

CE

IT



OPERATING AND MAINTENANCE HANDBOOK




IT 10151

IT 12151



MUM_IT151_GB_R01 10/2008

Here below you can find the picture regarding the metal plate attached on the machine and concerning identification data; it is advised to full in the serial number of the corresponding model in order to bind this manual to the specific machine.

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VIA S.FRANCESCO D'ASSISI 8 - 46020 PEGOGNAGA (MN) ITALY - TEL. +39 0376 554011 - www.itecolift.it					
MODELLO	<input type="text" value="IT10151"/>	MASSA	kg	<input type="text" value="3900"/>	
MATRICOLA	<input type="text"/>	BATTERIA	V/Ah	<input type="text" value="48/320 C5"/>	
ANNO DI COSTRUZIONE	<input type="text"/>	PRESSIONE MAX	bar	<input type="text" value="270"/>	
POTENZA	kw	<input type="text" value="7"/>			
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MODELLO	<input type="text" value="IT12151"/>	MASSA	kg	<input type="text" value="4400"/>	
MATRICOLA	<input type="text"/>	BATTERIA	V/Ah	<input type="text" value="48/320 C5"/>	
ANNO DI COSTRUZIONE	<input type="text"/>	PRESSIONE MAX	bar	<input type="text" value="270"/>	
POTENZA	kw	<input type="text" value="7"/>			
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IMPORTANT

A suitable working safety is very important in order to avoid serious injuries for the operator himself and for the others persons, therefore it is compulsory to carefully read and well-understand this handbook to know the exact and essential instructions for the use of the machine and the maintenance operations.

This handbook has to be considered as an integral part of the machine and it should always remain on the platform.

Only qualified and skilled operators could use this machine.

ITECO S.p.a.
46020 PEGOGNAGA (MN) ITALIA
Via S. Francesco D'Assisi, 8
Tel. +39 0376.554011
Fax +39 0376.559855
E-mail: info@itecolift.it - www.itecolift.it

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This edition contains the use and maintenance of the self-propelled aerial platforms IT10151 - IT12151.

The difference between the two described models is in the machine frame and therefore in the height :

IT10151 manufactured with 5 scissors, reaches a height of 9,90 m.
IT12151 manufactured with 6 scissors, reaches a height of 11,80 m.

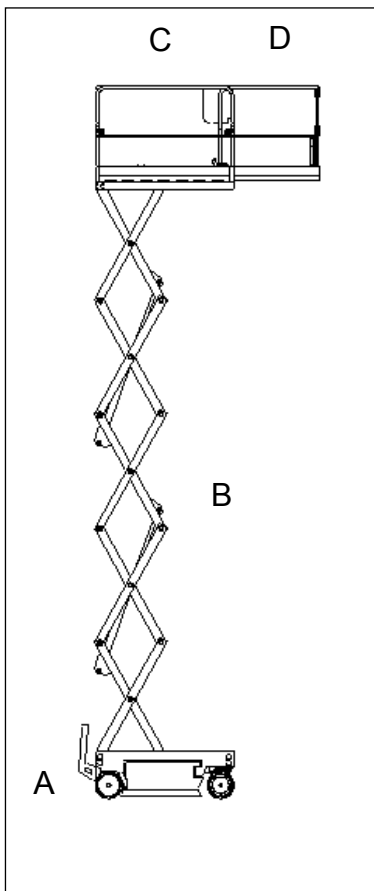
Designed and manufactured to be hydraulically operated and with proportional controls.

The platform manufacturer is :

ITECO S.p.a.
46020 PEGOGNAGA (MN) ITALIA
Via S. Francesco D'Assisi, 8
Tel. +39 0376.554011
Fax +39 0376.559855
E-mail: info@itecolift.it - www.itecolift.it

Foreseen conditions of use

The self-propelled aerial platform here described could be used to lift persons, materials and equipment accordingly with the foreseen technical data described in the suitable sheet, on solid and strong grounds and after a Qualified Operator has checked that he is working under safety conditions.



It is equipped with:

- base or truck (A)
- lifting structure or scissors (B)
- operating structure or platform (C)
- platform extension (D)

The possible movements are the following:

- Lifting and lowering of the platform;
- Forward and backward traction of the machine;
- Steering;
- Manually-operated longitudinal travelling of the mobile platform.

The foreseen control workplaces for the operator are two : one in platform for the normal operations and one at ground used also under emergency situations.

Using one operator place doesn't allow the other place to come into operation.

The movements are controlled by the platform control workplace.

The platform lowering and lifting could be carried out also by the ground control panel.

The traction movement could be carried out simultaneously with the steering.

The backward and forward traction of the machine has carried out independently the platform height which could be also entirely lifted.

The platform lowering/liftin and machine traction are carried out independently the platform extension which could be entirely extracted.

The machine could be used:

- with temperatures between -10/+40°C;

The machine can be used outdoors with wind speed less than 12,5 m/s

It is possible face the maximum slope with :

- Machine entirely closed.
- The operator solely on board.
- Selecting the slow speed.
- On even ramp without transversal inclinations.

The machine has equipped with overturning railings to minimise when the machine is completely closed, the maximum height thus allowing the passage through openings of reduced height.

After-sale service

For interventions, repairs and revisions, address to workshops which have available qualified personnel as well as the suitable equipment. The ITECO Technical After-Sale Assistance is available to give explanations and give assistance with skilled persons.

Spare-part service

A good and lasting working guarantee has assured by only use original spare parts; make reference to the "SPARE PART CATALOGUE". Always state the data described on the identification plate placed on the truck if you need spare parts or assistance.

Structure of the handbook

- Standard recommendations - safety rules
- Technical features and dimensions of the machine
- Use of the machine
- Maintenance



This instruction handbook must be carefully preserved by the user for the whole machine life, even if the machine is lent, rent or sold.



The figures described in this handbook DON'T exactly reproduce the model described but these are used for a better and easier understanding of the text.

General recommendations - safety rules

The aim of this handbook is to help the operator to well know the platform for an effective use under maximum safety conditions; it is for this reason that it is very important to read and well understand this handbook.

Safety systems

The safety systems foreseen for the machine are inevitably subjected to wear and to be put out of tune. Check them periodically and keep them in an efficient way. When the operative and safety conditions are checked, do not base on their working solely.

These safety devices, being installed on the machine, don't relieve the Operator from the responsibility to use the machine adequately and carefully .

Remove, modify or tamper important self-propelled aerial platform instruments is strictly forbidden in order to assure its safety and stability.

Particular attention must be paid to the batteries which also carry out a stabilising function. Check that their weight equals, or exceeds, that given in the table of machine specifications before making any replacements.

Any tampering of the main instruments and safety devices of the aerial self-propelled platform could cause the immediate lapse of the guarantee terms.

Adhesive labels and plates

Possible dangers and prescriptions concerning the machine are described on labels and plates ; therefore it is important that these are well readable and in good conditions.

Operator's requirements

The operator shall:



- Read and well understand all the documentation enclosed to the machine, be properly trained and instructed in the correct use of the machine and know the safety rules and devices.
- Be of age
- Be physically in good conditions and not make use of dope, alcohol or drugs that could affect the attention, the reaction, the sight and the hearing.
- Make always use of an assistant in areas where the sight has obstructed.
- Use suitable accident prevention equipment accordingly with the working conditions and the local rules in force.
- During the working keep all the parts of the body inside the railings and both feet have to be firmly rest on the floor surface
- Give a great importance to the safety and refuse to work when you state to not work under safe conditions.
- Always work under highest safe conditions, tidiness and cleaning.
- Make a daily check before using the machine and also to controls and safety devices and make sure they are in perfect working order.
- Check the working area is free from persons, animals or obstacles before making any movement of the machine.
- Check that the ground where the machine has to operate is free from potholes, bumps, drops, uneven levels, obstructions, debris, obstacles and coverings which could hide possible potholes or others dangers.
- Well-know the allowable maximum capacity.
- Clean from oil and grease the ladder, the floor surface of the platform and the handrails.
- Once the work has been finished and when the machine remains unattended, switch the machine off and take the key off to avoid that unauthorized persons can use it.

- Commuting the controls on the platform, always take the key off to avoid an unauthorized use from the operating place on ground while personnel is present on the platform. The safety manager must hold a spare key enabling to use the operating place on ground as emergency place when the machine is in use. In case of trouble it is always possible lower the machine operating on the devices placed in the right box.

Not allowable operations

It is strictly forbidden:



- Use the machine on slippery, frozen, muddy, uneven ground and with holes, which has a slope higher than the allowed limit; make sure the ground suitably support the maximum load per each tyre.



- Use the machine near free flames or source of heat.
- Use the machine in environments with explosive atmosphere.
- Carry out works near high-voltage transmission lines at a distance lower than 5 meters.
- Modify the machine and use it in a different way from what it has been described in the instruction handbook.



- Modify or remove the safety devices.
- Work in case of strong storm, with or without rain, or with wind with speed higher than 12,5 m/s.
- Fasten the machine to adjacent structures.
- Do not lean out of the safety perimetric railings of the platform.



- Use the machine as a crane.
- Use the machine without an adequate environmental lighting to work or to move under safety conditions.
- Load the machine with an higher weight compared to the nominal range.
- Carry more people than indicated.



- Increase the maximum available working height by putting ladders or scaffolds on the platform.
- Run on public roads.
- Move the machine with the opened box.
- Use the machine making sure the gate to be admitted to the platform is not closed.
- Use an horizontal force above 400N.
- Throw some objects and tools from the top to down and viceversa.
- Use the machine if the working area is not free from obstacles which could cause dangerous conditions.
- Use the handrails as admittance means to get on or get down from the platform.
- Get on or get down from the platform when it is in the lifting position.
- Operate or lift the platform when it has placed on the truck loading platform or other vehicle.
- Charge the batteries near sparkles of free flames.
- Lift the platform making sure there are not any obstacles above it.
- Work with a machine operating under bad working conditions.
- Enter in contact with fixed or mobile objects.
- Place materials on the handrails.
- Equip the machine with elements (ex. panels) which increase the wind exposure.

To minimize hazards

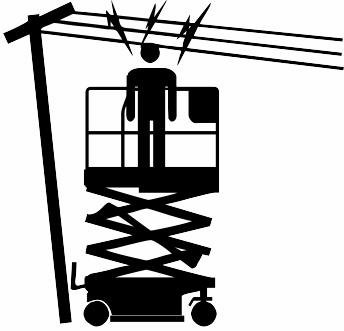
Follow the here below instructions:

Precautions for the travelling with the lifted platform



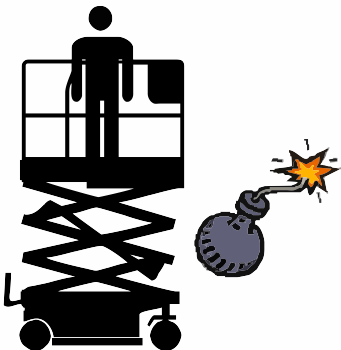
- Check the ground is firm and even.
- Do not use the machine on slippery, icy, muddy ground and with holes, which has a slope higher than the allowed limit.
- Check that the ground where the machine has to operate is free from holes, bumps, drops, uneven level, obstructions, debris, obstacles and coverings which could hide possible potholes or others dangers.
- Comply with the maximum load and the allowable number of persons.
- Distribute the loads and place them if possible in the middle of the platform.
- Make sure the ground resists to the force and load of tyres.
- Avoid the machine knocks against fixed or mobile obstacles.
- Do not use the machine with materials suspended to the handrails or to the scissors lift.
- Give the best attention during movements with mobile travelling platform.
- During movements, lifting and lowering of the platform, check that there are not obstructions around, over and under the machine.
- Carry out the movements only if the working area visibility is complete.
- Do not work with wind having a speed higher than 12,5 m/s.
- Do not equip the machine with elements (ex. panels) which increase the wind exposure.

Electric hazards



- To assure the earth-leakage of the electrostatic charges, the back partition of the machine is equipped with a conductive strip.
Always check the wear of this strip and there is the earth contact.
- As the machine is not electrically insulated, the operator has to pay a particular attention to avoid any contact with probably energized parts.
- As already mentioned in the section “Not allowable operations”, do not carry out works near high-voltage transmission lines at a distance lower than 5 meters.
- Do not work in case of strong storm, with or without rain.

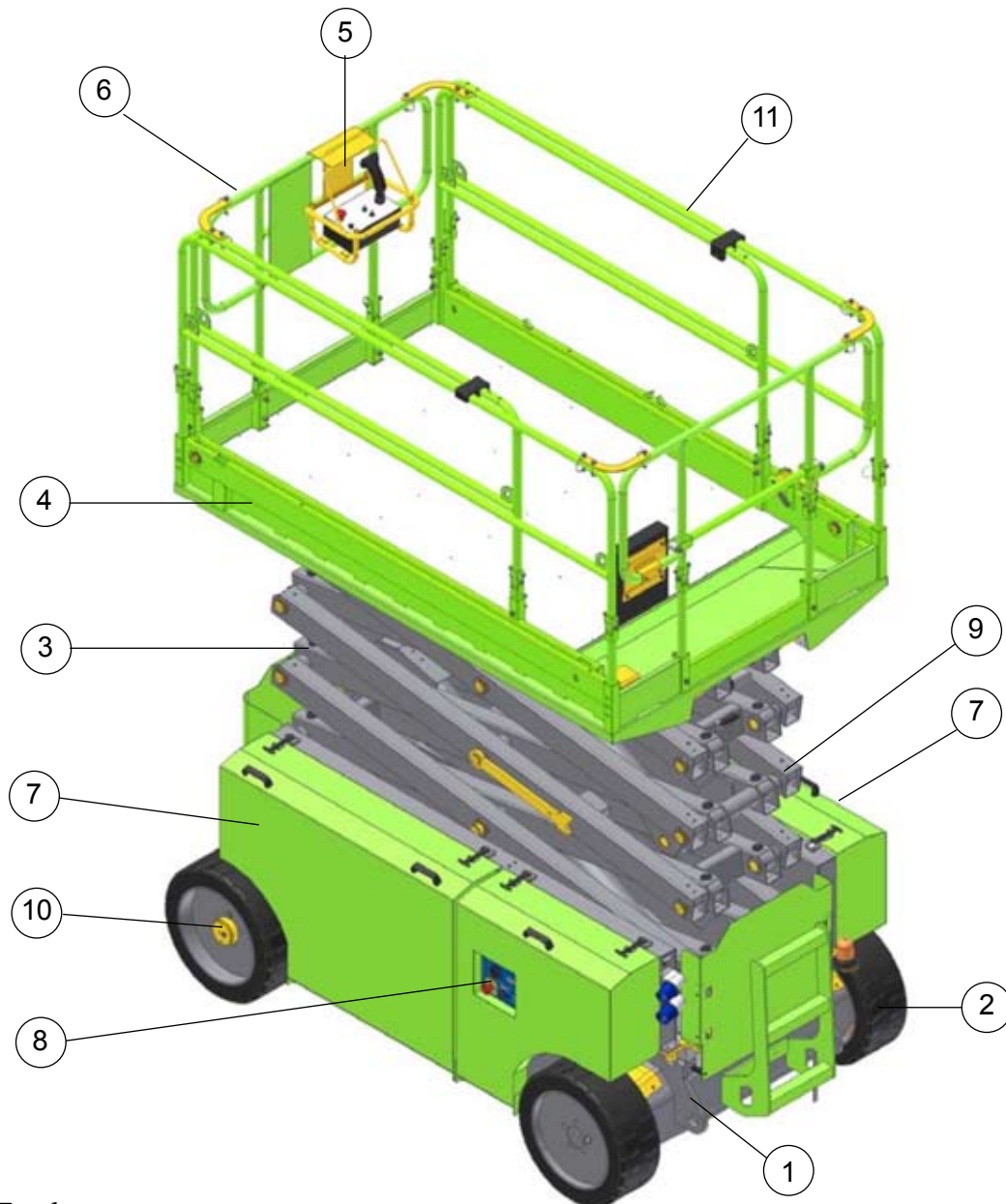
Explosion or burn hazards



- Do not use the machine near open flames or heat sources.
- Charge batteries in ventilated environment, far from heat sources or explosive fluids.
- Do not use the machine if there are oil leakage.

Description of the machine

Main components





- 1 - Truck
- 2 - Drive wheels
- 3 - Lifting structure:
IT10151 5 scissors 2 lifting cylinders
IT12151 6 scissors 2 lifting cylinders
- 4 - Fixed platform
- 5- Control box
- 6- Platform extension

- 7 - Batteries
- 8 - Ground control panel
- 9 -Electrical pumps
- 10 - Idler wheels
- 11 - Railings

Identification

A metallic plate fixed to the truck contains all data necessary to identify the machine

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MODELLO	IT10151	MASSA	kg	3900	
MATRICOLA		BATTERIA	V/Ah	48/320 C5	
ANNO DI COSTRUZIONE		PRESSIONE MAX	bar	270	
POTENZA	kw			7	
A00031IT					

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MODELLO	IT12151	MASSA	kg	4400	
MATRICOLA		BATTERIA	V/Ah	48/320 C5	
ANNO DI COSTRUZIONE		PRESSIONE MAX	bar	270	
POTENZA	kw			7	
A00031IT					

The data refer to the standard version.

Description

As already described in the previous pages, the movements that could be carried out are the following:

- Platform lowering and lifting;
- Backward and forward traction of the machine;
- Steering;
- Manually-operated longitudinal travelling of the mobile platform.

The movements are hydraulically-operated.

To lift and lower the platform two hydraulically-operated cylinders work on the scissors supporting the platform surrounded by overturning railings and protections.

Lifting operation is controlled by proportional control device and operated by an electrical pump which supplies energy to the lifting cylinders.

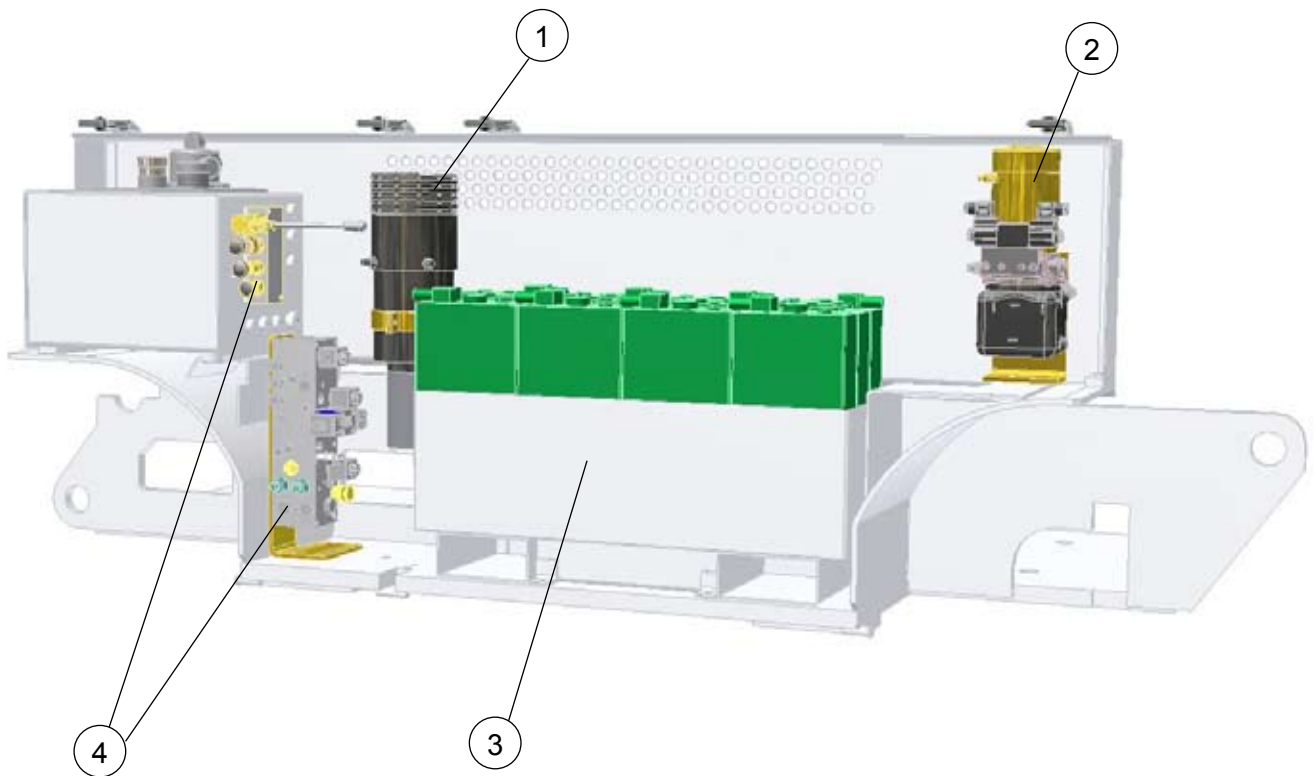
Two hydraulic motors work on the back wheels for the machine traction. The traction is operated by proportional control.

The steering has operated by an electrical pump which supplies energy to an hydraulic cylinder.

The machine energy has supplied by electric batteries which feed the the electrical pumps.

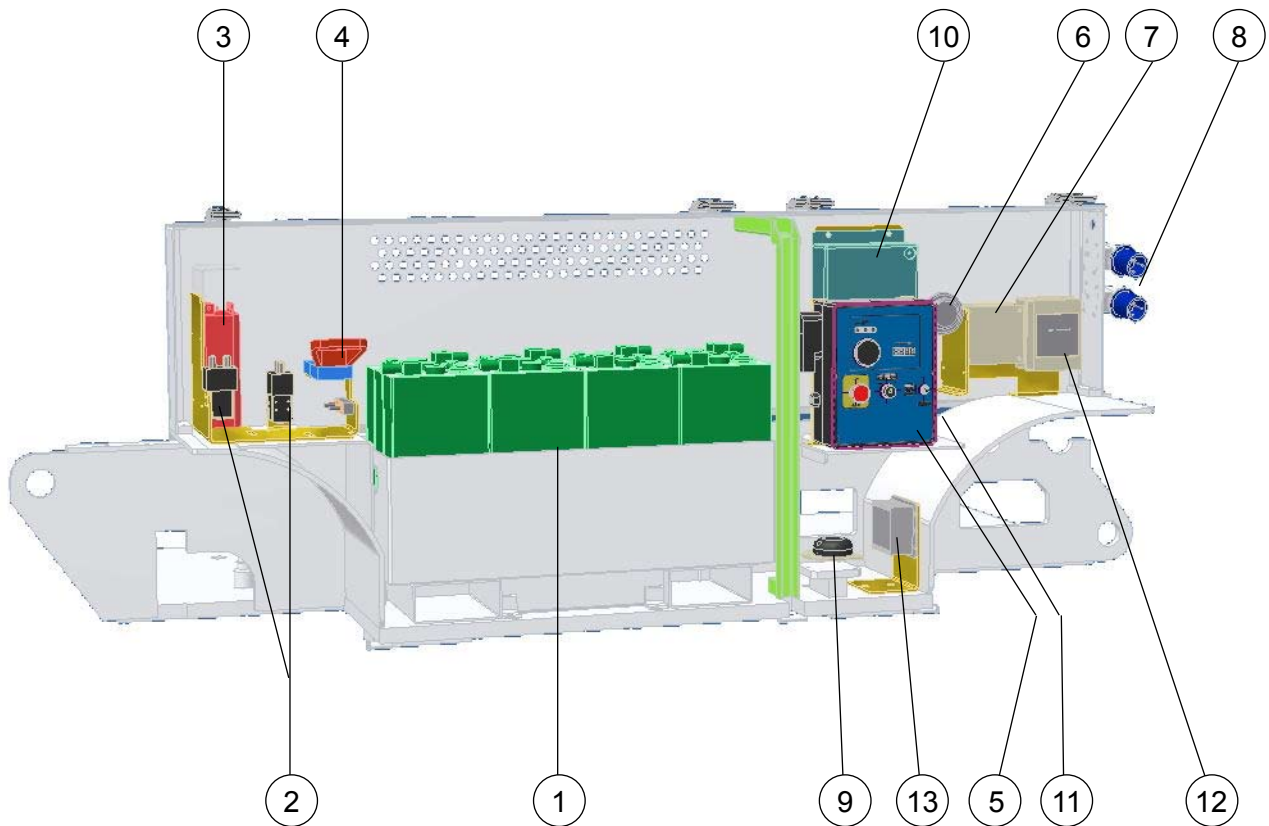
The control and power instruments are installed in the two boxes.

Right box



- 1** Main electrical pump (lifting and traction)
- 2** Steering electrical pump
- 3** Batteries
- 4** Hydraulic emergency block

Left box



- 1** Batteries
- 2** Remote-control switches
- 3** Mosfet main electrical pump
- 4** Battery cut-out
- 5** Ground control panel
- 6** Horn
- 7** Load control system
- 8** Battery charger plugs and 220 line
- 9** Inclinometer
- 10** Battery charger
- 11** Fuses
- 12** Kit 220 V
- 13** DC/DC converter

Standard equipment

The machine has equipped with the following:

- Back hydraulic drive with proportional controls
- Parking brakes with hydraulic disengagement.
- Manually-operated platform extension m. 1,40
- Horn
- Manual emergency lowering device
- Cylinder holding valve
- Audible motion alarms
- Inclination sensor with motion locking device
- Mechanical wheel drive release for emergency towing
- Battery cut-out plug
- Non-marking tyres 559x203x406
- Electrically and mechanically-operated antishearing protection
- Battery control system with low-voltage cut-out protection
- Hour-meter
- Overload sensor
- Overturning railings
- EC marking
- 220V cable with plug, outlet and cut-out box
- Rotating beacons
- 48V - 320Ah traction battery

Optional

- 110V cable with plug, outlet and cut-out box
- Battery charger kit 110 V
- Black wheel kit

Technical features

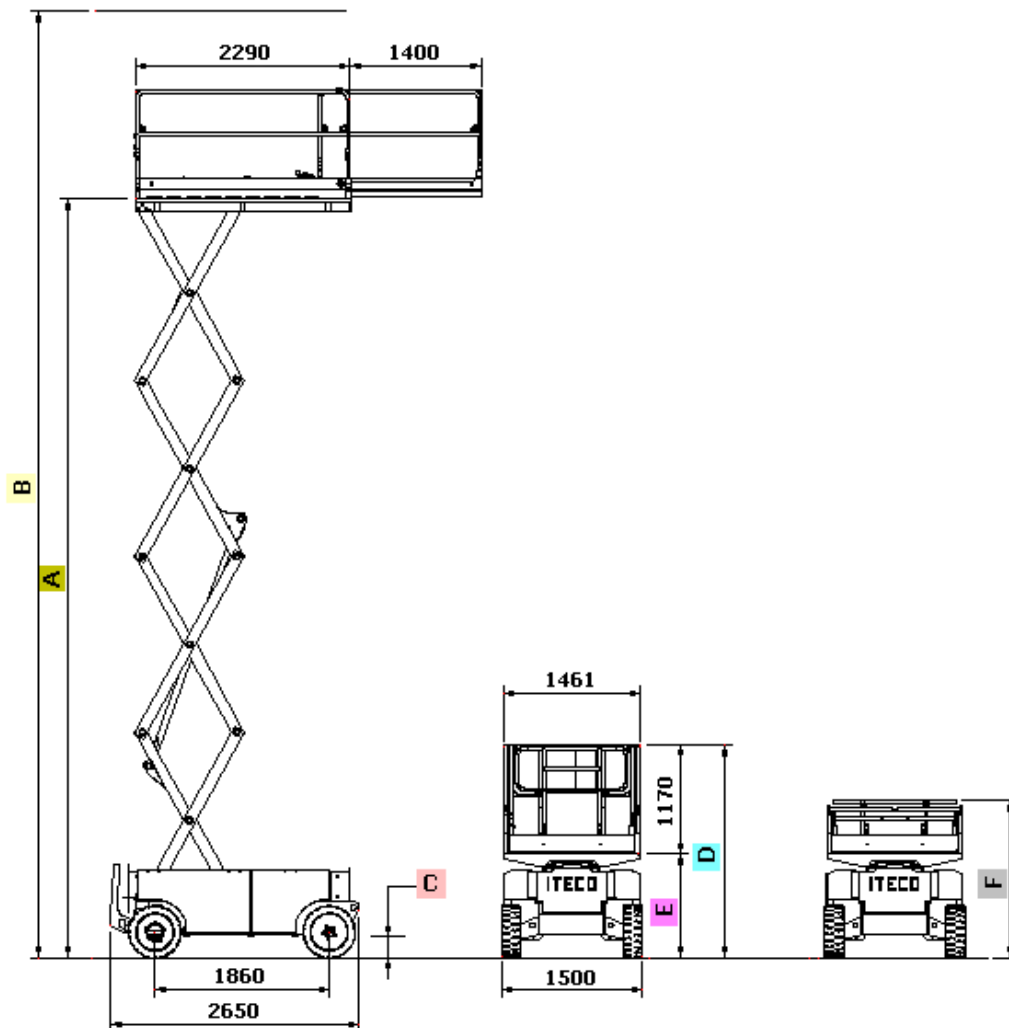
DESCRIPTION	UNIT OF MEASURE	IT10151	IT12151
		Number of scissors	/
Maximum capacity (2 persons included)	kg	350	300
Lifting time (loadless)	s	48	50
Lowering time (with load)	s	50	50
Lifting hydraulic control unit	V/kW	48 / 5.0	
Steering hydraulic control unit	V/kW	48 / 2.0	
Traction battery	V/Ah	48/320 C5	
Battery weight	kg	2 x 236	
Battery charger	V/A	48 / 45	
Maximum hydraulic pressure	bar	270	270
Oil tank capacity	l	40	
Travelling speed	km/h	4,5	4,5
Safety travelling speed	km/h	0,6	0,6
Maximum slope	%	25	25
Maximum side force admitted	N	400	400
Steering inner radius	m	2.1	
Steering outer radius	m	4.1	
Tyre dimensions	mm	559 x 203 x 406	
Tyre type	cushion	22 x 8 x 16	
Load on front tyres	daN	2050	2250
Load on rear tyres	daN	2150	2450
Maximum side/longitudinal inclination	degrees	2/3	2/3
Total weight	kg	3900	4400
Equivalent continuous weighted sound pressure level from operator position	dB (A)	< 70 dB (A)	< 70 dB (A)

Vibrations

As regards vibrations, according to the measurements carried out in the most unfavourable conditions of use, it has been established that:

- the root-mean-square value weighted in the frequency of the upper components acceleration is lower than 2,5 m/sec²;
- the root-mean-square value weighted in the frequency of the body acceleration is lower than 0,5 m/sec².

Overall dimensions



	A	B	C	D	E	F
IT 10151	9900	11900	225	2410	1240	1810
IT 12151	11800	13800	50	2540	1370	1940

Rating plates and adhesive labels

An annexe enclosed herewith describes the position and codes of rating plates and adhesive labels to be positioned to the machine.

Operating principles

The proportional control machine has controlled by an electronic system which accordingly with joystick movements on the platform control panel, it supplies more or less energy to the main electrical pump.

Here below the main features of the hydraulic, electric and electronic circuits are described.

Hydraulic circuit

Two electrical pumps supply the hydro power required for the machine actions:

- main electrical pump for lifting and traction action (proportional-controlled)
- secondary electrical pump for steering movement (On/Off-controlled)

Two hydraulically-operated cylinders carry out lifting and lowering. In case of failure in the electrical pump, a manually operated action will allow the scissors lowering.

Two hydraulic motors installed to the back wheels assure the traction action.

Steering is controlled by a hydraulically-operated cylinder.

All movements are operated by solenoid valves. Except for steering, the movement graduality is obtained by the electronic control on the rotation speed of the electrical pump motor.

Electric circuit

48V batteries supply the energy required for the machine operation; a battery charger allows their recharge.

To power the electronic circuit, a DC/DC converter transforms the battery voltage from 48V to 24V.

Pressing the red emergency stop push button in the ground control panel and in the platform control box, any function of the machine is disconnected, except for safety indicators (pilot lights and audible alarm).

Only by turning the key of the ground control panel in the OFF position, machine functions are completely disconnected.

Electronic circuit

The electronic equipment of the machine has composed of two cards with microprocessors placed in the ground control panel and in the platform control box and are connected by the Can-bus messaging protocol.

The electronic system surveys some failures through a self-diagnosis. The display placed on the ground control panel displays the error codes.

The battery discharging level has electronically-operated.

Safety systems

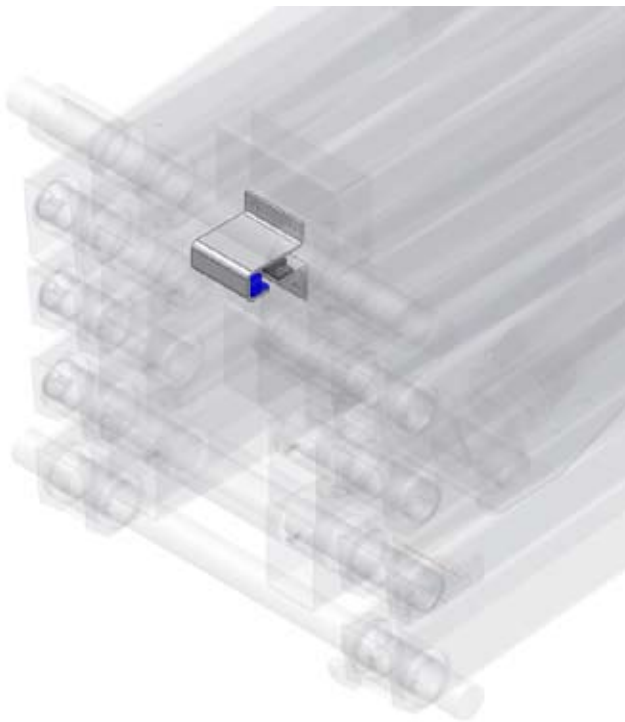
Microswitches

Some microswitches are positioned on the machine with safety functions.

SQ1 Microswitch

The SQ1 microswitch has enabled through the platform lifting movement:

- Enables the flatness indicator which locks the machine movements if this last exceeds the maximum slope, except for the lowering operation.
- Inserts the drive reduced speed.



SQ1 is formed of a proximity sensor system and it is composed of:

- One rectangular magnetic unit
- One rectangular sensor with contacts

Not enabled SQ1 condition

With rest platform the sensor and the magnetic unit are opposite.

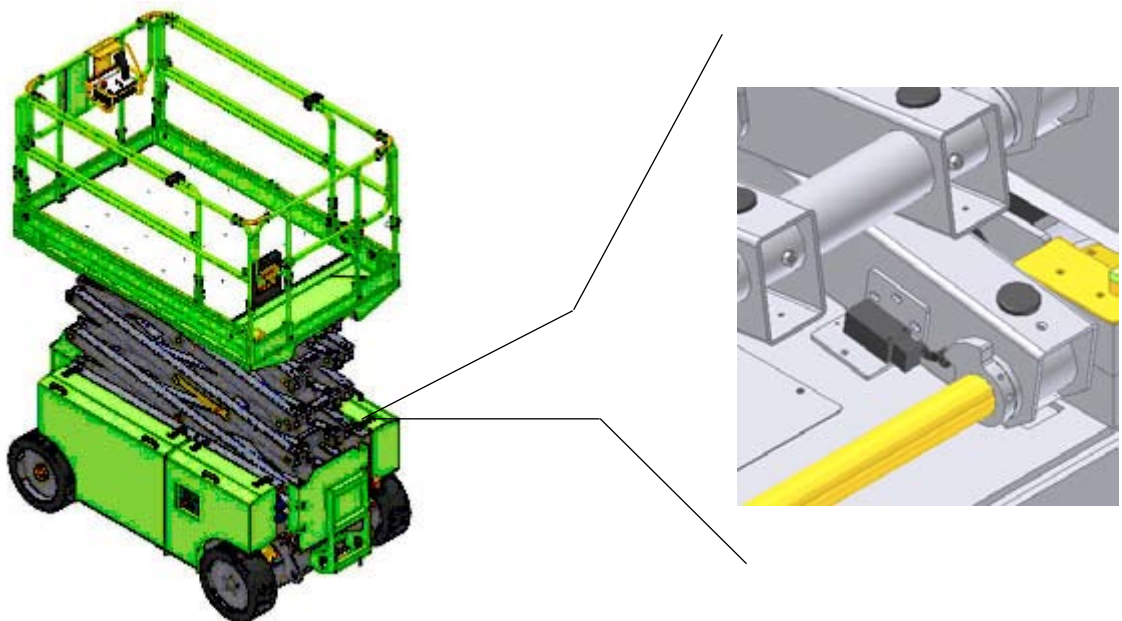
Enabled SQ1 condition

With lifted platform when the sensor and the magnetic unit are separated for more than 3 centimetres.

SQ3 Microswitch

The SQ3 microswitch placed in the right back part of the truck, has enabled by the platform lifting.

- It stops the lifting movement to the maximum height before the cylinder mechanical limit switch.



Anti-shearing device

An electronic control unit stops the lowering for 5-6 seconds, when the distance between the arm and frame ends is 60 mm approx. (anti-shearing safety).

When the lowering is locked, it is necessary:

- bring the joystick in standstill position,
- wait for 5-6 seconds checking that the persons being side the platform do not risk to be trapped or crushed between scissors,
- give again the lowering command.

Battery connection plug

The battery connection plug has placed in the back left box.

This safety device disconnects the power and control circuits from batteries and the battery charger solely remains connected.



Make sure the batteries are disconnected before carrying out the electric equipment maintenance.

Emergency stop push button

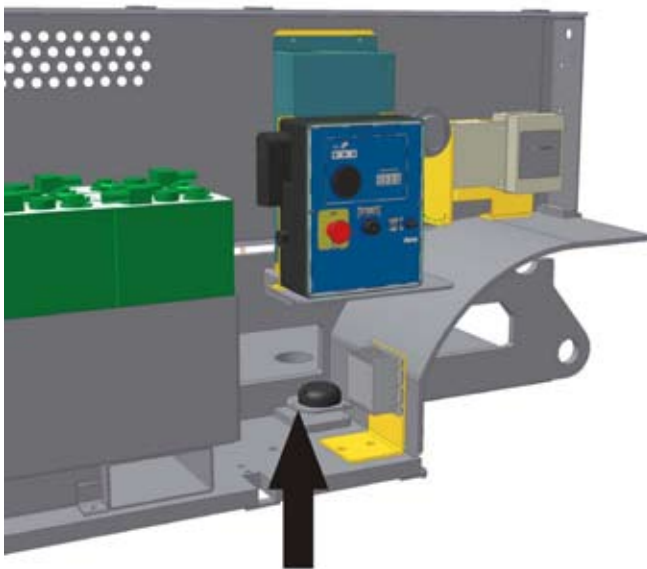
The red emergency stop push button has placed both on the ground control panel and in the platform control panel.

Pressing the push button both from the ground control panel and from the platform control panel, any movement and command of the machine are disconnected, except for safety indicators (pilot lights and audible alarm). To restore the normal functions pull the push-button upwards

Only by turning the key of the ground control panel in the OFF position, the machine is turn off and its safety functions are disconnected.

Flatness indicator

The microprocessor flatness indicator is a digital device, placed in the back left box, able to control the maximum slope at which the machine can work.



Should it is exceeds the allowable maximum slope, could cause:

- Under the SQ1 operating height, the inclination warning light on the platform control panel blinks. If you want to reach a level above SQ1, restore machine conditions in which warning light is off.
- All machine movements stop when SQ1 operating height is exceeded, apart from platform lowering which is signalled by the switching on of the inclination and danger warning light on platform control panel (See platform control panel - position 16 and 15 and "Emergencies" section) as well as by a sound alarm. For enabling movements again, the platform must be completely lowered and the machine must

be put to a stable condition again.



The flatness indicator must not be modified for any reason

Load limiting device

The load limiting device consists of:

- An electronic control unit positioned in the left box
- An angular sensor (positioned under the platform)
- Two analogue pressure sensors (positioned on lifting cylinder chamber directly)

Overloads, if any, are checked by the above-mentioned device both with the machine at a standstill position and during platform lifting. An overload pilot light is on both in the ground control panel and in the platform control panel, and an audible alarm has activated in the presence of a load between the nominal one and a value up to 120% of the latter: all machine movements are stopped.

To enable the movements again, it is necessary to remove the overload.

Safety belt anchorage points

The machine is equipped with suitable anchorage points for the safety belts.



Use of the machine

Before carry out any operation it is necessary read and well-understand this handbook along with the instructions described on plates and adhesive labels.

Checking before use

Before setting at work the machine and carrying out any operation, the machine itself has to be subjected to a visual and operating check described here below.

During the setting at work it is also necessary carry out the safety device checking.

Visual checking

Make sure that the following failures are NOT occurred:

- Oil leakage from pipes and others hydraulic components.
- Cut or disconnected electric wires.
- Missing or unloosed nut in the wheels.
- Worn or cuts in the wheels.
- Damages, deformations, loosen or missing screws and bolts, cracked welding on chassis, wheel supports, steering systems, lifting systems, platforms and railings.

Check

- the soil where the platform should operate is solid and able to support the maximum load per each wheel.
- the operating handbook is on board and plates and adhesive labels well visible
- the ladder, handrail and the platform are free from grease and oil traces.
- the working area is free, without holes and uneven grounds.

Operating check

Once the visual inspection has been finished it is also necessary to carry out an operating check.

- Check the hydraulic oil level.
- Check the electrolyte level in the batteries.
- Check that all the foreseen plates and adhesive labels have been suitably positioned and are legible.

From ground

- Make sure the batteries are well charged.
- Press STOP push button and check that no operation could be enabled both from ground and from platform. Restore the push button in ON position.
- Lift and lower the platform more times and check that no obstacle could occur during these operations.
- Make sure the lowering horn and the electric anti-shearing device well work during the platform lowering.
- Carry out operations described in the “Emergency lowering” section and check that everything works well.

From platform

- Press STOP push button and check that no operation could be enabled both from ground and from platform. Restore the push button in ON position.
- Lift and lower the platform more times and check that no obstacle could occur during these operations.
- Make sure the lowering horn and the electric anti-shearing device well work during the platform lowering.
- Drive forward and back and check the operation is correct and audible alarm well works.
- Check that during traction only steering movement is enabled.
- Right and left steer and check the operation is correct.

- Press horn and check if it works correctly..
- During traction release the joystick to check the brakes work correctly: the machine should stop in a narrow space.
- Lift the platform above the working height of SQ1 and try the traction forward and back, making sure the drive speed is made under safety conditions.

Controls and Action

This section shows the control panels and operations that can be carried out from ground and from platform.

Note

As previously explained in the "Safety systems" section, the machine is provided with safety devices in order to avoid injuries when using the machine beyond its power.

The safety devices stop the machine or neutralize its movements; the limited knowledge of the machine features and operation could suppose the Operator that there is a defect, while it means that the safety devices work correctly.

Hereafter we sum up the conditions under which the safety devices stop the movements of the machine.

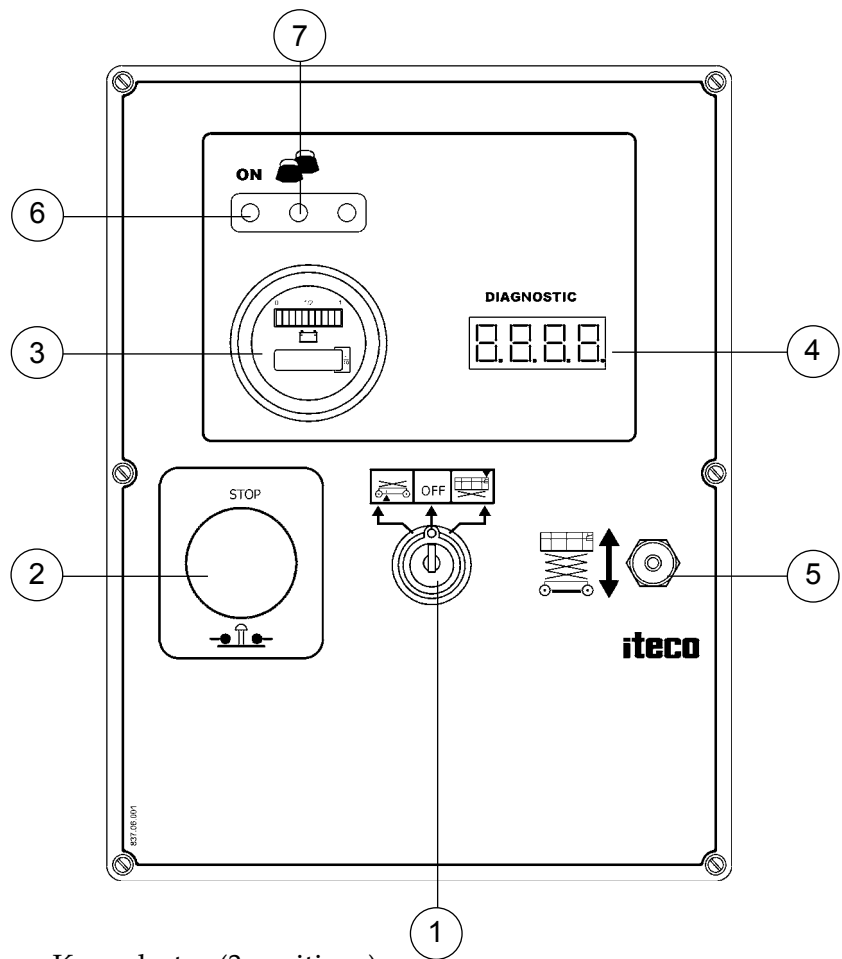
- | | |
|--------------------------|--|
| Traction | <ul style="list-style-type: none">• The safety speed is automatically activated, when the platform exceeds the working height of micro SQ1.• it is locked if the load exceeds the established limits.• It is locked above the working height of micro SQ1 if the maximum slope is exceeded. |
| Steering | <ul style="list-style-type: none">• It is locked if load exceeds the established limits.• It is locked above the working height of micro SQ1 if the maximum slope is exceeded. |
| Platform lifting | <ul style="list-style-type: none">• It is stopped if the load exceeds the established limits.• It is stopped above the working height of micro SQ1 if the maximum slope is exceeded. |
| Platform lowering | <ul style="list-style-type: none">• It is locked if the load exceeds the established limits.• It is locked for 5-6 sec. when the distance between arm and frame ends is 60 mm. approx. (anti-shearing safety device) |

Control panels

The aerial lifting platform is equipped with 2 control panels: ground control panel and platform control panel.

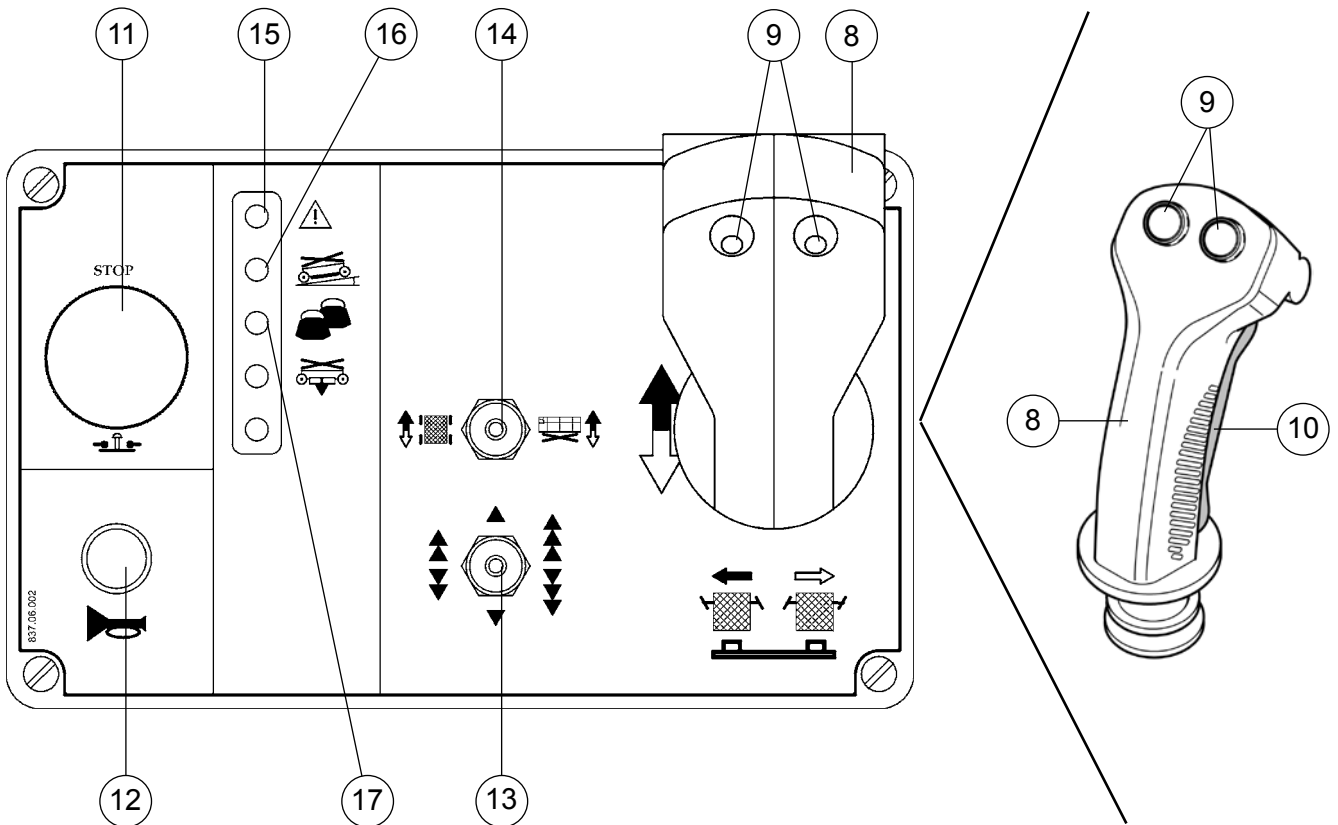
All movements are controlled by platform control panel; ground control panel is an emergency control position.

Ground control panel



- 1 Key selector (3 positions)
- 2 Red emergency stop push button
- 3 Hour counter and battery check display
- 4 Diagnostic display
- 5 Platform lifting/lowering selector
- 6 Pilot light machine ON
- 7 Pilot light Platform control panel

Platform control panel



- 8** Traction and lifting control joystick
- 9** Steering control switches
- 10** Push button man-present
- 11** Red emergency stop push button
- 12** Horn push button
- 13** Traction speed selector
- 14** Traction or lifting function selector
- 15** General diagnostic pilot light
- 16** Machine unstable pilot light
- 17** Overload pilot light

Operations from ground

Controls enabling the operator to switch the machine on and operates with the ground control panel are the following:

- Starting and enabling ground controls
- Platform lifting/lowering
- Starting and enabling platform controls
- Emergency stop

Other functions hereinafter described are:

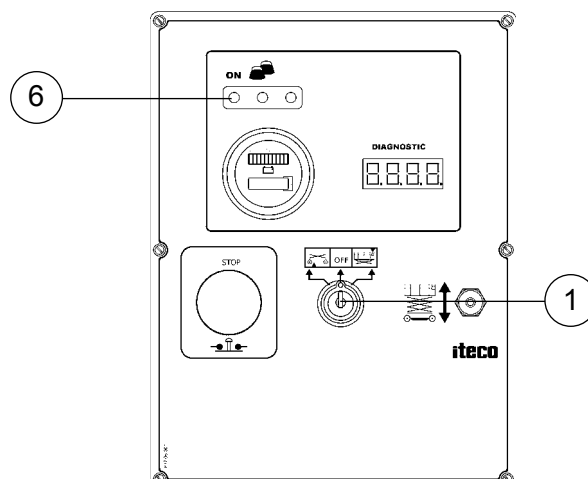
- Overload pilot light
- Battery charge indicator
- Hour counter
- Diagnostic display



Make sure that STOP push button on ground or platform control panel is not pressed.

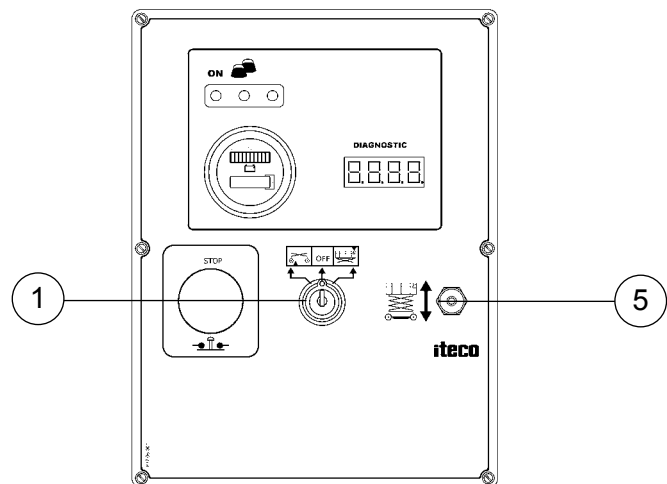
Starting and enabling ground controls

- Each time the machine is started up, the signal lights and audible alarms are switched on to verify their correct running (pilot lights and buzzer). Before using the machine, wait they are switched off.
- Insert key in selector 1 and turn **left**, keeping this position, in order to put **ground controls** into operation (in this position it is not possible to extract the key); the pilot light 6 go on. If the key has released, it returns automatically in the middle position (OFF), and the machine are stopped.



Platform lifting/lowering

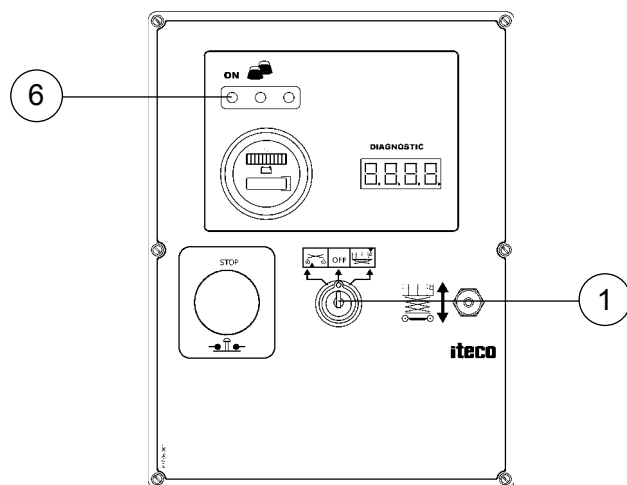
- Turn left the key in selector 1 by maintaining the position and move selector 5 **upwards** in order to lift platform or **downwards** to lower platform.



Before lifting or lowering the platform make sure that no obstacles are present on or under it.

Starting and enabling platform controls

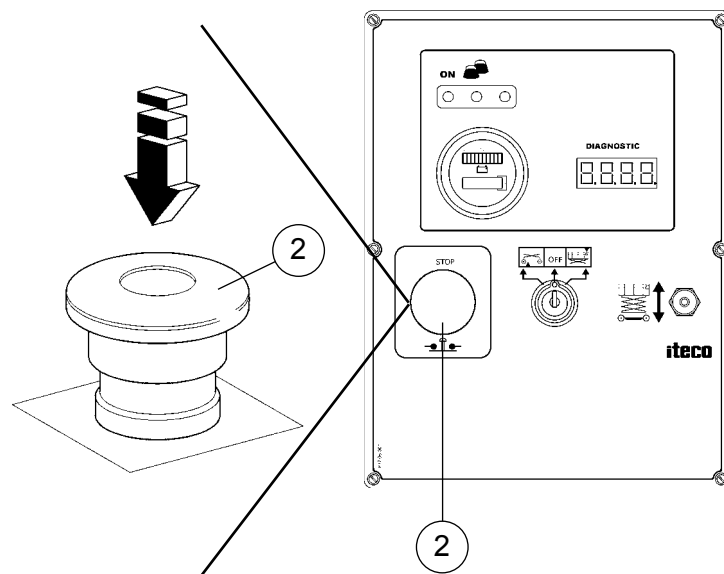
- Insert key in selector 1 and turn **right**, in order to put **platform controls** into operation ; the pilot light 6 go on. The key remains in fixed position and it is possible to extract it.



Emergency stop device

- Press push button 2.

In this way all movements and commands of the machine are interrupted both from ground and from platform, except for safety indicators (pilot lights and audible alarm).



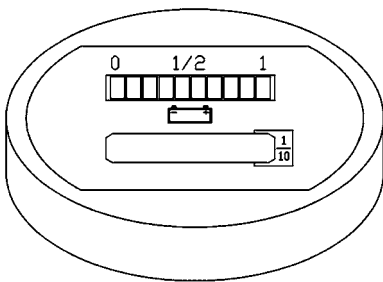
In order to restore normal functions, pull push button 2 upwards.

Overload pilot lighth

See "Emergencies" section.

Battery charge indicator - Hour counter

The device provided in the ground control panel shows the battery charge state and the working hours.



The battery charge state can be read in the upper part of the device.

The discharge is showed by means of luminous bars: 2 reds, 3 oranges, 5 greens.

When the battery is correctly charged, the green bar in the right extremity turn on.

During the discharge phase, the bars turn on in sequence from right to left, one after another.

When battery is discharged for 70%, the first red bar blinks.

When battery reaches a discharge of 80%, the two red bars blink alternately; in this condition the platform lifting is blocked.

For the battery recharge see section "Battery recharge".

The bottom part of the display shows the working hours (machine actuated).

When battery is connected, the total stored hours are displayed.

When hourglass blinks, the counter is counting the working hours.

Diagnostic

In case of problems or malfunctions the display reports an error code used by the After-sale Service for troubleshooting.

Operations from platform

From the platform operating place the operator can carry out following principle functions:

- Traction
- Steering
- Platform lifting/lowering
- Emergency stop
- Platform extension
- Railing overturning

Pilot lights are described in the “Emergencies” section.

In order to work with controls on platform it is necessary to turn right the key in the selector of ground control panel.



Make sure that the load respects the limits and is well distributed

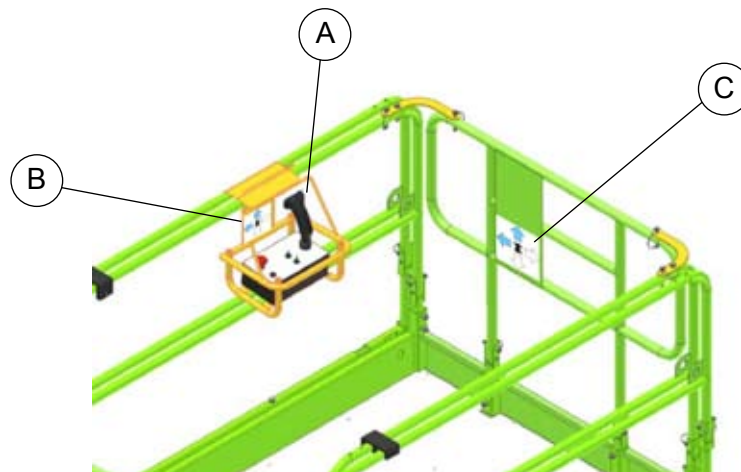
Make sure the protection bar for the access to platform is perfectly closed

Make sure that the emergency stop red push button on ground or platform control panel is not pressed.

Always check the state of pilot lights ; in case they go on, please, read section “Emergencies”

All movements from platform described in the following pages depend on the correct position of the control box (refer to “Main components”). A plate placed on the front railing signals the correct position of control box.

If the control box is moved (A), use the coloured direction indicators on control box support (B) and on the front side of the platform (C) in order to control the movement direction of the machine.



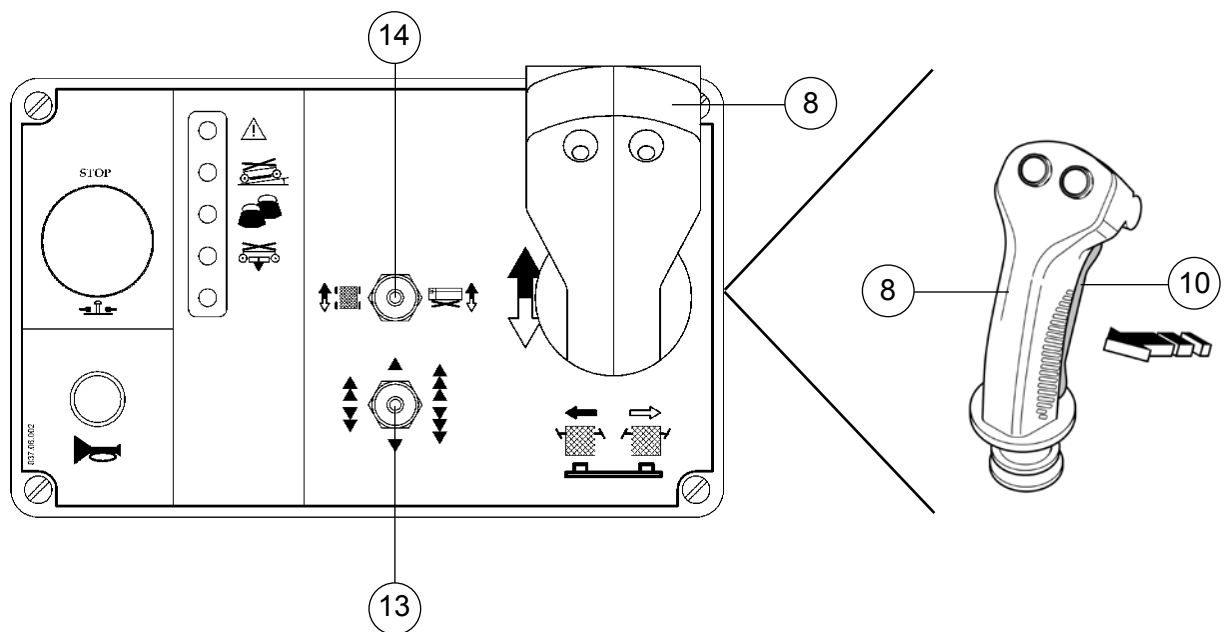
Traction



During movement, do not move selector 14 from traction to lifting position and vice versa. In this case the machine stops. Release the joystick 8 and give the command again to restore the movement.

- With machine **in stop position**, move selector **14** left to select the traction movement.
- Move selector **13** on the desired speed:
 - Fast:** selector to the **right**
 - Medium:** selector to the **left**
 - Slow:** selector in the **middle**
- Hold joystick **8**.
- Press push button **10** "Man present" and keep it pressed.
- Bring the joystick forward or backward depending on the desired running direction and keep it in that position during the whole movement. It is also possible move as first think the joystick 8 and after press pushbutton 10 to begin the manoeuvring.

The move speed is adjusted according to the inclination given to joystick 8 and to the position of the speed selection push button 13.



The traction is signalled by an audible alarm.



Before moving the machine, make sure that the way is free from obstacles, holes, bumps, unevennesses, obstructions or debris and that no coverings are there, which can hide holes or other dangers.

Always check the state of emergency pilot lights; in case they go on, please, read section "Emergencies"

Do not move the machine, when the platform has extended, without having checked that there are not any obstacles even in area where there is a poor visibility.

While performing traction with lifted platform over the working height of micro SQ1 the safety speed is automatically started.

Traction stopping

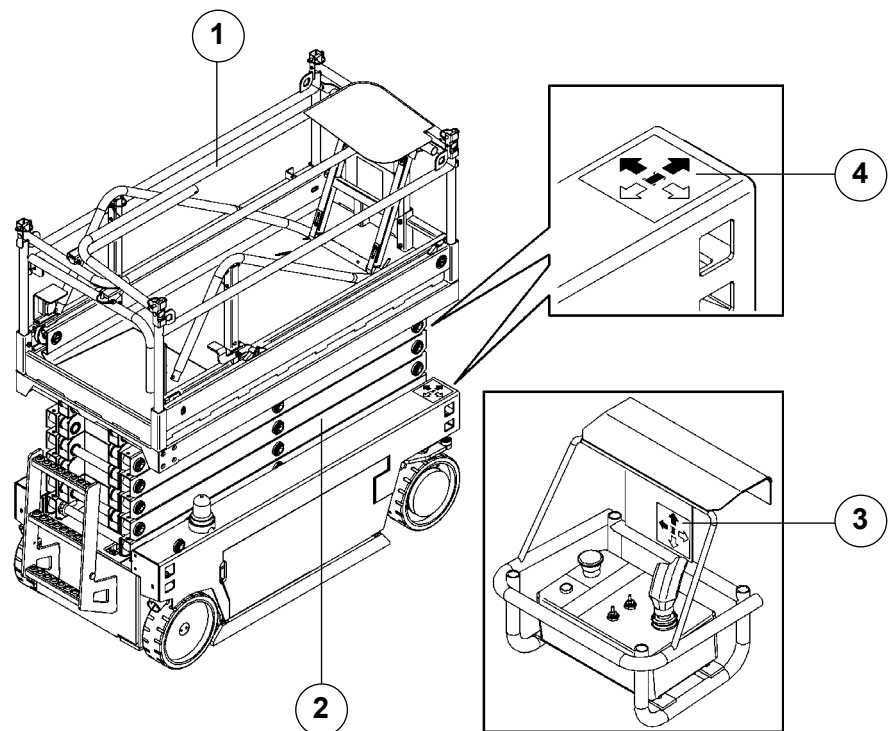
Slow: bring gradually joystick 8 back into the starting position, keeping pressed the push button 10 "Man present". The braking electronic control device guarantees a soft stopping.

Fast: release switch 10 "Man present". The braking electronic control device assures a quick stopping.

Ground-controlled traction

In order to pass through reduced heights, or for loading and unloading from vehicles having limited dimensions, it is possible control the machine from ground using the platform control board (push-button panel on board) only after having carefully checked that:

- the railings are overturned (1);
- the operator remains at a minimum distance of 1 m from the machine;
- the selected speed is the slower one;
- the machine is entirely lowered (closed) (2);
- make use of the direction arrows being on the control box support (3) and on the upper side frames (4), in order to locate in one way the direction of steering and drive.

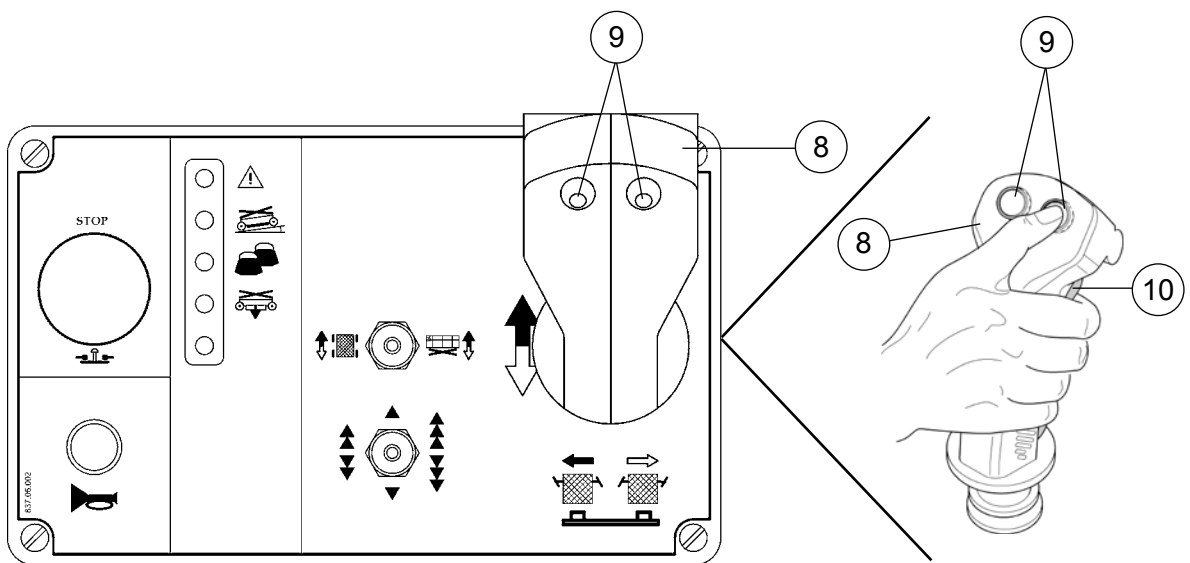


Steering

- During traction press switches 9 of joystick 8 to the right or left in order to steer in the desired direction.

In order to turn the wheels when the machine is stationary, bring joystick 8 into the central position and use switches 9 as described before.

The “man present” push button 10 should be always pressed.



Before moving the machine, make sure that the way is free from holes, bumps, unevennesses, obstructions, debris, or obstacle and that no coverings are there, which can hide holes or other dangers.



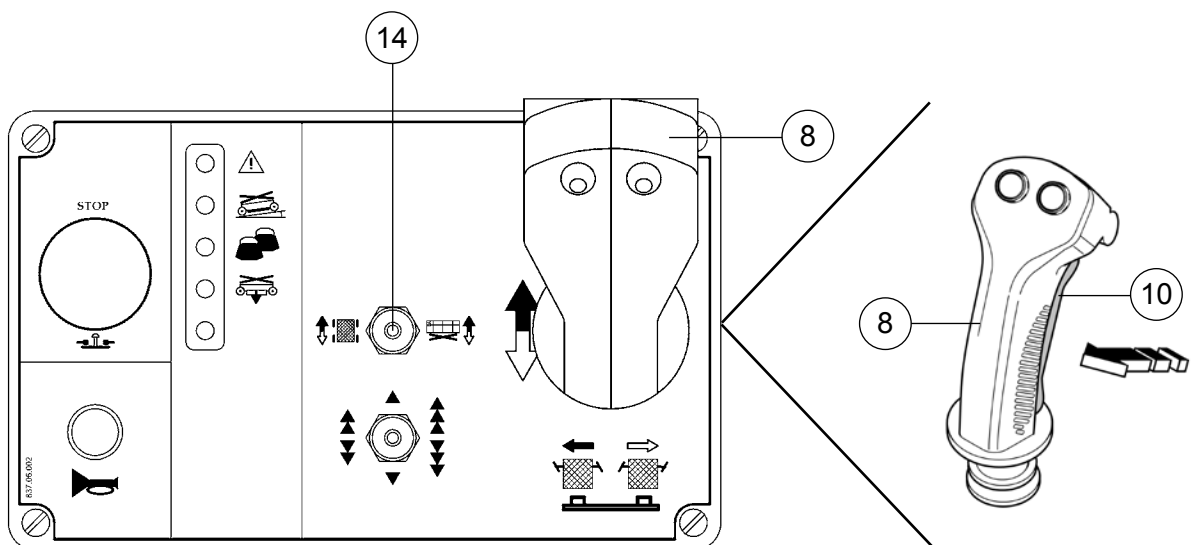
Always check the state of emergency pilot lights; in case they go on, please, read section “Emergencies”

Platform lifting/lowering



During movement, do not move selector 14 from traction to lifting position and vice versa. In this case the machine stops. Release the joystick 8 and give the command again to restore the movement.

- With machine **in stop position**, move selector 14 right.
- Hold joystick 8.
- Press push button 10 "man present" and keep it pressed.
- Bring the joystick forward to lift the platform or backward to lower it.



The lifting speed has adjusted accordingly with the inclination given by the joystick 8.



Before lifting or lowering platform make sure that no obstacles are present on or under it.



Always check the state of emergency pilot lights; in case they go on, please, read section "Emergencies"

Lifting stopping

Slow: bring gradually joystick 8 back into the starting position, keeping pressed the push button 10 "Man present". The electronic control device guarantees a soft stopping.

Fast: release switch 10 "Man present". The braking electronic control device assures a quick stopping.

Lowering stopping device

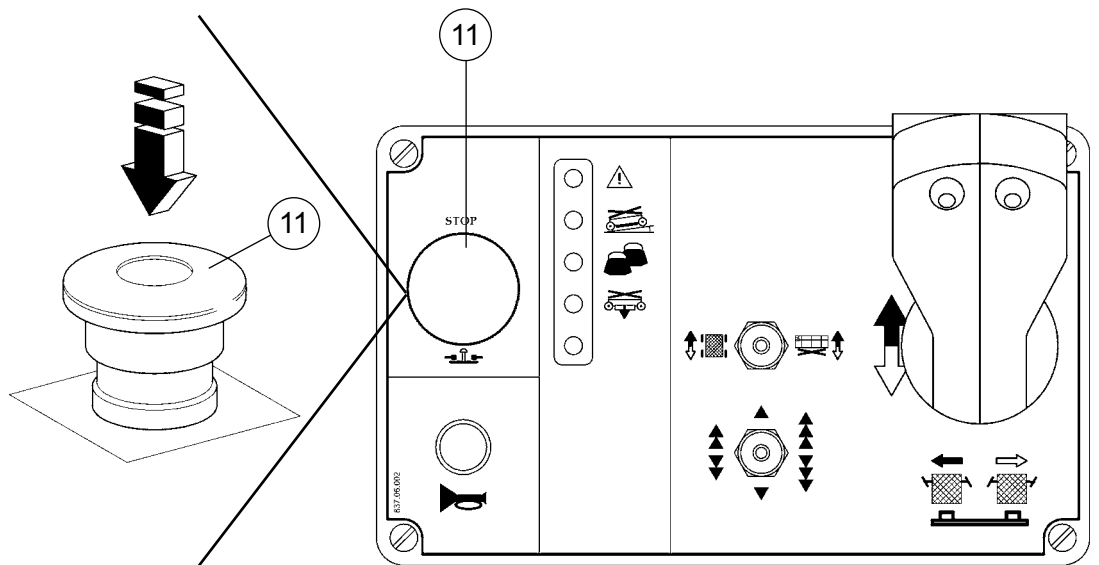
Bring joystick 8 back into the starting position or release the "Man present" push button 10: the stopping happens immediately.

Emergency stop

Press the red emergency stop push button 11:

- In any emergency situation.

By pressing the mushroom-shaped push button all movements and commands of the machine are interrupted both from ground and from platform, except for the safety indicators (pilot lights and audible alarm).



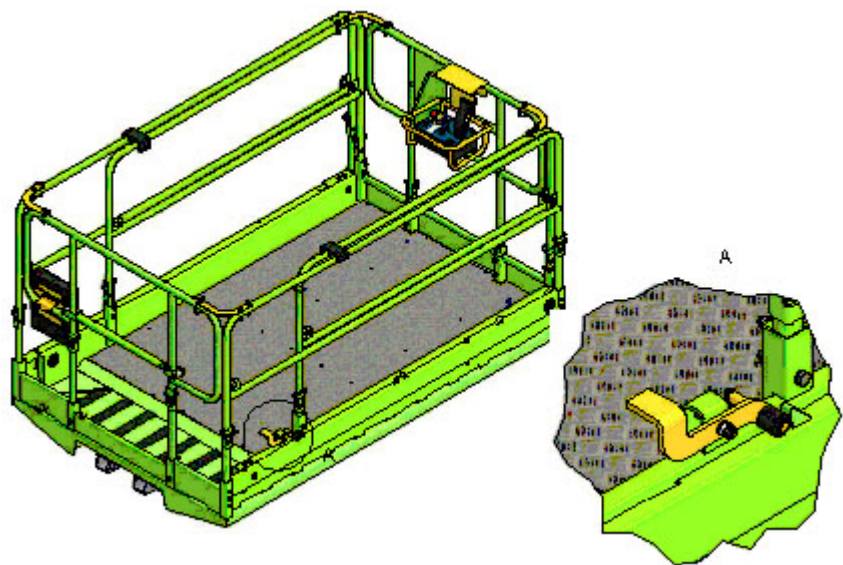
In order to restore the normal functions pull push button 11 upwards.

Platform extension

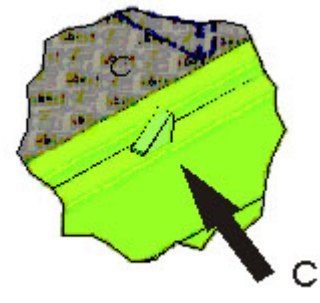
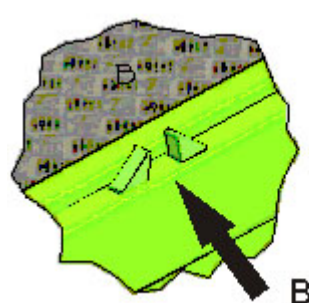
The platform has equipped with a manually-operated extension.

To extend the platform it is necessary:

- To be positioned on the fixed platform.
- Press with right foot on the pedal (part. A) placed on the platform and grip the mobile railing.



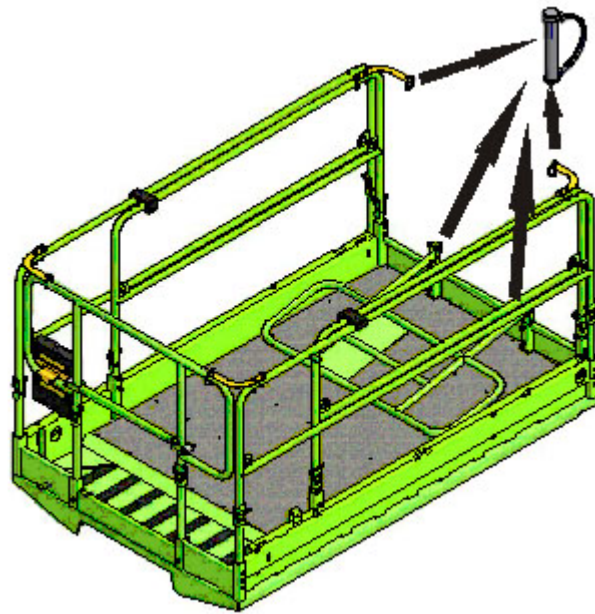
- Push the platform until the pedal pivot arrives above the lock (part. B-C).
- Release the pedal and make sure that the pin is blocked by the relevant lock.



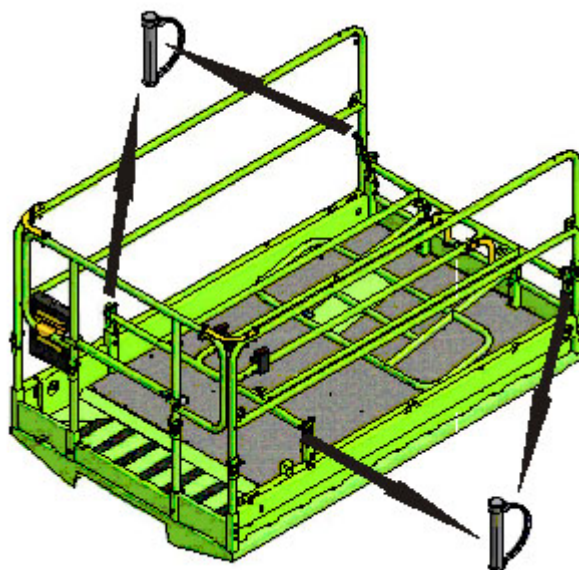
Railing overturning

Carry out the railing overturning with closed platform.

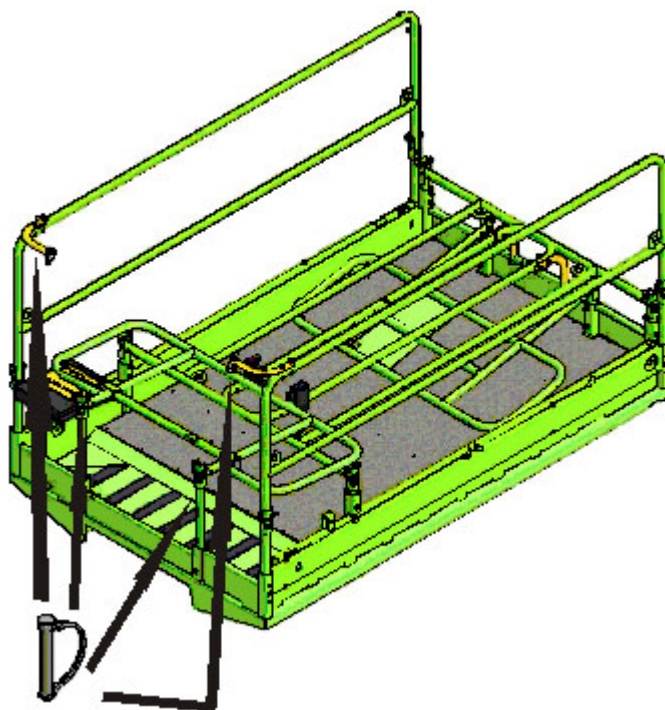
- Position the control box with relevant support on the platform.
- Extract the spring plungers of the front protection overturning it.



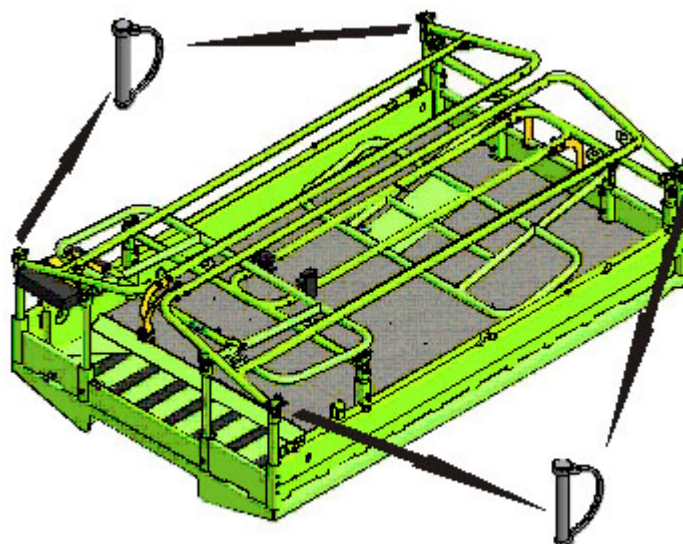
- Take the spring plungers of the inside side protections away overturning them.



- Take the spring plungers of the back protection away overturning it.



- Take the spring plungers of the outside side protections away overturning them.



Do not use the machine with overturned railings remaining on board of the machine.

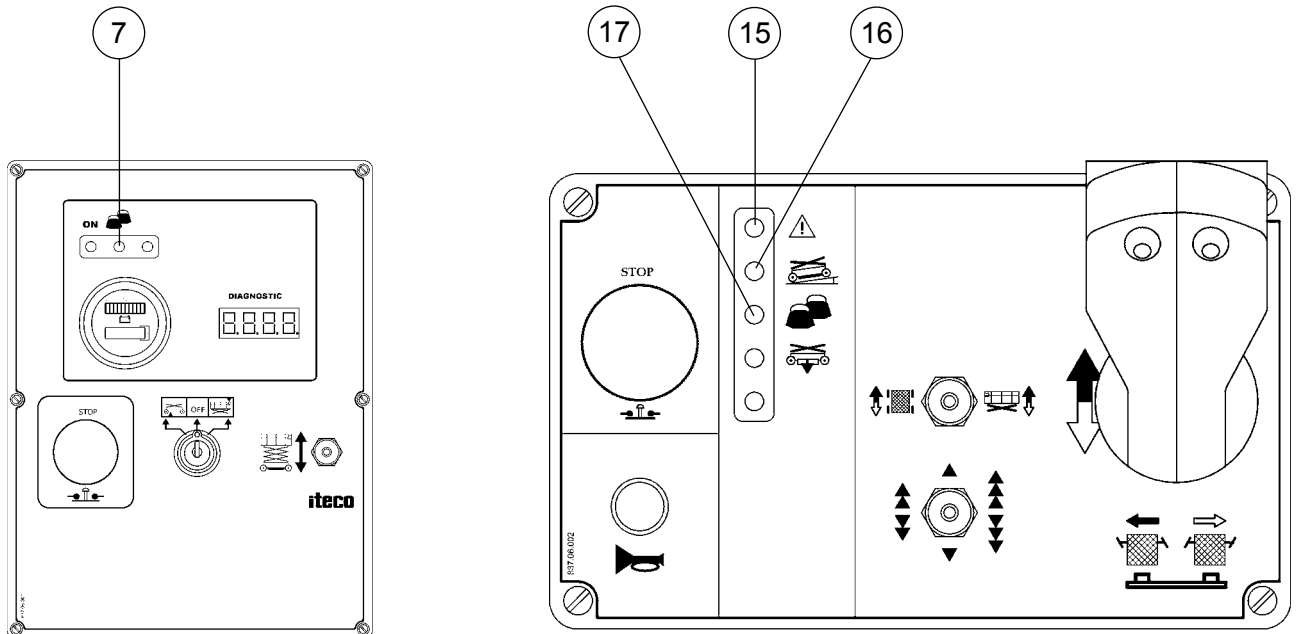
Machine stopping

It is required to stop the machine everytime it has left unattended to avoid any undesired use.

- Press STOP switch on platform control panel.
- On ground panel, bring key selector back into the central position: pilot light 6 "machine ON" goes out.
- Remove the key and keep it in a guarded place.

Emergencies

Pilot light 7 in the ground control panel and pilot lights 15-16-17 of platform control panel signal, if ON, emergency situations, with the following partial or total stopping of the machine movements.



PILOT LIGHT 7 and 17

Overload

If an excessive load is present on the platform the load limiting device comes into operation: **all the movements are stopped.**

- The total block of all the movements is signalled by:
 - pilot light 7 on ground control panel going on.
 - pilot light 17 on platform control panel going on.
 - an acoustic alarm.

- In order to restore the movements it is necessary:
 - to remove the excessive load

PILOT LIGHT16

Machine unstable

When the truck is inclined above accepted limits the pilot light 16 is activated:

When the scissor is closed (the platform is at a **lower** height than the working height of SQ1), pilot light 16 flashes : **if it is necessary to lift the platform , it is necessary to bring the machine back into the stability conditions.**

When the scissor is opened (the platform is at an **higher** height than the working height of SQ1) the pilot light 16 flashes and an acoustic alarm is activate, **traction, steering and lifting movements are blocked.**

To restore the movements it is necessary:

- to completely lower the platform and bring the machine back into the stability conditions.



Make sure that no obstacles are present under the platform before lowering it.

PILOT LIGHT 15

General diagnostic

This pilot light goes on in order to signal a malfunction in the control system.

Diagnostic display

In case of malfunctions the diagnostic display of the ground control panel shows an error code used by the Technical After-sale Service for troubleshooting.

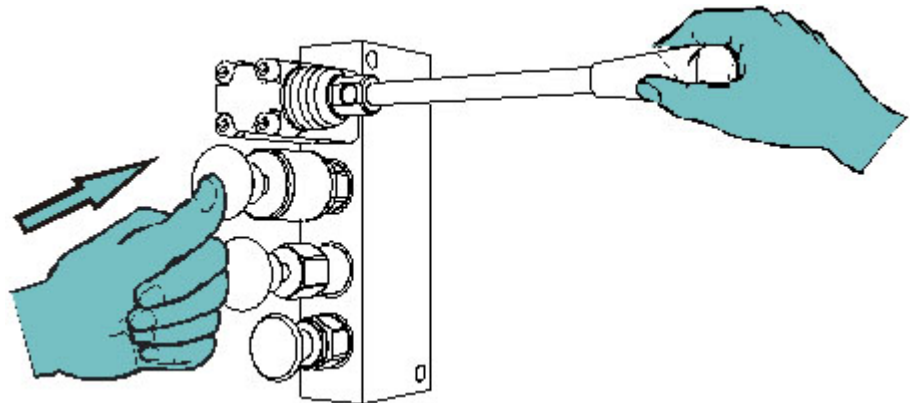
Emergency lowering

If the machine stops in the lifted position due to a failure, it is possible lower the platform operating on the emergency pump placed in the right box:

- Open the right box and keep pressed the upper push button on the emergency block.
- Move the lever in a cyclical way up to the machine is completely lowered.
- Release the push button to stop the lowering.



Before carry out the emergency lowering it is of vital importance to make sure that no obstacles are under the platform.



Battery recharge

Batteries are the energy source of the machine. In order to use their capacities in the best way without the risk of a premature decay, always carry out the recharge after every use, independently to what the charge indicator signals.

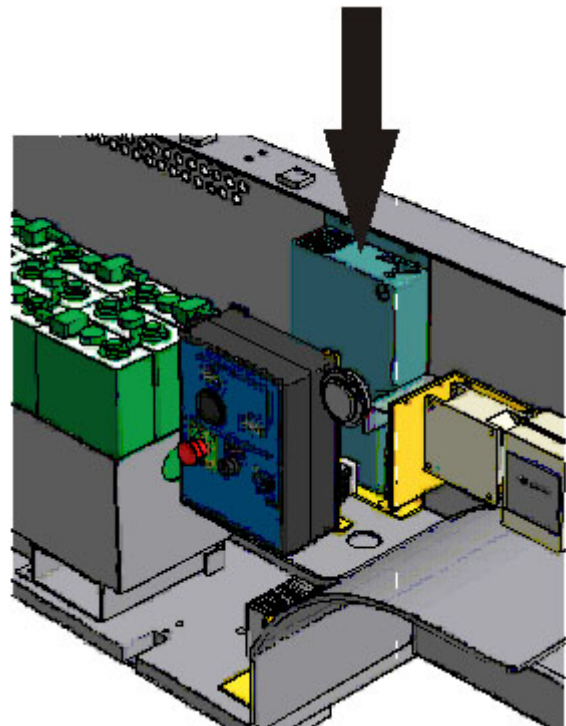


If the recharge has not carried out immediately, it could happen a permanent damage to the batteries.

Leaving even only one night the batteries not charged, it could happen a permanent damage.

Do not replace the batteries with other ones having lowerer mass, as these have also a stabilising function.

The batteries have to be charged with the provided battery charger placed in the back left box.



Features

- Battery charger: 48V - 45A
- Power supply: 220V single-phase - 50Hz
- Voltage: 48V
- Charge time: about 10 hours
- Operating temperature: from -20°C to +50°C
- Protection against output short circuit
- Protection against polarity reversal (fuse)
- Weight: 5,5 Kg
- Connection to the net: standard 3 poles 230V outlet

Before the charge

Before starting the battery charge it is necessary to check the electrolyte level and, if necessary, fill up till all elements are completely covered.

- Open the boxes.
- Open the electrolyte filling caps.
- Check the level and if necessary fill up with distilled water.
- Close the caps and wipe away the liquid that might have come out.



The sulphuric acid in the solution can cause serious injuries; in case it is unintentionally spilt, wash objects and surfaces with plenty of water.

If the acid comes into contact with skin or eyes, wash immediately with plenty of water and consult a doctor.

It is recommended to always wear protective gloves and glasses during battery servicing

Charge start

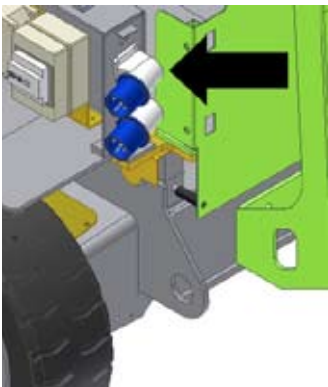


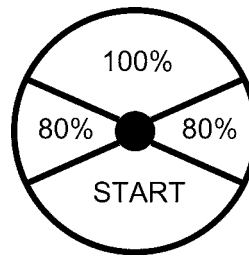
The recharge has to be carried out in a suitable room, well ventilated and separate from the working room, because batteries generates inflammable gases, which can cause explosions if they come into contact with flames or sparks.



The recharge has to be carried out with open boxes.

By connecting a main cable to the upper back outlet, the battery charger is automatically started after a few seconds;





When the battery charger is operating the machine is completely blocked

The led indicator shows the battery charge level through a luminous LED:

The RED LED shows that battery is in the starting phase of the charge.

The YELLOW LED shows that battery has reached 80% of the charge.

The GREEN LED shows that battery has reached 100% of the charge.

One or more flashing leds show that an alarm situation occurred:

Condition	Type of alarm	Description (Action)
flashing GREEN	Timeout	Phase 1 longer than the maximum allowed values. (Verify battery capacity).
flashing RED-YELLOW	Battery current	Exit current out of control. (Control logic fault)
flashing RED-GREEN	Battery Voltage	Exit voltage out of control. (Control logic fault)
flashing RED-YELLOW-GREEN	Thermal	Overtemperature of semiconductors (Verify ventilator operation).

Charge end

When the green led goes on, disconnect battery charger from outlet.

Battery disposal

Run-down lead batteries can not be dumped with ordinary solid waste; being composed of noxious materials, they must be collected, disposed of and/or recycled under the legislation prevailing in each state.

Lifting and transportation

Make sure that:

- the scissor is completely close.
- the machine is off.
- The platform is not extended.
- The means utilized for lifting can support the machine mass equal to 3900 kg for IT 10151 and 4000 kg for IT12151.



Lifting

Lifting may be carried out with a fork truck or a crane. The loading areas are indicated through special adhesive labels.

Use a lifting beam for lifting with a crane. The four coupling points on the machine are indicated through special adhesive labels.



Transportation

During its transport, fasten the machine to the vehicle platform by means of bands passing through the points of attachment indicated for the lifting



It is forbidden to lift and lower the platform in transportation conditions (placed on the vehicle platform).

Storage

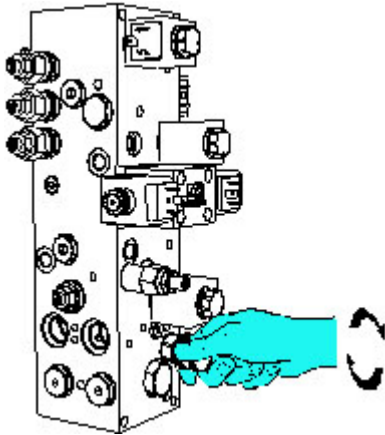
In case of long storage periods, shelter the machine in a dry and ventilated setting, with completely loaded batteries. Reload batteries every 2 months regularly



Before using the machine after a storage period exceeding 30 days, carry out the inspections described in the Maintenance summary table, item "After long period the machine has not used".

Emergency towing

It is not advisable to tow the machine unless an emergency, such as a malfunctioning or a complete breakdown, occurs; nevertheless, the towing procedure is described hereunder:

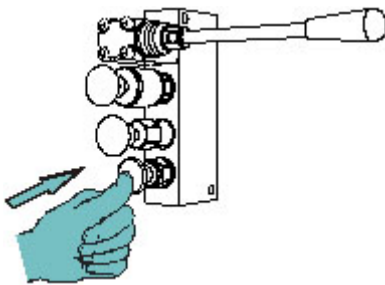


In case the machine must be towed, make sure that:

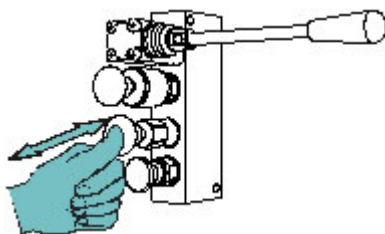
- The scissor is completely close.
- The machine is off.

Complete the following operations:

- Open the right box and unscrew completely the handwheel on the main hydraulic block.



- Press the lower push button on the emergency block.



- Press and release for 2-3 times the central push button on the emergency block.
- Check that the machine is not braked; otherwise repeat the above point.

In this configuration the machine is not braked; do not exceed 4.5 Km/h

- When the towing is finished, screw completely the handwheel on the main hydraulic block.

Disposal and scrapping

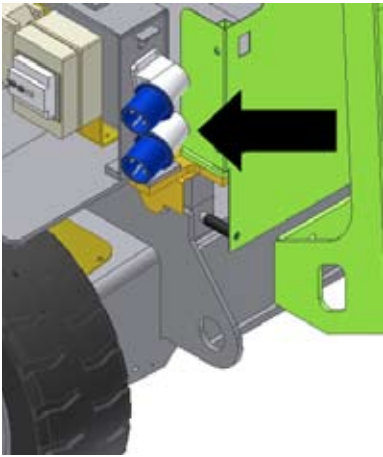
The machine consists mainly of steel, aluminium, plastic, synthetic gum and copper.

Special attention must be paid to disposing of electric batteries (D.M. 633/72 art.8) and of the hydraulic oil contained in the tank and in the hydraulic circuit (DPR 691/82).

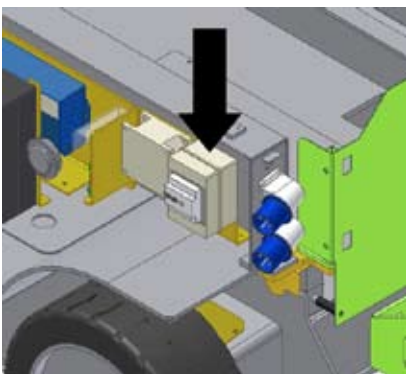
The main components of the machine are listed hereunder:

- Cast iron
- Steel
- Polycarbonate
- Polymar
- Teflon
- Embossed polystyrene B
- Polyester
- Copper
- Ertalyte

220V Line



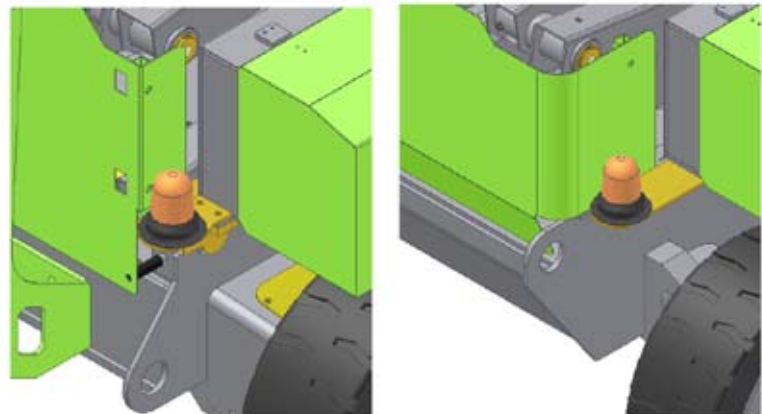
To supply current in platform it is necessary to connect a mains cable to the lower back plug .
A socket foreseen in the platform supplies current to electric instruments.



A cut-out box switch and a magnetothermic switch have also been provided in the back left box.

Rotating beacons

Every time the machine carries out a movement, the rotating beacons, installed in the back and front part of the truck, go on.



Optional

110V line

To supply current in platform it is necessary to connect a mains cable to the lower back plug.

A socket foreseen in the platform supplies current to electric instruments.

A cut-out box switch and a magnetothermic switch have also been provided in the left back box.

Battery charger kit 110V

This kit includes all elements to recharge the batteries at 110 V.

Features

- Battery charger: 48V - 40A
- Power supply: 115V single-phase - 50÷60 Hz
- Voltage: 48V
- Charge time: about 10 hours
- Operating temperature: from -20°C to +50°C
- Protection against output short circuit
- Protection against polarity reversal (fuse)
- Weight: 5,5 Kg
- Connection to the net: standard 3 poles 115V outlet

Maintenance

Long life and maximum safety during operation can only be assured by careful and constant machine maintenance.

The schedule reported in the maintenance summary table refers to normal use conditions; in case of heavy working conditions (extreme temperature, polluting atmosphere, high humidity, elevation) intervals must be shorter.

Frequency and scope of periodical maintenance and inspections may depend on national rules.



Never put unintentionally in contact between them, or with the metallic frame of the machine, the electric motor or control mosfet terminals in order to avoid damages to the mosfet itself.

Machine cleaning

Once each work-shift has been finished or when you think it is necessary, clean the machine as described here below:

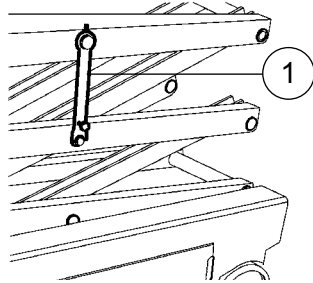
- Clean all surfaces by means of an air compressed blow, avoiding the formation of dirt heaps.
- Spray a normal degreasing product and eliminate the residual dirt by means of cotton clothes.



Never use diluents, scrapers and steel brushes to avoid damages to the painted surfaces.

Do not clean the machine using a jet of high-pressure water. Humidity or water penetration inside electric elements could cause failures and/or damages to the electric/electronic control elements.

Maintenance devices

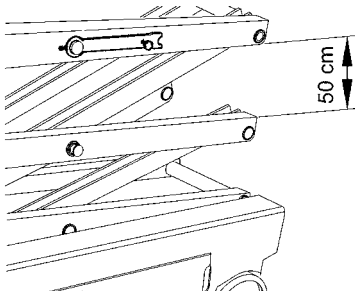


Safety rest

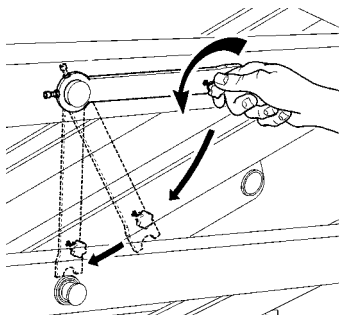
If the platform is subjected to maintenance while lifted, lock the lifting system on both sides by means of the suitable rests supplied with the machine (pos.1).

Use the safety supports only when platform is unloaded

Lock the lifting system as described hereafter:

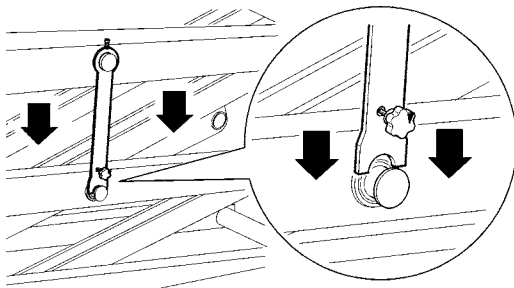


- Lift the platform so as the distance between scissors is 50 cm. aprox.



- Unscrew the knobs which block each rest (right and left) to the relevant arm, leaving them hang downwards.

- Lower the platform making sure that the lower fork of each rest (right and left) fit in the housing obtained in the central pivot extremity of the lower scissors.



- Before starting the maintenance works, make sure that both rests are firmly rested on the side slots obtained on the pivot.
- Once works have been finished, lift a little the platform to release the rests, and fix them again to the arm by means of locking screws.

Battery connection plug

The battery connection plug has placed in the left back box

This safety device disconnects the power and control circuits of batteries and the battery charger solely remains connected.



Make sure the batteries are disconnected before carrying out the electric equipment maintenance.



Maintenance summary table

OPERATION TO BE CARRIED OUT	AFTER THE FIRST 50 HOURS	EVERY DAY	MONTHLY	250 HOURS OR YEARLY	500 HOURS OR YEARLY	YEARLY	AFTER A LONG PERIOD THE MACHINE HAS NOT USED (30 days)
Check the oil level		X					X
Check the electrolyte level		X					X
Check the battery charge		X					X
Check the screw tightening	X		X				X
Grease the mechanisms			X				X
Check safety devices	X		X				X
Inspections and cleaning of batteries			X				X
Check the emergency lowering			X				X
Check electrical pump motor brushes						X	X
Check brakes on ramp			X				X
Check structures	X			X			X
Check wheel reduction gear oil					X		X
Check the hydraulic pipe condition						X	X
Check performances						X	X

The above mentioned operations are described in the following pages.

Check oil level



The oil level checking and the possible topping up should be made when the platform is entirely lowered.

Take away oil tank cap being in the hydraulic control unit; should it is necessary top up with oil of the same viscosity as indicated on the tank.

A cap is located under the tank for total oil discharge.

- Discharge all oil from tank.
- Close discharge cap.
- Fill in new oil through filling cap.



Hydraulic oil is a polluting product.

Avoid fluid leakages by using collection tanks and take precautions against accidental leakages by resorting to oil-absorbing products.

Exhausted oil must be collected and not disposed of into normal discharge lines; specialized firms attend to dispose of or possibly recycle industrial oils, under the laws prevailing in each individual state.

Electrolyte level check

- Open the box
- Take away the electrolyte supplying caps
- Check the level and if it is the case top up with distilled water.
- Close caps and dry if some liquid has poured out.



The sulphuric acid contained in the solution could cause serious injuries; if it is unintentionally poured, wash immediately the objects or the surfaces with abundant water.

If the acid comes into contact with skin or eyes wash immediately and generously with water and seek a doctor.

It is recommended to always wear gloves and protective glasses during the maintenance operations of batteries. Check of screw tightening.

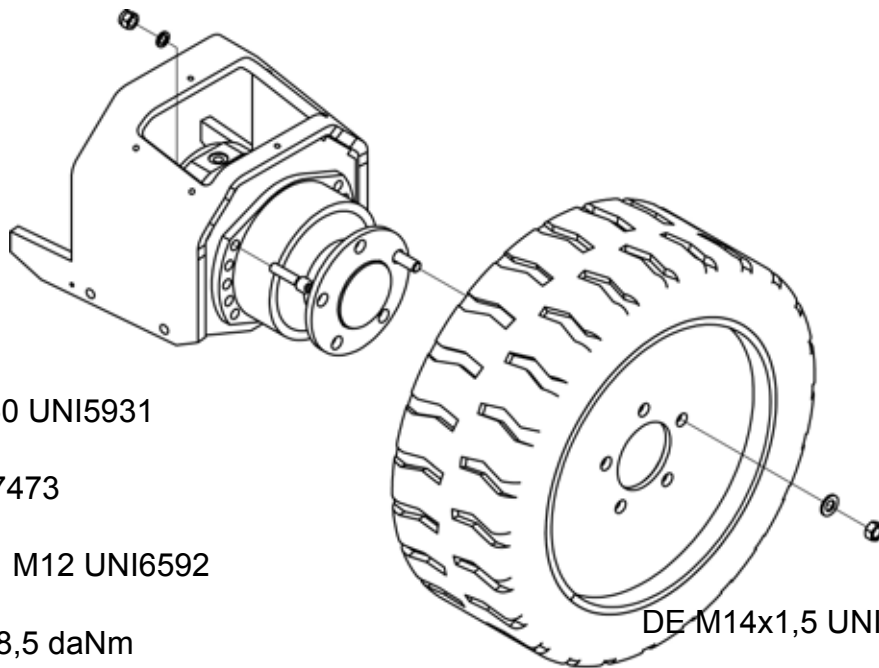
Check of battery charge

The battery charge level can be read on ground panel.

For the battery recharge see section "Battery recharge".

Check of screw tightening

TRACTION UNIT SCREW FASTENER



TCCE M12x50 UNI5931

DE M12 UNI7473

WASHER for M12 UNI6592

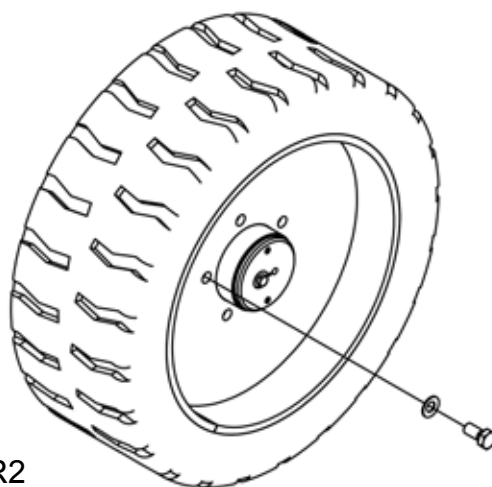
Tightening 7-8,5 daNm

DE M14x1,5 UNI5588

WASHER for M14 UNI6592

Tightening 17-21 daNm

WHEEL SCREW FASTENER



TE M14x1,5x30 UNI5740

Belleville washer - UNI 8737 - A 28 GR2

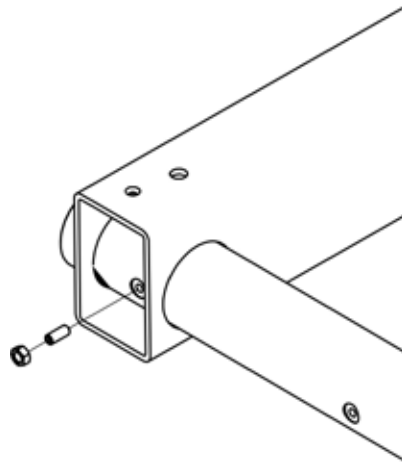
Tightening 11-12 daNm

PIN SCREW FASTENER ON CHASSIS

VSTEI M8x20 UNI 5929

DE M8 6S UNI5588

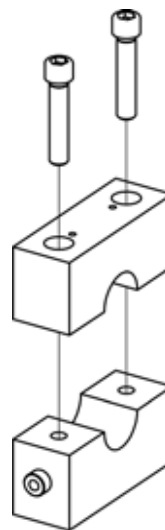
Tightening 2 daNm



SCISSOR HALF-BEARING SCREW

TCCE M14x70 UNI5931

Tightening 11 daNm



Grease the mechanisms

Two lubricators are placed above back wheel spindles.

Safety check

The following test enables to check that all safety devices of the machine work properly.

The safety systems applied to the machine are inevitably subject to wear and to go out of tune. Therefore, they must be controlled and kept in perfect efficiency; also, it is not advisable to evaluate their operational and safety conditions only on the basis of their functioning.

The presence of safety systems does not relieve the operator of the responsibility of using the machine in an adequate and conscious way.

Red emergency stop push button

- Press emergency stop push button on ground control panel and check that no operation is possible, either from ground or on platform. Put push button to ON again.
- Press emergency stop push button on platform control panel and check that no operation is possible, either from ground or on platform. Put push button to ON again.

SQ1 Microswitch

Safety speed



Make sure that there are no obstacles above or under platform, before executing this test.

- Lift platform above microswitch SQ1 operating height from platform control panel.
- Check that drive is possible at safety speed only.

Inclination

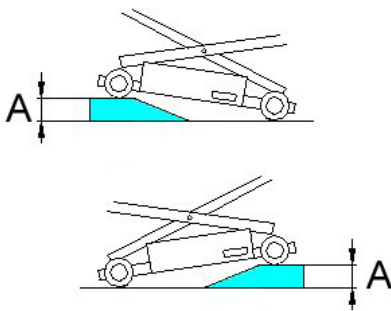


Carry out this test with the machine perfectly levelled, for avoiding altered values.

Carry out this test by using platform control panel.

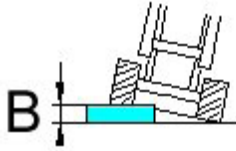
Do not stop on platform

Make sure that there are no obstacles above or under platform before carrying out this test



- Lower platform completely.
- Position a wedge A measuring about 97 mm:
 - under each wheel of front axle for rear longitudinal inclination; drive the machine on it; lift platform and carry out tests reported on the following page;
 - repeat the above mentioned test positioning the wedges under each wheel of rear axle.

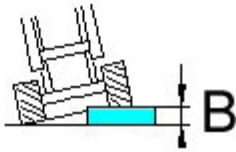
During the second test, the machine must be put in the same position with respect to the ground, while altering the wedge position (See drawing on the side).



- Position a wedge B measuring about:

- 45 mm under each left, front and rear wheel for right transversal inclination; drive machine on it; lift platform and carry out following tests.

- repeat the above mentioned test positioning the wedges under each right front and rear wheel.



During the second test, the machine must be put in the same position with respect to the ground, while altering the wedge position (See drawing on the side).

- Check that inclination warning light blinks under SQ1 operating height
- Lift platform and check that above SQ1 operating height:
 - inclination warning lights is on.
 - the alarm sounds.
 - all movements, lowering excluded, are stopped.
- Lower platform under SQ1 operating height and check that all movements have been restored.

Lower platform completely, drive machine forward and remove wedges.

Carry out tests in all four directions: forward – backward – rightward – leftward.

Load limiting device

- Load platform with a load equal to 120% the nominal value.
- Check that by operating platform lifting :
 - the excess load warning light on platform control panel switches on.
 - the excess load warning light on ground control panel switches on.
 - the alarm sounds
 - all movements are stopped.
- Remove excess load.
- Check that all movements are restored.

Antishearing operations



Make sure that there are no obstacles above or under platform before carrying out the test.

- Lift platform by 2 meters.
- Lower platform and check that lowering is stopped when distance between arm and frame ends is approx. 60 mm. After a time interval of 5 ÷ 6 seconds, put the joystick in standstill position and continue the lowering.
- Check that lowering remains inhibited even if you move the joystick for the lowering before the indicated time interval has passed.

Battery inspection and cleaning



Disconnect battery connecting plug before carrying out the tests.

Batteries must be periodically inspected for checking that there are no damages, breakages, fluid leakages or terminal corrosion. Also inspect cables looking for breakages, cuts or fraying.

Always clean batteries that show signs of corrosion on terminals or onto which electrolytic fluid has fallen during filling.

Always clean terminal contact surfaces, lubricate with antacid grease or vaseline.



The battery fluid is highly corrosive and can cause severe injuries; if it is poured unintentionally, wash objects or surfaces with abundant water.

If the acid comes into contact with the skin, wash immediately with abundant water and consult a doctor.

Always wear gloves and goggles during battery maintenance.

Keep open flames, cigarettes, sparks or any other flammable source away from batteries.

Emergency lowering control



Make sure that there are no obstacles under the platform before executing this control

- Lift platform.
- Carry out operations indicated in the section “Emergency lowering” checking the correct operation of the emergency lowering.

Check of engine brushes

Check brush wear of electrical pump motor; replace if necessary.

Check brakes on ramp

Parking brakes must be capable to stop the machine on max. slope indicated in the "Technical data" table.

Check that brakes stops on a slope indicated in the above mentioned table.

Braking spaces

Carry out these tests with machine on flat surface

FAST SPEED

- Select fast speed on platform control panel.
- Push joystick to maximum forward position.
- Release joystick and check that the braking space is lower than 60 cm.

Structure check

General

- Check that mechanical structures are protected against oxidation and, if necessary, retouch oxidized area.

Base truck

- Check the most important welds visually or with penetrating fluids:
 - Bearing structure.
 - Spindles of steering wheels.
 - Wheel supports.
 - Scissor hinging supports.
- Check the shape of the guide profiles for the sliding blocks.
- Check that steering bar is in its correct position and that it is fastened to the spindles and to the steering actuator.
- Check trunnions on spindles and steering actuator and bar.
- Check bushes; replace them by using lubricating grease if necessary.
- Check tyre conditions.

Platform

- Check the most important welds visually or by means of penetrating fluids:
 - Tubular structures.
 - Hinging supports.
- Visually inspect operational top conditions of both stationary platform and extension.
- Check the shape of guide profile for sliding blocks.
- Check sliding blocks .
- Visually check railings and their fastening.

Machine frame

- Visual inspection of its integrity and of the shape of booms and frames.
- Check, visually or by means of penetrating fluids, all welds of articulation bushes, lifting cylinder attachments, and welds on cylinder.
- Check fastening of trunnions and hinging pins of lifting cylinder.
- Check surface conditions of trunnions and bushes; replace if necessary, by utilizing lubricating grease.

Check of hydraulic tubes



Hydraulic oil is a polluting product.

Avoid fluid leakages by using collection tanks and take precautions against accidental leakages by resorting to oil-absorbing products.

- Visual control of all hydraulic joints and tighten junctions, if necessary.
- Check conditions of flexible hydraulic tubes; replace if necessary.

Checking performance

Use a chronometer for executing the following controls.

All tests must be executed with the machine flat.

Safety speed

- Lift the platform over SQ1 operating height.
- Push joystick to max forward position.
- Check that machine covers 10m in a time greater than 55 sec.

Steering speed

- Select slow speed.
- Steer wheels rightward completely.
- Execute drive and steer leftward completely.
- Check that time necessary to steer from right to left is 2 ÷ 4 sec.

This page has purposely been left blank.

Check register

Reference to legislation

This check register is issued by ITECO S.p.a for aerial platform users, as envisaged by Enclosure I of 98/37/EC guideline.

Instructions for keeping this register

This check register must be considered as an integral part of the aerial platform and must be kept with the platform for its whole life, until it is finally dismantled.

Instructions for compilation

These instructions are supplied based on provisions that are already known at the date the aerial platform is first marketed. New provisions might be issued which could change the user's obligations.

This register is prearranged for recording the following events related to the useful life of the aerial platform, based on proposed diagrams:

- Delivery of aerial platform to the first owner.
- Changes of ownership.
- Replacement of components of the hydraulic system.
- Replacement of components of the electric system.
- Replacement of mechanisms or structural elements.
- Replacement of safety devices and their components.
- Periodical maintenance verification except daily inspections indicated in the maintenance summary table.
- Remarkable failures and their repair.

PLATFORM DELIVERY TO THE FIRST OWNER

The aerial platform type _____ , with factory number: _____ and construction year _____ referred to in this check register has been delivered by _____ to Messrs:

on _____

according to the terms agreed upon in the contract, with the technical, size and functional characteristics specified in the Operating Handbook.

SUBSEQUENT CHANGES OF OWNERSHIP

On _____

The ownership of the aerial platform mentioned above is transferred to the Firm/Company:

It is hereby certified that on the date mentioned above the technical, dimensional and functional characteristics of this aerial platform are consistent with the originally envisaged ones and that changes, if any, have been reported in this Register.

The Seller

The Buyer

SUBSEQUENT CHANGES OF OWNERSHIP

On _____

The ownership of the aerial platform mentioned above is transferred to the Firm/Company:

It is hereby certified that on the date mentioned above the technical, dimensional and functional characteristics of this aerial platform are consistent with the originally envisaged ones and that changes, if any, have been reported in this Register.

The Seller

The Buyer

REPLACEMENT OF COMPONENTS IN THE HYDRAULIC SYSTEM

On the date _____

the piece _____

fabricated _____

HAS BEEN REPLACED

with _____

fabricated _____ factory Nr. _____

note _____

Cause of replacement _____

The officer of the firm entrusted with the replacement

The user

REPLACEMENT OF COMPONENTS IN THE HYDRAULIC SYSTEM

On the date _____

the piece _____

fabricated _____

HAS BEEN REPLACED

with _____

fabricated _____ factory Nr. _____

note _____

Cause of replacement _____

The officer of the firm entrusted with the replacement

The user

REPLACEMENT OF COMPONENTS IN THE HYDRAULIC SYSTEM

On the date _____

the piece _____

fabricated _____

HAS BEEN REPLACED

with _____

fabricated _____ factory Nr. _____

note _____

Cause of replacement

The officer of the firm entrusted with the replacement

The user

REPLACEMENT OF COMPONENTS IN THE ELECTRIC SYSTEM

On the date _____
the piece _____
fabricated _____
HAS BEEN REPLACED
with _____
fabricated _____ factory Nr. _____
note _____
Cause of replacement _____

The officer of the firm entrusted with the replacement _____ The user _____

REPLACEMENT OF COMPONENTS IN THE ELECTRIC SYSTEM

On the date _____
the piece _____
fabricated _____
HAS BEEN REPLACED
with _____
fabricated _____ factory Nr. _____
note _____
Cause of replacement _____

The officer of the firm entrusted with the replacement _____ The user _____

REPLACEMENT OF COMPONENTS IN THE ELECTRIC SYSTEM

On the date _____
the piece _____
fabricated _____
HAS BEEN REPLACED
with _____
fabricated _____ factory Nr. _____
note _____
Cause of replacement _____

The officer of the firm entrusted with the replacement _____ The user _____

REPLACEMENT OF GEARS OR STRUCTURAL COMPONENTS

On the date _____

the piece _____

fabricated _____

HAS BEEN REPLACED

with _____

fabricated _____ factory Nr. _____

note _____

Cause of replacement _____

The officer of the firm entrusted with the replacement

The user

REPLACEMENT OF GEARS OR STRUCTURAL COMPONENTS

On the date _____

the piece _____

fabricated _____

HAS BEEN REPLACED

with _____

fabricated _____ factory Nr. _____

note _____

Cause of replacement _____

The officer of the firm entrusted with the replacement

The user

REPLACEMENT OF GEARS OR STRUCTURAL COMPONENTS

On the date _____

the piece _____

fabricated _____

HAS BEEN REPLACED

with _____

fabricated _____ factory Nr. _____

note _____

Cause of replacement

The officer of the firm entrusted with the replacement

The user

REPLACEMENT OF SAFETY DEVICES AND RELEVANT COMPONENTS

On the date _____
the piece _____
fabricated _____
HAS BEEN REPLACED
with _____
fabricated _____ factory Nr. _____
note _____
Cause of replacement _____

The officer of the firm entrusted with the replacement _____ The user _____

REPLACEMENT OF SAFETY DEVICES AND RELEVANT COMPONENTS

On the date _____
the piece _____
fabricated _____
HAS BEEN REPLACED
with _____
fabricated _____ factory Nr. _____
note _____
Cause of replacement _____

The officer of the firm entrusted with the replacement _____ The user _____

REPLACEMENT OF SAFETY DEVICES AND RELEVANT COMPONENTS

On the date _____
the piece _____
fabricated _____
HAS BEEN REPLACED
with _____
fabricated _____ factory Nr. _____
note _____

Cause of replacement _____

The officer of the firm entrusted with the replacement _____ The user _____

VERIFICATION OF PERIODICAL MAINTENANCE

The user must comply with the maintenance and surveillance obligation described in this operating handbook.

NR.	Date	Description of intervention	GNATUR
1			
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NR.	Date	Description of intervention	GNATUR
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NR.	Date	Description of intervention	GNATUR
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60			

IMPORTANT SAUNDRIES AND THEIR REPAIR

Description of failure _____

Causes _____

Repair carried out _____

Signature of the official of servicing firm

User's signature

Place _____

Date _____



IMPORTANT SAUNDRIES AND THEIR REPAIR

Description of failure _____

Causes _____

Repair carried out _____

Signature of the official of servicing firm

User's signature

Place _____

Date _____

IMPORTANT SAUNDRIES AND THEIR REPAIR

Description of failure _____

Causes _____

Repair carried out _____

Signature of the official of servicing firm

User's signature

Place _____

Date _____



IMPORTANT SAUNDRIES AND THEIR REPAIR

Description of failure _____

Causes _____

Repair carried out _____

Signature of the official of servicing firm

User's signature

Place _____

Date _____

A00256xx



A00103

PORTATA MASSIMA 350 kg
↑↑ + 190 kg ↑ = 80 kg

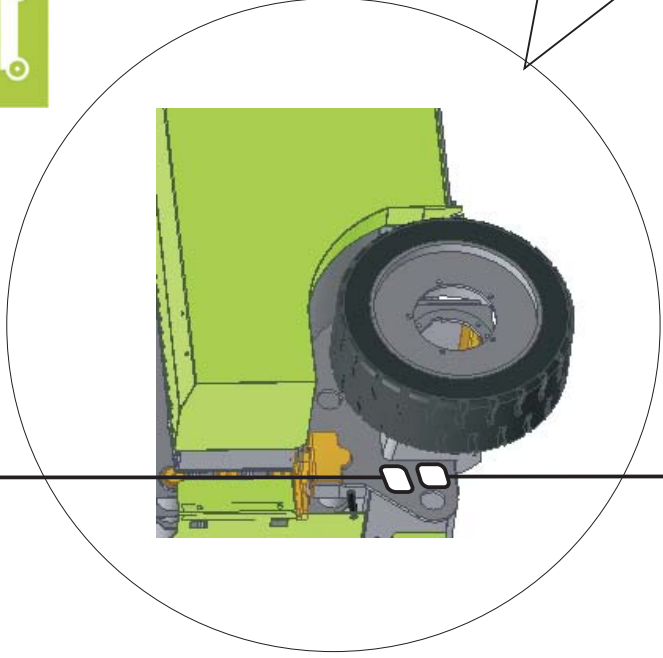
PORTATA MASSIMA 300 kg
↑↑ + 140 kg ↑ = 80 kg

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A00266 (IT12151)

A00270xx



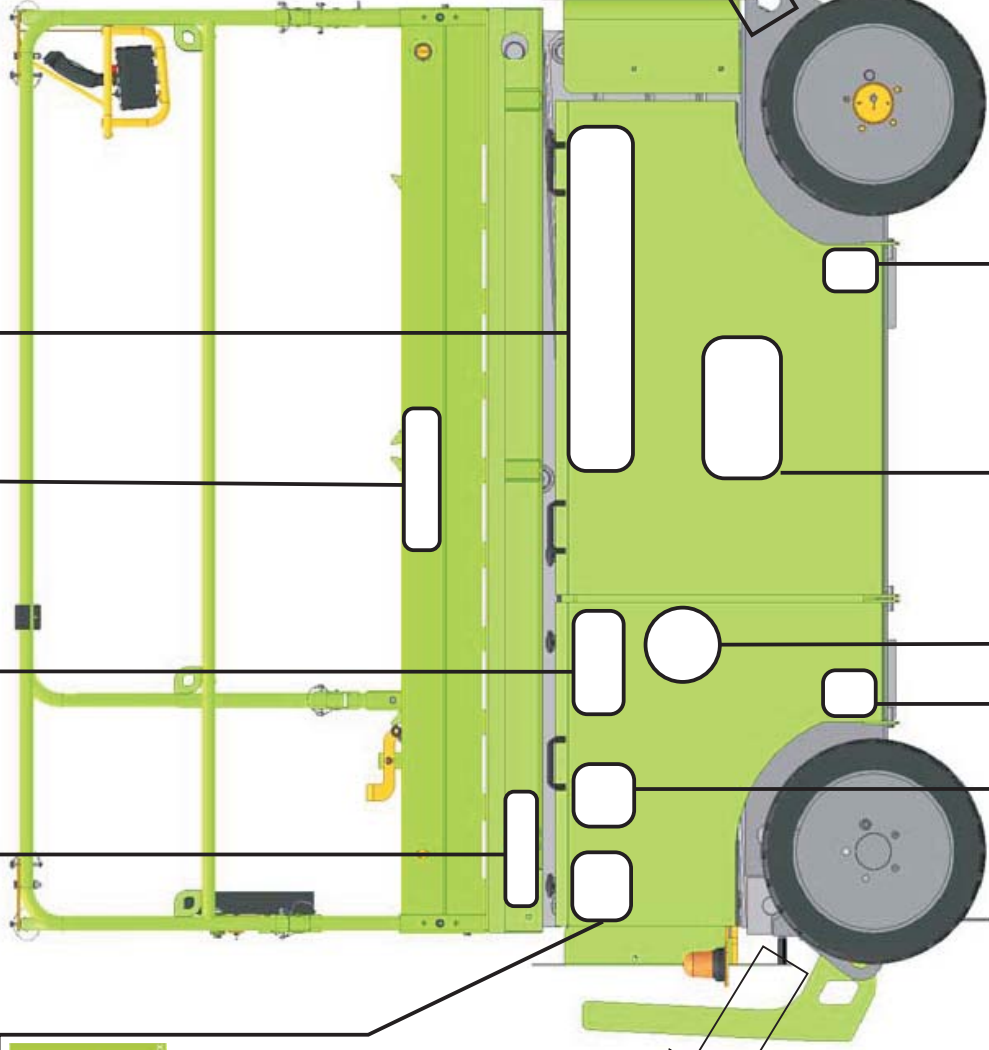
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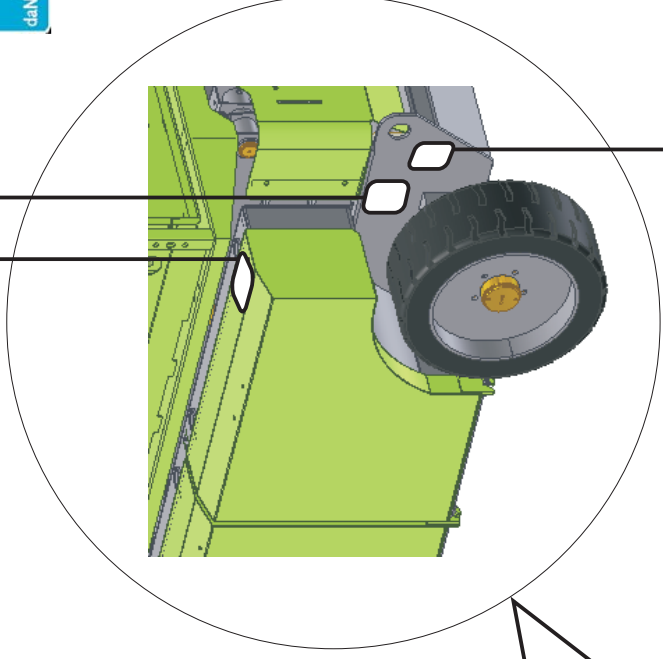
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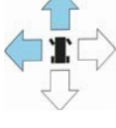
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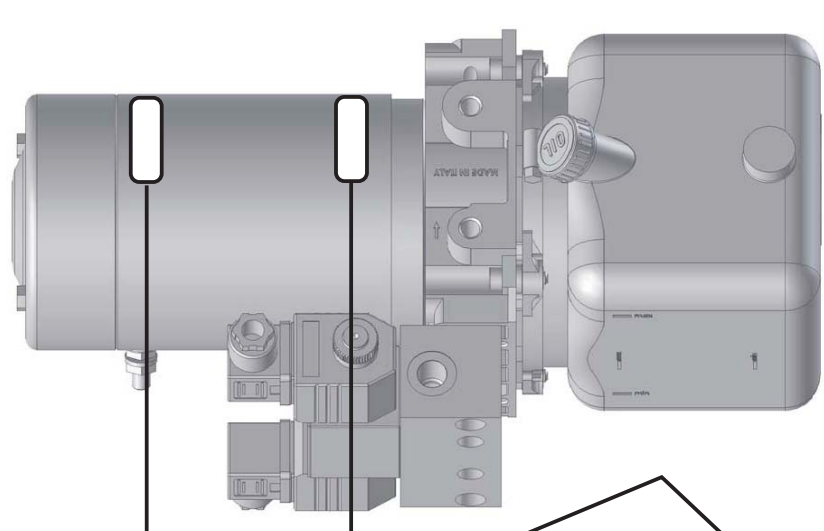


A00174XX

Se la macchina è destinata alla FINLANDIA applicare l'adesivo A00189XX

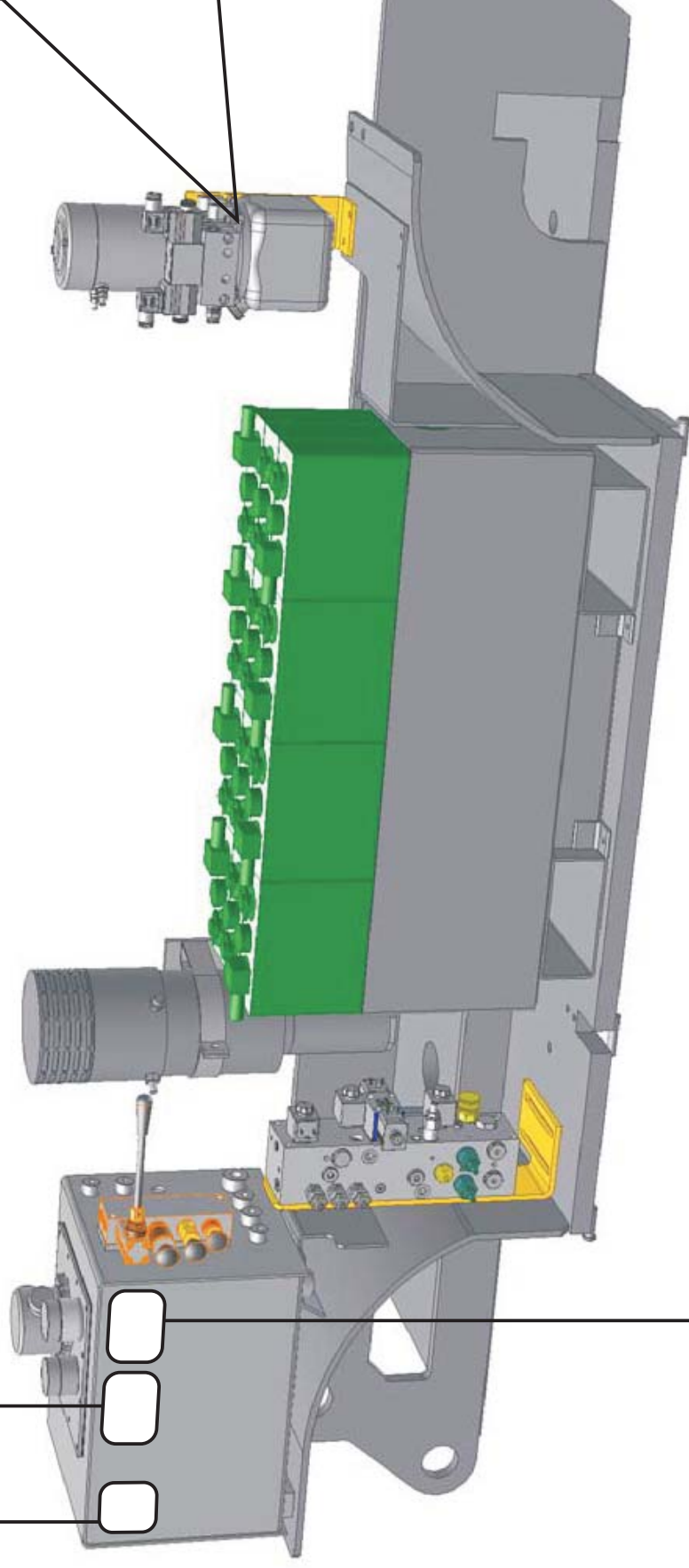


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A00114XX **MAX.**

A00113XX **MIN.**



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A00007xx

IT 12151

A00268xx

IT 10151

A00267xx

PORTATA MASSIMA 350 kg
↑ + 190 kg ↑ = 80 kg

PORTATA MASSIMA 300 kg
↑ + 140 kg ↑ = 80 kg

A00265 (IT10151)

A00266 (IT12151)

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A00101

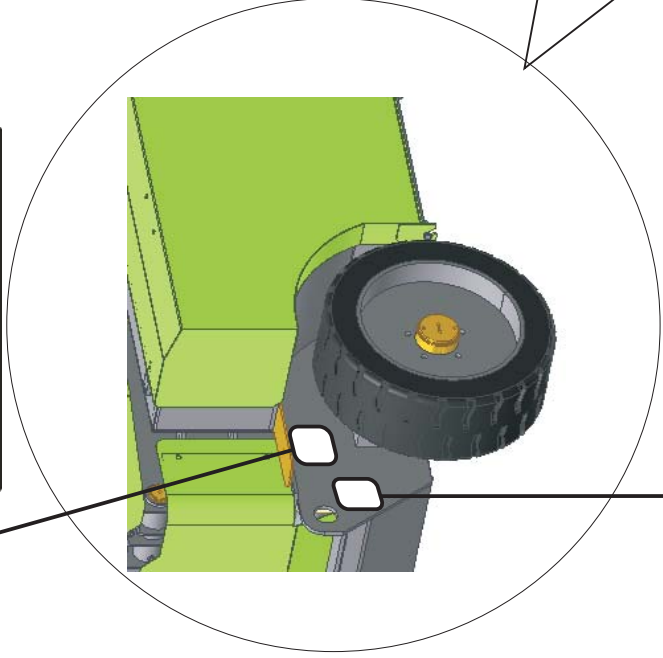
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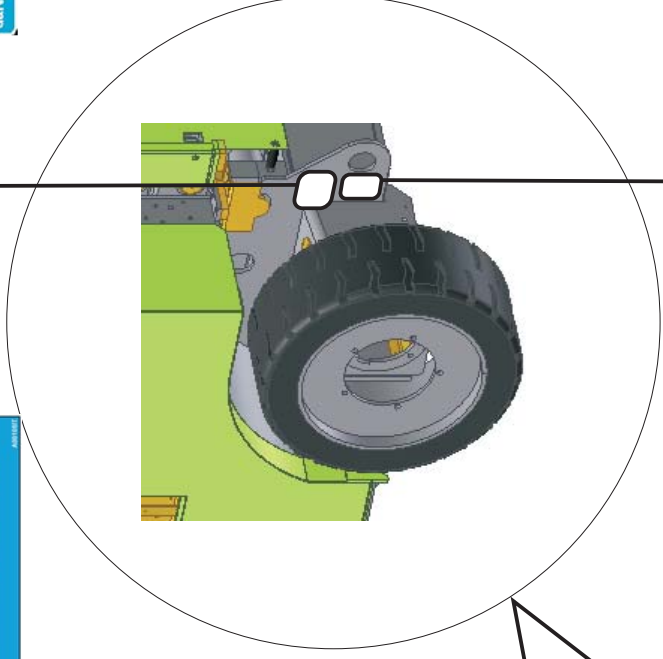
INTERRUTTORE PRINCIPALE
TOGLIERE SEMPRE LA CHIAVE
DURANTE LE INTERRUZIONI E
A FINE LAVORO

- PRIMA DI USARE IL RADDORZITTORE LEGGERE LE CAPRE E
SEGUIRE LE ISTRUZIONI SUL MANUALE USO E MANUTENZIONE
- RICARICARE LE BATTERIE TRAZIONE IN AMBIENTI VENTILATI,
LONTANO DA FONTI DI CALORE E LIQUIDI E ESPLOSIONI
- NON ESPOSERE IL RADDORZITTORE ALLA PIOGGIA O A SPRUZZI
D'ACQUA

A00002xx



A00002xx



A00190xx



A00190xx



A00173xx



A00172xx



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A00255xx

EMERGENZA

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PORTATA MASSIMA 350 kg
👤 + 190 kg 📏 = 80 kg

A00265 (IT10151)

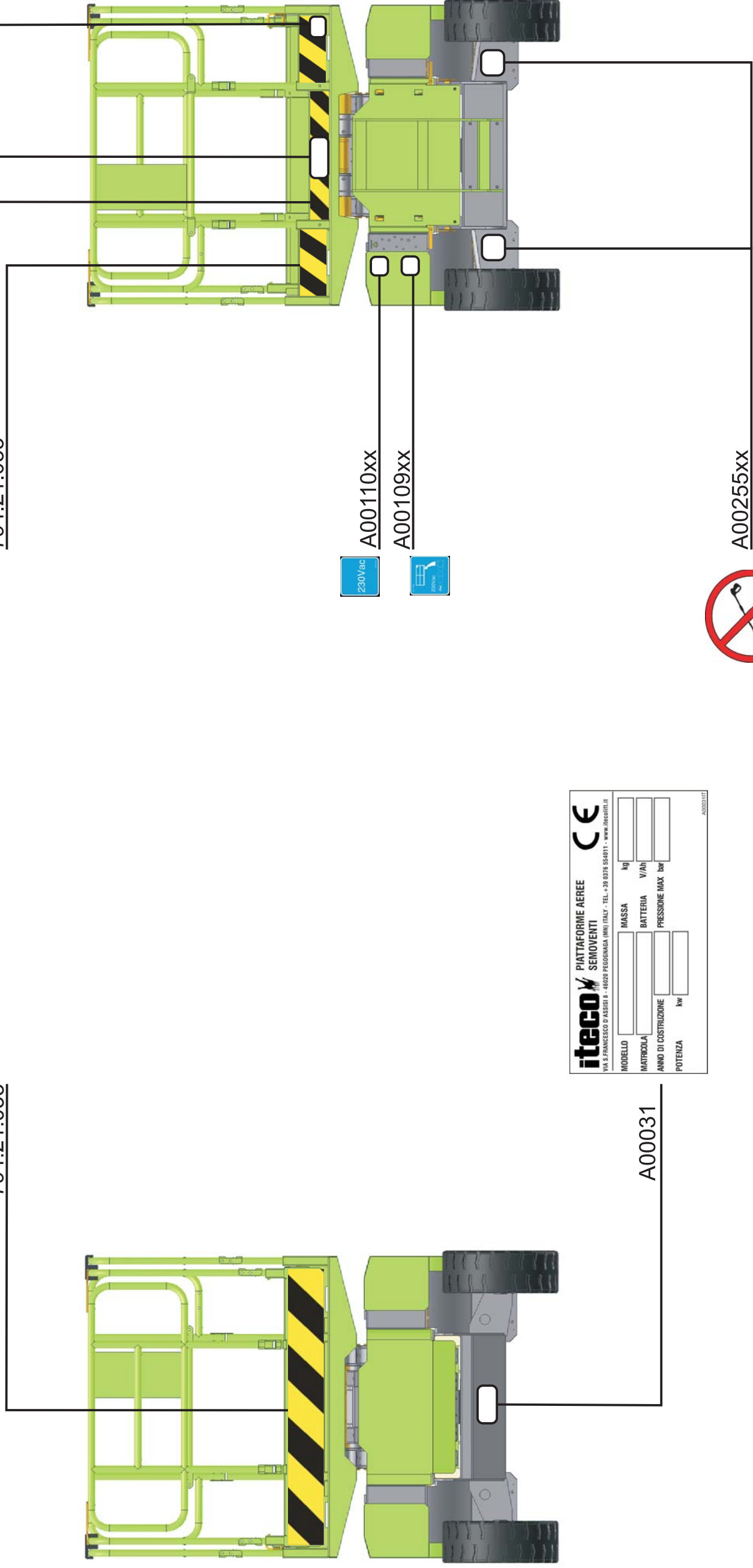
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PORTATA MASSIMA 300 kg
👤 + 140 kg 📏 = 80 kg

820.21.098

794.21.033

794.21.033



iteco PIATTAFORME AEREE SEMOVENTI **CE**
 VIA S. FRANCESCO D'ASSISI 8 - 48020 PEGORARA (MN) ITALY - TEL. +39 0576 554011 - www.iteco.it

MODELLO	MASSA	kg
MATRICOLA	BATTERIA	V/Wh
ANNO DI COSTRUZIONE	PRESSIONE MAX	bar
POTENZA	kw	

A000115

A00031



A00255xx

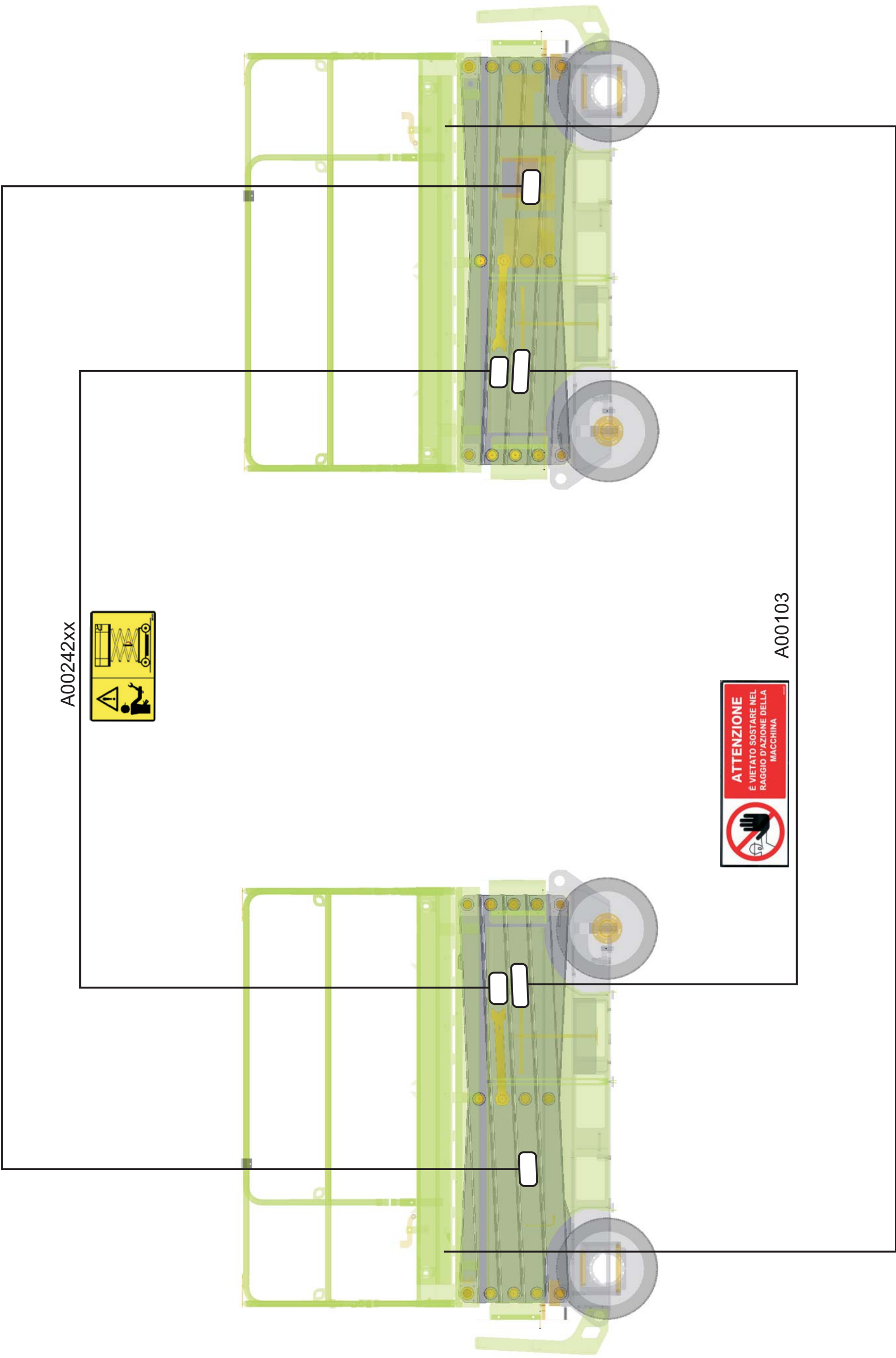


A00156xx

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A00103



POSIZIONE SCATOLA
COMANDI

A00153

PORTATA MASSIMA 350 kg
👤 + 190 kg 👤 = 80 kg

PORTATA MASSIMA 300 kg
👤 + 140 kg 👤 = 80 kg

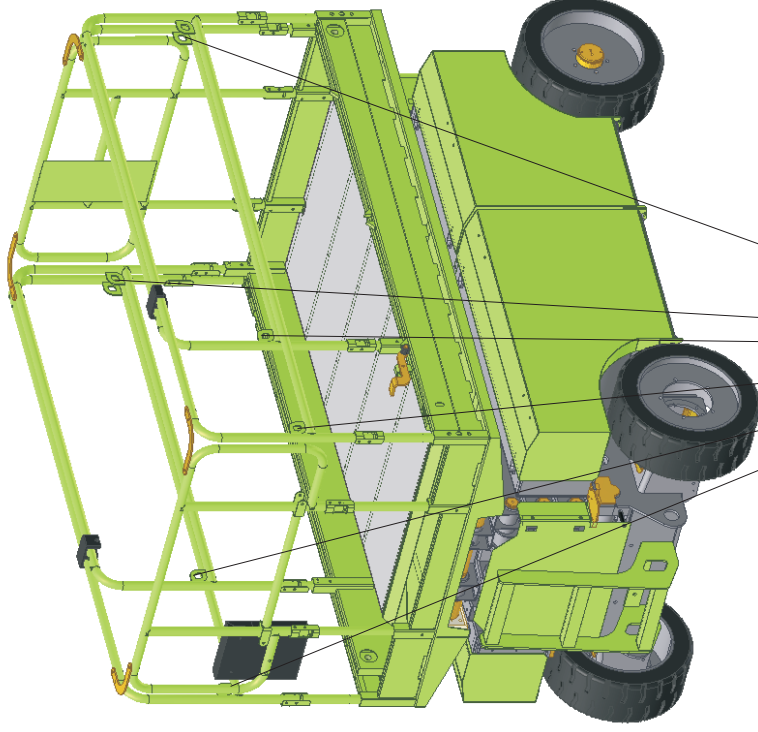
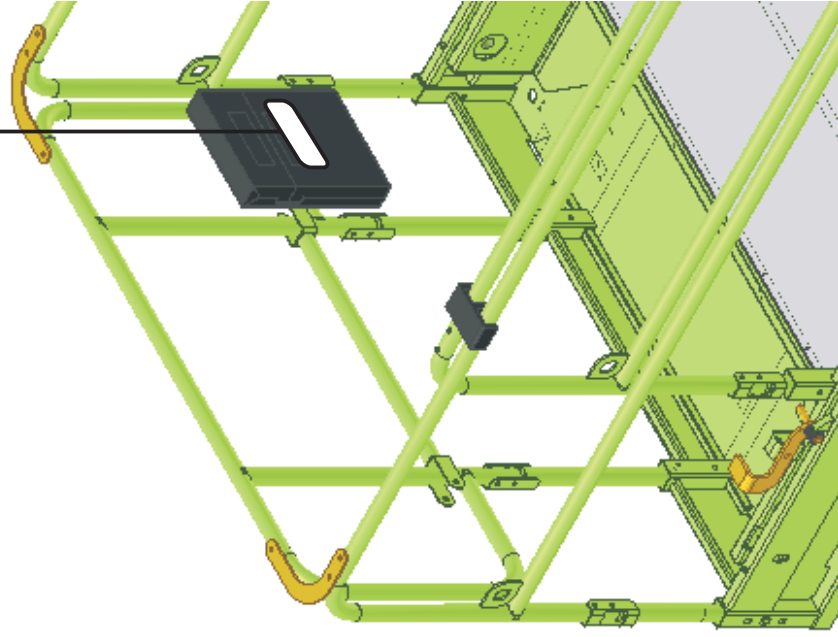
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DOCUMENT BOX

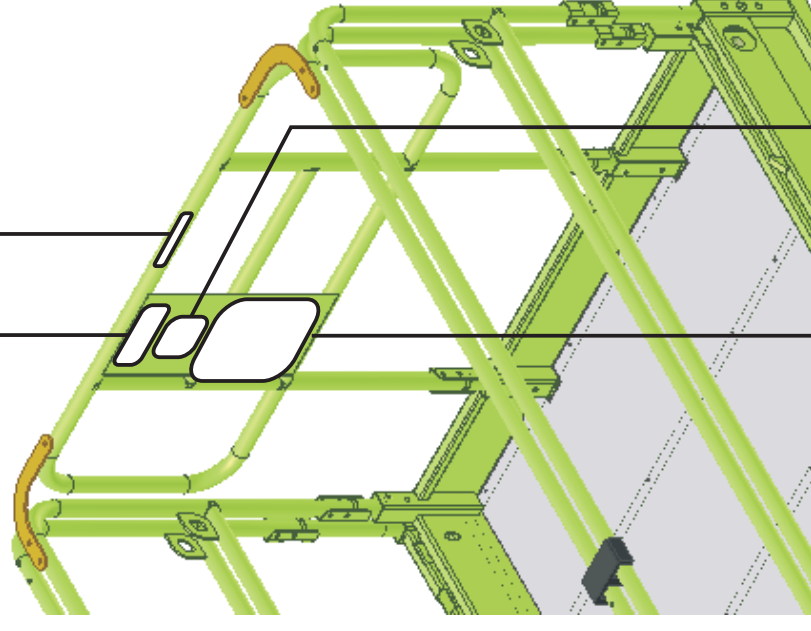
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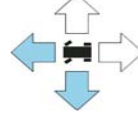
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A00005



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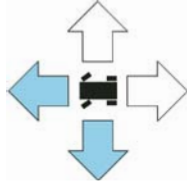




A00106

A00032XX

ATTENZIONE: PRIMA DELL'USO LEGGERE ATTENTAMENTE LE ISTRUZIONI.
ACHTUNG: VOR DER VERWENDUNG MÜSSEN DIE BEDIENTUNGSANLEITUNG VORHER GELESEN WERDEN.
ATTENTION: LIRE ATTENTEMENT LES INSTRUCTIONS AVANT L'UTILISATION.
GEBRUIK: LEES AANVOOR DE GEBRUIKSAANWISZING HOORZELF GEBRUIK.
ATENCIÓN: ANTES DE USAR LEER ATENTAMENTE LAS INSTRUCCIONES.
VARNING: FÖRE ANVÄNDNINGEN MÅSSE INOMSTRUKTIONEN FÖR ANVÄNDNING AV SKÅPETS PLATTFORM LÄS UPP.
VAROITUS: KÄYTTÖÄLLE ENNÄ KÄYTTÖOHJEITA LUKI.
Pozor: Prije korištenja pažljivo pročitajte upute.
Aterfag: Antes de usar, lea as instrucciones con atención.
Ere: Lue käyttöohjeet tarkkaan ennen käyttöä.



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