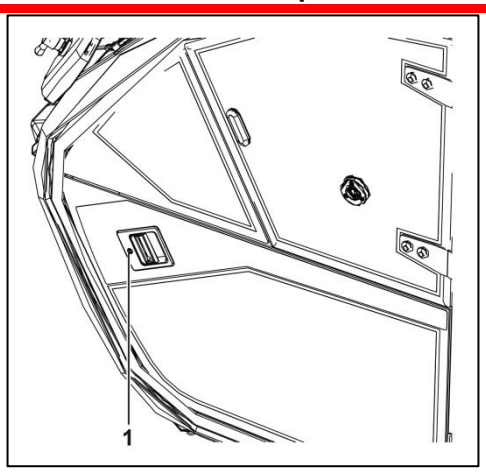


Fig. 3.1.1 Door Lock

Fig.3.1.2 Door switch

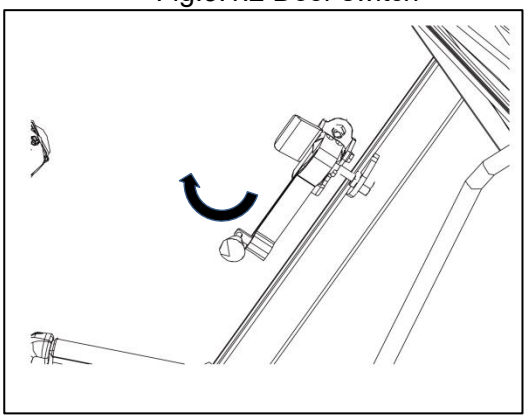


Fig. 3.1.3 Cab side window handle or joystick

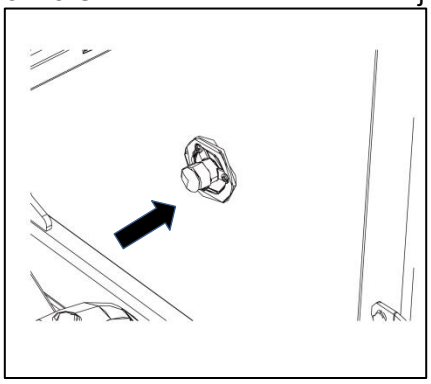


Fig. 3.1.4 Side window sucker

3.1 Operation of doors

⚠ WARNING: Never drive before the door is closed!

3.1.1 Use door switch from outside the vehicle

Open the door: the door is in a non-locked state, and the door can be opened by pulling the handle outwards; If the door is locked, insert the key, turn it 180 degrees clockwise, and then pull the handle outward to open the door.

Close the door: just close the door.

Lock the door: after closing the door, insert the key, rotate it by 180 degrees counterclockwise and withdraw the key. After locked, the door cannot be opened by pulling the outer handle.

3.1.2 Use the door switch from the inside of the car

Open the door: pull the door handle backward and then push the door outward to open the door.

Close the door: close the door directly.

3.1.3 Door side window

Open the side window: first lift the handle backward, turn on the locking switch, and then lift the handle horizontally to open the side window outward.

If it is necessary to fully open the side window: the opening side window can be rotated by 180 ° so that the side window glass is adsorbed on the rear side window suction cup.

⚠ CAUTION: This operation shall be carried out while the vehicle is stationary. Recover from fully open position: gently press the suction cup to disengage the side window glass.

Project	Parameter
Seat width	566mm
Seat height	1039mm
Fore-and-aft adjustment travel	76mm
Backrest angle adjustment	Forward tilt 20°
	Back tilt 15°
Driver weight adjustment range	45~145kg
Floating travel	±40mm

Table 3.2.1

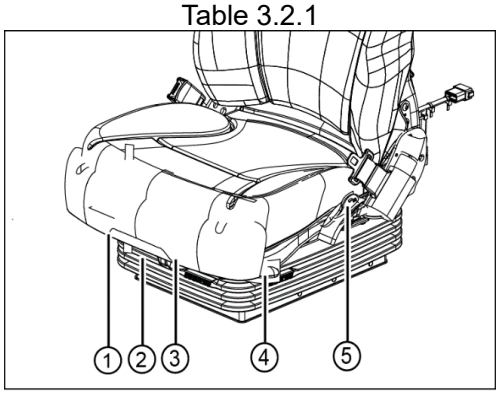


Fig.3.2.1 Seat

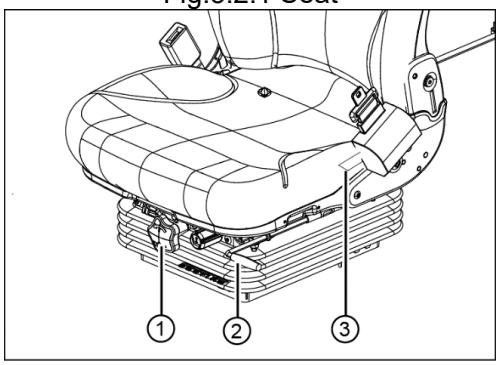


Fig.3.2.2 Seat (if equipped)

Project	Parameter
Seat width	529mm
Seat height	830mm
Fore-and-aft adjustment travel	±80mm
Backrest angle adjustment	Forward tilt 27.5 °
	Back tilt 12.5 °
Driver weight adjustment range	45~130kg
Floating travel	±45mm

Table 3.2.2

CAUTION: When leaving the vehicle, make sure that the doors and windows of the vehicle are closed and locked. Valuables should be carried with you and not placed in the cab.

3.2 Cab interior device

3.2.1 Seat

1. See Table 3.2.1 on the left for the main parameters of the seat

2. Seat adjustment operation method:

1) Seat cushion inclination adjustment: move the adjusting handle 3 upward, apply a downward force to the front end of the seat cushion, lower the front end of the seat cushion to the required position, and release the handle.

2) Damping effect adjustment: according to the driver's weight and road conditions, rotate handle or joystick 2 to adjust to a suitable position.

3) Adjustment of front and rear slip of seat cushion: lift up the slide rail joystick 1, adjust the seat cushion to the required position, and release the slide rail joystick.

4) Fore-and-aft adjustment of the seat: lift up the slide rail joystick 4, adjust the seat to the required position, and release the slide rail joystick.

5) Backrest angle adjustment: move the adjusting handle 5 upward, adjust to the required position, and loosen the handle.

6) Dirt may adversely affect the correct functioning of the seat. For this reason, make sure your seat is always clean.

Seat (if equipped)

As shown in Fig 3.2.2

1. See Table 3.2.2 on the left for the main parameters of the seat.

2. Seat adjustment operation method:

1) Damping effect adjustment: according to the driver's weight and road conditions, rotate the

handle or joystick 1 to adjust to a suitable position.

2) Fore-and-aft adjustment of the seat: lift up the slide rail joystick 2, adjust the seat to the required position, and release the slide rail joystick.

3) Backrest angle adjustment: move the adjusting joystick 3 upward, adjust it to the required position, and loosen it.

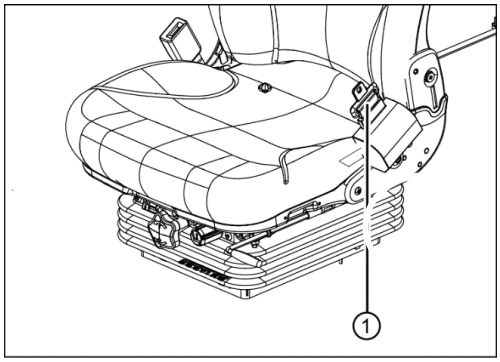


Fig.3.2.2-1 Seat belt

3.2.2 Seat belt

1) Sit on the seat correctly.

2) Check whether the seat belt is twisted or not.

3) Place the seat belt at the hip horizontal position.

4) Tie the seat belt and check whether it is locked or not.

5) Adjust the Seat belt to fit your body shape. Do not squeeze your hips or relax too much.

6) Release the Seat belt: press the red button lock catch, and then pull out the Seat belt.

⚠ DANGER: In any case, if the seat belt is defective (fixing, locking, cutting, tearing, etc.), telescopic handler shall not be used. The seat belt should be repaired or replaced immediately.

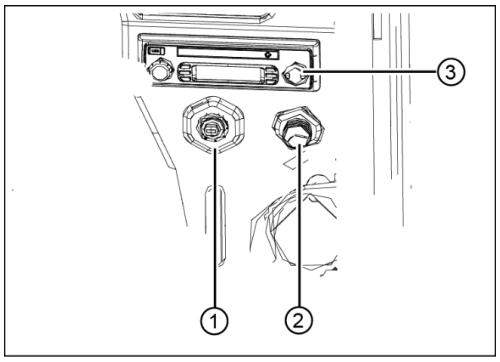


Fig.3.2.3

1. Key switch
2. Cigarette lighter
3. Radio (If equipped)

3.2.3 Key switch

Model	H1840	Remarks
Rotation position	Purpose	
P	Initial position	
O	Engine off, instrument lamp on	
I	Driving position	
II	/	
III	Starting engine	Automatic reset to drive gear

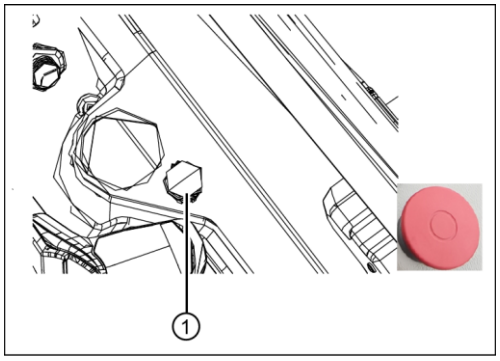
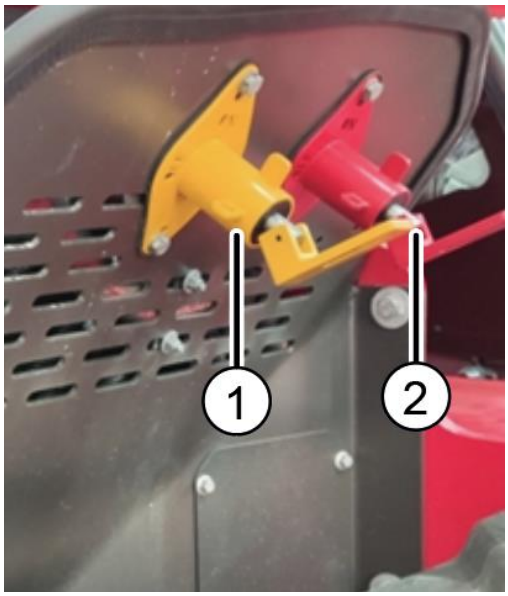


Fig.3.2.4 Emergency stop button

3.2.4 Emergency stop button

Once a dangerous situation occurs, press the button and the engine will stop immediately.

Reset the emergency stop button before restarting the vehicle, otherwise it cannot be started.



1. Main power switch
2. Engine isolation switch

Fig.3.2.5 Power Master Switch

⚠ WARNING: Before press the button, be sure to be prepared for the sudden stop of all hydraulic actions.

3.2.5 Power Switch

The power master switch is located on the front side of the hood. Includes main power switch and engine isolation switch (Currently closed)

Switch snap means connection

Switch release indicates disconnection

⚠ DANGER: The power master switch shall be disconnected during circuit inspection or welding.

⚠ CAUTION: When the machine is deactivated for a long time, please turn off the power master switch to avoid accidents. Don't turn off the power master switch until the engine stops working and the key switch is placed in P position.

3.2 Instrument panel

H1840 Instrument panel:

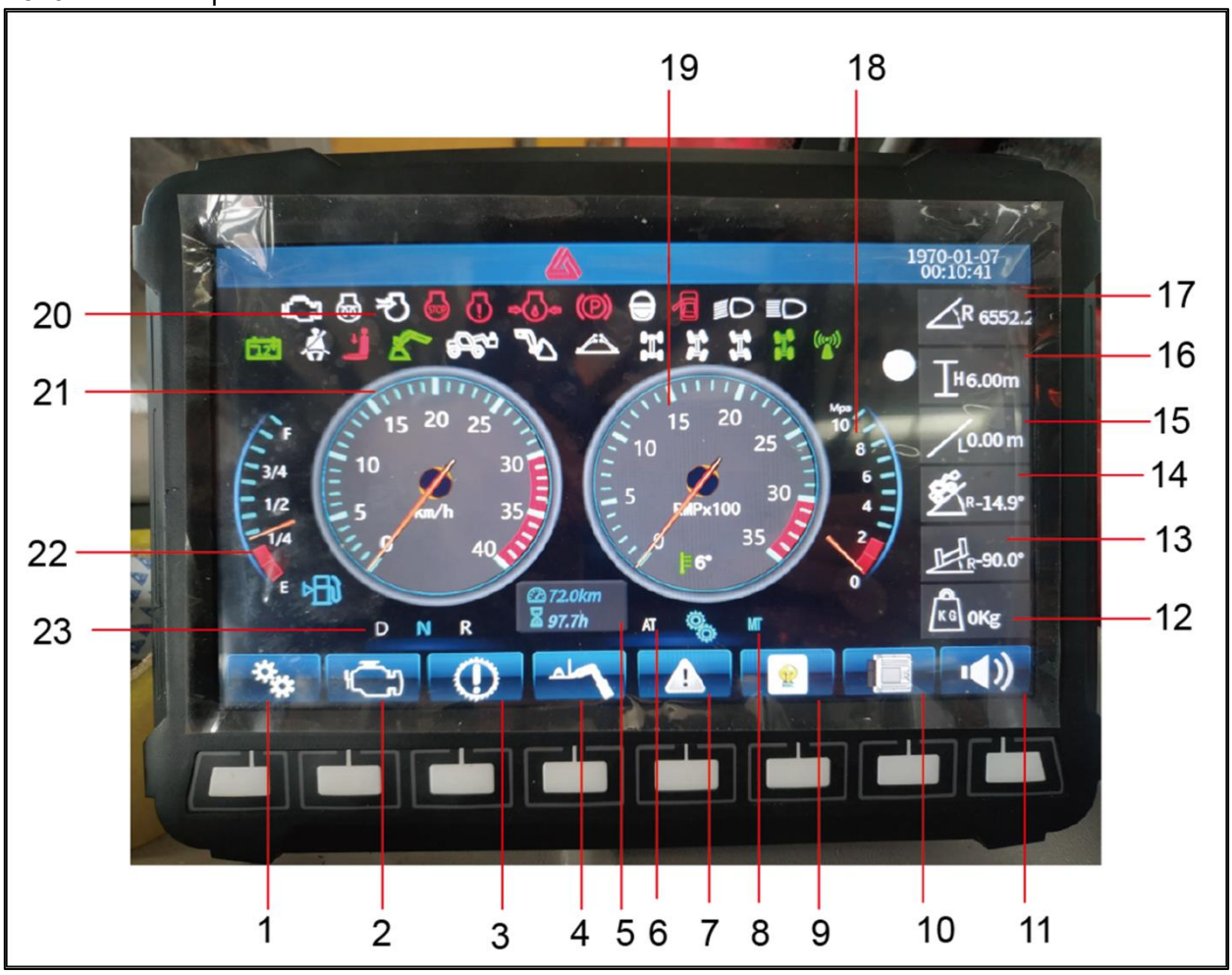


Fig.3.2.6 Display Instrument

No.	Name	No.	Name
1	Setting	13	Left and right inclination angle of vehicle
2	Engine system (if equipped)	14	Front and rear inclination angle of vehicle
3	Transmission system	15	Boom extension length
4	Boom system (if equipped)	16	Boom height
5	Usage time and total mileage	17	Boom derricking angle
6	Automatic gear display	18	Engine oil pressure
7	Fault alarm/Historical fault query	19	Engine speed
8	Manual gear display	20	Alarm symbol
9	Screen brightness adjustment	21	Driving speed
10	ECU port status (if equipped)	22	Fuel level
11	Voice/mute	23	Gear display
12	Accessory weight		Hydraulic oil quantity in hydraulic oil tank

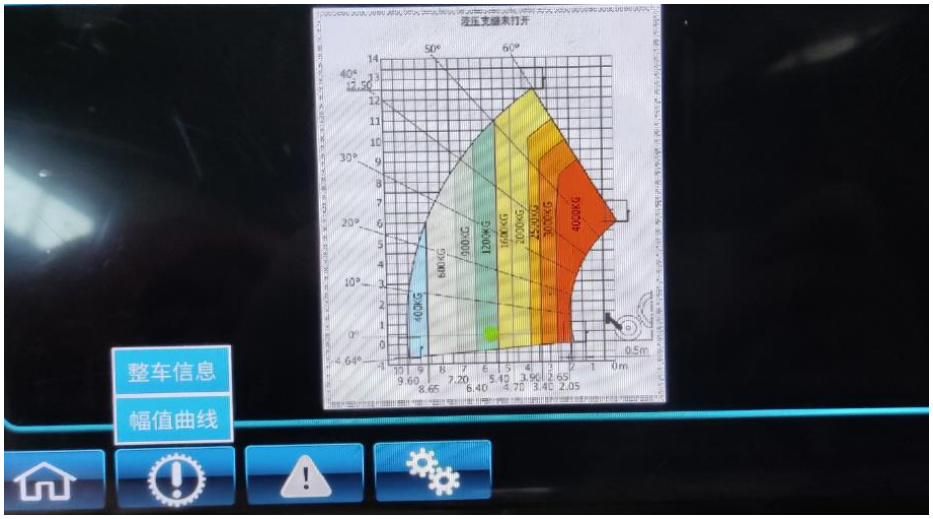
1. Back to main interface button

Press the back to main interface button to return to the main interface:

2. Machine information query button

Press the machine information query button to display complete machine information/amplitude curve

Amplitude curve (when the hydraulic outrigger is not open):



When using the machine, please operate within the range allowed by the amplitude curve.

⚠ Tip-over danger: The rated load shown on the amplitude curve is based on the fact that the machine is on a fixed level ground and the goods on the fork are evenly arranged; Tire pressure is normal and the vehicle is in good working condition.

3. Fault alarm/historical fault query button

Press fault alarm/historical fault query button to display fault alarm/historical faults

Current fault display:

4. Machine setting button

Press the machine setting button to set other options such as date modification, parameter setting, function query, and port query.

3.3 Rocker switch and symbol

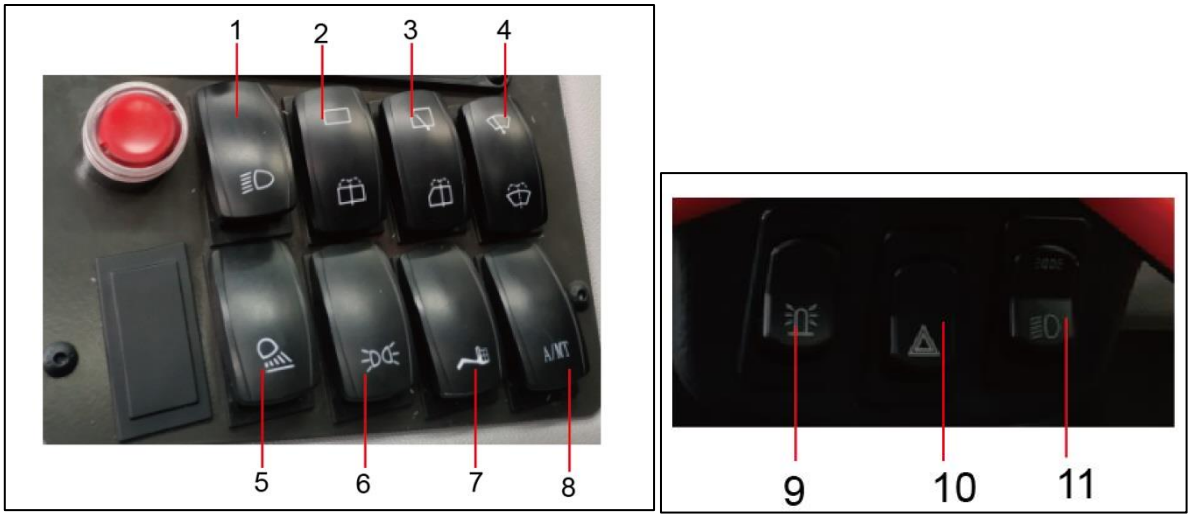


Fig.3.2.7 Rocker switch

No.	Name	Status	Function	Remarks
1	Front working lamp switch	0	Front working lamp function disabled	
		1	Front working lamp function enabled	Front working lamp drive
2	Rear window wiper spray switch	2	Rear window wiper function on	
		0	Function disabled	
		1	Rear window spray function on	Automatic reset
3	Side window wiper spray switch	2	Side window wiper function on	
		0	Function disabled	
		1	Side window spray function on	Automatic reset
4	Top window wiper spray switch	2	Top window wiper function on	
		0	Function disabled	
		1	Top window spray function enabled	Automatic reset
5	Rear working lamp switch	0	Rear working lamp function disabled	
		1	Rear working lamp function enabled	Rear working lamp drive.
6	Rocker switch of outline lamp	0	Function disabled	
		1	Function enabled	
7	Rocker switch of platform switching (if equipped)	0	Function disabled	
		1	Function enabled	
8	Manual/Auto rocker switch (if equipped)	1	Automatic gear engaged	
		2	Manual gear engaged	
9	Warning dome light switch	0	Function disabled	
		1	Function enabled	
10	Warning light switch	0	Function disabled	
		1	Function enabled	
11	Light switch	2	Outline light on	
		0	Function disabled	
		1	Low beam on	

Symbol and description

Symbol diagram	Description	Description
	Left turn light	When left steering or hazard warning switch is activated, it is always on or flashing
	Engine fault lamp	Light up red when Engine Fault alarm
	Engine preheating	Engine light up yellow when preheating
	Air cleaner blockage alarm lamp	When the A/C filter element is blocked, the indicator lights up red and the main filter element needs to be cleaned or replaced. (Refer to maintenance manual for replacement instructions)
	Engine stopped	Indicate when engine stops
	Engine fault indication	illuminate when the engine reports a fault
	Oil pressure alarm	Engine oil pressure failure
	Parking indication	Lights up when the parking brake is engaged
	Door open indication	The indicator lights up when the door is not fully closed
	Low beam	Low beam on indication
	High beam	High beam on indication
	Right turn light	When right steering or hazard warning switch is activated, it is always on or flashing
	Seat belt indication	When the seat belt is not tied, the indicator lights up
	Passenger departure indication	Determine if there are occupants on the cab seat After the alarm is given, the vehicle cannot move. The enable button needs be pressed before it resumes.
	Hook mode	The indicator will be on if the hook mode is enabled.
	Cage mode	The indicator will be on if the cage mode is enabled.
	Fork mode	When the fork mode is enabled, the indicator lights up
	Outrigger touchdown	Indication of outrigger touchdown
	Front and rear axle centering	Indication of front and rear axle centering
	4WS	Indication of 4WS mode enabled
	Crab	Crab mode enable indication
	2WS	2WS mode enable indication

	Battery power loss indication	It lights up when the battery voltage is lower than 9 V
	Wireless handle connection indicator light	This indicator light goes on when the wireless handle is connected
	Water-in-fuel indicator light	This indicator light goes on when the water content in the fuel filter is high, indicating that water draining is required
	Low DEF level indicator light (If equipped)	This indicator light goes on when the DEF level is low, indicating that the DEF of specified quality needs to be added immediately
	Emission fault indicator light (If equipped)	
	Engine Emissions System Temperature	Indicates that the Exhaust System may be hot as a DPF Regeneration is Active.
	Engine Emission Filter Active Regeneration Disabled	Indicates that the Aftertreatment Regen has been Inhibited due to the Inhibit Switch
	Engine Emission Filter Active Regeneration Required	Indicates that Active Regeneration of the DPF is required. For details on DPF active regeneration, refer to section “Active Regeneration”

Fig.3.2.8 Combination switch knob

Fig.3.2.9 Front windshield spray switch

3.2.8 Combination switch

3.2.8.1 Turn signal lamp

Pull the combination switch knob upward to turn on the right turn light; Pull the combination switch knob down to turn on the left turn light.

3.2.8.2 Headlamps

Press the rocker switch of the front working lamp, the middle on-position of the combination knob is the low beam, move the combination switch knob forward in the middle position to turn on the high beam, move the combination switch knob backward to turn on the instant beam, and release the joystick for the automatic reset of the low beam .

3.2.8.3 Wiper switch

Rotate the combination switch and select the required wiper swing gear.

0-closed position

J-Wiper intermittent gear

I-Wiper slow gear

II-Wiper fast gear

⚠ NOTE: Do not add ordinary water or other washing liquid into the washer fluid filler, and must add washer fluid for professional windshield washing.

3.2.8.4 Front windshield spray switch

Press the front windshield spray switch located at the end of the combination switch knob, then the front windshield sprays water, and the wiper works for 1-2 turns.

3.2.9 Enable switch

⚠ CAUTION: It is necessary to press the enable switch (F) for 1 second before boom luffing, boom extension and retraction, fork leveling, left and right outrigger, and frame adjustment. There will be a warning tone, and the white indicator on the control panel will turn green. If there is no action within 20s, you need to press the enable key again.

3.2.10 Hydraulic joystick

A. Boom lifting and fork tilting controllers

B. Boom extension and retraction control pulley

C. Left outrigger controller

D. Right outrigger controller

E. Vehicle tilt correction controller

F. Enable switch

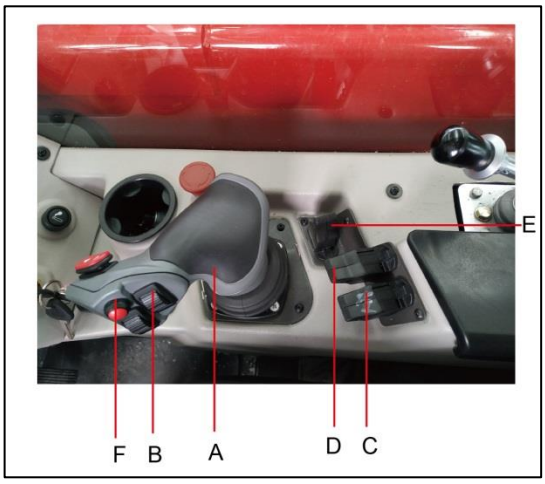


Fig.3.2.10 Hydraulic joystick

Boom lifting (luffing)

Press the Enable switch and the White indicator will turn green.

1） Move the controller A backward and the boom will rise

2） Move the controller A forward and the boom will drop

⚠ CAUTION: When the outrigger is not opened, the maximum derricking angle of the boom is 60 degrees.

Fork leveling

Press the Enable switch and the White indicator will turn green.

1） Move controller A to the left, then the fork tilts backwards

2） Move controller A to the right, then the fork

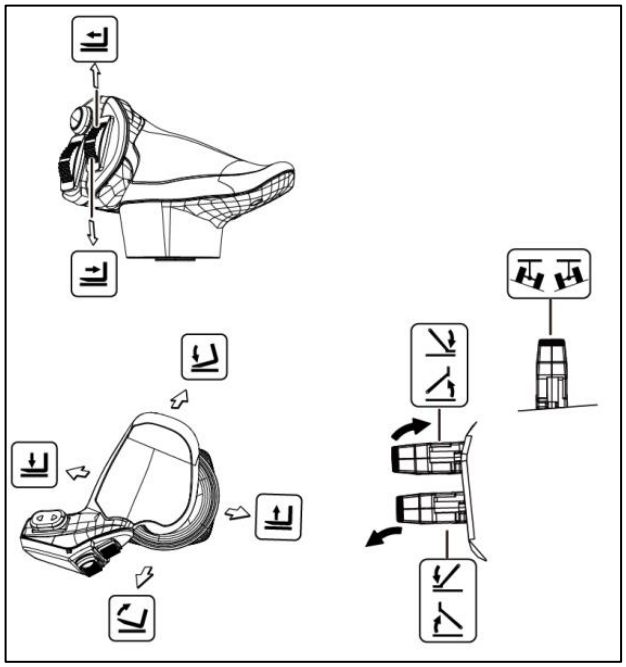


Fig. 3.2.11 Schematic diagram of manipulation

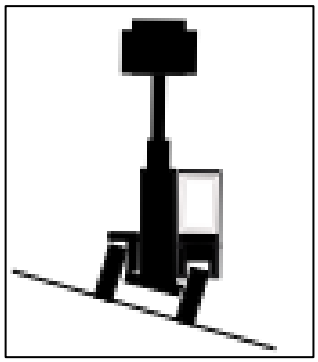


Fig.3.2.12 Tilt correction

1. Brake pedal 2. Accelerator pedal

tilts forward

Boom extension and retraction

Press the Enable switch and the White indicator will turn green.

1） Roll up pulley B, then the boom will extend

2） Roll down pulley B, then the boom retracts

Outrigger operation

Press the Enable switch and the White indicator will turn green.

H1840:

1） Outrigger extending: move the controller CD down

2） Outrigger retraction: move the controller CD up

⚠ CAUTION: When the boom is extended, the outrigger can be extended, but cannot be retracted; When the boom is retracted, the outrigger can be retracted after the derricking angle is less than 60 degree.

Tilt correction of vehicle

Press the Enable switch and the White indicator will turn green.

1） Move the joystick E to the left to tilt the telescopic handler to the left.

2） Move the joystick E to the right to tilt the telescopic handler to the right.

⚠ CAUTION: Tilt correction can only be carried out when the derricking angle of the boom is less than 30 °.

3.2.11 Accelerator pedal

Accelerator pedal control Engine speed.

3.2.12 Service brake pedal

The Service brake pedal acts on the front and

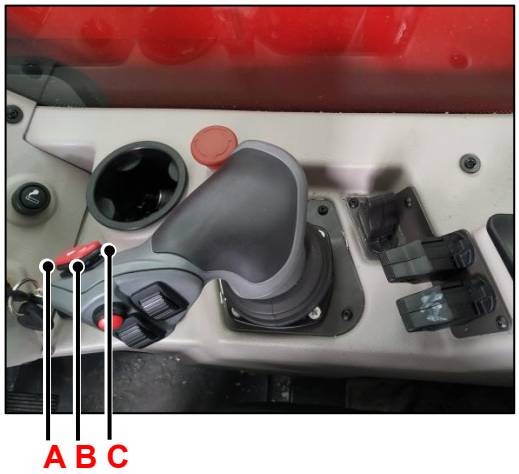


Fig.3.2.15 D Gear/N Gear/R Gear

1. Steering wheel 2. Gear switch 3. Horn

Fig.3.2.16 gear switch

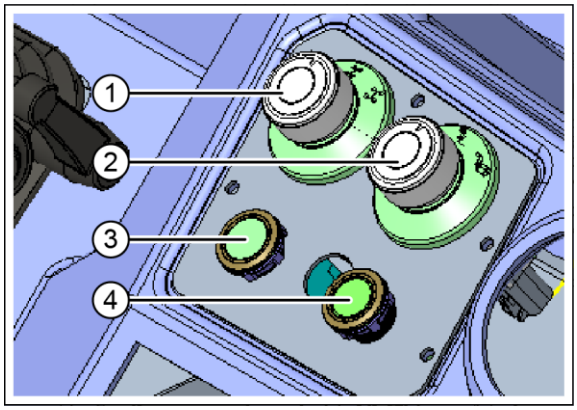


Fig.3.3.17 selector switch

1 Steering mode selector switch (If equipped)
2 Driving mode selector switch (If equipped)
3 Override button (If equipped)
4 Electronic parking brake (If equipped)

rear wheels by boosting the hydraulic Brake system to slow and stop the Telescopic handler.

3.2.13 D-gear/N gear/R gear

1) D gear: press the front of the switch (position A).

2) N gear: middle position (position B).

3) R gear: press the rear of the switch (position C), and the reversing lamp and reversing alarm sound to indicate that the vehicle is reversing.

⚠ CAUTION: When gear from D gear to R gear or from R gear to D gear, switch gears to N gear and pause briefly. During gear switching, the vehicle shall be kept stationary and the brake pedal to the bottom.

3.2.14 Variable speed gear switch

⚠ CAUTION: The gear shall be carefully selected according to the nature of the work performed. Improper selection will cause the transmission fluid temperature to rise rapidly, which may lead to serious damage to the transmission.

H1840 Telescopic handler fitted with four gears

In general, we recommend that you use the following gears according to the nature of your work.

- On the road: Start at 3rd gear, if the road conditions and status permit, then rise to 4th gear. In hilly areas, if conditions and road conditions permit, you can start in 2nd gear and then in 3rd gear.
- When the trailer is on the road: start in 2nd gear and shift to 3rd gear if road conditions and conditions permit.

Fig.3.2.18 Steering Mode Switch

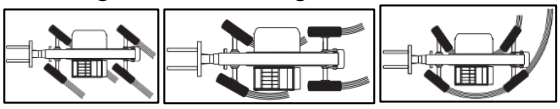


Fig.3.2.18-1 Steering Diagram

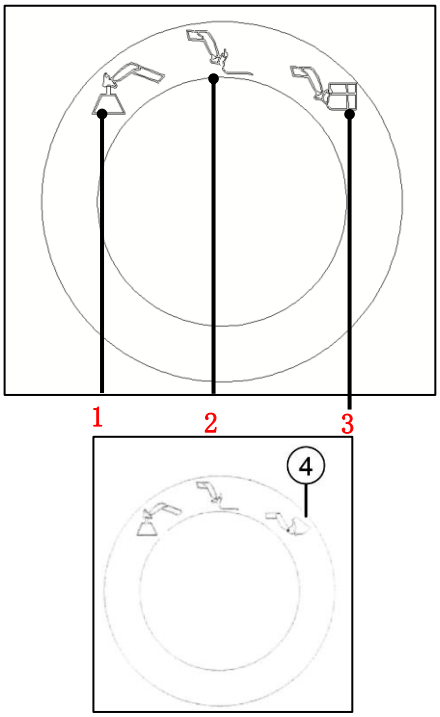


Fig.3.2.18-2 Driving Mode Selector Switch

- Carrying earth: 1st gear.
- Loading fertilizer, etc.: 2nd gear.

⚠ CAUTION: When increasing or decreasing gears, reduce gears step by step and increase gears step by step.

3.2.15 Steering mode

1. Steering positioning indicator
As shown in Fig.3.2.18:
These lights come on to indicate the location of the wheel relative to the body. Lamp A1 is used for the front wheel and lamp A2 is used for the rear wheel.

2. Positioning control of the wheel
As shown in Fig.3.2.17:
Turn steering mode selector switch 3 to position 7 (4WS). Turn the antifreeze and align the rear wheels until light A2 comes on.

Turn steering mode selector switch 3 to position 8 (2WS). Turn the antifreeze and align the front wheels until light A1 comes on.

3. Steering shift switch

As shown in Fig.3.2.18:

9: Front/rear drive wheel steering direction is the same (Crab).

8: 2WS.

7: Front/rear drive wheel steering direction is opposite (4WS).

3.2.16 Driving mode

1. Hook mode: can be used with crane.

2. Handling mode: applicable to fork and adjustable accessory and bucket on fork.

3. Platform mode: reserved.

4. Bucket mode: reserved.

If there is no operating , it can be operated through the display screen.

Please refer to the 4.12.8

3.2.17 Longitudinal stability limit and alarm (if equipped)

The machine is equipped with a

longitudinal torque monitoring device to measure the longitudinal stability of the vehicle. The reduction calibration of the monitoring device is carried out in the rear wheel alignment when the machine is stationary on the horizontal ground.

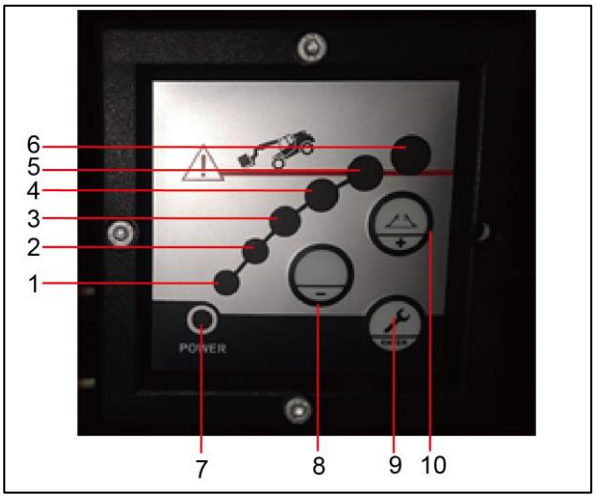


Fig.3.2.19 Longitudinal Stability Limit and Alarm

⚠ WARNING: Longitudinal stability limit and alarm are directly related to the stability of the machine. It is not allowed to modify or calibrate without permission. If you need to modify or calibrate, please contact our service personnel.

No.	Description
1	Green indicator light is on, with no sound
2	Green indicator light is on, with no sound
3	The yellow indicator light is on, the alarm makes intermittent sound, and the vehicle is nearly overloaded
4	The yellow indicator light is on, the alarm makes intermittent sound, and the vehicle is nearly overloaded
5	The red indicator light is on, and the alarm makes a continuous sound Vehicle overloaded
6	The red indicator light is on, and the alarm makes a continuous sound Vehicle overloaded
7	Power indicator
8	Backspace key
9	Multiply key/Indicator of outrigger in proper position
10	OK button

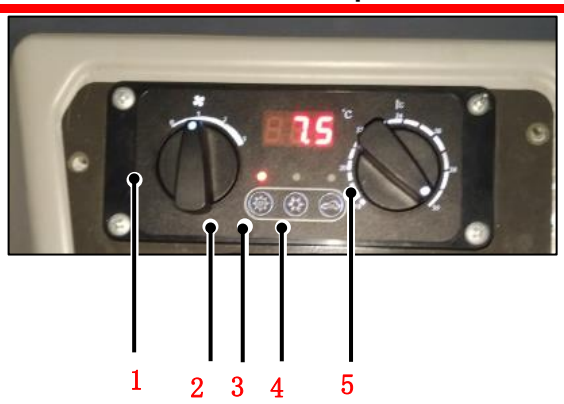


Fig.3.2.43 Air conditioning panel

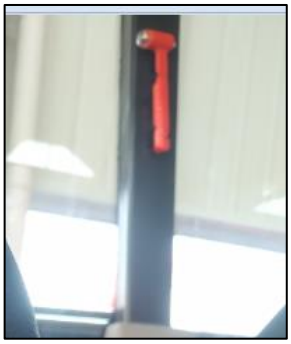


Fig.3.2.45 Emergency hammer

1. Rear combination lamp 2. Cab rear working lamp 3. Front combination lamp

Fig.3.3.1 Working lamp

Fig.3.3.2 Rearview mirror

3.2.18 Air Conditioner

1. Air volume knob: rotating to the right will increase the air volume.
2. Heating switch: press the button and the indicator will light up, indicating that the heating mode is on
3. Cold air switch: press the button and the indicator will light up, indicating that the cold air mode is on
4. External circulation: press the button and the indicator lights up, indicating that the external circulation is on
5. Temperature adjustment knob: increase the temperature by rotating the knob to the right.

3.2.20 Emergency Hammer

It is located on the right side window of the cab and used in case of emergency.

3.3 Cab exterior device

3.3.1 Working lamp

1. Rear combination lamp (including indicator, brake lamp, tail lamp and fog lamp)

2. Cab rear working lamp

3. Front combination lamp (including indicator, low beam, high beam and side lights)

3.3.2 Rearview mirror

One on the left and one on the right

Before driving, adjust the rearview mirror to the appropriate angle

3.3.3 Towing pin and hook

The device is located at the rear of the telescopic handler and is used to connect the trailer and the fixed points when the vehicle is transported.

Check the condition of the trailer (tire condition and pressure, electrical connection, Hydraulic hose, Brake system, etc.) before using the trailer.

Fig.3.3.3 Towing pin and hook

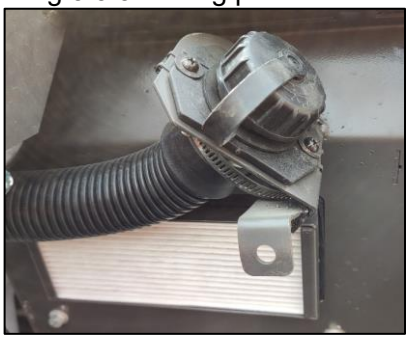
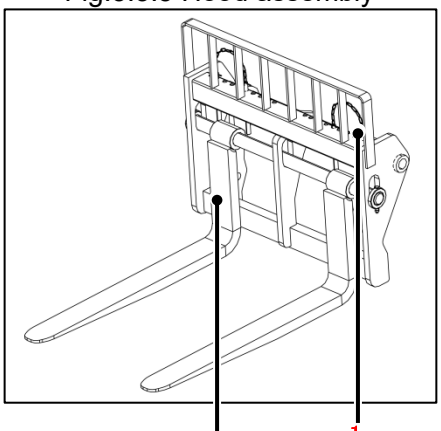


Fig.3.3.4 Washer fluid filler

Fig.3.3.5 Hood assembly



1. Limit bar 2. Fork

Fig.3.3.6 Fork assembly

⚠ CAUTION: Do not tow trailers or accessories with unsatisfactory working conditions. The use of trailer in severe conditions may affect the steering and braking of the forklift, thus affecting safety.

3.3.4 Washer fluid filler

Open the washer fluid filler cap and fill the glass water, and the washer fluid level cannot be less than 1/4.

3.3.5 Hood assembly

⚠ Do not step on it!

Please open the cover when repairing or maintaining the engine system and transmission system.

3.3.6 Fork assembly

Adjust the fork spacing to an appropriate distance when using.

⚠ DANGER: No people shall be allowed on the fork!

Chapter 4 Operating Instructions

4.1 Precautions

1) Perform routine maintenance.
2) Ensure that the lights, indicator and windshield wipers are working properly.
3) Ensure that the rearview mirror is in good condition, clean and adjusted correctly.
4) Make sure the horn works properly.
5) When entering and leaving the driver's seat, always face the vehicle and keep 3 contact points (hands and feet) on the steps and armrests.
6) Do not use headphones to listen to radio or music during operation.
7) Do not operate the machine when oil is stuck on your hands or feet.
8) Under no circumstances can the seat be adjusted while the vehicle is moving.
9) It is forbidden to extend an arm or leg or any part of the body out of the cab.
10) Seat belt must be worn.
11) It shall be forbidden to carry people on the telescopic handler or in the cab.
12) No person shall be close to the working area of the telescopic handler or pass under the boom load.
13) Before lifting or removing the load, ensure that the ground under the wheels and the outrigger is stable and firm.
14) Never pile up goods on uneven ground, otherwise it may tip over.

4.2 Inspection before operation

4.2.1 Basic principles

1) Inspection and routine maintenance before performing the operation are side window's responsibilities.
2) The pre-operation inspection is a very intuitive inspection process, which is performed by the side window before each job change. The purpose of the inspection is to find out if there is an obvious problem with the machine before the side window is used.
3) Inspection before operation can also be used to determine whether routine maintenance procedures are required. Side window can only perform routine maintenance items specified in this manual.
4) Please refer to the list on the next page and check each item.

5) If damage or any unauthorized change from the factory state is found, mark the machine and stop using it.
6) Only qualified maintenance personnel can repair the machine. After the maintenance, perform the inspection before operation again.
7) According to the manufacturer's regulations and the requirements listed in the manual, regular maintenance inspections shall be performed by qualified maintenance personnel.

4.2.2 Inspection before operation

1) Ensure that the manual is complete, easy to read, and kept in the file box on the platform. To replace any manual, please contact the service personnel of LGMG.
2) Ensure that all labels are clear, legible and properly located. Please see the "Label" section. To replace the labels, please contact the service personnel of LGMG.
3) Please refer to the "Maintenance" section to check if the hydraulic oil leaks; check if the oil level is appropriate, and add hydraulic oil as needed.
4) Check if the battery fluid leaks and the wiring is firm.
5) Please refer to the 'maintenance' section to check whether the engine oil leaks and whether the oil level is appropriate, and add oil as needed.
6) Check whether the engine fuel leaks and whether the fuel level is appropriate. When the fuel level is low, please add fuel in time.
7) Check the engine indicator, if the indicator is on, immediately make sure the engine is off, and mark the machine. Contact service personnel for troubleshooting.
8) Refer to the "maintenance" section, check whether the engine coolant leaks and whether the lithium-based grease is appropriate, and add coolant as required.
9) Inspect the following parts for damage, improper installation, loose or missing parts and unauthorized alteration:
   - Electrical plugs, wiring and cables
   - Joystick, rocker switch
   - Inclination sensor, long angle sensor, pressure sensor
   - Display screen, alarm indicator,

flashing light, horn

- Valve block, hose, hydraulic connector, cylinder, motor, reducer
- Fuel tank and hydraulic oil tank
- Boom slider lubrication, tire pressure, slewing bearing
- Front axle, rear axle
- Outrigger
- Engine and its accessories
- Rearview mirror
- Fork and other attachments
- Nuts, bolts and other fasteners

Inspect the entire machine to check:

- the welds or structural parts for cracks
- the machine for dent or damage
- Serious rust, corrosion or oxidation

Ensure the integrity of all structural parts and other key components. All relevant fasteners and pins are in the correct position and tightened.

After completing the inspection, ensure that the hood is properly positioned and locked.

4.3 Workplace inspection

4.3.1 Basic principles

1) Workplace inspection can help side window judge whether the workplace can ensure the safe operation of the machine. The side window shall first perform this work before moving the machine to the workplace.

2) It is the duty of the side window to understand and remember hazardous matters in the workplace, which can be noted and avoided when moving, installing and operating the machine.

4.3.2 Workplace Inspection

Be careful and avoid the following dangerous situations:

- Steep slope or cave
- Protrusions, ground barriers or debris
- Inclined surface
- Unfirm or smooth surface
- Obstacles in the air and high voltage wires
- Surface support insufficient to withstand all the load forces exerted by the machine
- Instantaneous wind speed
- The temperature and humidity of the operating environment exceeding the temperature and humidity

requirements.

- Unauthorized personnel appear
- Other possible unsafe situations

4.4 Startup

4.4.1 Safety precautions

1) Only when the side window is sitting in the cab, adjusting and fastening the seat belt can the fork loading be started or operated the telescopic handler.
2) Do not start telescopic handler by pushing or pulling. This operation may cause serious damage to the transmission. If necessary, the transmission must be in neutral when the traction fork is loaded in an N gear.
3) If starting with an emergency battery, please use a battery with the same characteristics, first disconnect the power switch, and follow the battery polarity when connecting. Connect the positive terminal first and then the negative terminal.
4) Check the closing and locking of the hood.
5) Check if the D gear / N gear / reverse selector is in N gear

4.4.2 Start-up

1) Place the gear selector in the N gear.
2) Turn the key switch, start the electrical system and preheat (automatically preheat).
3) Check whether the symbol of the control panel is normal. If not, troubleshoot the problem before starting the machine.
4) Check whether the fuel level on the indicator is normal, and if it is not normal, add fuel. Set the key switch to P gear when adding fuel.
5) Turn the key switch to gear III, start the engine, and reset the key switch to the driving gear. Run the engine at idle speed for 3 to 5 minutes and run the engine at idle speed in cold weather for at least 5 minutes. The engagement time of the starter motor shall not exceed 15 seconds. If the engine does not start successfully, wait 2 minutes before starting again.
6) If the meter display is incorrect, stop the internal combustion engine and perform the necessary operations immediately.

4.5 Driving

4.5.1 Safety precautions

1) Do not perform operations beyond the telescopic handler or fork capacity.
2) Retract the boom, and lower the fork to 300mm level from the ground. (Transport location)
3) Only load balanced and properly secured

load to avoid the risk of load falling off.

4) When loading, the driving speed of the telescopic handler shall not exceed 12 Km/h.
5) When the vehicle is running, it is forbidden to operate the boom.
6) It is forbidden to change the steering mode when driving.
7) It is forbidden to change the forward/reverse mode when driving.
8) When braking, apply the brake and do not suddenly brake.
9) Never drive on ditch edges or steep slopes.
10) Drive slowly on wet, slippery or uneven terrain.
11) Ensure that the service brake is working properly.

4.5.2 Driving

1) Retract and lower the boom.
2) Select the appropriate gear.
3) Select a suitable steering mode. Before changing the steering mode, set the wheel to the center. For more information about the wheel centering, see 3.2.15 steering mode.
4) Press the horn before driving to remind others that the vehicle is about to start.
5) Release the parking brake.
6) Select the forward/reverse mode, accelerate slowly, and use the lights and rearview mirror reasonably according to the driving direction.

4.5.3 Braking

CAUTION:

- **Do not start the vehicle until the parking brake symbol goes out!**
- **In some cases, the braking force of the parking brake may not be sufficient to park a fully-loaded vehicle on an uphill/downhill road, so when parking on a hill, the wheel shall be chocked.**

To stop the vehicle smoothly, follow the following steps:

1) When the car is running, loosen the accelerator pedal first and reduce the speed.
2) Gently press the brake pedal to stop the vehicle when it is about to approach the parking place.
3) After the car is stopped steadily, put the gear selector in neutral position, and then press the electrical parking brake switch

to make it in braking state.

When braking, pay attention to the following matters:

1) When braking, if there is no emergency, avoid stepping on the brake pedal to the end quickly and violently and without loosening it. Excessive braking may cause personal injury or damage to the whole vehicle parts.
2) When driving, if the low hydraulic pressure alarm symbol of the brake system is on, stop the vehicle immediately to find out the cause and eliminate it.

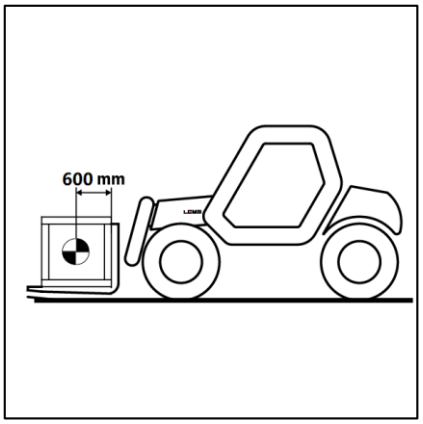
4.6 Parking

1) Park the telescopic handler on level ground and then press the electrical parking brake switch to make it in braking state.
2) Place the gear selector in the N gear.
3) Fully retract the boom and lower the fork to the ground.
4) Close the light switch.
5) After the machine works for a long time, the engine shall be idled for several minutes to reduce the temperature of the cooling system.
6) Turn off the engine, remove the key and lock the door.

4.7 Loading

4.7.1 Quality and center of gravity of load

1) Before carrying the cargo, you must know its quality and center of gravity.



2) The load chart is applicable to load with a distance of fork 600mm from the longitudinal position of the center of gravity.

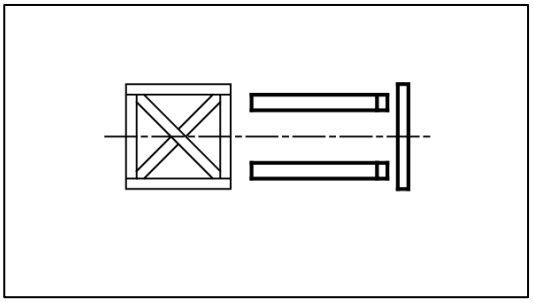
⚠ It is forbidden to move the weight beyond the load specified on the telescopic handler load sheet.

⚠ DANGER: for loads with moving center of gravity (such as liquid), the change of center of gravity shall be considered.

⚠ When picking up and placing goods on the ground or at high altitude, always pay attention to the

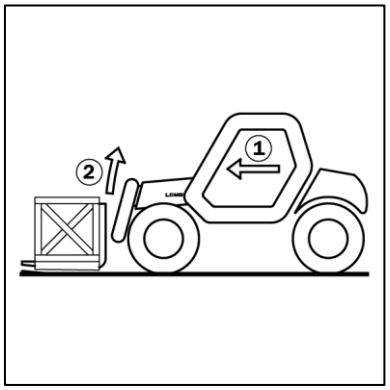
lateral stability and longitudinal stability of the vehicle and the alarm device.

4.7.2 Cargo on the ground

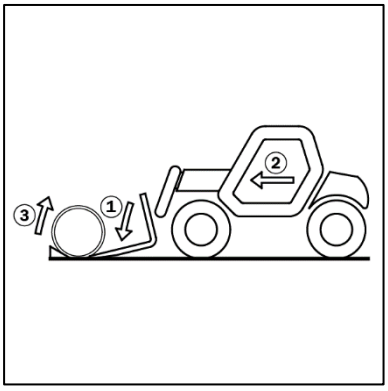


1) Retract and lower the boom so that the fork is in the horizontal position, and adjust the distance between the two forks according to the load.

⚠ Never use a single fork to lift the cargo.



2) Move the telescopic handler forward slowly and lift the boom slightly to the transport position. Tilt the fork backwards to ensure cargo stability.

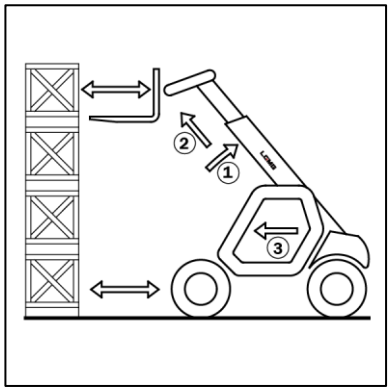


3) For the non-pallet load, tilt the fork forward before lifting the load, and then insert the fork under the load (prevent the load from moving if necessary).

4.7.3 Take the goods in the air

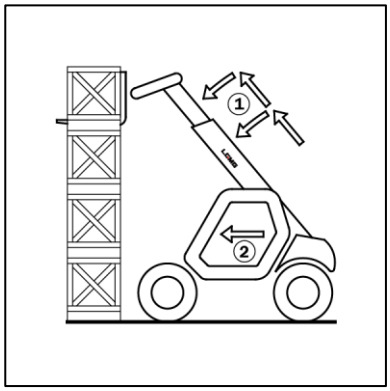
⚠ Before raising the boom, check whether the lateral position of the telescopic handler is horizontal.

Pickup

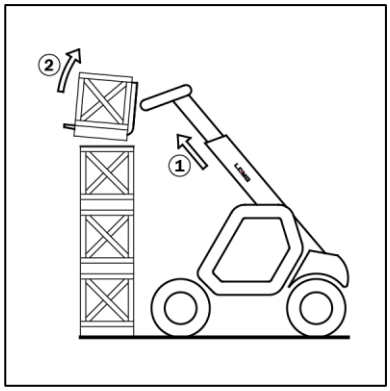


1) Lift and extend the boom until the fork is level with the load, if necessary, slowly move the telescopic handler forward.
2) A certain distance should always be kept between the load and the telescopic handler and the shorter boom should be

extended as far as possible.

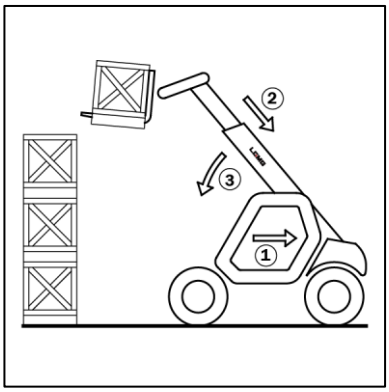


3) Insert the fork into the bottom of the load by alternately telescoping the boom or moving the telescopic handler forward (if necessary), then activate the electronic parking brake and put the D/R gear selector in N gear.



4) Raise the load slightly and tilt the fork backward to stabilize the load.

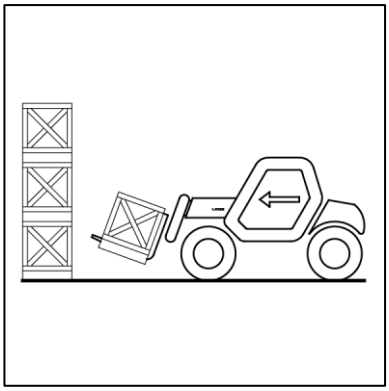
5) If the load is too heavy, the load shall be returned to its original position.



6) Move the vehicle backwards (if necessary), retract and lower the boom to bring the goods into the transport position.

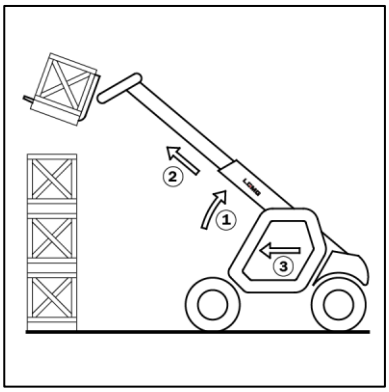
Release

! Before raising the boom, check whether the lateral position of the telescopic handler is horizontal.

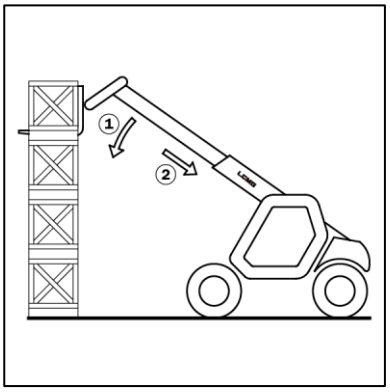


1) Drive the machine to the place for loading up goods.

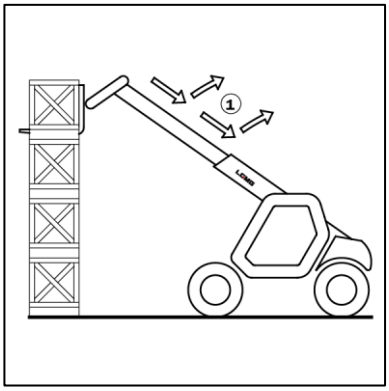
2) Activate the electronic parking brake and push the D/R gear selector to the N gear.



3) Lift and extend the boom until the fork is above the release position, and if necessary, move the vehicle forward.



4) Keep the Load in a horizontal position. Placing the goods by lowering and retracting the Boom,

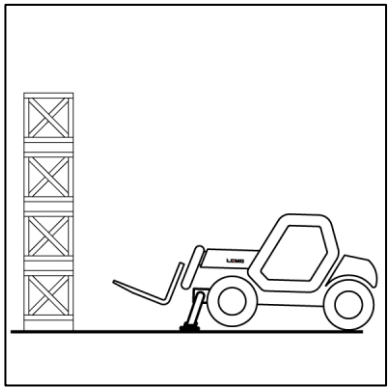


5) Retract the Fork to the transport position by retracting and lowering the boom.

(Move the vehicle backwards if necessary)

4.7.4 Outrigger use

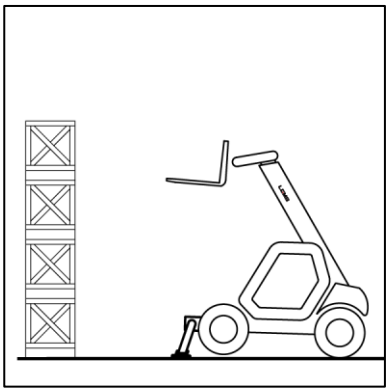
Raise the Outrigger when the Fork is in the shipping position



1) The vehicle shall be provided at a sufficient distance from the position where the goods are taken and placed.
2) Activate the electronic parking brake and place the D/R gear in the N gear.
3) Raise the outrigger, keep the front wheels away from the ground, and level the body.
4) Pick up or release freight.

⚠ WARNING: Always maintain a horizontal stable row when raising the outrigger and lifting the boom.

Raise the outrigger in the raised state of the boom

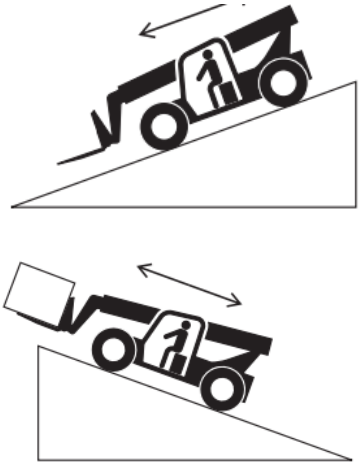


1) Keep the boom up and retract the boom completely.
2) Activate the electronic parking brake and place the D/R gear in the N gear.
3) Raise the outrigger slowly and the lateral position must remain stable.
4) Pick up or release freight.

4.8 Operate on slope

To maintain sufficient traction and braking performance, follow the instructions below when driving on the slope:

1) When going uphill: the fork shall go up the ramp in the upward direction regardless of no-load or load.
2) Downhill: if it is no-load, the fork goes downhill along the downward direction of the ramp; If there is a load, the fork goes downhill in the upward direction of the ramp.



CAUTION:

- **When going downhill, downshift to a lower gear, use service brake if necessary to maintain low speed.**
- **If the vehicle must be parked on the slope, the wheel needs to be chocked.**
- **To avoid engine and drive train overspeed when traveling downhill, please shift to a relatively low gear, and use the service brake to keep the speed down when necessary. Do not coast in neutral. To prevent brake fade due to heat, do not use the service brake for a long time.**
- **For the maximum load capacity and the gradeability of the machine, refer to the corresponding load chart and the parameter list.**
- **When the machine is unloaded, travel**

with the forks downhill.

- **When the machine is loaded, travel with the forks uphill.**
- **To avoid tip-over, do not travel on steep slopes or unstable road surfaces under any circumstances.**
- **Do not turn on a slope.**
- **Do not park on a slope.**

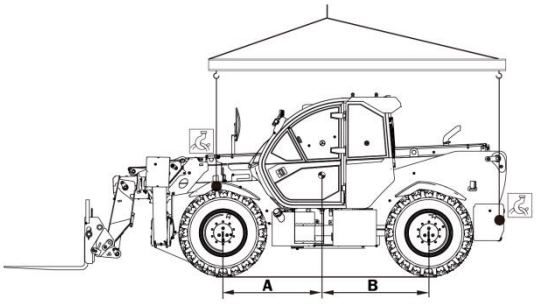
4.9 Machine transportation lifting instructions

Observe and obey

1) The driver shall be responsible for ensuring that the machine is properly secured and that the appropriate trailer is selected in accordance with local traffic regulations.
2) Only personnel qualified for lifting operation above the ground can lift the machine.
3) The trailer for transportation shall be parked on the level ground.
4) When loading the machine, the transport vehicle shall be fixed to prevent movement.
5) Ensure that the vehicle capacity, loading surface, chain and belt are sufficient to support the weight of the machine. See "nameplate" for the machine weight.

Lift the machine

1) Only qualified lifting and sling assembly persons can assemble the sling and lift the machine.
2) Ensure that the lifting capacity, belt or rope of the crane is sufficient to support the weight of the machine. See "nameplate" for the machine weight.
3) Fully lower and retract the arm lever, and remove all moving parts and items on the machine.
4) Only connect the sling to the specified lifting point on the machine.
5) Adjust the sling to avoid damage to the machine and keep the machine at horizontal level.



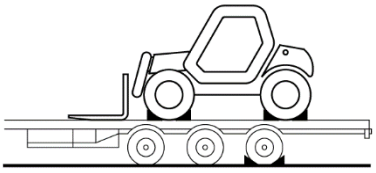
Lift the vehicle slowly by the hook connected to the fastening points provided.

Transport machine

⚠ CAUTION: Ensure that the platform has sufficient size and load capacity for transporting the telescopic handler. And check whether the pressure of the contact surface between the platform and the telescopic handler is within the allowable range.

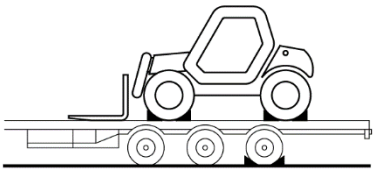
⚠ CAUTION: For telescopic handler equipped with turbocharged engine, block the exhaust port to avoid engine rotation.

Loading vehicle

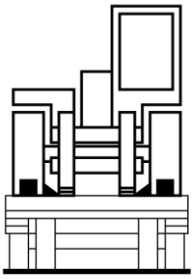


- The tires of the transport vehicle will be secured with wedge.
- Secure the loading ramp in order to obtain the smallest possible angle to lift the vehicle.
- Load vehicles parallel to the platform.
- Stop the telescopic handler.

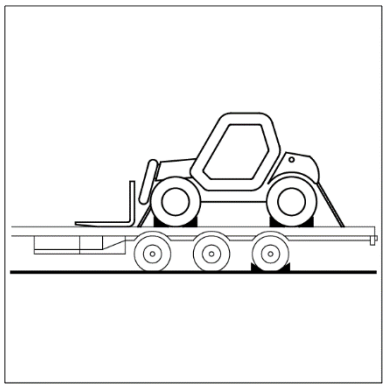
Fixed vehicle



- Secure the wedge to the platform at the front and rear of each tire.



- At the same time, fix the wedge to the platform on the inside of each tire.



- Fix the telescopic handler on the platform with a strong enough rope. At the front, connect the rope to the telescopic handler fastening point (lifting point) and at the rear to the telescopic handler towing pin.
- Tighten the rope.

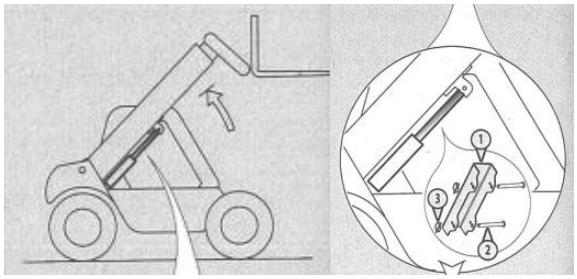
4.10 Use of safety support

Safety support instructions

Boom safety support

The telescopic handler is equipped with safety support, which must be installed on the lift cylinder connecting rod when working in the area below the boom.

The installation of safety support



1) Fully raise the boom.

2) Fit the safety support on the lift cylinder connecting rod and secure it with axis pin.

3) Slowly lower the boom and stop before coming into contact with the safety support.

Remove the safety support

1) Fully raise the boom.

2) Remove the axis pin.

3) Put the safety support back in place.

4.11 The car is not in use for a long time

⚠ Description:

The following operations are to prevent the vehicle telescopic handler from being damaged when it is not in use for a long time.

Cleaning of telescopic handler

- Check and repair any parts where there may be leakage of fuel, oil, water or air.
- Clean the dust on the telescopic handler paint finish and make up the paint if necessary.
- Ensure that all cylinders are in the retracted position.
- Release the pressure in the hydraulic circuit.
- Close the telescopic handler.

Component protection

- Drain and replace the coolant.
- Let the engine run the engine at idle speed for a few minutes and then turn off.
- Replace engine oil and oil filter.
- Add a protection product to the engine oil.
- Run the engine for a short time to circulate the oil and coolant within the engine.
- Once the battery is fully charged, disconnect the battery and store it in a warm room.
- If necessary, place the crane telescopic handler on the axle frame to make the tire not contact the ground, and then release the parking brake.
- Protect the non-retracted and retracted cylinders from corrosion.
- Wrap up the tires.
- Cover the vehicle with a tarpaulin.

When the telescopic handler is put back into use

- Reinstall and reconnect the battery.
- Remove the protective device from the cylinder.
- Perform routine maintenance.
- Depress the parking brake and remove the axle carrier axle bracket.
- Drain and replace the fuel, then replace the fuel filter.
- Use the starter to turn the internal combustion engine to increase the oil pressure.
- Fully lubricate the telescopic handler.
- Before starting the telescopic handler, ensure that the area is well ventilated.
- Run all hydraulic movements, preferably to the limit position.

4.12 Instructions for Use of Hook and Bucket

4.12.1 Description

1) The forklift truck will be automatically classified as a crane when the installed auxiliary devices (such as hook, etc.) are used to lift suspended loads.
2) Only auxiliary devices approved by the manufacturers and conforming to the "CE" certification can be used for forklift trucks. The manufacturers are not responsible for unauthorized auxiliary devices.
3) For the truck provided with auxiliary devices, before starting, authorized and qualified technicians should check whether the auxiliary devices are suitable for the truck, and check whether the technical documents required for using

the auxiliary devices are correct.

4) The truck must comply with all applicable laws and regulations, even after it is provided with applicable auxiliary devices.

4.12.2 Before any operation, please ensure:

1) Dealers, users, operators, lessors, lessees and brokers must comply with the appropriate parts of the applicable EN280 standard.
2) You have understood and practiced the safety rules for machine operation in this operation manual.
3) Always perform pre-operation checks.
4) Check the workplace.
5) Use the machine only for its intended purpose.
6) Read, understand and comply with all applicable laws and regulations.
7) Read, understand and comply with the manufacturer's instructions and safety rules - safety operation manual and machine labels.
8) Read, understand and comply with the user safety rules and workplace regulations.
9) You have been trained to operate the machine safely.

4.12.3 Safety precautions

- **This machine is not insulated, and does not provide protection against electric shock when it is in contact with or near wires. Please follow the applicable laws and regulations and the instructions in the table below to maintain a sufficient safety distance from power cable and electrical equipment.**

Voltage	Clearance required
0~50 kV	3m
50 kV～200 kV	5m
200 kV～350 kV	6m
350 kV～500 kV	8m
500 kV～750 kV	11m
750 kV～1000 kV	14m

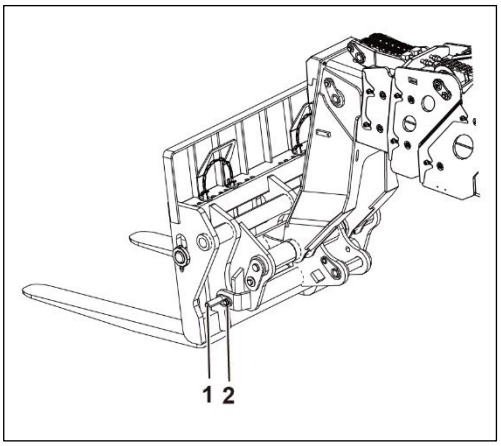
- **It is necessary to consider the effects of strong or gusty winds on boom movement, wire swing and slackness.**
- **If the machine comes into contact with a live wire, stay away from the machine immediately. Before the power is cut off, any person is forbidden to touch or operate the machine.**
- **Do not operate the machine during lightning or storms.**
- **Do not use the machine as a ground wire during welding.**
- **Lift the load in strict accordance with the instructions in the load curve, and**

do not attempt to lift the load more than the value allowed in the load curve.

- Make sure the road surface can support the weight of the machine, including its rated load.
- Avoid sudden start/stop, turning, and driving.
- Do not operate the machine at a wind speed above level 6.
- Do not operate the machine when the machine load exceeds its rated load.
- Do not drive the machine at high speed with the boom lifted.
- Do not raise the boom when the chassis is not level.
- When lifting and lowering the boom or before driving, check the working area for obstacles, and check whether there are any obstacles beside and under the boom.
- Do not move the machine when there are people and obstacles within the moving range of the machine.
- No person is allowed to work, stand or walk under the raised boom.
- Keep the load lowered and the telescopic boom retracted as far as possible during transport.
- Limit traveling speed based on ground conditions, congestion level, slope, location of personnel and any other factors that may cause a collision.
- Do not attempt to operate the machine beyond the capabilities of the machine.
- Under no circumstances should the machine be parked in a place where the load is lifted.
- Movement can only be carried out with load balanced.
- Moving the load with a hook must be slow.
- Before operating the machine, it is essential to check that the ground conditions are good enough to support the tires or outriggers, as detailed in the “Workplace checks”.
- Before formal lifting, a trial lifting (lifting the heavy object 10cm above the ground) should be carried out, and the machine devices and the force on the ground should be checked during the trial lifting.
- Inclined hanging, pulling and rapid lifting and lowering are strictly prohibited.

- **Avoid vibration and inclined lifting during vertical of lifting loads.**
- **Do not untie the lifting rigging until the lifted load is in place.**
- **Check the auxiliary devices used to lift the load every day, as detailed in "Pre-operation checks".**
- **Do not use the hook or bucket to transport personnel.**
- **During traveling, place the bucket at a height of about 50cm above the ground and turn up the bucket.**
- **It should be inserted at a low speed in case of sand accumulation, and the engine speed should be gradually increased to drive the machine forward.**
- **When the propulsion resistance of the bucket increases, the tire may slip or the engine speed may decrease, etc. In this case, shoveling should be stopped and cannot be forced.**
- **Before installing new auxiliary devices, please check whether the safety system needs to be recalibrated. Uncalibrated or substandard calibration may cause serious personal injury or death.**
- **If the machine is tilted downward, the size of the auxiliary device and the retracted or lowered boom may interfere with and damage the front tires. To eliminate this risk, the boom should be extended long enough to accommodate the auxiliary device.**
- **When the machine is provided with the bucket and hook, the machine mode needs to be adjusted to the fork mode.**
- **For information on the parameters of the auxiliary device, please refer to the nameplate located on the auxiliary device.**

4.12.4 Removing the fork



1. Auxiliary device stop pin
2. Pin

1) Park the forklift truck on a solid level ground, set the selector lever to N position, and pull up the parking brake lever.
2) Extend the boom about 50cm.
3) Adjust the fork to a horizontal position,

and then lower the fork until it just touches the ground.

4) Remove the pin (2).

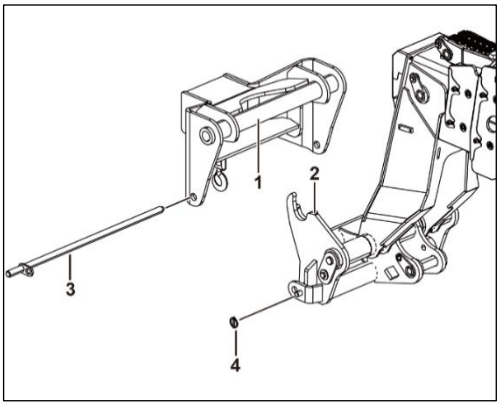
5) Move the fork slightly so that the pin (1) can be removed freely.

6) After removing the pin (1), tilt the auxiliary device holder forward, and then lower the boom until the side plate of the auxiliary device holder is completely separated from the steel pipe beam of the auxiliary device.

7) Retract the boom.

Note: The hook and bucket should be removed in the same way as fork.

4.12.5 Installing the hook



1. Steel pipe beam
2. Side plate of auxiliary device holder
3. Auxiliary device stop pin
4. Pin

1) Park the forklift truck directly behind the hook, set the selector lever to N position, and pull up the parking brake lever.

2) Tilt the auxiliary device holder forward, and then extend the boom so that the steel pipe beam (1) is directly above the side plate (2) of the auxiliary device holder.

3) Slightly raise the boom so that the steel pipe beam (1) is in full contact with the side plate (2) of the auxiliary device holder.

4) Raise the boom so that the hook is about 10cm from the ground.

5) Tilt the auxiliary device holder backward so that its mounting holes are aligned with the mounting holes of the auxiliary device.

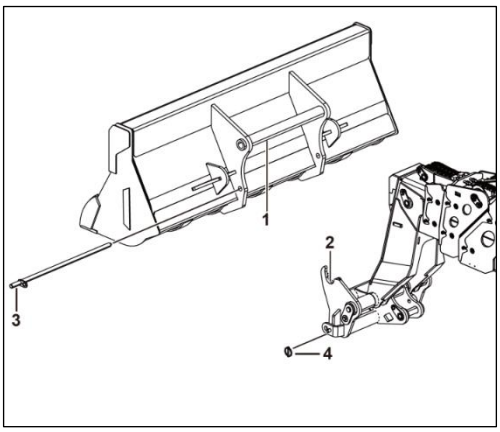
6) Insert the auxiliary device stop pin (3) into the mounting hole.

7) Install the pin (4), and fix the stop pin of the auxiliary device.

ATTENTION

For your safety, please check that the pins are fully secured before working.

4.12.6 Installing the bucket



1. Steel pipe beam
2. Side plate of auxiliary device holder
3. Auxiliary device stop pin
4. Pin

1) Park the forklift truck directly behind the hook, set the selector lever to N position, and pull up the parking brake lever.
2) Tilt the auxiliary device holder forward, and then extend the boom so that the steel pipe beam (1) is directly above the side plate (2) of the auxiliary device holder.
3) Slightly raise the boom so that the steel pipe beam (1) is in full contact with the side plate (2) of the auxiliary device holder.
4) Raise the boom so that the bucket is about 10cm from the ground.
5) Tilt the auxiliary device holder backward so that its mounting holes are aligned with the mounting holes of the auxiliary device.
6) Insert the auxiliary device stop pin (3) into the mounting hole.
7) Install the pin (4), and fix the stop pin of the auxiliary device.

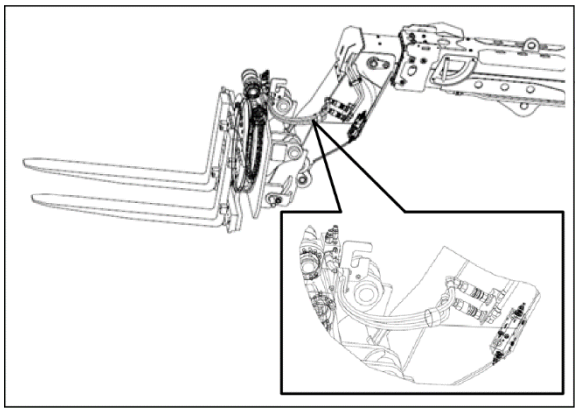
Note: The fork should be installed in the same way as the bucket.

ATTENTION： For your safety, please check that the pins are fully secured before working.

4.12.7 Install Rotating Fork Assy

1) Park the forklift truck directly behind the hook, set the selector lever to N position, and pull up the parking brake lever.

2) Ensure that the accessory is in a position that allows it to be easily mounted to the accessory rack.



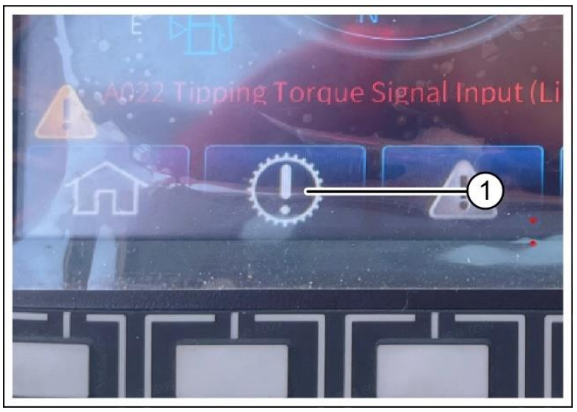
3) Lower the boom so that the accessory frame is parallel to the accessory, flip the accessory frame down, extend the boom slightly to the underside of the accessory mounting tube, lift the boom slightly until the accessory is off the ground, pick the accessory frame up, insert the pin and bolt, and connect the rotating fork assy hydraulic connector to the head connector of the boom according to the marking.

ATTENTION： For your safety, please check that the pins are fully secured before working

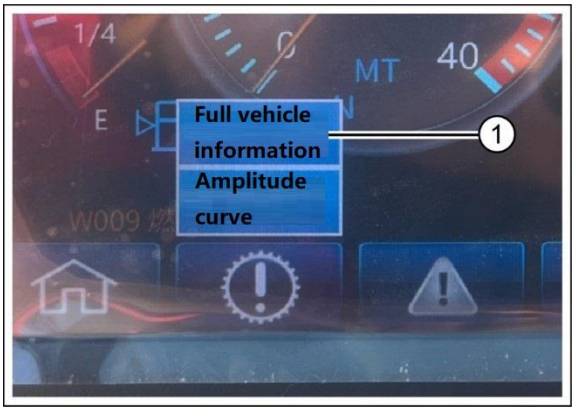
4.12.8 Working mode (If equipped)

When there is no driving mode selection on the Console, it can be selected through the screen.

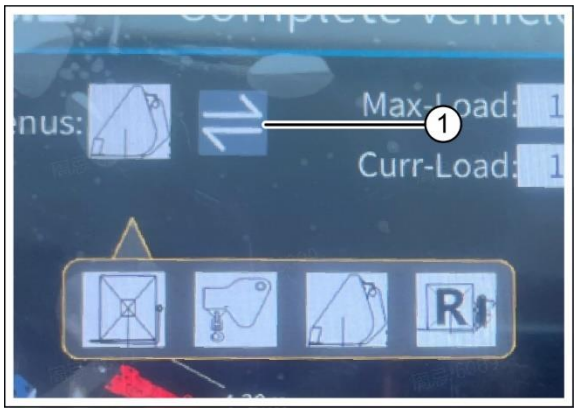
After the attachment is assembled, select the corresponding working mode.



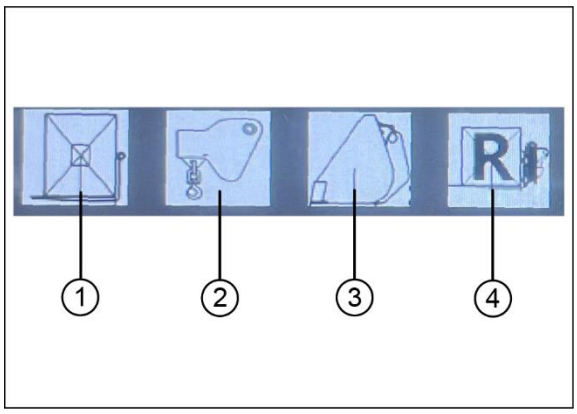
1) After the machine is powered on, select "Vehicle information query"



2) Select "Vehicle information" in the pop-up dialog box.



3) Enter the "Complete Vehicle Status" interface and select the attachment toggle button ① .



1 Fork
2 Hook
3 Bucket
4 Rotating fork

4) Select the working mode of the corresponding attachment according to the installed attachment, and wait for the response after selection.

4.13 Fault code

Alarm code A** Warning code WC**	Fault description	Restriction	Alarm logic	Troubleshooting guidance	Troubleshooting tip	Applicable to
A001	Low system pressure	Functions unrestricted	With the engine off, depressing the brake multiple times causes the pressure of the braking power source to drop below 1.8MPa.	Start the engine, and the alarm should be deactivated immediately. If starting the engine doesn't deactivate the alarm, check pressure sensor harness and wiring.	Display-IO port-U01	All models
A002	Joystick CAN bus communication timeout	Functions unrestricted but joystick inoperable	Main controller receives no bus message from joystick.	Check the power supply voltage, wiring and message of 353/354 bus.	Unplug the node connector other than joystick and measure bus voltage and resistance.	All models
A003	Transmission CAN bus communication timeout	Functions unrestricted but drive restricted	Main controller receives no bus message from transmission.	Check the power supply voltage, wiring and message of transmission bus.	Unplug the node connector other than transmission and measure bus voltage and resistance.	All models
A004	Engine CAN bus communication timeout	Functions unrestricted but engine speed and stop unresponsive to VCU command	Main controller receives no bus message from engine.	Check the power supply voltage, wiring and message of engine ECU bus.	Unplug the node connector other than engine ECU and measure bus voltage and resistance.	All models
A005	Primary boom length redundancy fault					All models
A006	Primary boom length sensor circuit 1 open	Prompt only and no function restricted	Length sensor analog is too small.	Check length sensor power supply and wiring.	Display-IO port-U23	All models
A007	Primary boom length sensor circuit 1 short	Prompt only and no function restricted	Length sensor analog is too large.	Check length sensor power supply and wiring.	Display-IO port-U23	All models
A008	Primary boom length sensor circuit 2 open	Prompt only and no function restricted	Length sensor analog is too small.	Check length sensor power supply and wiring.	Display-IO port-T33	All models
A009	Primary boom length sensor circuit 2 short	Prompt only and no function restricted	Length sensor analog is too large.	Check length sensor power supply and wiring.	Display-IO port-T33	All models
A010	Primary boom length sensor circuit 1 actual length above maximum set value	Prompt only and no function restricted	Actual length calculated by VCU based on length sensor analog is above maximum boom length.	Recalibrate.	Display-IO port-U23	All models
A011	Primary boom length sensor circuit 1 actual length below minimum set value	Prompt only and no function restricted	Actual length calculated by VCU based on length sensor analog is below minimum boom length.	Recalibrate.	Display-IO port-U23	
A012	Primary boom length sensor circuit 2 actual length above maximum set value	Prompt only and no function restricted	Actual length calculated by VCU based on length sensor analog is above maximum boom length.	Recalibrate.	Display-IO port-T33	
A013	Primary boom length sensor circuit 2 actual length below minimum set value	Prompt only and no function restricted	Actual length calculated by VCU based on length sensor analog is below minimum boom length.	Recalibrate.	Display-IO port-T33	
A014	Primary boom angle sensor circuit 1	Prompt only and no	Angle sensor analog is too small.	Check length sensor power	Display-IO port-U11	

	short	function restricted		supply and wiring.		
A015	Primary boom angle sensor circuit 1 open	Prompt only and no function restricted	Angle sensor analog is too large.	Check length sensor power supply and wiring.	Display-IO port-U11	
A016	Primary boom angle sensor circuit 1 actual angle above maximum set value	Prompt only and no function restricted	Actual angle calculated by VCU based on the angle sensor analog is below minimum boom angle.	Recalibrate.	Display-IO port-U11	
A017	Primary boom angle sensor circuit 1 actual angle below minimum set value	Prompt only and no function restricted	Actual angle calculated by VCU based on angle sensor analog is above maximum boom angle.	Recalibrate.	Display-IO port-U11	
A018	Chassis tilt sensor X circuit 1 short	Fault code not to be displayed				
A019	Chassis tilt sensor X circuit 1 open	Fault code not to be displayed				
A020	Chassis tilt sensor X circuit 1 actual angle above maximum set value	Fault code not to be displayed				
A021	Chassis tilt sensor X circuit 1 actual angle below minimum set value	Fault code not to be displayed				
A022	Moment limiter signal to stop motion	Primary boom down and extend inhibited	The rear axle is under low forces, about to cause tip-over.	Check moment limiter power supply and wiring. Check whether the moment limiter controller works normally.	Display -IO port-U13. 1: no alarm; 0: alarm.	
A023	Chassis tilt sensor Y circuit 1 short	Fault code not to be displayed				
A024	Chassis tilt sensor Y circuit 1 open	Fault code not to be displayed				
A025	Chassis tilt sensor Y circuit 1 actual angle above maximum set value	Fault code not to be displayed				
A026	Chassis tilt sensor Y circuit 1 actual angle below minimum set value	Fault code not to be displayed				
A027	Chassis ground emergency stop button pressed	All functions inhibited; startup inhibited; engine staying off	VCU receives no voltage value of chassis emergency stop switch.	Check power supply and signal wiring of emergency stop switch.	Display-IO port-U36; 1: no alarm; 0: alarm.	
A028	Primary boom length redundancy fault	Fault code not to be displayed				
A029	Left front outrigger pressure redundancy fault	Travel inhibited	Left front outrigger pressure sensor circuit is short or open. Signals of two circuits are inconsistent.	Check sensor power supply and wiring.	Display-IO port-U21/U12	
A030	Right front outrigger pressure redundancy fault	Travel inhibited	Right front outrigger pressure sensor circuit is short or open. Signals of two circuits are inconsistent.	Check sensor power supply and wiring.	Display-IO port-U24/U14	
A031	Load sensor redundancy fault	Prompt only and no function restricted (to be verified)	Personnel platform shear beam sensor circuit is short or open. Signals of two circuits are inconsistent.	Check sensor power supply and wiring.	Display-IO port-U12/U14	
A032	Left rear outrigger pressure redundancy fault	Fault code not to be displayed				
A033	Right rear outrigger pressure redundancy fault	Fault code not to be displayed				
A034	Primary boom up joystick above set	Fault code not to be displayed				
A035	Primary boom down joystick above set	Fault code not to be displayed				

A036	Primary boom extend joystick above set	Fault code not to be displayed				
A037	Primary boom retract joystick above set	Fault code not to be displayed				
A038	Fork up/down: Up joystick above set	Fault code not to be displayed				
A039	Fork up/down: Down joystick above set	Fault code not to be displayed				
A040	Turntable rotate clockwise joystick above set	Fault code not to be displayed				
A041	Turntable rotate counterclockwise joystick above set	Fault code not to be displayed				
A042	Platform rotate clockwise joystick above set	Fault code not to be displayed				
A043	Platform rotate counterclockwise joystick above set	Fault code not to be displayed				
A044	System pressure sensor circuit 1 open	Prompt only and no function restricted	Pressure sensor signal is too small.	Check pressure sensor power supply and wiring.	Display-IO port-T23	HR2150
A045	System pressure sensor circuit 1 short	Prompt only and no function restricted	Pressure sensor signal is too large.	Check pressure sensor power supply and wiring.	Display-IO port-T23	HR2150
A046	Primary boom angle sensor circuit 1 open	Fault code not to be displayed				
A047	Primary boom angle sensor circuit 2 short	Fault code not to be displayed				
A048	System pressure sensor circuit 2 open	Fault code not to be displayed				
A049	System pressure sensor circuit 2 short	Fault code not to be displayed				
A050	Air filter clogged	Prompt only and no function restricted	Engine air filter is clogged. Electronic differential pressure alarm outputs a high-level alarm signal.	Check air filter for clogging. Check sensor power supply and wiring.	Display-IO port-T39	All models
A051	Personnel platform quick attach lock pin coming off	Primary boom up and extend, and fork tilt down/up inhibited	Proximity switch signal is lost or abnormal.	Check proximity switch power supply and wiring.	Display-IO port-U27/T27	HR2150
A052	Turntable controller output power source A power supply voltage low	Prompt only and no function restricted	Port voltage is below 9V.	Check MC2M power supply and battery voltage.		HR2150
A053	Turntable controller output power source B power supply voltage low	Prompt only and no function restricted	Port voltage is below 9V.	Check MC2M power supply and battery voltage.		HR2150
A054	Turntable controller output power source C power supply voltage low	Prompt only and no function restricted	Port voltage is below 9V.	Check MC2M power supply and battery voltage.		HR2150
A055	Turntable controller output power source D power supply voltage low	Prompt only and no function restricted	Port voltage is below 9V.	Check MC2M power supply and battery voltage.		HR2150
A056	Turntable controller output power source E power supply voltage low	Prompt only and no function restricted	Port voltage is below 9V.	Check MC2M power supply and battery voltage.		HR2150
A057	Turntable controller 5V output power source power supply voltage low	Prompt only and no function restricted	Port voltage is below 4.8V.	Check MC2M power supply and battery voltage.		HR2150
A058	Turntable controller 15V output power source power supply voltage low	Prompt only and no function restricted	Port voltage is below 14V.	Check MC2M power supply and battery voltage.		HR2150
A059	Remote control primary boom up/down: Up joystick above set	Fault code not to be displayed				

A060	Remote control primary boom up/down: Down joystick above set	Fault code not to be displayed				
A061	Remote control primary boom extend/retract: Extend joystick above set	Fault code not to be displayed				
A062	Remote control primary boom extend/retract: Retract joystick above set	Fault code not to be displayed				
A063	Remote control fork up/down: Up joystick above set	Fault code not to be displayed				
A064	Remote control fork up/down: Down joystick above set	Fault code not to be displayed				
A065	Remote control turntable rotate: Rotate clockwise joystick above set	Fault code not to be displayed				
A066	Remote control turntable rotate: Rotate counterclockwise joystick above set	Fault code not to be displayed				
A067	Remote control platform rotate: Rotate clockwise joystick above set	Fault code not to be displayed				
A068	Remote control platform rotate: Rotate counterclockwise joystick above set	Fault code not to be displayed				
A069	Angle sensor redundancy fault	Fault code not to be displayed				
A070	Load sensor circuit 1 open	Fault code not to be displayed				
A071	Load sensor circuit 1 short	Fault code not to be displayed				
A072	Load sensor circuit 2 open	Fault code not to be displayed				
A073	Load sensor circuit 2 short	Fault code not to be displayed				
A074	Moment limiter cancelling operating condition timeout	Boom extend and down inhibited	No Midac operating condition confirming information is received for more than 6s.	Check Midac moment limiter power supply and wiring.		HR2150
A075	Moment limiter confirming operating condition timeout	Boom extend and down inhibited	No Midac operating condition confirm information is received for more than 6s.	Check Midac moment limiter power supply and wiring.		HR2150
A076	Remote control emergency stop switch pressed	Engine stopped and remote control inoperable	In the radio remote control's control mode, the remote control emergency stop switch is pressed.	Check whether remote control emergency stop switch and platform and ground control buttons are in the platform control position.		
A077	Boom chain broken	Primary boom up and extend inhibited	Model attached with work platform: The chain detect switch on the first/second boom is triggered, power is cut off or switch is damaged.	Check whether switch is triggered. Check switch power supply and wiring. Check whether switch is damaged.	Display-IO port-T39 should be 1. Display-IO port-T26 should be 0.	
A078	Left outrigger pressure sensor circuit 1 short	Travel inhibited	Left front outrigger pressure sensor circuit 1 signal is above 20mA.	Check sensor power supply and wiring.	Display-IO port-U21	
A079	Left outrigger pressure sensor circuit 1 open	Travel inhibited	Left front outrigger pressure sensor circuit 1 signal is below 4mA.	Check sensor power supply and wiring.	Display-IO port-U21	
A080	Left outrigger pressure sensor circuit 2 short	Travel inhibited	Left front outrigger pressure sensor circuit 2 signal is above 20mA.	Check sensor power supply and wiring.	Display-IO port-U12	

A081	Left outrigger pressure sensor circuit 2 open	Travel inhibited	Left front outrigger pressure sensor circuit 2 signal is below 4mA.	Check sensor power supply and wiring.	Display-IO port-U12	
A082	Right outrigger pressure sensor circuit 1 short	Travel inhibited	Left front outrigger pressure sensor circuit 1 signal is above 20mA.	Check sensor power supply and wiring.	Display-IO port-U24	
A083	Right outrigger pressure sensor circuit 1 open	Travel inhibited	Left front outrigger pressure sensor circuit 1 signal is below 4mA.	Check sensor power supply and wiring.	Display-IO port-U24	
A084	Right outrigger pressure sensor circuit 2 short	Travel inhibited	Left front outrigger pressure sensor circuit 2 signal is above 20mA.	Check sensor power supply and wiring.	Display-IO port-U14	
A085	Right outrigger pressure sensor circuit 2 open	Travel inhibited	Left front outrigger pressure sensor circuit 2 signal is below 4mA.	Check sensor power supply and wiring.	Display-IO port-U14	
A086	Inching pedal sensor circuit 1 short	Travel inhibited	Model with self-made pedal: Inching sensor circuit 1 signal is above 20mA.	Check sensor power supply and wiring.	Display-IO port-U09	
A087	Inching pedal sensor circuit 1 open	Travel inhibited	Model with self-made pedal: Inching sensor circuit 1 signal is below 4mA.	Check sensor power supply and wiring.	Display-IO port-U09	
A088	Inching pedal sensor circuit 2 short	Travel inhibited	Model with self-made pedal: Inching sensor circuit 2 signal is above 20mA.	Check sensor power supply and wiring.	Display-IO port-U10	
A089	Inching pedal sensor circuit 2 open	Travel inhibited	Model with self-made pedal: Inching sensor circuit 2 signal is below 4mA.	Check sensor power supply and wiring.	Display-IO port-U10	
A090	Inching pedal sensor redundancy fault	Travel inhibited	Signal status changes in two circuits of inching sensor are inconsistent.	Check sensor power supply and wiring.	Display-IO port-U09/U10	
A091	Foot brake switch circuit open	Fault code not to be displayed				
A092	Foot brake switch circuit open	Fault code not to be displayed				
A093	Entire machine fault. Please consult manual.	Fault code not to be displayed				
A094	Engine fault. Please consult manual.	Fault code not to be displayed				
A095	Drivetrain fault. Please consult manual.	Fault code not to be displayed				
A096	Regeneration (to be performed by service personnel) required due to high soot load	Engine power restricted, and primary boom up and extend inhibited	Engine DPF regeneration is requested.	Perform regeneration to solve DPF carbon deposits. Contact engine manufacturer.		
A097	TBOX removed from machines under China stage IV	Prompt only and no function restricted	Domestic models: Communication between TBOX of machines under China stage IV and main controller is lost.	Check TBOX power supply and wiring.		
A098	Travel motor driver fault	All functions inhibited	Travel motor driver reports a fault.	Look up the fault code on the motor status screen of the display, and troubleshoot the issue based on the fault code.		
A099	Travel motor driver bus disconnected	All functions inhibited	Travel motor driver reports lost communication with main controller.	Check motor power supply and wiring.		
A100	Engine ECU communication timeout alarm	All functions inhibited	Communication between engine ECU and main controller is lost.	Check engine power supply and wiring.		
A101	Turntable rotate encoder communication timeout alarm	Turntable rotate inhibited	Communication between rotate encoder and main controller is lost.	Check encoder power supply and wiring.		
A102	Chassis level sensor communication timeout alarm	Primary boom up and extend inhibited	Communication between chassis level sensor and main controller is lost.	Check chassis level sensor power supply and wiring.		
A103	DANFOSS travel pump controller TCU communication timeout alarm	Travel inhibited	Communication between DANFOSS travel pump controller TCU and main controller is lost.	Check DANFOSS travel pump controller TCU power supply		

				and wiring.		
A104	ACQ length & angle sensor communication timeout alarm	Primary boom up and extend inhibited	Communication between ACQ length & angle sensor and main controller is lost.	Check ACQ length & angle sensor power supply and wiring.		
A105	Left function joystick communication timeout alarm	All boom functions inhibited	Communication between left function joystick and main controller is lost.	Check left function joystick power supply and wiring.		
A106	Right function joystick communication timeout alarm	Turntable rotate inhibited	Communication between right function joystick and main controller is lost.	Check right function joystick power supply and wiring.		
A107	MIDAC PLUS LMI moment limiter controller communication timeout alarm	All functions inhibited	Communication between MIDAC PLUS LMI moment limiter controller and main controller is lost.	Check MIDAC PLUS LMI moment limiter controller power supply and wiring.		
A108	AUTEC remote control communication timeout alarm	All functions inhibited	Communication between AUTEC remote control and main controller is lost.	Check AUTEC remote control power supply and wiring.		
A109	Main pump motor driver fault	All functions inhibited	Main pump motor driver reports a fault.	Look up the fault code on the motor status screen of the display, and troubleshoot the issue based on the fault code.		
A110	Left front vertical outrigger ground contact sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U10/T29	
A111	Right front vertical outrigger ground contact sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U09/T28	
A112	Left rear vertical outrigger ground contact sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U11/T38	
A113	Right rear vertical outrigger ground contact sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U12/T39	
A114	Left front horizontal outrigger sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U10/T29	
A115	Right front horizontal outrigger sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U10/T29	
A116	Left rear horizontal outrigger sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U10/T29	
A117	Right rear horizontal outrigger sensor calibration fault	Prompt only and no function restricted	Signals of two circuits of limit switch are consistent. One circuit should be on and the other off.	Check limit switch power supply and wiring.	Display-IO port-chassis U10/T29	
A118	No power supply to emergency stop switch					
A119	Main pump motor driver bus disconnected	All functions inhibited	Communication between main pump motor driver and main controller is lost.	Check motor power supply and wiring.		
A120	Travel position select switch fault	Travel inhibited	Multiple or zero steering wheel joystick signal is detected.	Check steering wheel position joystick power supply and wiring.	Display-IO port-T24/25/T26/T27	
A121	Transfer case position 1 calibration fault	Travel slow	Steering wheel joystick signal is different from actual transfer case position.	Check transfer case power supply and wiring.	Display-IO port-U07	
A122	Transfer case position 2 calibration	Travel slow	Steering wheel joystick signal is different from	Check transfer case power	Display-IO port-U18	

	fault		actual transfer case position.	supply and wiring.		
A123	Travel pump watchdog fault _13	Travel inhibited	Travel pump watchdog fails.	Check power supply and wiring.		HR2150
A124	Travel pump DSP reference voltage fault_11	Travel inhibited	Travel pump DSP reference voltage fault occurs.	Check power supply and wiring.		HR2150
A125	Travel pump analog input fault _12	Travel inhibited	Travel pump analog input fault occurs.	Check wiring.		HR2150
A126	Travel pump battery voltage fault 14-15	Travel inhibited	Travel pump battery voltage fault occurs.	Check power supply and wiring.		HR2150
A127	Travel pump sensor voltage fault_16	Travel inhibited	Travel pump sensor voltage fault occurs.	Check travel pump sensor and wiring.		HR2150
A128	Travel pump FNR switch fault_35	Travel inhibited	Travel pump FNR switch fails.	Check bus FNR signal and wiring.		HR2150
A129	Travel pump inching sensor fault_39	Travel inhibited	Travel pump inching sensor fails.	Check inching sensor and wiring.		HR2150
A130	Travel pump drive sensor fault_43	Travel inhibited	Travel pump drive sensor fails.	Check drive sensor and wiring.		HR2150
A131	Travel pump speed sensor fault_31	Travel inhibited	Travel pump speed sensor fails.	Check speed sensor and wiring.		HR2150
A132	Travel pump mode switch B fault_47	Travel inhibited	Travel pump mode switch B fails.			HR2150
A133	Travel pump motor speed sensor fault_58	Travel inhibited	Travel pump motor speed sensor fails.	Check speed sensor and wiring.		HR2150
A134	Travel pump valve drive forward fault_22	Travel inhibited	Travel pump valve drive forward fails.	Check travel pump forward valve connectors and wiring.		HR2150
A135	Travel pump valve drive reverse fault_23	Travel inhibited	Travel pump valve drive reverse fails.	Check travel pump reverse valve connectors and wiring.		HR2150
A136	Travel pump hydraulic motor control valve fault_28	Travel inhibited	Travel pump hydraulic motor control valve fails.	Check hydraulic motor control valve and wiring.		HR2150
A137	Travel pump outputs A1 and A2 fault_25	Travel inhibited	Travel pump outputs A1 and A2 fault occurs.	Check travel pump A1/A2 connectors and wiring.		HR2150
A138	Travel pump outputs B1 and B2 fault_26	Travel inhibited	Travel pump outputs B1 and B2 fault occurs.	Check travel pump B1/B2 connectors and wiring.		HR2150
A139	Travel pump engine rpm POTI_75	Travel inhibited	Check travel pump engine rpm POTI.	Check bus message and wiring.		HR2150
A140	Travel pump CAN Bus communication timeout_72	Travel inhibited	Travel pump CAN Bus communication timeout occurs.	Check wiring.		HR2150
A141	Travel pump temperature sensor fault_77	Travel inhibited	Travel pump temperature sensor fails.	Check temperature sensor and wiring.		HR2150
A142	Left oscillating valve fault	Prompt only and no function restricted	HR2150 model: Left oscillating valve detect signal status is consistent or there is no signal.	Check left oscillating valve power supply and wiring.	Display-IO port-U13/U14	
A143	Right oscillating valve fault	Prompt only and no function restricted	HR2150 model: Right oscillating valve detect signal status is consistent or there is no signal.	Check left oscillating valve power supply and wiring.	Display-IO port-chassis U15/U16	
A144	BMS bus disconnected	All functions inhibited	Communication between Li-ion battery BMS and main controller is lost.	Check Li-ion battery activation power supply and wiring.	Display-IO port-T19	
A145	BMS fault	All functions inhibited	Read fault code through the BMS status screen of the display.	Troubleshoot based on fault code.	Display-IO port-T19	
A146	#9 radar probe fault	-	CAN communication timeout occurs.	Check wiring.	Check wiring for continuity.	
A147	#10 radar probe fault	-	CAN communication timeout occurs.	Check wiring.	Check wiring for continuity.	
A148-A150	NOT USED	-				
A151	Pump forward solenoid valve circuit open	Travel inhibited	Danfoss hydrostatic drive model: Pump forward solenoid valve circuit is open.	Check solenoid valve wiring.	Check solenoid valve wiring for continuity.	
A152	Pump forward solenoid valve circuit	Travel inhibited	Danfoss hydrostatic drive model: Pump forward	Check solenoid valve wiring.	Check solenoid valve	

	short		solenoid valve circuit is short.		wiring for continuity.	
A153	Pump reverse solenoid valve circuit open	Travel inhibited	Danfoss hydrostatic drive model: Pump reverse solenoid valve circuit is open.	Check solenoid valve wiring.	Check solenoid valve wiring for continuity.	
A154	Pump reverse solenoid valve circuit short	Travel inhibited	Danfoss hydrostatic drive model: Pump reverse solenoid valve circuit is open.	Check solenoid valve wiring.	Check solenoid valve wiring for continuity.	
A155	Motor solenoid valve circuit open	Travel inhibited	Danfoss hydrostatic drive model: Motor solenoid valve circuit is open.	Check solenoid valve wiring.	Check solenoid valve wiring for continuity.	
A156	Motor solenoid valve circuit short	Travel inhibited	Danfoss hydrostatic drive model: Motor solenoid valve circuit is short.	Check solenoid valve wiring.	Check solenoid valve wiring for continuity.	
A157	Engine and MC024 controller communication fault	Travel inhibited	Danfoss hydrostatic drive model: MC024 receives no message from engine.	Check engine wiring and power supply.	Check main controller and chassis control CAN bus for continuity.	Hydrostatic drive model
A158	Main controller and MC024 controller communication fault	Travel inhibited	Danfoss hydrostatic drive model: Main controller receives no message from MC024.	Check MC024 controller power supply and wiring.	Check main controller and chassis control CAN bus for continuity.	Hydrostatic drive model
A159	Limp home mode 2	Travel inhibited	Working mode: Transmission experiences a serious fault.	Check transmission gear solenoid valve wiring.	See Carraro fault code troubleshooting manual.	For transmission models only
A160	Limp home mode 3	Travel inhibited	—	Check transmission gear solenoid valve wiring.	See Carraro fault code troubleshooting manual.	For transmission models only
A161	Limp home forward mode 2	Travel inhibited	—	Check transmission gear solenoid valve wiring.	See Carraro fault code troubleshooting manual.	For transmission models only
A162	Faulty transmission staying in neutral	Travel inhibited	—	Check transmission gear solenoid valve wiring.	See Carraro fault code troubleshooting manual.	For transmission models only
A163 (5)	Transmission temperature variation abnormal	Travel inhibited	If temperature varies more than 50°C within 5ms, bus message status 1 will be displayed.	Check transmission temperature sensor.	See Carraro fault code troubleshooting manual.	For transmission models only
A164 (6)	Transmission temperature too high	Travel inhibited	If temperature is above 100°C for over 5s, bus message status 1 will be displayed.	Check transmission oil temperature and temperature sensor.	See Carraro fault code troubleshooting manual.	For transmission models only
A165	Transmission temperature too low	Travel inhibited	If temperature is below -30°C for over 5s, bus message status 1 will be displayed.	Check transmission oil temperature and temperature sensor.	See Carraro fault code troubleshooting manual.	For transmission models only
A166(8)	Clutch disengaged		—	—	See Carraro fault code troubleshooting manual.	For transmission models only
A167 (9)	Gear locked		—	—	See Carraro fault code troubleshooting manual.	For transmission models only
A168 (10)	Forced gear engagement		—	—	See Carraro fault code troubleshooting manual.	For transmission models only
A169 (11)	Forward, neutral, and reverse gear signals abnormal	Travel inhibited	Gear requests signal unexpected values.	Check gear output signal wiring.	See Carraro fault code troubleshooting manual. or: Display-IO port-T01/T02/T11/T12	For transmission models only
A170 (12)	Transmission kprop valve no pressure	Travel inhibited	With engine running and kprop valve energized, no pressure is present for longer than 10s.	Check transmission kprop valve wiring.	See Carraro fault code troubleshooting manual.	For transmission models only
A171 (13)	Transmission kprop valve no pressure	Travel inhibited	With engine off and kprop valve NOT energized, line pressure lasts longer than 1s.	Check transmission kprop valve wiring.	See Carraro fault code troubleshooting manual.	For transmission models only
A172 (14)	Machine speed abnormal	Travel inhibited	Machine speed does not decrease as expected or input shaft speed is over 3500rpm	—	See Carraro fault code troubleshooting manual.	For transmission models only
A173 (15)	Transmission temperature sensor resistance below normal	Travel inhibited	TCU input pin resistance is low.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A174 (16)	Transmission temperature sensor	Travel inhibited	TCU input pin resistance is high.	—	See Carraro fault code	For transmission

	resistance above normal				troubleshooting manual.	models only
A175 (17)	Transmission speed sensor abnormal.	Travel inhibited	Speed signal decreases 500Hz with a rate less than 30Hz/ms.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A176 (19)	Low ambient temperature and no kprop valve pressure	Travel inhibited	With oil temperature below -15°C, engine running and kprop valve energized, no pressure is present for longer than 10s.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A177 (20)	Wrong ratio	Travel inhibited	Driveline engaged, transmission input speed>100rpm, transmission output speed>100rpm and actual transmission ratio not consistent with speed sensor signals for more than 200ms.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A178	Transmission-mounted engine rpm input sensor detected abnormal engine rpm	Travel inhibited	Engine speed is at 0rpm and line pressure is present for more than 2s.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A179	Transmission input speed is abnormal.	Travel inhibited	Driveline engaged, transmission input speed<100rpm, transmission output speed>100rpm and actual transmission ratio not consistent with speed sensor signals for more than 1s.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A180	Transmission output speed abnormal	Travel inhibited	Driveline engaged, transmission input speed>100rpm, transmission output speed<100rpm and actual transmission ratio not consistent with speed sensor signals for more than1s.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A181	Engine speed not following derating command	Travel inhibited	During shuttling reverse-rotating condition, engine speed is 200rpm over engine speed derating limit for more than: 550ms for SpdTxIn <= than 2450rpm, 950ms for SpdTxIn>= 2600rpm and their linear interpolation for 2450rpm < SpdTxIn < 2600rpm	—	See Carraro fault code troubleshooting manual.	For transmission models only
A182	Transmission forward high voltage solenoid valve control current abnormal	Travel inhibited	Control error is more than 50mA for more than 200ms.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A183	Transmission forward high voltage solenoid valve overcurrent	Travel inhibited	Overcurrent event (current higher than a threshold value) on the PWM outputs driving the valve. Overcurrent events are mostly caused by short-circuits to ground. The hardware mechanism is driven by the power supply: the loss of power supply gives the same behavior of overcurrent event.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A184	Transmission forward low voltage solenoid valve control current abnormal	Travel inhibited	Control error is more than 50mA for more than 200ms.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A185	Transmission forward low voltage solenoid valve overcurrent	Travel inhibited	Overcurrent event (current higher than a threshold value) on the PWM outputs driving the valve. Overcurrent events are mostly caused by short-circuits to ground. The hardware mechanism is driven by the power supply: the loss of power supply gives the same behavior of overcurrent event.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A186	Transmission reverse solenoid valve	Travel inhibited	Control error is more than 50mA for more than	—	See Carraro fault code	For transmission

	control current abnormal		200ms.		troubleshooting manual.	models only
A187 (30)	Transmission reverse solenoid valve overcurrent	Travel inhibited	Overcurrent event (current higher than a threshold value) on the PWM outputs driving the valve. Overcurrent events are mostly caused by short-circuits to ground. The hardware mechanism is driven by the power supply: the loss of power supply gives the same behavior of overcurrent event.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A188	Transmission K valve control current abnormal	Travel inhibited	Control error is more than 50mA for more than 200ms.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A189 (32)	Transmission K valve open circuit	Travel inhibited	Engine is running, Kprop valve is NOT energized and line pressure is present.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A190 (33)	Transmission K valve control overcurrent	Travel inhibited	Overcurrent event (current higher than a threshold value) on the PWM outputs driving the valve. Overcurrent events are mostly caused by short-circuits to ground. The hardware mechanism is driven by the power supply: the loss of power supply gives the same behavior of overcurrent event.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A191 (34)	Transmission neutral fault	Travel inhibited	Driveline is not disengaged at Neutral selection. Driveline is considered not disengaged if after initialization with engine running and system pressure presence: engine speed- input shaft speed > threshold(engine speed) AND | when the following conditions are met, an error is reported. The detection period is 200ms. This diagnosis will not be performed in safe mode.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A192 (35)	Transmission EEC1 timeout	Travel inhibited	No EEC1 message is received 20s before or 200ms after completing system initialization.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A193 (36)	Transmission BJM1 timeout	Travel inhibited	No BJM1 message is received 20s before or 200ms after completing system initialization.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A194	Transmission TCU hardware fault	Travel inhibited	(Reserved for future use)	—	See Carraro fault code troubleshooting manual.	For transmission models only
A195 (38)	Transmission K1 switch valve fault	Travel inhibited	Switch valve SK1 hardware drive detects overload (current above threshold). Overload is usually caused by short circuit. As hardware is driven by outputs from two circuits, it is impossible to determine which circuit fault is the cause. The hardware low side is driven by high side, and the same overload occurs when the high side drive is lost.	—	See Carraro fault code troubleshooting manual.	For transmission models only
A196 (39)	Transmission K2 switch valve fault	Travel inhibited	Switch valve SK2 hardware drive detects overload (current above threshold). Overload is usually caused by short circuit. As hardware is driven by outputs from two circuits, it is impossible to determine which circuit fault is the cause. The hardware low side is driven by high side, and the same overload occurs when the high side drive is lost.	—	See Carraro fault code troubleshooting manual.	For transmission models only

A197-A200	NOT USED					
A201	Mdp moment limiter E2PROM error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A202	Mdp moment limiter CAN1 initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A203	Mdp moment limiter initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A204	Mdp moment limiter initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A205	Mdp moment limiter E2PROM initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A206	Mdp moment limiter data exchange initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A207	Mdp moment limiter task 1 initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A208	Mdp moment limiter task 2 initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A209	Mdp moment limiter task 3 initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A210	Mdp moment limiter task 4 initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A211	Mdp moment limiter flash memory initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A212	Mdp moment limiter ERAM error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A213	Mdp moment limiter DExc error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A214	Mdp moment limiter CFLASH error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A215	Mdp moment limiter TWdo_VIn_A error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A216	Mdp moment limiter TIn_Error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A217	Mdp moment limiter output error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure

						sensor only
A218	Mdp moment limiter TWdo_Reset error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A219-A239	NOT USED				See Midac manual.	For models with cylinder pressure sensor only
A240	Mdp moment limiter CPU1 initialization RAM error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A241	Mdp moment limiter CPU1 internal FLASH CRC error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A242	Mdp moment limiter CPU1 IO task error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A243	Mdp moment limiter CPU1 E2PROM error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A244	Mdp moment limiter CPU1 CAN initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A245	Mdp moment limiter CPU1 data exchange initialization error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A246	Mdp moment limiter CPU1 DExc error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A247	Mdp moment limiter CPU1 DExc_NCRC error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A248	Mdp moment limiter CPU1 DaM_Idle running error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A249	Mdp moment limiter CPU1 DaM_Task3 running error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A250	Mdp moment limiter CPU1 SqM error	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A251	Mdp moment limiter bypass switch on	Primary boom down and extend inhibited	Moment limiter is damaged.	Replace moment limiter.	See Midac manual.	For models with cylinder pressure sensor only
A252-A300	NOT USED					
A301	Moment limiter lift cylinder blind end chamber pressure sensor circuit A open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A302	Moment limiter lift cylinder blind end chamber pressure sensor circuit A short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only

A303	Moment limiter lift cylinder rod end chamber pressure sensor circuit A open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A304	Moment limiter lift cylinder rod end chamber pressure sensor circuit A short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A305	Moment limiter lift cylinder blind end chamber pressure sensor circuit B open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A306	Moment limiter lift cylinder blind end chamber pressure sensor circuit B short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A307	Moment limiter lift cylinder rod end chamber pressure sensor circuit B open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A308	Moment limiter lift cylinder rod end chamber pressure sensor circuit B short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A309	Moment limiter fork cylinder blind end chamber pressure sensor circuit A open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A310	Moment limiter fork cylinder blind end chamber pressure sensor circuit A short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A311	Moment limiter fork cylinder rod end chamber pressure sensor circuit A open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A312	Moment limiter fork cylinder rod end chamber pressure sensor circuit A short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A313	Moment limiter fork cylinder blind end chamber pressure sensor circuit B open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A314	Moment limiter fork cylinder blind end chamber pressure sensor circuit B short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A315	Moment limiter fork cylinder rod end chamber pressure sensor circuit B open	Primary boom down and extend inhibited	Pressure sensor current is below 4mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A316	Moment limiter fork cylinder rod end chamber pressure sensor circuit B short	Primary boom down and extend inhibited	Pressure sensor current is above 20mA.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A317	Moment limiter lift cylinder blind end chamber pressure sensor redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A318	Moment limiter lift cylinder rod end chamber pressure sensor redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A319	Moment limiter fork cylinder blind end chamber pressure sensor redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only

A320	Moment limiter fork cylinder rod end chamber pressure sensor redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A321	Moment limiter angle sensor circuit A actual angle below set	Primary boom down and extend inhibited	Difference between actual angle detected by angle sensor and angle recorded during calibration is above 5°.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A322	Moment limiter angle sensor circuit A actual angle above set	Primary boom down and extend inhibited	Difference between actual angle detected by angle sensor and angle recorded during calibration is above 5°.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A323	Moment limiter angle sensor circuit B actual angle below set	Primary boom down and extend inhibited	Difference between actual angle detected by angle sensor and angle recorded during calibration is above 5°.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A324	Moment limiter angle sensor circuit B actual angle above set	Primary boom down and extend inhibited	Difference between actual angle detected by angle sensor and angle recorded during calibration is above 5°.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A325	Moment limiter angle sensor redundancy error	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A326	Moment limiter length sensor circuit A analog below set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A327	Moment limiter length sensor circuit A analog above set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A328	Moment limiter length sensor circuit A actual length below set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A329	Moment limiter length sensor circuit A actual length above set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A330	Moment limiter length sensor circuit B analog below set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A331	Moment limiter length sensor circuit B analog above set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A332	Moment limiter length sensor circuit B actual length below set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A333	Moment limiter length sensor circuit B actual length above set	Primary boom down and extend inhibited	Difference between actual length detected by length sensor and length recorded during calibration is above 20cm.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A334	Moment limiter length sensor redundancy error	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A335	Moment limiter level sensor circuit A communication timeout	Primary boom down and extend inhibited	Communication between chassis level sensor and moment limiter is lost.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A336	Moment limiter level sensor circuit B communication timeout	Primary boom down and extend inhibited	Communication between chassis level sensor and moment limiter is lost.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only

A337	Moment limiter angle sensor circuit A fault	Primary boom down and extend inhibited	Moment limiter angle sensor circuit A is damaged.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A338	Moment limiter angle sensor circuit B fault	Primary boom down and extend inhibited	Moment limiter angle sensor circuit B is damaged.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A339	Moment limiter level sensor X-axis redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A340	Moment limiter level sensor Y-axis redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A341-A344	NOT USED					
A345	Moment limiter turntable encoder communication timeout	Primary boom down and extend inhibited	Communication between turntable encoder and moment limiter is lost.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A346	Moment limiter turntable encoder redundancy fault	Primary boom down and extend inhibited	Signal status changes in two circuits of sensor are inconsistent.	Check wiring and sensor.	See Midac manual.	For models with cylinder pressure sensor only
A347-A351	NOT USED					
A352	Moment limiter bypass switch turned on			—	See Midac manual.	For models with cylinder pressure sensor only
A353-A400	NOT USED					
WC001	Engine start not in neutral	Engine start inhibited	Engine is started in forward or reverse gear.	Check joystick position status.	—	—
WC002	Switch forced open	Removed restriction on boom functions	Override switch is turned on.	Check override switch status.	Display-IO port-U33	—
WC003	Minimum primary boom angle limit	Boom down inhibited	Current angle reaches minimum angle limit.	Check angle sensor.	Display-IO port-U11	—
WC004	Maximum primary boom angle limit (outrigger in contact with ground)	Boom up inhibited	Current angle reaches maximum angle limit.	Check angle sensor.	Display-IO port-U11	—
WC005	Minimum primary boom length limit	Boom retract inhibited	Current length reaches minimum length limit.	Check length sensor.	Display-IO port-T23	—
WC006	Maximum primary boom length limit	Boom extend inhibited	Current length reaches maximum length limit.	Check length sensor.	Display-IO port-T33	—
WC007	Fuel level sensor circuit short	Prompt only	Fuel level sensor signal value is abnormal.	Check wiring.	Display-IO port-T35	—
WC008	Fuel level sensor circuit open	Prompt only	Fuel level sensor signal value is abnormal.	Check wiring.	Display-IO port-T35	—
WC009	Low fuel level	Prompt only	Fuel is inadequate in tank.	Normal operation reminder	—	—
WC010	Left and right outriggers inhibited from rising with primary boom extended	Outrigger inhibited from retracting	When primary boom extends over 6300mm, outriggers cannot be retracted.	Normal operation reminder	—	
WC011	Transmission into sleep mode	Prompt only		—	—	—
WC012	Maximum primary boom angle limit (outrigger raised)	Primary boom up inhibited	Current angle reaches maximum angle limit.	Normal operation reminder	—	—
WC013	Moment anti-tipover signal input to disable motion in dangerous direction	Primary boom extend and down inhibited	Primary boom extend and down are inhibited when moment limiter restricted range of motion.	Normal operation reminder	—	—
WC014	Travel inhibited with outriggers in contact with ground	Travel inhibited	Travel is inhibited with outriggers in contact with ground.	Normal operation reminder	—	—
WC015	Outrigger inhibited from retracting with primary boom angle above 60°	Outrigger inhibited from retracting	Outrigger is inhibited from retracting with primary boom angle above 60°.	Normal operation reminder	—	—
WC016	Inhibited from putting in forward gear when unseated	Prompt only	—	Normal operation reminder	—	—
WC017	Inhibited from putting in reverse gear	Prompt only	—	Normal operation reminder	—	—

	when unseated					
WC018	Machine body motion inhibited with primary boom angle above 30°	Machine body leveling inhibited	Machine body motion is inhibited with primary boom angle above 30°.	Normal operation reminder	—	
WC019	Up motion inhibited with chassis X-axis tilt above set	Up motion inhibited	Chassis tilts over 4.5° in X/Y axis.	Normal operation reminder	—	For HR2150 only
WC020	Up motion inhibited with chassis Y-axis tilt above set	Up motion inhibited	Chassis tilts over 4.5° in X/Y axis.	Normal operation reminder	—	For HR2150 only
WC021	Boom extend inhibited with chassis X-axis tilt above set	Boom extend inhibited	Chassis tilts over 4.5° in X/Y axis.	Normal operation reminder	—	For HR2150 only
WC022	Boom extend inhibited with chassis Y-axis tilt above set	Boom extend inhibited	Chassis tilts over 4.5° in X/Y axis.	Normal operation reminder	—	For HR2150 only
WC023	Fork down inhibited with chassis X-axis tilt above set	Fork motion inhibited	Chassis tilts over 4.5° in X/Y axis.	Normal operation reminder	—	For HR2150 only
WC024	Fork down inhibited with chassis Y-axis tilt above set	Fork motion inhibited	Chassis tilts over 4.5° in X/Y axis.	Normal operation reminder	—	For HR2150 only
WC025	Horizontal outriggers inhibited from retracting after driver's leaving seat	Prompt only	Retracting horizontal outriggers is inhibited after driver leaves seat.	Normal operation reminder	—	—
WC026	Horizontal outriggers inhibited from retracting with vertical outriggers in contact with ground	Outrigger inhibited from extending	Horizontal outriggers are inhibited from retracting with vertical outriggers in contact with ground.	Normal operation reminder	—	—
WC027	Outriggers inhibited from retracting with primary boom extended	Prompt only	Outriggers are inhibited from retracting with primary boom extended.	Normal operation reminder	—	—
WC028	Outrigger inhibited from retracting with primary boom angle above 55°	Prompt only	Outriggers are inhibited from retracting with primary boom angle above 55°.	Normal operation reminder	—	—
WC029	Outriggers inhibited from retracting with turntable not at due front	Outriggers inhibited from retracting	Outriggers are inhibited from retracting with turntable not at due front.	Normal operation reminder	—	—
WC030	Up motion inhibited in platform mode with outriggers not in contact with ground	Prompt only		Normal operation reminder	—	—
WC031	Primary boom extend inhibited in platform mode with outriggers not in contact with ground	Prompt only		Normal operation reminder	—	—
WC032	Fork motion inhibited in platform mode with outriggers not in contact with ground	Prompt only		Normal operation reminder	—	—
WC033	GPS locking machine	Boom up and extend inhibited	GPS is locking machine.	Normal operation reminder	—	—
WC034	Pull up on handbrake	Travel inhibited	Handbrake is not engaged when driver is not present.	Normal operation reminder	—	—
WC035-WC050	NOT USED					
WC051	Moment limiter cut power for boom up	Primary boom up inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC052	Moment limiter cut power for boom down	Primary boom down inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC053	Moment limiter cut power for primary boom to extend	Primary boom extend inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC054	Moment limiter cut power for primary	Boom retract inhibited	Moment limiter restricts range of motion.	Check whether motion is out of	See Midac manual.	For models with

	boom to retract			specification indicated in the range of motion chart.		cylinder pressure sensor only
WC055	Moment limiter cut power for turntable to rotate clockwise	Turntable rotate clockwise inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC056	Moment limiter cut power for turntable to rotate counterclockwise	Turntable rotate counterclockwise inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC057	Moment limiter cut power for fork up	Fork up inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC058	Moment limiter cut power for fork down	Fork down inhibited	Moment limiter restricts range of motion.	Check whether motion is out of specification indicated in the range of motion chart.	See Midac manual.	For models with cylinder pressure sensor only
WC059-WC060						
WC061	Turntable swinging is prohibited with turntable swing switch off.	Turntable rotate inhibited	Moment limiter restricts range of motion.	Normal operation reminder	—	—
WC062-WC099						
WC100	Engine start inhibited due to engine CAN communication fault	Engine start inhibited	Communication between engine and main controller is lost.	Check main controller and engine bus and power supply.	Check wiring continuity and ECU power supply.	—
WC101	Engine start inhibited when not in neutral	Engine start inhibited	Start engine in forward or reverse gear.	Normal operation reminder	—	—
WC102	Engine restart inhibited within allowed time	Engine start inhibited	Engine cannot be restarted immediately after first attempt failure.	Normal operation reminder	—	—
WC103	Engine start inhibited upon emergency pump startup	Engine start inhibited	Engine cannot be started when emergency pump is working.	Normal operation reminder	—	—