HS TP *Series*

HS0814TP;HS0816TP

HS1014TP;HS1016TP

HS1214TP;HS1216TP

HS1414TP;HS1416TP

Mobile elevating work platform

Operation Manual

HANGCHA GROUP CO., LTD.

July, 2024

Preface

Dear customers, thank you for choosing to purchase the mobile elevating work platform of HANGCHA GROUP CO., LTD.

Before operating the machine, please read and understand the content of this manual carefully. You should understand and comply with the relevant safety rules and operation instructions. Only trained and authorized personnel are allowed to operate the machine. This manual should be part of the machine and always kept with the machine.

This manual is the correct operation instruction of the aerial work platform, it will guide you on how to perform safe operation and preventive maintenance. At the same time, the manual also includes the working principle and fault diagnosis of the machine. In order to ensure the safety and give full play to the performance of the product, relevant operators and maintenance personnel must read this manual thoroughly before use.

The design of our products is constantly being updated and improved, so there may be some differences between the contents of this manual and the machine you are currently using.

If there is any uncertainty, please contact HANGCHA GROUP CO., LTD. sales department or the agent.

Contents

1 Notice for use..... 1
1.1 Overview.....1
1.2 Operate as required.....1
1.3 Operating conditions..... 1
1.4 Storage conditions.....2
1.5 Obligations and responsibilities of equipment user..... 2
1.6 Install attachments or modify the machine..... 2
2 Introduction of machine.....4
2.1 Overview.....4
2.3 Main parts introduction..... 7
2.4 Display and control.....8
2.5 Nameplates and labels..... 11
2.6 Main performance parameters..... 14
2.7 Product nameplate.....16
3 Safety regulations.....18
3.1 Overview.....18
3.3 Accident notification..... 19
3.4 Electrocution hazard.....20
3.5 Tip-over Hazard..... 21
3.6 Working environment hazard.....23
3.7 Unsafe operation hazard..... 24
3.8 Fall hazard.....25
3.9 Collision hazard..... 26
3.10 Crushing hazard.....27
3.11 Explosion and fire hazard..... 27
3.12 Damaged machine hazard.....27
3.13 Bodily injury hazard.....28
3.14 Battery hazard..... 28

3.15 Hydraulic system hazard.....29
3.16 Welding and grinding safety.....30
3.17 Lockout after each use..... 30
4 Lifting, fixation and traction..... 31
4.1 Lifting.....31
4.2 Fixation..... 32
4.3 Transport..... 33
5 Pre-operation inspection.....34
5.1 Machine inspection..... 34
5.2 Operating environment inspection..... 35
6 Pre-operation functional test..... 37
6.1 Ground controller test.....38
6.2 Platform control handle test..... 39
6.3 Safety function test..... 41
7 Operating instructions.....43
7.1 Emergency operation..... 43
7.2 Operate from the ground..... 44
7.3 Operate from the platform.....44
7.4 Operation of platform..... 46
7.5 Use of maintenance arm..... 46
7.6 Battery and charger.....47
8 Maintenance.....49
8.1 Maintenance instructions.....49
8.2 Maintenance schedule..... 49
8.3 Maintenance inspection report.....50

1 Notice for use

1.1 Overview

The mobile elevating work platform described in this manual is only for lifting personnel, their working tools and materials to the specified height.

The platform must be operated and maintained in accordance with the instructions in this manual. Any other uses are outside the design envelope and may cause casualties and damage to the platform or other property.

1.2 Operate as required

Ensure before operation：

★You have understood and practiced the rules for safe operation of the machine in this manual.

——Avoid dangerous situations

——Always perform a pre-operational check.

——Always perform pre-operational functional test.

——Check the workplace.

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

★Read, understand and follow manufacturer's instructions and safety rules, operating manuals and machine labels.

★Read, understand and follow user safety rules and workplace regulations.

★Read, understand and comply with all applicable government regulations.

★You have been properly trained to operate the machine safely.

1.3 Operating conditions

★The operating ground should be firm and flat, and the ground should not sink during the operation；

★The ambient temperature is -20~40℃；

★The ambient relative humidity should not be greater than 90%(temperature 20℃)；

★The altitudes should not exceed 1000m；

★The wind speed should not be greater than 12.5m/s；

★The permissible fluctuation of the supply voltage is ±10%.

1.4 Storage conditions

★The machine should be stored in the environment free of rain, sun and corrosive gas；

★When the machine is stored, it should be placed in the lowest position and on solid ground so that the machine is level. If the walking wheel is pneumatic tire, the wheel should be fragmented on the ground；

★After long term (more than one month) out of use, inspection, repair and maintenance should be carried out according to the operation manual before use.

1.5 Obligations and responsibilities of equipment user

In the operating instructions, "equipment user" refers to any natural or legal person who directly uses or appoints others to use the mobile elevating work platform. In special cases such as leasing， the "equipment user" represents the party who undertakes the specified operation obligations according to the contract terms between the owner and the user of the equipment.

The equipment user must ensure that the platform is used for the specified purpose only, and promptly remove risks that may endanger the life and health of the user or a third party. In addition, the equipment user must strictly abide by the accident prevention provisions, other safety technical provisions, and equipment operation, maintenance and repair guidelines. Equipment user must ensure that all operators carefully read and fully understand the operation instructions.

Failure to follow this instruction will automatically void our company’s warranty. if the customer or the third party carries out non-standard operation on the equipment without the permission of the company, the company will not be responsible for the losses arising therefrom.

1.6 Install attachments or modify the machine

Unauthorized modification of machine is not allowed without the authorization of the manufacturer.

If additional devices need to be installed to affect or supplement the functionality of the vehicle, prior written approval must be obtained from the manufacturer. Depending on the actual situation, it may also go through the examination and approval of the local competent department.

Without the prior written approval of the original manufacturer, its authorized representative or its successor, any change to the machine that may influence its performance, such as rated capacity, stability or security, is not allowed. The changes include platforms, scissors, frames, side doors, braking, steering,

visual fields and the addition of detachable attachments. When modifications to the machine are approved by the manufacturer or its successor, corresponding modifications shall also be made to the nameplates, decals, logo and instruction manual of the machine.

Only when the original manufacturer is no longer in the forklift industry, and there is no successor, the user is allowed to refit the machine, but the user should do the following：

★Arrange for professional engineers in industrial vehicle safety to design, test and implement machine refit or modification；

★A permanent record shall be maintained of the design, testing and implementation of machine refit or modification；

★Modify the nameplates, decals, logo and instruction manual of the machine accordingly；

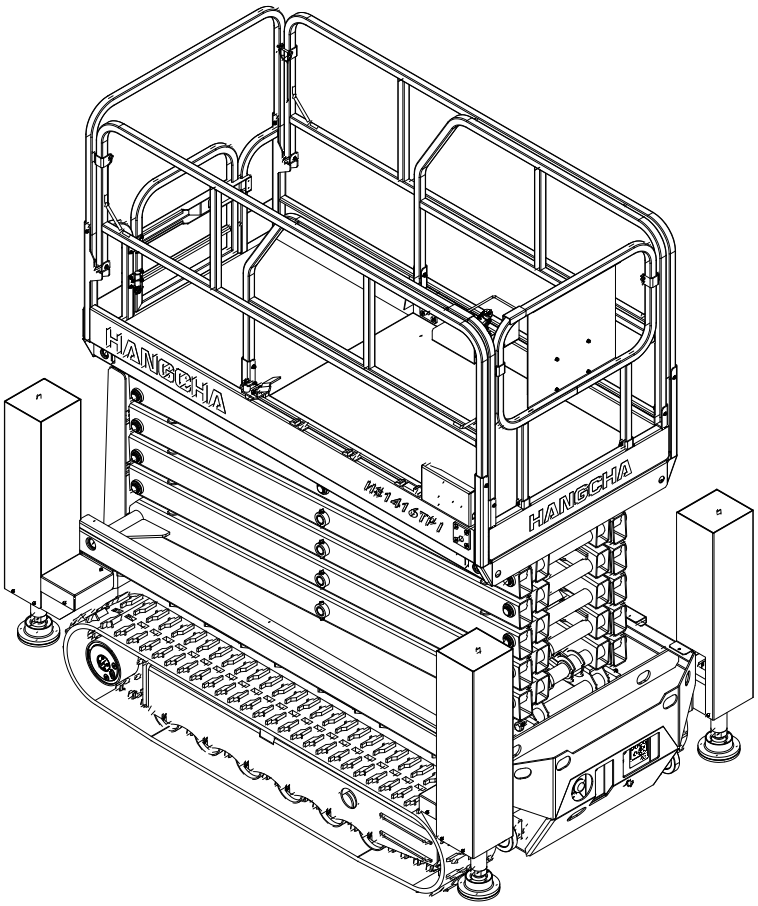
★Fix a permanent, eye-catching sign on the machine stating that the machine has been refitted or modified, and indicate the name, address and date of the organization that completed the work.

2 Introduction of machine

2.1 Overview

This manual introduces the HS-TP series mobile elevating work platform. Users can learn the lifting height and other related information from the product model.

Model	Meaning
H	HANGCHA GROUP
S	Scissors lifting and descending
12	Working height:12m
16	Machine width:1.6m
T	Crawler-type
P	Permanent magnet motor drive



2.2 Functional description

Mechanical structure

★The frame adopts serialized design with good waterproof and dustproof effect. The left and right side doors are designed to be rotated out for installation of hydraulic system and electrical system components, so as to facilitate after-sales maintenance.

★Adopt double scissors forks structure, high stability of structure, small shaking, safe and stable lifting. Rubber pads are installed between the square tubes, which play a cushioning role when descending, and can prevent hand clamping to protect the safety of personnel. The maintenance arm is set to facilitate the maintenance in case of failure.

★The working platform adopts folding design; the height of the machine is reduced after folding, which is convenient to improve the passing ability. With bidirectional extension function, the maximum extension is 0.6m/0.9m, which can be close to the target and expand the scope of operation. The platform bottom plate adopts patterned plate, which is anti-skid and durable.

Major configuration

★Hydraulic system parts adopt high-end brands, stable and reliable performance can ensure the machine ride comfort at work. Equipped with emergency descent system, in case of electrical system failure, can realize the scissors descent through the system.

★The electrical system adopts the mainstream control system in the industry. The ground control panel and platform control handle are equipped with an emergency stop button. in case of emergency, press the button and all actions will stop immediately to ensure the safety of operators. The control handle concentrates the functions of driving, lifting, descending, steering and lifting of outrigger and can be controlled by one hand. Proportional control is used to reduce the impact of the operation and make the operation smooth. The ground control panel is equipped with an intelligent display screen, which is used to display the current machine 's mode, usage time, electric quantity and other information. When the machine fails, the screen will display the corresponding electrical fault code and fault description, so as to facilitate the operator or maintenance personnel to diagnose the fault. With a charger, charging is simple and convenient. Equipped with a full action warning system, in any action, the buzzer and warning light emit sound and light alarm.

★Batteries are configured differently. Lead-acid batteries and lithium batteries are optional. The Lithium

batteries have a short charging time, long battery life and high efficiency.

Safety device

★Descending stop device： When the platform descends to the set height (about 2m above the ground), the descending action will stop. Press the descending button again, and the platform will continue to descend after a pause of 3 seconds to avoid injury to personnel on the ground.

★Outrigger protection device: After opening the outrigger, the platform can be lifted to the maximum height to ensure that the machine will not tip over.

★Oil pipe explosion-proof device: Prevent the platform from automatically descending due to the pipe burst to ensure the safety of personnel.

★Tilting alarm device: when the body tilts beyond the set range, the buzzer will give an urgent alarm sound, and the platform cannot lift.

★Overload alarm device: According to the value detected by the height sensor and pressure sensor, when the setting curve value is exceeded, the platform cannot lift, and the buzzer will give an alarm.

★Charging protection system: When charging the battery, the system will automatically cut off the whole circuit to ensure the safety of electricity use.

2.3 Main parts introduction

1、Platform entrance door

2、Platform pedal

3、Control handle

4、File box

5、Extension platform

6、Safety belt anchorage

7、Fixed platform

8、Scissors

9、Chassis

10、Outrigger

11、Emergency descend handle

12、Crawler

13、Drive system

14、Boarding pedal

15、 Maintenance arm

16、Power switch

17、Ground control panel

18、Pump motor

19、Hydraulic valve

20、Batteries

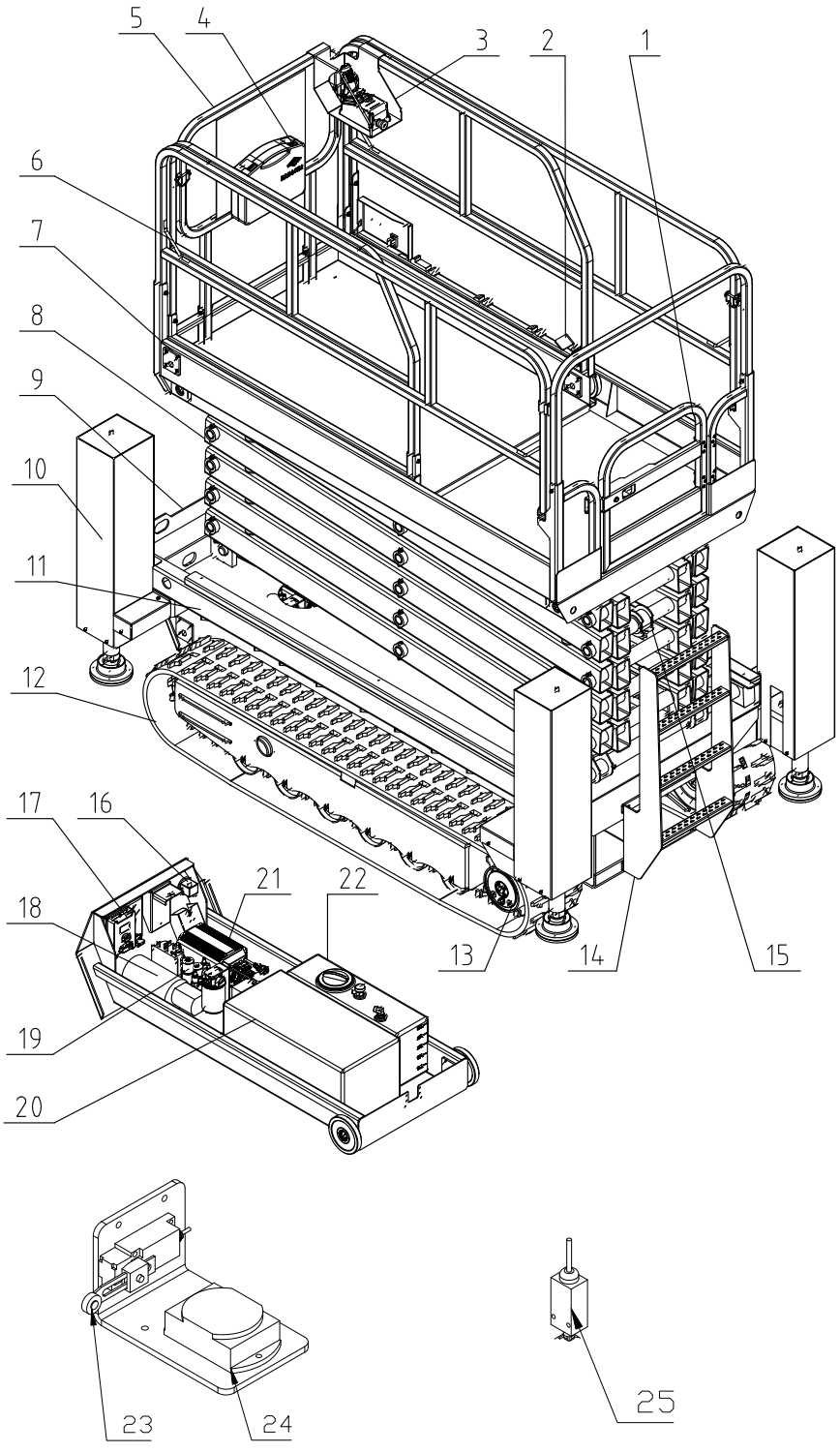
21、Charger

22、Hydraulic oil tank

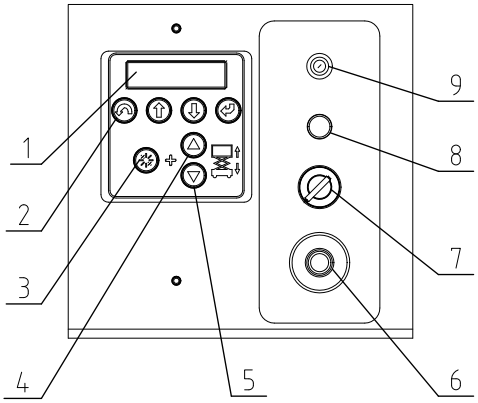
23、Limit switch

24、Level sensor

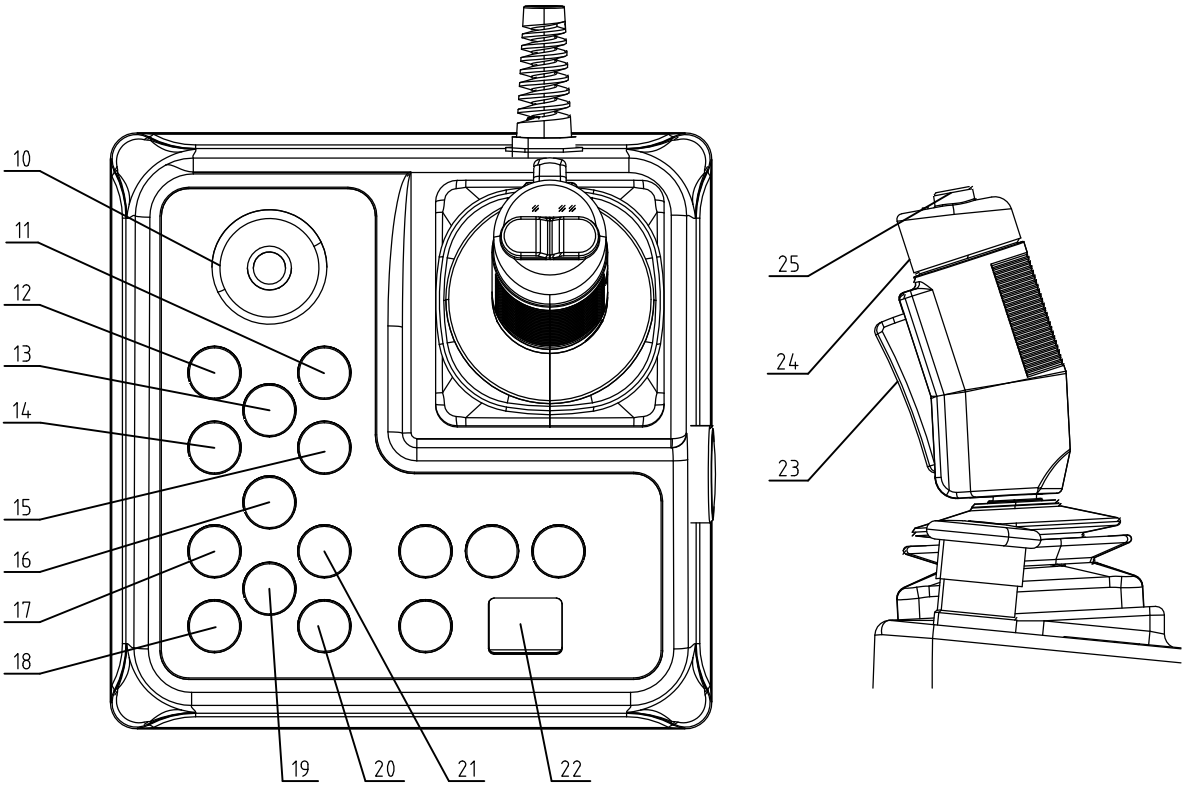
25、Inching switch



2.4 Display and control



Lower control panel



Handle assembly

1、ECU display screen: Display machine modes or fault codes

2、Parameter setting button: Set/change system parameters

3、Enable button: Press it to activate the lifting / descending function

4、Ground lifting button: Control platform lift on the ground

5、Ground descending button: Control platform descend on the ground

6、Emergency stop switch: Stop all functional actions

7、Key switch: Switch ground/platform control

8、Overload indicator light：The indicator lights up when the machine is overloaded

9、Emergency descent button: Press it to activate the emergency descending function

10、Emergency stop switch: Stop all functional actions

11、Drive button: The indicator lights up to activate the drive function

12、Lifting / descending button：The indicator lights up to activate the lifting / descending function

13、Speed selection button: The indicator lights up to activate the slow speed

14、Horn button: Control horn honking

15、Slope driving warning:：When driving on a slope, the indicator lights up and the speed slows down

16、Middle limit warning: When the indicator lights up, the outrigger needs to be opened safely to continue lifting

17、Left front outrigger button: Press down to activate the left front outrigger lifting / descending function

18、Left rear outrigger button: Press down to activate the left rear outrigger lifting / descending function

19、Outrigger one-click action button：Press down to activate the outrigger lifting / descending function

20、Right front outrigger button: Press down to activate the left front outrigger lifting / descending function

21、Right rear outrigger button: Press down to activate the right rear outrigger lifting / descending function

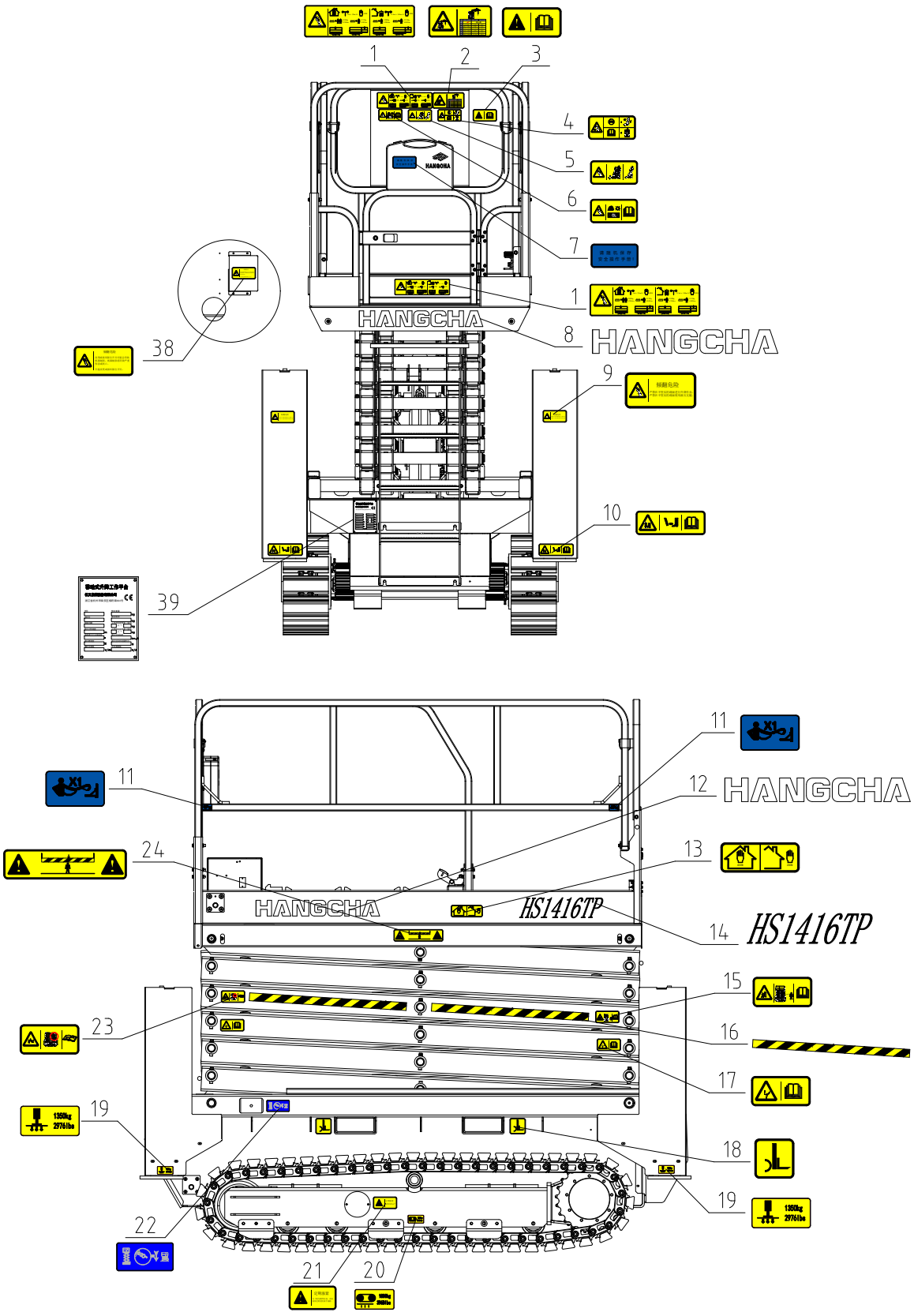
22、PCU display screen: Display current power or fault code

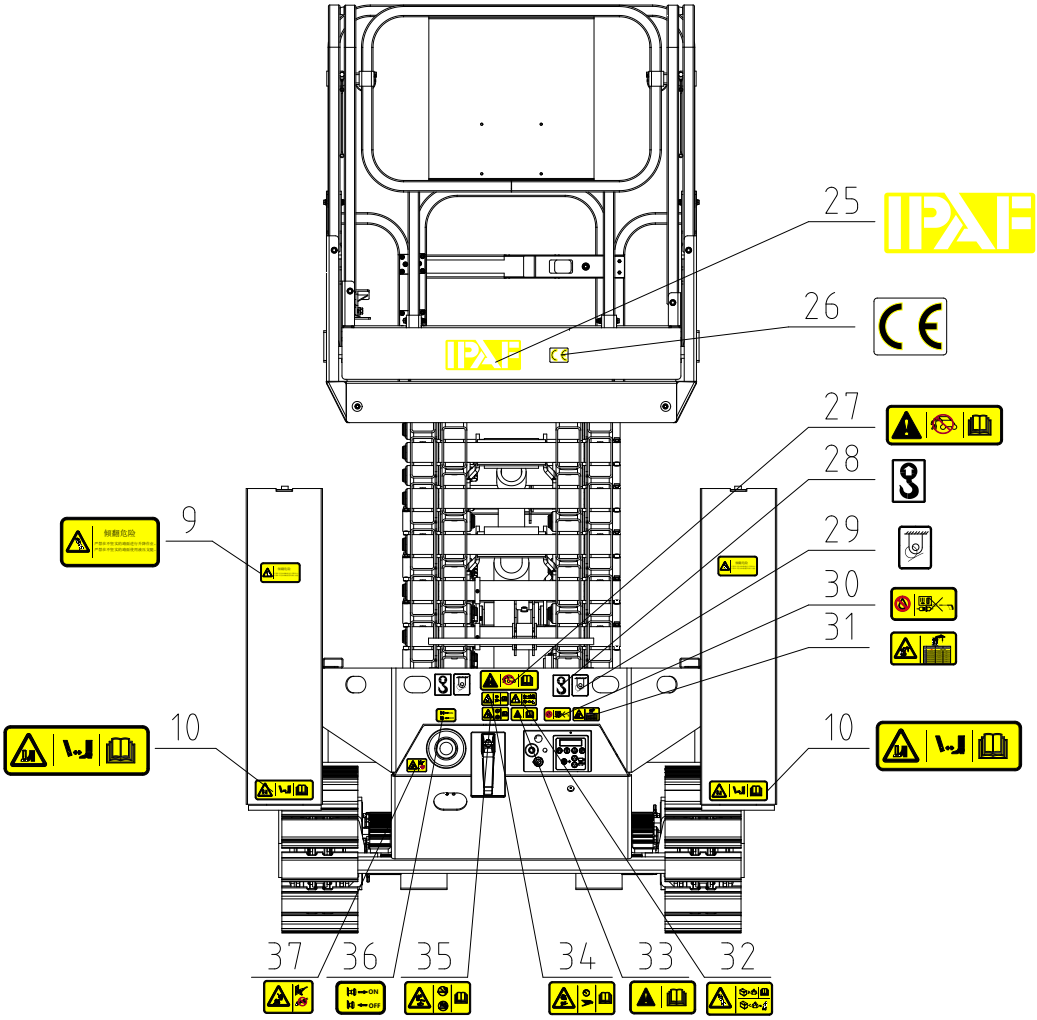
23、Enable button: Press to enable the driving or lifting function

24、Control handle: control lifting / descending / forward/backward/ outrigger lifting

25、Steering button: Control machine left/right steering

2.5 Nameplates and labels





Item	Part No.	Description	Qty	Serial
1	HS1216TP-020005-000	Platform safety load	2	HS1216TP
	HS0816TP-020005-000	Platform safety load	2	HS0816TP、HS1016TP
	HS1012HI-020005-000	Platform safety load	2	HS0814TP、HS1014TP
	HS1212HI-020005-000	Platform safety load	2	HS1214TP、HS1416TP
	HS1412HI-020005-000	Platform safety load	2	HS1414TP
2	HS1412HI-020021-000	Safe distance	1	
3	HS1412HI-020016-001	Operation instruction	1	
4	HS1216TP-020013-000	Tilt alarm operation	1	
5	HS1216TP-020012-000	Tip-over hazard	1	
6	HS1412HI-020014-000	Overloading and tipping hazard	1	
7	HS1412HI-020026-000	Save the manual	1	
8	GTHZ120-020022-000	Trademark	1	
9	HS1216TP-020035-000	Outrigger warning	4	
10	HS1412HI-020024-000	Presser foot warning	4	
11	HS1412HI-020020-000	Safety belt hook	4	

12	78XEN-020017-000	Trademark	2	
13	HS1216TP-020022-000	Manual operating force	2	HS1216TP、HS0816TP、HS1016TP
	HS1212HI-020022-000	Manual operating force	2	HS0814TP、HS1014TP、HS1214TP、HS1416TP
	HS1412HI-020022-000	Manual operating force	2	HS1414TP
14	HS0814TP-020001-001	Model number	2	HS0814TP
	HS1014TP-020001-001	Model number	2	HS1014TP
	HS1214TP-020001-001	Model number	2	HS1214TP
	HS1414TP-020001-001	Model number	2	HS1414TP
	HS0816TP-020001-001	Model number	2	HS0816TP
	HS1016TP-020001-001	Model number	2	HS1016TP
	HS1216TP-020001-001	Model number	2	HS1216TP
	HS1416TP-020001-001	Model number	2	HS1416TP
15	HS1216TP-020010-000	Away from moving parts	2	
16	HS1412HI-020034-000	Reflective stripe	4	
17	HS1412HI-020019-000	Anti-pinch warning	4	
18	HS1412HI-020027-000	Forklift position label	4	
19	HS1216TP-020038-000	Outrigger load	4	
20	HS1216TP-020037-000	Maximum crawler load	2	
21	HS1216TP-020036-000	Regular tightening prompt	2	
22	HS1412HI-020018-000	Emergency descent instruction	1	
23	HS1216TP-020011-000	Maintenance instruction	2	
24	HS1412HI-020033-000	Anti collision warning	2	
25	78XEN-020030-000	IPAF symbol	1	
26	R960-020012-001	CE symbol	1	
27	HS1412HI-020032-000	Maintenance instruction label	1	
28	HS1412HI-020020-000	Lifting hole	4	
29	GTWZ110-020013-000	Bundle location	4	
30	HS0607D-020023-000	Waterproof warning	1	
31	HS0607D-020021-000	Safe distance	1	
32	HS1216TP-020025-000	Battery weight warning	1	
33	HS0607D-020016-001	Operation instruction	1	
34	HS1216TP-020017-000	Explosion and fire hazard	1	
35	HS1216TP-020028-000	Hydraulic sputtering hazard	1	
36	HS0607D-020007-000	Main power switch	1	
37	HS0607D-020031-000	Electricity safety label	1	
38	HS1412HI-020015-000	Limit switch label	1	
39	140XEN-020002	Nameplate	1	

2.6 Main performance parameters

The following technical data are all standard. We reserve the right to make changes and additions to the data.

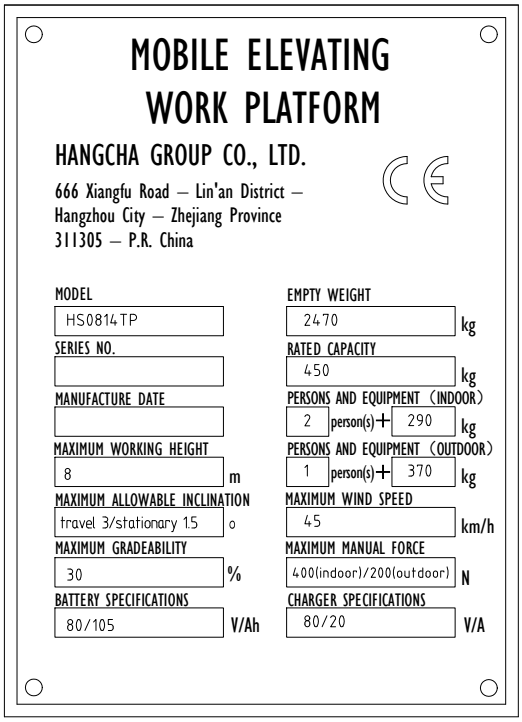
HS0814TP/HS1014TP/HS1214TP/HS1414TP

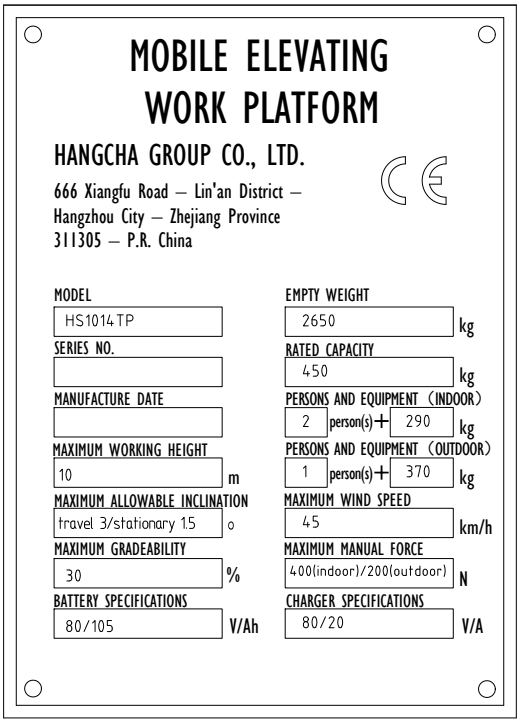
Parameter item		Unit	HS0814TP	HS1014TP	HS1214TP	HS1414TP
Overall dimensions	Length	m	2.72	2.72	2.72	2.72
	Width	m	1.4	1.4	1.4	1.4
	Height（Guardrail unfolded）	m	2.39	2.52	2.65	2.78
	Height（Guardrail folded）	m	1.85	1.98	2.11	2.24
Ground clearance		m	0.13	0.13	0.13	0.13
Machine weight		kg	2470	2650	3050	3340
Working dimensions	Working height, max.	m	8	10	12	13.8
	Platform height, max.	m	6	8	10	11.8
	Extended length, max.	m	0.9	0.9	0.9	0.9
Safe load capacity		kg	450	450	320	320
Safe load capacity （Extended platform）		kg	113	113	113	113
Maximum number of workers （indoor/outdoor）		Person	2/1	2/1	2/1	2/0
Wheel base		m	-	-	-	-
Wheel tread		m	1.16	1.16	1.16	1.16
Turning radius		m	Pivot steering	Pivot steering	Pivot steering	Pivot steering
Maximum allowable side force		N	400/200	400/200	400/200	400/0
System voltage（DC）		V	80	80	80	80
Platform dimensions	Length	m	2.27	2.27	2.27	2.27
	Width	m	1.14	1.14	1.14	1.14
Crawler size	pitch	mm	90	90	90	90
	pitch number	mm	51	51	51	51
	Width	mm	230	230	230	230
Hydraulic system pressure		M Pa	24	24	24	24
Driving speed	Retracted, max.	km/h	2	2	2	2
	Lifted, max.	km/h	0	0	0	0
Maximum slope rating		%	30	30	30	30
Maximum wind speed		m/s	12.5	12.5	12.5	0
Maximum allowable inclination	Front-back	°	3	3	3	3
	Left- right	°	1.5	1.5	1.5	1.5
Normal working noise		dB	≤80	≤80	≤80	≤80

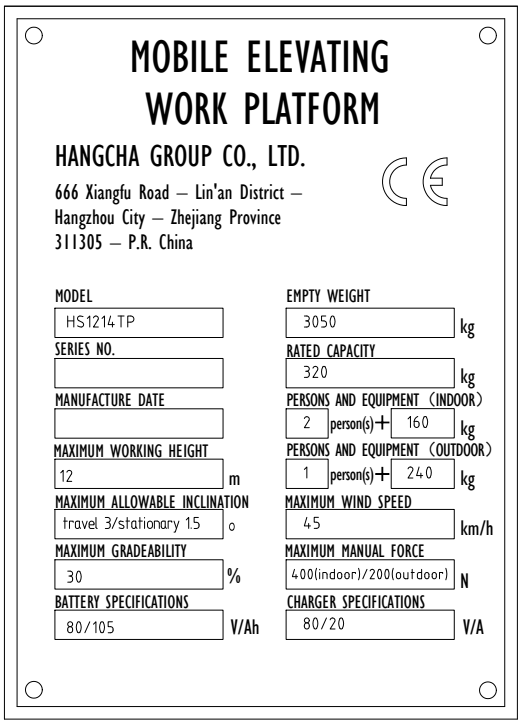
HS0816TP/HS1016TP/HS1216TP/HS1416TP

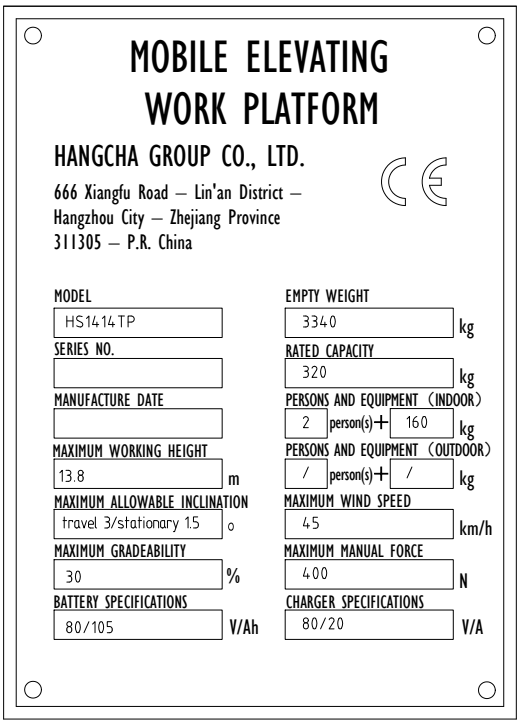
Parameter item		Unit	HS0816TP	HS1016TP	HS1216TP	HS1416TP
Overall dimensions	Length	m	2.78	2.78	2.78	2.78
	Width	m	1.6	1.6	1.6	1.6
	Height（Guardrail unfolded）	m	2.39	2.52	2.65	2.78
	Height（Guardrail folded）	m	1.85	1.98	2.11	2.24
Ground clearance		m	0.13	0.13	0.13	0.13
Machine weight		kg	2870	3050	3450	3740
Working dimensions	Working height, max.	m	8	10	12	13.8
	Platform height, max.	m	6	8	10	11.8
	Extended length, max.	m	0.9	0.9	0.9	0.9
Safe load capacity		kg	450	450	320	320
Safe load capacity （Extended platform）		kg	113	113	113	113
Maximum number of workers （indoor/outdoor）		Person	2/2	2/2	2/2	2/1
Wheel base		m	-	-	-	-
Wheel tread		m	1.16	1.16	1.16	1.16
Turning radius		m	Pivot steering	Pivot steering	Pivot steering	Pivot steering
Maximum allowable side force		N	400/400	400/400	400/400	400/200
System voltage（DC）		V	80	80	80	80
Platform dimensions	Length	m	2.27	2.27	2.27	2.27
	Width	m	1.14	1.14	1.14	1.14
Crawler size	pitch	mm	90	90	90	90
	pitch number	mm	51	51	51	51
	Width	mm	230	230	230	230
Hydraulic system pressure		M Pa	24	24	24	24
Driving speed	Retracted, max.	km/h	2	2	2	2
	Lifted, max.	km/h	0	0	0	0
Maximum slope rating		%	30	30	30	30
Maximum wind speed		m/s	12.5	12.5	12.5	12.5
Maximum allowable inclination	Front-back	°	3	3	3	3
	Left- right	°	1.5	1.5	1.5	1.5
Normal working noise		dB	≤80	≤80	≤80	≤80

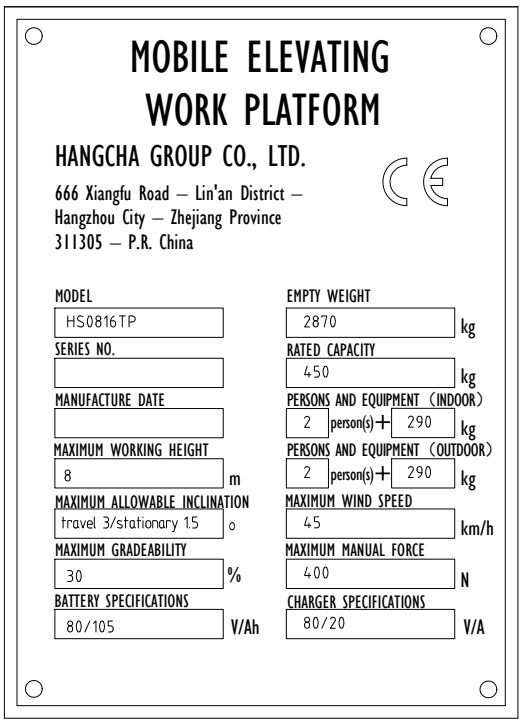
2.7 Product nameplate

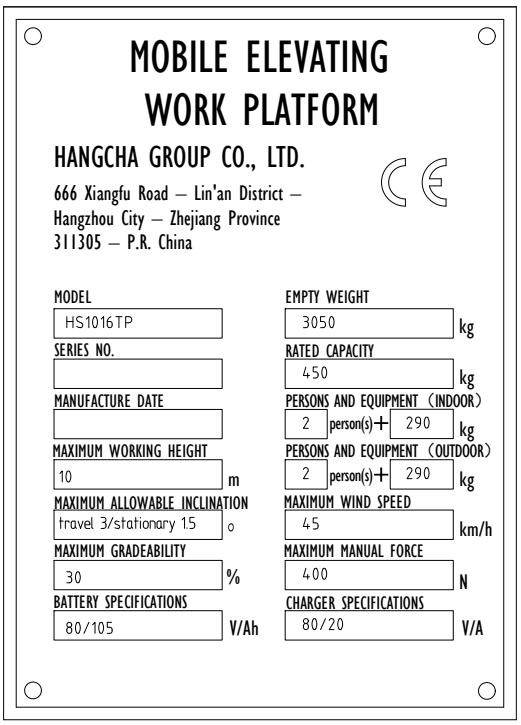


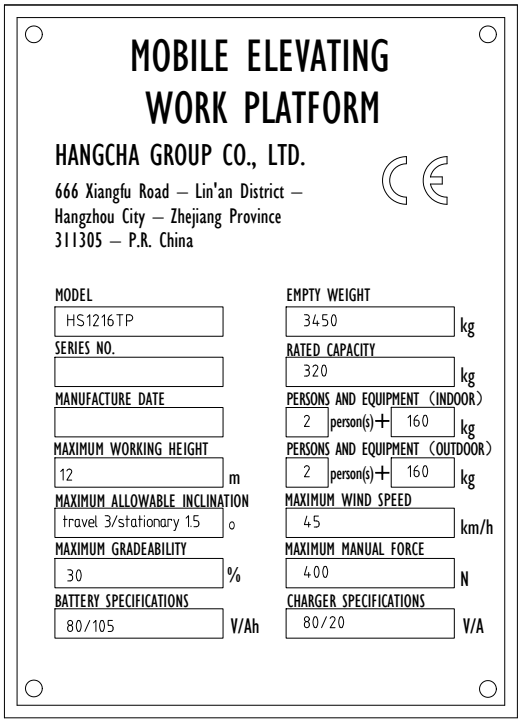


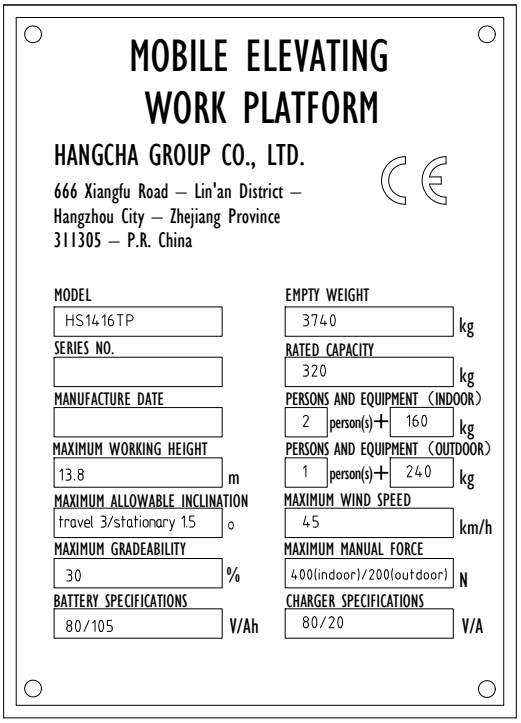





MOBILE ELEVATING
WORK PLATFORM
HANGCHA GROUP CO., LTD.
666 Xiangfu Road – Lin'an District –
Hangzhou City – Zhejiang Province
311305 – P.R. China
MODEL
HS0816TP
SERIES NO.
MANUFACTURE DATE
MAXIMUM WORKING HEIGHT
8 m
MAXIMUM ALLOWABLE INCLINATION
travel 3/stationary 1.5 o
MAXIMUM GRADEABILITY
30 %
BATTERY SPECIFICATIONS
80/105 V/Ah
EMPTY WEIGHT
2870 kg
RATED CAPACITY
450 kg
PERSONS AND EQUIPMENT (INDOOR)
2 person(s)+ 290 kg
PERSONS AND EQUIPMENT (OUTDOOR)
2 person(s)+ 290 kg
MAXIMUM WIND SPEED
45 km/h
MAXIMUM MANUAL FORCE
400 N
CHARGER SPECIFICATIONS
80/20 V/A


MOBILE ELEVATING
WORK PLATFORM
HANGCHA GROUP CO., LTD.
666 Xiangfu Road – Lin'an District –
Hangzhou City – Zhejiang Province
311305 – P.R. China
MODEL
HS1016TP
SERIES NO.
MANUFACTURE DATE
MAXIMUM WORKING HEIGHT
10 m
MAXIMUM ALLOWABLE INCLINATION
travel 3/stationary 1.5 o
MAXIMUM GRADEABILITY
30 %
BATTERY SPECIFICATIONS
80/105 V/Ah
EMPTY WEIGHT
3050 kg
RATED CAPACITY
450 kg
PERSONS AND EQUIPMENT (INDOOR)
2 person(s)+ 290 kg
PERSONS AND EQUIPMENT (OUTDOOR)
2 person(s)+ 290 kg
MAXIMUM WIND SPEED
45 km/h
MAXIMUM MANUAL FORCE
400 N
CHARGER SPECIFICATIONS
80/20 V/A


MOBILE ELEVATING
WORK PLATFORM
HANGCHA GROUP CO., LTD.
666 Xiangfu Road – Lin'an District –
Hangzhou City – Zhejiang Province
311305 – P.R. China
MODEL
HS1216TP
SERIES NO.
MANUFACTURE DATE
MAXIMUM WORKING HEIGHT
12 m
MAXIMUM ALLOWABLE INCLINATION
travel 3/stationary 1.5 o
MAXIMUM GRADEABILITY
30 %
BATTERY SPECIFICATIONS
80/105 V/Ah
EMPTY WEIGHT
3450 kg
RATED CAPACITY
320 kg
PERSONS AND EQUIPMENT (INDOOR)
2 person(s)+ 160 kg
PERSONS AND EQUIPMENT (OUTDOOR)
2 person(s)+ 160 kg
MAXIMUM WIND SPEED
45 km/h
MAXIMUM MANUAL FORCE
400 N
CHARGER SPECIFICATIONS
80/20 V/A


MOBILE ELEVATING
WORK PLATFORM
HANGCHA GROUP CO., LTD.
666 Xiangfu Road – Lin'an District –
Hangzhou City – Zhejiang Province
311305 – P.R. China
MODEL
HS1416TP
SERIES NO.
MANUFACTURE DATE
MAXIMUM WORKING HEIGHT
13.8 m
MAXIMUM ALLOWABLE INCLINATION
travel 3/stationary 1.5 o
MAXIMUM GRADEABILITY
30 %
BATTERY SPECIFICATIONS
80/105 V/Ah
EMPTY WEIGHT
3740 kg
RATED CAPACITY
320 kg
PERSONS AND EQUIPMENT (INDOOR)
2 person(s)+ 160 kg
PERSONS AND EQUIPMENT (OUTDOOR)
1 person(s)+ 240 kg
MAXIMUM WIND SPEED
45 km/h
MAXIMUM MANUAL FORCE
400(indoor)/200(outdoor) N
CHARGER SPECIFICATIONS
80/20 V/A

3 Safety regulations

Failure to follow the instructions and safety rules in this manual will result in death or serious injury.

3.1 Overview

Whether you are the owner, user or operator of the machine, you must read the manual completely and understand its contents thoroughly and correctly before the first operation. You can operate the machine independently only after you have done the whole operation from start to finish under the supervision of a qualified and experienced person. If you have any questions about the operation of the machine, please call HANGCHA Group for consultation.

The vast majority of accidents in the operation, maintenance and repair process are caused by the failure to follow basic safety operating procedures and precautions in the actual operation. In fact, if before each operation, can analyze safety hazards and take corresponding safety protection measures, the vast majority of accidents that occur in practice can be completely avoided. Therefore, before each operation, a safety officer who is professionally trained and capable of analyzing safety hazards should evaluate it. In addition, it is necessary to remind the personnel operating the machine to take necessary measures to avoid the occurrence of hazards.

Before operating the machine, it is necessary to confirm that the personal protective devices listed in the table below are properly worn and intact.

Anti-falling safety rope	Protective gloves	Helmet	Safety shoes

3.2 Symbol description

The symbols, color codes and text meanings used in the product labels of Hangcha Group co., Ltd. are as follows：

This safety-warning symbol appears in most safety statements. It means your safety will be affected! So you need to pay attention and be vigilant at all times. Please read and follow the relevant information of safety warning symbols.

Indicates an emergency hazard. If not avoided, will result in death or serious injury.

Indicates a potential hazard. If not avoided, it could result in death or serious injury.

Indicates a potential hazard. If not avoided, it could result in minor or moderate injury.

NOTICE

Indicates potential hazard to the power plant, personal property and the environment, or improper operation of the equipment.

3.3 Accident notification

In case of any malfunction of our machine, please immediately contact Hangcha Group co., Ltd. Even if there was no personal injury or property damage in the accident, please be sure to contact Hangcha Group co., Ltd. by phone and provide all necessary details. If you do not notify the manufacturer within 48 hours after the machine accident of Hangcha Group co., Ltd., the warranty period of the product will be invalid.

NOTICE

After the accident, the operator should examine the machine and its functions thoroughly. All functions should be tested first from the ground controller and then from the platform controller. Lifting height shall not exceed 3m until all damage has been repaired and all controllers can be operated correctly.

3.4 Electrocution hazard

The machine is not electrically insulated and has no electric shock protection function.

All operators and managers shall comply with national or local regulations regarding the minimum safe distance of charged conductor above ground. In the absence of such requirements, operators and managers should follow the minimum safe distance requirements.

Electrocution Hazard

★ Follow relevant government regulations and always keep a safe distance from power cord and electrical equipment, as shown in the table below.

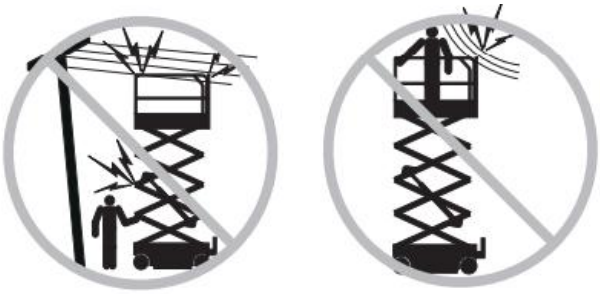
★ Consider platform movement, wire swing or sag. Beware of strong winds or gusts, and do not operate machine during lightning or storms.

★ Keep away from the machine if it touches charged wires. Do not touch or operate the machine before the power is cut off.

★ Do not use the machine as grounded wire when welding and grinding.

Minimum Safe Distance from Charged Conductor

Voltage range （phase，kV）	Minimum safe distance m（ft）
0～50	3（10）
50～200	5（15）
200～350	6（20）
350～500	8（25）
500～750	11（35）
750～1000	14（45）



3.5 Tip-over Hazard

Maximum Rated Load Capacity

Model	Safe load capacity	Safe load capacity (extension platform)	Person	Maximum manual operation force
HS0814TP	450kg	113kg	2(indoor)/1(outdoor)	400N(indoor)/200N(outdoor)
HS1014TP	450kg	113kg	2(indoor)/1(outdoor)	400N(indoor)/200N(outdoor)
HS1214TP	320kg	113kg	2(indoor)/1(outdoor)	400N(indoor)/200N(outdoor)
HS1414TP	320kg	113kg	2(indoor)	400N(indoor)
HS0816TP	450kg	113kg	2(indoor)/2(outdoor)	400N(indoor)/400N(outdoor)
HS1016TP	450kg	113kg	2(indoor)/2(outdoor)	400N(indoor)/400N(outdoor)
HS1216TP	320kg	113kg	2(indoor)/2(outdoor)	400N(indoor)/400N(outdoor)
HS1416TP	320kg	113kg	2(indoor)/1(outdoor)	400N(indoor)/200N(outdoor)

Tip-over Hazard

★ Do not allow personnel, equipment and materials on the platform to exceed the maximum load capacity.

★ Only when the machine is on firm, level ground can the platform be lifted or extended.

★ Do not use the tilt alarm as a level indicator. The tilt alarm on the platform sounded only when the machine tilted heavily. If the tilt alarm sounds, carefully lower the platform and move the machine to firm, level ground. Do not change the level or limit switch.

★ When the platform rises to more than two meters, the machine cannot move.

★ Do not drive the machine on uneven, unstable surfaces or other dangerous conditions with the platform lifted.

★ Do not operate the machine in strong winds or gusts. Do not increase the surface area of the platform or load. Increase the area exposed to wind will decrease the stability of the machine.

★ Take special care and slow down when driving on uneven or gravelly ground, or other unstable surfaces, and near holes and steep slopes.

★ Do not drive on slopes that exceed the maximum slope rating of the machine. Maximum slope rating applies to retracted platform. Maximum slope rating： 30%（16.7°）

★ Do not push off or pull toward any object outside of the platform. Maximum allowable side force：indoor 400N；outdoor 200N for 1 person .

★ Do not alter any machine parts that may affect safety or stability.

★ Do not replace parts critical to machine stability with parts of different weights or specifications.

★ Do not modify or alter the aerial work platform without the prior written permission of the manufacturer.

★ Do not install additional devices to hold tools or other materials on the platform or guardrail. It will increase the weight and surface area of the platform or increase the load.

★ Do not place or fix any overhang load on any part of the machine.

★ Do not place ladder or scaffolding inside the platform or against any part of the machine.

★ Do not use the machine on moving or mobile surfaces, or on vehicles. Ensure that all tires are in good condition and the tire nuts are properly tightened.

★Do not push the machine or other objects with the platform.

★ Do not contact adjacent components with the platform.

★ Do not tie the platform to adjacent components with ropes or other binding materials.

★ Do not place loads outside the platform perimeter.

★ Do not use the platform controller to lower the platform when it is tripped, stuck, or blocked from normal movement by other nearby objects. If the platform is to be lowered by ground controller, the operation must be performed only after all personnel have left the platform.

★ Do not use batteries that lighter than the original equipment. The battery not only provides power, but also acts as a counterweight, which is essential for maintaining the stability of the machine.

For HS-TP serial , each battery pack must weigh 90kg.

★ Do not operate the machine when the front door open.

3.6 Working environment hazard

Before using the machine or during operation, inspect the workplace for possible hazards, and pay attention to environmental restrictions, including inflammable and explosive gases or dusts.

Working Environment Hazard

★ Do not operate on surfaces, edges, or potholes that cannot support the machine. Only when the machine is on firm, level ground can the platform be lifted or extended.

★Do not use the tilt alarm as a level indicator. The tilt alarm sounded only when the machine tilted heavily.

★ If the tilt alarm sounds, carefully lower the platform. Do not change the level or limit switch.

★ Do not drive over 1km/h with the platform lifted.

★ Do not operate the machine outdoors when there are strong winds or gusts. Do not lift the platform when the wind speed exceeds 12.5m/s. If the wind speed exceeds 12.5m/s after lifting the platform, immediately retract the platform and stop the operation.

★ Do not drive on uneven terrain, unstable surfaces, or other dangerous conditions with lifted platform.

★ Take special care and slow down when driving the machine with retracted platform on uneven or gravelly ground, unstable or smooth surfaces, near holes and steep slopes.

★ Do not drive or lift the machine on slopes, steps, or arched ground that exceed its maximum slope rating.

Beaufort scale	m/s	mile/h	Description	Ground conditions
0	0～0.2	0～0.5	Clam	No wind, smoke vertically up.
1	0.3～1.5	1～3	Light breeze	Smoke indicates wind direction.
2	1.6～3.3	4～7	Light breeze	Bare skin feels windy. Leaves rustle slightly.
3	3.4～5.4	8～12	Gentle breeze	Twig began to shake.

4	5.5～7.9	13～18	Moderate breeze	Dust and scraps of paper kicked up. Twigs began to shake.
5	8.0～10.7	19～24	Fresh breeze	Saplings shook
6	10.8～13.8	25～31	Strong breeze	Swaying branches, whistling overhead power lines, and difficult to open an umbrella.
7	13.9～17.1	32～38	Near gale	Tree shakes. Difficulty walking against the wind.
8	17.2～20.7	39～46	Gale	Broken branches. Vehicle offset direction.
9	20.8～24.4	47～54	Strong gale	Minor damage to the building.

NOTICE

Maximum slope rating applies to machines in the retracted position.

Climbing capacity refers to the maximum slope rating when the machine is on firm ground and carrying only one person. The rating of the ramp decreases as the platform increases in weight.

3.7 Unsafe operation hazard

The operation shall strictly comply with the requirements of this manual and maintenance manual. If the industry or local has more stringent regulations, the latter shall be followed.

Unsafe Operation Hazard

★ Do not push or pull any object outside of the platform. Maximum allowable side force: indoor 400N；outdoor 200N for 1 person .

★ Do not alter any machine parts that may affect safety or stability.

★Do not replace parts critical to machine stability with parts of different weights or specifications.

★ Do not modify or alter the aerial work platform without the prior written permission of the manufacturer.

★ Do not install additional devices to hold tools or other materials on the platform or guardrail. It will increase the weight and surface area of the platform or increase the load.

★ Do not place ladder or scaffolding inside the platform or against any part of the machine.

★ Do not operate machine on moving or mobile surfaces, or on vehicles. Ensure that all tires are in good condition and the tire nuts are properly tightened.

★ Do not place or fix any overhang load on any part of the machine.

★ Do not use the machine as a crane.

★ Do not push the machine or other objects with the platform.

★ Do not contact or tie adjacent components with the platform.

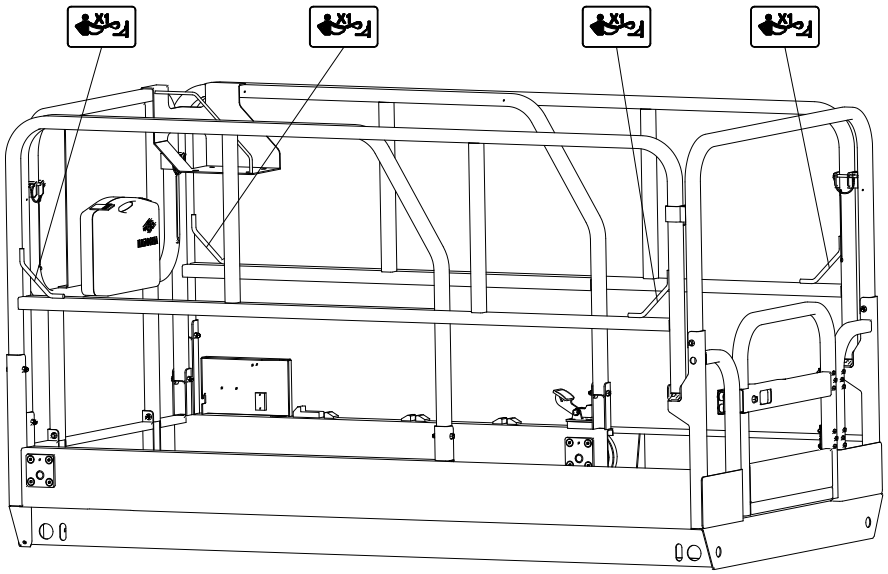
★ Do not place loads outside the platform perimeter.

★ Do not operate the platform controller to lower the platform when it is tripped, stuck, or blocked from normal movement by other nearby objects. If the platform is to be lowered by ground controller, the operation must be performed only after all personnel have left the platform.

★ When one or more tires are off the ground, evacuate all personnel before stabilizing the machine. Use crane, forklift, or other suitable equipment to stabilize the machine

3.8 Fall hazard

The operation of the machine shall strictly comply with the requirements of this manual and maintenance manual. If the industry or local has more stringent regulations, the latter shall be followed.



Seat belt hook layout

Fall Hazard

★ Wear seat belts or use safety facilities in accordance with government regulations. Attach the lanyard to the anchor on the platform, and only one person can tie on each anchor.

★ Do not sit, stand or climb on the platform guard rails. Maintain a firm footing on the platform floor at all times.

★ Do not climb down from the platform when lifted.

★ Keep the platform floor unobstructed.

★ Do not enter or exit the platform unless the machine is fully retracted.

★ Close the entrance door before operation.

★ Do not operate the machine unless the guardrail is properly installed and the entrance is closed.

3.9 Collision hazard

The operation of the machine shall strictly comply with the requirements of this manual and maintenance manual. If the industry or local has more stringent regulations, the latter shall be followed.

Collision Hazard

★ Be careful about limited sight distance and blind spots when driving or operating.

★ Check the work area for overhead obstacles or other possible hazards.

★ Be careful when using the platform controller and ground controller. Color-coded directional arrows indicate driving, lifting, and steering functions.

★ Comply with user, workplace and governmental regulations regarding the "use of personal protective equipment" (hard hats, seat belts and gloves, etc.).

★ The machine must be on level surface or secured before releasing the brake.

★ Only lower the platform when there are no people or obstacles in the area below.

★ Limit the drive speed according to the condition and slope of the ground, the degree of congestion, the location of the personnel and any other factors that may cause a collision.

★ Do not operate machine in the path of any crane or moving overhead machinery unless the crane controller is locked or precautions have been taken to prevent any potential collision.

★ Do not place your hands and arms near where they may be squeezed.

★ Do not work under the platform or near the scissor arms without the safety bar in place.

★ Please maintain correct judgment and planning when operating the machine with the controller on the ground and keep a proper distance between the operator, the machine and the fixed object.

★ No dangerous driving or horseplay when operating machine.

3.10 Crushing hazard

There is a potential crushing hazard when moving the machine. Body parts and clothing should be kept at a safe distance from the machine at all times during operation.

Crushing Hazard

★ Do not place your hands and arms near where they may be squeezed.

★ Do not work under the platform or near the scissor arms without the safety bar in place.

★ Please maintain correct judgment and planning when operating the machine with the controller on the ground and keep a proper distance between the operator, the machine and the fixed object.

3.11 Explosion and fire hazard

Explosion and Fire Hazard

★ Do not charge the battery, operate or fuel the machine in places that are dangerous or where flammable and explosive gases may exist.

3.12 Damaged machine hazard

Comply with the operation and maintenance requirements of the parts in this manual and the maintenance manual, otherwise the machine may be damaged.

Damaged Machine Hazard

★ Do not use damaged or malfunctioning machines.

★ Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift. Damaged or faulty machines should stop working and be marked immediately

★ Ensure that all maintenance operations have been performed according to this manual and related maintenance manual.

★ Ensure that all labels are properly positioned and easily identifiable.

★ Ensure that the operation and maintenance manual are complete, legible and kept in the file box of the platform.

3.13 Bodily injury hazard

Comply with the operation and maintenance requirements in this manual and the maintenance manual, otherwise the machine may be damaged.

★ Hazards of unsafe and improper operation.

★ Do not operate the machine with a hydraulic oil leak. Hydraulic oil leak can penetrate or burn skin.

3.14 Battery hazard

★ The battery contains sulfuric acid and can produce an explosive mixture of hydrogen and oxygen. Any device that can cause sparks or flames (including cigarettes/smoke materials)

should be kept away from the battery to prevent explosion.

★ Do not contact the battery terminals or the cable clamps with tools that may cause sparks.

★ Always wear protective clothing and goggles when working with batteries. Remove all rings, watches and other jewelry.

★ Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda water. If battery acid comes into contact with skin, rinse immediately with plenty of water and seek medical attention immediately.

★ Professional personnel need to use instructions to lift batteries.

★ Use the charger specified by the manufacturer to charge the battery.

★ Only connect the charger to a grounded two-phase AC power outlet.

★ Inspect daily for damaged cables, please replace the damaged items before operation.

3.15 Hydraulic system hazard

★ Do not touch the hydraulic system when it is at high temperature. Hot hydraulic oil can cause serious injury.

★ Thoroughly clean the spilled hydraulic oil after the equipment stops working. Do not spill hydraulic oil on the ground. Wash any hydraulic oil off the skin as soon as maintenance and repair are completed. Dispose of used hydraulic oil according to legal regulations.

★ Do not plug the leaking hydraulic oil by hand. If leakage occurs, the system pressure should be released first, and the hydraulic oil should be cooled before maintenance. Injuries caused by ignoring the dangers of hydraulic oil require immediate medical attention. Serious complications may occur if immediate treatment is not performed.

3.16 Welding and grinding safety

Before performing welding, grinding and polishing operations, the welder must obtain permission from the responsible department at the workplace.

★ Follow welding manufacturer's recommendations for proper use of welding procedures.

★Only after the power is turned off can connect the wire or cable for welding or grinding operations.

★Only after the wire or cable is properly connected can welding and grinding be carried out.

★Do not use the machine as ground wire during welding operations.

★Ensure that power tools are fully stored in the working platform at all times. Do not hang its wires on the guardrail of the work platform and the work area outside the platform, or hang power tools directly with the wires.

3.17 Lockout after each use

1. Select a safe parking location—firm level surface, clear of obstruction and traffic.
2. Ensure that the scissors are lowered to the lowest position and that all panels and doors are closed and secured.
3. Before shutting down or not using for a long time, the hydraulic cylinder is forbidden to be in a fully extended state.
4. Press the emergency stop button of the platform controller to the off position
5. Press the emergency stop button of the ground controller to the off position.
6. Turn the key switch to the off position and remove the key to secure from unauthorized use.
7. Turn off power-off switch.
8. Charge the batteries.

NOTICE

The power off switch must be off after each use.

4 Lifting, fixation and traction

4.1 Lifting

Confirmation before lifting:

★The transport machine must be parked on a level ground and be fixed to prevent rolling.

★Ensure that the platform is descended to the lowest position, the extension platform is retracted and the doors on the chassis are closed.

★Remove all loose parts from the machine.

★Prevent the guardrail from falling when folding it. Always hold the guardrail when folding it. After folding, the guardrail will be fixed firmly to prevent free jumping in the lifting process.

★Ensure that the vehicle capacity, loading surface, belt or rope is sufficient to support the weight of the machine (please refer to the "Specifications" section)。

★When using a forklift or crane to lift the machine, exercise good judgment and plan to control the movement of the machine.

Forklift lifting

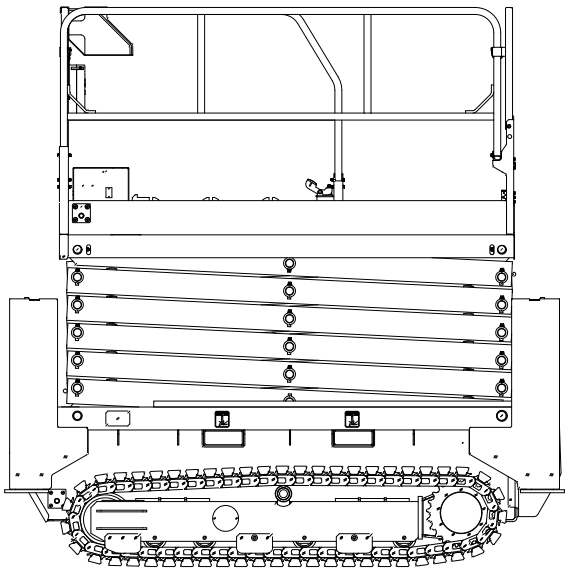
★Use the forklift slots on either side of the ladder.

★Align the forklift fork to the notch.

★Drive forward until the fork is fully inserted.

★Lift the machine by 0.4m, then tilt the fork back slightly to keep the machine in place.

★Ensure machine level when descending forks.



4.2 Fixation

The machine must be properly secured when transporting by truck or trailer to prevent accidental movement.

★Ensure that the platform is descended to the lowest position, the extension platform is retracted and the doors on the chassis are closed.

★Wedge the wheels before transport to prevent the machine from rolling.

★Before transportation, turn the key switch to the off position, and then remove the key.

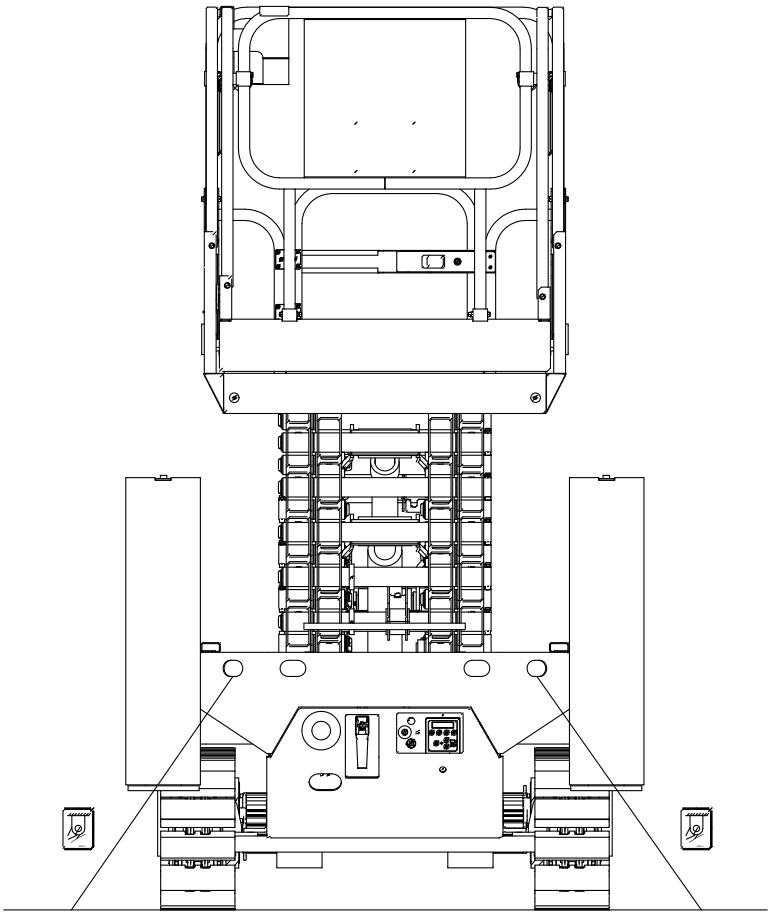
★Inspect the machine thoroughly to prevent loose or unsecured parts.

★The machine is secured to the conveyance through the fixing holes in the chassis.

★Use at least 4 chains or belts.

★Ensure that the chains or belts have sufficient load strength.

★Adjust the lock to prevent damage to the chain.



4.3 Transport

Ensure safe transport by truck or trailer.

Before pulling the machine, the brake should be released. It is strictly forbidden to move or pull the damaged machine directly on the ground, otherwise the brake system of the machine will be damaged.

★The machine must be on a level or secured before releasing the brake.

★Wedge the wheel to keep the machine from rolling.

★Find the plug located at the end of the walking reducer.

★Loosen the plug with a tool and screw it to the threaded hole on the sun gear with M8 bolt.

★Pull M8 bolt outward, pull out the central gear of the reducer and screw on the plug.

★Pull the damaged machine to the designated repair location.

★After the traction is completed, just reset the central gear.

5 Pre-operation inspection

5.1 Machine inspection

For the safe operation of the machine and to keep it in good condition at all times, careful inspection must be made before starting the machine.

Fundamentals

★Performing pre-operation inspections and routine maintenance is the operator's responsibility.

★The pre-operation inspection is a very intuitive inspection process, which is performed by the operator before each change of work. The purpose is to find out if there is an obvious problem with the machine before the operator performs function test.

★The pre-operation inspection can be used to determine whether routine maintenance procedures are required. The operator can only perform routine maintenance items specified in this manual.

★Refer to the list of machines and parts, check each item and position for any changes, breakage, looseness or missing parts.

★Damaged or altered machines should be prohibited from use. If damage or any change from factory condition is found, the machine should be marked and taken out of service.

★According to the manufacturer's regulations, only qualified maintenance technicians can repair the machine. After the repair, the operator must perform another pre-operation inspection before the functional test.

★Regular maintenance inspection shall be performed by qualified maintenance technicians in accordance with the manufacturer's regulations and requirements listed in the duty manual.

Inspection content

★Ensure that operation and maintenance manuals are in good condition, legible, and stored in the file box on the platform.

★Please refer to the labels section to ensure that all labels are legible and properly placed.

★Check whether the hydraulic oil leaks and the level is appropriate. Please add oil as needed.

★Check whether battery liquid leaks and the liquid level is appropriate. Add distilled water as needed.

★Inspect the following parts or areas for damage, improper installation, loose or missing parts, and unauthorized changes:

——Electrical components, wirings and cables

——Hydraulic power plant, fuel tank, joint, hose, hydraulic cylinder and valve block

——Batteries and their connections

——Reducer and brake

——Drive motor

——Crawler

——Maintenance arm

——Limit switch and horn

——Buzzer and warning light

——Platform entrance gate

——Outrigger

——Platform extension

——Control handle

——Scissor arm pins and retaining fasteners

——Nuts, bolts and other fasteners

★Check the machine：

——Whether there are cracks in welds or structural parts.

——Whether the outside surface of the machine is dented or damaged.

——Whether there is serious rust, corrosion or oxidation.

——Ensure that all structural and other key components are in place and that all relevant fasteners and pins are in the correct position and fully tightened.

5.2 Operating environment inspection

Operating environment inspection helps the operator determine whether the workplace is suitable for safe operation. It is the operator's responsibility to understand the hazards in the workplace so that they can be noticed and avoided when moving, installing and operating the

machine.

Beware and avoid the following dangerous situations:

★ Steep slope or cave.

★Bump, ground obstacle, or debris.

★Inclined surface

★Unfirm or smooth surface

★Aerial obstructions and high voltage power lines

★Dangerous position

★Surface supports insufficient to support the full load applied by the machine.

★Gusty and strong wind

★Presence of unauthorized personnel.

★Other possible unsafe conditions.

6 Pre-operation functional test

Fundamentals

★The purpose of function test is to find out whether there are functional defects or malfunctions before using the machine. The operator must test all the functions of the machine step by step according to the instructions.

★Do not use faulty machines. If a fault is found, the machine must be marked and taken out of service. According to the manufacturer's regulations, only qualified maintenance technicians can repair the machine.

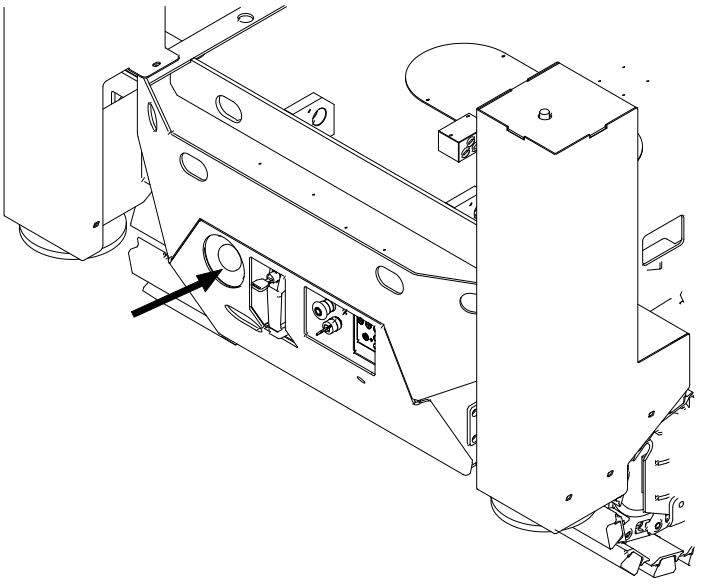
★After maintenance, the operator must perform a pre-operation inspection and functional test again before using the machine.

Test Preparation

★Choose a solid level test area with no obstacles.

★Make sure the batteries are connected.

★Turn on the main power switch.



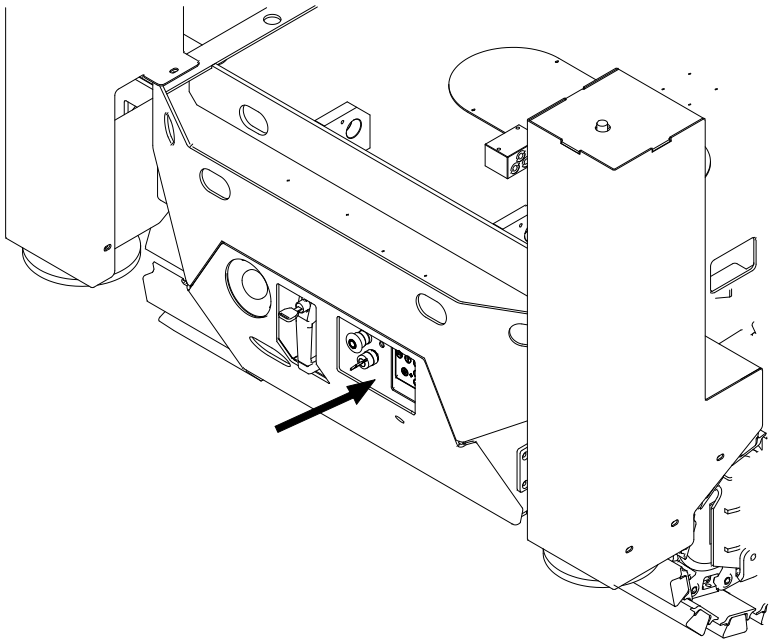
Position indication of power-off switch

6.1 Ground controller test

1、Pull out the red emergency stop switch of the platform and ground controller to the ON position.

2、Turn the key switch to the ground control position.

Result: The corresponding indicator lights up and does not display any error messages.



Position indication of control panel

Test emergency stop

1、 Press the red emergency stop switch on the ground controller to the OFF position.

Result: All functions are off.

2、 Pull out the red emergency stop switch to the ON position.

Test lift and descend

1、Activate the lifting function.

Result: The platform should lift.

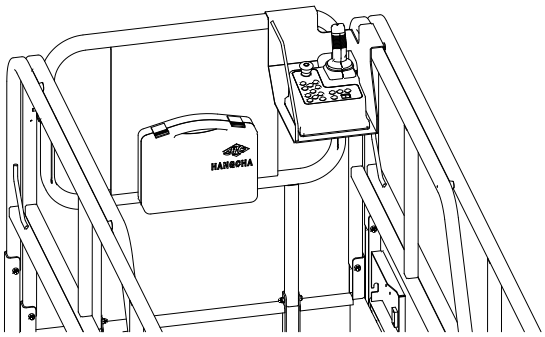
2、Activate descending function.

Result: The platform should descend and the alarm should sound.

6.2 Platform control handle test

1、Turn the key switch to the platform control position.

Result: The corresponding indicator lights up and does not display any error messages.



Position indication of control handle

Test emergency stop

1、Turn the lower control switch to the platform control position.

2、Press the red emergency stop switch on the platform to the OFF position

Result: All functions are off.

3、Pull out the red emergency stop switch to the ON position.

Test horn

1、Press the horn button.

Result: The horn should sound.

Test enable switch

1、Do not press the enable switch of the control handle, move the control handle in the direction of the arrow.

Result: None of the functions work.

Test lifting and descending function

1、Press the lifting button and the button lights up.

2、Hold the control handle and push it forward in the direction of the arrow to activate the lifting function.

Results: The platform should lift and the anti-tipping device should be deployed.

3、Release the control handle.

Result: The platform should stop lifting.

4、Hold the control handle and push it backwards in the direction of the arrow to activate the descending function.

Result: The platform should descend and the alarm should sound.

注 意 All tests should be completed within one cycle.

Test steering

1、Press the driving and steering button, and the buttons light up.

2、Press and hold the left turn button on the control handle.

Result: The tire turns left.

3、Press and hold the right turn button on the control handle.

Result: The tire turns right.

Test drive and brake

1、Press the driving and steering button, and the buttons light up.

2、Push the proportional control handle forward slowly in the direction indicated by the arrow on the control panel until the machine begins to move, then return the handle to the center position.

Result: The machine should move forward and then stop.

3、Push the proportional control handle backward slowly in the direction indicated by the arrow on the control panel until the machine begins to move, then return the handle to the center position.

Result: The machine should move backwards and then stop.

注 意 The brake must be able to stop the machine at any slope it can climb.

Test the limited drive speed

1、Press the lifting button and the button light up.

2、Lift the platform about 3m.

3、Press the driving and steering buttons, slowly move the driving control handle to its maximum position.

Result: The machine can not move.

注 意 If the machine can move, it should be immediately stopped and marked, and the maintenance personnel should check or replace the limit switch.

6.3 Safety function test

Test level sensor

注 意 Control the machine on the ground with the platform control handle; do not stand inside the platform to operate.

1、Safely lower the platform and place the machine on a flat, level solid ground with a green indicator light on the level sensor.

2、Place one blocks (height: 70mm, width: 150mm) under the crawler on the left (or right) side of the machine and drive the machine onto these two blocks.

3、Convert the driving function into the platform lifting function, and lift the platform about 4m by pressing the handle.

Result: The platform should stop. While tilting alarm sounds, platform and ground displays should display LL.

4、Lower the platform and stop the alarm sound. Switch to driving function, remove work platform and blocks.

5、Place two blocks (height: 150mm, width: 150mm) under the two crawler in front (or behind) of the machine and drive the machine onto these two blocks.

6、Convert the driving function into the platform lifting function, and lift the platform about 4m by pressing the handle.

Result: The platform should stop. While tilting alarm sounds, platform and ground displays should display LL.

7、Lower the platform and stop the alarm sound. Switch to driving function, remove work

platform and blocks.

Test the outrigger（HS0816TP/HS1016TP/HS1216TP/HS1416TP）

1、Press and hold the " outrigger automatic leveling switch", and the button will light up.

2、Hold the enable switch of the control handle and slowly push the handle backwards.

Result: The outrigger should extend and support the machine to a horizontal position. The indicator lights up and the buzzer gives a prompt.

3、Press and hold the "single outrigger leveling enable switch", and the button should light up.

4、Hold the Enable switch of the control handle and slowly push the handle backwards.

Result: The corresponding outrigger should extend and jack up the machine.

5、Hold the enable switch of the control handle and slowly push the handle forward.

Results: The corresponding outrigger should be retracted.

Test the emergency descent function

1、Activate the raise function and

2、Pull out the emergency descend handle .

Result: The platform should be descended and the platform stops descend after the handle is released. The alarm will not sound when the platform is down.

7 Operating instructions

Fundamental principle

★The "operation instructions" section provides specific instructions for all aspects of machine operation. It is the operator's responsibility to follow all safety rules and instructions in the operation manual.

★It is not safe or even dangerous to use the machine for purposes other than the lifting of personnel and tools to the air workplace. Only trained and authorized personnel are allowed to operate the machine.

★If more than one operator is using the same machine at different times during the same work shift; they must all be qualified operators and follow all safety rules and instructions in the operation manual. This means that every new operator should conduct pre-operation inspection, workplace inspection, and functional test before using the machine.

7.1 Emergency operation

Emergency stop

★Press the red emergency stop switch of the ground control panel or the platform control handle inward to the OFF position, and all functions will stop.

★To restore any operation function, pull out the emergency stop button to the ON position and execute after the power off switch is in the ON position.

Emergency descent

★Pull out the emergency descend handle

Brake release

★ Loosen the brake cover fixing bolt with a wrench and remove the brake cover.

★ Turn the brake cover over 180°,

★ Fix the reversed brake cover with the reducer again.

7.2 Operate from the ground

★Turn the key switch to ground control.

★Pull the red emergency stop button to the ON position.

Adjust platform position

1、Press the lifting/descending button according to the sign on the control panel.

注 意 Driving and steering function are not available through the ground control panel.

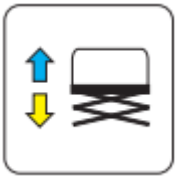
7.3 Operate from the platform

★Turn the key switch to platform control.

★Pull out the emergency stop button on the ground and the platform to the ON position.

★Operators must be equipped with seat belts as required and connected to seat belt hooks on the platform.

Adjust platform position



1、Press the lifting button, the button lights up.

2、Press and hold the enable switch on the control handle.

3、Pull the handle according to the lifting/descending signs on the control panel.

Adjust outrigger（HS0816TP/HS1016TP/HS1216TP/HS1416TP）

1、Press the lifting button and the button lights up. Press and hold the "automatic outrigger leveling switch", the button lights up.

2、Hold the enable switch of the control handle and slowly push the control handle backward.

3、The outrigger will extend and level the machine. When the machine is level, a prompt sound will be issued.

注 意 When only one outrigger is lowered, the corresponding "single outrigger leveling enable switch" button lightens and all driving and lifting functions are disabled.

When all outriggers firmly touch the ground, the lights on the lifting button and the individual

outrigger button turn green.

Driving function is disabled when the outrigger is lowered.

Steering

1、Press the driving and steering button, the buttons light up.

2、Press the enable button on the control handle.

3、Turn the steering wheel with the thumb rocker switch at the top of the control handle.

注 意 Use the color-coded direction arrow on the platform control handle to determine the direction of wheel rotation.

Drive

1、Press the driving and steering buttons, and the buttons light up.

2、Press the enable button on the control handle.

3、Increase speed: Slowly pull the handle off-center.

4、Reduce speed: Slowly release the control handle towards the center position.

5、Stop: Return the control handle to the center position or release the enable switch.

Use the color-coded direction arrow on the platform control handle to determine the direction the machine is going.

When the platform is lifted to the height of 2m, the machine movement speed is limited.

注 意 The state of the battery will affect the performance of the machine. When the platform display indicates low power, the machine's driving and lifting speed will decrease.

Select drive speed

In the retraction position, the drive controller can operate in two different driving speed modes. When the low speed button lights up, the low speed driving speed mode is activated. If this light is not on, the default is high speed driving mode. Press the drive speed button to select the required drive speed.

注 意 When the platform is lifted until the anti-overturning device is opened, the low speed driving button light is always on to indicate that the driving speed is low.

7.4 Operation of platform

Extend the platform

1、Step on the pedal.

2、Grasp and carefully push the extension platform guardrail so that the extension platform extends out.

注 意 Do not stand on the extension of the platform while extending it outwards. The extension platform can be positioned at the slot. Do not stand on the extension platform when it is not fixed.

Set up and fold the platform guardrail

The platform guardrail folds for easy transportation. Set up the platform guardrail when in use. The platform guardrail system consists of a folding guardrail section of an extension platform and a folding guardrail section of a fixed platform. All parts are held in place by a number of D-latches.

1、Descend the platform completely and retract the extension platform.

2、Remove platform control handle.

3、Pull out the D-latches, and fold the front l and the side guardrail of the extension platform.

4、Carefully open the door and move to the ladder or ground.

5、Pull out the D-latches and fold the side guardrail of the fixed platform.

6、Fold the door and side guardrail together as a whole.

When using the platform, set up the platform guardrail in reverse order. When setting up the guardrail on each side, insert the D-bolt and lock it to ensure accurate installation.

注 意 When folding or setting up a guardrail, do not place your hands in a position where they may be clipped by the guardrail.

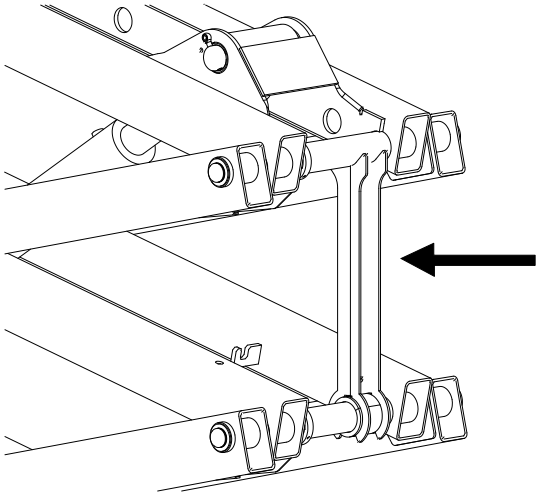
7.5 Use of maintenance arm

Before performing any maintenance or repair on the machine, hold up all the maintenance arms. Make sure there is no load on the platform before using the maintenance arms.

1、Operate the ground control panel and lift the platform to the position where the distance between the upper and lower scissors shaft sleeve is greater than the length of the maintenance arm.

2、 Lift the maintenance arm, move it to the middle position of the scissors shaft sleeve, and rotate it upward to the vertical state.

3、Lower the platform height until the scissors shaft sleeve is in full contact with the maintenance arm.



Position indication of maintenance arm

7.6 Battery and charger

★ Do not use external chargers or booster chargers.

★ Charge the battery in a well-ventilated environment.

★ Charge with the correct AC input voltage as indicated on the label.

★ Only batteries and chargers approved by HANGCHA Group can be used.

Charge the battery (lead-acid battery)

1、Ensure that the battery is connected before charging.

2、Open the battery side door and keep it open during the charging process.

3、 Remove the battery ventilation cover and check the acidic liquid level of the battery. If it is necessary to supplement, add distilled water through the liquid port of the upper part of the battery, add enough distilled water to cover the plate, do not add excessive.

4、Install the battery ventilation cover.

5、Connect the battery charger to the grounded AC circuit.

6、The charger will give a prompt when the battery is full.

7、Check the acid level of the battery at the end of the charging cycle. If it is necessary to supplement, add distilled water through the liquid port of the upper part of the battery, add enough distilled water to cover the plate, do not add excessive.

Charge the battery (maintenance-free battery or lithium battery)

1. Ensure that the battery is connected before charging.

2. Open the battery side door and keep it open during the charging process.

3. Connect the battery charger to the grounded AC circuit.

4. The charger will give a prompt when the battery is full.

8 Maintenance

For details about maintenance contents and methods, please refer to the maintenance manual.

8.1 Maintenance instructions

★The machine needs regular inspection and maintenance to keep it in good condition.

★Inspection and maintenance are easily overlooked. Problems need to be identified early and addressed promptly.

★Use spare parts provided or approved by HANGCHA Group.

★Do not use different types of oil when changing or refueling. Replacement of waste oil, waste liquid, waste batteries cannot be dumped and abandoned at will. It should be handled in accordance with the relevant local laws and regulations.

★Make comprehensive maintenance and repair plan.

★A complete record shall be made after each maintenance and repair.

★Only trained and qualified personnel are allowed to repair the machine.

★Unless otherwise specified, perform maintenance procedures in accordance with the following terms and conditions：

1. The platform is placed on flat, level ground.

2. The platform is at rest.

3. Turn the key switch of the ground controller to the OFF position, take out the key, and cut off all power supplies.

8.2 Maintenance schedule

There are four types of maintenance that must be performed according to the schedule: daily, quarterly, semiannual, and annual. The specific definition is as follows：

Maintenance procedures	Interval time
A	Every 8 hours of operation (or daily)
A+B	Every 250 hours of operation (or quarter)
A+B+C	Every 500 hours of operation (or semiannual)
A+B+C+D	Every 1000 hours of operation (or annual)

8.3 Maintenance inspection report

★The maintenance inspection report is divided into four sections (A, B, C, and D) according to the maintenance procedure and its requirements and the time requirements of the maintenance plan.

★The maintenance inspection report contains a checklist for each type of periodic inspection.

★ Copy the maintenance inspection report for each inspection. Completed forms should be kept for at least 10 years or until the machine ceases to be used or at the request of the machine owner/company.

★ Use the following table to record the results. After completing each section, mark it in the corresponding space.

★If inspection results are "unqualified", you must stop using the machine. Reinspect the machine after completing the repair and mark it in the space marked “Qualified after repair". Select the appropriate inspection procedure based on the type of inspection.

Maintenance Inspection Report A			
Item	**Qualified**	**Unqualified**	**Qualified after repair**
A-1 Check manual			
A-2 Check labels			
A-3 Check parts			
A-4 Check hydraulic oil			
A-5 Check battery power			
A-6 Check functions			
A-7 Perform 30 days maintenance			

Maintenance Inspection Report B			
Item	**Qualified**	**Unqualified**	**Qualified after repair**
B-1 Check wires			
B-2 Check crawler			
B-3 Check the battery			
B-4 Evaluate hydraulic oil			
B-5 Check hydraulic oil tank			

Maintenance Inspection Report C			
Item	**Qualified**	**Unqualified**	**Qualified after repair**
C-1 Replace air filter			

Maintenance Inspection Report D			
Item	**Qualified**	**Unqualified**	**Qualified after repair**
D-1 Replace the return oil filter			
D-2 Replace hydraulic oil			
D-3 Replace the gear oil of the reducer			
D-4 Check bushings and sliders			
D-5 Check critical structural parts			

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