

SPIDER LIFTS

RE30/30HY

OPERATING AND MAINTENANCE MANUAL

Original Instructions - Keep this manual with the machine at all times.



RENTEASE LIMITED

Office No. 103, 104 Plan S Business Park, Plot no D 108/1, opp. D.Y.Patil Stadium, MIDC Industrial Area, Nerul, Navi Mumbai, Maharashtra 400705
Mobile : +91- 7456025602

This operator and service manual is valid on serial numbers:
250165 ->

Revision Table

Revision	Version no.	Date	Note
00	REV.01	January 2026	

TABLE OF CONTENT

1. INTRODUCTION AND WARRANTY CONDITIONS	- 5 -
1.1 Introduction.....	- 5 -
1.2 Display of Safety Instructions	- 5 -
1.3 Warranty Conditions	- 6 -
2. GENERAL INFORMATION	- 7 -
2.1 Product Compliance Standards	- 7 -
2.2 Main Structure and Components	- 8 -
2.3 Main Technical Parameters	- 10 -
2.4 Working Range	- 11 -
2.4.1 Outrigger Position Diagram	- 11 -
2.4.2 Working Range Diagram (Unit: m)	- 12 -
2.5 Signs and Decals	- 15 -
3. SAFETY INSTRUCTIONS	- 18 -
3.1 Before Starting Operation	- 18 -
3.2 Risk of Tipping Over	- 19 -
3.3 Risk of Falling	- 20 -
3.4 Risk of Collision	- 20 -
3.5 Risk of Electric Shock	- 21 -
3.6 Risk of Explosion/Fire	- 21 -
3.7 Daily Inspection Before Starting Operation	- 22 -
3.8 Use of Emergency Stop Switches	- 22 -
3.9 Safety Instructions for Drive Control	- 23 -
3.10 Defining the Gradient of the Slope	- 23 -
3.11 Safety Instructions for Emergency Descent.....	- 24 -
4. USE AND OPERATION	- 25 -
4.1 Preparations Before Operation	- 25 -
4.2 Preparation of Parking and Work Sites	- 25 -
4.3 Operation of the Aerial lift	- 26 -
4.3.1 Power Startup.....	- 26 -
4.3.2 Remote Control Operation	- 28 -
4.3.3 Remote Control Panel Functions and Operations	- 29 -
4.3.4 Display Screen	- 30 -
4.3.5 Remote Controller Battery Charging and Replacement	- 35 -
4.3.6 Boom Movement Speeds.....	- 36 -
4.4 Lithium Battery Charging	- 36 -
4.5 Ending the Operation.....	- 37 -
5. EMERGENCY OPERATION	- 39 -
5.1 Emergency Manual Operation: BoomControl Valve.....	- 39 -
5.2 Emergency Manual Operation: Crawler Travel and Outrigger Control Valve	- 41 -

6.1 General Instructions	- 42 -
7. SERVICE INSTRUCTIONS	- 43 -
7.1 Service and Checks, MaintenanceSchedule.....	- 43 -
7.1.1 General Service Info	- 44 -
7.1.2 Major Inspection	- 44 -
7.2 Rubber Track Maintenance	- 44 -
7.2.1 Crawler Track Sprocket Wheel Bolts	- 44 -
7.2.2 Inspection and Adjustment of the Track Tightness	- 45 -
7.3 Inspection of Mechanical Structures, Hydraulic and Electric Systems.....	- 45 -
7.4 Telescope Boom	- 45 -
7.5 Slew Ring Bolts	- 46 -
7.6 Inspection and Replacement of Hydraulic Oil	- 46 -
7.7 Slew Ring Lubrication	- 47 -
7.8 Boom Slider Contact Surface.....	- 47 -
7.9 Hydraulic System Adjustments	- 48 -
7.10 Drive Motor Gear Oil Change	- 48 -
7.11 Boom Movement Speeds	- 49 -
7.12 Testing of Safety Valves	- 49 -
7.13 Battery Handling	- 49 -
7.14 Handling of Fuel andOil Products.....	- 50 -
8. REPAIR INSTRUCTIONS	- 51 -
8.1 Examinations.....	- 51 -
8.2 Tests.....	- 51 -
8.3 Welding.....	- 52 -
9. COMMON FAULTS AND TROUBLESHOOTING METHODS	- 53 -
10. TRANSPORT AND STORAGE	- 55 -
10.1 Transport.....	- 55 -
10.2 InstructionsforTemporaryStorage.....	- 56 -
11. SUPPLEMENTAL INFORMATION	- 57 -
12. EC DECLARATION OF CONFORMITY.....	- 58 -
13. INSPECTION AND REPAIR LOG	- 59 -

1. INTRODUCTION AND WARRANTY CONDITIONS

1.1 Introduction

Thank you for purchasing and using the spider lift produced by Inslift. The purpose of this manual is to provide owners, users, operators, lessees with the operating and maintenance procedures essential for the safe and proper machine operation for its intended purpose. Reliable and reasonable safety operations during aerial work is essential to prevent serious

damage to yourself and to other people. Therefore, operators must undergo training by our company and carefully read this manual presenting accurate and fundamental instructions on routine and periodic maintenance procedures.

Before shipment, the spider lift you purchased has been thoroughly tested to ensure the machine is in optimal condition. To maintain this condition and ensure normal operation, please perform regular maintenance as specified in this manual. This manual is an integral part of the spider lift and a very important tool! Please keep it with the machine for reference and use at all times.

Due to continuous product improvements, Jiangsu Inslift Technology Co., Ltd. reserves the right to make specification changes and modify or update the information contained herein without prior notification. Contact us for updated information. If there are any questions with regard to safety, training, inspection, maintenance, application, and operation, please contact Jiangsu Inslift Technology Co., Ltd. ("Inslift").

1.2 Display of Safety Instructions

Safety sign, signal word	Meaning
	Identifies a dangerous situation that will result in death or serious injuries if not avoided.
	Identifies a dangerous situation that may result in death or serious injuries if not avoided.
	Identifies a dangerous situation that will result in moderate or minor injuries if not avoided.
	Damage to equipment: the product or the environment risks damage.

Pay special attention to these symbols. They indicate important safety factors that require special attention. Every operator must read and understand this manual before starting operation, and the instructions in this manual must be followed. If you are lending the spider lift out to somebody, make sure that they familiarize themselves with and understands these instructions. If there is anything unclear with the operation, please contact your Inslift dealer.

If spare parts are needed, use only original Inslift parts. They will provide your machine with the maximum life expectancy and ensure optimum safety.

It is not possible to give explicit operating instructions to all operating conditions of the machine. Therefore, the manufacturer is not responsible for any damage caused by eventual faults in this Operators Manual.

The manufacturer does not accept any responsibility for consequential losses resulting from the use of this self-propelled spider lift.

The lifespan of the track system of an spider lift on rubber tracks is heavily dependent on the working environment and work methods. If the spider lift is being used on terrain with stones or gravel, on demolition sites with concrete, or in an environment with scrap metal, the lifespan of the track system may be significantly reduced. Therefore, damage to the tracks, track rollers or crawler track chassis, caused by operation in such environments, is not covered by warranty.

The machine operator can influence the service life of the tracks by complying with instructions for their use and maintenance.

1.3 Warranty Conditions

The equipment and spare parts are warranted for twelve months against design and manufacturing defects, excluding labour costs, transportation costs and export/import duties (where applicable).

This warranty does not cover defects caused by improper use, installation, storage, maintenance, transportation or any other event for which buyer is responsible. The twelve-month warranty commences on the date the equipment is received by the end user. Buyer will provide Inslift with a copy of the equipment inspection report.

The exception to the above is the warranty on electrical components, which is 12 months from the date of receipt of the equipment by buyer.

2. GENERAL INFORMATION

Inslift spider lift is a self-propelled Mobile Elevating Work Platform (MEWP), designed for indoor and outdoor aerial work at height. It is typically used in construction, maintenance, tree care, and industrial facility applications. The platform allows safe vertical and horizontal access to elevated work areas.

Spider lifts are designed for the lifting of persons and their equipment only. Using a spider lift as a crane is prohibited.

The product is designed to function under the following environmental conditions:

Ambient air temperature: -20°C to +45°C

Humidity: $\leq 95\%$ (non-condensing)

Operating the machine within these environmental limits helps ensure safe performance and extends the life of your machine.

2.1 Product Compliance Standards

Inslift platforms are manufactured in compliance with the following regulatory framework.

DIRECTIVE:

- 2000/14/EC as amended (Noise Emission).
- 2006/42/EC (Machinery Directive).
- 2014/30/EU (Electromagnetic Compatibility).

STANDARDS:

- EN ISO 12100:2010 (Safety of machinery)
- EN 280-1:2022 (Mobile elevating work platforms)
- EN 61000-6-2:2005 (Immunity to electromagnetic disturbances)

2.2 Main Structure and Components



Figure 1.RE30

A. Work platform

The work platform is made of aluminium alloy and the dimension of it is 1.8m*0.7m*1.1m (length*width*height). The platform can rotate $\pm 80^\circ$ to the left and to the right by the swing cylinder and is automatically leveled by the electric control system during the boom lifting process. The platform is equipped with safety belt hooks, and safety belts must be worn when working at height.

B. Lower Boom

The lower boom is made of high-strength steel plates and consists of four telescopic sections. It extends and retracts synchronously through a telescopic cylinder and lifts through a lifting cylinder.

C. Upper Boom

The upper boom is made of high-strength steel plates and consists of three telescopic sections. It extends and retracts synchronously through a telescopic cylinder and lifts through a lifting cylinder.

D. Jib

The jib consists of a single section and is lifted by the lift cylinder.

E. Rotating Base

The rotating base is made of high-strength steel plates and is mounted on a slewing bearing. The booms are installed on the rotating base. The slewing bearing is fixed on the chassis

with high-strength bolts.

The rotation of the base is driven by a hydraulic motor and achieved through a worm gear speed reducer and the slewing bearing. There is a rotary joint at the center of the rotating base to connect the hydraulic and electrical circuits between the upper and lower parts of the base.

F. Chassis

The chassis is fixed on a tracked undercarriage, with protective covers on both sides. It is equipped with a lithium battery power system, manual emergency power system, battery, outrigger control valve, electrical box, and other components.

G. Outriggers

Four outriggers are mounted on the chassis through a rotating mechanism. They support the machine on the ground during aerial work. Each outrigger has two rotational positions to adapt to the working site conditions. Under normal circumstances, the maximum outrigger position should be selected to maximize the working range. Each outrigger is equipped with an outrigger pad, which must be placed under the outrigger feet during operations.

H. Tracked Undercarriage

The tracked undercarriage is used for the movement of the spider lift. It is driven by a hydraulic motor, and the tracks are made of rubber. Steering is achieved by varying the speeds of the left and right tracks.

I. Power System

The engine serves as the main power source for the aerial lift, using diesel fuel and water cooling. The engine drives the hydraulic pump, providing power to the entire system. The engine is equipped with an oil filter, fuel filter, air filter, radiator, and other components, which require regular inspection and maintenance during daily operations.

The lithium battery-powered motor system serves as an auxiliary power source and can be used for indoor operations.

J. Remote Control Station

The machine uses wireless remote control operation allowing operators to control the machine from the ground or the work platform. During aerial work, the remote control must be fixed to the work platform.



It is strictly prohibited to operate the remote control from the ground while personnel are on the work platform!

2.3 Main Technical Parameters

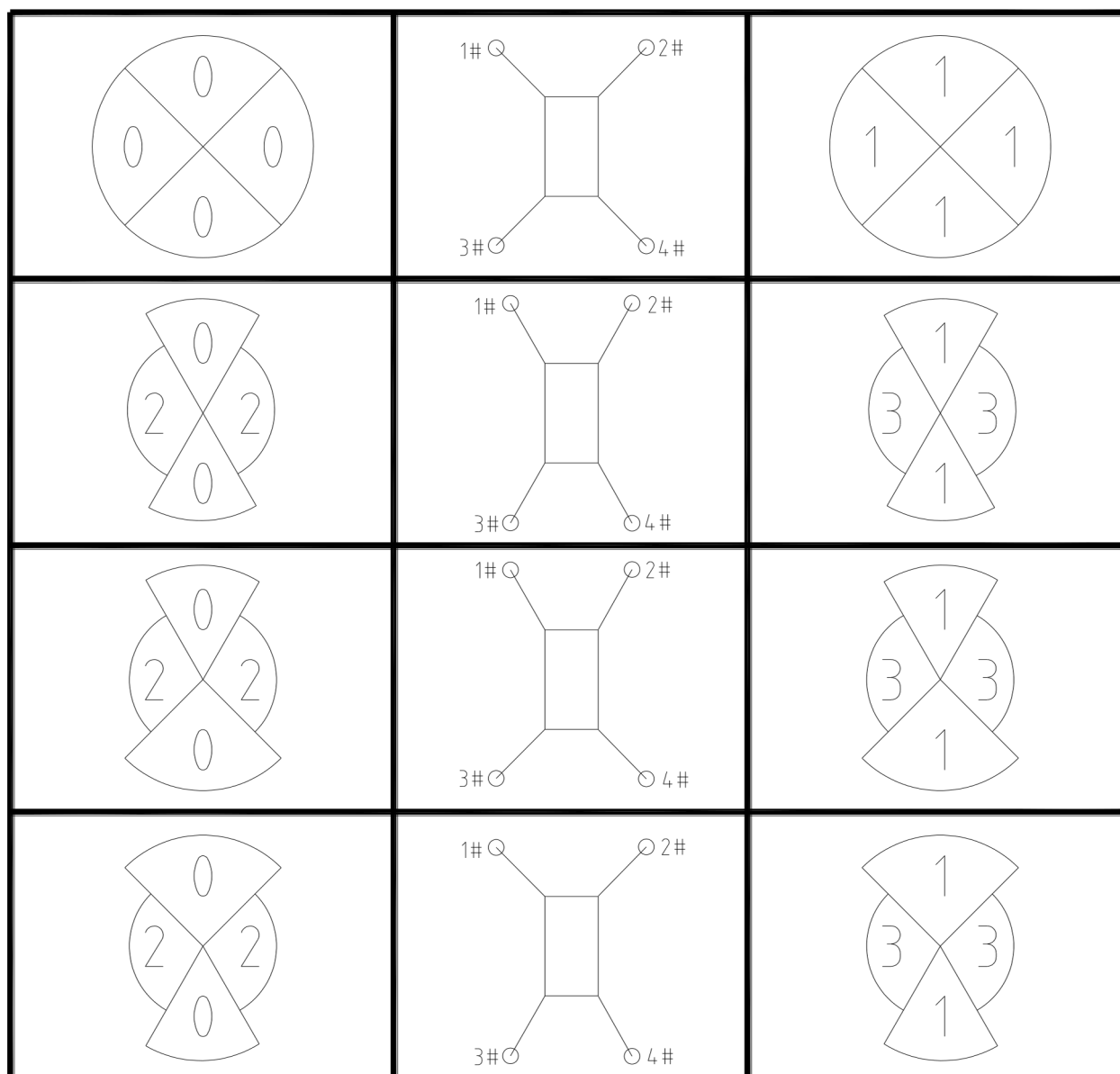
Before operation, operators must be aware of the maximum height and width of the machine. Especially when passing under bridges, electric poles, warehouses, or construction sites with many obstacles, you should confirm the clearance height and width and proceed only when you deem it safe to do so.

No.	Description	Main Data
1	Working height, max.	30 m
2	Platform height, max.	28 m
3	Horizontal outreach, max.	14.8 m
4	Platform capacity, max.	230 kg
5	Platform rotatable	±80°
6	Maximum manual force	400N
7	Platform size (L x W x H)	1800 × 700 × 1100 (mm)
8	Turntable rotation, max.	360°(continuous)
9	Outrigger system	Variable
10	Gradeability	30%
11	Maximum operating inclination	1°
12	Control	Radio remote control
13	Drive system	White non-marking rubber tracks
14	Maximum travel speed	1.3 km/h
15	Length-outrigger footprint	5230mm / 6200mm
16	Width-outrigger footprint	4220mm / 3070mm
17	Power sources	Engine + Lithium-ion battery + Manual Emergency Pump
18	Engine	Kubota D1105 18.2kw
19	Lithium-ion battery	25.6V-280AH
20	Wind speed	12.5 m/s
21	Total weight	5500 kg
22	Overall Dimension (L x W x H)	5940 × 1800 × 2050 (mm)
23	Overall Dimension (L x W x H) (without platform)	5380 × 1200 × 2050 (mm)

2.4 Working Range

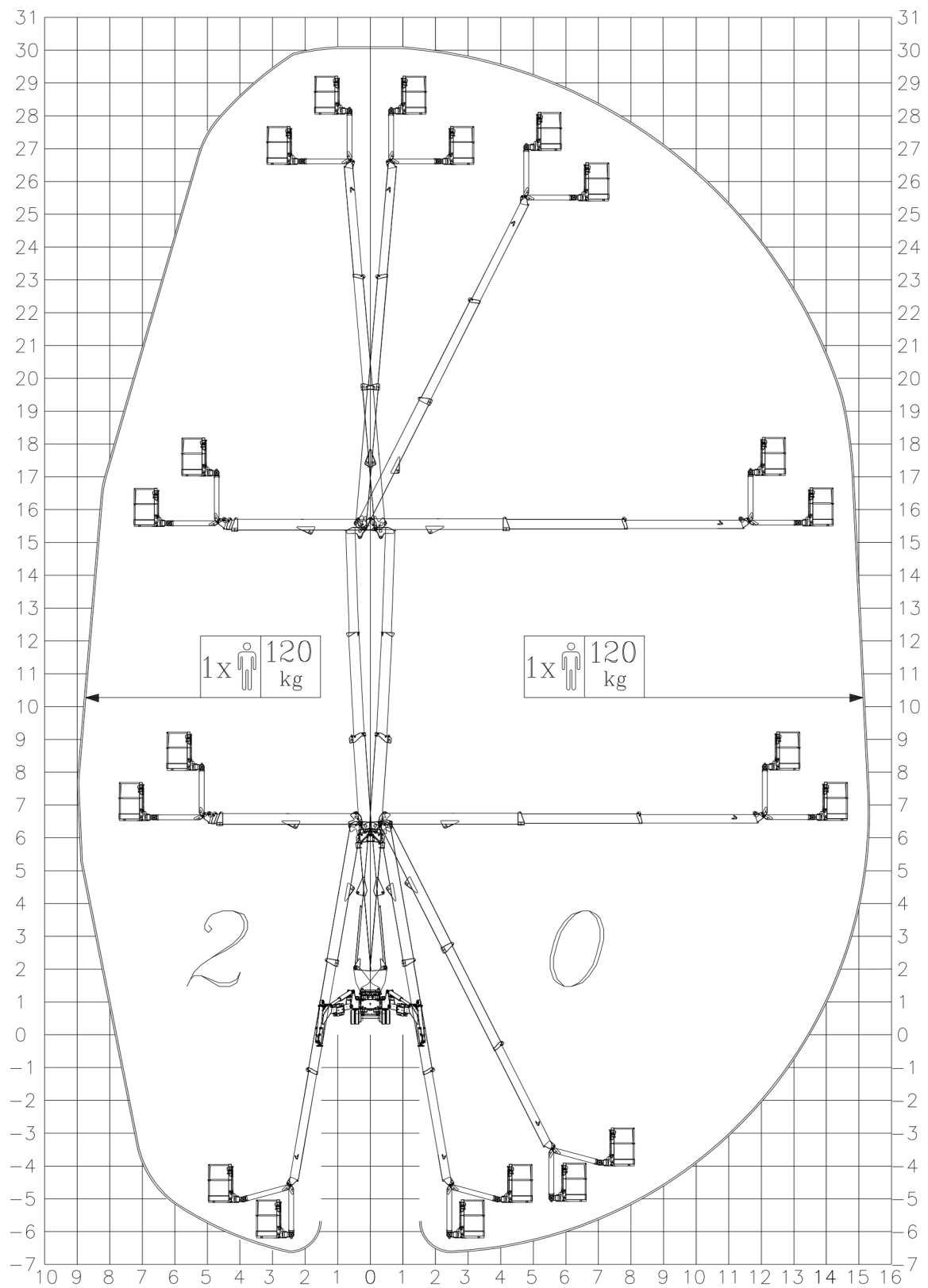
The working range of the spider lift is automatically controlled based on the positioning of the outriggers, the rotation angle of the turntable, and the load on the working platform.

2.4.1 Outrigger Position Diagram

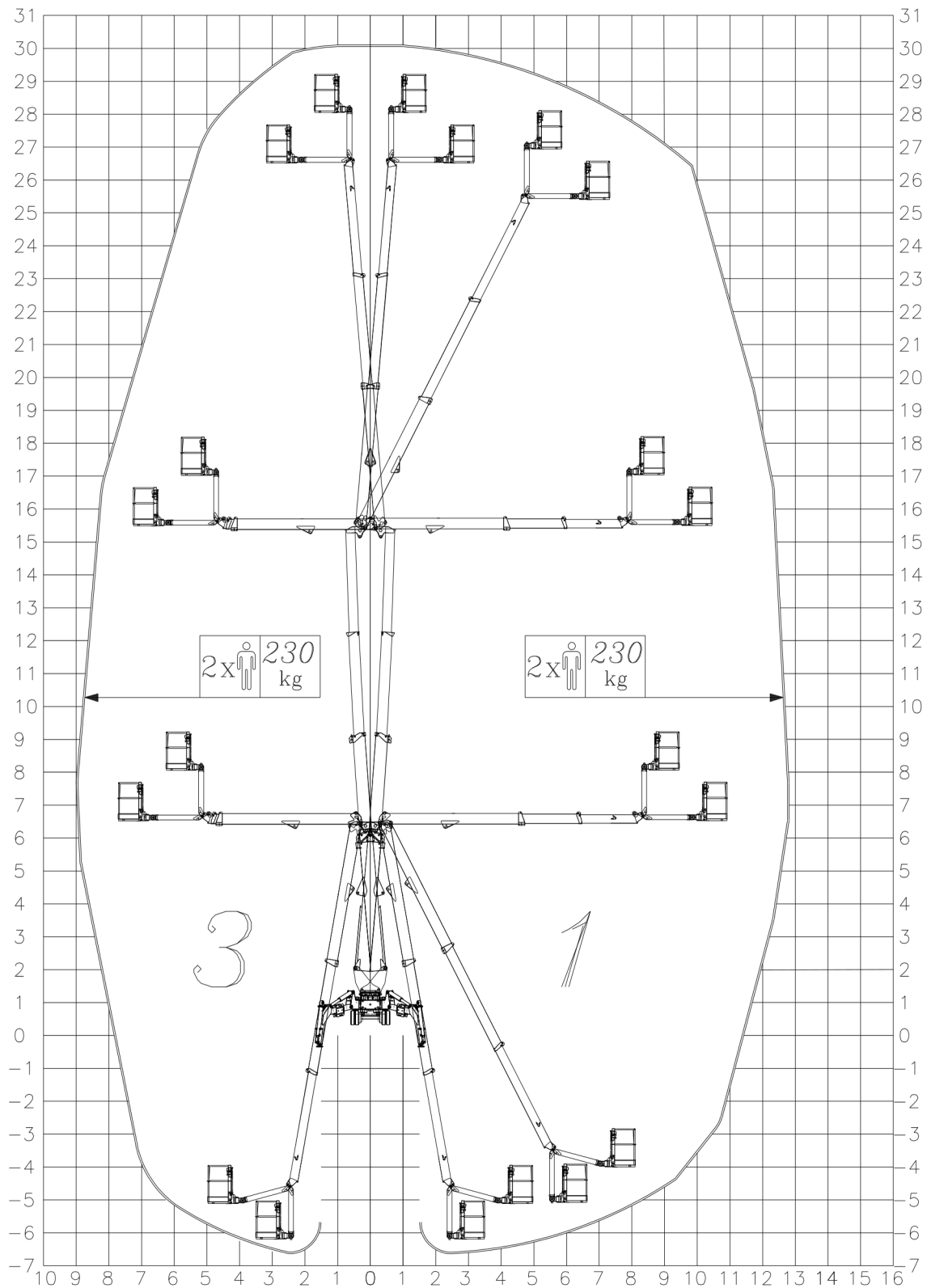


2.4.2 Working Range Diagram (Unit: m)

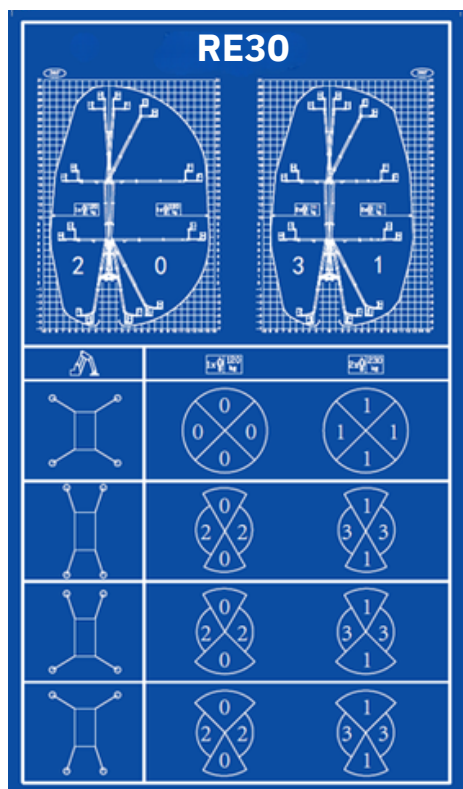
1) When the Platform Load is Less Than 120kg



2) When the Platform Load is Greater Than 120kg



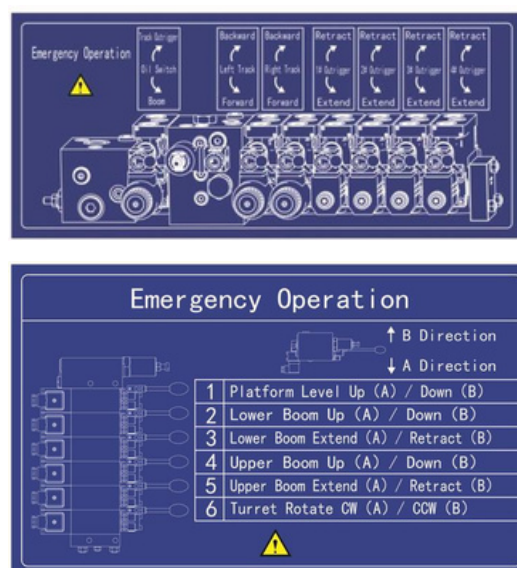
2.5 Signs and Decals



1. Working diagram

DISPLAY ST CODE			
ST	Reason	ST	Reason
1	Emergency stop of base	60	Maximum angle of upper boom
4	Emergency stop of radio control	61	Minimum angle of upper boom
6	Frame exceeds the allowed automatic leveling angle	62	Maximum intersection angle of lower and upper boom
10	Boom not in transport conditions	63	Minimum intersection angle of lower and upper boom
11	Maximum outreach	64	Maximum length of upper boom
12	Maximum rotation angle	65	Minimum length of upper boom
13	Platform anti-collision	80	Maximum angle of jib boom
14	Lower boom on the support	81	Minimum angle of jib boom
15	Emergency operation	82	Maximum intersection angle of jib and upper boom
16	Platform exceeds the allowed leveling angle	83	Minimum intersection angle of jib and upper boom
17	Radio control switch not on outrigger mode	100	Platform not centred
18	Radio control switch not on boom mode	101	Platform overload alarm
19	Platform anti-collision release	102	No-operation when platform overload
20	Upper boom extension not retracted	103	Platform no-operation when boom operation
21	Upper boom lift not on the support	104	No-operation when platform fix pin not on position
22	Lower boom extension not retracted	110	Frame exceeds the allowed inclination angle
23	Lower boom lift not on the support	111	18 outrigger not on the ground
24	Turret not centred	112	28 outrigger not on the ground
25	18 outrigger on the ground	113	38 outrigger not on the ground
26	28 outrigger on the ground	114	48 outrigger not on the ground
27	38 outrigger on the ground	115	18 outrigger pin not fix
28	48 outrigger on the ground	116	28 outrigger pin not fix
29	Frame 1 exceeds the allowed angle	117	38 outrigger pin not fix
30	Engine no-start when AG motor mode	118	48 outrigger pin not fix
40	Lower boom no-down when turret not centred	170	High engine water temperature
41	Lower boom no-extension when angle not at maximum angle	171	Low engine oil pressure
42	Lower boom no-down when extension not retracted	200	Emergency key switch on
43	Maximum angle of lower boom	201	Low battery
44	Minimum angle of lower boom	202	No-operation when charging
45	Maximum length of lower boom	203	Motor controller failure
46	Minimum length of lower boom		
48	Lower boom no-extension when upper boom on the support		

2. Display ST Code



3. Emergency Operation



4. Rated load



5. Manual force and wind speed



6. Oil injection



7. Warning electric shock



8. Warning high temperature



9. Waterproof



10. Input voltage



11. Warning hand crushing



12. Stay clear of this area during operation



13. Safety belt



14. Transportation Fixed



15. Warning overload



16. Check lubricant regularly



17. Warning regarding the manual



18. Maintain equipment regularly

3. SAFETY INSTRUCTIONS

The operator must know and follow all safety instructions. The operator must receive sufficient instructions in order to be able to use the lift correctly and safely. This Operators Manual must always be kept with the machine.

In order to prevent unpermitted use of the spider lift, the operator must take the ignition key that is located on the ground level with them after ending the operation.



Electrocution Hazard!

Falling Hazard!

The spider lift is not voltage insulated. Never use it near any voltage carrying parts of devices. Do not move any part of the spider lift close to uninsulated cables or other voltage carrying parts or devices.

When working with the spider lift, the operator(s) must always wear certified safety harness which is properly connected to the platform.

Do not operate over ground personnel. Warn personnel not to work, stand, or walk under a raised boom or platform. Position barricades on floor if necessary.

3.1 Before Starting Operation



Risk of serious injury!

- The operator manual, all warnings and labels must be read carefully.
- Only persons with min. 18 years of age are allowed to use the spider lift. They must have received sufficient operating instructions.
- Operator must know all the functions of this spider lift as well as the maximum platform rated load, loading instructions and safety instructions.
- If there is heavy traffic in the working area, it must be fenced off widely enough and marked with a fence or with a line. Road traffic regulations must be followed as well.
- Make sure that there are no bystanders in the working area.

- Do not use faulty spider lift. Inform about all faults and defects and make sure that they are repaired before starting operation.
- Follow check and service instructions and intervals.
- The operator must check this spider lift visually at the beginning of each work shift. This check is necessary in order to make sure that the machine is all right before making the daily inspection prior to starting operation.
- If combustion engine is used indoors, make sure that the ventilation is sufficient.

3.2 Risk of Tipping Over



Tip-over Hazard!

- ☐ Maximum rated load (230 kg), number of persons (2) and additional load on the platform must never be exceeded.
- ☐ When wind speed is equal or greater than 12,5 m/s, the use of the spider lift must be discontinued immediately, and the platform must be lowered down to transport position.
- ☐ Ensure that the spider lift is used on dry, solid and level ground only. The ground is solid enough if it can carry min. 3 kg/cm². On softer grounds use extra support plates under the outriggers.
- ☐ Do not use a ladder, chair, stool, scaffolding or by any other means try to increase reach capability of this spider lift.
- ☐ In case the platform has got stuck or jammed, or it is too close to a building or a wall to be moved, do not try to release the platform by operating the controls. All persons must leave the platform first (with the help of a rescue service of fire brigade if necessary), only after that one can try to lower the platform by using the emergency lowering.
- ☐ Do not increase the area of the platform or the load. Increasing of the area exposed to wind will weaken the stability of the spider lift.
- ☐ Do not perform aerial work under the following weather conditions:
 - * During heavy rain
 - * During heavy snow
 - * During thunderstorms
 - * In foggy conditions with poor visibility
 - * When wind speed exceeds 12.5 meters per second

Factors affecting wind speed: platform elevation, surrounding structures, local weather events, and approaching storms.
- ☐ Do not cover or increase surface area of the platform or the load. Do not carry large surface area items in the platform when operating outdoors. The addition of such items increases the exposed wind area of the machine. Increased areas exposed to wind will decrease

- stability. Weight must be equally distributed on the platform. Make sure that additional
- ☐ weight cannot shift on the platform.
 - ☐ Do not drive on gradients that are steeper than the max. values given for this spider lift and for the slope.
 - ☐ Never use this spider lift as a crane or an elevator. This spider lift is intended for lifting of the max. allowed number of persons and additional load only.
 - ☐ In order to ensure the safe operation of this spider lift the manufacturer has conducted approved tests for the Insift RE30 in accordance with the standard EN 280-1:2022 static stability test in accordance with paragraph 5.1.4.2.1 and dynamic overload test in accordance with paragraph 5.1.4.3.

3.3 Risk of Falling



Falling Hazard!

- ☐ The operator(s) must always wear certified safety harnesses when operating this spider lift. The harnesses must be connected to the fastening point at platform mounting bracket.
- ☐ Do not stretch or reach out over the handrails. Stand steadily on the platform floor.
- ☐ It is not allowed to go to or step out from the platform when the booms are lifted.
Always close the platform gate before starting operation.
- ☐ Keep platform floor clean.
- ☐ Do not drop or throw any material down from platform.

3.4 Risk of Collision

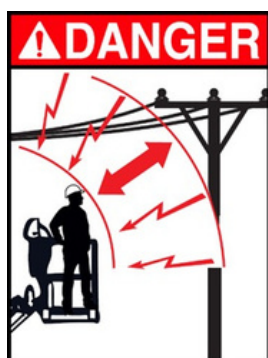


Collision Hazard!

- ☐ Select the drive speed so that it is safe in regard to the ground conditions.
The operator must follow all regulations concerning the use of safety equipment on the work site.
- ☐ When operating the lift, beware that visibility may be limited and trapping hazard.

- ☐ Make sure that there are no overhead obstacles on the work site that could prohibit lifting of the platform, or objects that might cause a collision.
- ☐ Do not operate this spider lift in the working area of another overhead lifting device or similar equipment that is moving, unless this lifting device is secured so that there is no risk of collision.
- ☐ Beware of crushing hazard when holding the handrail of the platform in a possible collision situation

3.5 Risk of Electric Shock



Electrocution Hazard!

- ☐ This spider lift is not voltage insulated nor protected against contact with voltage carrying parts, or when approaching them.
- ☐ Do not touch the machine if it comes in contact with voltage carrying electric line.
- ☐ Persons on the platform or at ground level must not touch or operate the platform before power has been cut off from the electric line.
- ☐ During welding repairs, it is not allowed to use any part of this spider lift as earth conductor.
- ☐ Do not use this spider lift during thunderstorm or high winds.
- ☐ Leave clearance to electric lines taking into account movements of platform, movements of electric line, and high winds and gusts.

For safe distance, check the national or local regulations. If no national or local regulation is available, use the table below.

VOLTAGE	MIN DISTANCE
0 – 50 kV	3 m
50 kV – 200 kV	4,5 m
200 kV – 350 kV	6 m
350 kV – 500 kV	8 m
500 kV – 750 kV	11 m
750 kV – 1000 kV	14 m

3.6 Risk of Explosion/Fire



Explosion Hazard!

- ☐ It is not allowed to start the combustion engine / electric motor in a place where one can smell LPG, petrol, solvent or other flammable substance.
- ☐ Do not fill with fuel when the engine is running.
- ☐ Charge the battery only in places with sufficient ventilation, where there is no open fire or no works which could cause spark emissions (like welding).
- ☐ In case of fire it is recommended to use carbon dioxide fire extinguisher. Dry powder
- ☐ extinguisher can also be used but in this case the machine must be cleaned and inspected thoroughly because the powder is corrosive.

3.7 Daily Inspection Before Starting Operation

- | | |
|----------------------------------|---|
| -warnings and labels | - personal protective devices |
| -platform attachment and locking | - oil leakages |
| -operation of control elements | - combustion engine oil and coolant level |
| -emergency stop buttons | - ground capacity |
| -emergency lowering | - chassis stabilization |
| -electrical cables | - operating area |
| -loose, missing or damaged parts | |



If you note faults or missing equipment on this spider lift, do not put it into operation before the faults have been corrected. Never set the spider lift up in a place where the ground may be too soft. Beware of soft grounds and potholes in particular.

The operation of the spider lift must be stopped if it has been in an accident or breakdown situation. The spider lift must be inspected by an authorized Insift service workshop before taking the machine back to operation.

3.8 Use of Emergency Stop Switches



- ☐ Emergency stop switches are used by pressing down the red cap of the switch in emergency situations when normal shutting down procedures are not possible. For example in accidents and other dangerous situations involving the spider lift or its user.
- ☐ Emergency stop switches shut down the engine.
- ☐ Emergency stop switches in Remote Controller (Figure 7) and in the proportional valve at the turntable (Figure 16) can be used at any time.
- ☐ Emergency stop switches can be returned to neutral position by twisting its red cap clockwise.

3.9 Safety Instructions for Drive Control

1. Do not exceed maximum inclination for drive.
2. Make sure the driving surface is solid.
3. Fasten tools and other materials to prevent them falling.
4. Wear safety harnesses and keep them fastened whenever operating the machine.

3.10 Defining the Gradient of the Slope

Measure the slope with a digital inclinometer or do as follows.

Required equipment: a water level, a straight piece of wood at least 3 ft / 1 m long and a measuring tape.

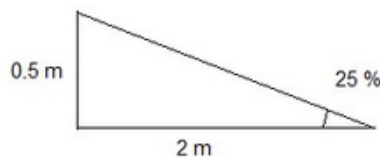
Place the wood on the gradient. Put the water level on the lower edge of the stick and lift the stick until it is in horizontal position. Keep the stick level and measure the distance from the lower end of the stick to the ground. Divide the distance (height) by the length of the wood stick (distance) and multiply the result by 100.

Example:

Wood length = 2 m

Height = 0.5 m

$(0.5 / 2) * 100 = 25 \% \text{ slope}$





Risk of Tipping Over!

When crossing slopes always drive up or down the slope, not sideways. If you have to drive sideways on a slope, lower the downhill side outriggers so that they are close to the ground. This prevents the machine from tipping over.

3.11 Safety Instructions for Emergency Descent

In case the operator becomes incapacitated while on the platform:

1. Use the emergency manual descent valves (see Section 4.4).
2. Ensure only trained personnel perform rescue operations.
3. Do not attempt rescue from another elevated platform unless authorized and trained to do so.

4. USE AND OPERATION

The normal and safe operation of the aerial lift is closely related to the proficiency of the operator. Operators should be highly familiar with the functions and positions of the various control parts, instruments, and safety signals of the machine. They should have a clear understanding of the structure and working principles of each component. It is forbidden for personnel who are not familiar with the machine's performance to operate it, to prevent accidents and damage to the equipment.

In the following instructions, when explaining the driving and outrigger operations, the orientations of front, rear, left, and right are based on the engine being at the front and the operator standing on the right side of the spider lift. When explaining aerial work operations, the orientation is based on the operator facing the control panel.

4.1 Preparations Before Operation

Operators should carefully read the user manual, familiarize themselves with the usage requirements, and understand the machine's performance parameters described in the manual.

- a. Check the hydraulic oil level of the aerial lift to ensure the oil quantity in the hydraulic tank meets the specified value.
- b. Check whether the booms have fully retracted and lowered into position.
- c. Check if there are any forgotten tools or items in the work platform and remove them if present.
- d. Check whether the outriggers have fully retracted into position.
- e. Check if the lower control box door of the aerial lift is properly closed and locked.
- f. Check all decals and placards for cleanliness and legibility, ensuring none are missing, and clean or replace any that are illegible.

Note: Consider the fuel consumption during aerial work, and if necessary, refuel the machine.

The hydraulic oil grade for this lift is anti-wear hydraulic oil 32# (for cold regions) or 46# (for normal temperature areas).

4.2 Preparation of Parking and Work Sites

- a. The parking area should be flat, with a maximum allowable inclination of 3°. When working on a slope, the machine should face uphill during parking, with its longitudinal direction aligned with the slope, and should not be parked sideways on the slope.
- b. The ground at the work site should be firm. Before driving on floors, bridges, trucks, and other surfaces, check allowable capability of the surfaces.
- c. The work site should be free of hazards or obstacles that could cause danger during operations. If such conditions exist, appropriate protective measures should be taken.
- d. There should be no overhead hazards such as electric lines, bridge cranes, and other potential overhead obstructions above the work area. Ensure the operating surfaces are free of holes, bumps, drop-offs, obstructions, debris, concealed holes, and other potential hazards.
- e. free of holes, bumps, drop-offs, obstructions, debris, concealed holes, and other potential hazards.

4.3 Operation of the Aerial lift



Operators must carefully read and familiarize themselves with the contents of the manual, especially the safety instructions, and operate according to the specified requirements.

4.3.1 Power Startup

1) Power On:

First, rotate the red main power switch in the diagram below 45 degrees to the right to turn it on, then rotate the key switch on the electrical box to "ON".



Figure 2. Main power switch

2) Remote Control Activation:

Release the red emergency stop button on the remote control by gently rotating it clockwise 45 degrees until the red cover pops up. Press the remote control's start button. If the remote control screen displays data, the machine has successfully connected.



Figure 3. Remote Control Power Switch



Figure 4. Remote Control Start Button

4.3.2 Remote Control Operation

This spider lift utilizes wireless remote control operation. When in storage or during fixed operations at the lower part, the remote controller can be placed in the box in the platform or carried using the belt provided with the remote controller (during boom operations, personnel should always be beside the aerial lift). During operation on the work platform, the remote control can be securely fixed to the work platform support. The work platform support is equipped with a wired remote control cable connector. In case of low remote control battery or wireless interference, the operation can be conducted using the wired remote control cable.

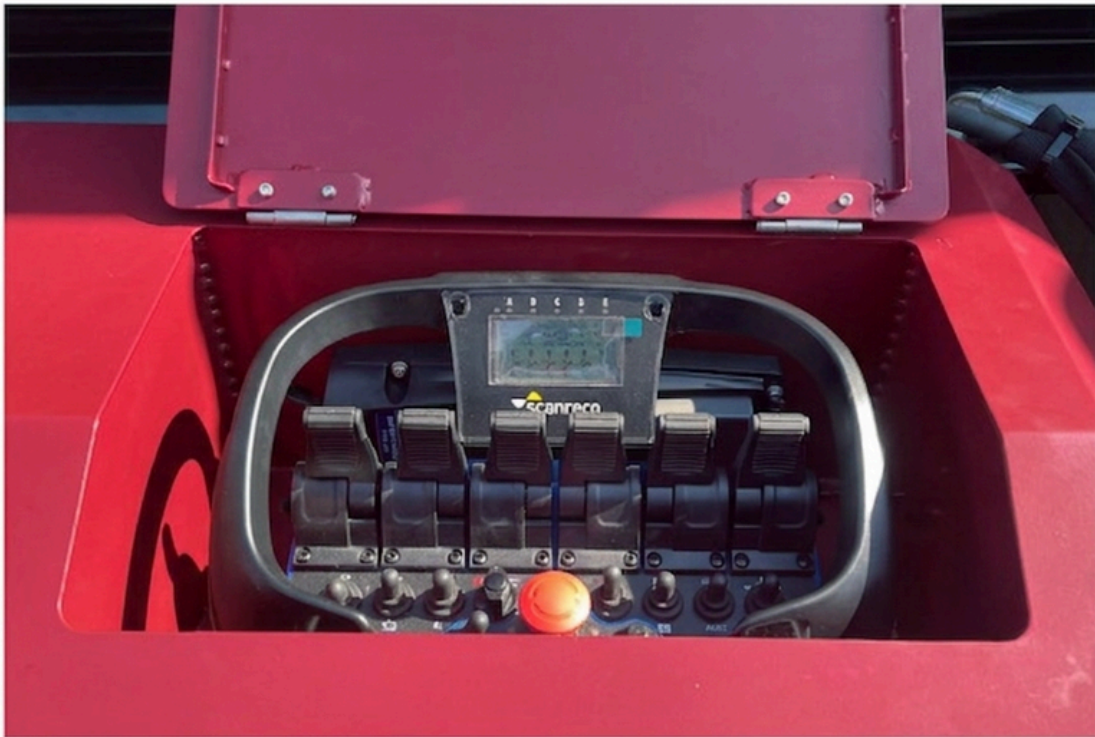


Figure 5. Storage state or lower fixed operation

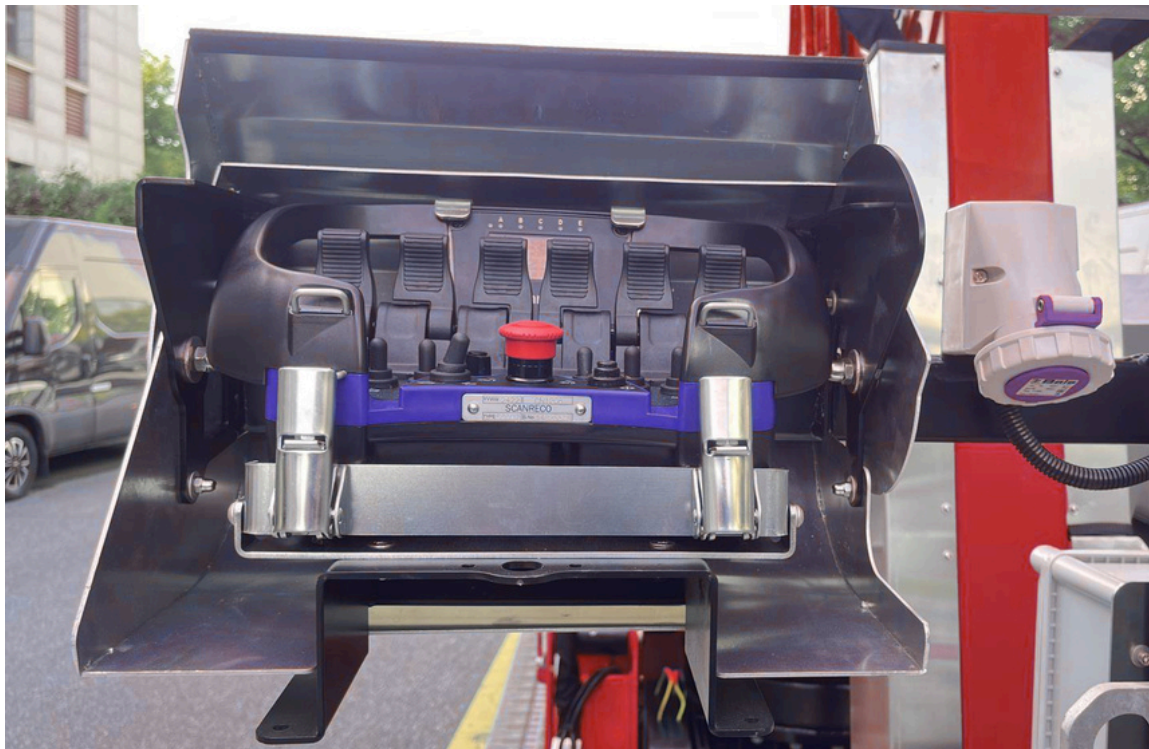


Figure 6. Work platform fixed operation

4.3.3 Remote Control Panel Functions and Operations



Figure 7. Remote Controller

No.	Function and Operation
1	DisplayScreen Main Power/Battery Selection Switch Horn/Spare (Not Active on
2	This Machine) Go Home/Collision Avoidance Override Switch Three-Position
3	Selector Switch for Track Operation/Outrigger Operation/Boom Operation Track
4	Steering Mode Selection Switch Spare (Not Active on This Machine) Spare (Not
5	Active on This Machine) Work Platform Rotation Switch High/Low Speed Switch
6	Emergency Stop Switch Remote Control Start Button 1# Outrigger Up/Down
7	(Outrigger Mode) / Track Movement (Track Mode) / Lower Boom Up/Down
8	Proportional Control Lever (Boom Mode) 2# Outrigger Up/Down (Outrigger
9	Mode) / Upper Boom Up/Down Proportional
10	Control Lever (Boom Mode)
11	Manual Outrigger Up/Down (Outrigger Mode) / Left Track Extension/Retraction
12	(Track Mode) / Turntable Rotation Proportional Control Lever (Boom Mode)
13	Track
14	Extension/Retraction (Track Mode) / Jib Up/Down proportional handle (Boom
15	mode)
16	3# Outrigger Up/Down (Outrigger Mode) / Upper Boom Extension/Retraction
17	Proportional Control Lever (Boom Mode)
18	4# Outrigger Up/Down (Outrigger Mode) / Steering (Track Mode) / Lower Boom
19	Extension/Retraction Proportional Control Lever (Boom Mode)
20	Outrigger Automatic Up/Down (Outrigger Mode) / Right
21	
22	

Operating Instructions:

- (1) The remote control has three modes: outrigger operation, track movement, and boom operation, which can be selected using the knob switch at position 5.
- (2) Track movement and outrigger actions can only be performed when the booms are fully retracted. Similarly, boom operation can only be performed once the outriggers are fully deployed and leveled.
- (3) Track movement is controlled by the proportional joystick 13 (for forward and backward movement) and the proportional joystick 18 (for left and right steering).
- (4) Joystick 4 “Go home function” means one-touch retract function. No matter how high the equipment is elevated, the operator can quickly retract the machine to transport or storage mode with one button.

4.3.4 Display Screen

1) Remote Control Display Screen

The remote control is equipped with a display screen that shows various statuses, including the boom retraction state, outrigger deployment status, chassis tilt angle, rotation angle, upper and lower boom angles, outreach limitation chart, and any fault or alarm codes.

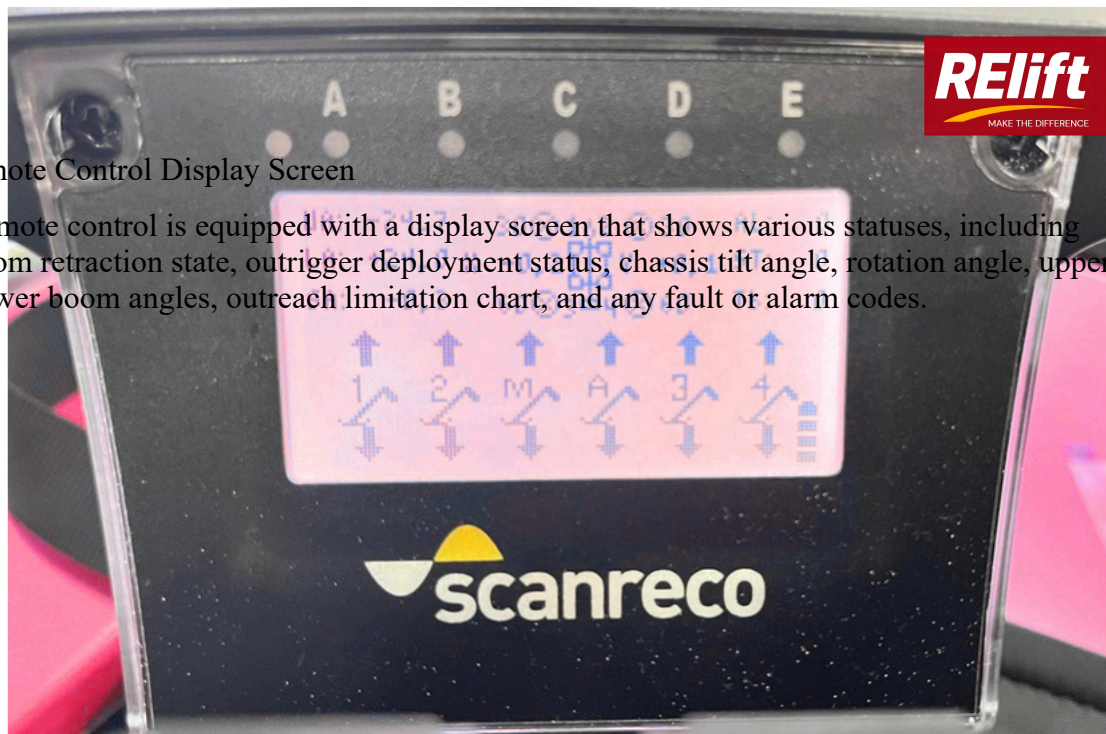


Figure 8. Outrigger Mode



Figure 9. TrackMode



Figure 10. Boom Mode

The work platform control panel is equipped with an LCD display that shows the machine's status and code information. When the display shows the code "ST," it indicates an operational error or a system automatic restriction alarm. Please refer to the table below to identify the related information and follow the suggested instructions. When the display shows the code "AL," it indicates a malfunction in the machine. In this case, please contact our company's after-sales service department for maintenance and repair.

DISPLAY ST CODE

ST	Reason	ST	Reason
1	Emergency stop of base	60	Maximum angle of upper boom
4	Emergency stop of radio control	61	Minimum angle of upper boom
6	Frame exceeds the allowed automatic leveling angle	62	Maximum intersection angle of lower and upper boom
10	Boom not in transport conditions	63	Minimum intersection angle of lower and upper boom
11	Maximum outreach	64	Maximum length of upper boom
12	Maximum rotation angle	65	Minimum length of upper boom
13	Platform anti-collision	80	Maximum angle of jib boom
14	Lower boom on the support	81	Minimum angle of jib boom
15	Emergency operation	82	Maximum intersection angle of jib and upper boom
16	Platform exceeds the allowed leveling angle	83	Minimum intersection angle of jib and upper boom
17	Radio control switch not on outrigger mode	100	Platform not centred
18	Radio control switch not on boom mode	101	Platform overload alarm
19	Platform anti-collision release	102	No-operation when platform overload
20	Upper boom extension not retracted	103	Platform no-operation when boom operation
21	Upper boom lift not on the support	104	No-operation when platform fix pin not on position
22	Lower boom extension not retracted	110	Frame exceeds the allowed inclination angle
23	Lower boom lift not on the support	111	1# outrigger not on the ground
24	Turret not centred	112	2# outrigger not on the ground
25	1# outrigger on the ground	113	3# outrigger not on the ground
26	2# outrigger on the ground	114	4# outrigger not on the ground
27	3# outrigger on the ground	115	1# outrigger pin not fix
28	4# outrigger on the ground	116	2# outrigger pin not fix
29	Frame X exceeds the allowed angle	117	3# outrigger pin not fix
30	Engine no-start when AC motor mode	118	4# outrigger pin not fix
40	Lower boom no-down when turret not centred	170	High engine water temperature
41	Lower boom no-extension when angle not at maximum angle	171	Low engine oil pressure
42	Lower boom no-down when extension not retracted	200	Emergency key switch on
43	Maximum angle of lower boom	201	Low battery
44	Minimum angle of lower boom	202	No-operation when charging
45	Maximum length of lower boom	203	Motor controller failure
46	Minimum length of lower boom		
48	Lower boom no-extension when upper boom on the support		

2) Control System Display Screen

The lower operation box is equipped with an LCD display, which shows real-time data of the entire machine, engine status, lithium battery power system status, system faults, timer, real-time clock, and other information.



Figure 11. Main Interface



Figure 12. Engine Interface



Figure 13. Lithium Battery Interface

4.3.5 Remote Controller Battery Charging and Replacement

The remote controller comes with two batteries. The machine is equipped with a battery charger that automatically charges the batteries when the main power is turned on.

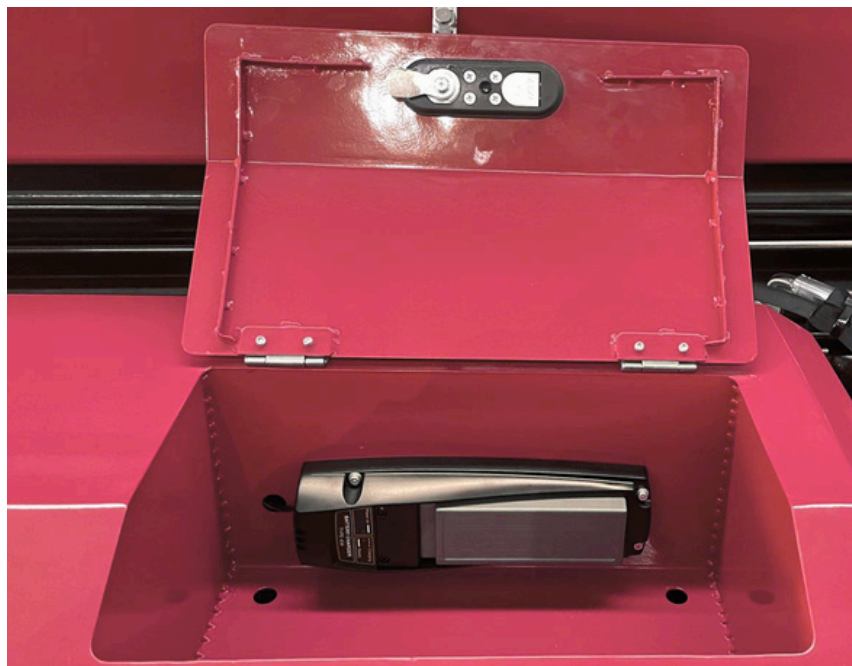


Figure 14. Remote control battery charger and spare battery.

4.3.6 Boom Movement Speeds

The logic controller of the spider lift continuously monitors and regulates the movement speeds of all boom functions to ensure safe operation and compliance with applicable safety standards.

During operation, the boom movement speed is tested by activating all boom functions as thoroughly as possible using the controls on the work platform.

The maximum allowable speeds for boom movements are as follows:

- a. Lifting and lowering of the work platform: maximum 0.4 m/s
- b. Telescoping of the boom: maximum 0.4 m/s
- c. Slewing or rotation: maximum 0.7 m/s (measured as the horizontal speed at the outer edge of the work platform at full extension)

If the system detects a boom movement exceeding these limits, it will trigger an error message. In such cases, please stop using the machine and contact your local authorized service provider for inspection and service.

4.4 Lithium Battery Charging

This machine is equipped with an automatic onboard charger. Please charge the battery promptly when the charge level is low.

The onboard charger is powered by AC 220V (16A), so please ensure the appropriate power supply is selected.

If the machine is not used for an extended period, the battery will gradually self-discharge.

Battery voltage and charge level should be monitored every 4-6 weeks. If the charge level drops below 50%, please charge the battery promptly.



Figure 15. Charging Socket



Warnings for Lithium Battery Charging!

- ※ Be sure that the machine is parked in a well ventilated area free of flames and sparks.
- ※ Only plug the charger into a properly grounded outlet.
- ※ Do not use ground adaptors or modify plug. Do not touch non-insulated portion of output connector or non-insulated battery terminal.
- ※ Always disconnect the AC supply before making or breaking the connections to the battery.
- ※ Do not open or disassemble charger.
- ※ Do not operate charger if the AC supply cord is damaged or if the charger has been damaged in any way.

4.5 Ending the Operation

After ending the operation:

1. Lower the booms and lift the outriggers completely up to transport position

(Also you can use "go home" button)

2. Stop the combustion engine / lithium-ion battery by pressing the start/stop button.
3. Remove the safety harness from the platform. The harnesses must be stored in their dedicated place (package/box).
4. Turn the ignition key switch to "0" position and remove the key from the switch.

NOTICE

- (1) Before moving the machine after work, secure the work platform in the travel position to prevent unexpected rotation and accidents**
- (2) Prevent the unauthorized use of the spider lift by removing the key switch when it isn't used!**

5. EMERGENCY OPERATION

The machine is equipped with an emergency operation system to lower personnel from height safely to the ground in case of a lithium-ion battery or electrical system failure.

- a. In case of engine failure or main pump malfunction, emergency descent can be achieved through an DC 24V electric pump or manual pump.
- b. In case of an electrical system failure, emergency descent can be performed using the manual emergency operation valve.

5.1 Emergency Manual Operation: Boom Control Valve

Step 1: Use the proportional valve rod provided with the package to sequentially operate the proportional valve at the turntable, lowering the upper boom and lower boom to the ground.

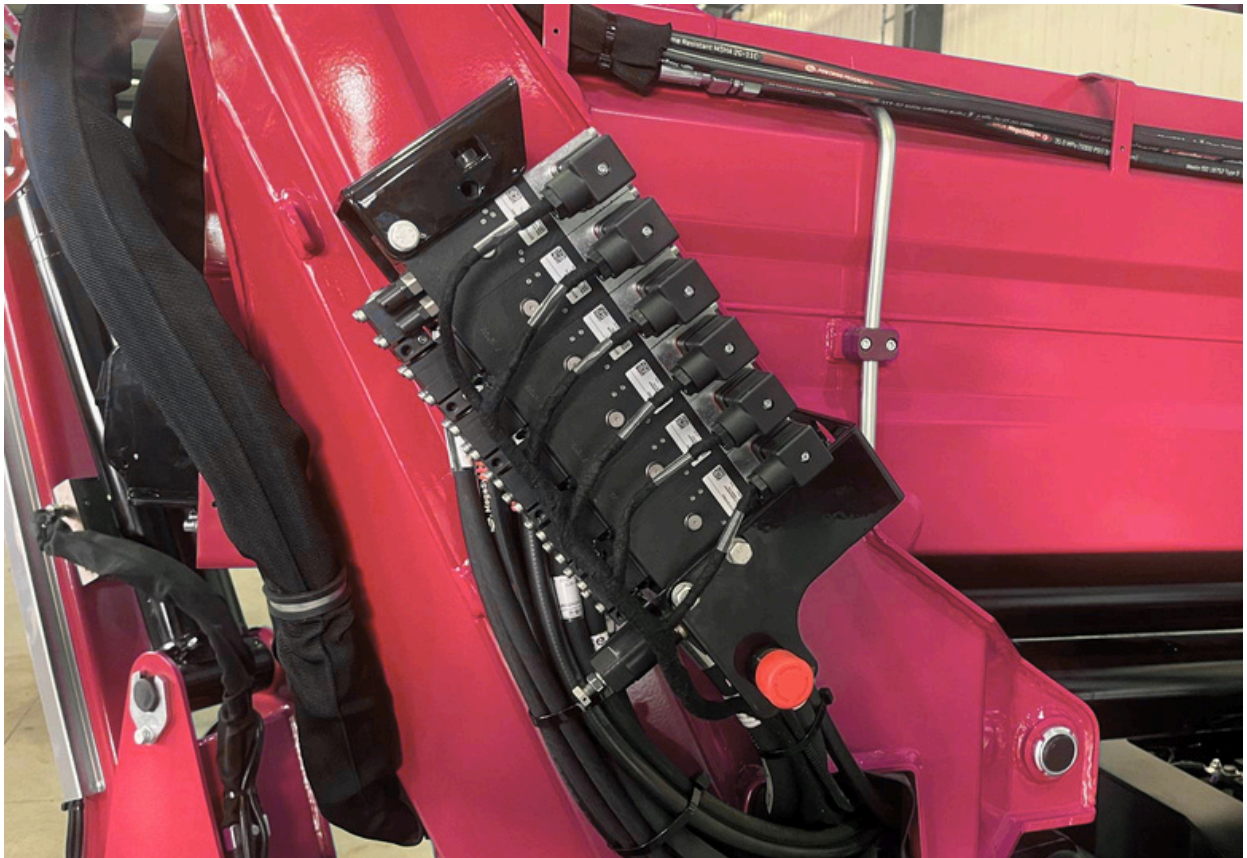


Figure 16. The proportional valve at the turntable

The actions corresponding to each proportional valve in the diagram (from right to left) are as follows:

First valve: Jib movement selection

Second valve: Lower boom up/down

Third valve: Lower boom extension/retraction

Fourth valve: Upper boom up/down

Fifth valve: Upper boomextension/retraction

Sixth valve: Boomrotation

When operating, please strictly follow the sequence below: a. Retract the upper boom into position. b. Retract the lower boom into position. c. Independently alternate or simultaneously lower the upper boom and lower boom. During the operation, always ensure that the work platform remains in a basically level state.

Step 2: Operate the jib valve to lower it to the ground.

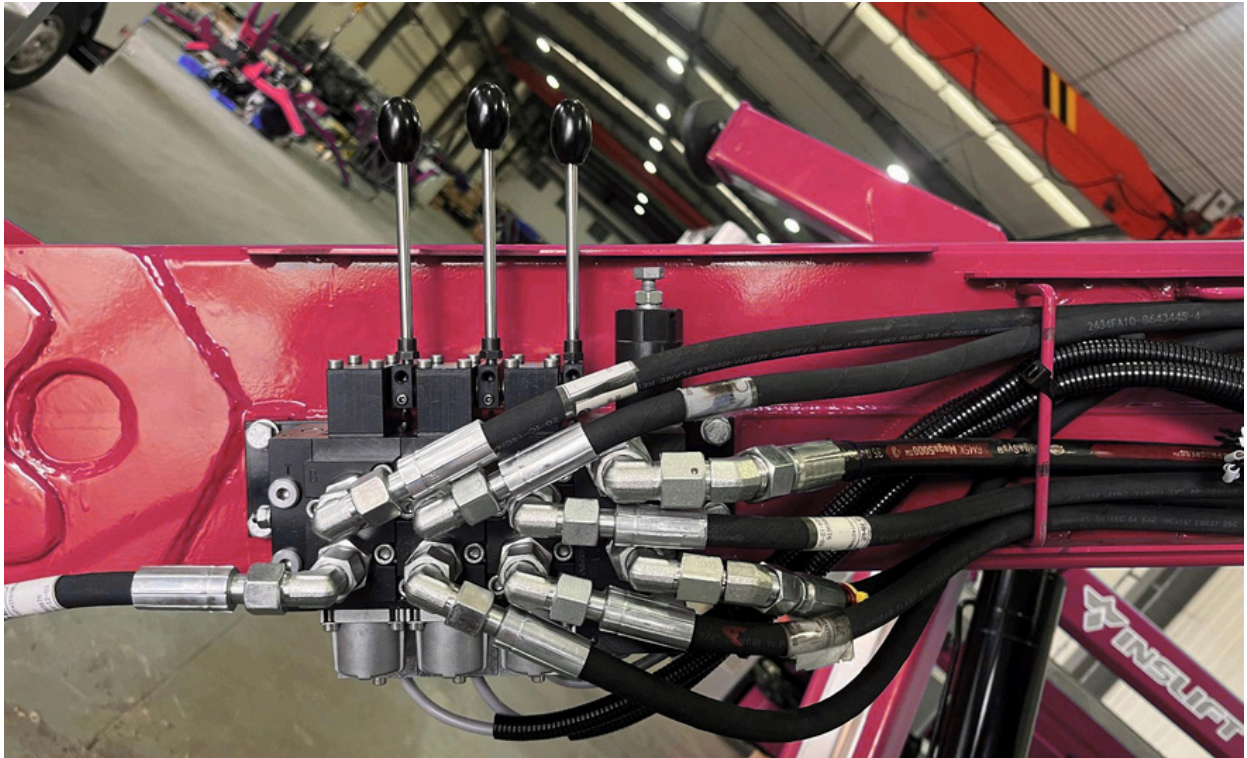


Figure 17. The proportional valve at the jib

The actions corresponding to each proportional valve in the diagram (from right to left) are as follows:

First valve: Jib up/down

Second valve: Platform leveling

Third valve: Work platform rotation

When operating, please strictly follow the sequence below:

- Operate the 1st valve at the turntable(jib movement selection) while simultaneously operating the jib valve as needed.
- Rotate the work platform to the middle position.
- While lowering the jib, operate the platform leveling valve. During the operation, ensure the work platform remains in a generally level state.

5.2 Emergency Manual Operation: Crawler Travel and Outrigger Control Valve

Step 1: After confirming that both the upper and lower booms are fully retracted and positioned on the boom brackets, open the electrical box on the right side of the vehicle. Rotate the emergency key switch to the right. At this point, the alarm horn should continue sounding.

Step 2: Independently alternate or simultaneously retract the four outriggers. During the operation, always ensure that the chassis remains in a basically level state.

Step 3: Operate the crawler travel to the desired position.



Figure 18. Outrigger and Crawler Travel Control Valve

The actions corresponding to each proportional valve in the diagram (from left to right) are as follows:

First valve: Right crawler forward and backward

Second valve: Left crawler forward and backward

Third valve: 1# outrigger support and retraction

Fourth valve: 2# outrigger support and retraction

Fifth valve: 3# outrigger support and retraction

Sixth valve: 4# outrigger support and retraction

6. INSPECTION AND MAINTENANCE REGULATIONS

All inspections must be done by following local laws and regulations. The spider lift must be inspected once a year (local laws / regulations may require more frequent inspections). The spider lift must also be inspected to an adequate extent if it has been damaged and its strength may have been compromised. Persons performing the inspection shall be qualified for the job. Persons who conduct service and maintenance for the machine shall familiarize themselves with the operation and technical features of the spider lift before doing any service operations. All service and maintenance operations must be made in accordance with the instructions in this manual.

6.1 General Instructions

- ☐ Making structural changes to the machine without written permission from the manufacturer is strictly prohibited.
- ☐ All defects that may have an effect on the safe use of this machine must be repaired before commencing operation.
- ☐ Inappropriate handling of protected parts causes a risk of serious injury. Only professional maintenance personnel may open the covers.
- ☐ Make sure that maintenance is performed in accordance with this Operator's Manual and the engine manufacturer's Service Manual.
- ☐ Stop the engine/battery before starting any service or inspection operation. DISCONNECT ALSO THE 220 VAC PLUG!
- ☐ Do not smoke during service and inspection operations.
- ☐ Keep the machine and especially the platform clean.
- ☐ Make sure that the operating instructions are complete, readable and in their place in the box at the platform.
- ☐ Make sure that all stickers are in their place and readable.
- ☐ Make sure that the spider lift has been serviced according to the manual.
- ☐ Make sure that all inspections have been made according to local regulations.

NOTICE

All spare parts –especially safety related parts and electric components and sensors – must be original Inslift parts.

If the spider lift has not been used for a long time, the oil levels must be checked, and the machine's functioning must be inspected before the next use.

7. SERVICE INSTRUCTIONS

7.1 Service and Checks, Maintenance Schedule

CH=Check

CL=Clean

R=Replace

*See engine manufacturer's manual

Operation	First 50 h	Daily	Monthly	100 h	200 h	400 h	1000 h	2000 h
Engine oil*	R	CH			R			
Engine oil filter*	R				R			
Air filter*			CL		R			
Coolant*	CH	CH				R		
Fuel filters*					R			
Fuel water separator*				CL				
Fuel tank				CH		CL		
Hydraulic oil	CH		CH				R	
Hydraulic oil return filter	R				R			
Hydraulic oil pressure filter	CH				CH			
Greasing			R					
Drive motor gear oil						R		
Track sprocket wheel bolts	CH				CH			
Track tightness	CH	CH						
Slew ring bolts					CH		R	
Condition of steel structures	CH	CH						
Locking of pins	CH	CH						
Platform attachment and locking	CH	CH						
Electric cables and boxes	CH	CH						
Hydraulic fittings, hoses and pipes	CH	CH						
Cylinders and valves	CH	CH						
Telescope boom chains	CH	CH						
Telescope boom slide pads	CH	CH						R
Battery					CH		R	
Diagnostic and error codes from display	CH	CH						
Emergency stop buttons	CH	CH						
	CH	CH						

Emergency lowering	CH	CH						
Control switches	CH	CH						
Outrigger set up	CH	CH						
Overload control					CH			
Movement speeds of booms	CH				CH			
Safety valves	CH				CH			

The above mentioned service intervals are recommendations. If the operating conditions are very hard and/or the machine is in heavy duty use, the service and change intervals must be shortened. **See also the engine manufacturer's manual for service regarding the engine.**

7.1.1 General Service Info

Hydraulic oil (Factory-fitted)	L-HM46 (Normal-temperature region 0°C to 40°C) L-
Hydraulic oil (Replaced according to the region)	HV32 (Cold region -25°C to 25°C)
Hydraulic oil (Replaced according to the region)	L-HM68 (High-temperature region greater than 40°C)
Hydraulic system oil volume	110 liters
Fuel tank volume	35 liters (Diesel)
Engine oil	API CK-4 10W-30
Drive motor gear oil	SHELL SPIRAX 80W/90
Slew ring	Mobilux EP2
Telescope boom	Mobilux EP2
Hydraulic main pressure	220bar

7.1.2 Major Inspection

The spider lift should be inspected every 10 years thoroughly by doing a non-destructive testing (NDT) and inspection while the machine is disassembled. This should be done according to the manufacturer's instructions.

7.2 Rubber Track Maintenance

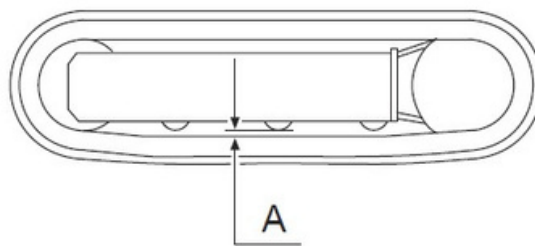
7.2.1 Crawler Track Sprocket Wheel Bolts

It is important to check the tightening of bolts on the rear sprocket about one week after putting the spider lift into operation. When driving with a new machine the parts in the track system adapt to each other and "find their place". Because of this it is possible that the bolts loosen during operation. Loose bolts can cause serious damage to the crawler track chassis.

- Tighten the bolts diagonally opposite to 80Nm.
- Tightness of the bolts must be checked yearly.

7.2.2 Inspection and Adjustment of the Track Tightness

The tightness of the track is inspected and adjusted with the spiderlift raised on the outriggers. The tracks must be inspected for the first time and adjusted, if necessary, after one hour of track use. After this initial inspection, the tracks should be checked daily before starting operation and adjusted if necessary. Take steps to keep the tracks in proper tightness. This has direct impact on wear and tear of the track chassis and helps to ensure that the tracks do not come off the sprockets.



Check track tension:

Stop the machine on a firm, level, and uniform surface. Raise the machine off the surface using the outriggers. Measure distance A from the bottom of the roller to the inside of the rubber belt. The rubber track tension is to be between 10 mm and 15 mm.

7.3 Inspection of Mechanical Structures, Hydraulic and Electric Systems

The mechanical structure of the machine, locking of pivot pins and platform attachment and locking must be checked visually in daily inspection. Also, the condition of hydraulic fittings, hoses, pipes, cylinder and valves must be checked visually. See if there are any oil leaks. The condition of electric cables and boxes must be checked daily also.

Damaged, broken or missing parts must be fixed before putting the machine into operation.

7.4 Telescope Boom

The tightness of the chains on the telescope boom must be inspected daily.



Figure 19. Telescope Boom

NOTICE

The pulley chains of the telescope booms, their pulley wheels and fasteners must be replaced during the major 10-year inspection

7.5 Slew Ring Bolts

Tightening torque of the M16 fastening bolts of the slew ring is 230Nm. It must be checked yearly, and the bolts must be replaced every 5 years. If a bolt has loosened, it must be replaced with a new bolt.

7.6 Inspection and Replacement of Hydraulic Oil

Hydraulic oil level can be checked with the dipstick in the filter cap. Oil level should be at the upper mark in the dipstick when the spider lift is in transport position (booms down and outriggers completely up).



Figure 20. Hydraulic Oil Tank

7.7 Slew Ring Lubrication

Recommended Grease Specification: Mobilux EP2

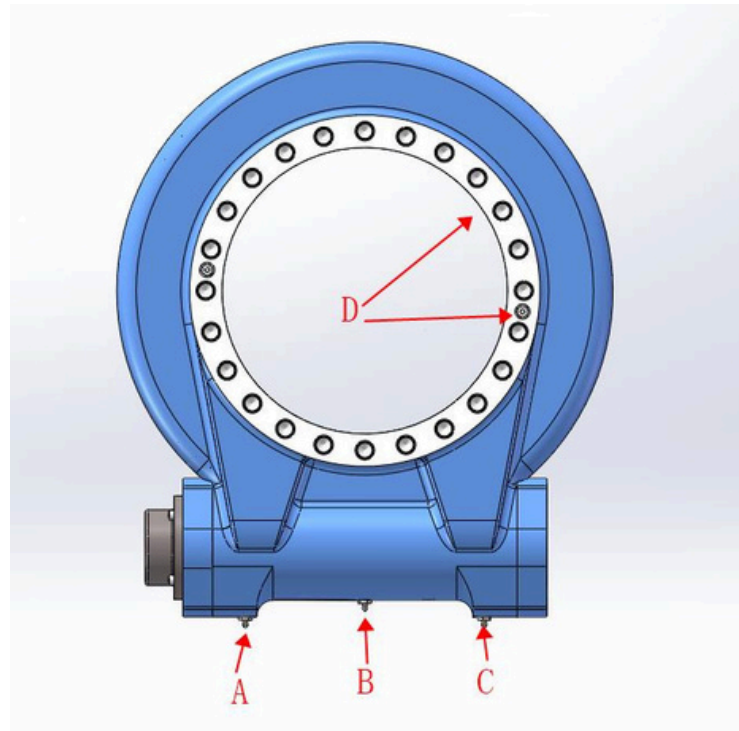


Figure 21. Greasing Points

A & C: Tapered Roller Bearing Grease Points

B: Worm and Slew Ring Gear Mesh Grease Point

D: Raceway Grease Point

7.8 Boom Slider Contact Surface

Recommended Grease Specification: Mobilux EP2

Replacement Interval: Based on usage conditions



Figure 22. Boom Slider Contact Surface

7.9 Hydraulic System Adjustments

The main hydraulic pressure is adjusted proportionally with an electric pressure relief valve which is controlled by the logic controller of the spider lift. The drive motor double speed pressure relief valve is adjusted automatically and doesn't need maintenance. The adjustment of the main pressure relief valve and the drive double speed pressure relief valve can be checked from the display at the lower control panel. All boom cylinder have two load control valves and the outrigger cylinders have one lock valve and one load control valve which prevent the movement of the hydraulic cylinder for example in the case of a broken hydraulic hose. The load control valves are adjusted at the factory and their adjustment is not allowed to be changed!

7.10 Drive Motor Gear Oil Change

Move drive motors so that the text on the side of the drive motor is horizontal. In this position the oil drain plug is in the lowest position (figure 23, 3) and the fill port is on top (figure 23, 1). The middle screw (figure 23, 2) is for checking the oil level. When filling the oil, the middle screw should be open, and the correct oil level is achieved when the oil is filled to reach the middle screw.

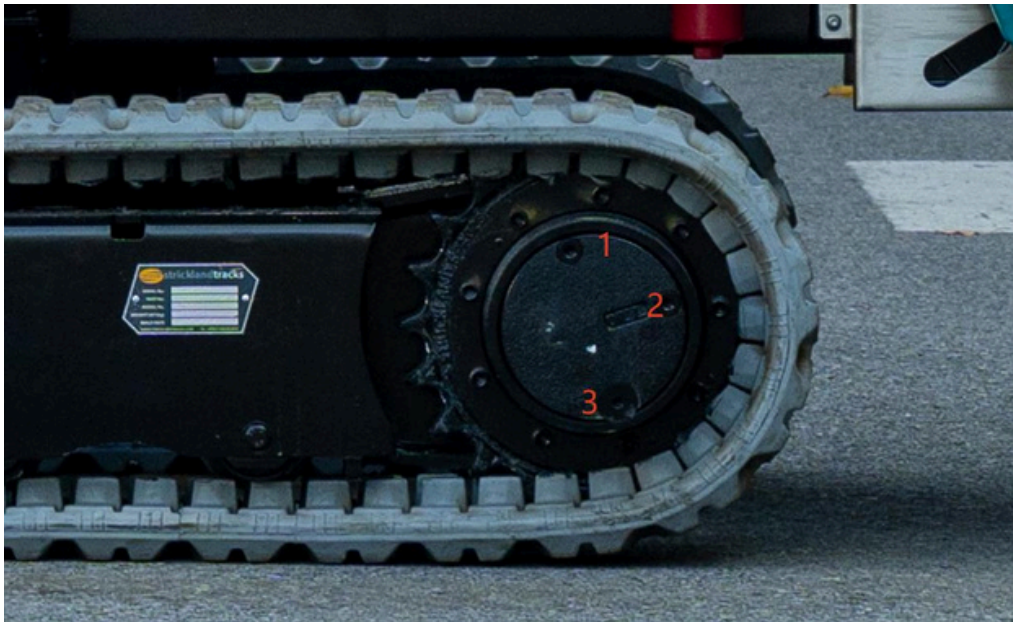


Figure 23. Drive motor gear oil change

7.11 Boom Movement Speeds

The logic controller of the spider lift constantly calculates and limits the movement speed of the booms. The boom movement speed test is done by going through all the boom movements as thoroughly as possible by using the work platform controls.

If you need to adjust the movement speed of the booms, please contact your Insift dealer.

7.12 Testing of Safety Valves

The safety valves of the spider lift must be checked yearly. The lifetime of the safety valves is 30 years after which they must be replaced. There is an internal diagnostic test on the spider lift for testing the valves.

7.13 Battery Handling

- ☐ Battery contains corrosive sulfuric acid - handle the battery with care. When handling the battery wear protective clothing and eyewear.
- ☐ Avoid contact with clothes or skin; if electrolyte gets on your skin or clothes flush with a lot of water.
- ☐ In case of contact with eyes, flush with a lot of water for at least 15 minutes and call a doctor immediately.
- ☐ Do not smoke when handling the battery.
- ☐ Do not touch the battery terminals or cables with tools that may cause spark emissions.
- ☐ In order to avoid spark emissions always disconnect the (-) cable first and connect it last.

7.14 Handling of Fuel and Oil Products

- ☐ Do not let any oil leak on the ground.
- ☐ Use oil qualities recommended by the manufacturer. Do not mix different oil types and/or brands with each other.
- ☐ When handling oil always wear appropriate protective equipment.
- ☐ Before refueling always stop the combustion engine / electric motor and disconnect from mains current.
- ☐ Only use fuels recommended by the engine manufacturer. Do not mix any additives with the fuel.
- ☐ If fuel or oil gets into your eyes, mouth or open wound, clean immediately with a lot of water or designated fluid and call a doctor.



Risk of fluid penetrating skin!

Do not use hands to seek leakages from pressurized system!

Check hydraulic hoses and components only when the engine is stopped and with pressure released from the hydraulic system. Do not operate the machine if you have noticed faults or leaks in hydraulic system. Ejection of hydraulic fluid can cause burns or penetrate the skin and cause serious injuries. Consult a doctor immediately if hydraulic fluid penetrates your skin. Wash carefully with water and soap any body part that has come in contact with hydraulic oil. Hydraulic oil is also harmful to the environment – prevent oil leakages. Only use hydraulic oil type approved by the manufacturer.

Never handle pressurized hydraulic components, because in case of failure on a fitting or component ejection of high-pressure hydraulic fluid can cause tipping over of the machine and serious injuries. Do not operate the machine if you have noticed a fault in the hydraulic system.

Check hydraulic hoses for possible cracks and wear. Follow the wear of the hoses and stop operation if the outer layer of any hose has worn out or has cracks on it. Check routing of the hoses, adjust the hose clamps if necessary in order to prevent chafing. Hydraulic hoses have finite service life and the expiration date is marked on the hoses. After that they have to be changed. If there are signs of oil leakage, put a piece of cardboard under the probable leakage place in order to find the leakage.

If you find a fault, operation of the spider lift must be stopped immediately and the hose or the component must be repaired. Contact your local Inslift dealer.

8. REPAIR INSTRUCTIONS

After major repairs the machine must be examined and tested. Major repair meaning modifications or repairs that affect strength, stability or performance of the machine. Examinations and tests must be conducted for example after following:

- Welding the load carrying parts (only with a permission from the manufacturer (10.3))
- Replacing the load carrying parts (use only Inslift original parts)
- Disassembling and assembling the machine's load carrying parts

Making any alterations to this machine is forbidden and Inslift does not take any responsibility of unauthorized modifications.

8.1 Examinations

Repairs must always be done by using original Inslift parts in the first place. If parts are welded, the materials and measurements of the repaired part must be equivalent to the original part. This must always be checked from the manufacturer.

All the signs and decals must be found in their original place.

8.2 Tests

If alterations are made to the original structure, they must be done according to current regulations, including calculations and tests.

If original Inslift parts are used in repairs, proceed according to these instructions.

Before strength and stability tests, check for fault codes and run the test for safety valves. If there are active faults in the machine, do not proceed before fixing the problem.



Risk of failing structure! Risk of tipping over! Always carry these tests with extreme caution.

To confirm the structural strength and stability of the machine, perform the following test. Test must be performed with a 25% overload on the platform: $230 \text{ kg} * 125 \% = 287,5 \text{ kg}$.

Level the machine with outriggers on their maximum position. Test procedure:

1. Drive the jib boom to a horizontal position
2. Drive the telescope to its maximum allowed outreach
3. Drive the lower boom up to its maximum position
4. Drive the slewing to its maximum on both directions and then return to the middle
5. Drive the upper boom to its maximum position
6. Drive the telescope to its maximum position
7. Drive the upper boom back to horizontal position
8. Drive the machine back to transport position

8.3 Welding



Risk of failing structure! It is not allowed to change the construction and structure of this spider lift without a written permission from the manufacturer.

Some of this spider lift's parts are made of high tensile steel. Before welding, grade of the steel must be verified from the manufacturer.

Welding repairs are only allowed to be carried out by professional welders. When welding, use only methods and additives suited for above mentioned steel qualities.

Instead of welding load carrying parts they are normally always replaced with a new part and even small repair weldings require a permission from the manufacturer.

Before welding remove and cover the battery plus (+) and minus (-) terminals. Disconnect all connectors of the logic controllers inside the lower control box and upper control box. Connect the earth terminal of the welding device directly to the part to be welded. Do not touch the logic controllers or electric cables with the welding electrode or earth terminal of the welding device. Protect the logic controllers from welding spatters.

9. COMMON FAULTS AND TROUBLESHOOTING METHODS

Fault	Cause	Troubleshooting Method
Hydraulic system pressure does not reach working pressure	1. Relief valve opening pressure too low	1. Adjust the relief valve opening pressure
	2. Oil tank oil level too low or suction pipe blocked	2. Refill hydraulic oil, check suction pipe, and filter
	3. System leakage	3. Check the system sequentially
	4. Oil pump damaged or excessive leakage	4. Inspect and repair or replace the oil pump
Hydraulic system noise and excessive vibration	1. Air in pipes, low oil level	1. Check oil level, check for suction pipe leaks
	2. Uneven oil pump speed	2. Repair or replace the oil pump
	3. Pipes or components not properly tightened	3. Tighten pipes and clamps
	4. Oil temperature too low or oil deteriorated	4. Run oil pump at low speed to raise oil temperature or replace oil
	5. Dirty oil filter, cavitation in oil pump	5. Clean or replace the filter
Hydraulic system oil overheats	1. Extended operation or high ambient temperature	1. Allow the system to cool down appropriately
	2. Relief valve pressure too high	2. Adjust relief valve pressure
	3. Oil pump speed too high	3. Reduce engine speed appropriately
	4. Severe internal leakage	4. Inspect hydraulic components
	5. Excessive dust on hydraulic components and pipes	5. Clean the surfaces
Boom boom lowers automatically	1. Internal leakage in the cylinder	1. Replace cylinder seals or eliminate other causes of internal leakage
	2. Oil leaks at pipe joints	2. Tighten pipe joints or replace seals
	3. Balance valve failure	3. Repair or replace the balance valve
Outriggers sink during travel or retract automatically	1. Internal cylinder leakage	1. Replace cylinder seals or eliminate other causes of internal leakage
	2. Oil leaks at pipe joints	2. Tighten pipe joints or replace seals
	3. Hydraulic lock failure	3. Repair or replace the hydraulic lock
Work platform cannot be balanced	1. Balance valve failure	1. Repair or replace the balance valve
	2. Safety relief valve set pressure too low	2. Adjust safety relief valve set pressure
	3. Pipe leakage	3. Repair or replace the pipes
No operation response or	Corresponding directional valve	Clean the corresponding directional

unable to stop movement	stuck	valve
No pressure in the system when operating support legs or boom arm	1.Engine not running	1.Start the engine
	2.Relief valve stuck	2.Clean the relief valve
	3.Oil tank oil level too low or oil pipe blocked	3.Refill hydraulic oil, check oil pipes, and filter
	4.Oil pump damaged or excessive leakage	4.Inspect and repair or replace the oil pump
	5.Control fault in upper/lower switching	5.Inspect the switching system

10. TRANSPORT AND STORAGE

10.1 Transport



Figure 24. Transport

- ☐ The spider lift must be properly secured during transport to prevent movement or tipping.
- ☐ Use only approved lifting points as indicated on the machine.
- ☐ When loading/unloading with a crane or forklift, follow the weight balance instructions marked on the machine.
- ☐ All booms must be fully retracted and locked. Outriggers must be stowed securely.

- ☐ The work platform should be in the transport position with gates closed and latched.
- ☐ Before transport, ensure that all removable parts (e.g. control box, charger cable) are secured or removed.
- ☐ Check that the battery power is turned off during transport.

10.2 Instructions for Temporary Storage

- ☐ The cable of the + pole of the battery should be disconnected if the spider lift is being stored for a period longer than one month.
- ☐ The spider lift shall be covered and, if possible, stored inside or under a roof in a place where unauthorized persons don't have access.
- ☐ Make sure possible leaks during storage will not cause waste water or similar environmental issues.
- ☐ Check the frost resistance of antifreeze.
- ☐ Remove dirty motor oil and replace with new. Run the engine for 5 minutes with new oil before long-term storing.
- ☐ Run the combustion engine for 5 minutes on idle every 3 months to prevent sliding parts from rusting.
- ☐ If the combustion engine is unused for 6 months or longer, apply oil on the valve stem seals and valve guides before starting the engine.
- ☐ After long storage period perform necessary checks and maintenance routines according to the service schedule.

11. SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION ONLY APPLICABLE TO CE MACHINES (EN280-1:2022)

The following information is provided in accordance with the requirements of the European Machinery Directive 2006/42/EC.

The A-Weighted emission sound pressure level at the specified workstation based on test methods per EN280-1:2022 Annex M.1 is 74 dB (A).

The guaranteed Sound Power Level (LWA) per European Directive 2000/14/EC (Noise Emission in the Environment by Equipment for Use Outdoors) based on test methods in accordance with Annex III, Part B, Method 1 and 0 of the directive is 102 dB(A).

The vibration highest root mean square value of weighted acceleration to which the whole body is subjected during driving or lifting does not exceed 0.5 m/s².

Inslift declares that machines included in this manual, before placing on the market, have been subjected to the required tests in accordance with EN280-1:2022, clause 5.3.

13. INSPECTION AND REPAIR LOG

It is advisable to write down all service operations that are included in the periodical service. All services that have been made during the warranty period must be noted on the list below, otherwise the manufacturer's warranty will void. The service operations mentioned in the maintenance schedule on chapter 9.1 shall be noted as follows: First Service (50 hours), 100 hour service, 200 hour.

#	Date (dd.mm.yyyy)	Operating hours	Type of service (e.g. first service)	Notifications, additional repairs, etc.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				



RENTEASE LIMITED

Office No. 103, 104 Plan S Business Park, Plot no D 108/1, opp. D.Y.Patil Stadium, MIDC Industrial Area, Nerul, Navi Mumbai, Maharashtra 400705

Mobile : +91- 7456025602 Email : info@rentease.co

Website : relift.in / rentease.co