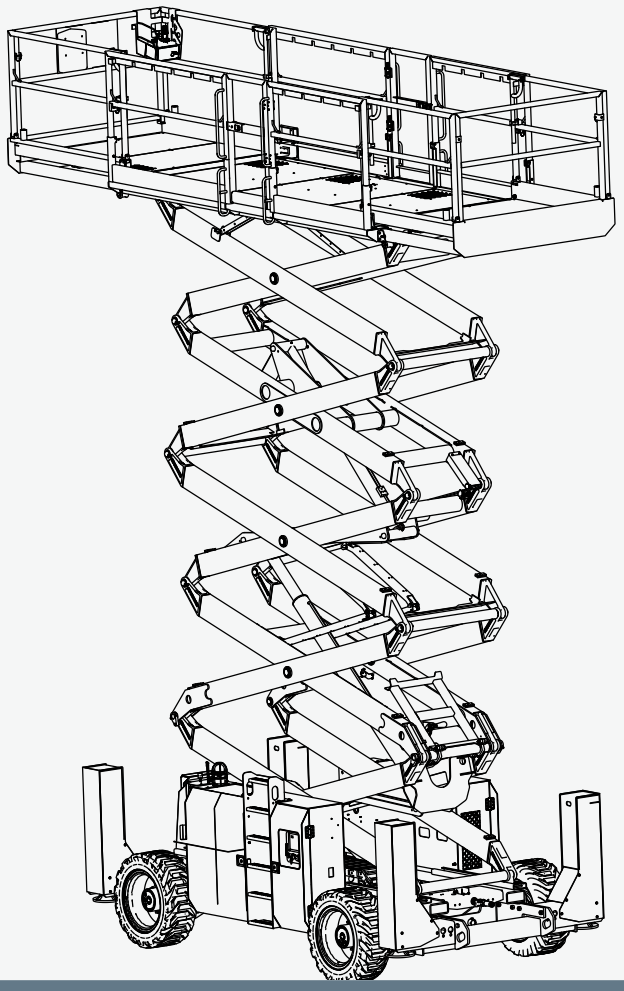
Part No.515006100002
Rev: A
Jun. 2021

Operation Manual

1323RE/4389RE
1623RE/5389RE



CE ANSI SA EAC GB AS/NZS

SINOBOOM

⚠ WARNING

Operating, servicing and maintaining this vehicle or equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle or equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing. For more information go to: www.P65warnings.ca.gov.
For disposal, please follow your nation regulation.

Manual revision history：

REV	DATE	DESCRIPTION	REMARK
A	Jun. 2021	Original issue	

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APPLICATION

Use the following table to identify the specific serial number for models included in this manual. Check the model of your machine before consulting the manual, and then use the correct manual according to the serial number of the model. See the nameplate on your machine to identify the model and serial number.(See ***Decals/Nameplate Inspection*** for details.)

Models	Trade Identification		Serial Numbers
	Metric	Imperial	
1323RE	1323RE	4389RE	1500500100 to present
1623RE	1623RE	5389RE	1500600100 to present

NOTE:

- Product model is applied in product nameplate for distinction of products of different main parameters.
- Product trade identification is applied in marketing and machine decals for distinction of products of different main parameters, and can be classified as metric type and imperial type: The metric type of trade identification is applicable to machines for countries/regions using metric system or as specially required by customers; The imperial type of trade identification is applicable to the machines for countries/regions using imperial system or as specially required by customers.

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STATEMENTS

Hunan Sinoboom Intelligent Equipment Co., Ltd. (Hereinafter referred to as Sinoboom) will upload the latest product manual information to the website www.sinoboom.com as soon as possible. However, due to continuous product improvement, the information in this manual is subject to change without prior notice.

This manual covers the basic parts information of one or more products. Therefore, please use this manual according to your needs. If you find problems in the manual or have suggestions for improvement, feel free to share your feedback with Sinoboom, and we will address these issues as soon as possible.

Feel free to consult and download the *Operation Manual*, *Maintenance Manual* and *Parts Manual* of the products you need online at www.sinoboom.com.

Hunan Sinoboom Intelligent Equipment Co., Ltd. retains the right of final interpretation of the manual.

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INTRODUCTION

Thank you for choosing and using the machinery of Hunan Sinoboom Intelligent Equipment Co., Ltd. Always read, understand and become familiar with the operation requirements of the machine and its associated safety procedures before operating, maintaining and repairing the machine. Operating the machine without becoming familiar with its specific operation requirements and safety procedures poses serious risks. Operators who follow safety rules and operate the machine carefully and effectively will prevent personal injury, property loss and accidents.

Use this machine only to transport tools to work locations and for performing tasks on the work platform. Operators must be competent and must obtain training to carefully use the machine and follow safety procedures. Only trained and authorized personnel may operate the machine.

This manual guides the operator in operating and using the machine. The operator is responsible for reading, understanding and implementing the operation and safety procedures in this manual and for following the manufacturer's instructions before beginning any work. Read, understand and follow all safety rules and operating instructions. The operator must also consider the machine's uses and limitations and the conditions at the jobsite before using this machine. Strictly following all safety requirements in this manual is critical.

Consider this manual a part of the machine, along with *Maintenance Manual* and *Parts Manual*, and always keep the manuals with the machine. The owner or administrator of the machine shall offer all manuals and other necessary information provided by the machine manufacturer regarding the daily inspection and maintenance to each of the renters. If the machine is sold, the owner or administrator must pass along the manuals and other necessary information to the purchaser. The owner or administrator of the machine shall also provide the manufacturer's maintenance information to the person responsible for maintaining the machine.

If you have any questions, contact Hunan Sinoboom Intelligent Equipment Co., Ltd..

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1 MACHINE SPECIFICATIONS

Table 1-1 1323RE specifications

MEASURE	1323RE (METRIC)	4389RE (IMPERIAL)
DIMENSIONS		
Max. platform height	13.1 m	42ft 11.7in
Max. working height	15.1 m	49ft 6.5in
Max. horizontal reach (rear extension platform extended)	1.2 m	3ft 11.2in
Max. horizontal reach (front extension platform extended)	1.5 m	4ft 11.1in
Overall length	4.88 m	16ft
Overall width	2.28 m	7ft 5.7in
Overall height (stowed, rails down)	2.22 m	7ft 3.4in
Overall height (stowed, rails up)	2.98 m	9ft 9.3in
Wheelbase	2.84 m	9ft 3.8in
Wheel span	1.95 m	6ft 4.7in
Ground clearance	0.36 m	1ft 2.2in
Tire size (diameter × width / type)	33×12-20/solid	315/55D20/foam-filled
Platform dimension (Length × Width × Height)-6.5 m Platform	3.96 m×1.82 m×1.1 m	13 ft×6 ft×3 ft 7 in
Platform dimension (Length × Width × Height)-7.4 m Platform	4.84 m×1.82 m×1.1 m	15ft 10.6in×6ft×3ft 7in
PERFORMANCE		
Max. platform capacity	680 kg	1499 lb
Individual extension platform capacity	227 kg	500 lb
Max. platform occupancy (indoor/ outdoor)	7 people	
Drive speed (stowed)	0 ~ 5.3 km/h	0 ~ 3.3 mph
Drive speed (raised)	0 ~ 1.1 km/h	0 ~ 0.68 mph
Up time (no load)	40 s ~ 50 s	
Down time (no load)	34 s ~ 44 s	
Gradeability	50% (26.6°)	
Max. allowable inclination (front-to-back)	3°	

Table 1-1 1323RE specifications (continued)

MEASURE	1323RE (METRIC)	4389RE (IMPERIAL)
Max. allowable inclination (side-to-side, outrigger retracted/extended)	2°/0.8°	
Max. outrigger leveling angle (front-to-back)	7°	
Max. outrigger leveling angle (side-to-side)	12°	
Turning radius (inside)	2.2 m	7ft 2.6in
Turning radius (outside)	5.3 m	17ft 4.7in
Max. allowable side force (indoor/outdoor)	400 N	90 lbf
Max. operating noise	80 dB	
POWER		
Drive mode (drive×steer)	4WD×2WS	
Hydraulic tank capacity	110 L	24 gal (UK)/29 gal (US)
Hydraulic system pressure	24 MPa	3481 psi
Battery specs (voltage, capacity, rate of discharge)	48 V, 480 Ah, 5hr	
System voltage	48 VDC	
Control voltage	12 VDC	
Charger (input voltage/output current)	100 ~ 240 V AC/60 A	
Lift motor (Volts/kW)	48 VDC/8 kW	
Drive motor (Volts/kW)	29 VAC/3.56 kW	
GROUND BEARING INFO		
Max. tire load	3900 kg	8598 lb
Tire contact pressure	720 kPa	104 psi
Max. outrigger load	3200 kg	7055 lb
Outrigger contact pressure	630 kPa	91 psi
ENVIRONMENT		
Max. allowable wind speed (indoor/outdoor)	0 /12.5 m/s	0 /28 mph
Max. allowable altitude	1000m	3280.8ft
Allowable ambient temperature (lead-acid batteries)	-10℃ ~ 40℃	14℉ ~ 104℉
Allowable ambient temperature (-lithium batteries)	-20℃ ~ 40℃	-4℉ ~ 104℉

Table 1-1 1323RE specifications (continued)

MEASURE	1323RE (METRIC)	4389RE (IMPERIAL)
Max. allowable ambient relative humidity	90%	
Storage conditions	Stored at -20℃ to 50℃ (-4℉ to 122℉) in a well-ventilated environment with 90% relative humidity (20℃ [68℉]), and away from rain, sun, corrosive gas, inflammables and explosives.	
WEIGHT		
Total weight	8500 kg	18739 lb

Table 1-2 1623RE specifications

MEASURE	1623RE (METRIC)	5389RE (IMPERIAL)
DIMENSIONS		
Max. platform height	16.2 m	53ft 1.8in
Max. working height	18.2 m	59ft 8.5in
Max. horizontal reach (rear extension platform extended)	1.2 m	3ft 11.2in
Max. horizontal reach (front extension platform extended)	1.5 m	4ft 11.1in
Overall length	4.88 m	16ft
Overall width	2.28 m	7ft 5.7in
Overall height (stowed, rails down)	2.44 m	8ft
Overall height (stowed, rails up)	3.21 m	10ft 6.3in
Wheelbase	2.84 m	9ft 3.8in
Wheel span	1.95 m	6ft 4.7in
Ground clearance	0.36 m	1ft 2.2in
Tire size (diameter × width / type)	33×12-20/solid	315/55D20/foam-filled
Platform dimension (Length × Width × Height)-6.5 m Platform	3.96 m×1.82 m×1.1 m	13ft×6ft×3ft 7in
Platform dimension (Length × Width × Height)-7.4 m Platform	4.84 m×1.82 m×1.1 m	15ft 10.6in×6ft×3ft 7in
PERFORMANCE		
Max. platform capacity	680 kg	1499 lb
Individual extension platform capacity	227 kg	500 lb
Max. platform occupancy (indoor/ outdoor)	4 people	
Drive speed (stowed)	0 ~ 5.3 km/h	0 ~ 3.3 mph
Drive speed (raised)	0 ~ 1.1 km/h	0 ~ 0.68 mph

Table 1-2 1623RE specifications (continued)

MEASURE	1623RE (METRIC)	5389RE (IMPERIAL)
Up time (no load)	70 s ~ 90 s	
Down time (no load)	45 s ~ 55 s	
Gradeability	40% (22°)	
Max. allowable inclination (front-to-back)	3°	
Max. allowable inclination (side-to-side, outrigger retracted/extended)	2°/0.8°	
Max. outrigger leveling angle (front-to-back)	7°	
Max. outrigger leveling angle (side-to-side)	12°	
Turning radius (inside)	2.2 m	7ft 2.6in
Turning radius (outside)	5.3 m	17ft 4.7in
Max. allowable side force (indoor/outdoor)	400 N	90 lbf
Max. operating noise	80 dB	
POWER		
Drive mode (drive×steer)	4WD×2WS	
Hydraulic tank capacity	110 L	24 gal (UK)/29 gal (US)
Hydraulic system pressure	24 MPa	3481 Psi
Battery specs (voltage, capacity, rate of discharge)	48 V, 480 Ah, 5 hr	
System voltage	48 VDC	
Control voltage	12 VDC	
Charger (input voltage/output current)	100 ~ 240 V AC/60 A	
Lift motor (Volts/kW)	48 VDC/8 kW	
Drive motor (Volts/kW)	29 VAC/3.56 kW	
GROUND BEARING INFO		
Max. tire load	3900 kg	8598 lb
Tire contact pressure	720 kPa	104 psi
Max. outrigger load	3200 kg	7055 lb
Outrigger contact pressure	630 kPa	91 psi
ENVIRONMENT		
Max. allowable wind speed (indoor/outdoor)	0 /12.5 m/s	0 /28 mph

Table 1-2 1623RE specifications (continued)

MEASURE	1623RE (METRIC)	5389RE (IMPERIAL)
Max. allowable altitude	1000m	3280.8ft
Allowable ambient temperature (lead-acid batteries)	-10℃ ~ 40℃	14℉ ~ 104℉
Allowable ambient temperature (- lithium batteries)	-20℃ ~ 40℃	-4℉ ~ 104℉
Max. allowable ambient relative humidity	90%	
Storage conditions	Stored at -20℃ to 50℃ (-4℉ to 122℉) in a well-ventilated environment with 90% relative humidity (20℃ [68℉]), and away from rain, sun, corrosive gas, inflammables and explosives.	
WEIGHT		
Total weight	9250 kg	20393 lb

NOTE:
a) The platform height plus the operator height (2m/6 ft 7in) is the working height.
b) In different areas, hydraulic oil, engine oil, coolant, fuel and lubrication should be added in accordance with the environmental temperature.
c) In cold weather, auxiliary devices are needed to start the machines.
d) The ground bearing data is approximate, not considering different options and only applicable when it is safe enough.
e) The loads of persons, accessories, tools and materials are factored into the rated platform capacity.
f) The total vibration value of the platform does not exceed 2.5m/s², and the maximum root-mean-square value of the weighted acceleration of the entire machine does not exceed 0.5m/s².
g) The hydraulic tank capacity is the maximum volume in the hydraulic tank.

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2 MACHINE COMPONENTS

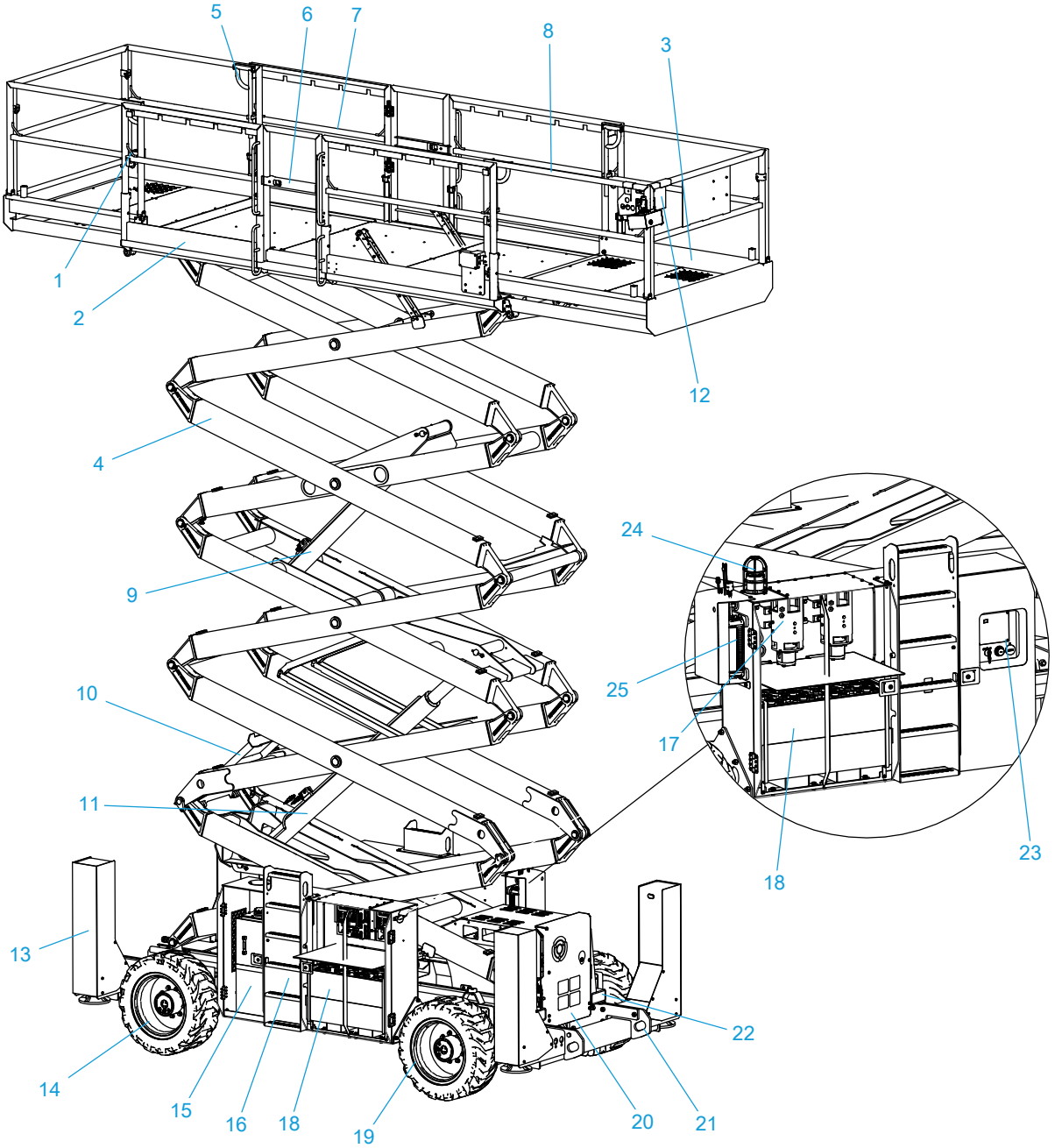


Figure 2-1

Table 2-1

1. Landyard anchorage point	**10.** Safety arm	**19.** Steer wheel
2. Main platform	**11.** Lower lift cylinder	**20.** Tray installation

Table 2-1 (continued)

3. Extension platform	**12.** Platform controller	**21.** Transport tiedown point
4. Scissor arm	**12.** Outrigger	**22.** Chassis
5. Platform extension locking handle	**13.** Non-steer wheel	**23.** Ground controller
6. Platform entry gate	**14.** Hydraulic tank	**24.** Flash beacon
7. Main platform rail	**15.** Entry ladder	**25.** Charger
8. Extension platform rail	**17.** Lift motor	
9. Upper lift cylinder	**18.** Maintenance-free battery	

Machine positions

Operating/raised position：

The machine comes in operating/raised position when the platform is raised until the down limit switch disengages.

Platform heights at which the down limit switch disengages (height from ground to platform floor)：3 ±0.3m (9ft 10in±12in).

Stowed position：

The machine comes in stowed position when fully retracted.

3 SAFETY

Read, understand and comply with the safety rules and regulations of your workplace and your government.

Before using the machine, ensure the operator is properly trained and qualified in safely operating the machine. The training includes but is not limited to：

- Warning and instruction decals on the machine
- Pre-operation inspection
- Any factors that may affect the machine stability
- Common hazards and countermeasures
- Jobsite inspection
- Functions of all controls and associated knowledge, including emergency control.
- Personal protection equipment that suits the task, workplace and environment.
- Safety operation
- Transporting the machine
- Measures against unauthorized use
- Operating instructions

Understand that as the operator you have the responsibility and right to shut down the machine in case of failure with the machine or other emergency at your workplace.

NOTICE

People suffering from heart disease, hypertension, epilepsy and other diseases and people who fear heights must never operate or use this machine. Also, people who have alcohol or drugs in their system, or experience excessive fatigue or depression, are prohibited from operating or using this machine.

SAFETY DEFINITIONS

This safety alert symbol appears with most safety statements. It means attention, become alert, your safety is involved! Please read and abide by the message that follows the safety alert symbol.

⚠ DANGER

Indicates a hazardous situation that, if not avoided, *will* result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation that, if not avoided, *could* result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation that, if not avoided, *could* result in minor or moderate injury.

NOTICE

Indicates a situation that can cause damage to the engine, personal property and/or the environment, or cause the equipment to operate improperly.

NOTE: Indicates a procedure, practice or condition that should be followed in order for the engine or component to function in the manner intended.

REPORTING ACCIDENTS

In case of any accident involving the machine of Hunan Sinoboom Intelligent Equipment Co., Ltd., notify Hunan Sinoboom Intelligent Equipment Co., Ltd. immediately, even if no personal injury or property damage occurs in the accident. Contact Hunan Sinoboom Intelligent Equipment Co., Ltd. by telephone and provide all necessary details. Failure to notify the manufacturer within 48 hours of the incident involving the machine of Hunan Sinoboom Intelligent Equipment Co., Ltd. may void the product's warranty.

NOTICE

Thoroughly inspect the machine and all its functions after any accident. Make sure to test it first from the ground controller and then from the platform controller. Ensure the machine's lifting height does not exceed 3 m (9.8 ft) until all damage has been repaired and all controllers operate properly.

ELECTROCUTION HAZARDS

NOTE: This machine is not insulated and does not have an electric shock protection function.

All operators and managers shall comply with national or local regulations regarding the minimum safe distance of live conductors above the ground. In the absence of such requirements, operators and managers should follow the minimum safety distance requirements in *Table 3-1 Minimum Safe Distance, page 3-2*.

⚠ WARNING

ELECTRICAL SHOCK HAZARDS

- **Always maintain a safe distance from power lines and electrical equipment in accordance with applicable government regulations and see *Table 3-1 Minimum Safe Distance, page 3-2*.**
- **Consider platform movement, wire swinging or drooping, beware of strong winds or gusts, and do not operate the machine when there is lightning or heavy rain.**
- **If the machine comes into contact with live wires, keep away from the machine. Personnel on the ground or on the platform must not touch or operate the machine until the power is switched off.**
- **Do not use the machine as a ground wire during welding and polishing operations.**

Table 3-1 Minimum Safe Distance

Voltage (Phase to Phase, kV)	Minimum Safe Distance (m/ft)
0-50	3.05 (10)
50-200	4.60 (15)
200-350	6.10 (20)
350 -500	7.62 (25)
500 -750	10.67 (35)
750 -1000	13.725 (45)

TIPPING HAZARDS AND RATED LOAD

Maxium platform capacity:

Table 3-2

1323RE	
Platform retracted	680 kg(1499 lb)
Platform extended-extension platform only (single)	227 kg(500 lb)
1623RE	
Platform retracted	680 kg(1499 lb)
Platform extended-extension platform only (single)	227 kg(500 lb)

⚠ WARNING

TIPPING HAZARDS

- **Personnel, equipment and materials on the platform must not exceed the maximum platform capacity.**
- **Only raise or extend the platform when the machine is on solid, level ground.**
- **Do not use the tilt alarm as a level indicator. The tilt alarm on the platform will sound only if the machine is heavily tilted. If the tilt alarm sounds:**
  - **Be very careful to lower the platform. Transfer the machine to solid, level ground. Do not change the level or limit switch.**
- **Do not drive faster than1.1 km/h (0.68 mph) when the platform is raised.**
- **When the platform is raised, the machine cannot travel on uneven terrain, unstable surfaces or in other dangerous conditions.**
- **Do not operate the machine during strong winds or gusts, and do not increase the surface area of the platform or load. Increasing the area exposed to the wind will reduce the stability of the machine.**
- **When the machine is on rough ground, with gravel or other uneven surfaces, or near holes and steep slopes, use caution and reduce the speed.**
- **Do not use the machine to push or pull objects outside of the platform. The maximum side force allowed is 400 N (90 lbf)**
- **Do not change any machine parts that may affect safety and stability.**
- **Do not replace key parts that affect machine stability with different weights or specifications.**
- **Do not modify or change moving aerial platforms without the manufacturer's prior written permission.**

⚠ WARNING

TIPPING HAZARDS

- **On the platform, do not attach an additional device for placing tools or other materials to the guardrail. This will increase the platform weight, surface area and load.**
- **Do not place on, or fasten to, any overhanging load to any part of this machine.**
- **Do not place ladders or scaffolding on the platform or any parts of the machine.**
- **Do not use the machine on a moving or active surface or on a vehicle. Ensure all tires are in good condition, the slotted nuts tightened and the cotter pins complete.**
- **Do not use the platform to push other machines or objects.**
- **Do not let the platform touch nearby objects.**
- **Do not tie off the platform with rope or other binding materials to nearby objects.**
- **Do not put a load outside the platform.**
- **Do not operate the machine when the chassis doors are open.**
- **When the platform is caught or stuck or when other objects in the vicinity impede its normal movement, do not use the platform controller to lower the platform. If you intend to lower the platform with a ground controller, you must operate it only after all personnel have left the platform.**

WORK ENVIRONMENT HAZARDS

⚠ WARNING

UNSAFE JOBSITE HAZARDS

- **Do not operate the machine on surfaces, edges or potholes that cannot bear the weight of the machine. Do not raise or extend the platform unless the machine is on firm, flat ground.**
- **Do not use the tilt alarm as a horizontal indicator. The tilt alarm on the platform will not sound unless the machine is heavily tilted.**
- **If the tilt alarm sounds while lifting the platform, be very careful to lower the platform. Do not change the level or limit switch.**
- **Drive speed should not exceed 1.1 km/h (0.68 mph) when the platform rises.**
- **If the machine can be used outdoors, never operate it during strong winds or gusts. Do not lift the platform when the wind speed exceeds 12.5 m/s (28 mph). If the wind speed increases to beyond 12.5 m/s (28 mph) after the platform is lifted, retract the platform and stop operating the machine.**
- **Do not use any devices that may increase the wind load on the machine.**
- **Never travel on uneven terrain or unstable surfaces or in other dangerous conditions when the platform is raised.**
- **With the machine retracted, be careful and slow down when the machine is moving on uneven terrain, crushed stone, unstable or slippery surfaces, steep slopes and near cave entrances.**
- **Do not drive or lift the machine on slopes, steps or vaulted surfaces that exceed the maximum climbing capacity of the machine.**

⚠ WARNING

UNSAFE JOBSITE HAZARDS

Before or during machine operation, check the jobsite for potential hazards and pay attention to the environmental limitations, including potentially flammable and explosive gas/dust. If the machine is to be used in any other applications, or by any other means, other than those specified by **Sinoboom**, it must be approved or guided by the manufacturer.

Table 3-3

BEAUFORT NUMBER	METERS/ SECOND	MILE/ HOUR	DESCRIPTION	GROUND CONDITION
0	0 ~ 0.2	0 ~ 0.5	Calm	Calm. Smoke rises vertically.
1	0.3 ~ 1.5	1 ~ 3	Light air	Wind motion visible in smoke.
2	1.6 ~ 3.3	4 ~ 7	Light breeze	Wind felt on exposed skin. Leaves rustle.
3	3.4 ~ 5.4	8 ~ 12	Gentle breeze	Leaves and smaller twigs in constant motion.
4	5.5 ~ 7.9	13 ~ 18	Moderate breeze	Dust and loose paper rise. Small branches begin to move.
5	8.0 ~ 10.7	19 ~ 24	Fresh breeze	Smaller trees sway.
6	10.8 ~ 13.8	25 ~ 31	Strong breeze	Large branches in motion. Flags waving near horizontal. Umbrella use becomes difficult.

BEAUFORT NUMBER	METERS/ SECOND	MILE/ HOUR	DESCRIPTION	GROUND CONDITION
7	13.9 ~ 17.1	32 ~ 38	Near gale/moderate gale	Whole trees in motion. Effort needed to walk against the wind.
8	17.2 ~ 20.7	39 ~ 46	Fresh gale	Twigs broken from trees. Cars veer on road.
9	20.8 ~ 24.4	47 ~ 54	Strong gale	Light structure damage.

NOTICE

Maximum climbing ability or gradeability is applicable for machines with the platform retracted.

1323RE gradeablity: 50% (26.6°)
1623RE gradeability: 40% (22°)

Gradeability means the maximum allowable tilt angle of the machine when it is on solid ground and the platform is only capable of carrying one person. As the weight of the machine's platform increases, the machine's climbing capacity reduces.

UNSAFE OPERATION HAZARDS

At a minimum, operators must operate and maintain the machine as stated in the *Operation Manual* and the *Maintenance Manual* in addition to following more stringent industry regulations and workplace rules. Never engage in unsafe machine operation.

Do not use the machine in the following situations：

- Unrelated personnel/equipment is present in the working envelope of the machine.
- Use as a crane (except the custom-made ones with such function).
- Use on the truck, trailer, tracked vehicle, ship, scaffold and the like without written consent by the manufacturer or a qualified professional.
- Improper securing of the machine to another object by just leaning, fastening or binding.
- Stunt or imprudent use of the machine.
- Overloaded or over-moment situation.
- Other situations as specified in the Manuals.

⚠ WARNING

UNSAFE OPERATION HAZARDS

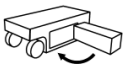
- **Do not use the machine to push or pull objects outside of the platform. The maximum side force allowed is 400 N (90 lbf)**

- **Do not change any machine parts that may affect safety and stability.**
- **Do not replace key parts that affect machine stability with parts of different weights or specifications.**
- **Do not change or modify moving aerial platforms without the manufacturer's written permission.**

- **On the platform, do not attach an additional device for placing tools or other materials to the guardrail. This will increase the platform weight, surface area and load.**
- **Do not put ladders or scaffolding on the platform or any part of this machine.**
- **Do not use additional devices to increase the working height of the machine.**

- **Do not use the machine on any mobile or movable surface or vehicle. Ensure all tires are in good condition, the slotted nuts tightened and the cotter pins complete.**

- **Do not use any battery that weighs less than the original battery (27kg [60 lb]). The battery not only provides power, but also acts as counterweight, which is quite important to maintain the stability of the machine.**



- **Do not place or attach any suspended load onto any part of the machine.**
- **Do not use the machine as a crane.**
- **Do not use the platform to push other machines or objects.**
- **Do not allow the platform to touch nearby objects.**

⚠ WARNING

UNSAFE OPERATION HAZARDS

- **Do not tie the platform onto nearby objects.**
- **Do not place loads outside the platform.**
- **When the platform is caught or stuck or when other objects in the vicinity impede its normal movement, do not use the platform controller to lower the platform. If you intend to lower the platform with the ground controller, you must operate it only after all personnel have left the platform.**
- **Do not operate the machine when the chassis door box is open.**
- **When one or more of the machine's tires are off the ground, evacuate all personnel before attempting to stabilize the equipment. Use a crane, forklift or other suitable apparatus to stabilize the equipment.**

FALL HAZARDS

At a minimum, operators must operate and maintain the machine as stated in ***Operation Manual*** and in the ***Maintenance Manual*** in addition to following more stringent industry regulations and workplace rules.

⚠ WARNING

FALL HAZARDS

- **Each person on the platform must wear harnesses or use safety equipment consistent with government regulations. Fasten the cable to the fixed point of the platform. Never fasten the cable of more than one person to a fixed point on the platform.**
- **Do not sit, stand or crawl on the guardrails. When on the platform always remain standing on the platform floor.**
- **Do not climb down from the platform when the platform is elevated.**
- **Keep the platform floor free of obstacles.**
- **Do not enter or exit the platform unless the machine is fully in place.**
- **Close the platform entrance door before operating the machine.**
- **Do not operate the machine if the handrails are not properly installed and the platform entry door is not closed.**

COLLISION HAZARDS

At a minimum, operators must operate and maintain the machine as stated in the *Operation Manual* and in the *Maintenance Manual* in addition to following more stringent industry regulations and workplace rules.

⚠ WARNING

COLLISION HAZARDS

- **Pay attention to the field of sight and the presence of blind spots when moving or operating the machine.**
- **Pay attention to the extended platform when moving the machine.**
- **Check the work area to avoid ground and overhead obstructions or other possible risks.**
- **Be sure to exercise caution when using the platform controller and chassis controller. Color-marked directional arrows show the function of travel, lift and steering.**
- **Users must comply with user, workplace and government rules regarding the use of personal protective equipment (hard hats, safety belts and gloves, etc.).**
- **Place the machine on level ground or in a secured position before releasing the brakes.**
- **Only lower the platform when there are no people or obstructions in the area beneath it.**
- **Limit the speed of travel according to ground conditions, crowding, gradients, the presence and location of personnel and any other factors that may cause collisions.**
- **Do not operate the machine on any crane or overhead traveling device unless the crane control is locked or precautions have been taken to prevent any potential collision.**
- **Do not place your hands and arms where they may become crushed or trapped.**
- **Do not work in or under the platform or near the scissor arms when the safety lever is not in place.**
- **Maintain good judgment and planning when using the controller on the ground to operate the machine. Maintain proper distance between operator, machine and fixed object.**

⚠ WARNING

COLLISION HAZARDS

- **Keep the machine away from any stationary objects (buildings etc.) or mobile objects (vehicles, cranes etc.).**
- **Never operate a machine dangerously or for fun.**

CRUSH HAZARDS

A potential crush hazard exists during movement of the machine. Always keep body parts and clothing a safe distance from the machine during machine operation.

⚠ WARNING

CRUSH HAZARDS

- **Do not place your hands and arms where they may become crushed or trapped.**
- **Do not work in or under the platform or near the scissor arms when the safety lever is not in place.**
- **Maintain good judgment and planning when using the controller on the ground to operate the machine. Maintain proper distance between operator, machine and fixed object.**

EXPLOSION AND FIRE HAZARDS

⚠ WARNING

EXPLOSION AND FIRE HAZARDS

- **Do not use the machine or charge the battery in hazardous or potentially flammable or explosive atmosphere.**
- **For the engine-powered machines, never add fuel while the engine is still running, and only add fuel when the place is well ventilated and free of flame, spark or any other hazards that may cause explosion.**
- **Never spray ether on the engine equipped with glow plug.**

DAMAGED MACHINE HAZARDS

NOTICE

To avoid machine damage, follow all operation and maintenance requirements in the Operation Manual and the Maintenance Manual.

⚠ WARNING

UNSAFE OPERATION HAZARDS

- **Do not use the machine if it is damaged or not in proper operating condition.**
- **Thoroughly inspect and test for all functions of the machine before use. Immediately mark and stop damaged or faulty machines.**
- **Ensure that all maintenance operations have been performed in accordance with the *Operation Manual* and the corresponding *Maintenance Manual*.**
- **Make sure all labels are in place and are legible.**
- **Ensure that the *Operation Manual* and *Maintenance Manual* are sound, easy to read and stored in the storage compartment on the platform.**

BODILY INJURY HAZARDS

Always follow all operation and maintenance requirements in the *Operation Manual* and the *Maintenance Manual*.

⚠ WARNING

UNSAFE OPERATION HAZARD

Do not operate the machine when there are oil spills/leaks. Oil spills or leaks in hydraulic fluids may penetrate and burn the skin.

NOTE: The operator must carry out maintenance during the pre-operation inspection only. During operation, keep the left and right doors of the chassis closed and locked. Only trained service personnel can open the left and right doors to repair the machine.

BATTERY HAZARDS

⚠ WARNING

FIRE AND EXPLOSION HAZARD

- **Batteries contain sulfuric acid and generate explosive mixtures of hydrogen and oxygen gases. Keep any device that may cause sparks or flames (including cigarettes/smoking materials) away from the battery to prevent explosion.**
- **Do not touch the battery terminals or cable clips with tools that may cause sparks.**

⚠ WARNING

BATTERY HAZARD

- **Be sure to read and follow the rocomendations given by the battery manufacturor regarding how to correctly use and maintain the battery.**
- **Always wear protective glasses or goggles and protective clothing when working with batteries. Remove all rings, watches and other accessories.**

⚠ WARNING

CHEMICAL BURN HAZARD

Avoid spilling or contacting battery acid with unprotected skin. Seek medical attention immediately if battery acid contacts skin.

⚠ WARNING

BATTERY HAZARD

- **Only the properly trained personnel authorized by the workplace are allowed to remove the battery from the machine.**
- **Before replacing the battery, be sure to identify the appropriate number of personnel and the lifting method.**
- **During the assembling or disassembling process, never use the battery in a forciable manner, and never allow the battery to fall off.**
- **Never directly short-circuit the battery outputs with electrical cords.**
- **Should the battery acid spill out, use bicarbonate (baking soda) mixed with water to neutralize the acid.**
- **Never store the battery in water or humid atomosphere.**
- **Daily check the battery cable for damage, and replace any damaged parts before operating the machine.**

⚠ WARNING

LITHIUM BATTERY HAZARD

- **Only use the dedicated charger to charge the battery.**
- **Do not allow lens, needles or other sharp objects to contact with the battery, otherwise the battery membrane will easily get damaged.**
- **Do not immerse the batttery into the sea or water for an extended period of time.**
- **Do not use the machine with the battery close to a heat source (- fire, heater, etc).**
- **Do not use the battery with the positive or negative terminals installed inversely.**
- **Do not directly connect the battery to a power outlet .**
- **Do not throw the battery into a fire or heater,**

NOTICE

After charging the battery, be sure that:

- *The battery cable connections are free of corrosion.*
- *The battery hold-down and cable connections are secured.*

Adding terminal protection and anti-corrosion sealants will help reduce corrosion of the battery terminals and cables.

HYDRAULIC SYSTEMS HAZARD

⚠ WARNING

BURN AND HIGH PRESSURE HAZARD

- **Hydraulic systems are hot. DO NOT TOUCH! Serious personal injury may result from hot hydraulic fluid.**
- **When work on the hydraulic system is completed, thoroughly clean any spilled oil from the machine. Do not spill any hydraulic fluid on the ground. Clean any hydraulic fluid from your skin as soon as soon as you have completed performing maintenance and repairs. Dispose of used fluid as required by law.**
- **Never inspect for hydraulic leaks with bare hands or other exposed body parts. As a minimum, wear leather gloves and use cardboard or wood to inspect for leaks. If leaks are present, relieve pressure to allow system to cool prior to servicing. If injured by escaping hydraulic fluid, contact a physician immediately. Serious complications may arise if not treated immediately.**

WELDING AND POLISHING REQUIREMENTS

Before welding, grinding and polishing operations, always ensure you read and understand all operation and maintenance requirements in the *Operation Manual* and the *Maintenance Manual*.

⚠ WARNING

WELDING HAZARDS

- **Comply with the welder manufacturer's recommendations for procedures concerning proper use of the welder.**
- **Welding leads or cables may only be connected after turning off the power unit.**
- **Carry out welding operations only after the welding cable has been correctly connected.**
- **Do not use the machine as a ground wire during welding operation.**
- **At all times, make sure that the power tools are completely stored in the working platform. Do not hang the power tools on the railing of the working platform or the work area outside the working platform, or hang the power tools directly by the wire.**

Before performing welding, grinding and polishing work, welders must seek permission of the responsible department at the workplace.

AFTER USING THE MACHINE

1. Choose a safe parking location that is on sturdy, level ground and that is free of obstructions. Avoid areas with heavy traffic.
2. Lower the platform.
3. Turn the emergency stop switch of the ground controller to the "OFF" position
4. Turn the key switch to the "OFF" position and remove the key to avoid unauthorized use of the machine.
5. Block the wheels with the wheel wedges.
6. Charge the battery.

NOTICE

After using the machine, the power off switch must be disconnected.

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4 JOBSITE INSPECTION

⚠ WARNING

UNSAFE OPERATION HAZARD

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

Do not operate this machine unless you have learned and practiced the rules for safely operating the machine as stated in this manual.

- **Know and understand the safety rules before continuing the next step.**
- **Avoid dangerous situations.**
- **Always check the machine before operating.**
- **Select appropriate machinery and personal protective equipment (hard hats, safety belt and gloves, etc.) for the task.**
- **Always perform a pre-operation function test before using the machine.**
- **Check the work site.**
- **Check the safety decals/ nameplate on the machine.**
- **Only use the machine according to the instructions in this manual and for its intended purpose.**

During the jobsite inspection the operator determines whether the jobsite is suitable for safe machine operation. The operator should conduct the jobsite inspection before moving the machine to the jobsite.

Safety is the operator's responsibility. Part of safety is conducting a thorough jobsite inspection. Operators must identify and avoid workplace hazards when moving, installing and operating the machine.

Unless approved by Sinoboom, never operate the machine in a hazardous site. The following items present danger on the jobsite:

- Steep hills or caves
- Ground prominences, obstacles or debris
- Ground inclines
- Unstable or ultra-smooth surfaces
- Overhead obstacles and high-voltage wires
- Hazardous locations
- Ground surface that could fail to support the capacity of the machine and its load
- Gusts and strong winds
- Actions by unauthorized personnel
- Other possible unsafe conditions

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5 PRE-OPERATION INSPECTION

⚠ WARNING

UNSAFE OPERATION HAZARD

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

Do not operate this machine unless you have learned and practiced the rules for safely operating the machine as stated in this manual.

- **Know and understand the safety rules before continuing the next step.**
- **Avoid dangerous situations.**
- **Always check the machine before operating.**
- **Select appropriate machinery and personal protective equipment (- hard hats, safety belt and gloves, etc.) for the task.**
- **Always perform a pre-operation function test before using the machine.**
- **Check the work site.**
- **Check the safety decals/ nameplates on the machine.**
- **Only use the machine according to the instructions in this manual and for its intended purpose.**

Before operating the machine, please first understand the tasks to be done and be aware of the following：

1. Be familiar with each function of the machine and capable of operating it adeptly.
2. Only the person authorized by the management is allowed to operate the machine.
3. Obey the safety rules in this manual, and fully understand and follow the operating instructions in this manual to operate the machine.
4. The operator should go through a professional training based on this operation manual, and should be certified as a qualified operator in operation of this machine.
5. Clearly understand all nameplates, warning and safety decals on the machine.
6. Before each operation, examine and check the operational environment, and ensure the safety protection equipment is properly in place. The safety equipment may differ according to the operational environment.
7. Before operating the machine, be sure that all control handles are returned to neutral, and all switches in the OFF position.

TIPS FOR CONDUCTING A PRE-OPERATION INSPECTION

⚠ WARNING

TIPPING HAZARD

Do not change or modify the aerial work platform without the prior written permission of the manufacturer. If an additional device is installed on the platform or guardrail for placing tools or other materials, this will increase the platform weight and surface area or increase the load.

- The operator is responsible for performing the “pre-operation inspection” and routine maintenance as stated in this manual.
- Before each shift change, the operator must conduct a pre-operation inspection to find out whether the machine has obvious problems before the operator performs a pre-operation function test.
- The pre-operation inspection also helps the operator determine whether the machine requires routine maintenance.
- Please refer to ***Inspecting Parts, page 5-2*** and check each item.
- Never use a machine that has damaged or modified parts. Mark the machine and stop using the machine if you discover damage or modifications.
- Only qualified maintenance technicians can repair the machine according to the manufacturer's regulations. After any maintenance, the operator

must perform another pre-operation inspection before conducting a pre-operation function test.

- Qualified maintenance technicians must perform regular maintenance inspections according to the requirements in the manufacturer's *Maintenance Manual*.

CONDUCTING A PRE-OPERATION INSPECTION

Before starting the machine, check whether it meets the following requirements:

- Ensure the *Operation Manual* and *Maintenance Manual* are in good condition, legible and stored in the storage compartment on the platform.
- Make sure all labels are legible and appropriately located.
- Check for hydraulic oil leaks and proper oil level. Add oil as needed. See ***Inspect Hydraulic Oil Level, page 5-2***.
- Check battery for leaks and proper liquid level. Add distilled water as needed. See ***Inspecting the Battery, page 5-3***.
- Check whether the protective device in use matches the type of work performed and conforms to relevant technical standards.

INSPECTING PARTS

Before each use or work shift,check the machine for any damaged, improperly installed, loose or missing parts and unauthorized changes:

- Electrical components, wiring,cables and safety ropes
- Hydraulic hoses, fittings, cyinders and counterbalance valves
- Drive motors
- Wear pads
- Tires and wheels
- Limit switches, alarms and horn
- Beacons and indicator lights (if equipped)
- Bolts, nuts and other fasteners
- Brake releasing
- Safety arm
- Scissor arm pins and fasteners
- Platform joystick
- Outriggers (if equipped)
- Hydraulic tank
- Platform (including rails, floor plate, safety lock, brackets and entry door)
- Generator (if equipped)
- Personal protection equipment
- Emergency control equipment
- Operation instructions, warning and control decals

NOTICE

If any part is found damaged, missing, or improperly installed, please immediately replace with a new one and install correctly; if any fastener is found detached or loose, please tighten immediately.

INSPECTING ENTIRE MACHINE

Inspect the entire machine for:

- Cracks in welds or structures
- Dents or other damages
- Severe rust, corrosion or oxidation
- Improper twisting of steel wire ropes, electric cables, hoses inside the platform
- Missing or loose structural parts and key components, including fasteners and pins for correct positioning and tightness
- Ensure the rails are installed with bolts tightened.

NOTICE

If the machine has to be inspected with platform raised, please be sure the safety arm is properly set up.

INSPECT HYDRAULIC OIL LEVEL

Ensuring appropriate hydraulic oil level is vital to proper operation of the machine. If too high, the oil will spill out from the oil tank during machine operation, if too low, the oil pump will suction air and damage hydraulic components. Performing daily inspection of the hydraulic oil level will help you determine if a problem exists in the hydraulic system.

Perform the following procedure with the platform retracted and machine off:

1. Visually inspect on the hydraulic tank side to be sure the hydraulic oil level is whithin the marking range of sight gauge.

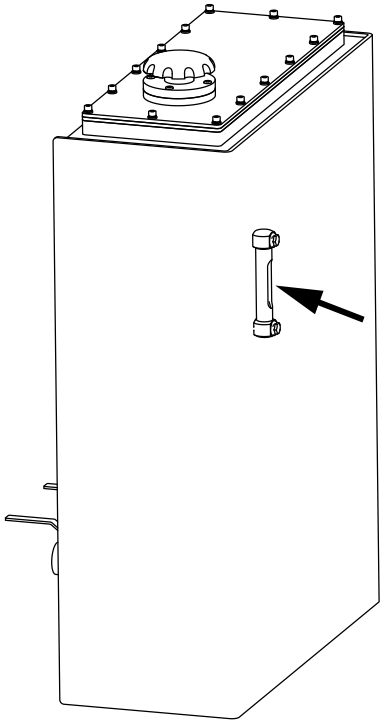


Figure 5-1

2. Ensure the tank body and ports are free of leakage.
3. Add hydraulic oil as needed. Never overfill the tank.

Table 5-1

CUSTOMER REQUIREMENTS	HYDRAULIC OIL MARK
Normal-temperature region 0°C to 40°C (32°F to 104°F)	L-HM46
Cold region -25°C to 25°C (-13°F to 77° F)	L-HV32
High-temperature region greater than 40°C (104°F)	L-HM68
Extremely cold region less than -30°C (-22°F)	Special programmes need to be identified.

NOTICE

Different hydraulic oils can be added according to customer requirements upon factory delivery, but cannot be mixed.

INSPECTING THE BATTERY

The condition of the battery affects the performance of the machine. Improper levels of battery electrolyte or damaged cable and wiring may harm battery parts and may pose dangerous conditions.

⚠ WARNING

ELECTROCUTION HAZARD

- **Contact with live circuits may cause death or serious injury. Always wear goggles, protective gloves and protective clothing.**

- **Remove all rings, watches or other jewelry**

⚠ WARNING

CHEMICAL BURN HAZARD

- **Avoid battery acid spillage or contact with unprotected skin. If the battery acid comes into contact with the skin, wash it immediately with plenty of water and seek medical attention immediately.**
- **In case of battery acid spillage, use water mixed with baking soda to neutralize the acid.**

- Check the battery level. The discharged capacity shall not exceed 80% of the total capacity of the battery. Charge the battery immediately after each discharging.
- Ensure the battery cells are wired reliably with the locking nuts torqued to the specifications as below:

Nut type	Torque
M8	9 ~ 11Nm (6.6 ~ 8.1ft-lb)
M10	18 ~ 23Nm (13.2 ~ 17ft-lb)

NOTICE

Improper connection may cause reduced performance, damaged terminals, fusions and even fires.

- Ensure the battery negative and positive poles are correctly connected.
- Ensure the battery connections are not corroded.
- Check the battery electrolyte level is proper (for lead-acid battery requiring maintenance).
- Check the battery box for accumulated water, if any, clear the water.
- Check the internal and external paint of battery for damage, if any, touch up the damaged paint immediately to prevent corrosion and keep the box insulated.

NOTE: Add terminal protectors and antiseptic sealants to help eliminate corrosion of the battery terminals and cables.

6 PRE-OPERATION FUNCTION TEST

⚠ WARNING

UNSAFE OPERATION HAZARD

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

Do not operate this machine unless you have learned and practiced the rules for safely operating the machine as stated in this manual.

- **Know and understand the safety rules before continuing the next step.**
- **Avoid dangerous situations.**
- **Always check the machine before operating.**
- **Select appropriate machinery and personal protective equipment (hard hats, safety belt and gloves, etc.) for the task.**
- **Always perform a pre-operation function test before using the machine.**
- **Check the work site.**
- **Check the safety decals/ nameplate on the machine.**

⚠ WARNING

UNSAFE OPERATION HAZARD

- **Only use the machine according to the instructions in this manual and for its intended purpose.**

Conducting a pre-operation function test helps you discover potential problems before you start using the machine. The operator must test all machine functions according to the instructions in this manual.

Do not use a machine with problems or malfunctions. Mark the machine and do not use it if you discover any problems. Only qualified maintenance technicians can repair the machine according to the manufacturer's regulations.

After any maintenance, the operator must perform another pre-operation inspection before conducting a pre-operation function test.

TESTING THE GROUND CONTROLLER (DTC SYSTEM)

NOTICE

All tests on the ground controller should be completed in one cycle.

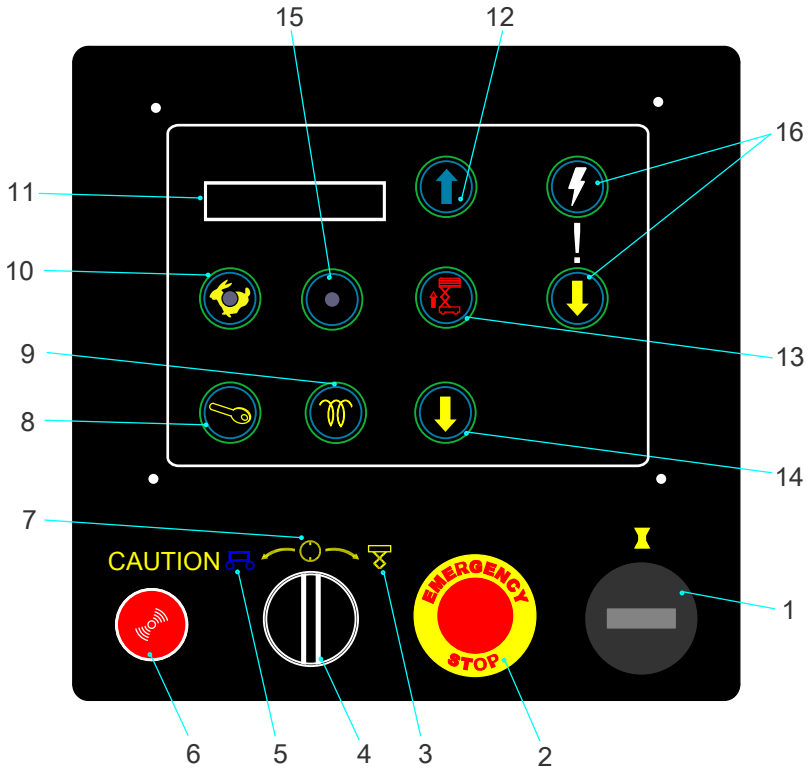


Figure 6-1 Ground controller (DTC system)

Table 6-1

1. Hour meter	**7.** Neutral position	**13.** Platform up/down enable switch
2. Emergency stop button	**8.** Engine start switch (not used)	**14.** Platform down switch
3. Platform control position	**9.** Glow plug switch (not used)	**15.** Overload indicator light
4. Key switch (Ground/Platform select switch)	**10.** Engine speed select switch (with indicator light, not used)	**16.** Emergency lowering switch
5. Ground control position	**11.** LCD screen	
6. Buzzer	**12.** Platform up switch	

⚠ WARNING

UNSAFE OPERATION HAZARD

- **Unless in emergency situations, never operate the machine from the ground controller if there is any person on the platform.**
- **Never operate the machine if any control handle or switch that controls the platform movement is not returned to the OFF position after being released.**

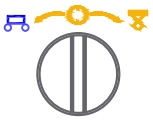
PREPARATION

1. Select a firm, level test surface free of obstructions.
2. Turn the Ground/Platform select switch on ground controller to Ground control position.
3. Pull out the emergency stop button on ground controller to ON position.
4. Ensure the LCD screen is lit and reads “SYSTEM READY”.

NOTICE

In cold weather, the LCD screen needs warming up before it properly displays anything.

GROUND/PLATFORM SELECT SWITCH



1. Turn the Ground/Platform select switch on ground controller to Ground position, all functions should only be operative on the ground controller, while the platform controller should be inoperative.
2. Turn the Ground/Platform select switch on ground controller to Platform position, all functions should only be operative on the platform controller, while the ground controller should be inoperative.

EMERGENCY STOP BUTTON

1. Push in the emergency stop button on ground controller to OFF position, all functions should be inoperative.
2. Pull out the emergency stop button on ground controller to ON position, the machine should be operative.

PLATFORM UP/DOWN FUNCTION

The alarm sounds 60 times/minute while the platform is lowering, and 180 times/minute while the machine is tilt.

1. Press the platform up switch or down switch without pressing the platform up/down enable switch, the intended function will be inoperative.
2. Press the platform up/down enable switch, the button should be lit.
3. Press the platform up switch, the platform should rise.
4. Press the platform down switch, the platform should be lowered with the alarm sounding.

EMERGENCY LOWERING

After pressing the emergency lowering combination buttons, the platform can be lowered.

TESTING THE GROUND CONTROLLER (SINOBOOM CONTROL SYSTEM)

NOTICE
All tests on the ground controller shall be completed within one cycle.

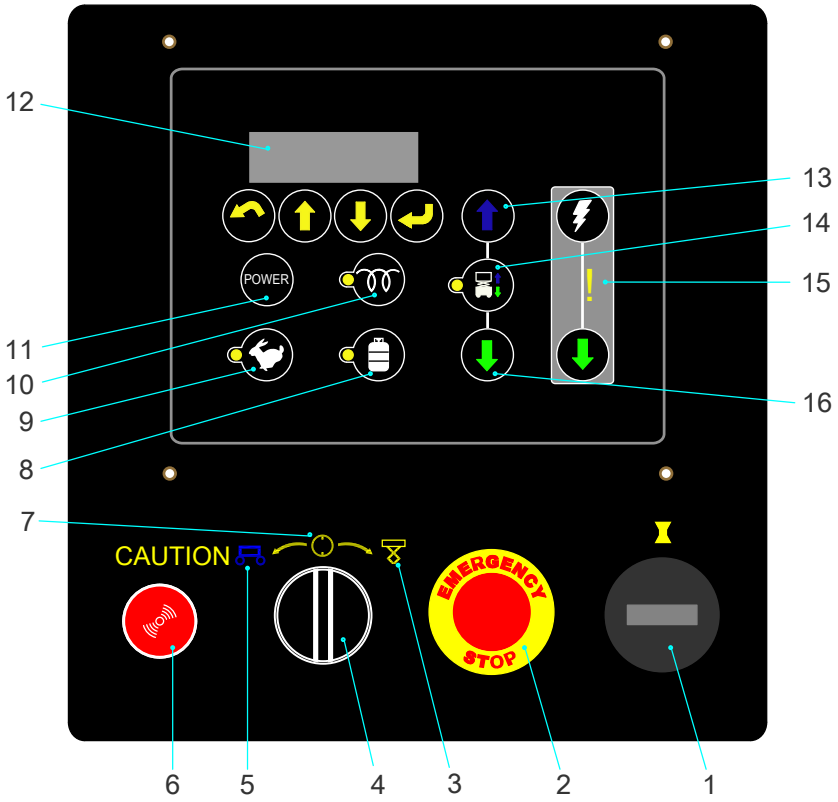


Figure 6-2 Ground controller (Sinoboom control system)

Table 6-2

1. Hour meter	**7.** Neutral position	**13.** Platform up switch
2. Emergency stop button	**8.** Natural gas switch (not used)	**14.** Platform up/down enable switch
3. Platform control position	**9.** Engine speed select switch (not used)	**15.** Emergency lowering combination switch
4. Key switch (Ground/Platform select switch)	**10.** Glow plug switch (not used)	**16.** Platform down switch
5. Ground control position	**11.** Ignition switch (not used)	
6. Buzzer	**12.** LED screen	

⚠ WARNING

UNSAFE OPERATION HAZARD

- **Unless in emergency situations, never operate the machine from the ground controller if there is any person on the platform.**
- **Never operate the machine if any control handle or switch that controls the platform movement is not returned to the OFF position after being released.**

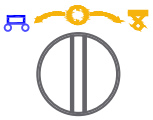
PREPARATION

1. Select a firm, level test surface free of obstructions.
2. Turn the Ground/Platform select switch on ground controller to Ground control position.
3. Pull out the emergency stop button on ground controller to ON position.
4. Ensure the LCD screen is lit, and then “System Loading…”, “星邦智能高空作业平台” (-Sinoboom Intelligent Aerial Work Platform), and the angles in X-axis and Y-axis of chassis are displayed successively.

NOTICE

In cold weather, the LCD screen needs warming up before it properly displays anything.

GROUND/PLATFORM SELECT SWITCH



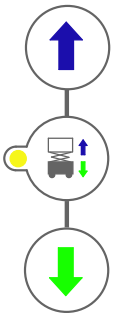
1. Turn the Ground/Platform select switch on ground controller to Ground control position, and all functions should only be operative on the ground controller, while the platform controller should be inoperative.
2. Turn the Ground/Platform select switch on ground controller to Platform control position, and all functions should only be operative on the platform controller, while the ground controller should be inoperative.

EMERGENCY STOP BUTTON

1. Push in the emergency stop button on ground controller to OFF position, and press the engine start switch, the engine should not be started and all functions should be inoperative.
2. Pull out the emergency stop button on ground controller to ON position, and press the engine start switch, the engine should be normally started.

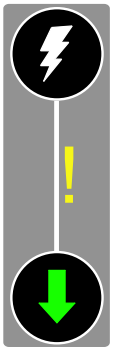
PLATFORM UP/DOWN FUNCTION

The alarm sounds 60 times/minute while the platform is lowering, and 180 times/minute while the machine is tilt.



1. Press the platform up/down enable switch, the button should be lit.
2. Press the platform up switch, the platform should be raised.
3. Press the platform down switch, the platform should be lowered and the lowering alarm should sound.

EMERGENCY LOWERING



After pressing the emergency lowering combination buttons, the platform can be lowered.

TESTING THE PLATFORM CONTROLLER (DTC SYSTEM)

NOTICE

All tests on the platform controller should be completed in one cycle.

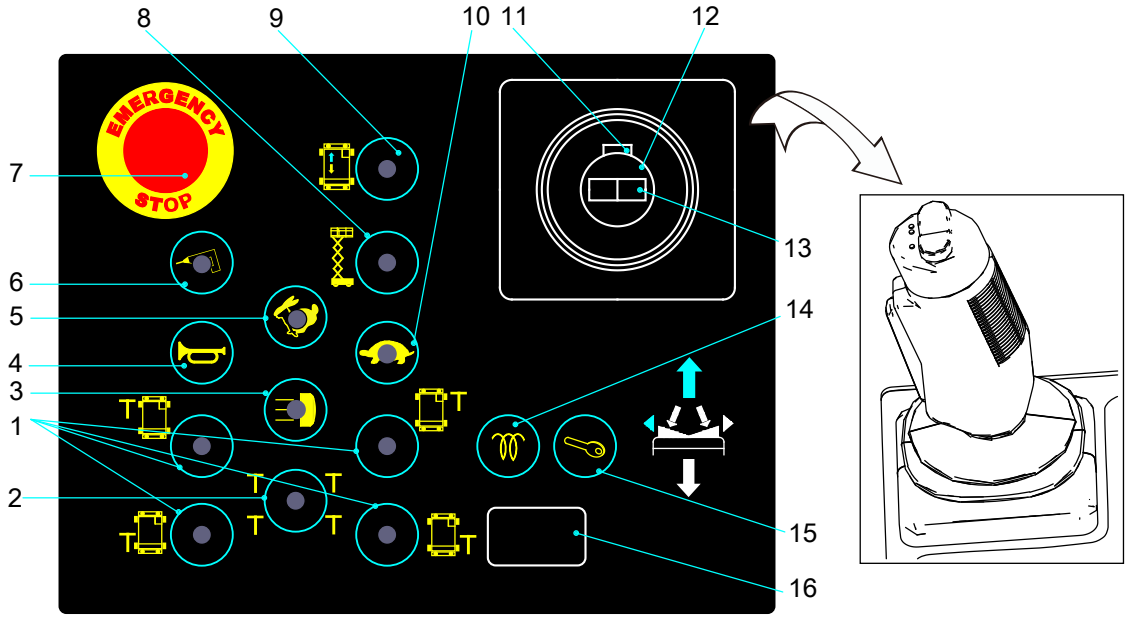


Figure 6-3 Platform controller (DTC system)

Table 6-3

1. Individual outrigger level switch	**7.** Emergency stop button	**13.** Steer thumb rocker switch
2. Outrigger self-level switch	**8.** Platform up/down enable switch	**14.** Glow plug switch (not used)
3. Lighting switch (optional)	**9.** Drive switch	**15.** Engine start switch (not used)
4. Horn button	**10.** Drive speed select switch	**16.** LCD screen
5. Engine speed select switch (not used)	**11.** Enable switch	
6. Generator switch (if equipped)	**12.** Drive/lift proportional control joystick	

⚠ WARNING

UNSAFE OPERATION HAZARD

- **Unless in emergency situations, never operate the machine from the ground controller if there is still any person on the platform.**
- **Never operate the machine if any control handle or switch that controls the platform movement is not returned to the OFF position after being released.**
- **Platform controller joysticks of different brands can't be used to replace each other, otherwise the machine may be damaged or safety accidents may occur.**
- **To avoid severe personal accidents and deaths, never remove or alter the foot switch (if equipped) or disable it with blocks or any other means.**

PREPARATION

1. Select a firm, level test surface free of obstructions.
2. Turn the Ground/Platform select switch on ground controller to Platform position.

EMERGENCY STOP BUTTON

1. Push in the emergency stop button on platform controller to OFF position, and press the engine start switch, the engine should not be started and all functions should be inoperative.
2. Pull out the emergency stop buttons on ground and platform controllers to ON position, and press the engine start switch, the engine should be normally started.
3. With the emergency stop button on ground controller in OFF position and the one on platform controller in ON position, press the engine start switch, the engine should not get started and all functions should be inoperative.

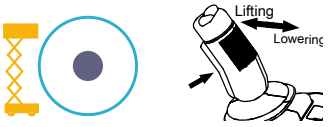
HORN BUTTON

Press the horn button, the horn shoud sound.

LIGHTING SWITCH (OPTIONAL)

Press the lighting switch, the switch should be lit and the lighting should turn on.

PLATFORM UP/DOWN FUNCTION

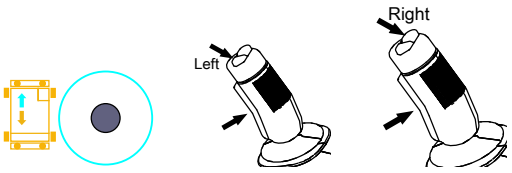


1. Start the machine.
2. Press the platform up/down enable switch, the switch should be lit.
3. Hold the joystick enable switch and slowly deflect forward the joystick, the platform should rise.
4. Hold the joystick enable switch and slowly deflect backward the joystick, the platform should lower with the alarm sounding.

STEER FUNCTION

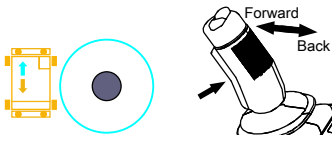
NOTICE

When testing the steer/drive functions, the operator should stand on the platform facing towards the machine steer direction.



1. Press the drive switch, the switch should be lit.
2. Hold the joystick enable switch and press the steer thumb rocker switch on the left, the wheel should steer left.
3. Hold the joystick enable switch and press the steer thumb rocker switch on the right, the wheel should steer right.

DRIVE FUNCTION



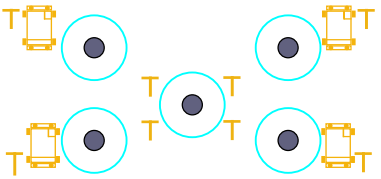
1. Press the drive switch, the switch should be lit.
2. Hold the joystick enable switch and slowly deflect forward the joystick, the machine should drive forward.
3. Release the joystick, the machine should come to an immediate stop.
4. Hold the joystick enable switch and slowly deflect backward the joystick, the machine should drive reverse.
5. Release the joystick, the machine should come to an immediate stop.

DRIVE SPEED SELECT SWITCH

Press the drive speed select switch, the switch should be lit and the low drive speed should be selected; press the switch again, the switch light should go out and the high drive speed should be selected.

Note: The machine is defaulted to low drive speed.

OUTRIGGER LEVELING



1. Press the outrigger self-level switch, hold the joystick enable switch and slowly push backward the joystick.
2. The outriggers should extend to the ground to level the machine, and the switch should be lit after the machine is level.
3. Press the individual outrigger level switch, hold the enable switch on the control joystick and slowly push forward the joystick.
4. The respective outrigger should retract.
5. Press the individual outrigger level switch, hold the joystick enable switch and slowly deflect backward the joystick.
6. The respective outrigger should extend and the switch should be lit after the outrigger touches the ground.

TESTING THE PLATFORM CONTROLLER (SINOBOOM CONTROL SYSTEM)

NOTICE
All tests on the platform controller should be completed in one cycle.

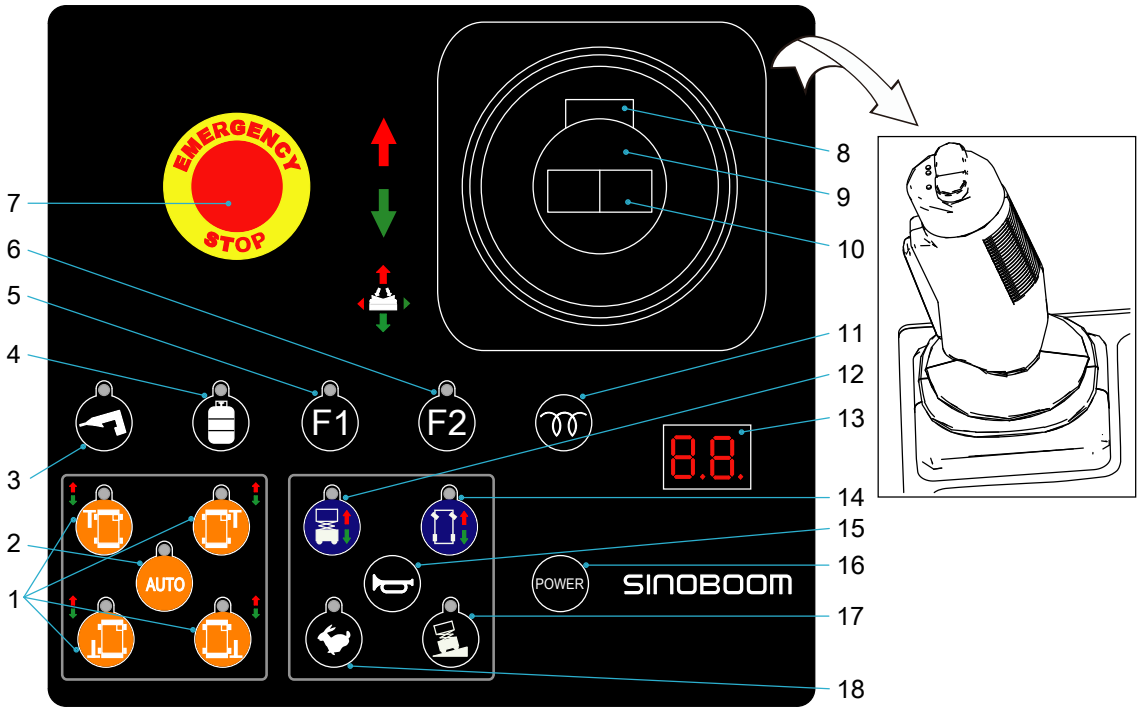


Figure 6-4 Platform controller (Sinoboom control system)

Table 6-4

1. Individual outrigger level switch	**7.** Emergency stop button	**13.** LED screen
2. Outrigger self-level switch	**8.** Enable switch	**14.** Drive & steer enable switch
3. Hydraulic generator switch (not used)	**9.** Drive/lift proportional control joystick	**15.** Horn button
4. Natural gas switch (not used)	**10.** Steer thumb rocker switch	**16.** Ignition switch (not used)
5. Not used	**11.** Glow plug switch (not used)	**17.** Climbing mode enable switch
6. Not used	**12.** Platform up/down enable switch	**18.** Engine speed select switch (not used)

⚠ WARNING

UNSAFE OPERATION HAZARD

- **Unless in emergency situations, never operate the machine from the ground controller if there is still any person on the platform.**
- **Never operate the machine if any control handle or switch that controls the platform movement is not returned to the OFF position after being released.**
- **Platform controller joysticks of different brands can't be used to replace each other, otherwise the machine may be damaged or safety accidents may occur.**
- **To avoid severe personal accidents and deaths, never remove or alter the foot switch (if equipped) or disable it with blocks or any other means.**

PREPARATION

1. Select a firm, level test surface free of obstructions.
2. Turn the Ground/Platform select switch on ground controller to Platform position.

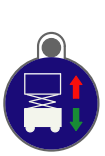
EMERGENCY STOP BUTTON

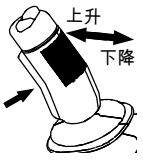
1. Push in the emergency stop button on platform controller to OFF position, and press the engine start switch, the engine should not be started and all functions should be inoperative.
2. Pull out the emergency stop buttons on ground and platform controllers to ON position, and press the engine start switch, the engine will be normally started.
3. With the emergency stop button on ground controller in OFF position and the one on platform controller in ON position, press the engine start switch, the engine should not get started and all functions should be inoperative.

HORN BUTTON

Press the horn button, the horn should sound.

PLATFORM UP/DOWN FUNCTION





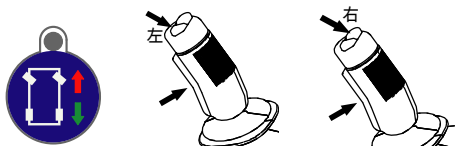
1. Start the engine.
2. Press the platform up/down enable switch, the indicator light should be lit and the lift mode will be activated.
3. Hold the joystick enable switch and slowly push forward the joystick, the platform should rise.
4. Hold the joystick enable switch and slowly pull backward the joystick, the platform should be lowered with the lowering alarm sounding.

Note: The raising/lowering speed is in direct proportion to the stroke of the joystick.

STEER THUMB ROCKER SWITCH

NOTICE

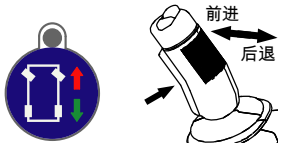
When testing the steer/drive functions, the operator should stand in the platform facing towards the machine steer direction.



1. Press the drive & steer enable switch, the indicator light should be lit, and the drive & steer control mode will be activated.
2. Hold the joystick enable switch and press the steer thumb rocker switch on the left, the wheel should steer left.
3. Hold the joystick enable switch and press the steer thumb rocker switch on the right, the wheel should steer right.

Note: The steering speed is in direct proportion to the stroke of the joystick.

DRIVE SWITCH



1. Press the drive & steer enable switch, the indicator light should be lit, and the drive & steer control mode will be activated.
2. Hold the joystick enable switch and slowly push forward the joystick, the machine should drive forward.
3. Release the joystick, the machine should come to an immediate stop.
4. Hold the joystick enable switch and slowly pull backward the joystick, the machine should drive reverse.
5. Release the joystick, the machine should come to an immediate stop.

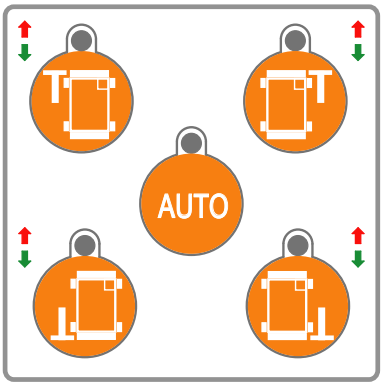
Note: The drive speed is in direct proportion to the stroke of the joystick.

CLIMBING MODE

- Turn the Ground/Platform select switch on ground controller to Platform position, activate the drive & steer mode, and press the climbing mode enable switch, the machine should be switched to the climbing mode, and the indicator light should be lit.

Note: When the fore-and-aft inclination of the machine is beyond 6°, the climbing mode will be activated automatically.

OUTRIGGER LEVELING



1. Press the outrigger self-level switch, hold the joystick enable switch and slowly pull backward the joystick.
2. The outriggers should extend to the ground and level the machine, and the indicator light should be lit after the machine becomes level.
3. Press the outrigger self-level switch, and hold the joystick enable switch and slowly push forward the joystick.
4. The outriggers should retract, and the indicator light should go out.
5. Press the individual outrigger level switch, and hold the joystick enable switch and slowly pull backward the joystick.
6. The corresponding outrigger should retract and the indicator light should be lit after the outrigger touches the ground.
7. Press the individual outrigger level switch, and hold the joystick enable switch and slowly push forward the joystick.
8. The corresponding outrigger should retract and the indicator light should go out.

TESTING THE EMERGENCY LOWERING FUNCTION

1. Turn the Ground/Platform select switch on the ground controller to the platform control position.
2. Pull out the emergency stop buttons on both the ground and platform controllers to the ON position.
3. Press the platform lift switch.
4. Hold the joystick enable switch and slowly deflect forward the joystick to raise the platform to a height and release the joystick
5. Press simultaneously the both emergency lowering switches.
6. The platform should lower until properly in place, and the alarm should sound while the platform is lowering.

TESTING THE LEVEL SENSOR

⚠ WARNING

UNSAFE OPERATION HAZARDS

- **Don't put your hands and arms close to positions where they may get squeezed.**
- **If the safety arm is not in the proper position, don't work under the platform or near the scissor arm.**

NOTICE

Do not stand on the platform but on the ground using the platform controller to perform this test.

1. Position the machine on a level, firm surface. Start the machine, and the green indicator light on the level sensor should illuminate.
2. With the machine in stowed position, place 2 wooden blocks near the two front or rear wheels, then drive the machine upon the wooden blocks. The wooden block dimension (L×W×H) is 100×50×150mm (4in×2in×5.9in).
3. Switch from drive to platform lift function, and raise the platform until the lower limit switch disengages, the red indicator light on the level sensor will illuminate with the alarm sounding, and further lifting and driving is restricted.
4. Lower the platform to the stowed position, the alarm will stop sounding, and the machine function limit is cancelled.
5. Drive the machine off and remove the wooden blocks.
6. With the machine in stowed position (outrigger retracted), place 2 wooden blocks near the two wheels on the left or right side, then drive the machine upon the wooden blocks. The wooden block dimension (L×W×H) is 100×50×70mm (4in×2in×2.76in).
7. Switch from drive to platform lift function, and raise the platform until the lower limit switch disengages, the red indicator light on the level sensor will

illuminate with the alarm sounding, and further lifting and driving is restricted.

8. Lower the platform to the stowed position, the alarm will stop sounding, and the machine function limit is cancelled.
9. Drive the machine off and remove the wooden blocks.
10. With the machine in stowed position (outrigger extended), place 2 wooden blocks near the two wheels on the left or right side, then drive the machine upon the wooden blocks. The wooden block dimension (L×W×H) is 100×50×28mm (4in×2in×1.1in).
11. Switch from drive to platform lift function, and raise the platform until the lower limit switch disengages, the red indicator light on the level sensor will illuminate with the alarm sounding, and further lifting and driving is restricted.
12. Lower the platform to the stowed position, the alarm will stop sounding, and the machine function limit is cancelled.
13. Drive the machine off and remove the wooden blocks.

TESTING THE DRIVE SPEED

With the machine in stowed position:

1. Turn the Ground/Platform select switch on ground controller to Platform.
2. Pull out the emergency stop buttons on ground and platform controllers to ON position.
3. Press the drive switch.
4. Hold the joystick enable switch and slowly deflect forward the joystick to full stroke.
5. Press the drive high/low speed switch on platform controller to select the high drive speed.
6. The max drive speed of the machine in stowed position is 5.3±0.53Km/h (3.3±0.33mph) , or the drive time for 40m (131 ft) is 25 ~ 30s.
7. Hold the joystick enable switch and slowly deflect forward the joystick to full stroke.
8. Press the drive high/low speed switch on platform controller to select the low drive speed.
9. The max drive speed of the machine in stowed position is 2±0.2Km/h (1.2±0.12mph) , or the drive time for 20m (65.6 ft) is 32 ~ 40s.

With the machine in operating position:

1. Turn the Ground/Platform select switch on ground controller to Platform.
2. Pull out the emergency stop buttons on ground and platform controllers to ON position.
3. Press the platform lift switch.
4. Hold the joystick enable switch and slowly deflect forward the joystick to raise the platform, and release the joystick when the down limit switch disengages.
5. Press the drive switch.
6. Hold the joystick enable switch and slowly deflect forward the joystick to full stroke.
7. Press the drive high/low speed switch on platform controller to select the low drive speed.
8. The max drive speed of the machine is 1.1±0.1Km/h (0.68±0.06mph) , or the drive time for 20m (65.6 ft) is 53 ~ 64s.
9. Hold the joystick enable switch and slowly deflect forward the joystick to full stroke.
10. Press the drive high/low speed switch on platform controller to select the low drive speed.
11. The max drive speed of the machine in stowed position is 1.1±0.1Km/h (0.68±0.06mph), or the drive time for 20m (65.6 ft) is 53 ~ 64s.

NOTICE

if the machine drive speed exceeds the test results above, immediately tag and remove the machine from service.

TESTING THE OSCILLATE OUTRIGGERS

NOTICE

Do not stand in the platform but on the ground to perform this testing using platform controller.

The oscillate outriggers enables the machine to drive on uneven surfaces with 4 tires in close contact with the ground, thus improving the traction performance and stability.

- With the machine in stowed position:
  1. Start the machine from the platform controller and select the high idle speed.
  2. Drive the machine to allow the left steer wheel to stand on a 10cm (3.9in) high block or kerb.
  3. The other 3 wheels should come in close contact with the ground.
  4. Drive the machine to allow the right steer wheel to stand on a 10cm (3.9in) high block or kerb.

5. The other 3 wheels should come in close contact with the ground.

- With the machine in operating position:

1. Start the machine from the platform controller and select the high idle speed.
2. Using the platform lift function, raise the platform until the lower limit switch disengages.
3. Drive the machine to allow the left steer wheel to stand on a 10cm (3.9in) high block or kerb.
4. The other 3 wheels should come in close contact with the ground.
5. Drive the machine to allow the right steer wheel to stand on a 10cm (3.9in) high block or kerb.
6. The other 3 wheels should come in close contact with the ground.

TESTING THE WEIGHING SYSTEM

1. Before conducting this test, fully lift and lower the platform twice to ensure normal lubrication of the slider and track.
2. Lower the platform to the minimum height and retract the extension platforms. With the scissor arm fully retracted, gradually add a load to the platform.

Table 6-5

Mdoels	Test Results
1323RE	When the weight does not exceed 680 kg (1499 lb), ensure that the platform is able to lift to the highest position. When the platform load is greater than or equal to 815 kg (1797 lb), the platform lifting height should be no greater than 3.2±0.5 m（10ft 20in±1ft 25in）.
1623RE	When the weight does not exceed 680 kg (1499 lb), ensure that the platform is able to lift to the highest position. When the platform load is greater than or equal to 815 kg (1797 lb), the platform lifting height should be no greater than 3.2±0.5 m（10ft 20in±1ft 25in）.

Note：The hydraulic oil viscosity will increase as the temperature reduces, which may adversely affect the pressure sensing.If the new machine operates at temperature conditions that differ with the OEM factory temperature by more than 10°(50°F), or the hydraulic oil temeperature is below 15°(59°F), the overload alarm may be triggered (the display screen on platform or ground controller indicates “OL”) even if the platform load does not exceed the rated load, in this circumstance, please re-calibrate the weight sensor.

7 OPERATING THE MACHINE

⚠ WARNING

UNSAFE OPERATION HAZARD

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

Do not operate this machine unless you have learned and practiced the rules for safely operating the machine as stated in this manual.

- **Know and understand the safety rules before continuing the next step.**
- **Avoid dangerous situations.**
- **Always check the machine before operating.**
- **Select appropriate machinery and personal protective equipment (hard hats, safety belt and gloves, etc.) for the task.**
- **Always perform a pre-operation function test before using the machine.**
- **Check the work site.**
- **Check the safety decals/ nameplate on the machine.**
- **Only use the machine according to the instructions in this manual and for its intended purpose.**

This section provides specific instructions for all the aspects of machine operation. The operator is responsible for following all the safety rules and instructions in this manual.

Use this machine to transport people and tools to the workplace. It is unsafe and dangerous to use this machine for purposes other than what is stated in this manual.

Only trained and authorized personnel may operate the machine. If more than one operator uses the same machine at different times of the same work shift, they must all be qualified operators and follow all the safety rules and instructions in this ***Operation Manual***.

Each new operator must perform the pre-operation inspection, pre-operation function test, and workplace checks before using the machine.

EMERGENCY STOP

1. Push in the emergency stop buttons on the platform controller and ground controller to the OFF position. All functions will not operate.
2. Push in the main power button on the left door of chassis to the OFF position, all fuctions will not operate.

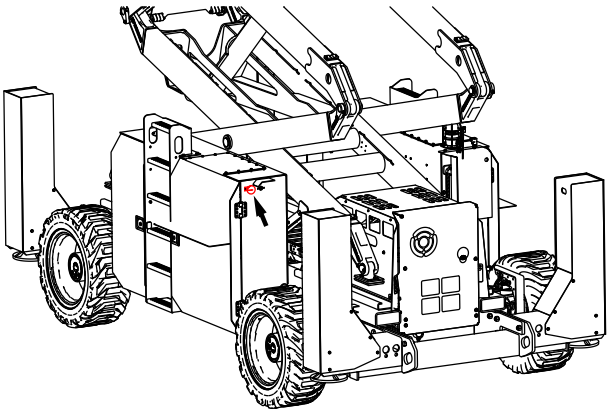


Figure 7-1

3. To resume the operation of any function, return the positions of the emergency stop buttons and main power button to the original.

NOTICE

If the platform controller displays the number "02", press the emergency stop button immediately.

EMERGENCY LOWERING

When the engine fails, please operate the emergency lowering function as appropriate.

For the specifice procedure, please reference ***Testing the Emergency Lowering Function, page 6-12***.

OPERATION FROM GROUND

Before operation：

1. Turn the key switch to Ground position.
2. Pull out the emergency stop buttons on ground and platform controllers to ON position.

To position platform：

1. Press and hold the platform lift switch.
2. Press the platform up or down switch.

The drive and steer functions are not enabled from ground controller.

OPERATION FROM PLATFORM

Before operation：

1. Turn the key switch to Platform position.
2. Pull out the emergency stop buttons on ground and platform controllers to ON position.

To position platform：

1. Press the platform lift switch, the switch should be lit.
2. Hold the joystick enable switch and slowly deflect forward the joystick, the platform should rise.
3. Hold the joystick enable switch and slowly deflect backward the joystick, the platform should lower with the alarm sounding.

To steer:

1. Press the drive swtich, the switch should be lit.
2. Hold the joystick enable switch and press the steer thumb rocker switch on the left, the wheel should steer left.
3. Hold the joystick enable switch and press the steer thumb rocker switch on the right, the wheel should steer right.

To drive：

1. Press and hold the joystick enable switch.
2. Increase speed：Slowly deflect the joystick off center.
3. Decrease speed：Slowly deflect the joystick toward center.
4. Stop：Return the joystick to center or release the joystick enable switch.

NOTICE

Use the color-coded direction arrows on the platform controller to identify the direction the machine will travel.

NOTICE

Machine travel speed is restricted when the platform is raised.

To select drive speed

Press the drive high/low speed switch, the switch should be lit and the low drive speed is selected; press the switch again, the switch light goes out and the high drive speed is selected. Select the low drive speed when the machine is on a slope.

If the red indicator light comes on:

Push in and pull out the emergency stop button to reset the sysem.

If the action above fails, tag and remove the machine from service.

DRIVING ON A SLOPE

Before driving on a slope：

Determine the machine gradeability (including slope rating and side side slope rating)and the slope grade.

Max slope rating, stowed position：

MODELS	MAX SLOPE RATING
1323RE	50%/26°
1623RE	40%/22°

NOTICE

The mahcine gradeability is subject to ground conditions and adequate traction..

To determine the slope grade :

Measure the slope grade using a digital slope gauge or following the procedure as below:

1. Use a carpenter's level, a straight piece of wood (at least 1 m [3.3 ft] long) and a tape measure.
2. Lay the piece of wood on the slope.

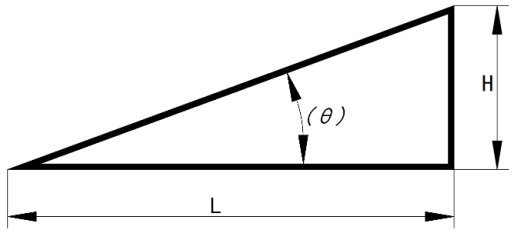


Figure 7-2

3. At the downhill end, lay the level on the top edge of the piece of wood and lift the end until the piece of wood is level.
4. While holding the piece of wood level, measure the vertical distance from the bottom of the piece of wood to the ground.
5. Slope grade=H/L×100%.

If the slope exceeds the maximium slope or side slope rating, then the machine must be lifted or transported up or down the slope. See the *Transporting and Lifting the Machine* section.

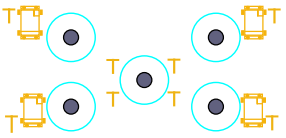
EXTENDING AND RETRACTING THE PLATFORM

1. Raise the platform extension locking handle to horizontal.
2. Push the handle to extend the platform to the intended position. Do not stand in the platform extension while attempting to extend the platform.
3. Lower the platform extension locking handle, and ensure the extension platform is locked.

OPERATING THE OUTRIGGERS

NOTICE

Start the machine before operating the outriggers. Be sure to operate the outriggers with the machine stowed, other than raised.



To extend the outriggers:

1. Position the machine on the desired work area.
2. Press and hold the outrigger self-level switch, and hold the enable switch on the control joystick and slowly deflect backward the control joystick.
3. The outriggers will extend and come in contact with the ground to level the machine. A beep will sound and the outrigger self-level switch will be lit when the machine is level.

To retract the outriggers:

1. Set the machine in stowed position.
2. Press and hold the outrigger self-level switch, and hold the enable switch on the control joystick and slowly deflect forward the control joystick.
3. The outriggers will retract, and the indicator light of the outrigger self-level switch will go out when the outriggers are off the ground.

Note: The above procedures apply equally to the individual outrigger level switch.

When the outriggers are not all in close contact with the ground, the raised height of the machine should not exceed the height at which the down limit switch disengages.

When any outrigger is in contact with the ground, the drive and steer functions will be disabled.

1323RD: When the outriggers are retracted, the max lifting height should not exceed 13m (42.65ft).

1623RD: When the outriggers are retracted, the max lifting height should not exceed 9m (29.52 ft).

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8 TRANSPORTING AND LIFTING THE MACHINE

⚠ WARNING

TRANSPORTATION AND LIFTING HAZARD

- **Use a forklift or crane with the proper lifting capacity to lift the machine. Use good judgment and a planned movement to control the machine.**
- **The transport vehicle must be parked on level ground.**
- **The transport vehicle must be secured from rolling when loading the machine.**
- **Ensure that the vehicle capacity, loading surface, belts or ropes are sufficient to support the weight of the machine, refer to .**
- **Before transportation and lifting, check if the rigging anchor point and its attached structure are in good condition.**
- **Be sure the machine is on a level surface or secured before releasing the brake.**
- **When removing the wire rope safety pin, prevent the rails from falling. The rails must be held tight at all times when folding down.**
- **Never transport persons on the platform when the machine is being transported, lifted or towed.**
- **When using a forklift or crane to lift the machine, try to prevent the machine from colliding with the nearby objects.**
- **Lock the wheels of the machine after the machine has been loaded to prevent it from rolling.**

NOTICE

Do not tow the machine unless an emergency, failure or loss of power occurs.

RELEASING THE BRAKE

1. Choke the wheels to prevent the machine from rolling. 4WD models: Release and turn over the manual disengage cap and bolt it down.

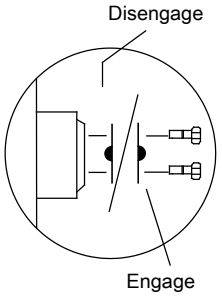

Figure 8-1

2. Be sure the winch line has been properly secured to the drive chassis tie-down points, and the path is clear of obstructions.
3. Reverse the procedures described to re-engage the brake.

TRANSPORTING THE MACHINE

Follow these requirements when transporting the machine by truck or trailer:

1. Always choke the machine wheels in preparation for transport.
2. Retract and lock the extension platforms.
3. Use the tie-down points on the chassis for anchoring down to the transport surface.
4. Use at least two chains or straps.
5. Ensure the chains or straps are of ample loading capacity.
6. Turn the key switch to the OFF position and remove the key before transporting.
7. Inspect the entire machine for loose or unsecure items. Use straps to secure the fold-down rails before transporting.

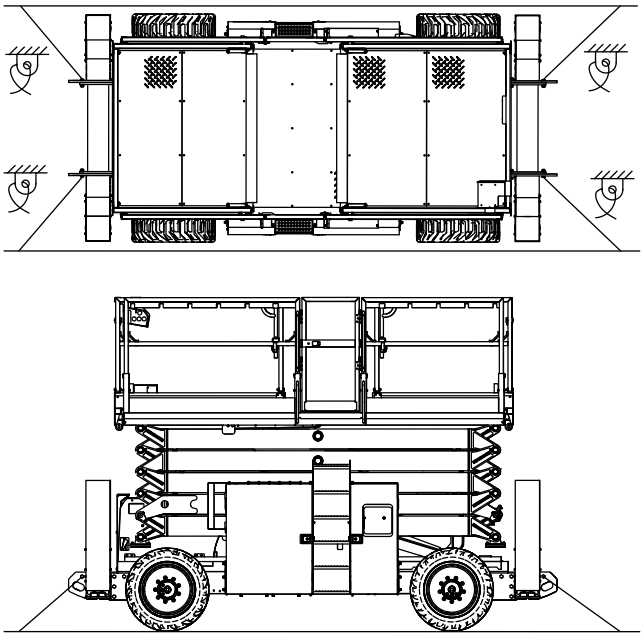

Figure 8-2

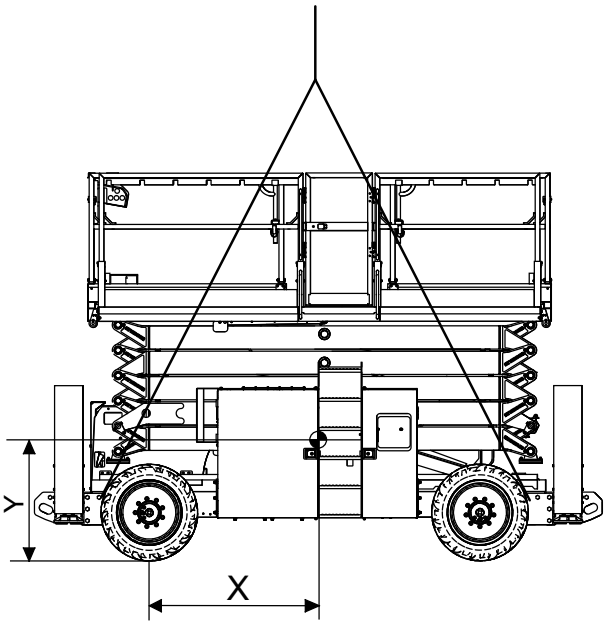

Figure 8-3

NOTICE

Retract the extension platform to secure it to the slot, and ensure the extension platform will not extend or shake out from the main platform during transport.

LIFTING THE MACHINE WITH A CRANE

Follow these requirements when lifting the machine by crane:

1. Fully lower the platform. Keep the platform down during transportation.
2. Ensure the extension platforms, controllers and chassis components are adequately securely in place.
3. Remove all loose items from the machine.
4. Determine the center of gravity of the machine.

Table 8-1

Models	X	Y
1323RE	1388 mm (54.6 in)	1078 mm (42.4 in)
1623RE	1528 mm (60.2 in)	946 mm (37.2 in)

5. Only connect the rigging to the designated lifting points on the machine. Adjust the rigging to avoid damaging the machine and to keep the machine horizontal.

NOTICE

To protect the platform guardrail, choose the appropriate length of rigging.

9 MAINTENANCE

This section provides detailed procedures for regular maintenance inspections. For further information about maintenance, please see ***Maintenance Manual***.

⚠ WARNING

UNSAFE OPERATION HAZARD

Failure to follow the proper maintenance may result in death, serious injury or damage to the machine.

Follow these general rules:

- Preventive maintenance procedure should be established by the user according to the manufacturer's recommendations, machine operational environment and intensity of use, which should include both the regular inspection and the annual inspection.
- Professionally trained, qualified personnel must conduct routine maintenance inspections on this machine.
- Daily routine maintenance inspections must occur during normal operation of the machine. Maintenance inspectors must carry out inspection and maintenance according to the repair & inspection report and must complete the repair & inspection report.
- Regular maintenance inspections must occur by operators and at quarterly, biannual and annual intervals by qualified, trained personnel. Qualified, trained personnel must check and maintain the machine according to the repair & inspection report and must complete the repair & inspection report.
- Immediately remove a damaged or malfunctioning machine, mark it and stop using it.
- Repair any damaged or malfunctioning machine before operating it.
- Keep all machine inspection records for at least 10 years or until the machine is no longer in use or as required by machine owner/company/custodian.
- The inspection and maintenance intervals depend on the manufacturer's recommendations, and should also be appropriate to the operational conditions and environment.
- Conduct a quarterly inspection on machines that have been out of service for a period lasting longer than three months.
- Without the manufacturer's approval, do not change any parts, especially those load-bearing and safety-relevant parts. While maintaining the machine, replace any parts on the machine using the same parts or the same parts of the original machine.
- Any change that may affect the stability, strength or performance of the machine, must obtain the manufacturer's prior approval.
- After any major change or maintenance that may affect the stability, strength or performance of the entire machine or its parts, the machine must be inspected and verified.
- Unless otherwise specified, perform all maintenance procedures according to the following terms and conditions:
  - Park the machine on flat, level, firm ground.
  - Keep the machine in the stowed position.
  - Ensure the key switch of the ground controller is in the OFF position and remove the key to prevent unauthorized use of the machine.
  - Place the red emergency stop button on the platform control box and ground controller in the OFF position to avoid accidental start-up of the operating system.
  - Disconnect main power switch.
  - Disconnect all DC power from the machine.
  - Lock all wheels to prevent movement of the machine.
  - Before releasing or removing the hydraulic components, release the hydraulic oil pressure in the hydraulic pipeline.

CONDUCTING A PRE-DELIVERY INSPECTION

When the machine owner/company changes, in addition to conducting a pre-delivery inspection, the corresponding inspection shall be carried out according to the maintenance schedule requirement and repair & inspection report. When conducting a pre-delivery inspection, comply with the following requirements:

1. It is the responsibility of the machine owner/company to perform a pre-delivery inspection.
2. Follow this procedure each time before delivery. Performing a pre-delivery inspection could reveal

potential problems with the machine before you begin putting the machine into service.

3. Never use a damaged or malfunctioning machine. Tag the machine and do not use it.
4. Only professionally trained, qualified personnel may repair the machine and must follow the procedures as stated in *operation manual* and *maintenance manual*.
5. A competent operator must conduct daily maintenance on this machine as stated in *operation manual* and *maintenance manual*.

Before delivering the machine, complete the following record using these instructions:

1. Prepare the machine before delivery, which includes performing a pre-delivery inspection, following maintenance procedures and performing functional inspections.
2. Use the following table to note the results. After each section is complete, mark the appropriate box.
3. Record the inspection results. If any inspection results are "NO", the machine must be stopped and re-inspected after repair is completed and marked in the box marked "inspection".

Table 9-1

PREPARE THE WORK RECORD BEFORE DELIVERY			
Model			
Serial No.			
Inspection Item	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/Machine Has Been Repaired**
Pre-operational Inspection			
Maintenance Procedure			
Functional Inspection			
Machine Buyer/ Renter			
Inspector Signature			
Inspector Title			
Inspector Company			

FOLLOWING A MAINTENANCE SCHEDULE

Regular maintenance inspections must occur daily, quarterly, biannually (every 6 months) and annually,and must be performed by the personnel qualified in the maintenance and service of the machine models involved. Use the table to help you adhere to a routine maintenance schedule.

Table 9-2

INSPECTION INTERVAL	INSPECTION PROCEDURES
Every day or every 8 hours	A
Every quarter or every 250 hours	A+B
Every half a year or every 500 hours	A+B+C
Every year or every 1000 hours	A+B+C+D

COMPLETING A REPAIR & INSPECTION REPORT

1. Divide the Repair & Inspection Report into four sections (A, B, C and D) according to the time requirements of the maintenance schedule and the maintenance procedure requirements.
2. The Repair & Inspection Report shall include the inspection table of each regular inspection.

3. Duplicate the Repair & Inspection Report for each inspection. Store the completed tables for 10 years or until the machine is no longer in use or as required by machine owner/company/custodian.
4. Use the following table to note the results. After each section is complete, mark the appropriate box.
5. Record the inspection results. If any inspection results are "NO", the machine must be stopped and re-inspected after repair is completed and marked in the box marked "inspection". Select the appropriate inspection procedure based on the inspection type.

REPAIR & INSPETION REPORT				
Model				
Serial No.				
Checklist A Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
A-1 Inspect All Manuals				
A-2 Inspect All Decals				
A-3 Inspect Damaged, Loose or Lost Parts				
A-4 Inspect Hydraulic Oil Level				
A-5 Inspect Hydraulic Oil Leakage				
A-6 Functional Tests				
A-7 Perform Maintenance after 30 Days				
Checklist B Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
B-1 Inspect Electrical Wiring				
B-2 Inspect Rim ,Tire and Fasteners				
B-3 Inspect Hydraulic Oil				
B-4 Inspect Air filter of Hydraulic Tank				
B-5 Replace High-Pressure Filter Element				
B-6 Inspect the Battery				
B-7 Inspect Drive Reducer Oil Level				
B-8 Test Oscillate Outriggers				

REPAIR & INSPETION REPORT				
B-9 Test Drive Speed				
B-10 Test Tilt Protection System				
B-11 Test Brake Distance				
Checklist C Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
C-1 Test Weighing System				
C-2 Test Secondary Lowering				
Checklist D Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
D-1 Replace Drive Reducer Gear Oil				
D-2 Inspect Scissor Arm Sliders				
D-3 Replace Hydraulic Oil				
D-4 Replace Hydraulic Tank Suction Filter				
D-5 Inspect Scissor Arm Bearing				
User				
Inspector Signature				
Inspector Date				
Inspector Title				
Inspector Company				

MAJOR MODIFICATION AND REPAIR RECORD

1. A major modification/repair is a modification/repair made to all or part of a machine that affects the stability, strength or performance of the machine.
2. Each time the machine owner/company makes a major modification/repair to the machine, it should be documented using the form below. Keep the form properly until the machine is taken out of service, or as requested by the machine owner/ company.
3. Major modifications/repairs to the machine must be performed by a qualified service technician.

4. The machine must be inspected and verified after major modifications/repairs, with the inspection items including but not limited to all items in the maintenance and inspection report.
5. If the inspection result of each item in the Maintenance and Inspection Report is “YES”, the “Machine Status after Modification/Repair” in the form will be “Good” and the machine can be used. If either inspection result is “NO”, the machine must be re-inspected after the repair is completed until the machine is in “Good” condition before continuing to use the machine.

Table 9-3

Major Modification and Repair Record					
Model					
Serial No.					
Date	**Problem Description**	**Modification/Repair Item**	**Machine Status af-ter Change**	**Repairman’s Company and Position**	**Repair-man Signature**

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10 DECALS/NAMEPLATES INSPECTION

Use appropriate inspection methods to check that all decals are legible and properly in place..

Replace any lost or damaged safety decals.

Clean safety decals with neutral soap and water. Do not use solvent-based cleaners, which can damage safety label materials.

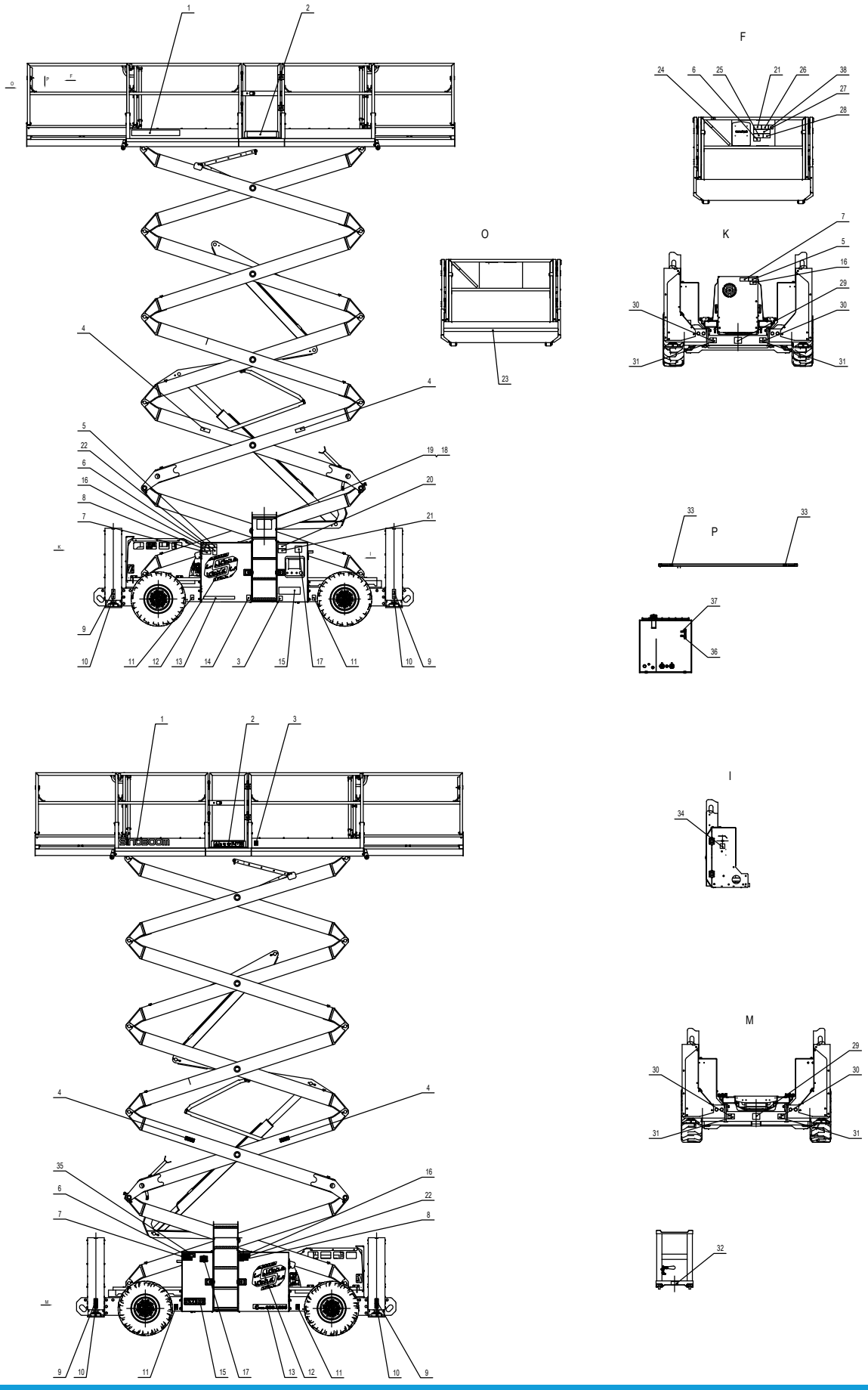
Do not operate machines without decals/nameplates.

⚠ WARNING

UNSAFE OPERATION HAZARD

All safety decals must be legible to alert personnel of safety hazards. Replace any illegible or missing decals immediately. Safety ldecals removed during any repair work must be replaced in their original position before the engine is placed back into service. Do not operate the engine if there are missing or badly worn safety decals.

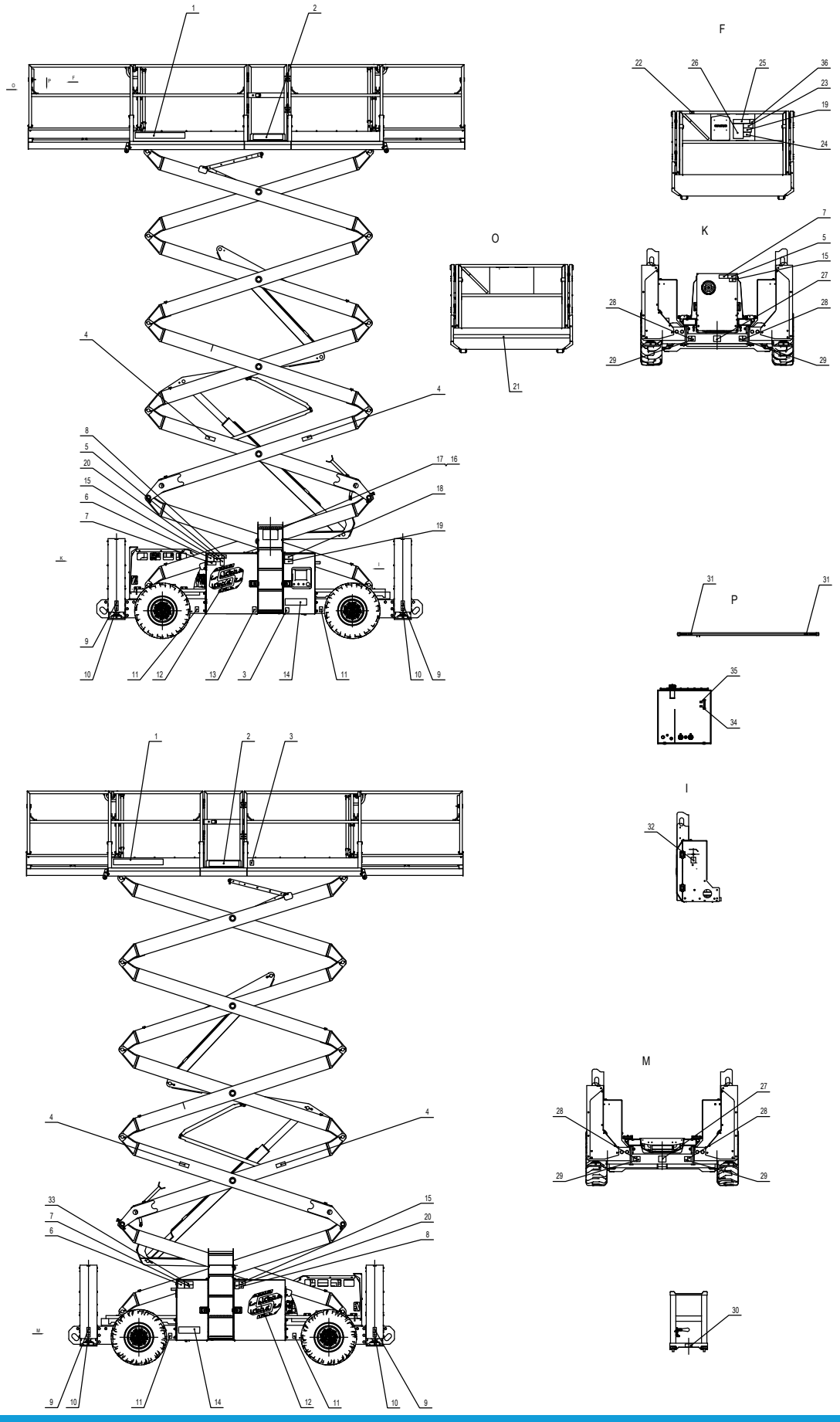
DECALS/NAMEPLATES(GB)



No.	Part No.	Description	Qty.	Remarks
	115005103014	Decals((GB)-1323RE	1	
	115006103015	Decals((GB)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103006	Decal-1323RE use requirements	2	
	115006103006	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101012100018	Decal-Crush hazard	4	
5	101012100030	Decal-Bulkhead overhaul	2	
6	101012100005	Decal-Electrocution hazard	3	
7	101012100029	Decal-Crush hazard	3	
8	115006103002	Decal-Tipping hazard	2	
9	102013103002	Decal-Outrigger load against ground 3200kg	4	
10	102001100003	Decal-Crush hazard	4	
11	102013103001	Decal-Tire load against ground 3900kg	4	
12	102001103016	Decal-LOGO,white	2	
13	101014100034	Decal-Contact information	2	
14	101012100012	Decal-High pressure hazard	1	
15	115005103002	Decal-1323RE	2	
	115006103003	Decal-1623RE	2	
16	101012100001	Decal-No smoking or fires	3	
17	101014100036	Decal-Warranty	2	
18	102001103001	Nameplate-GB	1	
19	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
20	102004100022	Decal-Tipping hazard	1	
21	101012100027	Decal-Read manuals	2	
22	101014100016	Decal-Electrocution hazard	2	
23	216060000004	Decal-Caution tape, 50mm wide	2	
24	102001100001	Decal-Crush hazard	1	
25	102001100005	Decal-Tipping hazard	1	
26	101012100007	Decal-Tipping hazard	1	
27	115005103005	Decal-1323RE use requirements	1	
	115006103007	Decal-1623RE use requirements	1	
28	101012100019	Decal-Tipping hazard	1	
29	102004100008	Decal-Transport tiedown	2	
30	101014100020	Decal-Lifting points	4	
31	101014100021	Decal-Transport tiedown	4	

No.	Part No.	Description	Qty.	Remarks
32	101014100026	Decal-Safety arm	1	
33	101016100030	Decal-Lanyard anchorage	16	
34	101056103002	Decal-Main power disconnect switch	1	
35	104009100018	Decal-Hydraulic oil	1	
36	104011100003	Decal-Hydraulic oil level	1	
37	104011100010	Decal-Hydraulic oil level	1	
38	101055103016	Decal-Emergency stop button	1	

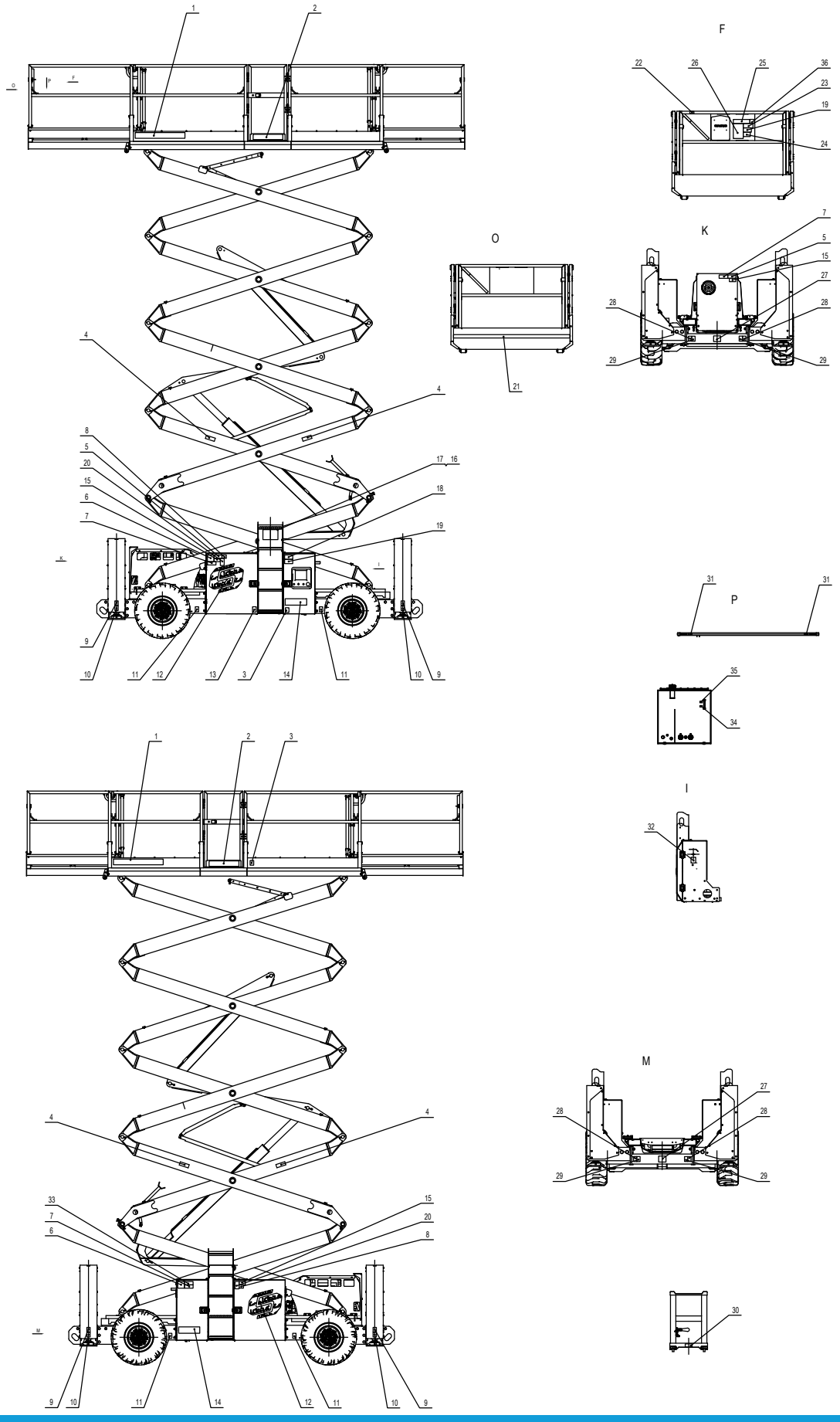
DECALS/NAMEPLATES(AS)



No.	Part No.	Description	Qty.	Remarks
	115005103011	Decals(AS)-1323RE	1	
	115006103012	Decals(AS)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103006	Decal-1323RE use requirements	2	
	115006103006	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101012100018	Decal-Crush hazard	4	
5	101012100030	Decal-Bulkhead overhaul	2	
6	101055103019	Decal-Electrocution hazard	2	
7	101012100029	Decal-Crush hazard	3	
8	115006103002	Decal-Tipping hazard	2	
9	102013103002	Decal-Outrigger load against ground 3200kg	4	
10	102001100003	Decal-Crush hazard	4	
11	102013103001	Decal-Tire load against ground 3900kg	4	
12	102001103016	Decal-LOGO,white	2	
13	101012100012	Decal-High pressure hazard	1	
14	115005103002	Decal-1323RE	2	
	115006103003	Decal-1623RE	2	
15	101012100001	Decal-No smoking or fires	3	
16	102001103002	Nameplate-AS	1	
17	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
18	102004100022	Decal-Tipping hazard	1	
19	101012100027	Decal-Read manuals	2	
20	101014100016	Decal-Electrocution hazard	2	
21	216060000004	Decal-Caution tape, 50mm wide	2	
22	102001100001	Decal-Crush hazard	1	
23	102001100005	Decal-Tipping hazard	1	
24	101012100007	Decal-Tipping hazard	1	
25	115005103005	Decal-1323RE use requirements	1	
	115006103007	Decal-1623RE use requirements	1	
26	102004100015	Decal-General safety	1	
27	102004100008	Decal-Transport tiedown	2	
28	101014100020	Decal-Lifting points	4	
29	101014100021	Decal-Transport tiedown	4	
30	101014100026	Decal-Safety arm	1	
31	101016100030	Decal-Lanyard anchorage	16	

No.	Part No.	Description	Qty.	Remarks
32	101016100031	Decal-Main power disconnect switch	1	
33	104009100022	Decal-Hydraulic oil	1	
34	104011100003	Decal-Hydraulic oil level	1	
35	104011100010	Decal-Hydraulic oil level	1	
36	101055103015	Decal-Emergency stop button	1	

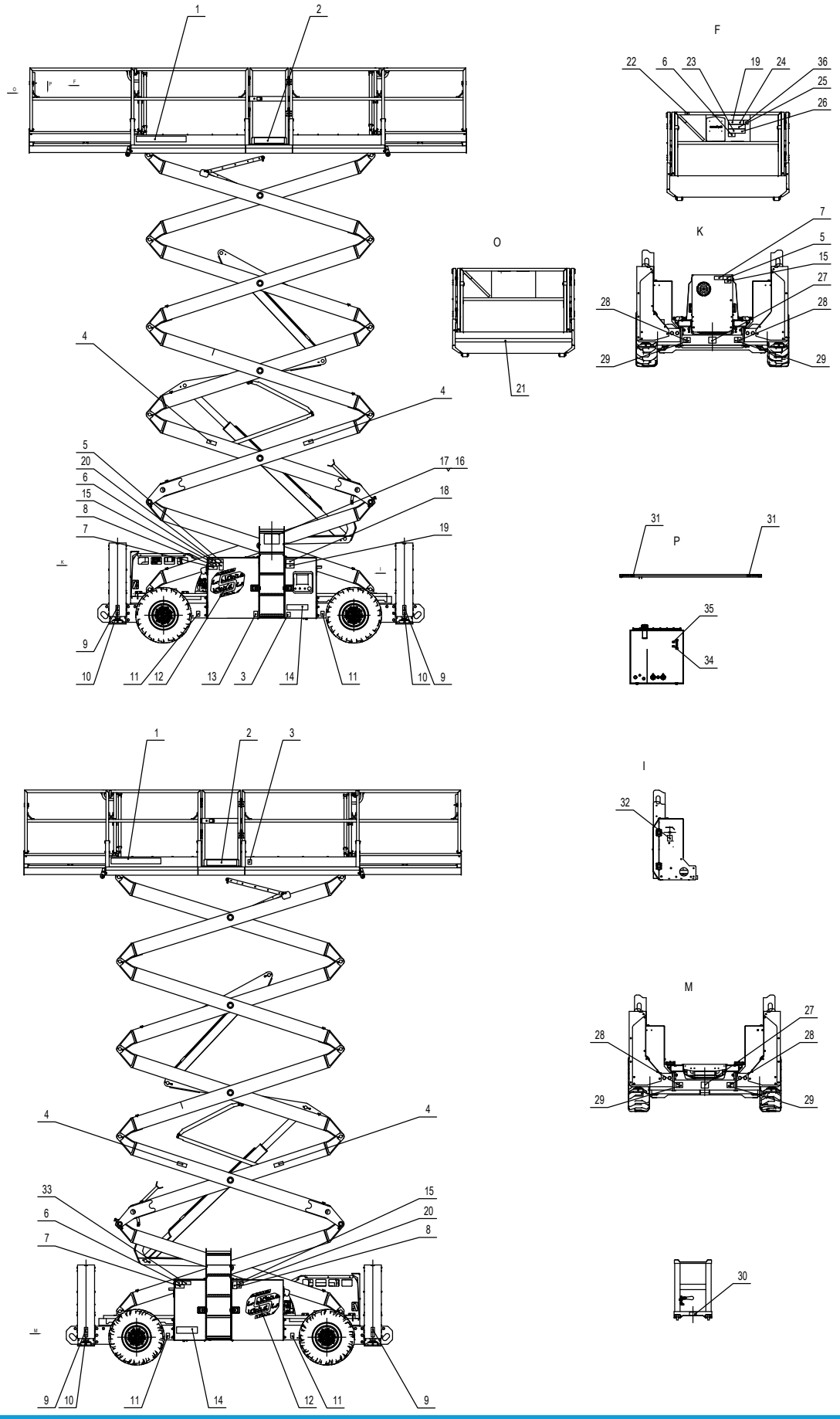
DECALS/NAMEPLATES(KCS)



No.	Part No.	Description	Qty.	Remarks
	115005103013	Decals(KCS)-1323RE	1	
	115006103014	Decals(KCS)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103006	Decal-1323RE use requirements	2	
	115006103006	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101012100018	Decal-Crush hazard	4	
5	101012100030	Decal-Bulkhead overhaul	2	
6	101012100005	Decal-Electrocution hazard	3	
7	101012100029	Decal-Crush hazard	3	
8	115006103002	Decal-Tipping hazard	2	
9	102013103002	Decal-Outrigger load against ground 3200kg	4	
10	102001100003	Decal-Crush hazard	4	
11	102013103001	Decal-Tire load against ground 3900kg	4	
12	102001103016	Decal-LOGO,white	2	
13	101012100012	Decal-High pressure hazard	1	
14	115005103002	Decal-1323RE	2	
	115006103003	Decal-1623RE	2	
15	101012100001	Decal-No smoking or fires	3	
16	115003103009	Nameplate-KCS	1	
17	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
18	102004100022	Decal-Tipping hazard	1	
19	101012100027	Decal-Read manuals	2	
20	101014100016	Decal-Electrocution hazard	2	
21	216060000004	Decal-Caution tape, 50mm wide	2	
22	102001100001	Decal-Crush hazard	1	
23	102001100005	Decal-Tipping hazard	1	
24	101012100007	Decal-Tipping hazard	1	
25	115005103005	Decal-1323RE use requirements	1	
	115006103007	Decal-1623RE use requirements	1	
26	101012100019	Decal-Tipping hazard	1	
27	102004100008	Decal-Transport tiedown	2	
28	101014100020	Decal-Lifting points	4	
29	101014100021	Decal-Transport tiedown	4	
30	101014100026	Decal-Safety arm	1	
31	101016100030	Decal-Lanyard anchorage	16	

No.	Part No.	Description	Qty.	Remarks
32	101016100031	Decal-Main power disconnect switch	1	
33	104009100022	Decal-Hydraulic oil	1	
34	104011100003	Decal-Hydraulic oil level	1	
35	104011100010	Decal-Hydraulic oil level	1	
36	101055103015	Decal-Emergency stop button	1	

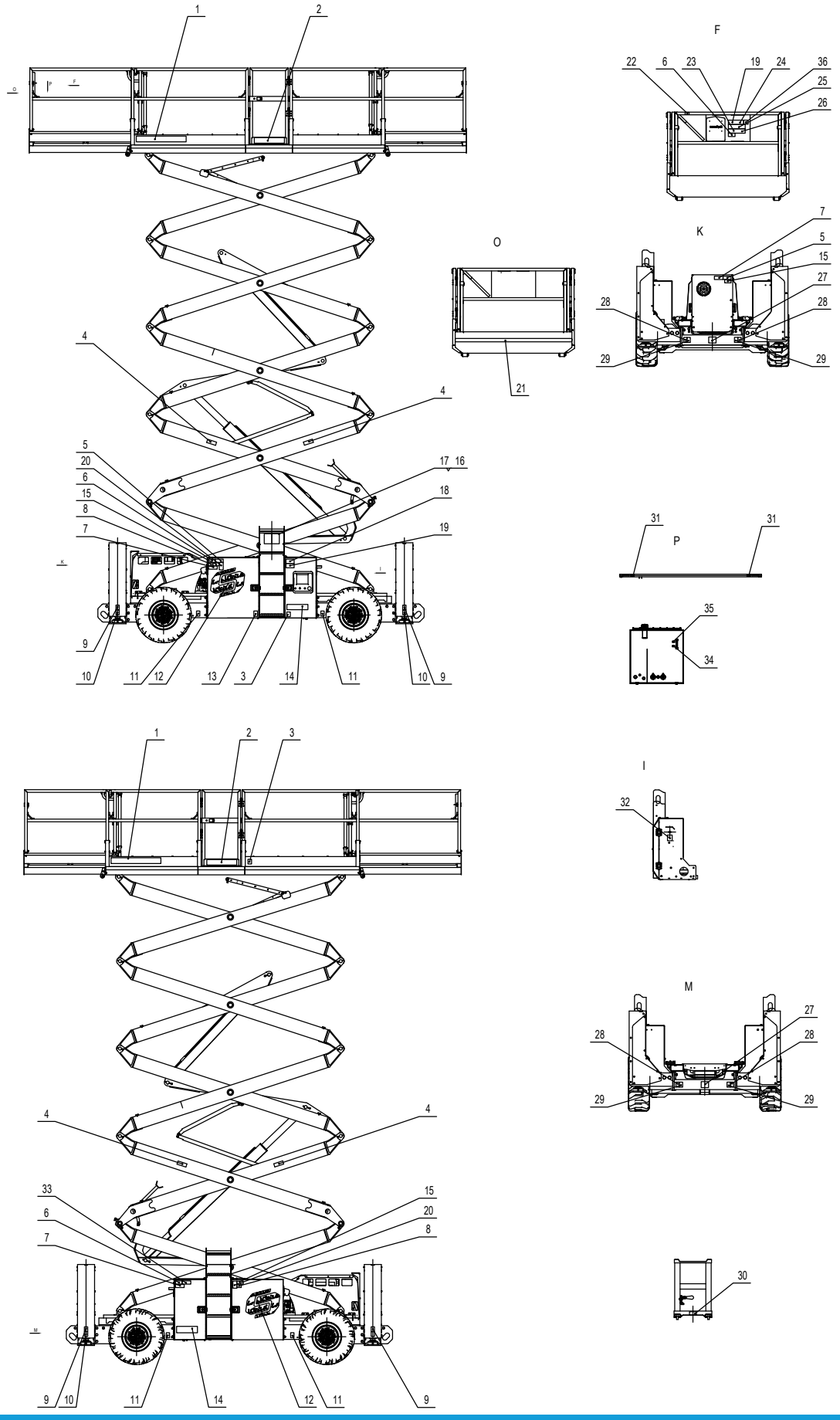
DECALS/NAMEPLATES(CE-METRIC)



No.	Part No.	Description	Qty.	Remarks
	115005103007	Decals(CE-Metric)-1323RE	1	
	115006103008	Decals(CE-Metric)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103006	Decal-1323RE use requirements	2	
	115006103006	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101012100018	Decal-Crush hazard	4	
5	101012100030	Decal-Bulkhead overhaul	2	
6	101012100005	Decal-Electrocution hazard	3	
7	101012100029	Decal-Crush hazard	3	
8	115006103002	Decal-Tipping hazard	2	
9	102013103002	Decal-Outrigger load against ground 3200kg	4	
10	102001100003	Decal-Crush hazard	4	
11	102013103001	Decal-Tire load against ground 3900kg	4	
12	102001103016	Decal-LOGO,white	2	
13	101012100012	Decal-High pressure hazard	1	
14	115005103002	Decal-1323RE	2	
	115006103003	Decal-1623RE	2	
15	101012100001	Decal-No smoking or fires	3	
16	102001103003	Nameplate-CE	1	
17	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
18	102004100022	Decal-Tipping hazard	1	
19	101012100027	Decal-Read manuals	2	
20	101014100016	Decal-Electrocution hazard	2	
21	216060000004	Decal-Caution tape, 50mm wide	2	
22	102001100001	Decal-Crush hazard	1	
23	102001100005	Decal-Tipping hazard	1	
24	101012100007	Decal-Tipping hazard	1	
25	115005103005	Decal-1323RE use requirements	1	
	115006103007	Decal-1623RE use requirements	1	
26	101012100019	Decal-Tipping hazard	1	
27	102004100008	Decal-Transport tiedown	2	
28	101014100020	Decal-Lifting points	4	
29	101014100021	Decal-Transport tiedown	4	
30	101014100026	Decal-Safety arm	1	
31	101016100030	Decal-Lanyard anchorage	16	

No.	Part No.	Description	Qty.	Remarks
32	101016100031	Decal-Main power disconnect switch	1	
33	104009100022	Decal-Hydraulic oil	1	
34	104011100003	Decal-Hydraulic oil level	1	
35	104011100010	Decal-Hydraulic oil level	1	
36	101055103015	Decal-Emergency stop button	1	

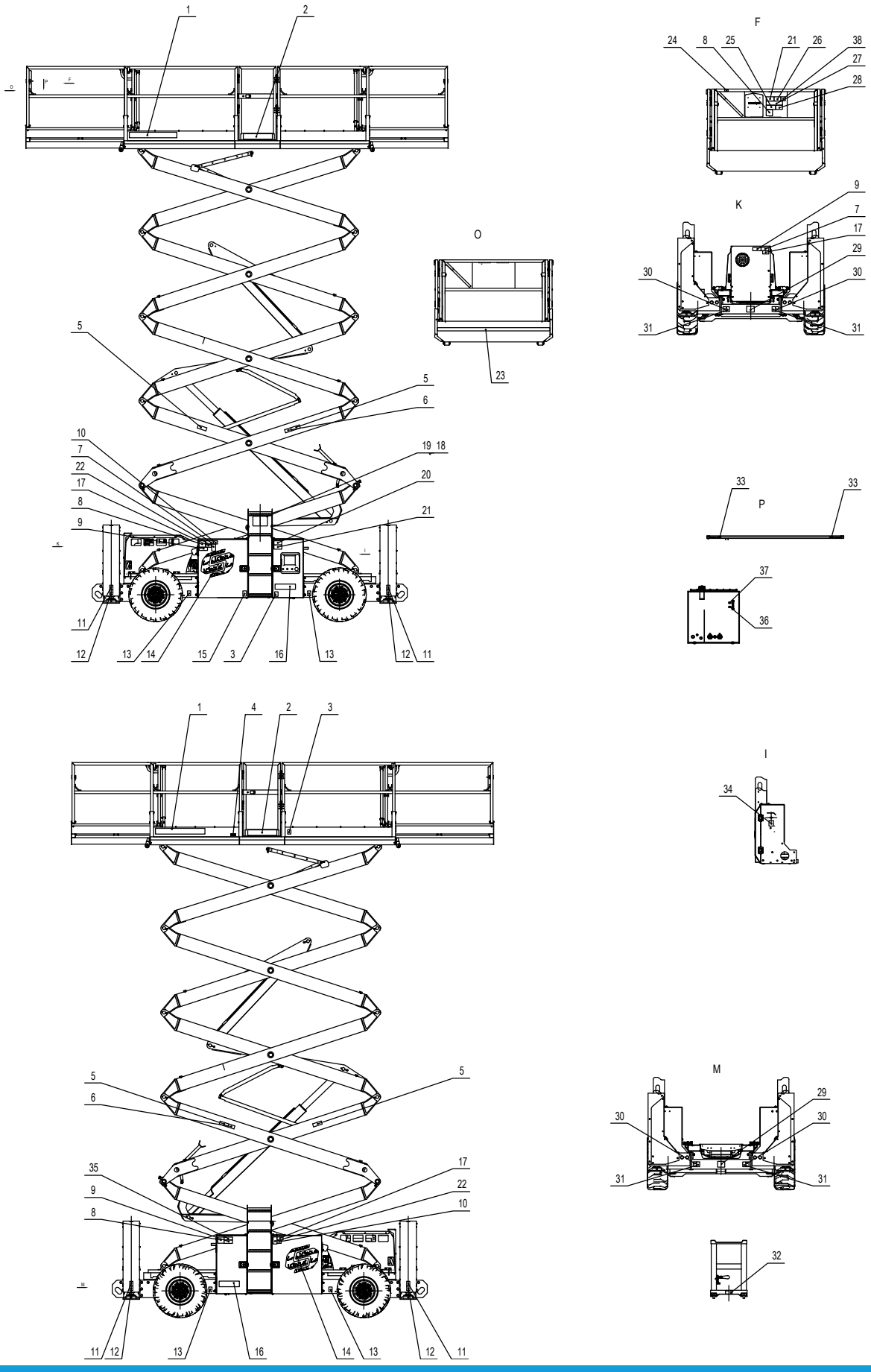
DECALS/NAMEPLATES(CE-IMPERIAL)



No.	Part No.	Description	Qty.	Remarks
	115005103004	Decals(CE-Imperial)-1323RE	1	
	115006103005	Decals(CE-Imperial)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103006	Decal-1323RE use requirements	2	
	115006103006	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101012100018	Decal-Crush hazard	4	
5	101012100030	Decal-Bulkhead overhaul	2	
6	101012100005	Decal-Electrocution hazard	3	
7	101012100029	Decal-Crush hazard	3	
8	115006103002	Decal-Tipping hazard	2	
9	102013103002	Decal-Outrigger load against ground 3200kg	4	
10	102001100003	Decal-Crush hazard	4	
11	102013103001	Decal-Tire load against ground 3900kg	4	
12	102001103016	Decal-LOGO,white	2	
13	101012100012	Decal-High pressure hazard	1	
14	115005103003	Decal-4389RE	2	
	115006103004	Decal-5389RE	2	
15	101012100001	Decal-No smoking or fires	3	
16	102001103003	Nameplate-CE	1	
17	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
18	102004100022	Decal-Tipping hazard	1	
19	101012100027	Decal-Read manuals	2	
20	101014100016	Decal-Electrocution hazard	2	
21	216060000004	Decal-Caution tape, 50mm wide	2	
22	102001100001	Decal-Crush hazard	1	
23	102001100005	Decal-Tipping hazard	1	
24	101012100007	Decal-Tipping hazard	1	
25	115005103005	Decal-1323RE use requirements	1	
	115006103007	Decal-1623RE use requirements	1	
26	101012100019	Decal-Tipping hazard	1	
27	102004100008	Decal-Transport tiedown	2	
28	101014100020	Decal-Lifting points	4	
29	101014100021	Decal-Transport tiedown	4	
30	101014100026	Decal-Safety arm	1	
31	101016100030	Decal-Lanyard anchorage	16	

No.	Part No.	Description	Qty.	Remarks
32	101016100031	Decal-Main power disconnect switch	1	
33	104009100022	Decal-Hydraulic oil	1	
34	104011100003	Decal-Hydraulic oil level	1	
35	104011100010	Decal-Hydraulic oil level	1	
36	101055103015	Decal-Emergency stop button	1	

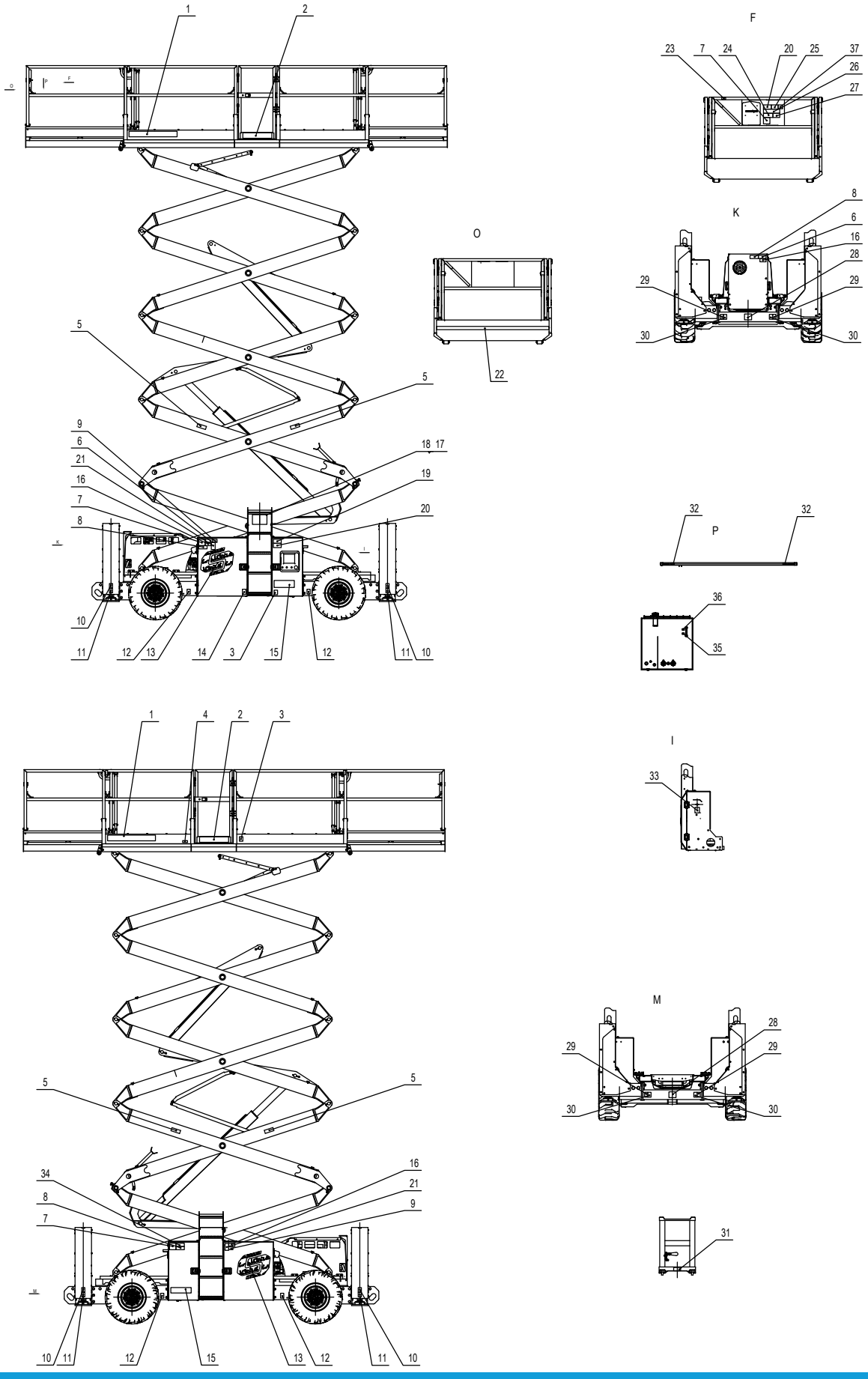
DECALS/NAMEPLATES(CSA)



No.	Part No.	Description	Qty.	Remarks
	115005103008	Decals(CSA)-1323RE	1	
	115006103011	Decals(CSA)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103009	Decal-1323RE use requirements	2	
	115006103009	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101040103015	Decal-Annual inspection	1	
5	101012100018	Decal-Crush hazard	4	
6	104011100021	Decal-Crush hazard	2	
7	101012100030	Decal-Bulkhead overhaul	2	
8	101040103013	Decal-Electrocution hazard	3	
9	101012100029	Decal-Crush hazard	3	
10	115006103017	Decal-Tipping hazard	2	
11	102013103007	Decal-Outrigger load against ground 3200kg	4	
12	102001100003	Decal-Crush hazard	4	
13	102013103006	Decal-Tire load against ground 3900kg	4	
14	102001103016	Decal-LOGO,white	2	
15	101012100012	Decal-High pressure hazard	1	
16	115005103003	Decal-4389RE	2	
	115006103004	Decal-5389RE	2	
17	101012100001	Decal-No smoking or fires	3	
18	102001103005	Nameplate-CSA	1	
19	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
20	102004100022	Decal-Tipping hazard	1	
21	101012100027	Decal-Read manuals	2	
22	101014100016	Decal-Electrocution hazard	2	
23	216060000004	Decal-Caution tape, 50mm wide	2	
24	102001100001	Decal-Crush hazard	1	
25	102001103008	Decal-Tipping hazard	1	
26	101012100007	Decal-Tipping hazard	1	
27	115005103010	Decal-1323RE use requirements	1	
	115006103010	Decal-1623RE use requirements	1	
28	101012100019	Decal-Tipping hazard	1	
29	102004100008	Decal-Transport tiedown	2	
30	101014100020	Decal-Lifting points	4	
31	101014100021	Decal-Transport tiedown	4	

No.	Part No.	Description	Qty.	Remarks
32	101014100026	Decal-Safety arm	1	
33	101016100030	Decal-Lanyard anchorage	16	
34	101016100031	Decal-Main power disconnect switch	1	
35	104009100022	Decal-Hydraulic oil	1	
36	104011100003	Decal-Hydraulic oil level	1	
37	104011100010	Decal-Hydraulic oil level	1	
38	101055103015	Decal-Emergency stop button	1	

DECALS/NAMEPLATES(ANSI)

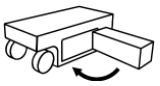
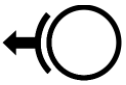
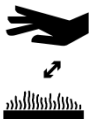
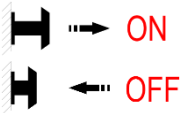
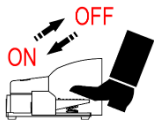
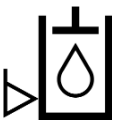
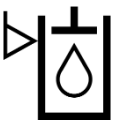
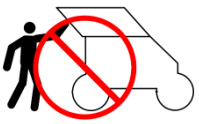
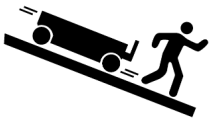
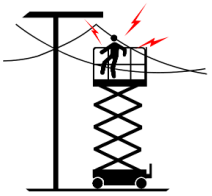
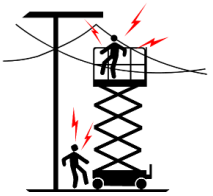
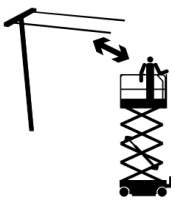
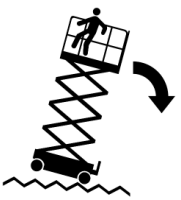


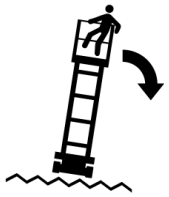
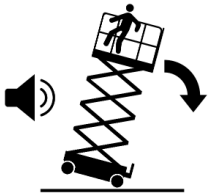
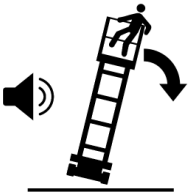
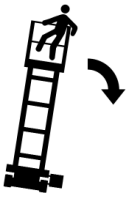
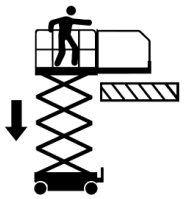
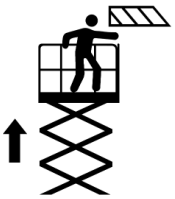
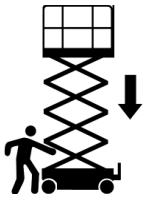
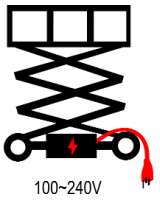
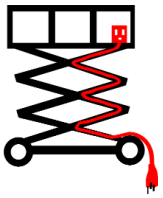
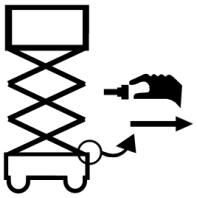
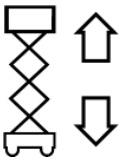
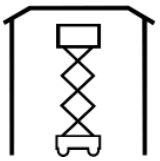
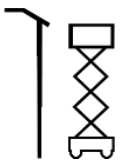
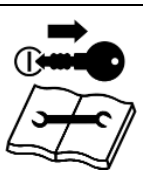
No.	Part No.	Description	Qty.	Remarks
	115005103012	Decals(ANSI)-1323RE	1	
	115006103013	Decals(ANSI)-1623RE	1	
1	101048103025	LOGO-SINOBOOM	2	
2	115005103009	Decal-1323RE use requirements	2	
	115006103009	Decal-1623RE use requirements	2	
3	101012100009	Decal	2	
4	101040103015	Decal-Annual inspection	1	
5	101012100018	Decal-Crush hazard	4	
6	101012100030	Decal-Crush hazard	2	
7	101040103013	Decal-Bulkhead overhaul	3	
8	101012100029	Decal-Electrocution hazard	3	
9	115006103017	Decal-Crush hazard	2	
10	102013103007	Decal-Tipping hazard	4	
11	102001100003	Decal-Outrigger load against ground 3200kg	4	
12	102013103006	Decal-Crush hazard	4	
13	102001103016	Decal-Tire load against ground 3900kg	2	
14	101012100012	Decal-LOGO,white	1	
15	115005103003	Decal-High pressure hazard	2	
	115006103004	Decal-4389RE	2	
16	101012100001	Decal-5389RE	3	
17	102001103004	Nameplate-ANSI	1	
18	215050000012	Blind rivet 4×8-ZnD GB/T 12618.2	4	
19	102004100022	Decal-Tipping hazard	1	
20	101012100027	Decal-Read manuals	2	
21	101014100016	Decal-Electrocution hazard	2	
22	216060000004	Decal-Caution tape, 50mm wide	2	
23	102001100001	Decal-Crush hazard	1	
24	102001103008	Decal-Tipping hazard	1	
25	101012100007	Decal-Tipping hazard	1	
26	115005103010	Decal-1323RE use requirements	1	
	115006103010	Decal-1623RE use requirements	1	
27	101012100019	Decal-Tipping hazard	1	
28	102004100008	Decal-Transport tiedown	2	
29	101014100020	Decal-Lifting points	4	
30	101014100021	Decal-Transport tiedown	4	
31	101014100026	Decal-Safety arm	1	

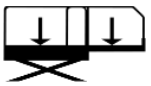
No.	Part No.	Description	Qty.	Remarks
32	101016100030	Decal-Lanyard anchorage	16	
33	101016100031	Decal-Main power disconnect switch	1	
34	104009100022	Decal-Hydraulic oil	1	
35	104011100003	Decal-Hydraulic oil level	1	
36	104011100010	Decal-Hydraulic oil level	1	
37	101055103015	Decal-Emergency stop button	1	

APPENDIX 1: SYMBOLS AND DESCRIPTION

SYMBOLS CHART

 Read maintenance manual	 Anchor point allows only 1 person to tie	 Close the chassis door box	 Press the change valve	 Repeatedly move manual brake release valve
 Wind speed	 Chemical burns hazards	 Wedge the wheel	 Release the brake	 Wind
 Noise level	 Burns hazards	 Keep a safe distance from high temperatures	 Pull out-open Press-close	 Alarm sounds
 Step-open Release-close	 Hydraulic oil level - low position	 Hydraulic oil level - high position	 Temperature	 Change the tires of the same specification
 Only trained maintenance personnel can access the bulkhead	 Read operation manual	 Add lubricant	 Crushing hazard-Please wear work shoes	 Danger of hot, high pressure fluids
 Collision hazards-Release brake on ramp	 Electrocution hazards on platform	 Electrocution hazards on the ground and platform	 Keep a safe distance from power lines	 Tip-over hazards-Avoid uneven ground

 Tip-over hazards-Avoid uneven ground	 Tip-over hazards-Never use machine during strong, gusty wind	 Tip-over hazards-Never use machine during strong, gusty wind	 Tip-over hazards-Never leave chassis door open	 Tip-over hazards-Never push or pull objects outside platform
 Tip-over hazards-Never suspend objects from platform	 Tip-over hazards-Never place ladders and scaffolding on the platform	 Collision hazards-Never lower extended platform without checking for nearby obstacles	 Collision hazards-Never raise platform without checking for overhead obstacles	 Crushing hazards-Keep hands away form nearby obstacles when raising platform
 Crushing hazards-Keep hands away form scissor arms when lowering platform	 Fall hazards-Never climb on guardrails of platform	 Fall hazards-Never climb on scissor arms	 Battery charging plug	 Platform power plug
 Emergency lowering handle position	 Open the safety arm	 The platform moves up and down	 Maximum height of platform	 Indoor use
 Outdoor use	 The side force	 Electrocution hazards	 Wear protective clothing and glasses	 Battery explosion hazard
 No smoking	 No smoking	 Only professional maintenance	 Improve point	 Lashing points

		personnel can start the maintenance		
 Tire to ground load	 Forklift fork position	 Platform carrying capacity	 Carrying capacity of fixed and extended platform	 Hydraulic oil filler
 Horn	 Tool or weight	 Fast/high speed	 Slow/low speed	

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APPENDIX 2: PREPARE THE WORK RECORD BEFORE DELIVERY

PREPARE THE WORK RECORD BEFORE DELIVERY			
Model			
Serial No.			
Inspection Item	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/Machine Has Been Repaired**
Pre-operational Inspection			
Maintenance Procedure			
Functional Inspection			
Machine Buyer/ Renter			
Inspector Signature			
Inspector Title			
Inspector Company			

NOTE:

1. Prepare the machine before delivery, which includes performing a pre-delivery inspection, following maintenance procedures and performing functional inspections.
2. Use the table to record the results. After each section is complete, mark the appropriate box.
3. Record the inspection results. If any inspection results are "NO", the machine must be stopped, and re-inspected after repair is completed and the box marked "inspection" must be checked.

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APPENDIX 3: REPAIR & INSPECTION REPORT

REPAIR & INSPETION REPORT				
Model				
Serial No.				
Checklist A Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
A-1 Inspect All Manuals				
A-2 Inspect All Decals				
A-3 Inspect Damaged, Loose or Lost Parts				
A-4 Inspect Hydraulic Oil Level				
A-5 Inspect Hydraulic Oil Leakage				
A-6 Functional Tests				
A-7 Perform Maintenance after 30 Days				
Checklist B Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
B-1 Inspect Electrical Wiring				
B-2 Inspect Rim ,Tire and Fasteners				
B-3 Inspect Hydraulic Oil				
B-4 Inspect Air filter of Hydraulic Tank				
B-5 Replace High-Pressure Filter Element				
B-6 Inspect the Battery				
B-7 Inspect Drive Reducer Oil Level				
B-8 Test Oscillate Outriggers				

REPAIR & INSPETION REPORT				
B-9 Test Drive Speed				
B-10 Test Tilt Protection System				
B-11 Test Brake Distance				
Checklist C Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
C-1 Test Weighing System				
C-2 Test Secondary Lowering				
Checklist D Procedures				
Items	**YES/Machine is in Good Condition**	**NO/Machine Has Damage or Malfunction**	**REPAIRED/ Machine Has Been Repaired**	**Problem Description**
D-1 Replace Drive Reducer Gear Oil				
D-2 Inspect Scissor Arm Sliders				
D-3 Replace Hydraulic Oil				
D-4 Replace Hydraulic Tank Suction Filter				
D-5 Inspect Scissor Arm Bearing				
User				
Inspector Signature				
Inspector Date				
Inspector Title				

REPAIR & INSPETION REPORT	
Inspector Company	

Notes:

1. The Repair & Inspection Report shall include the inspection table of each regular inspection.
2. Duplicate the Repair & Inspection Report for each inspection. Store the completed tables for 10 years or until the machine is no longer in use or as required by machine owner/company/custodian.
3. Use the following table to note the results. After each section is complete, mark the appropriate box.
4. Record the inspection results. If any inspection results are "NO", the machine must be stopped and re-inspected after repair is completed and marked in the box marked "inspection". Select the appropriate inspection procedure based on the inspection type.

Select the procedures as appropriate for the type of inspection.

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APPENDIX 4: MAJOR MODIFICATION AND REPAIR RECORD

Major Modification and Repair Record					
Model					
Serial No.					
Date	**Problem Description**	**Modification/Repair Item**	**Machine Status af-ter Change**	**Repairman's Company and Position**	**Repair-man Signature**

Note:

1. A major modification/repair is a modification/repair made to all or part of a machine that affects the stability, strength or performance of the machine.
2. Use this form to record major modifications/repairs made to the machine. Keep the form properly until the machine is taken out of service, or as requested by the machine owner/company.
3. The machine must be inspected and verified after major modifications/repairs, with the inspection items including but not limited to all items in the maintenance and inspection report.
4. If the inspection result of each item in the Maintenance and Inspection Report is "YES", the "Machine Status after Modification/Repair" in the form will be "Good" and the machine can be used. If either inspection result is "NO", the machine must be re-inspected after the repair is completed until the machine is in "Good" condition before continuing to use the machine.

Always for Better Access Solutions

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