

***Reference use  
and maintenance manual***

EN



# SPIDER 22.10

## *Self-propelled platform*

**Attention**



Before proceeding with any work on the machine read the present handbook in its entirety and ensure you understand the information contained herein.

Keep the handbook in a safe place where it is easily accessible for consultation.

**ORIGINAL INSTRUCTIONS**

Handbook code

**4830060000**

Version

**A 01-10**



BUILDER: **PLATFORM BASKET**

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DOCUMENT TYPE: **OWNER'S MANUAL**

MODEL: **SPIDER 22.10**

SERIAL NUMBER:

CUSTOMER:

YEAR OF MANUFACTURE: **2010**

The contents of the present document cannot be used, reproduced or transferred to third parties without the express permission of builder.

The builder reserves the right to change the characteristics of the machine described in the present document without notice.

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## **A - GENERAL INFORMATION**

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### **A.1. Introduction**

Dear Clients,

PlatformBasket thanks you for your choice

Your new access equipment is the result of an innovative approach and the pursuit of quality. It has been designed to be functional, safe, comfortable and durable with style and excellent operating features.

When your machine requires maintenance, only the spare parts supplied by us must be used in order to ensure reliability and suitability.

If you encounter problems or need more information contact our staff directly by calling one of the following numbers or send us an e-mail:

Phone **+39 0522967666**

Fax **+39 0522967667**

web **[www.platformbasket.com](http://www.platformbasket.com)**

Best regards

### **A.2. Warranty**

For the Warranty Terms refer to the conditions specified in the CONTRACT OF SALE (note that in this way warranty terms “may be personalised”).

### A.3. Introduction

As our products are always in change (as components of our suppliers) some details could not match exactly those installed on Your machine type.

In those cases, if there should be doubts about proper functioning, do not dare any type of test, but call one of our Authorised Centre of Assistance.



#### **Note**

**When requesting interventions on the machine (also by telephone) you must inform us of the working hours logged on the machine (shown on the hour counter) and the machine serial number**

**For each discussion form it is wise to get this information, before calling.**

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With the goal of always providing a better product, please let us know of any errors or omissions from the manuals provided, (especially elements that concern safety), suggestions for improving the machine, our support service or anything else you might want to tell us.

**This manual lists information relating to the Sider 22.10 model only.**



#### **Note**

**Italian is declared the official language.**

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#### **Attention**

**In this publication, the term machine refers to the Spider 22.10 elevating platform.**

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#### **Note**

**The company Platform Basket is referred to as the Manufacturer.**

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### **A.4. How to consult the manual**

#### **A.4.1. Topics not covered by the manual**

This publication DOES NOT address the following subjects:

- Maintenance or non-routine interventions.  
Supplementary maintenance tasks must be performed by personnel specifically authorised by the manufacturer.
- The installation and disassembly of the machine or its function units.  
This procedure is to be carried out by authorised personnel, trained as necessary by the Manufacturer.

#### **A.4.2. Structure of the publication**

The manual is composed of separate sections with an initial table of contents showing the sequence of titles of the sections, the chapters, and the topics addressed, complete with page numbers.

Page numbering is progressive.

### A.5. Notes for the user



#### **Attention**

- It is forbidden to modify any part of the machine for any reason without explicit written authorisation from the manufacturer.  
**No agent or representative of the manufacturer is authorized to give instructions which in any way modify the “Instructions for Use”, the safety prescriptions, the guarantee and/or the method of use of the product.**
- **The manufacturer declines all liability in relation to unauthorised modifications and reserves the right to take any actions it deems necessary to protect its interests.**

#### A.5.1. User or machine operator

The user is directly responsible for personal injury or injury of others or damage to property resulting from:

- improper use of the machine and any part of the machine;
- failure to comply with the safety prescriptions and safety regulations.

The use of the machine must be entrusted only to qualified operators.

A qualified operator is construed as a person who has:

- read the “operating instructions” in their entirety;
- understood the concepts expressed in this publication;
- gained familiarity with the instructions by attending the course (mandatory if envisaged for the specific type of machine) for training in the use of the machine.

The course is held by personnel authorised by the manufacturer.

It is advisable to ensure that more than one operator attends the training course.



#### **Note**

**If provided, the training course is designed to present the information given in the “Operating instructions” and provide immediate clarification of any doubts, effectively improving the training of operators in compliance with the requirements of statutory legislation.**

After the initial training course other personnel can be trained by qualified operators if the owner considers that the qualified operators in question possess the necessary abilities to pass on the skills they have learned.

#### A.5.2. Builder

The manufaturere is not responsible for consequences due to an incorrect or inappropriate use of the machine, such as:

- methods of use in conflict with the prescribed methods.
- Lack of attention in maintenance, in controls during production process and in checking the efficiency of the tools.
- Removal or disabling of active and passive safety devices.
- Irresponsible conduct not in compliance with good common practice.

#### A.5.3. Checking the Supplied Product

On receipt of the supplied product check that the delivered material complies with the order and that the “Operating Instructions” are attached.

When the machine is delivered check it carefully for damage or missing parts. If you notice signs of damage or missing parts contact the manufacturer or LOCAL AGENT.

When the product is received, in the presence of inconsistencies, missing material, or manifest signs of damage, inform the manufacturer immediately, write your reservations clearly on the delivery note and immediately send a documented report to the shipping agent’s insurance company, complete with photographic evidence of the problem(s).



### A.6. Intended use

In accordance with Machine Directive 2006/42/CE, these machines may only be used by personnel defined “professional”.

Moreover, this staff has to be “qualified” for using the specific machine, through proper “formation and information” (by and to the account of the customer) and through these “Instructions for use” that have to be at disposal of the operator before using the machine.

The machine has been designed to lift operator(s) with the limits indicated in this publication.

The machine must be used and manned by at least 2 operators (one at a height and one on the ground).

### A.7. Improper use

It is strictly prohibited to use the machine for any purpose other than that described in chapter “Intended use” - “General safety rules”.

### A.8. Symbols utilised

Below are the symbols used in this manual which point out to the reader the various levels of danger in the operation and maintenance of the machine.



#### **Danger**

Information or procedure that, if not carefully carried out, could lead to death or heavy injuries or machine damages.

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#### **Attention**

Information or procedures which advise the operator as to how best to use the machine to prolong its life, avoid damage or loss of programming data, and optimize the work in compliance with the standards.

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#### **Note**

Ancillary information.

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## A - GENERAL INFORMATION

### A.9. Glossary

<b>Operator/User/Machine operator</b>	In compliance with the ENISO12100 and 98/37/CE harmonised standards, an operator is defined as the person or persons in possession of the skills and information necessary in order to guarantee total safety during the installation, operation, adjustment, maintenance, cleaning, repair and transportation of the machine.
<b>Danger</b>	Situations or actions that could be the source of possible injury to persons or animals or damage to property.
<b>Exposed person</b>	Anyone who is entirely or partly inside a danger zone.
<b>Risk</b>	Combination of the probability and degree of seriousness of possible injury or harm to health in a dangerous situation.
<b>Hazardous zone</b>	Any area inside and/or in the proximity of a machine in which the presence of an exposed person constitutes a risk for the health and safety of such a person.
<b>Routine maintenance</b>	<p>Operations, planned by the manufacturer for machine checks and maintenance which do not require particular tools or mechanical knowledge.</p> <p>These are operations such as: Lubrication, greasing, the replacement of components subject to regular wear and dealing with any looseness due to use.</p> <p>These operations can be carried out by the machine operator in accordance with the indications shown in this manual with the tools supplied or easily found.</p>
<b>Non-routine maintenance</b>	Operations, both planned by the manufacturer and not, necessary to conserve and restore the safety, efficiency and functionality of the machine and also those which are unexpected and caused by breakages or wear due to particular events during use which require the compulsory intervention of a specialised operator, approved by the manufacturer and in possession of tools suitable for the purpose.
<b>Intended use</b>	Machine used in compliance with the information provided in the operating instructions.
<b>Incorrect use that can be reasonably expected</b>	Machine used in a manner not indicated in the operating instructions, but which could result from human behaviour which may be reasonably expected.
<b>Protection</b>	Safety measures that consist in the use of specific technical means, designated "protections" (guards, safety devices), to protect persons from potential hazards that cannot be reasonably eliminated or sufficiently restricted by means of design strategies.
<b>Guard</b>	Machine element used specifically to guarantee protection through a material barrier.
<b>Safety device</b>	Electrical or mechanical device that prevents accidents and/or damage to property and personal injury; activation of safety devices may be voluntary when performed by an operator or may be caused automatically by the presence of a potential hazard (opening of a protection or access to a certain area).
<b>Basket</b>	<p>Container, connected to the working platform, where one or two operators have their positions, according to the capacity of said platform.</p> <p>Its purpose is to protect and support operators who need to work at a height.</p>
<b>Basket</b>	See "Basket"

## A - GENERAL INFORMATION

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<b>Working platform</b>	This is a machine designed to make a working area accessible at a certain height to operators with their equipment.
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## B - DESCRIPTION

### B.1. Identification dataplate

The machine identification plate is fixed on one side of the machine.  
The following specifications are stamped on the plate:

**PL/TFORM BASKET**  
REGGIO EMILIA - ITALIA  
VIA GRANDE, 27 POVIOLIO - TEL 0522 967666 FAX 0522 967667  
www.platformbasket.com

DESIGNAZIONE / DESIGNATION: P.L.E. (Piazzola di Lavoro Elevabile) / M.E.W.P. (Mobile Elevating Work Platform)

MODELLO / MODEL:  MATRICOLA / SERIAL NO.:  ANNO FABBRICAZIONE / YEAR MFD:

1. Model

2. Serial number

3. Year of manufacture

MASSA / MACH. WEIGHT:  Kg  
POTENZA / EXTERNAL POWER:  KW  
PORTATA / CAPACITY:  Kg  
PERSONE N° / MAX. NO. OF PERSONS:   
ATTREZZATURA / MAX. KGS OF EQUIPMENT:  Kg  
VELOCITA' MAX VENTO / MAX WIND SPEED:  m/s  
INCLINAZIONE MAX / MAX INCLINE:  °  
SPINTA MANUALE MAX / MAX MANUAL FORCE:  daN

CE

L<sub>W/A</sub>  
dB

880179

1. Model
  2. Serial number
  3. Year of manufacture
- and other technical information regarding the machine.



#### Attention

**For any requests covered by the guarantee or for spare parts, indicate the model number (1) and the serial number (2).**

## B - DESCRIPTION

### B.2. Applied signals

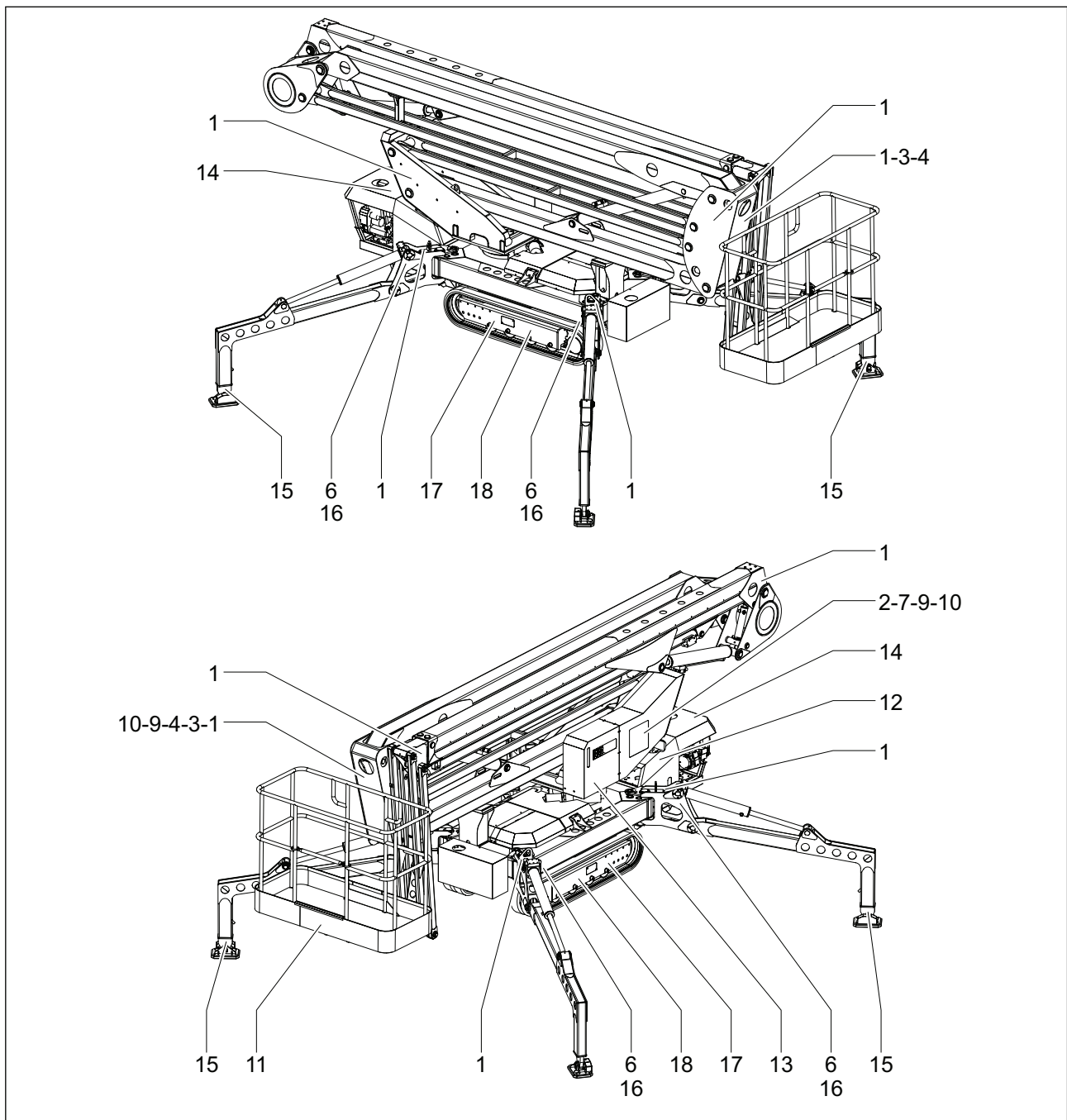


#### Attention

Printed indications may be present on the commercial parts and are the responsibility of the manufacturer of the commercial part.

Its description is not given in the manual.

#### B.2.1. Where to apply the signals



## B - DESCRIPTION

### B.2.1.1. Danger signs

1 LIMB CRUSHING RISK



2 DANGER: LIVE ELECTRICAL PARTS



3 COLLISION HAZARDS



4 RISK OF FALLING TOOLS



5 LIMB CRUSHING RISK



6 DANGER OF TENSIONED ROPES OR BELTS



### B.2.1.2. Prohibition signs

7 DO NOT USE WATER TO EXTINGUISH FIRE ON ELECTRICAL PARTS



8 MUST NOT BE WALKED ON



## B - DESCRIPTION

### B.2.1.3. Other decals

#### 9 SAFETY RULES



#### 10 READ THE MANUAL BEFORE USING THE MACHINE



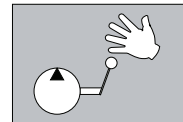
#### 11 MAXIMUM BASKET LOAD



#### 12 TOPPING UP OIL



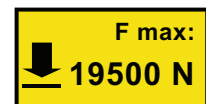
#### 13 MANUAL EMERGENCY PUMP



#### 14 UNLEADED FUEL (Petrol engine only)



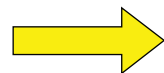
#### 15 GROUND PRESSURE



#### 16 LIFTING COUPLING POINT



#### 17 FORWARD MOVEMENT



#### 18 BACKWARD MOVEMENT





## B - DESCRIPTION

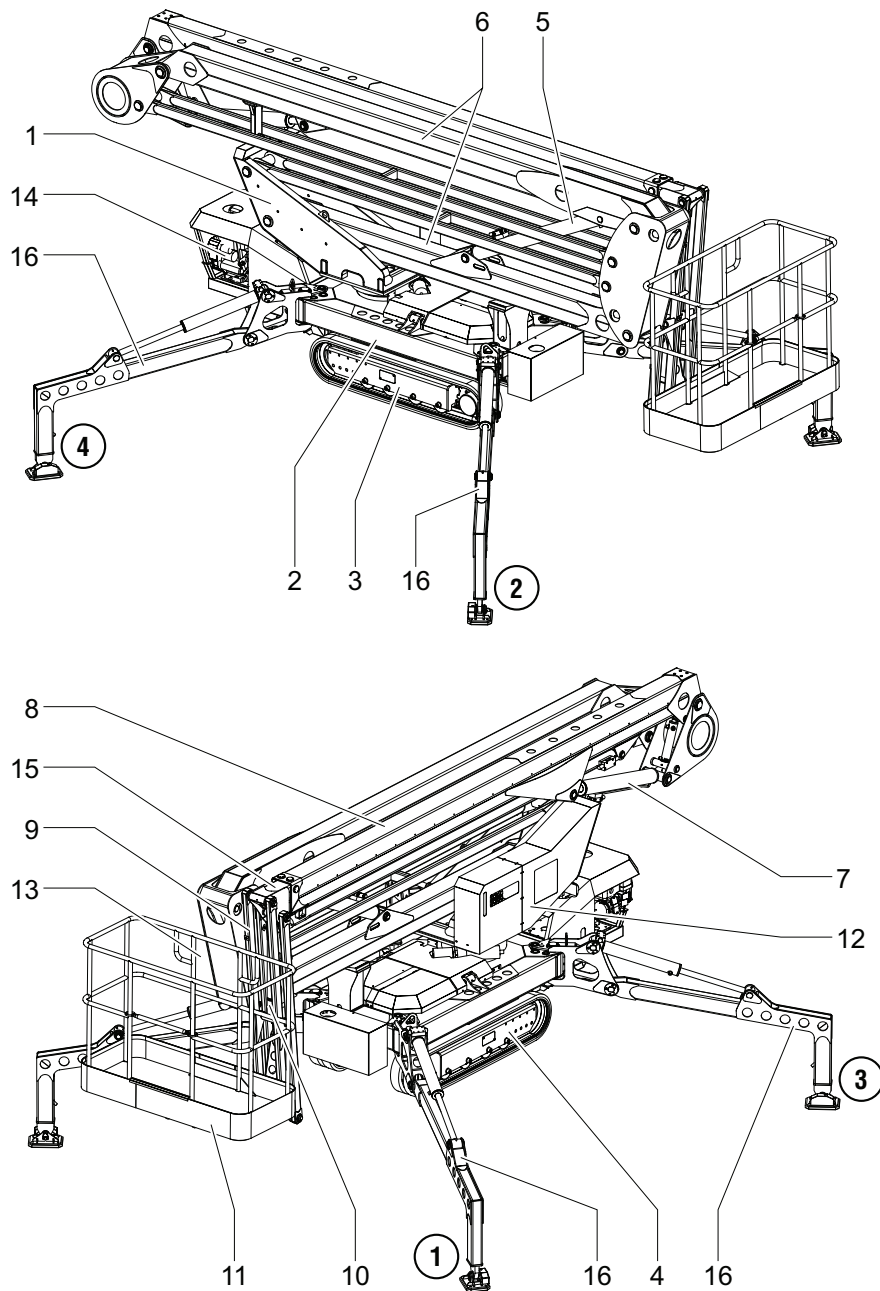
### B.3. Machine description

#### B.3.1. Main components



##### Note

The model illustrated may be slightly different from the model in possession.



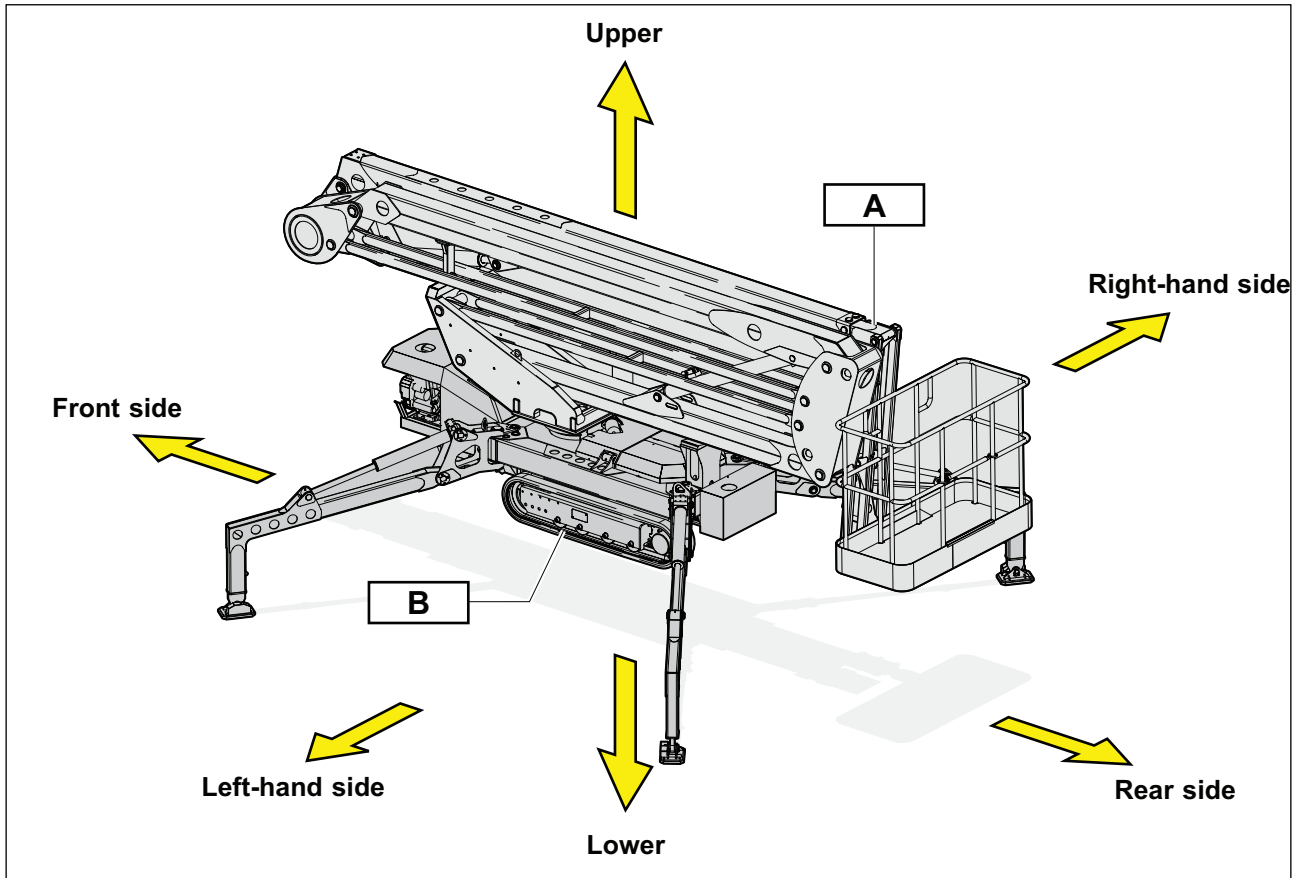
## B - DESCRIPTION

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1. Turret
2. Truck
3. Left track
4. Right track
5. Scissor booms lifting cylinder
6. Scissor booms
7. telescopic boom lifting cylinder
8. telescopic boom
9. Jib
10. Jib articulation cylinder
11. Basket
12. ground controls
13. Controls in the basket
14. Engine unit
15. Telescopic element
16. Rear right stabiliser ①
16. Rear left stabiliser ②
16. Front right stabiliser ③
16. Front left stabiliser ④

## B - DESCRIPTION

### B.4. Orientation



**A** - Superstructure

**B** - Ground part (Truck - Undercarriage - Stabiliser)

### B.5. Machine conditions

On restarting the machine after production has been stopped due to any reason, before proceeding check to ensure the machine has not been tampered with.

#### B.5.1. Production pause

When the machine is stopped from working for some hours we state that the machine is in configuration of staging work (such as: end of the shift, absence of the operator employed on driving the machine, lunch break, etc.)

In the case the general conditions of the machine must be:

- Machine switch-off at main ON/OFF circuit breaker.
- Emergency pushbutton pressed.
- Hatches and panels equipped with locked locks.
- Keys removed.
- The operator can now temporarily leave the machine unmanned.
- The work zone must be delimited and marked.



#### Note

**If the operator remains in the area, it is not essential to lock doors and panels equipped with locks.**

---

#### B.5.2. Prolonged shutdown

When the machine is to remain disused for periods in excess of 3 days (e.g.: due to unavoidable absence of the operator responsible for running and manning the machine, holiday shutdowns, etc.). In these cases the general conditions of the machine must be as follows:

- Machine switch-off at main ON/OFF circuit breaker.
- Hatches and panels equipped with locked locks.
- Keys removed.
- Emergency pushbutton pressed.
- Machine cleaned and disconnected from all energy supplies.
- If the maintenance schedule so requires, all the necessary maintenance work must be performed.

#### B.5.3. Momentary stop

Machine in momentary stop configuration refers to situations in which operation of the machine is suspended for brief periods.

In this case the general conditions of the machine must be as follows:

- Machine switch-off at main ON/OFF circuit breaker.
- Emergency pushbutton pressed.
- Operator present in the machine control station.
- The work zone must be delimited and marked.

#### B.5.4. Working condition

Machine in working configuration refers to situations in which the machine is operational and running. In this case the general conditions of the machine must be as follows:

- The machine is switched on at the main ON/OFF circuit breaker.
- Operator present in the machine control station.
- In the machine working area, there is an operator who mans the machine and the ground controls.
- There must be no other operators in the machine working area.
- The work zone must be delimited and marked.

## C - TECHNICAL SPECIFICATIONS

### C.1. Technical specifications

Maximum working height	m	21,70
Walkway height	m	19,70
Maximum lateral range (Basket edge + 0,5 m)	m	10,30
Maximum basket load	kg	200
Basket rotation angle	°	90+90
Turret rotation angle	°	360
Jib length	mm	1620
Closed length	mm	5975
(Basket disassembled)	mm	5280
Minimum closed width	mm	1000
Minimum closed height	mm	2065
Carriage width	Min	mm 940
	Max	mm 1250
Height from the ground	Min	mm 200
	Max	mm 280
Aluminium basket dimensions	m	1,5 x 0,7
Maximum speed	Km/h	1,5
Electric pump	kw	2,2
Net installed power	Diesel	kW 12,5
	Gasoline	kW 9,5
Measured sound power Lwa	dB(A)	102
Guaranteed sound power Lwa	dB(A)	104
Sound pressure	dB(A)	< 85
Controls		proportional
Maximum gradient which can be exceeded		deg 16° (29%)
Maximum lateral gradient		deg 17° (31%)
Total trasmitted vibration		<= 0.5 m/s <sup>2</sup>
Tires		tracks
Hydraulic tank	l	48
Fuel tank	Diesel	l 12
	Gasoline	6
Total weight	kg	3000(*)
Maximum force transmitted to the ground	daN	2000
Inclinometer		Yes
Maximum inclination	°	1
Electric circuit	V	12
Battery	Ah	55
Work with wind at	km/h	45
Overall stabilisation dimensions	Min	m 2,57 x 5,05
	Max	m 3,87 x 3,94
Track pressure on the ground	N/cm <sup>2</sup>	6,50
iGX440 Honda—Gasoline	kW/rpm	9,5/3600
Z602E Kubota—Diesel	kW/rpm	12,5/3200

## C - TECHNICAL SPECIFICATIONS

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<sup>(\*)</sup> May vary depending on configuration

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### **Standard equipment**

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Remote control

---

Adjusting stabilization

---

Automatic range control

---

Basket load control

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Basket rotation 90° + 90°

---

Expandable hydraulic tracked carriage

---

220 VAC electric pump for internal use

---

Air/water lines in basket

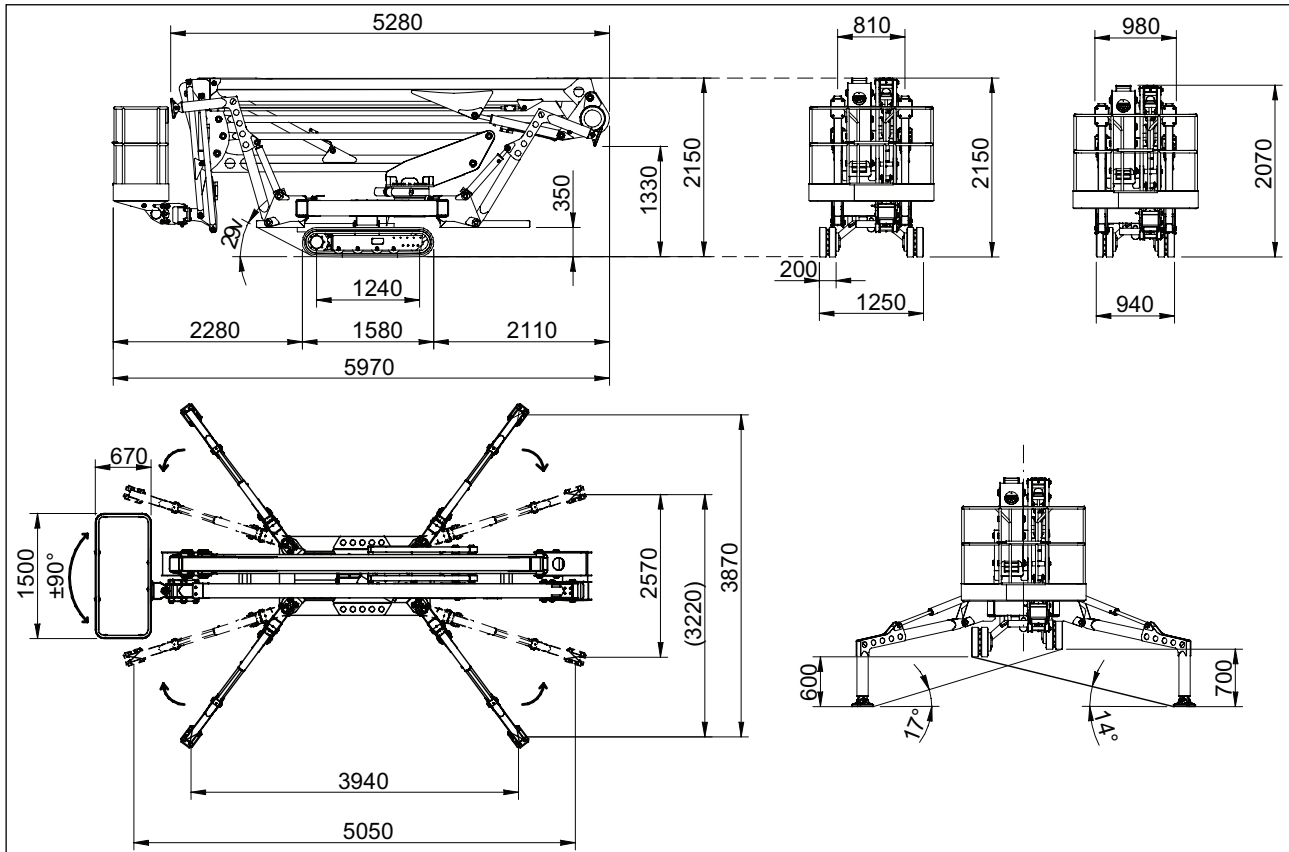
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In compliance with the EN280 European standard

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## C - TECHNICAL SPECIFICATIONS

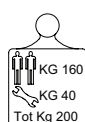
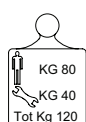
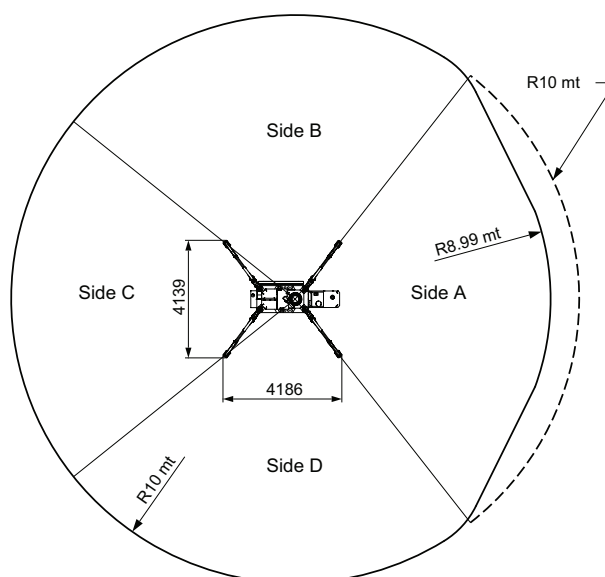
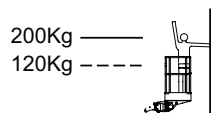
### C.1.1. Overall dimensions



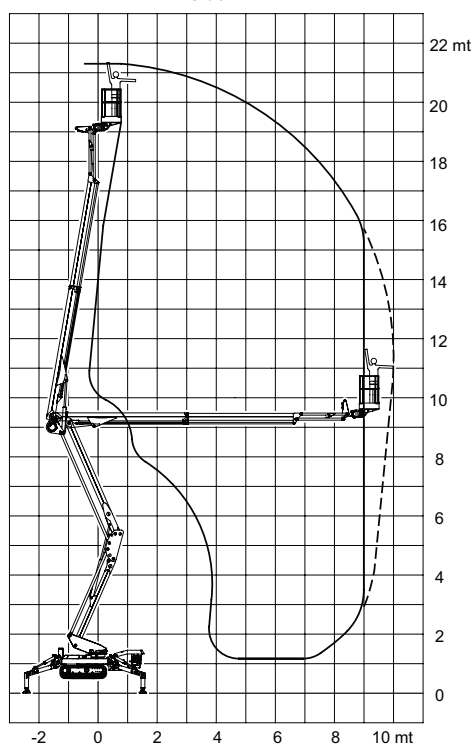
## C - TECHNICAL SPECIFICATIONS

### C.1.2. Load diagrams

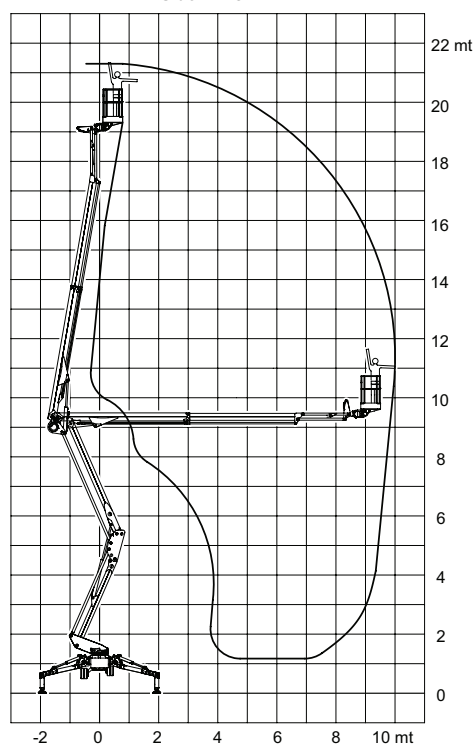
#### C.1.2.1 1 stabiliser configuration



Side A



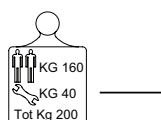
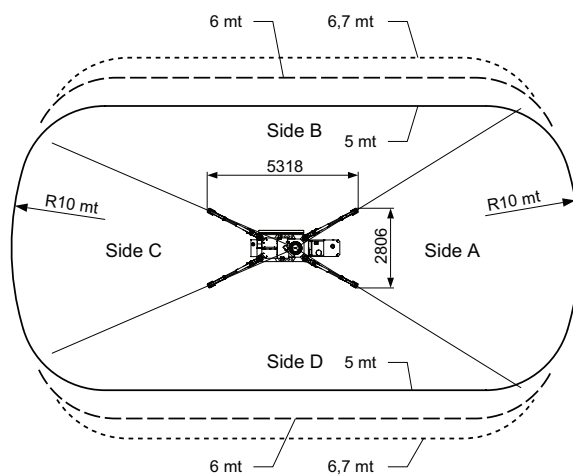
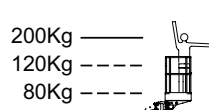
Side B - C - D



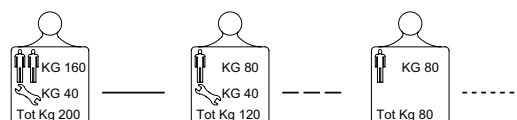
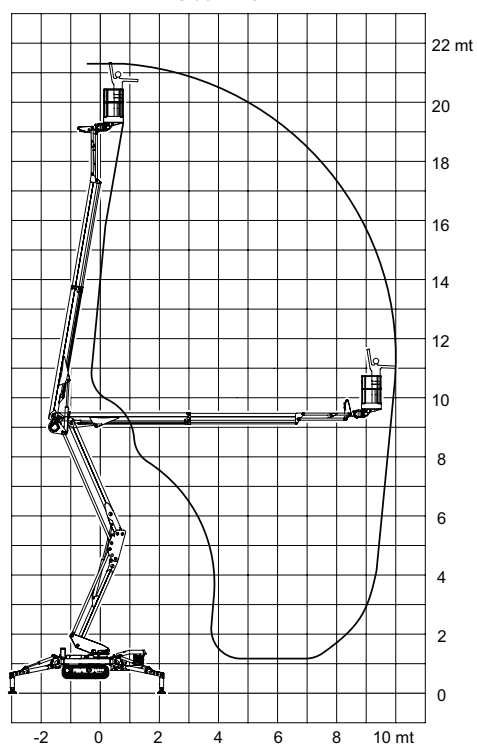


## C - TECHNICAL SPECIFICATIONS

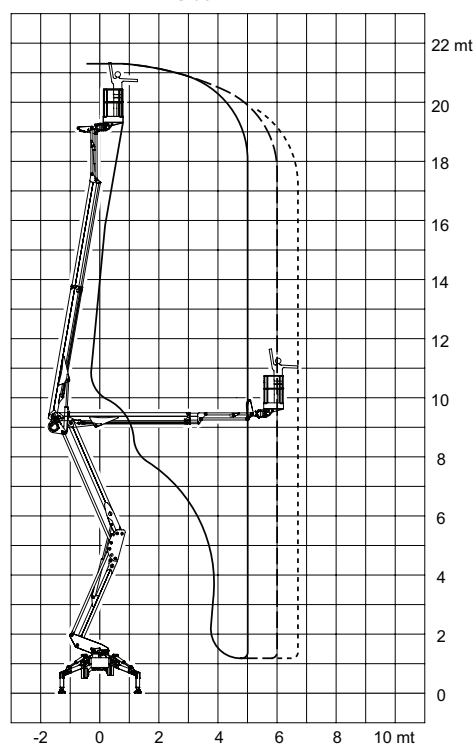
### C.1.2.2 2 stabiliser configuration



Side A - C

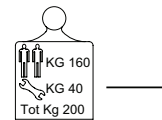
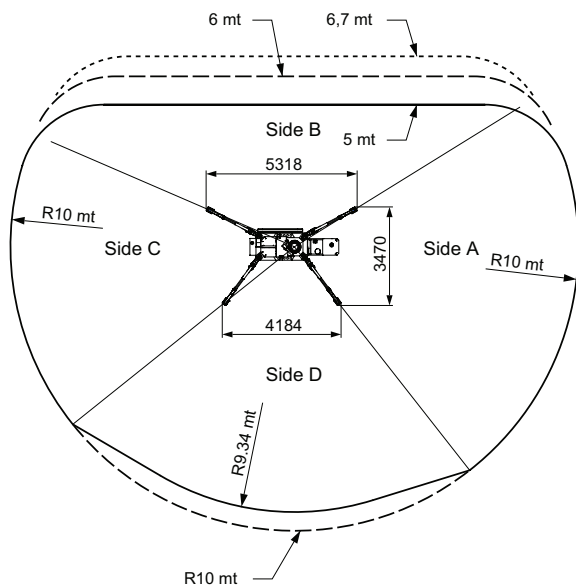
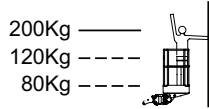


Side B - D

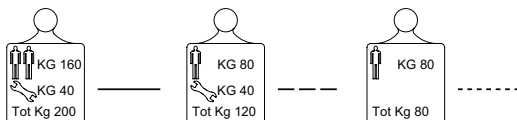
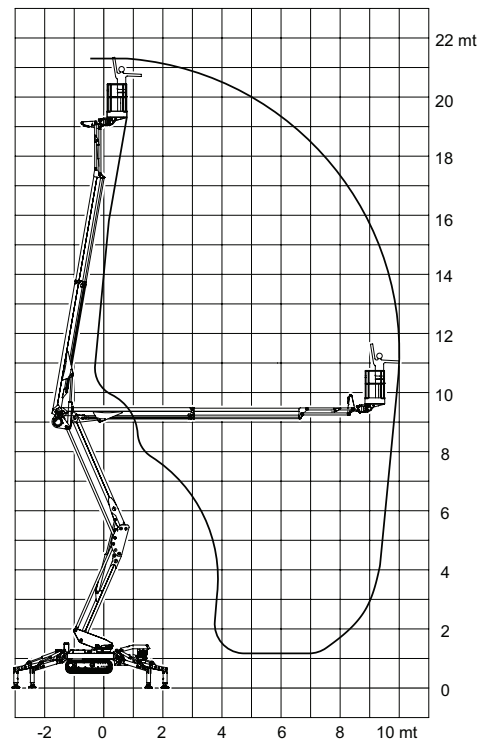


## C - TECHNICAL SPECIFICATIONS

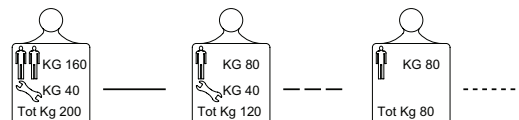
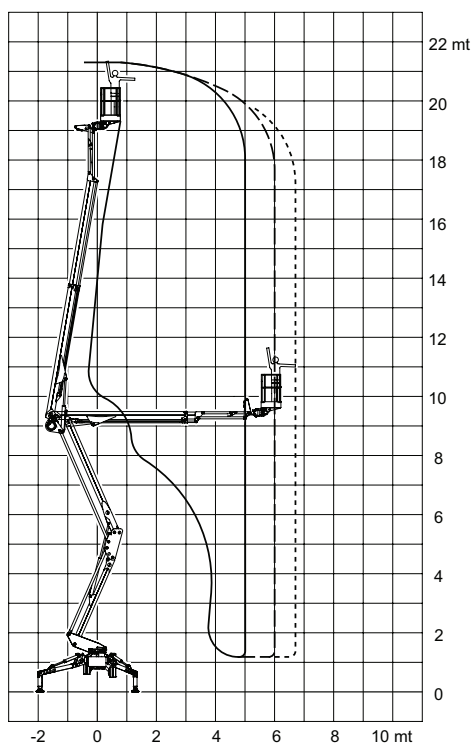
### C.1.2.3 3 stabiliser configuration



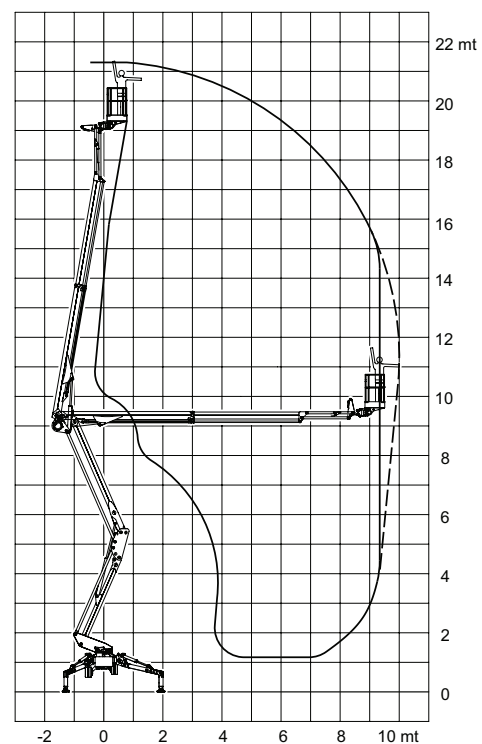
Side A - C



Side B



Side D



### D.1. General safety rules

Most of the accidents that occur at work are due to negligence in the maintenance or operation of the machine.

It is therefore necessary to read this manual so as to be able to operate in the greatest possible safety and always maintain the machine in a state of efficiency.

- Maintain a distance of more than 5 m from live electrical cables.
- Maintain a distance of at least 2 m from areas with large level differences (ditches, rough or steep ground, etc...)
- Ensure that there is enough fuel to avoid a forced stop of the machine.
- Wear a safety helmet and safety belt connected to the special hook in the basket.
- The handles and running boards must be kept clean of mud, oil, grease and other substances.
- It is forbidden to load the basket at a height.
- It is forbidden to use the basket to lift loads.
- Overloading, lifting sideways, sudden shocks, brusque and sudden movements of the basket are forbidden.
- The machine can only be used on ground that is solid enough for all four stabilizers to be set on the ground .
- Before each work session check the passive and active safety measures.
- The machine may be used only and exclusively when in good working order.
- The basket operator must be assisted by a suitably trained person on the ground.
- It is forbidden to get on or off the machine when it is being controlled from the ground.
- It is forbidden to remove, except for the purposes of maintenance, the protective panels and/or casings.
- It is forbidden to stabilise the machine unless all the pins that secure the stabilisers have been inserted
- When moving the machine over uneven or inclined ground, ALWAYS keep the stabilisers OPEN and NEAR to the ground.  
This arrangement of the machine is ALWAYS advisable unless it impedes movement through narrow passages.
- Never open the motor compartment without previously cutting off the current from the control panel on the ground.
- In the area under the working range of the basket there must be no obstacles or causes of danger to the descent of the basket.
- Make sure that nobody is present in the area below the basket working area and prevent access if necessary.
- It is forbidden to leave the machine in a state other than the rest position and without first removing the keys from the control panel.
- It is forbidden to use the machine when there is lightning or when weather conditions are likely to produce lightning.
- Before boarding the basket ensure that it is horizontal and if necessary adjust it by means of the special controls.
- It is forbidden to use the machine where the wind speed is greater than 12 m/s.
- Never move over a slope or on ground that could give way.
- In conditions of poor visibility it is forbidden to use the machine as it is not provided with its own illumination.
- It is forbidden to drive the machine on roads open to traffic.  
The machine is not homologated for such use.
- An operator must not accept operative responsibility unless adequate training has already been given by competent authorized personnel.

## D - SAFETY

---

- Before commencing operation check the work area for overhead electrical power lines, other machinery such as bridge cranes, machinery operating on the road or rails and building equipment.
- Before starting work the operator and the person in charge must take suitable precautions in order to avoid known dangers.
- Do not operate the machine unless maintenance has been done in compliance with the specifications and the expiry dates indicated by the manufacturer.
- Ensure that daily inspections and checks on correct working are carried out before using the machine.
- Check that there is enough space above, beside and under the basket when performing lifting, descent, boom rotation or when using the telescopic function.
- Make sure that the operators of other aerial or ground machines are aware of the presence of the aerial basket.  
Switch off the current to aerial cranes.  
If necessary place obstacles on the ground.
- Do not push or pull the machine or other objects using the telescopic mechanism of the boom.
- Do not rest parts on the basket railing without the approval of the manufacturer.
- Never use the boom other than for moving personnel, their tools and equipment to the work position.
- Never exceed the rated capacities of the basket.  
Consult the load diagrams shown in this manual.  
Place loads evenly on the floor of the basket.
- Never work with a machine in poor working condition.  
If there should be a break down, stop the machine, place a CLEARLY VISIBLE sign and advise the personnel in charge.
- Sudden or acrobatic movements must not be done on the basket.
- The operator is prohibited to move between the basket and a structure outside the machine, machine stability could be jeopardised. Staff and equipment must enter and exit the basket only when the same is on the ground.
- Never use ladders or steps, or similar objects on the basket or under the machine in order to obtain additional reach for any reason.
- When moving about or working on the basket both feet must be firmly placed on the bottom of the basket.
- Never walk on the boom to reach the basket or to leave it.
- If the boom or the basket is trapped with one or more stabilizers raised from the ground, all the personnel must be removed from the basket before setting about freeing the machine.  
If necessary use cranes, forklift trucks or other equipment to remove personnel and stabilize the machine.
- The operator is responsible for preventing personnel on the ground from using the machine controls and warning them not to work, walk or stop under the boom or the basket.  
Cordon off the machine at ground level if necessary.
- When the machine is to be relocated, check that there are no people, holes, gutters, sudden changes in ground level, obstructions, debris and covers that may hide holes or other hazards.
- Do not move the machine on gradients higher than those indicated in the technical specifications.

- The machine cannot be moved with the boom raised over the limit set by the machine's logic.
- To prevent the machine from toppling over do not drive over soft or uneven surfaces.
- Ensure that the conditions of the ground are adequate to sustain the maximum load for the stabilisers and if necessary improve the supporting surface using strong wooden planks.
- Do not drive the machine near to ditches, loading bays or other changes in ground level.
- When relocating the machine check that there are no obstructions around or above the machine while it is in motion.
- When moving the machine the stopping distance must be known.
- Where visibility is obstructed call for an assistant and use the acoustic warning signal.
- When the machine is moving, keep all non operative personnel at least 2 m away.



### **Attention**

**The machine has an operating keyboard with a display; on this display all the control components that are broken are listed.**

**Therefore, before starting work with the machine ALWAYS check the display for alarm signals.**

---

### D.2. Preparation and inspection

#### D.2.1. General preparation

This section provides the personnel responsible for making the machine ready and for its entry in operation with the information necessary and lists the checks that are to be done before operating the machine.

It is important that the information given in this section is read and understood before using the machine.

Ensure that all the necessary inspections have been done with positive outcomes before using the machine.

These procedures have the purpose of lengthening the working life of the machine and guaranteeing its safety.



#### **Attention**

**Since the manufacturer is unable to exercise any direct control over the inspections on the spot and maintenance work, these activities fall under the exclusive responsibility of the owner and the operator.**

---

#### D.2.2. Making ready for use

Before using a new machine it is necessary to inspect it carefully for any evidence of damage sustained during shipment and then to give it routine inspections as indicated in the section "Inspections to be done routinely and on receiving the machine".

During start up and initial operation, the machine must be checked carefully for hydraulic fluid leaks. Check that all the components are secured in position.

The activities for making the machine ready for use come under the responsibility of personnel in charge.

Make ready requires common sense (for example the telescopic boom should extend and retract without encountering obstacles and the brakes should work correctly) combined with a series of visual inspections.

The activities for making the machine ready for use come under the responsibility of personnel in charge. Make ready requires common sense (for example the telescopic boom should extend and retract without encountering obstacles and the brakes should work correctly) combined with a series of visual inspections. The compulsory requirements are listed in the section "Daily visual inspections".

It is necessary to verify that the directions listed in the sections "Inspections on receipt", "Routine Inspections" and "Daily working order check" have been followed.

#### D.2.3. Inspections to be done routinely and on receipt



#### **Note**

**Annual inspection must be done no more than 13 months after the previous annual inspection.**

**The inspection must be carried out by qualified personnel who have experience with our products.**

---

The following list systematically outlines the inspection procedure aimed at detecting parts that are defective, damaged or incorrectly installed. The list indicates the components to be inspected and the conditions to be examined.

Regular inspections should be done after every 3 months or 150 hours of use, whichever expiry comes first or at closer intervals where environmental conditions or heavy duty and frequency of use require.

This list is also applicable for machines placed in storage or those exposed to severe or changeable climates and must be carefully followed.

These inspections must also be done after maintenance work has been carried out.

### D.2.3.1. Frame

- Check that the belts are not worn or loose, that all parts and bolts are in position and tight.
- Check that the stabilizer are locked into position, that they do not show signs of damage and that the hydraulic pipes do not leak.
- Check that the cylinders for the stabilizer feet are tightened in position, do not show evident signs of wear and that the hydraulic piping shows no leakage .
- Check that the microswitches on the stabiliser feet are tightened.
- Check that the solenoid valves and hydraulic tubes are not damaged or leaking and that they are secured in position.  
Check the electrical voltage and make sure there are no traces of corrosion on the electrical connections.
- Check the drive gears, electrical or hydraulic motors, brakes and any hydraulic tubes present for damage or leaks.
- Check that the ground controls do not have loose or missing parts and that all parts are locked in position.
- Check the voltage in the electrical connections, make sure that there are no traces of corrosion or exposed wires.  
Ensure that all the switches work properly.
- Check the oil level in the drive gears (if necessary contact the service personnel for assistance).



#### **Note**

**The drive gears must be half full of lubricant oil.**

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- Check the batteries (if present), ensuring that the bleed valves are not loose or missing, that the electrical connections are secure and are not corroded and that the electrolyte level is correct.
- Check that the tank and hydraulic pipes are not damaged or leaking and that the refill plug is locked in position.
- Check all electrical cables for damaged or missing parts.
- Check accessories, making certain that they are not damaged, that no parts are loose or missing, and that they are locked in position.
- Check all the access doors for damage and that the locks and hinges work correctly and are secured in position.
- Check that the fuel lines are not damaged or leaking and that they are secured in position.

### D.2.3.2. Turret

- Check the turret for damage, loose or missing parts and that it is locked in position.  
Check that the rotation gears and its brake do not show signs of damage, loose or missing parts, that the hydraulic pipes and the component housings do not show signs of leaks; check that the slewing gear is not worn.
- Check the slewing ring for damage, wear, lubricant and for loose or missing bolts.
- Check that the solenoid valves and hydraulic tubes are not damaged or leaking and that they are secured in position.  
Check the electrical voltage and make sure there are no traces of corrosion on the electrical connections.
- Check the voltage in the electrical connections, make sure that there are no traces of corrosion or exposed wires.  
Ensure that all the switches work properly.
- Check that the securing bolts of all the pins are tightened in position and do not show signs of wear.
- Check that all the joints of moving parts are lubricated.
- Check that the hydraulic directional control valve and its tubes are not leaking or damaged.

### D.2.3.3. Booms

- Check that the booms, cylinders and pins are locked in position and do not have damaged or missing parts.
- Check that the securing bolts of all the pins are tightened in position and do not show signs of wear.
- Check that the hydraulic pipes and electrical cables are secured in position and do not have damaged or missing parts.
- Check all the bushings for signs of wear or damage.
- Check that all the joints of moving parts are lubricated.
- Check that the sliding blocks have no visible signs of damage, missing parts and that they are locked in position.
- Check that the chains (if any) of the sliding parts have no signs of damage or missing parts and that their tension is correct.

### D.2.3.4. Basket

- Check that the basket and the control panel are in position and that there are no damaged, loose or missing parts.
- Check that the switches, control levers and electrical connections are not live and that there are no traces of corrosion.  
Check that all the cables are not defective or damaged.  
Ensure that all the switches work properly.
- Check that the basket rotation system is secured in place, well-lubricated, operates correctly and is not damaged.  
Check that the hydraulic pipes are secured in position and that they are not damaged or leaking.



#### Note

**Check that all the signs DANGER, WARNING, INSTRUCTION applied all over the machine are in position and legible.**

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### D.2.4. Bolt and screw tightening

The tightening torque table (see the pages specified) consists of standard torque values, based on the diameter and the class (hardness) of the screws; this also establishes the torque values with and without lubricants according to the practice recommended by the factory.

This table is provided for the purpose of helping the user or the operator if the need should arise for immediate adjustment during an inspection or operation so that the maintenance service personnel are informed.

Using the tightening torque table in combination with the index of the points to be tightened shown in the chapter entitled "Maintenance" will improve the safety and performance of the machine.

### D.2.5. Daily visual inspection

Inspection on workdays before starting up the machine comes under the responsibility of the operator and the user.

Operators and users are advised to inspect the machine before use, even if the machine has already been used by another user/operator.

This daily visual inspection is the best inspection system.

These checks must also be made after maintenance has been done to the machine.

In addition to the daily visual inspection, make sure that the following operations are included as a part of the daily inspection procedure

- General cleaning  
Check that all the weight-bearing surfaces are free of spills of oil, fuel, hydraulic oil, mud and foreign bodies. Check the general cleanliness.
- Plates  
Keep all the plates showing information and control labels clean and visible. To keep them visible it is advisable to cover them when spraying paint or sand blasting.
- Owner's manual  
Ensure that a copy of this manual is kept in the special container.
- Machine logbook  
Ensure that notes are kept, or even better a logbook for the machine; ensure that it is kept up to date and that nothing is left in doubt, as this could reduce the safety of the machine.
- Begin each working day with the batteries charged and/or a full tank of fuel.



#### **Attention**

**To avoid injury, do not operate the machine unless all breakdowns have been repaired.**

**The use of a defective machine constitutes a violation of the safety rules.**

**To avoid injuries ensure that the electrical current is switched off during the daily visual inspection.**

---



#### **Note**

**Check visually and manually that the safety micro-switches are in position and that they are working correctly.**

---

- Check that the brakes work correctly when the machine is moving on a slope with gradient not exceeding the specification in the technical data, and stop the machine.



#### **Note**

**After changing the oil on new and recently overhauled machines and all those which have had the hydraulic oil changed, operate all the movements for at least two full cycles and check the oil level in the tank again.**

---

- Ensure that all the parts requiring lubrication are given maintenance.  
Refer to the specific pages for the methods to be adopted.

### D.2.6. General inspection

Begin the visual inspection from the number on the list shown below. Continue to check the condition of each part indicated in the list of daily visual inspection checks.



#### **Attention**

**To avoid injury, do not operate the machine unless all breakdowns have been repaired. The use of a defective machine constitutes a violation of the safety rules.**

**To avoid injuries ensure that the electrical current is switched off during the daily visual inspection.**

---



#### **Note**

**Do not underestimate the importance of inspecting the base of the frame.**

**Checking this area often reveals conditions that can cause serious damage to the machine.**

---

#### **1 Basket overall**

- No loose or missing parts.
- No damage visible.
- The clevis pins and/or trunnions should be locked in position.
- The pedal switch should be in good working condition, should not have been modified, deactivated or blocked.

#### **2 Control panel on the basket**

- The switches and control levers should be in neutral and in the correct position.
- No loose or missing parts.
- No damage visible.
- All labels and plates should be present, intact and legible.
- All control signs should be legible.

#### **3 Levelling cylinders**

- No damage visible.
- The trunnions should be locked in position.
- The flexible pipes should have no visible damage or traces of leakage.

#### **4 Booms / lifting cylinders and extension cylinders**

- No damage visible.
- The trunnions should be locked in position.
- The flexible pipes should have no visible damage or traces of leakage.

#### **5 Limiter micro-switches**

- Micro-switches should be in good working order.
- No damage visible.

#### **6 Brakes, gears, drive motor**

- No damage visible.
- No signs of leakage.

#### **7 Track assembly drawing**

- Notched wheel correctly positioned and tight .
- No nuts, bolts or screws should be loose or missing.
- No damage visible.
- Track in good condition.

#### **8 Hydraulic oil filter**

- The filter should be correctly locked in position.
- No damage visible.
- No signs of leakage.

#### **9 Cover panels**

- Covers should be correctly secured in position.
- No loose or missing parts.

#### **10 Control solenoid valves**

- No loose or missing parts.

- No signs of leakage.
- No electrical cables or flexible tubes should be unsupported.
- No electrical cables should be damaged or broken.

### 11 Fuel feed

- Fuel tank cap should be locked in position.
- There should be no visible damage to the tank and no sign of leakage.
- Correct level.

### 12 ground controls

- Switches should be working.
- No damage visible.
- Labels should be in place and legible.

### 13 Hydraulic oil tank

- The oil level should be correct (check the level when the oil is cold, the components are not moving and the machine is in the rest position).
- The cap should be locked in position.

### 14 Batteries

- The electrolyte level is correct.
- Electrical cables are secured without visible signs of damage or corrosion.

### 15 Motor air filter

- Correctly locked in position.
- No loose or missing parts.
- No damage visible.
- Clean air filter.

### 16 Motor oil

- Correct oil level on the dip stick.
- Fuel tank cap should be locked in position.

### 17 Hydraulic pump

- No loose or missing parts.
- No signs of leakage.

### 18 Exhaust pipe and silencer – correctly locked in position

- Exhaust pipe and silencer – correctly locked in position .
- No signs of leakage.

### 19 Slewing ring of the turret

- No loose or missing screws or nuts.
- No damage visible.
- Appropriate lubrication.
- No signs of loosening between the bearing and the structure.

### 20 Swivel motor and gears

- No loose or missing screws or nuts.
- No damage visible.
- Appropriate lubrication.

### 21 Basket rotation cylinders (if present)

- No damage visible.
- Flexible pipes should not be damaged and should not leak.

#### D.2.7. Daily working checks

Once the visual inspection has been completed, it is necessary to do a working check of all the systems in an area free of ground and aerial obstructions.

First use the ground controls and check all the functions operated by these controls.

Then use the controls on the basket to check all the functions operated from this position.



#### **Attention**

**To avoid serious injuries, do not operate the machine if any one of the controls that operate it does not return to its off or neutral position when released.**

---



### **Attention**

**To avoid collisions and injuries if the machine does not stop when a control is released, use the emergency stop button to stop the machine.**

---



### **Note**

**NEVER move the machine while the arm is raised from the resting position.**

---

- Lower and raise the booms of the machine.  
Check that the operation is correct and without obstacles.



### **Note**

**Carry out the checks on the ground controls first and then the basket controls.**

---

- Raise, extend, retract and lower the booms.  
Check that the operation is normal and without obstructions.
- Extend the telescopic boom so that it moves from the retracted position to the extended position and vice versa a number of times with different lengths of extension.  
Check that the telescopic mechanism works correctly and without obstruction.
- Rotate the turret to the left and then the right by a minimum of 45°.  
Check that the rotation occurs without obstruction.
- Check that the basket automatic levelling system works correctly during raising and lowering of the boom.
- Ground controls  
Rotate the general key switch to the OFF position  
None of the controls should be enabled, not even the controls in the basket.

### **D.2.8. Maintenance of the batteries**

To avoid injury caused by explosion, do not smoke near the batteries or bring a naked flame or a source of sparking close during maintenance work.



### **Attention**

**Always wear protective goggles when doing maintenance on the batteries.**

---

- The batteries do not need maintenance except for the occasional cleaning of the terminals as described below.
- Remove the cables from each terminal of the battery one at a time beginning with the negative terminal.  
Clean the cables with a neutral solution (for example: sodium bicarbonate and water or ammonia) and a metal wire brush.  
Replace the electrical cables or the screws in the terminals if necessary.
- Clean the terminals of the battery with a metal wire brush then reconnect the cables to the terminals.  
Apply mineral grease or vaseline to the surfaces that are not in contact.
- When all the cables and terminals have been cleaned make sure that the cables are secured correctly and not squashed.  
Close the battery housing cover panel.

### **D.2.9. Electric pump maintenance**

Follow the instructions given in the manufacturer's manual.

### D.3. Qualification of operating personnel

The personnel using or operating the machine must be competent and meet the following requirements:

- **Physical**  
Good eyesight, hearing, co-ordination and the ability to safely carry out all the necessary facilities required for use of the machine.
- **Mental**  
Ability to understand and apply the established safety standards, precautions and rules. personnel must be attentive, use good judgment for personal safety and the safety of others; they must think about how to carry out the work correctly and responsibly.
- **Emotional**  
Personnel must be calm and able to withstand stress and to use good judgment in regard to their physical and mental conditions

#### D.3.1. Personnel training

The lifting platform is a machine intended for use by personnel.

As a result it is essential that its operation and maintenance are entrusted only to authorized personnel who have demonstrated that they understand how to use and maintain the machine.

It is important that all the personnel assigned to the unit and responsible for the operation and maintenance of this machine follow a thorough training programme and complete a period of probation in order to become familiar with the operational features of the machine before using it.

Persons under the influence of alcohol or drugs and persons suffering from epileptic fits, dizziness or loss of motor nerve control must not be allowed to use the machine.

#### D.3.2. Operator training

Operator training is based on the following:

1. Use and limitations of the controls in the basket, those on the ground and the emergency controls.
2. Knowledge and comprehension of this manual and the control signs, instructions and warnings affixed to the machine.
3. Knowledge of all the work safety rules imposed by the employer and the laws in force, including training in regard to the recognition and prevention of potential dangers present in the place of work, with special attention to the specific job to be carried out.
4. Correct use of all the compulsory personal safety gear, especially use of safety helmets and other equipment against the risk of falling, with a cable attached to the basket at all times.
5. Sufficient knowledge of the mechanical working of the machine to be able to recognize actual or potential breakdowns.
6. The best ways to operate the machine in the proximity of suspended obstructions, other moving equipment and where there are obstructions, depressions, holes, sudden dips, etc. in the surface supporting the machine.
7. The safest ways to avoid danger from bare electrical conductors.
8. Any other requirement specific to a given application of the machine.

#### D.3.3. Training supervision

The training must take place under the supervision of a qualified operator or supervisor, in an open area without obstacles until the personnel under training have developed the ability to safely operate the lifting platform in congested areas.

### D.3.4. Operator's responsibilities

The operator must be informed that he has the responsibility and the authority to stop the machine in the case of a breakdown or other conditions of reduced safety associated either with the machine or the work place and to request instructions from the supervisor or the distributor of the product before proceeding further.



#### **Note**

**At the time of delivery of the first unit and, successively, at the request of the user or his personnel, the manufacturer or the distributor will provide qualified personnel to assist in the training of the operators.**

---

### D.4. Working clothes

Always ensure you are wearing suitable work apparel before approaching the machine and/or starting work with the machine.

When working with the machine the following precautions must be observed:

- Wear close fitting apparel without loose appendages that may be caught up in moving and rotating parts of the machine.
- Wear clothes with appropriate fastening systems (buttons, zips, velcro, etc.) and always fasten them.
- Sleeves must be close-fitting, belts properly fastened, bibs and braces correctly secured.
- Do not wear scarves, ties, etc.
- Do not wear sweaters, aprons and similar garments hanging on the shoulders or tied around the waist.
- Do not wear necklaces, chains or bracelets.
- Tie back long hair before working with the machine.

### D.5. Work and transit areas

Keep the work stations and transit areas clear of obstructions and clutter at all times.



#### **Attention**

**Do not run in the vicinity of the machine.**

**Always proceed at a walking pace, paying attention to the possible presence of obstacles.**

---

Ensure that there are no other persons in the immediate proximity of the machine during machine operation and maintenance.

### D.6. Controls

Keep all the machine controls in perfect working order at all times.

Ensure the controls identification plates are always perfectly legible.

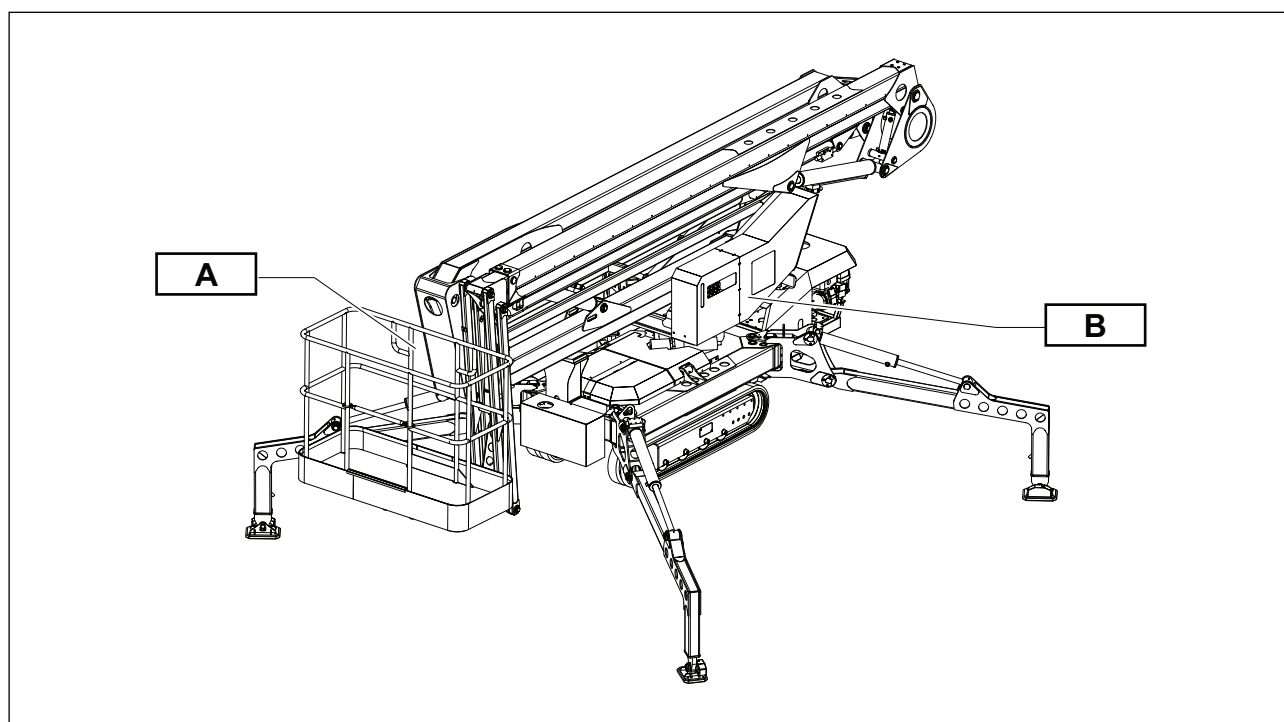
Do not place beverages or other liquid containers on the control console or on other electrical equipment: electric shock hazard in the event of spillage of liquids on electrical parts

#### D.6.1. Operating positions

The operating positions of the machine are as follows:

**A.** One operator in the basket.

**B.** On the side of the machine but NOT under the boom for the second operator on the ground.



The latter position must be used:

- to control work operations
- in case of emergency
- during movement
- during stabilization.

#### D.6.2. Emergency stop

"Emergency stop" controls are present on the machine and must be activated in the event of an immediate presumable danger.

Therefore, familiarise yourself with the position of the various stop and emergency controls so that you can act immediately if necessary.



#### **Attention**

**Before restarting the machine or parts of the machine after an emergency stop, ensure that the causes of the emergency stop have been remedied and check carefully to ensure that there are no persons or obstacles in potentially dangerous areas.**



### D.7. Residual risks and rules of conduct

During machine operation, a number of residual risks may arise; it is therefore necessary to adopt the precautions listed below.

TYPE OF RISK	Conduct to adopt
<b>Risk of electrocution</b> The machine is constructed in compliance with statutory safety regulations concerning electrical systems. There is an electric shock hazard in the case of damage to cables and electrical equipment, with the associated risk of serious or fatal injury.	Always check that electrical cabinets are in perfect condition and properly closed, and that power cables, cable glands, and electrical equipment are in perfect condition. Inform the company's maintenance service immediately in the event of damage.
<b>Fire hazard</b> Electrical equipment may be the source of fire outbreaks.	Always ensure the electrical equipment is in perfect condition and repair any damage. If a fire starts disconnect power by setting the all-pole main disconnect switch to OFF and then use extinguishers that are compatible with electrical fires.
<b>Risk of shearing</b> The risk of shearing exists during the boom movement and turret rotation phase.	Keep clear of the machine during the movement phase
<b>Danger of being hit /crushed</b> The risk of knocks and crushing exists during the movement and stabilisation phase.	Keep safe distance
<b>Risk of falling tools</b> The risk of tools or material falling from the basket exists.	Do not stand or pass under the basket.
<b>Risk of falling from a height.</b> The risk of falling from a height exists during the operator's ascent to and descent from the basket.	Hold on firmly to the designated supports.

### D.8. Personal protective equipment (PPE)

When carrying out the normal working activity and during maintenance operations it must be guaranteed that the operators are provided with and use the following personal protection devices (ppd)



**Cut-resistant and  
piercing-resistant  
gloves**

Contact with sharp parts

**Oil-proof gloves**

Contact with lubricating oil and grease and hydraulic fluid.



**Safety footwear with  
reinforced toecap and  
nonslip sole.**

Slippery floors; falling of heavy components.



#### **Attention**

**The personal protection devices must be carefully stored and replaced when damaged.**

### D.9. Method used to access hazardous areas

To prevent access to hazardous parts composed of moving parts in general, guards are present on various machine parts (made of sheet metal, metal mesh, plastic etc.) and are fixed with screws and/or nuts etc...

To avoid the risk of serious injury due to the presence of moving parts adhere strictly to the following rules of conduct.

The guards must always be present and correctly secured during machine operation.

The guards must only be removed by authorised personnel using suitable tools.

The guards must only be removed when the machine is at a standstill and cannot be restarted by third parties.

Before removing fixed guards disconnect the machine from the energy sources and affix a sign stating "Work in progress; Do not use".



Before restarting the machine, reposition the guards and secure them as envisaged by the manufacturer.

The threaded fasteners must be torqued in such a way as to prevent their removal using only the hands or makeshift tools.

### D.10. Safety regulations for machine maintenance

The maintenance operations may only be carried out by authorised personnel suitably trained and skilled and expressly authorised by the company using the machine.

Maintenance work on the machine must be performed in observance of all the safety indications given in the present publication.

Before performing maintenance work disconnect the machine from the energy sources and affix a sign stating "Work in progress. Do not use".

The instructions below must also be observed.

#### D.10.1. Consultation of technical documents

Before performing maintenance work on the machine, read the technical documentation supplied by the manufacturer and the suppliers of individual commercial parts of the machine.

In particular consult:

- Information for use.
- The diagrams of the electrical, hydraulic, pneumatic systems, etc.

The manufacturer's technical service is at your complete disposal for any information concerning maintenance work to be carried out on the parts supplied.



#### **Attention**

**In the case of operating faults do not attempt to solve any anomalous situations that may occur using makeshift means.**

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### D.11. Replacement parts

The use of non-authentic spare parts may cause machine malfunctions, which in turn may lead to hazardous situations for the operator and any individuals working near the machine.

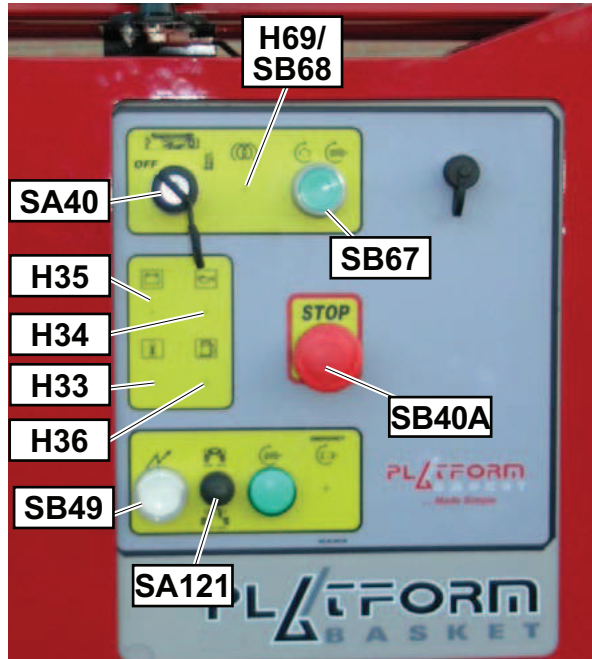



#### **Attention**

**Always use authentic spare parts.**

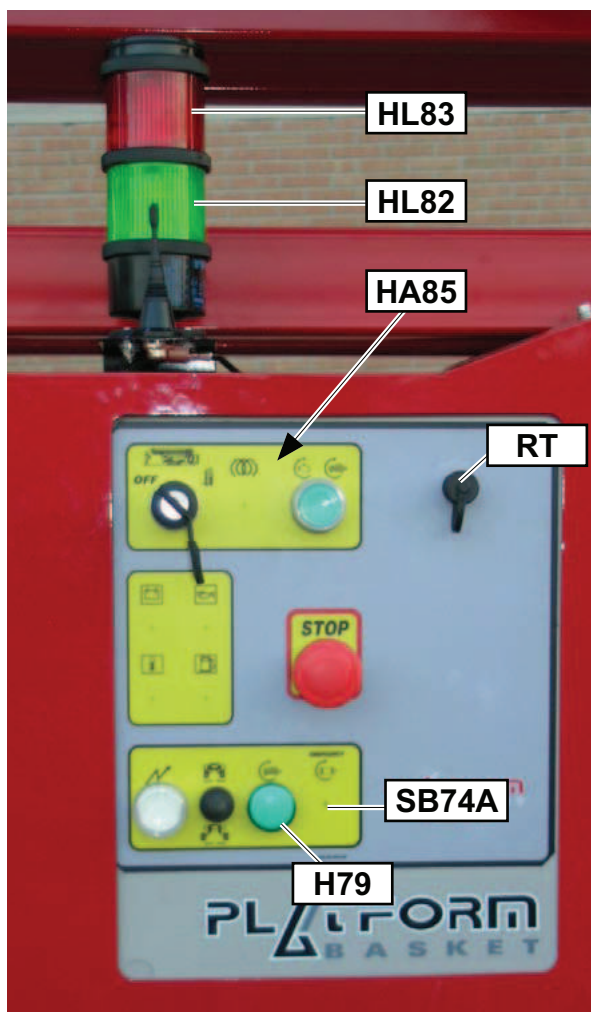
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## E.1. Ground control panel



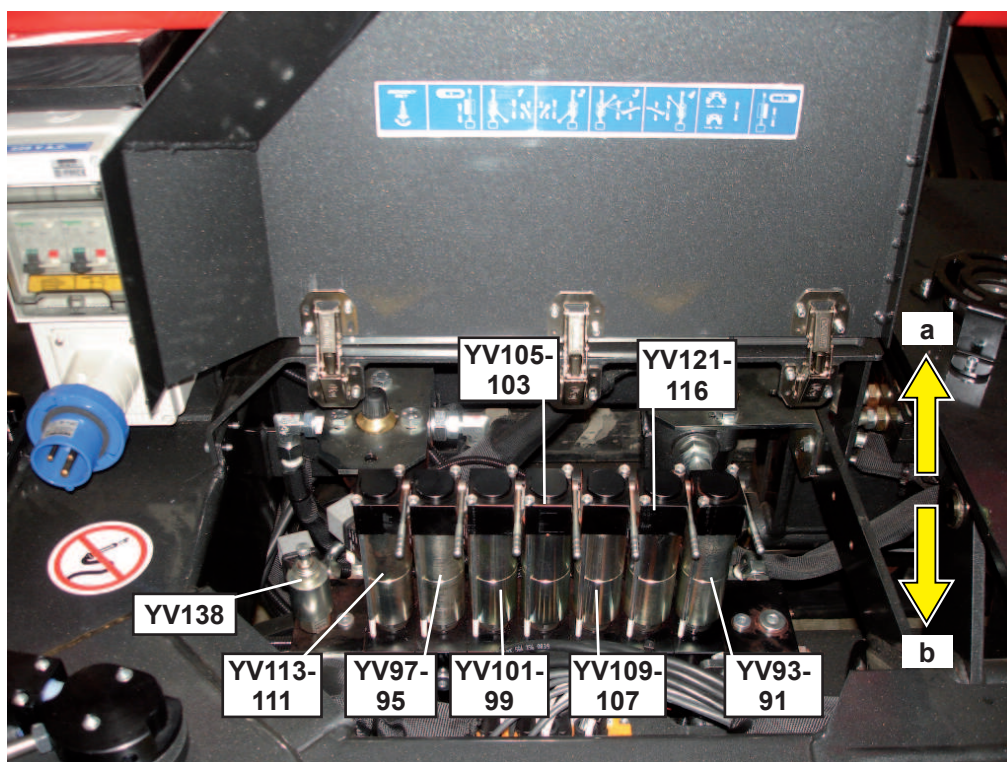
<b>SA40</b>	<b>Key switch and enabling of base/basket controls.</b> <ul style="list-style-type: none"> <li>- Switch to OFF turns off the machine</li> <li>- Switch turned to the centre switches the machine on and enables the ground controls. The ground working position has priority over the basket position.</li> <li>- Switch turned to the right switches the machine on and enables the basket controls.</li> </ul>
<b>H69 SB68</b>	<b>Glow plug pre-heating indicator light</b> (With diesel engine only) The indicator light goes off after 6-7 sec. when the glow plugs are heated.
<b>SB67</b>	<b>Endothermic engine or electric motor start button</b>
<b>H35</b>	<b>Alternator indicator light</b> (with diesel engine only) The indicator light is off when the alternator is charging the battery.
<b>H34</b>	<b>Oil indicator light</b> The indicator light is on when the pressure or the quantity of oil is insufficient.
<b>H33</b>	<b>Temperature indicator light</b> The indicator light is on if the water is overheating.
<b>H36</b>	<b>Fuel indicator</b> If the indicator light is on, it means that the quantity of fuel is below the minimum level.
<b>SB40A</b>	<b>Emergency button</b> With the button pressed all movement is immediately stopped and the electrical power to all the controls is cut off. Reset by turning the button in the direction of the arrows.
<b>SB49</b>	<b>Operational presence button (deadman device)</b> Press to enable the emergency controls (carriage and aerial part) and the selector ( <b>SA121</b> )
<b>SA121</b>	<b>Extended/retracted track selector</b> When pressed at the bottom, the tracks extend. When pressed at the top, the tracks retract. <div style="margin-top: 10px;">  <b>Attention</b>  <b>Only activate the control if the machine is stabilised with the belts raised from the ground and the aerial part in a safe position.</b> </div> <p>The selector will only operate if activated at the same time as the button (<b>SB49</b>) and with the selector (<b>SA40</b>) in the central "ground controls" position.</p>

## E - CONTROLS



<b>H79</b>	<b>Electric motor indicator light</b> When on, this shows that the motor is active
<b>SB74A</b>	<b>Electric pump start button (optional)</b>
<b>RT</b>	<b>Outlet for radio control / wire control</b> To be used to connect the radio control via cable in the event of a fault (Flat batteries or transmission problems).
<b>HA85</b>	<b>Acoustic signal</b> Activated when: <ul style="list-style-type: none"> <li>- The machine is moved;</li> <li>- Stabilisation takes place;</li> <li>- There is an overload in the basket (<b>HL83</b> indicator light on (fixed)).</li> </ul>
<b>HL82</b>	<b>Green lamp</b> The lamp comes on with a fixed light when the aerial part is in a safe position
<b>HL83</b>	<b>Red lamp</b> The lamp comes on with a fixed light when the machine is not levelled horizontally. It comes on with a fixed light when the machine is working at the working curve limit. The lamp comes on when there is an overload.

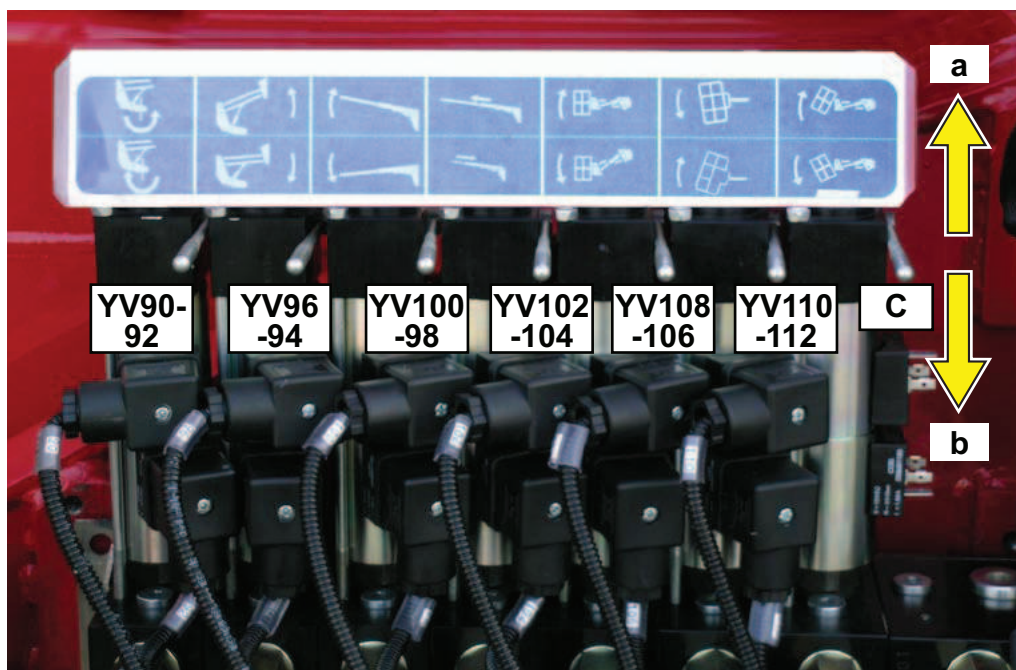
### E.2. Carriage emergency controls



Name	Description	Function	
		Position a	Position b
YV138	<b>Emergency valve</b> Valve only to be used in some emergency cases (See I.14.2 "Emergency manoeuvres" - "Stabiliser movement").	-	-
YV113 -111	<b>Left track movement lever</b>	Forward	Back
YV97 -95	<b>Stabiliser foot movement lever 1</b>	Raising	Lowering
YV101 -99	<b>Stabiliser foot movement lever 2</b>		
YV105 -103	<b>Stabiliser foot movement lever 3</b>		
YV109 -107	<b>Stabiliser foot movement lever 4</b>		
YV121-116	<b>Track opening/closing lever</b>	Opening	Closing
YV93 -91	<b>Right track movement lever</b>	Forward	Back

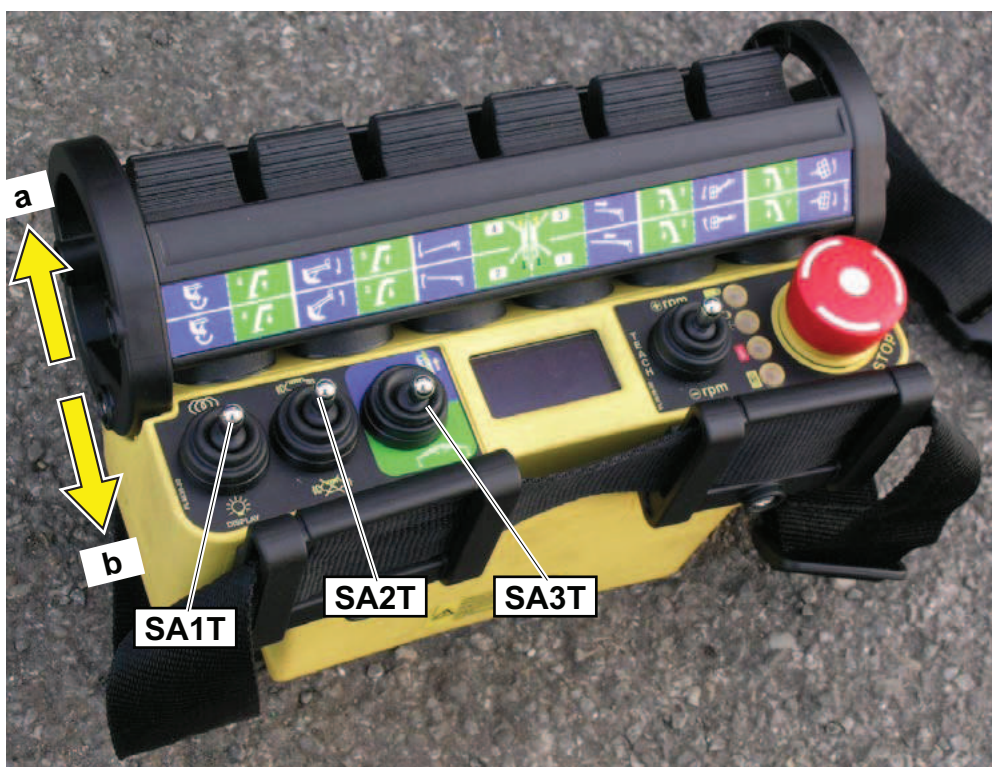


### E.3. Aerial part emergency controls



Name	Description	Function	
		Position a	Position b
YV90-92	Column movement lever	Counterclockwise rotation	Clockwise rotation
YV96-94	Pantograph boom movement lever	Raising	Lowering
YV100-98	Telescopic boom movement lever		
YV102-104	Extension movement lever	Out	Re-entrance
YV108-106	Jib movement lever	Opening	Closing
YV110-112	Basket movement lever	Counterclockwise rotation	Clockwise rotation
C	Basket manual balancing lever	Back	Forward

### E.4. Remote control



Name	Description	Function	
		Position a	Position b
SA1T	Glow plug pre-heating - Backlighting	Glow plug pre-heating activation (Diesel engine only).	Display backlighting on
		Pressing the button ("START") activates the automatic levelling function.	Pressing the button ("START") activates the automatic levelling return function (destabilisation).
SA2T	Start/stop engine	Start engine	Stop engine
SA3T	Enabling ground part/aerial part movement	Enabling movements of components of the aerial part of the machine.	Enabling movements of components of the ground part of the machine.

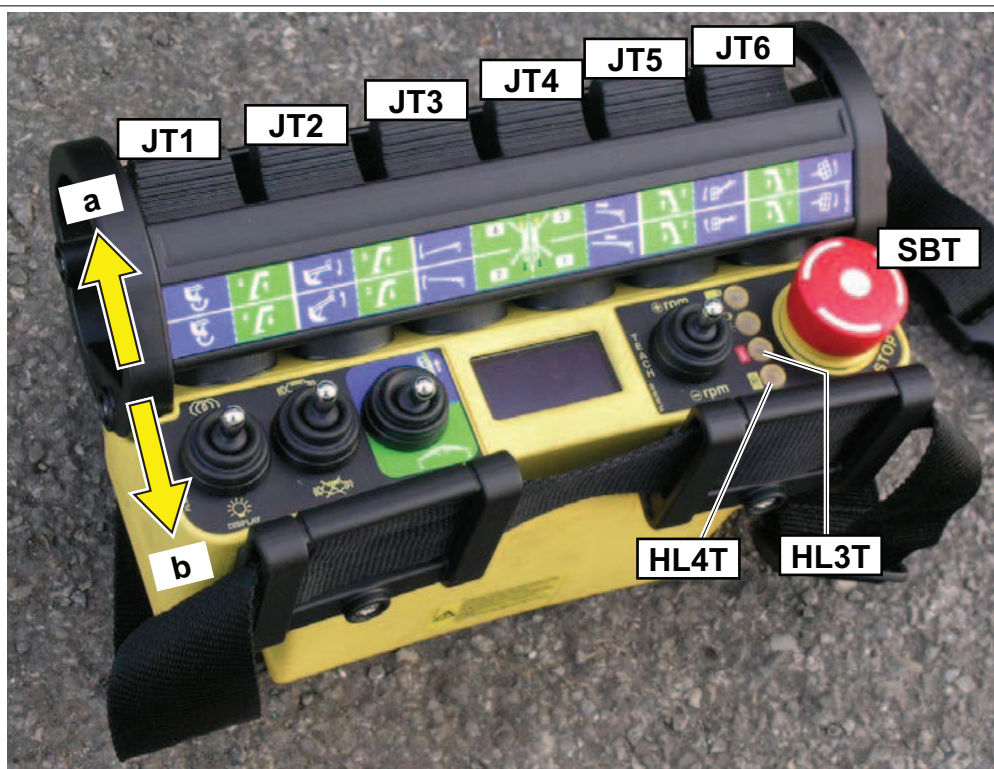
## E - CONTROLS



SA4T	Movement speed	Increase engine rpm	Decrease engine rpm
	<p>The switch allows three different rpm speeds to be selected:</p> <p><b>AUTO</b></p> <p>The engine starts up and reaches the minimum speed of 1500 rpm and, according to the movement in progress, the system chooses the most suitable speed to carry out the manoeuvre:</p> <ul style="list-style-type: none"> <li>- 2200 rpm - 3000 rpm petrol engine;</li> <li>- 2000 rpm - 3000 rpm diesel engine.</li> </ul> <p><b>MINIMUM</b></p> <p>The engine starts and reaches the speed of 2200 rpm, regardless of the movement in progress.</p> <p><b>MAXIMUM</b></p> <p>The engine starts and reaches the speed of 3200 rpm, regardless of the movement in progress.</p> <p>The display shows the speed set</p>		
DR	<b>Radio control display</b>		
HL1T	<p><b>Green indicator light - Pushbutton panel activation/connection</b></p> <p>Slow, intermittent flashing indicates that the pushbutton panel is active; quick flashing indicates that it is necessary to press <b>START</b> to restore pushbutton operation.</p> <p>The simultaneous flashing of the indicator lights (transmitter <b>HL1T</b> and receiver <b>HL3R</b>) indicates that there is a connection between the pushbutton panel and the receiver.</p>		
HL2T	<p><b>Red indicator light - Accumulator condition</b></p> <p>Intermittent flashing indicates that the accumulator installed on the pushbutton panel is almost exhausted.</p> <p>The operator has 3 minutes to replace the accumulator.</p> <div data-bbox="269 1906 352 1989"> </div> <p><b>Note</b></p> <p>If the operator is not able to replace the accumulator in time, it is possible to convert the pushbutton panel from radio control to wire control (see I.12. "Transforming the pushbutton panel from radio control to wire control").</p>		

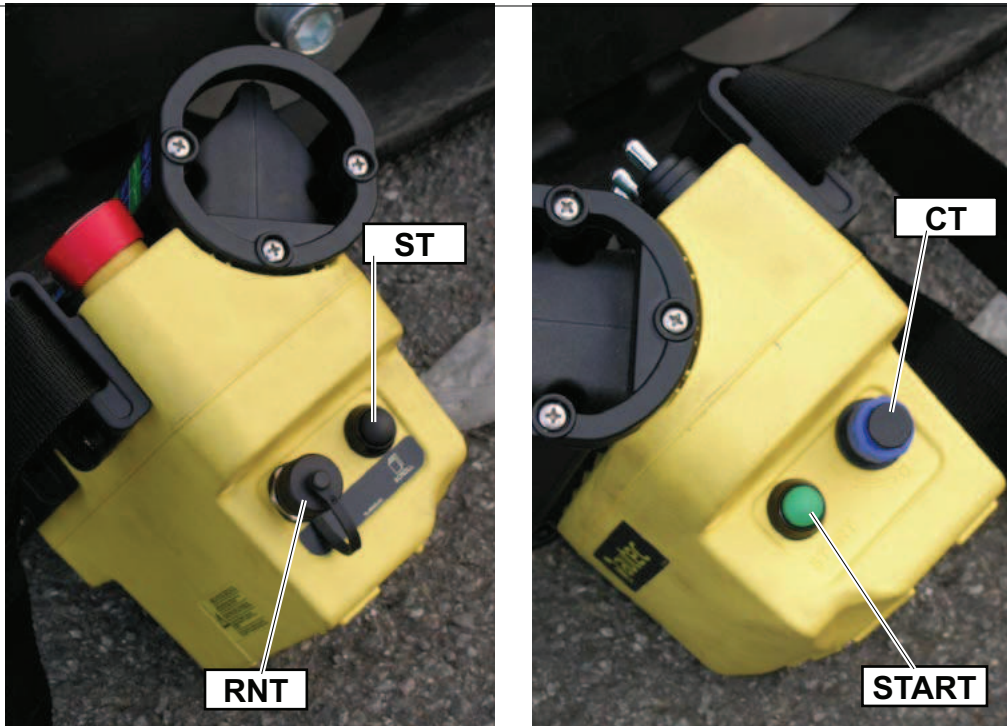


## E - CONTROLS



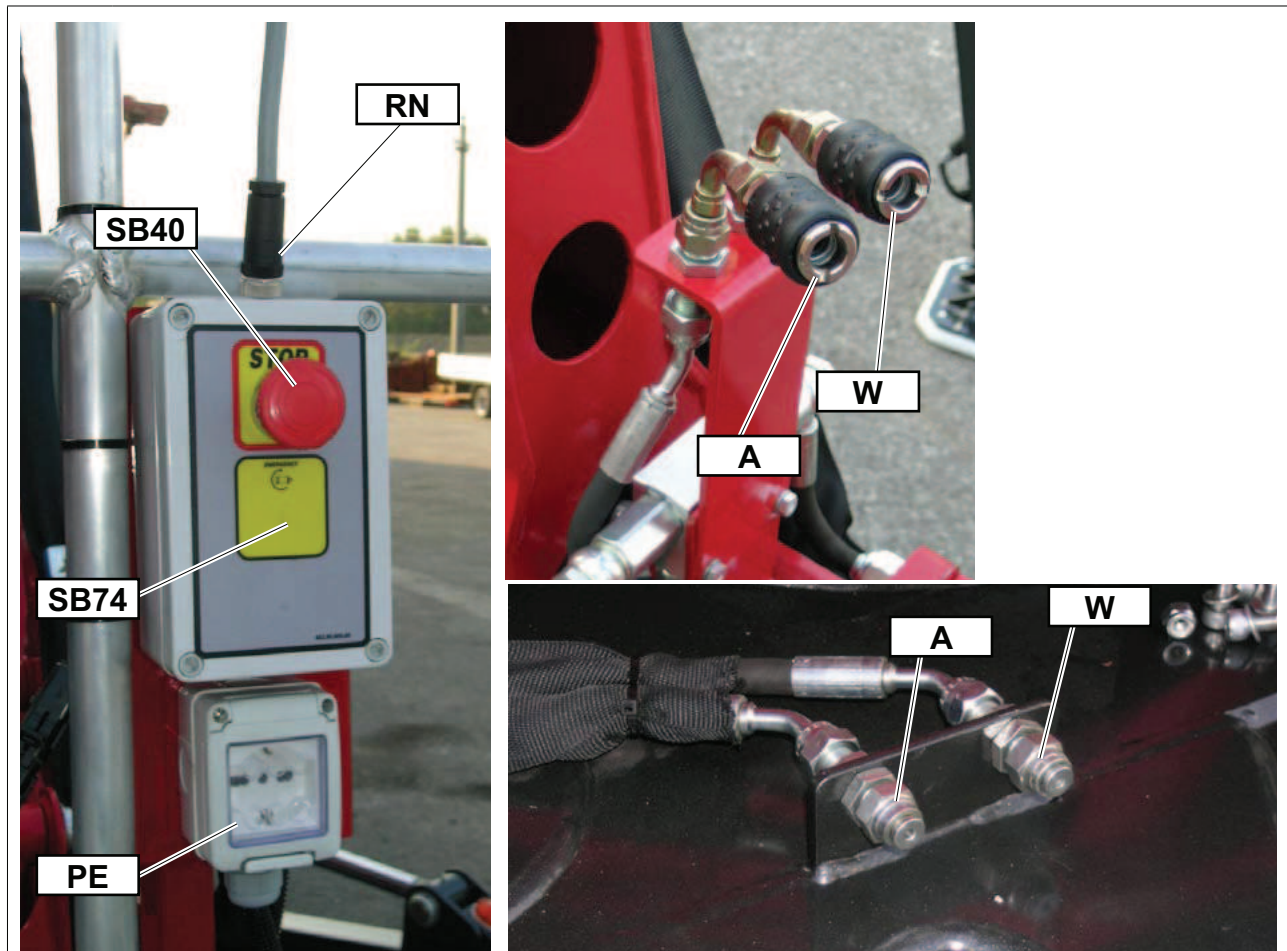
<b>HL3T</b>	<b>Red indicator light - Working range limit</b> Intermittent flashing indicates that the range has almost reached the machine's working range limit.			
<b>HL4T</b>	<b>Orange indicator light - Glow plug pre-heating</b> The indicator light stays on until glow plug pre-heating has ended (Diesel engine only).			
<b>SBT</b>	<b>Emergency button - OFF Push button panel</b> When pressed, it causes an immediate halt to all movements. To reset the button, turn it, following the direction of the arrows. When pressed, it switches of the pushbutton panel. To enable the pushbutton panel, turn the button, following the direction of the arrows.			
<b>JT1</b>	Blue area	<b>Colonna</b>	Counterclockwise rotation	Clockwise rotation
	Green area	<b>Stabiliser foot 4</b>	Raising	Lowering
<b>JT2</b>	Blue area	<b>Scissor booms</b>	Lowering	Raising
	Green area	<b>Stabiliser foot 3</b>	Raising	Lowering
<b>JT3</b>	Blue area	<b>Telescopic boom</b>	Lowering	Raising
	Green area	<b>Left track</b>	Forward	Back
<b>JT4</b>	Blue area	<b>Extension</b>	Re-entrance	Extended
	Green area	<b>Right track</b>	Forward	Back
<b>JT5</b>	Blue area	<b>Jib</b>	Lowering	Raising
	Green area	<b>Stabiliser foot 2</b>	Raising	Lowering
<b>JT6</b>	Blue area	<b>Basket</b>	Counterclockwise rotation	Clockwise rotation
	Green area	<b>Stabiliser foot 1</b>	Raising	Lowering

### E.5. Pushbutton panel controls



ST	<b>Change page button</b> Pressing the button allows the various functions to be shown on the display, one after the other, with the relative information present in the machine control system.
RNT	<b>Connection outlet for pushbutton panel operation in wire control mode</b>
CT	Memory key on which the machine management software settings are saved.  <div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 10px;">!</div> <div> <b>Attention</b>              It is strictly forbidden to remove the memory key from the pushbutton panel unless explicitly requested to do so by the manufacturer's Service Centre           </div> </div>
START	<b>Green pushbutton</b> When pressed, it enables the activation of the pushbutton panel (until the <b>HL1T</b> LED flashes slowly). When pressed after the activation of the pushbutton panel, it operates as an acoustic warning device (horn). When pressed together with the <b>SA2T</b> button, it enables the automatic levelling function (optional) or automatic levelling return (destabilisation).

### E.6. Controls in the basket



<b>SB40</b>	<b>Emergency stop pushbutton</b>
<b>SB74</b>	<b>Button to activate the emergency electric pump (Optional)</b> When pressed, it activates the emergency electric pump
<b>RN</b>	(Optional) <b>Pushbutton panel connection cable (Wire control)</b>

#### E.6.1. AIR/WATER utilities in basket

<b>A</b>	Compressed air service utility
<b>W</b>	Water service utility

On request, two air outlets are installed for the air (**A**) and the water (**W**) in the basket. These systems are the continuation of the (**PS**) outlets from 1/4 installed on the carriage.

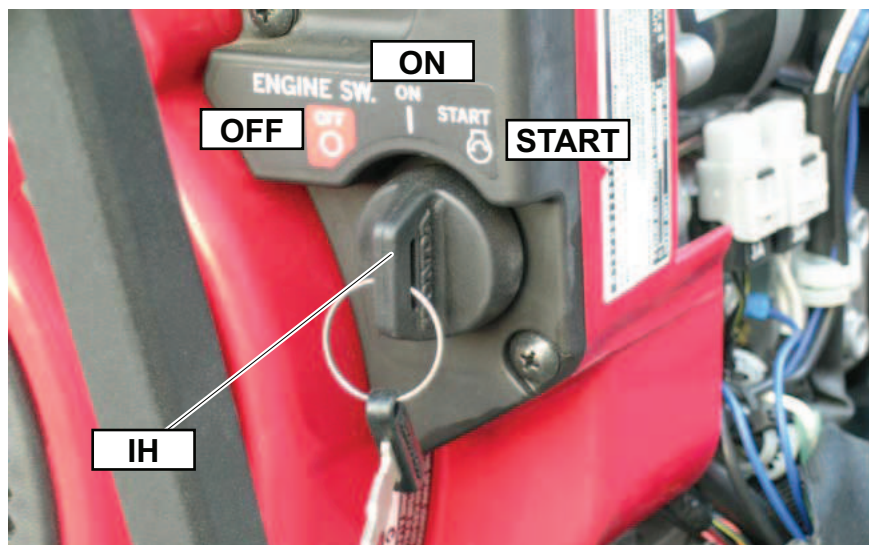
#### E.6.2. Electric current in the basket (Optional)

<b>PE</b>	<b>Electric current service utility outlet (220 V)</b> On request, an electric service outlet ( <b>PE</b> ) is installed (220 V). The system is the continuation of the outlet ( <b>PEC</b> ) installed on the carriage.
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#### Work lamp (Optional)

On request, a work lamp (**FS**) is installed on the basket. The switch is situated directly on it.

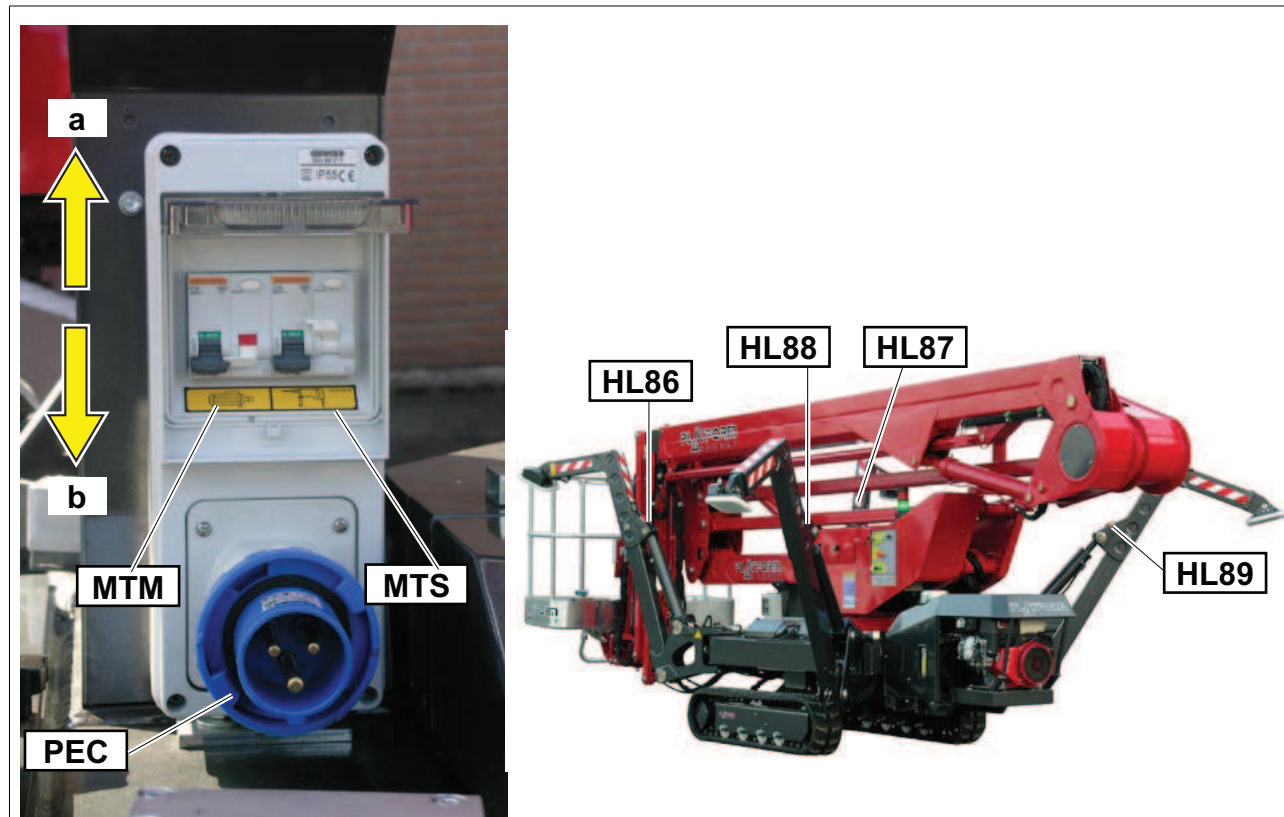
### E.7. Engine controls (Petrol only)




IH	<b>Start/stop engine key</b> 0 - OFF = Stop engine I - ON = Engine enabling START = Start engine
----	---



## E.8. Controls and instruments on board the machine



Name	Description	Function	
		Position a	Position b
PEC	<b>Current outlet from external electrical system (220 V)</b>  <b>Attention</b> <b>During the machine movement phase, check that the cable and the connection are not damaged.</b>		
MTM	<b>Circuit breaker to protect the electric motor</b>	Enables electric motor operation.	Disables electric motor operation.
MTS	<b>Circuit breaker to protect the electric service utility</b>	Enables electric service utility operation.	Disables electric service utility operation.
HL86	<b>Stabiliser foot indicator light 1</b> The indicator light comes on when the foot is stabilised correctly.		
HL87	<b>Stabiliser foot indicator light 2</b> The indicator light comes on when the foot is stabilised correctly.		
HL88	<b>Stabiliser foot indicator light 3</b> The indicator light comes on when the foot is stabilised correctly.		
HL89	<b>Stabiliser foot indicator light 4</b> The indicator light comes on when the foot is stabilised correctly.		



### F.1. Safety devices

A number of safety devices are installed on the machine for the safety of the operator and the protection of the machine.



#### **Attention**

**Do not tamper with, disconnect, bypass or remove any of the machine's safety devices or guards.**

**The Manufacturer declines all responsibility for machine safety if this instruction is not observed.**

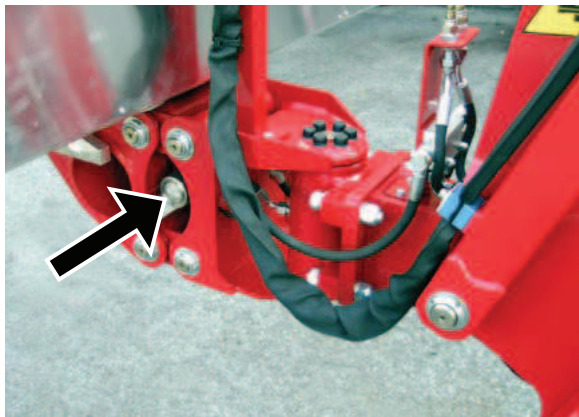
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#### F.1.1. Basket loading cell

Measures the load inside the basket

The red indicator light and the intermittent acoustic signal warn that the maximum permitted load in the basket has been exceeded.

Exceeding the limit blocks machine movements.



### F.1.2. Stabiliser feet ground pressure sensors

Each stabiliser foot is fitted with a stability control sensor which ensures the stabiliser condition



When only one of the sensors signals that the machine is not correctly stabilised (the foot does not exert the correct pressure on the ground), the machine signals an alarm (working range limit), the red indicator light (**HL83**) on the column lights up with a fixed light and the indicator light (**HL3T**) on the pushbutton panel flashes.



In this condition, the possible manoeuvres are:

- Extension retraction;
- Telescopic boom ascent;
- Pantograph boom descent;
- Jib descent.

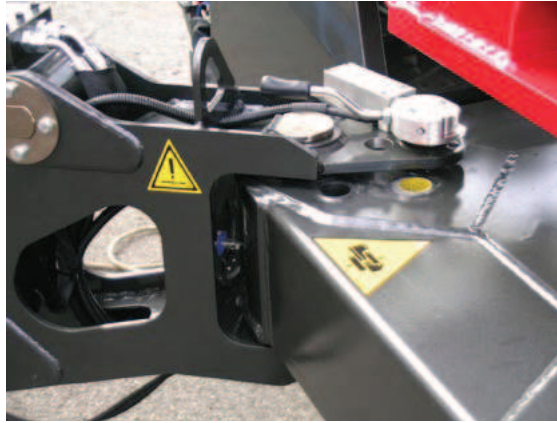
If the movement of these components is not sufficient to halt the alarm, it is necessary to use the ground emergency controls (see I.14.2. "Movements in an emergency" - "Stabiliser movement").

The same sensors prevent machine movement if all the stabilisers are not lifted up from the ground.

For aerial movement to take place the stabiliser feet must distribute the weight on the ground!

### F.1.3. Stabiliser foot position microswitches.

Each stabiliser foot is equipped with a microswitch which detects the position in which the pin is blocked.



### F.1.4. Microswitches which signal the position of the stabiliser feet blocking pin (Sensor)

Each stabiliser foot is equipped with a microswitch which detects the open position of the stabiliser foot and its correct blocking.

Turn the pin in order to press the microswitch to signal the correct insertion and blocking in position.

The combinations defined by the condition of the stabiliser foot position and blocking pin position microswitches transmit the exact position of the stabiliser feet to the machine control system.



### F.1.5. Microswitch detecting the pushbutton panel in the basket.

The support of the pushbutton panel in the basket is equipped with a microswitch which detects its presence.

Positioning the pushbutton panel in the support enables the operation of the movements of the aerial part.



### F.1.6. Acoustic signal / Visual signal

It signals every emergency situation and is also activated each time the machine moves.





### F.1.7. Emergency button

Each control station is equipped with a device (**SB40**, **SB40A**, **SBT**) that allows the operator to stop the machine in the presence of imminent danger.

Push the emergency red mushroom like button to stop every movement.

To restart the machine reset:

- The work conditions.
- The safety conditions.
- The emergency stop device by twisting the button head in the direction shown by the arrows marked on it

Check the efficiency of the safety device before each use of the machine.

- Give energy to the power system.
- start a work cycle.
- Press the button.

The device is efficient, if the movement stops.

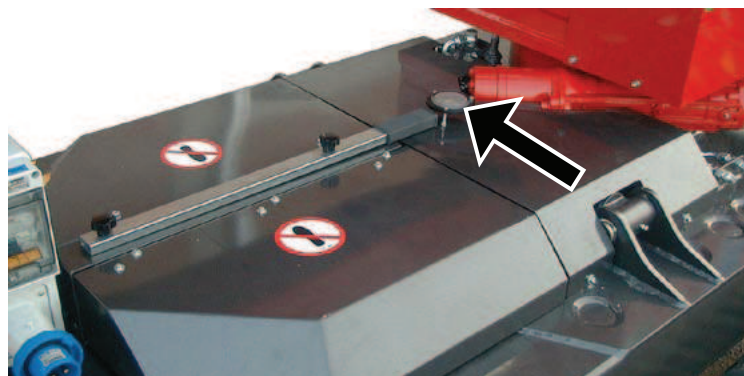
Perform the check on all the emergency devices in the control stations.

If the device is irreparably damaged and all attempts to restore the working configuration are unsuccessful, contact the service centre for information on how to reset the device and the machine.



### F.1.8. Bubble level

Makes it possible to check that the machine is level.



### F.1.9. Inclination control

It controls machine planarity electronically.

When a certain gradient is exceeded, the indicator light (**HL83**) comes on.

The “NO LEVEL” message appears on the pushbutton panel display.



### F.1.10. Telescopic boom and extension home sensors

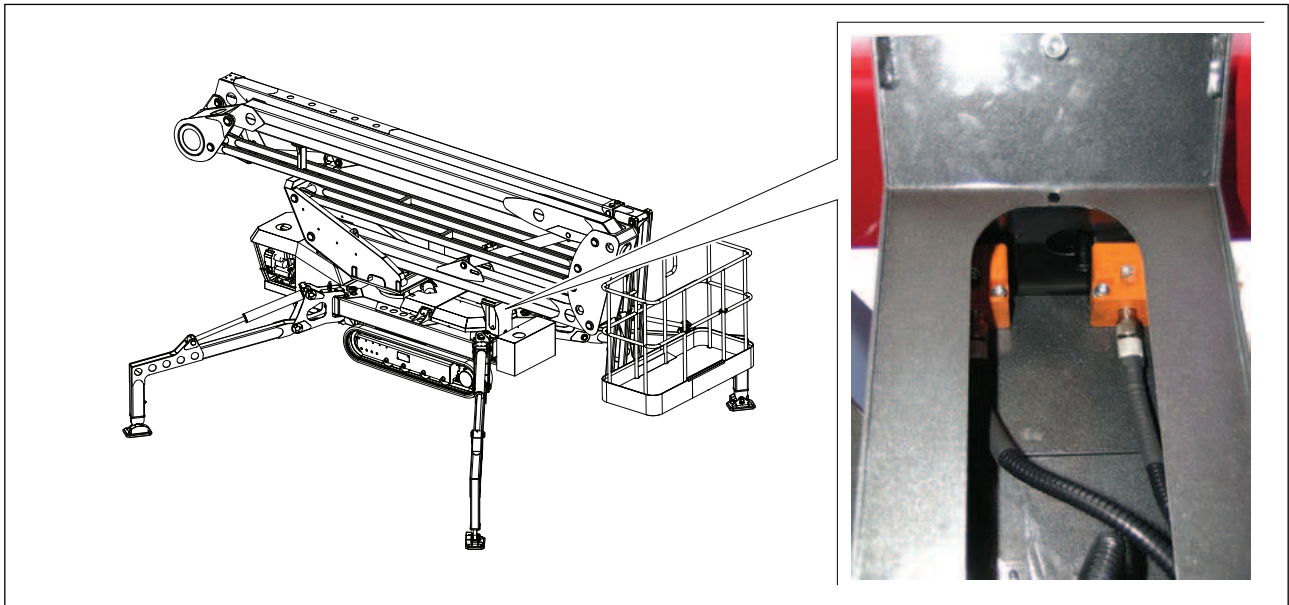
These detect the complete closure of the telescopic boom and the total retraction of the extension.



### F.1.11. Pantograph boom home sensors

These detect when the pantograph boom is resting on the support column.

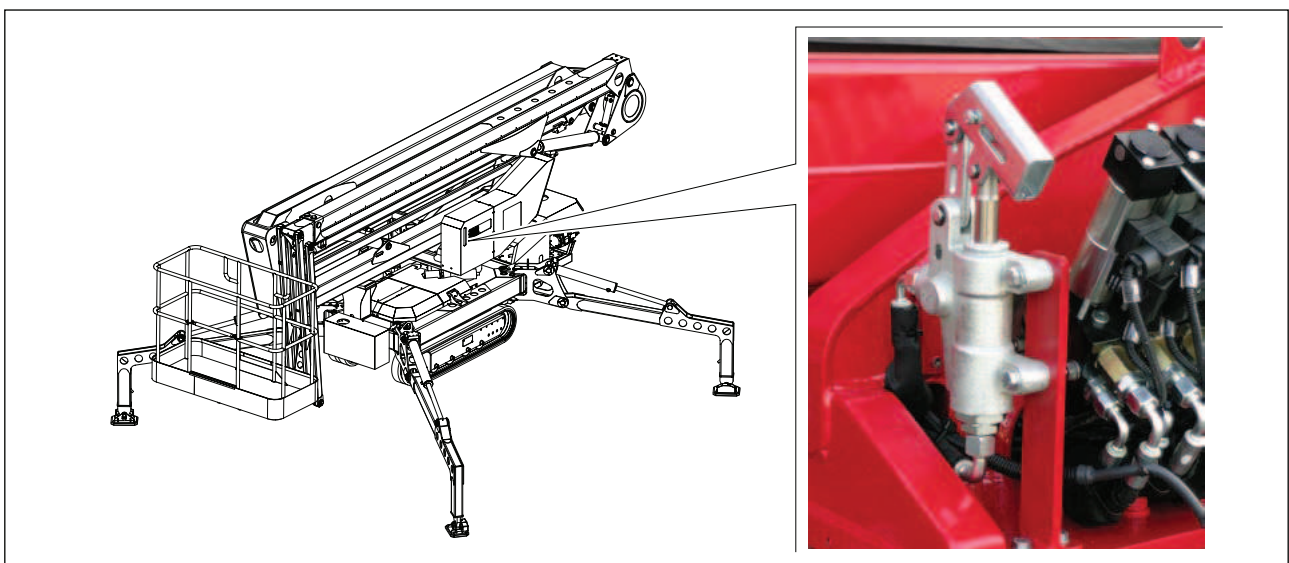
When the boom is resting on the column, the controls relative to the carriage movements (stabilisation and movement) are enabled in combination with the telescopic boom and extension home sensors.



### F.1.12. Manual emergency pump

The machine has a manual emergency pump in the event that there is a fault which causes total machine lockout (see I.14. "Movements in an emergency").

In addition to the hand pump, on request, it is possible to install a further 12 V electric pump, with the same function as the manual pump, which makes use of the battery power.

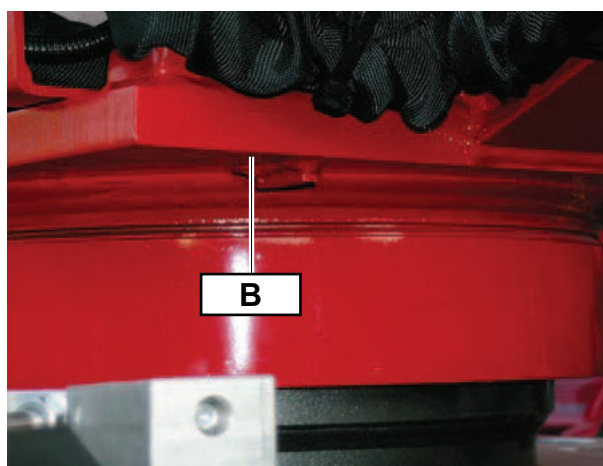
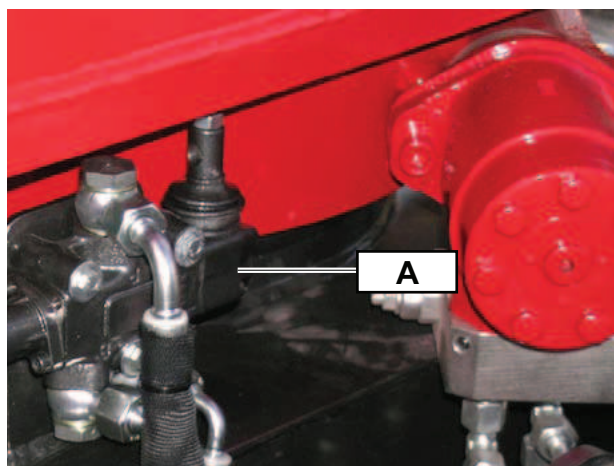
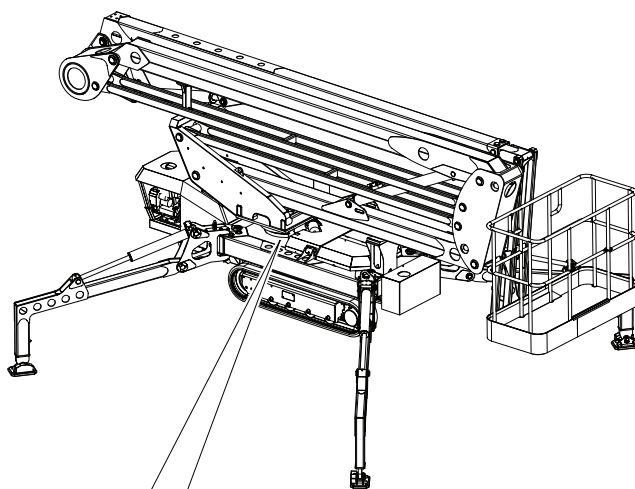


### F.1.13. Rotation check

The rotation of the turret is 360° non-continuous (approx. 180° on the right-hand side and approx. 180° on the left-hand side).

The device is composed of a deviator (A) which intercepts the plate (B), blocking the rotation at 180°.

When the machine is blocked during rotation, to reset it, it is necessary to rotate the turret in the opposite direction to the one which generated the block.





## G - OPTIONAL

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### G.1. Accessories on request

Anti traces continuous track		
12 VDC emergency electric pump kit		
Work lamp in the basket		
Electric outlet in the basket	Vac	110/220
	A	16
Lubricant kit for arctic climate		
Oversized plates for stabilisation		
Automatic electronic stabilisation control		

### H.1. Foreword

The following chapter contains important prescriptions that must be strictly observed to protect personal safety.

Always observe also all the general and specific regulations concerning lifting equipment and handling and transport operations, including those that are not expressly stated in this manual.



#### **Attention**

**The manufacturer's technicians are not qualified to use the lifting equipment or to supervise the work of third parties from a safety point of view.**

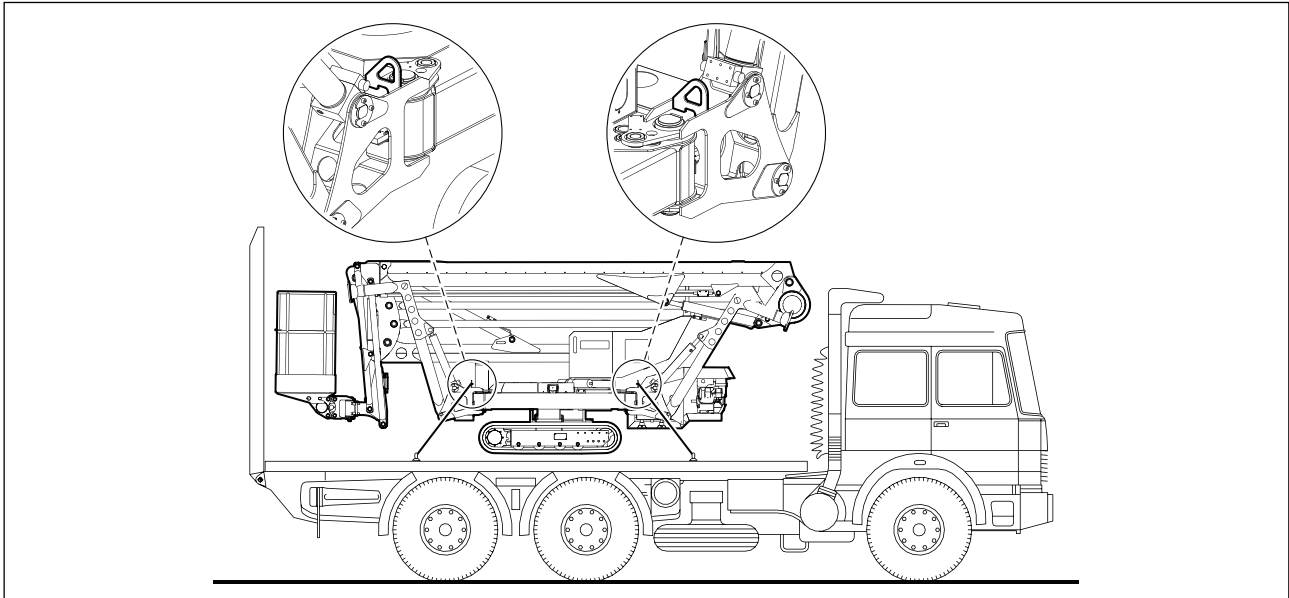
**The customer must therefore provide our technician with qualified personnel equipped with suitable lifting means.**

---

The manufacturer declines all liability related to the use of unsuitable lifting means.

### H.2. Handling and/or storage

The machine may be transported on a truck.



#### **Attention**

**During transportation, the machine must ALWAYS be secured to the vehicle body with cables or chains.**

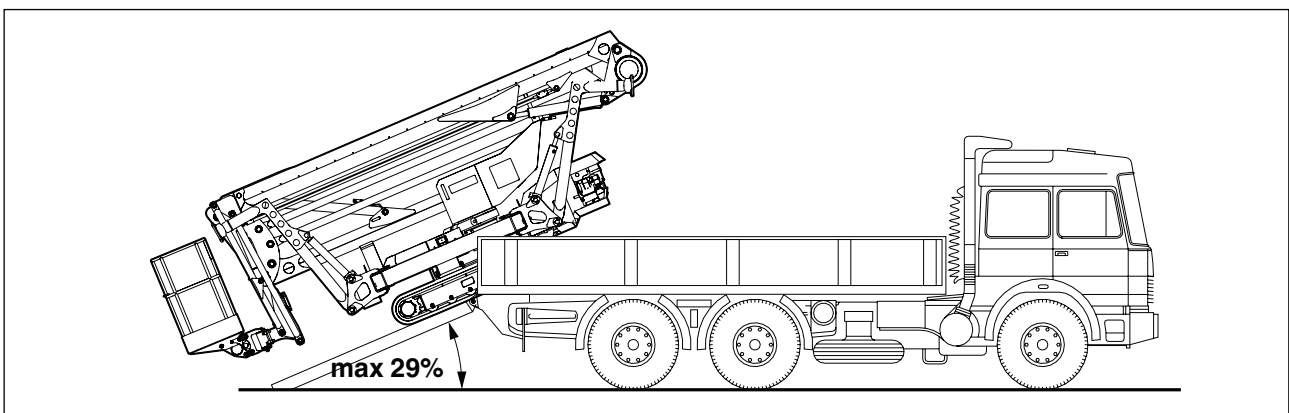
It can be loaded and unloaded in two different ways:

- lifting the machine through a ramp;
- load by raising the same.

#### H.2.1. Loading and unloading by ramp

For driving on and off the truck normal ramps may be used. The inclination of the ramps must NOT exceed 29%.

Then use the normal machine traverse controls to go up and down the ramps.



#### **Note**

**If necessary, raise the jib.**

### H.2.2. Lifting

The machine can be loaded and unloaded by a vehicle provided with a crane.

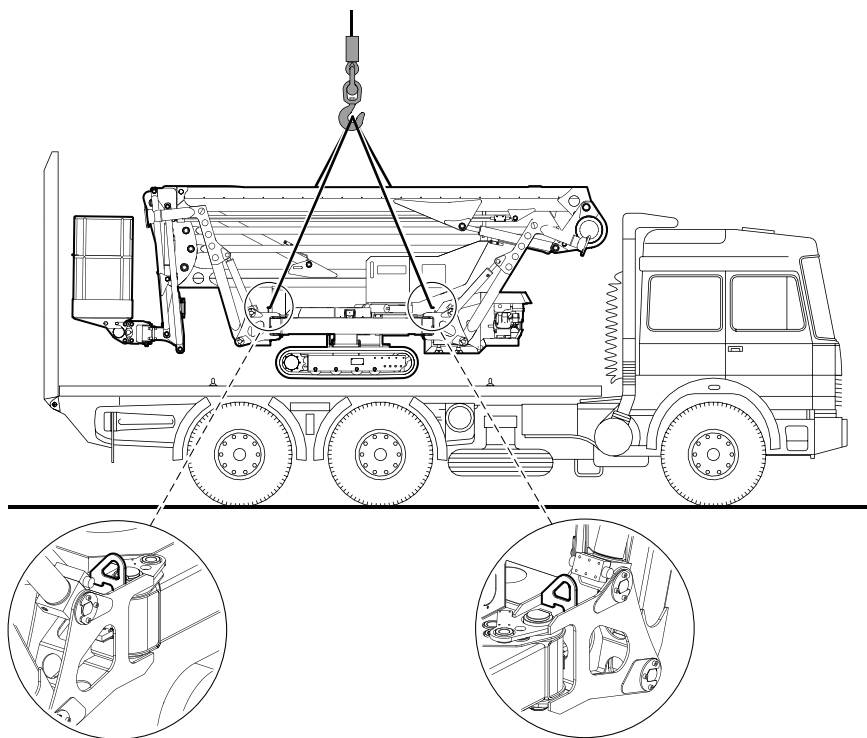
In this case, the machine must be lifted by attaching it to the pierced plates used to secure the machine during transport with ropes of a suitable capacity.



#### **Danger**

**Always check that the cables used for raising are in good working condition.**

---



### H.2.3. Safety prescriptions for transport and handling operations

The transport, lifting and assembly operations must be carried out by specialised companies working in the machinery transport sector; it is only possible to perform the various operations in conditions of safety when suitable skills are combined with the use of the correct equipment.

During lifting procedures:

- use the utmost caution;
- keep all persons clear of the area of operations;
- do not allow persons to walk or stand under or in the vicinity of suspended loads;
- lift loads to the indispensable minimum height;
- move loads close to the ground at low speed and taking care to avoid impacts and jolts;
- keep the manoeuvre area free of materials and clutter;
- to guide the load use sufficiently long poles or ropes so that there is no need to enter the danger area.



#### **Danger**

**All personnel, including the operator, must remain at a safe distance.**

**The definition of a safe distance must take account of the situation of the greatest danger that may arise during an exceptional event, such as breakage of a lifting chain or eyebolt with consequent tipping of the load.**

---

No personal protection device exists able to protect against this event.

Always take account of this hazard and ensure that no one is in the vicinity of the area of manoeuvring or in line with the direction of the ropes or chains.

While lifting and transporting the machine take due account of the size of the spaces available and the ground characteristics.



#### **Attention**

**Never climb onto the machine or parts of the machine, even if the machine is open and disconnected from the energy sources.**

---

Before starting lifting operations ensure you are wearing the following personal protective equipment (PPE):

- Safety helmet
- Cut-resistant gloves
- Safety footwear with reinforced toecap and nonslip sole

### I.1. Foreword

The sequence of main operations necessary to make the machine operational is as follows:

- **Driving**
- **Stabilisation**
- **Aerial part movement**

There follow the instructions for safe configuration and use of the machine.



#### **Note**

**The sequence of operations necessary to install the machine is affected above all by the operational situations.**

**According to the working conditions, the operator should adopt the safest and most suitable operational sequence.**

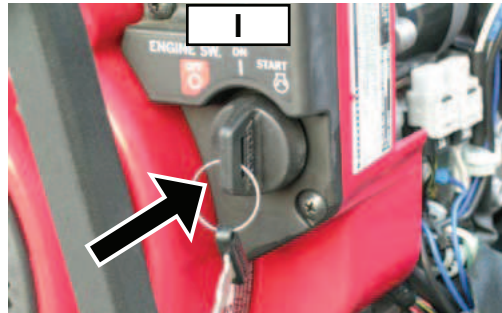
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### I.2. Start/stop engine

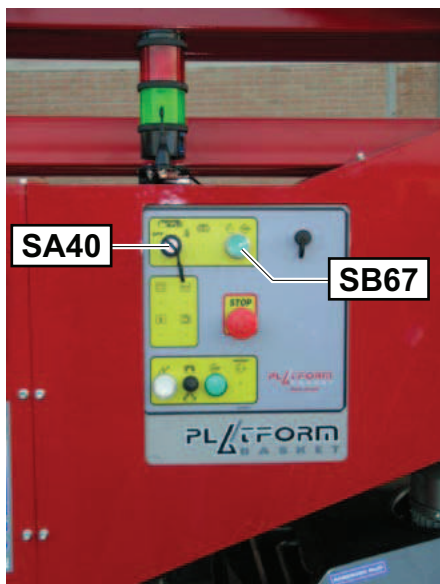
The engine can be started and stopped from both the ground control panel and the radio control.

#### I.2.1. Starting the petrol engine

- Turn the engine ignition enabling key, installed directly on the engine, to the “ON - I” position.

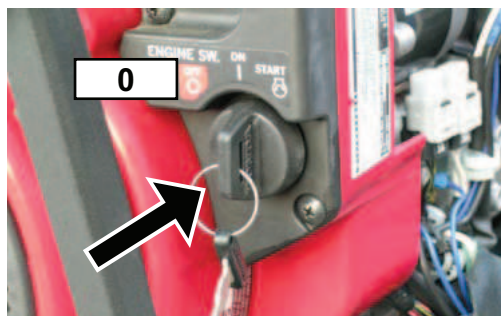
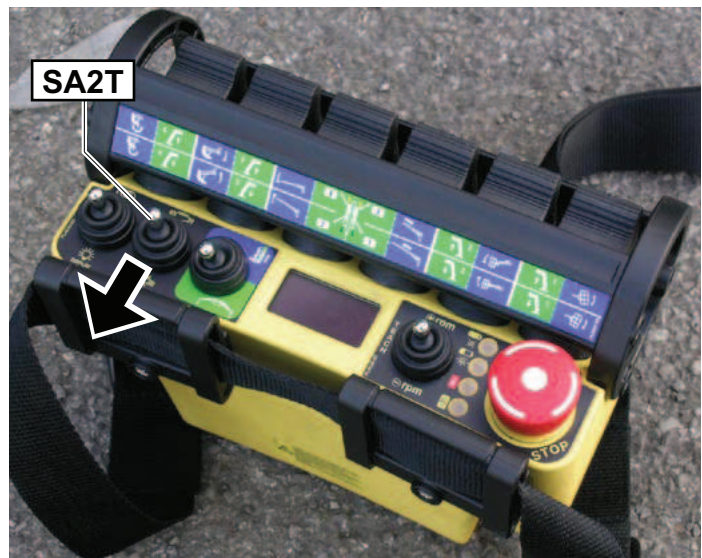


- Move to “Ground control panel”.
- Move the switch (**SA40**) to “ground position” or “basket position” according to the machine’s operating situation.
- Press the engine ignition button (**SB67**) (ground control panel) or the switch at the top (**SA2T**) (pushbutton panel).



### I.2.2. Turning the petrol engine off

- Check that the machine configuration is in maximum safety conditions.
- Move the switch (**SA40**) to “OFF” (ground control panel) or press the switch at the bottom (**SA2T**) (pushbutton panel).
- Turn the engine ignition enabling key, installed directly on the engine, to the “0” position.





### I.2.3. Starting the diesel engine

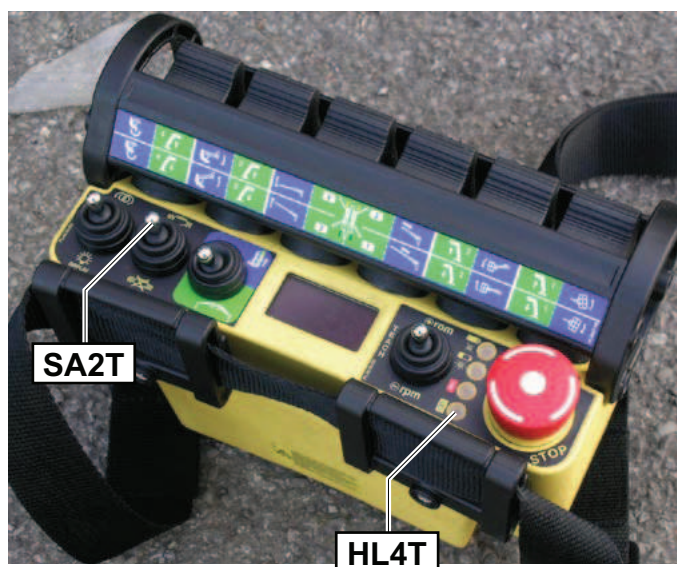
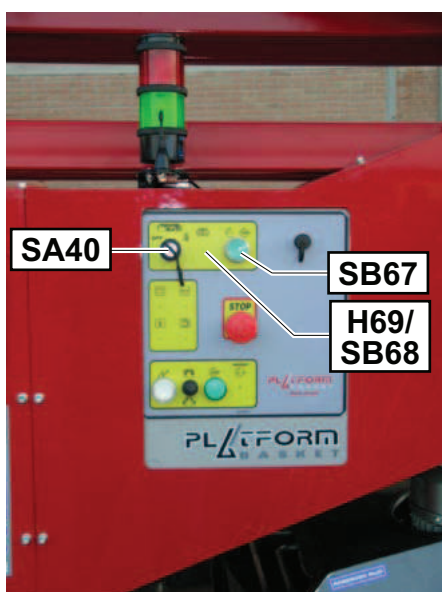
- Move to "Ground control panel".
- Move the switch (**SA40**) to "ground position" or "basket position" according to the machine's operating situation.
- Press the glow plug pre-heating button/indicator light (**SB68-H69**) (ground control panel) or the switch at the top (**SA1T**) (pushbutton panel).  
The indicator light (**SB68-H69** or **HL4T**) stays on until pre-heating has ended.
- Wait until the indicator lights (**SB68-H69** and **HL4T**) go off; the engine cannot be turned on if the indicator light is on.



#### Note

**Starting the engine again immediately (while the engine is still hot) does not require the glow plugs to be pre-heated.**

Press the engine ignition button (**SB67**) (ground control panel) or the switch at the top (**SA2T**) (pushbutton panel).



### I.2.4. Turning the diesel engine off

- Check that the machine configuration is in maximum safety conditions.
- Move the switch (**SA40**) to **OFF** (ground control panel) or press the switch at the bottom (**SA2T**) (pushbutton panel).



#### Note

Starting the engine again immediately (while the engine is still hot) does not require the glow plugs to be pre-heated.

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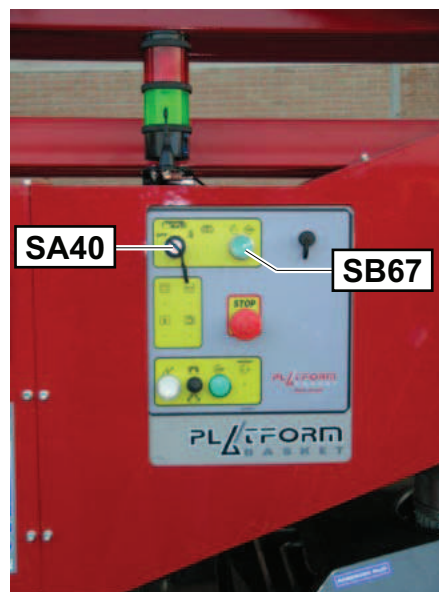
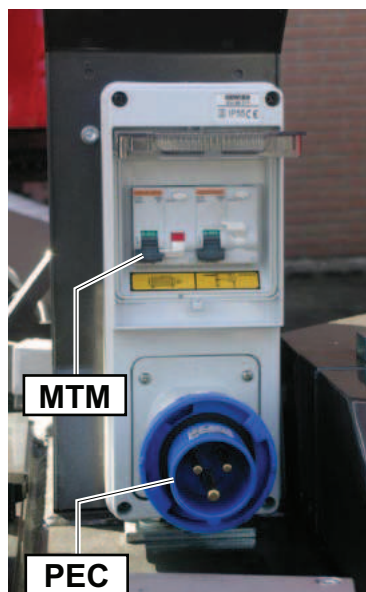
### I.2.5. Starting the electric motor

- Insert the plug in the 220 V outlet (**PEC**).
- Enable the start up of the electric motor from the circuit breaker **MTM** (see E.8. "Controls and instruments on board the machine").
- Enabling the electric motor automatically excludes the start up of the endothermic engine.
- Move to "Ground control panel".
- Move switch **SA40** to "ground position" or "basket position" according to the machine's operating situation.
- Press the engine ignition button (**SB67**) (ground control panel) or the switch at the top (**SA2T**) (pushbutton panel).



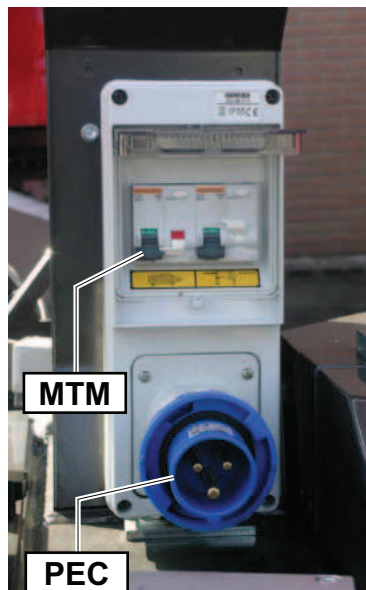
#### Attention

During the machine movement phase, check that the cable and the connection are not damaged.



### I.2.6. Turning the electric motor off

- Check that the machine configuration is in maximum safety conditions.
- Move the switch (**SA40**) to “OFF” (ground control panel) or press the switch at the bottom (**SA2T**) (pushbutton panel).
- Disable the electric motor using the circuit breaker (**MTM**).
- Disconnect the plug from the outlet (**PEC**) 220 V.

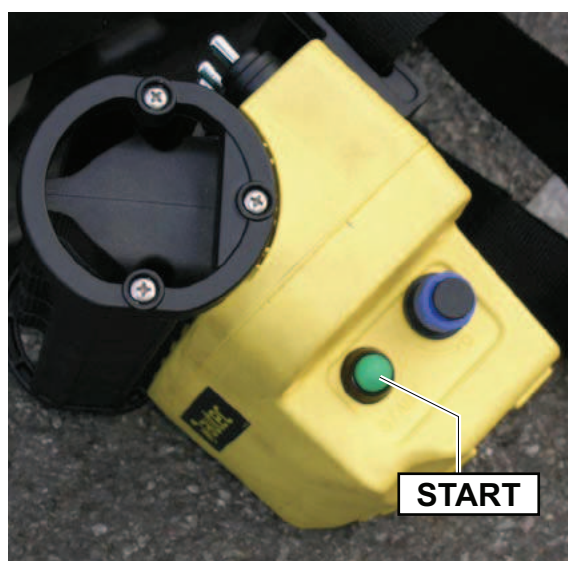
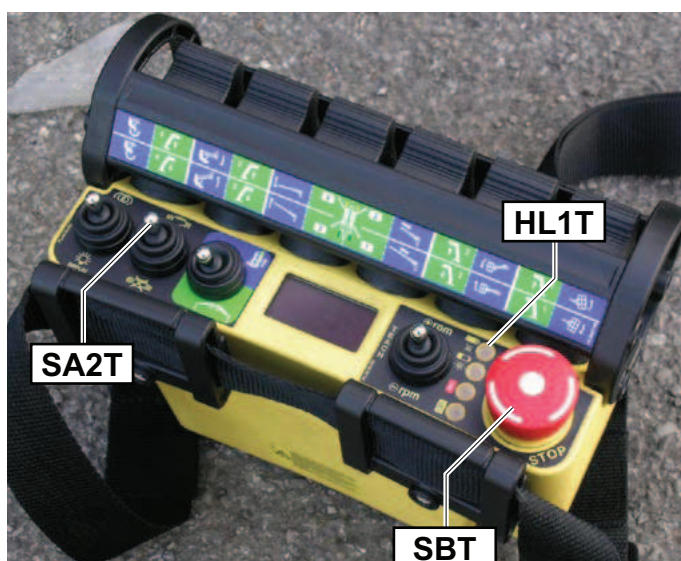
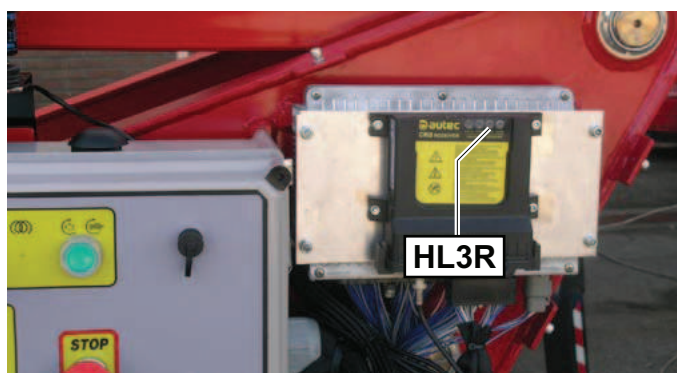




### I.3. Radio control activation

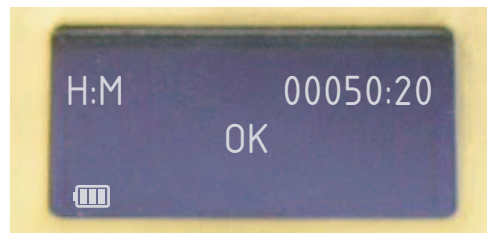
- Move the switch (**SA40**) (ground control panel) to “ground position” or “basket position”. In order to activate the radio control receiver and the control unit. The green indicator light on the receiver comes on.
- Enable the pushbutton panel by releasing the emergency button (**SBT**).
- Hold down the pushbutton “**START**”.  
The intermittent flashing of the green light (**HL1T**) on the pushbutton panel indicates that the transmitter (pushbutton panel) is searching or contact with the receiver.  
The simultaneous flashing of the indicator lights (transmitter **HL1T** and receiver **HL3R**) indicates that the connection has been made.
- Read the message displayed on the pushbutton display and act accordingly.  
The pushbutton panel display shows:
  - The working hours.
  - The accumulator charging level.  
The minimum level is also shown by the intermittent flashing of the indicator light (**F**).
  - The pages with functions which can be activated on the machine.
  - The operating and alarm messages.

To switch off the pushbutton panel, it is necessary to press the emergency button (**SBT**).

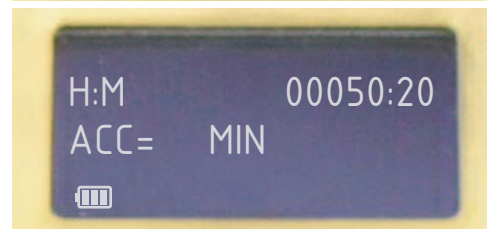


## I.4. Messages List

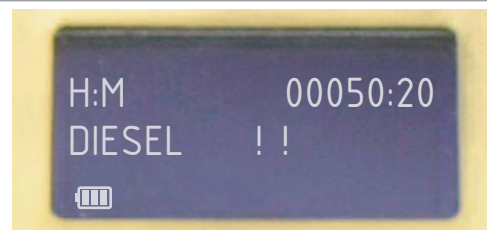
**OK**  
(Operating message)



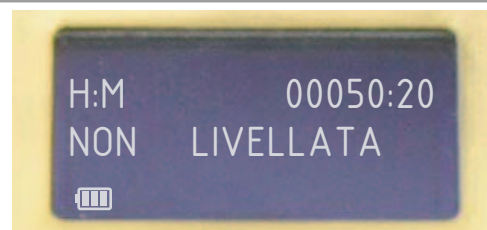
**Engine on condition**  
(Operating message)



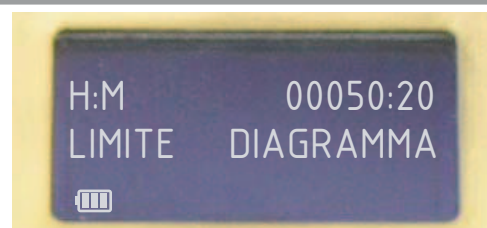
**No fuel**  
(Operating message)  
(For diesel engine only)



**Machine not levelled**  
(Operating message -  
Low level alarm)



**Working range limit**  
(Operating message -  
Low level alarm)



**Machine not stabilised**  
(Operating message -  
Low level alarm)



**Excessive load in the basket**  
(Operating message -  
High level alarm)



### I.5. Alarms

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**The “working range limit” alarm is signalled by:**

---

Red indicator light (**HL83**) on the column on with a fixed light.

Indicator light (**HL3T**) flashing on the pushbutton panel.

In this condition, the possible manoeuvres are:

- Extension retraction;
- Telescopic boom ascent;
- Pantograph boom descent;
- Jib descent.

If the movement of these components is not sufficient to halt the alarm, it is necessary to use the ground emergency controls. (See I.14.1. "Movements in an emergency" - “Superstructure”).

---

**The “>200 kg load” alarm is signalled by:**

---

Red indicator light (**HL83**) on the column on with a fixed light.

Acoustic warning device active.

All machine movement is blocked.

In this condition, it is necessary to remove the load from the basket.

If this operation is not sufficient to halt the alarm, it is necessary to use the ground emergency controls. (See I.14.1. "Movements in an emergency" - “Superstructure”).

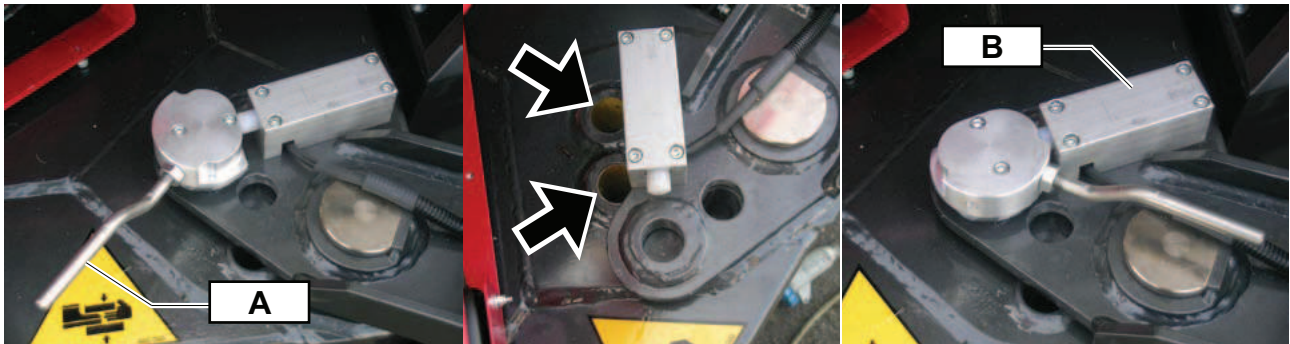
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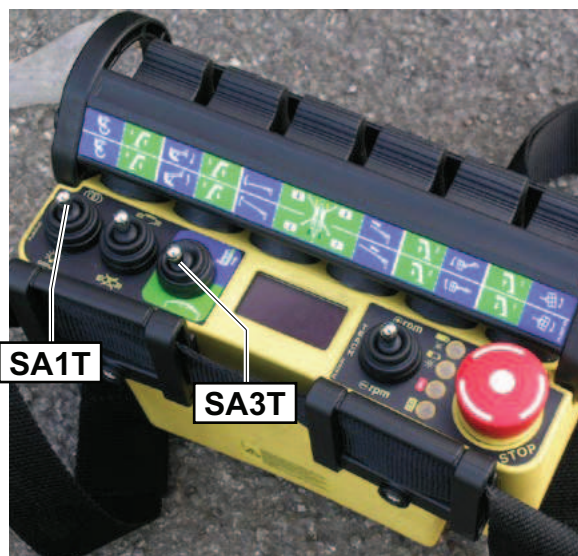
### I.6. Automatic levelling (Optional)

#### I.6.1. Automatic levelling activation

- Remove the pin (A) and turn the stabiliser foot manually at one of the two blocking holes.
- Insert the pin, turning it so as to press the feeler (B).
- Perform the operation on all the stabiliser feet.



- Start the engine. (See I.2. "Start/stop engine").
- Move the switch (SA40) to "ground position".
- Move the "carriage-stabilisers/basket" pushbutton panel switch (SA3T) to the "carriage-stabilisers" position.
- Move at least 1 metre away from the machine.
- Press button "START" and button SA1T upwards at the same time to activate automatic levelling.
- The "LEVEL X: .....  
LEVEL Y: ....." message appears on the pushbutton panel display.



During the levelling and stabilisation phase, the buzzer emits an intermittent acoustic signal. At the end of levelling, the red indicator light on the illuminated column must be off, while the orange indicator lights on the stabilisers continue to flash.



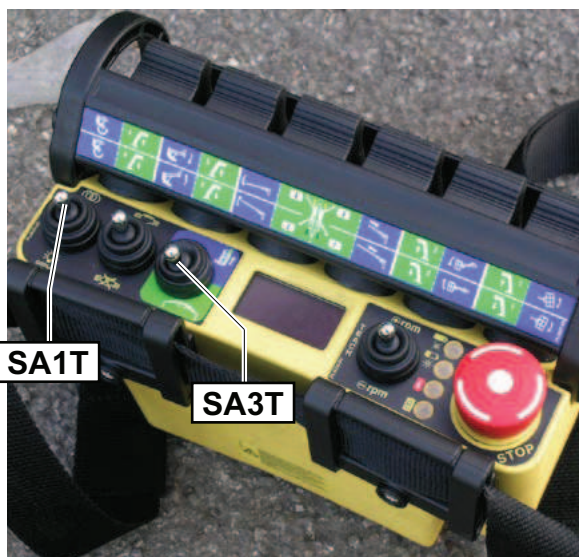
### Note

**Automatic levelling can be activated by the operator in the basket on the condition that the aerial part of the machine is in a safe position (the telescopic boom and the pantograph boom resting on the column) and the pins are corrected locked on the stabilisers.**

#### I.6.2. Automatic return from levelling (Optional)

- Start the engine. (See I.2. "Start/stop engine").
- Move the switch (**SA40**) to "ground position".
- Move the "carriage-stabilisers/basket" pushbutton panel switch (**SA3T**) to the "carriage-stabilisers" position.
- Move at least 1 metre away from the machine.
- Press button "**START**" and button **SA1T** downwards at the same time, to activate the automatic return from levelling.
- The "AUTO CLOSE" message appears on the pushbutton panel display.

During the destabilisation phase, the buzzer emits an intermittent acoustic signal.



If it becomes necessary to bring the stabiliser feet back inside the profile, it is necessary to:

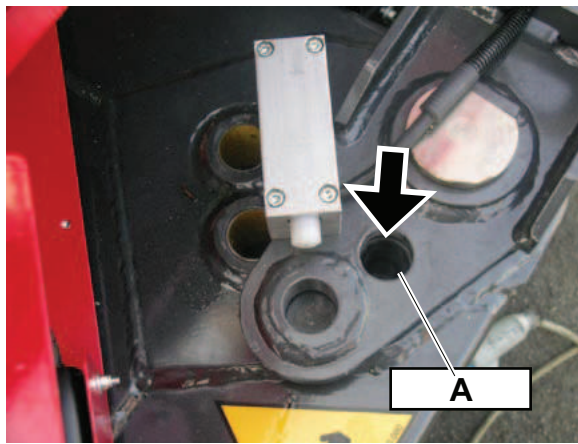
- Turn the stabiliser foot manually at the blocking hole (A) which moves the stabiliser feet inside the profile.
- Insert the pin.
- Perform the operation on all the stabiliser feet.



### **Note**

**Automatic levelling return can be activated by the operator in the basket on the condition that the aerial part of the machine is in a safe position (the telescopic boom and the pantograph boom resting on the column).**

---



### I.7. Track extension/retraction



#### Attention

Perform the track extension and retraction into profile operations with the aerial part of the machine in a safe position (the telescopic boom and the pantograph boom resting on the column), stabilised (see I.9. "Stabilising the machine") and raised at least 20 cm from the ground.



#### Note

The extension/retraction operation is performed from the ground control panel.

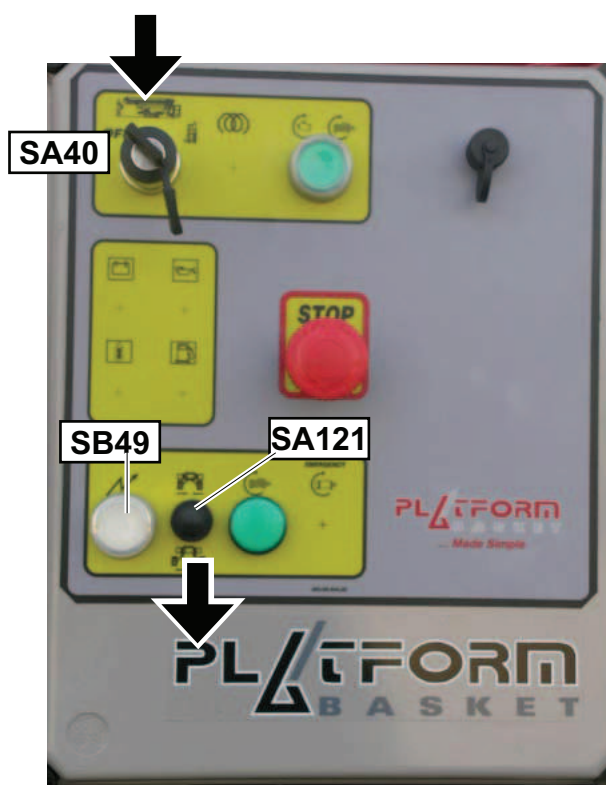
- Start the engine. (See I.2. "Start/stop engine").
- Move the switch (**SA40**) to "ground position". (See E.1. "Ground control panel").
- Stabilise the machine. (See I.9.1. "Stabilisation with operator on the ground").
- Press the person present button (**SB49**).
- Move the selector (**SA121**) downwards to extend the tracks outside the profile.



#### Attention

The extension movement produces the proportional descent of the tracks at the same time.

- Move the selector (**SA121**) upwards to bring the tracks back inside the profile.





## I.8. Driving

In the movement phase, the machine can exceed gradients of up to:

- Longitudinal gradient : 16° (29%)
- Transversal gradient : 17° (31%)



### Attention

To exceed the ascent on the access ramps to the transport vehicle platform and gradients of around 16°, perform backward movement with the jib partially raised and facing the platform to prevent dangerous interference.

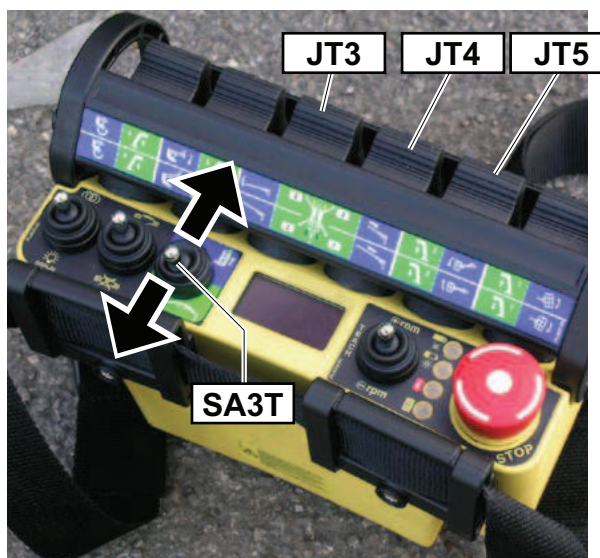
### I.8.1. Operator on the ground



### Attention

Perform movement with the aerial part of the machine in a safe position (the telescopic boom and the pantograph boom resting on the column).

- Start the engine. (See I.2. "Start/stop engine").
  - Move the switch (**SA40**) to "ground position". (See E.1. "Ground control panel").
  - Move the "carriage-stabilisers/basket" pushbutton panel switch (**SA3T**) to the "carriage-stabilisers" position. (See E.4. "Remote control").
- If the conditions of the surrounding area permit it, extend the tracks completely (see I.7. "Track extension/retraction") in order to have maximum stability in the movement phase.



- Move at least 1 metre away from the machine.
- Proceed with closing the stabiliser feet. (See I.9. "Stabilising the machine").
- Use the pushbutton panel levers (**JT3** and **JT4**) to control the forward or backward movement with the "Carriage-stabilisers/basket" selector (**SAT3**) in the "Carriage-stabilisers" position. (See E.4. "Remote control").
- To command the jib, move the "Carriage-stabilisers/basket" selector (**SAT3**) to the "basket" position (See E.4. "Remote control") and move the jib using the lever (**JT5**).
- Reposition the "Carriage-stabilisers/basket" selector (**SAT3**) in the "Carriage-stabilisers" position to return to movement control.

Each track can be moved individually.

The speed and the direction of movement are proportional to the movement attributed to the levers.

### I.8.2. Operator in the basket



#### Note

The 3-position key selector (SA40) is on “basket position”. (See E.1. “Ground control panel”).

The engine is running. (See I.2. “Start/stop engine”).



#### Attention

Perform movement with the aerial part of the machine in a safe position (the telescopic boom and the pantograph boom resting on the column) and the stabiliser feet completely raised.

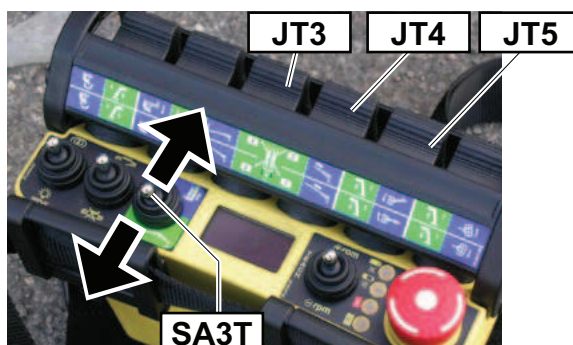


If the conditions of the surrounding area permit it, extend the tracks completely in order to have maximum stability in the movement phase. (See I.7. “Track extension/retraction”).

- Move the “carriage-stabilisers/basket” pushbutton panel switch (SA3T) to the “carriage-stabilisers” position. (See E.4. “Remote control”).
- Climbing into the basket.
- Check that the sliding bar which protects the opening of the basket is closed and positioned correctly.
- Insert and block the pushbutton panel in its position, tightening the knob.
- Attach the safety belt to the safety ring.
- Proceed with closing the stabiliser feet. (See I.9. “Stabilising the machine”).
- Use the pushbutton panel levers (JT3 and JT4) to control the forward or backward movement with the “Carriage-stabilisers/basket” selector (SA3T) in the “Carriage-stabilisers” position. (See E.4. “Remote control”).
- To command the jib, move the “Carriage-stabilisers/basket” selector (SA3T) to the “basket” position (see E.4. “Remote control”) and move the jib using the lever (JT5).
- Reposition the “Carriage-stabilisers/basket” selector in the “Carriage-stabilisers” position to return to movement control.

Each track can be moved individually.

The speed and the direction of movement are proportional to the movement attributed to the levers.



### I.9. Stabilising the machine

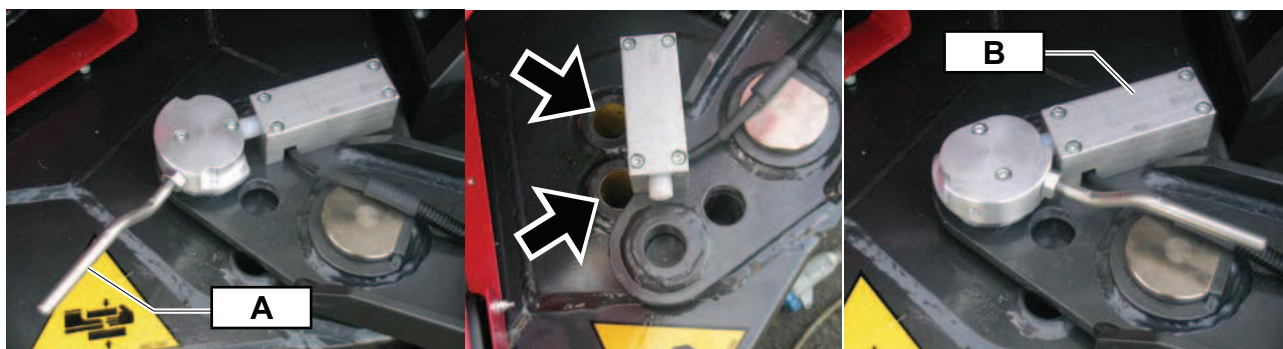
#### I.9.1. Stabilisation with operator on the ground



##### Note

The sequence set out below assumes that the operator has not yet taken his/her position in the basket and that the machine has terminated the movement phase or has just been lifted onto the ground after transportation on a vehicle.

- Remove the pin (A) and turn the stabiliser foot manually at one of the two blocking holes.
- Insert the pin, turning it so as to press the feeler (B).



- Perform the operation on all the stabiliser feet.
- Start the engine. (See I.2. "Start/stop engine").
- Move the switch (SA40) to "ground position".
- Move the "carriage-stabilisers/basket" pushbutton panel switch (SA3T) to the "carriage-stabilisers" position.
- Move at least 1 metre away from the machine.
- Use the pushbutton panel levers to open the jacks of the individual stabiliser feet. (See E.4. "Remote control").



##### Note

The numbers which mark the pushbutton panel levers correspond to the number affixed to the stabiliser feet.

During the stabilisation phase, the buzzer emits an intermittent acoustic signal.

- Continue opening the stabiliser feet jacks until the machine is lifted off the ground by at least 20 cm.



At the end of stabilisation, the orange indicator lights on the stabilisers continue to flash.

- Adjust stabilisation so that the red indicator light on the illuminated column goes off.  
The red indicator on the illuminated column goes off if machine levelling is within a gradient of 1°.



### **Note**

If the indicator light is on, it is possible to check along which axis the maximum permitted gradient has been exceeded.

Pressing the “change page” ST (See E.5. “Pushbutton panel controls”) button until the page relative to the gradient of the X and Y axes appears.

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### **I.9.2. Stabilisation with operator in the basket**



### **Note**

The switch (SA40) is on “basket position”. (See E.1. “Ground control panel”).

The engine is running. (See I.2. “Start/stop engine”).

---

The operator at a height can correct the stabilisation, intervening as follows:

- Retraction with the extension. (See I.11. “Aerial part movement”).
- Close the telescopic boom. (See I.11. “Aerial part movement”).
- Command partial closing of the pantograph boom..

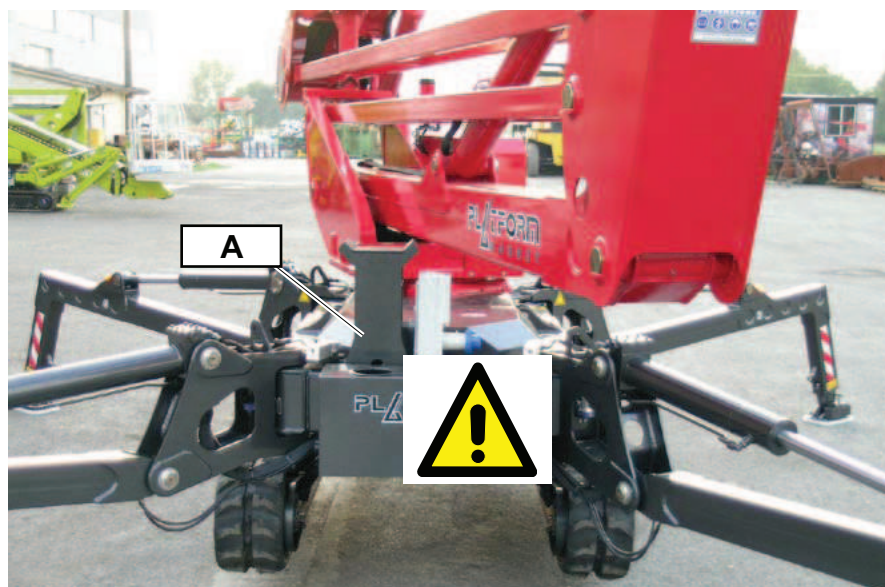


### **Attention**

Do not close the pantograph boom completely.

Keep the boom at a height where, in the column rotation phase, it does not interfere with the support column (A).

---



- Turn the column so as to move the pantograph boom onto the vertical axis of boom support column (A).
- Complete the closing of the pantograph boom until it rests on the column (A).



The green light comes on.

It is possible to move the jib even once the boom is supported by the column.

- Move the “carriage-stabilisers/basket” pushbutton panel switch (**SA3T**) to the “carriage-stabilisers” position.
- Use the pushbutton panel levers to open the jacks of the individual stabiliser feet. (See E.5. “Pushbutton panel controls”).



### **Note**

**The numbers which mark the pushbutton panel levers correspond to the number which mark the stabiliser feet.**

**During the stabilisation phase, the buzzer emits an intermittent acoustic signal.**

---

- Continue opening the stabiliser feet jacks until the machine is lifted off the ground by at least 20 cm.

At the end of stabilisation, the orange indicator lights on the stabilisers continue to flash.

- Adjust stabilisation so that the red indicator light on the illuminated column goes off.  
The red indicator on the illuminated column goes off if machine levelling is within a gradient of 1°.



### **Note**

**If the indicator light is on, it is possible to check along which axis the maximum permitted gradient has been exceeded.**

**Pressing the “change page” (see E.5. “Pushbutton panel controls”) button until the page relative to the gradient of the X and Y axes appears.**

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### I.10. Stabilisation closing

#### I.10.1 Operator on the ground



##### Attention

**Perform stabilisation closing with the aerial part of the machine in a safe position and the pantograph boom resting on the column (A).**

- Start the engine. (See I.2. "Start/stop engine").
- Move the switch (**SA40**) to "ground position". (See E.1. "Ground control panel").
- Move the "carriage-stabilisers/basket" pushbutton panel switch (**SA3T**) to the "carriage-stabilisers" position. (See E.4. "Remote control").
- If necessary, retract completely with the tracks: (See I.7. "Track extension/retraction").
- Move at least 1 metre away from the machine.
- Use the pushbutton panel lever to control the closure of the jacks of each individual stabiliser foot. (See "E.4. "Remote control").

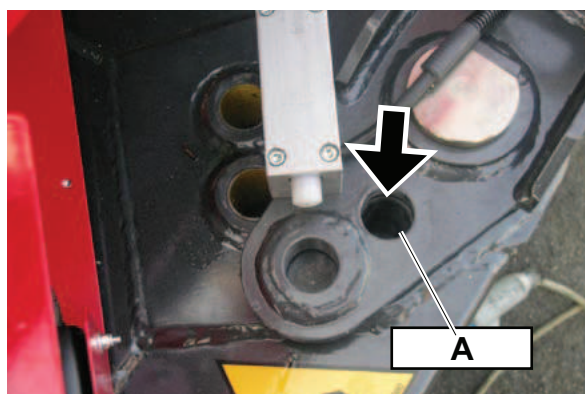


##### Note

**The numbers which mark the pushbutton panel levers correspond to the number affixed to the stabiliser feet.**

**During the stabilisation closing phase, the buzzer emits an intermittent acoustic signal.**

- Remove the pin.
- Turn the stabiliser foot manually at the blocking hole (**A**) which moves the stabiliser feet inside the profile.
- Insert the pin.
- Perform the operation on all the stabiliser feet.



With the stabiliser feet in the profile and blocked, the orange indicator lights on the stabilisers stop flashing.

The red indicator light on the illuminated column does not come on if the machine is not levelled (levelling greater than a gradient of 1°).



### **Note**

**If the indicator light is on, it is possible to check along which axis the maximum permitted gradient has been exceeded.**

**Press the “change page” (see E.5. “Pushbutton panel controls”) button until the page relative to the gradient of the X and Y axes appears.**

- Move the switch (**SA40**) to “OFF”. (See E.1. “Ground control panel”).



### **I.10.2. Operator in the basket**

The switch (**SA40**) is on “basket position”. (See E.1. “Ground control panel”).

- Start the engine. (See I.2. “Start/stop engine”).
- Close the aerial part. (See I.11 “Aerial part movement”).
- Proceed as described in the previous chapter, given that it is also possible to perform destabilisation from the basket.

### I.11. Aerial part movement



#### I.11.1. Opening



##### **Attention**

**The machine must be stabilised, raised from the ground and levelled before moving the aerial part.**

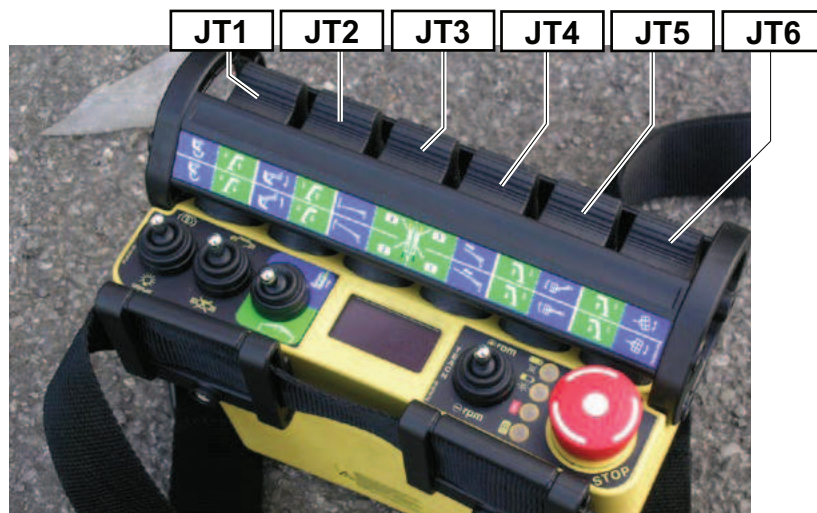
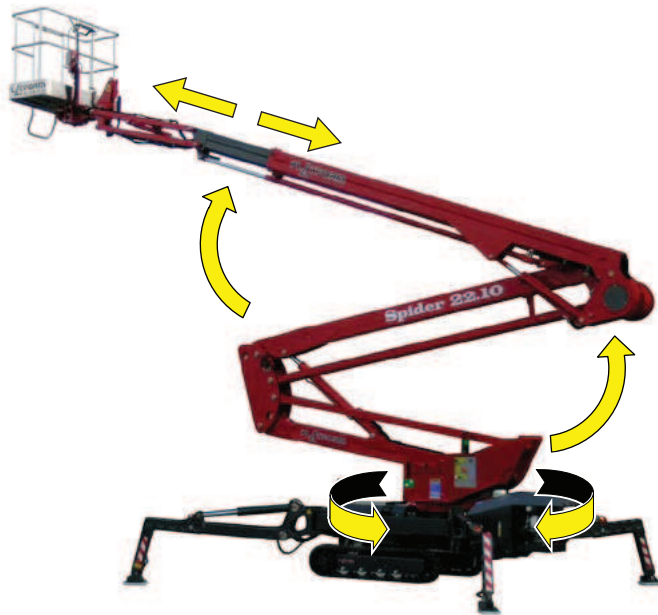
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- Start the engine. (See I.2. "Start/stop engine").  
The aerial part is normally moved by the operator in the basket. It is therefore, necessary to move the switch (**SA40**) to "basket position" (see E.1. "Ground control panel").  
If it becomes necessary to move the aerial part from the ground, it is necessary to move the switch (**SA40**) to "ground position" (see E.1. "Ground control panel").
- Move the "carriage-stabilisers/basket" pushbutton panel switch (**SA3T**) to the "basket" position (see E.4. "Remote control").
- Climbing into the basket.
- Check that the sliding bar which protects the opening of the basket is closed and positioned correctly.
- Insert and block the pushbutton panel in its position.

## I - USE

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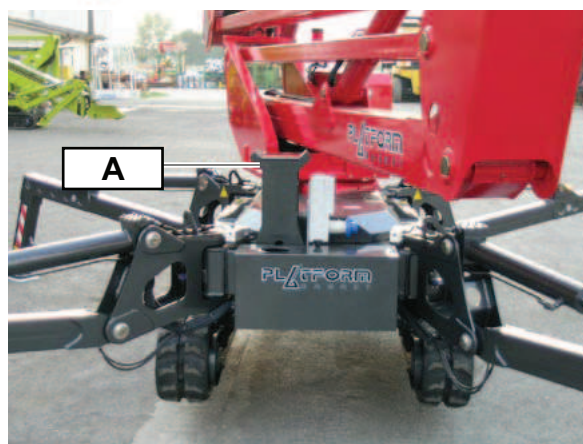
- Attach the safety belt to the safety ring.
- Command the **JT5** "Jib" movement to move away from the carriage.
- Command the **JT2** lifting of the pantograph boom from the support column.
- Turn the column **JT1** in the direction of the point of work.
- Lift the telescopic boom **JT3**.
- Adjust the search for the exact point of work by moving the extension **JT4**, the jib **JT5** and rotating the basket **JT6**.





### I.11.2. Closing

- Retraction with the extension.
- Lower the telescopic boom.
- Lower the pantograph boom.  
Do not close the pantograph boom completely.  
Keep the boom at a height where, in the column rotation phase, it does not interfere with the support column (**A**).
- Turn the column so as to move the pantograph boom onto the vertical axis of boom support column (**A**).
- Complete the closing of the pantograph boom until it rests on the column (**A**).
- Complete the closure of the telescopic boom.  
The green light comes on.  
It is possible to move the jib even once the boom is supported by the column.
- Proceed with closing the stabiliser feet. (See I.10. "Stabilisation closing").
- Fold the jib back in order to facilitate the operator's descent from the basket.
- Detach the safety belt from the safety ring.
- Remove the pushbutton panel from the support base.
- Get out of the basket.
- Turn the engine off. (See I.2. "Start/stop engine").



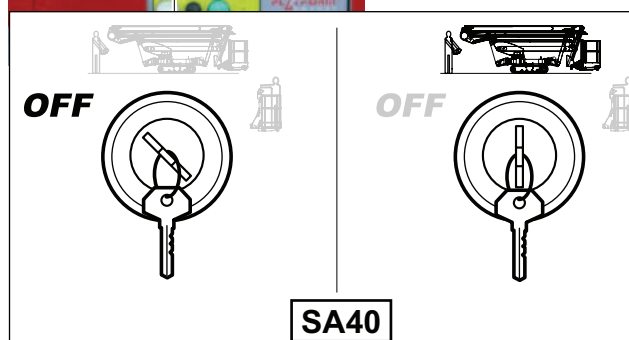
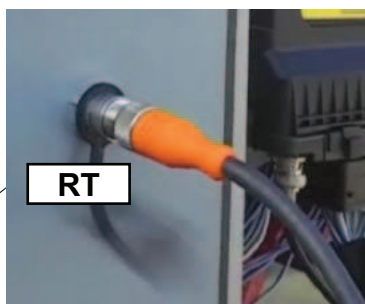
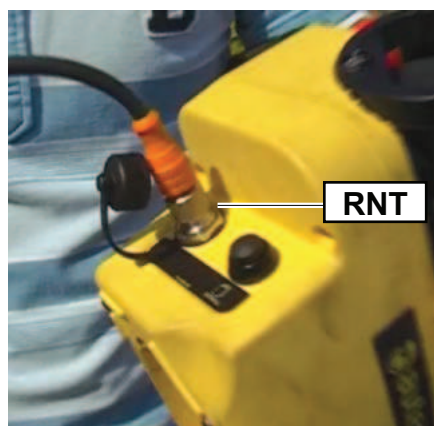
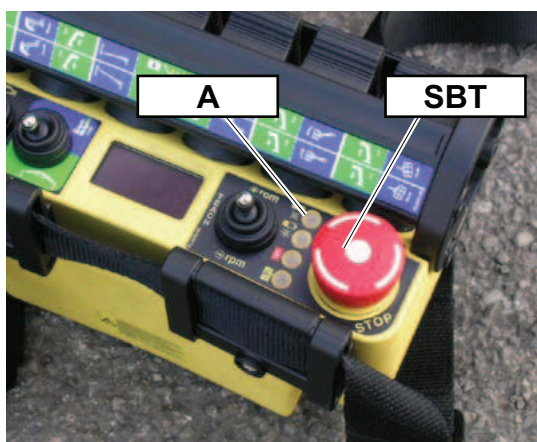
### I.12. Transforming the pushbutton panel from radio control to wire control

The conversion of the pushbutton panel from radio control to wire control may be caused by:

- Exhausted accumulators.
- The fact that it is impossible to emit radio impulses in the working area (airports, remote control units etc.)

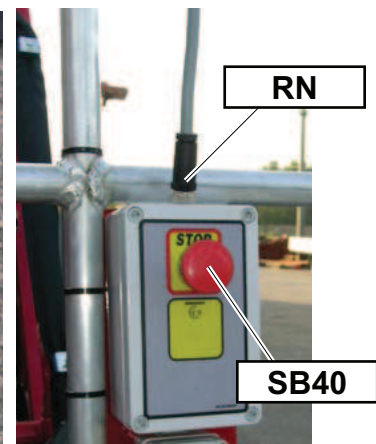
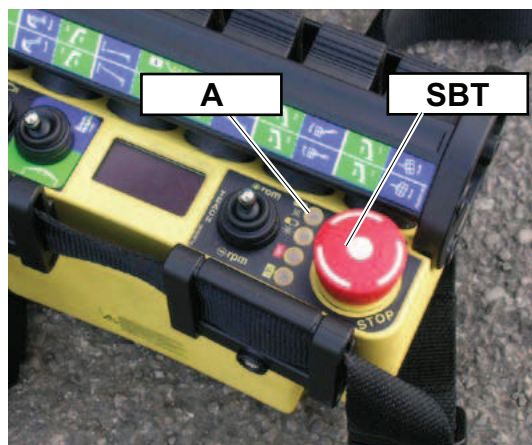
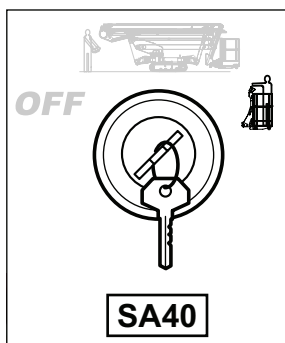
#### I.12.1 Ground control panel position

- Press the emergency button (**SBT**) on the pushbutton panel.
- Move the switch (**SA40**) to **OFF**
- Insert the cable supplied in the outlet of the pushbutton panel (**RNT**) and in the outlet (**RT**) of the instrument panel.
- Move the switch (**SA40**) to "ground position".
- Enable the pushbutton panel by releasing the emergency button (**SBT**).
- Press and hold down the button ("**START**") on the pushbutton panel until the green indicator light (**A**) starts to flash.
- Read the message displayed on the pushbutton display and act accordingly.



### I.12.2. Basket position

- The 3-position key selector (**SA40**) is on “basket position”.
- Press the emergency button (**SBT**) on the pushbutton panel.
- Press the basket emergency button (**SB40**).
- Insert the cable (**RN**) supplied on the basket into the pushbutton panel outlet (**RNT**).
- Enable the basket emergency button (**SB40**).
- Enable the pushbutton panel by releasing the emergency button (**SBT**).
- Press and hold down the button (“**START**”) on the pushbutton panel until the green indicator light (**A**) starts to flash.
- Read the message displayed on the pushbutton display and act accordingly.





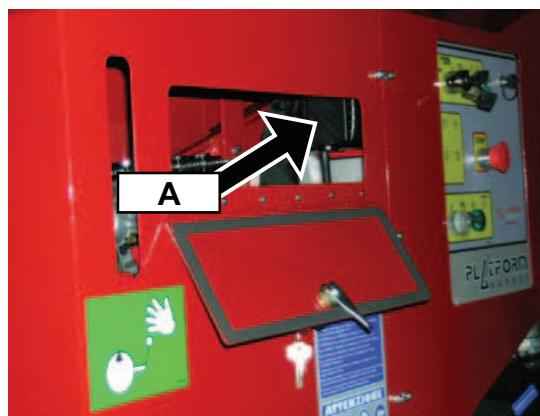
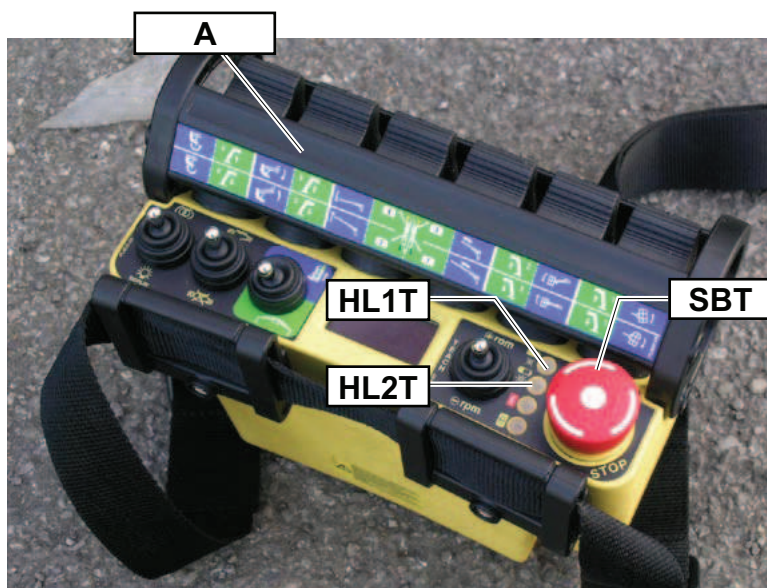
## I.13. Replacing the pushbutton panel accumulator



### Note

When the red indicator light (HL2T) starts flashing, this indicates that the accumulator is running down and that there are about 3 minutes of autonomy remaining. Replace the accumulator in this period.

- Press the emergency button (SBT) on the pushbutton panel.
- Remove the accumulator from the pushbutton panel.
- Open the emergency control hatch (superstructure ).  
Inside the cover, there is the battery charger (A) from which the charged accumulator should be removed.
- Insert the flat accumulator in the battery charger.
- Insert the charged accumulator in its position on the pushbutton panel.
- Check that a control position is enabled from the instrument panel (ground position, basket position).
- Enable the pushbutton panel by turning the emergency button.
- Press and hold down the button ("START") on the pushbutton panel until the green indicator light (HL1) starts to flash.
- Read the message displayed on the pushbutton display and act accordingly.



### I.14. Movements in an emergency

Faults and emergency situations require manoeuvres which allow the movement of the aerial part with the aim of bringing the operator in the basket back to the ground and moving the stabilisers for subsequent closure of the machine which can then be moved using suitable means.

The execution of these manoeuvres varies according to the type of fault (Fault with the pumps/main engines with electrical control parts active or fault with the pumps/main engines + Fault with the electrical control parts).

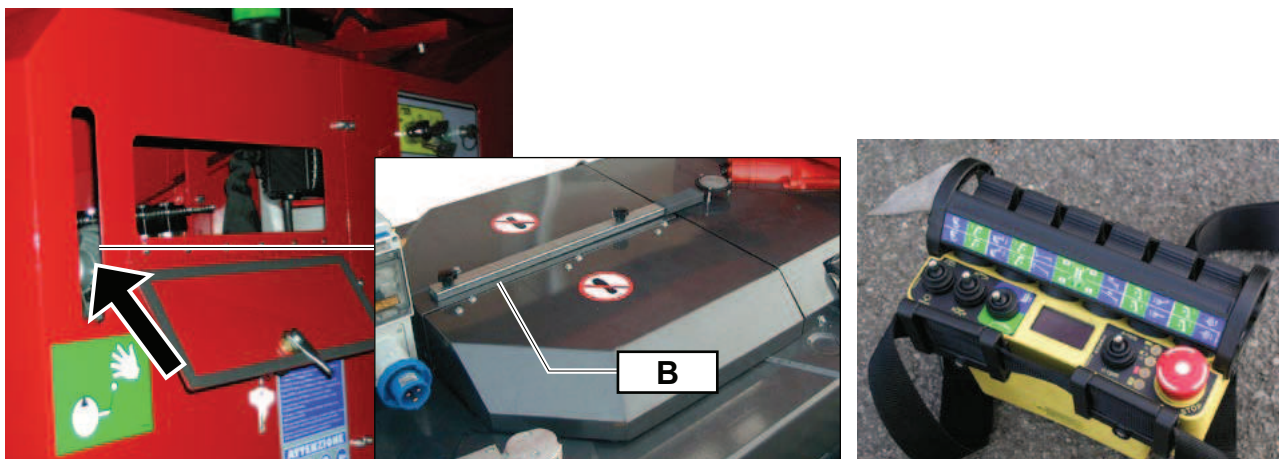
#### I.14.1. Superstructure

##### A - Situation where there is:

**Fault with the pumps/main engines with active electrical control part**

***Machine without 12 V emergency electric pump (optional)***

- Activate the emergency hand pump with the aid of the lever (B) and command the machine movements with the radio control.



***Machine with 12 V emergency electric pump (optional)***

- Activate the emergency pump using the button (SB74A) and command the machine movements with the radio control.



### B - Situation where there is:

No operation of the control system from the basket or where the operator is taken ill in the basket

In this situation, the machine must be used by the second operator on the ground as follows:

- Turn the selector (**SA40**) to "ground controls".
- Open the door **A**.
- Press the **SB49** button.



- Bring the basket back to the ground using the emergency distributor levers.



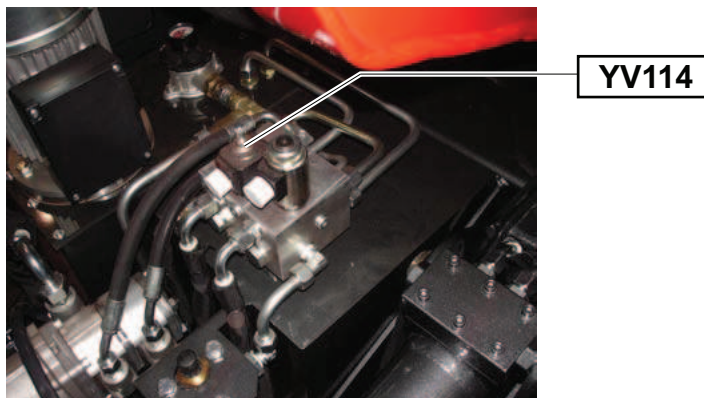


### C - Situation where there is:

**Fault with the main electrical system and it is impossible to start up the pumps/main engines**

Operate as follows:

- Break the seal, press and turn the pin clockwise until it remains in the lowered positioned and is blocked to bypass the valve (YV114).



- Open the door **A**.
- Command the return movements from the distributor using the hand pump **B** or, if present and operational, the emergency electric pump 12 V **SB74A**.



- Perform the sequence of movements listed below to bring the operator back to the ground:
  1. Extension retraction
  2. Pantograph descent
  3. boom down



### **Attention**

In this situation, the machine has no range limit control therefore it is only possible to perform extension retraction movements towards the centre of the machine, close the pantograph joint and then bring the boom down in order to bring the operator in the basket back to the ground safely.

Contact an authorised service centre for any repairs necessary and to replace the seal on the solenoid valve (YV114).

**It is forbidden to use the machine with the solenoid valve (YV114) without the seal.**

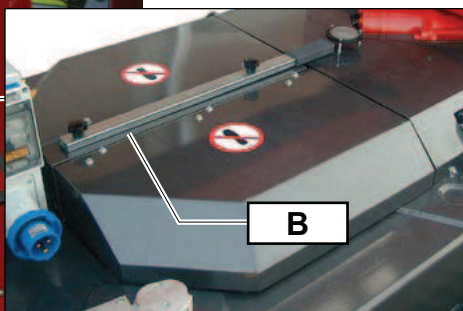
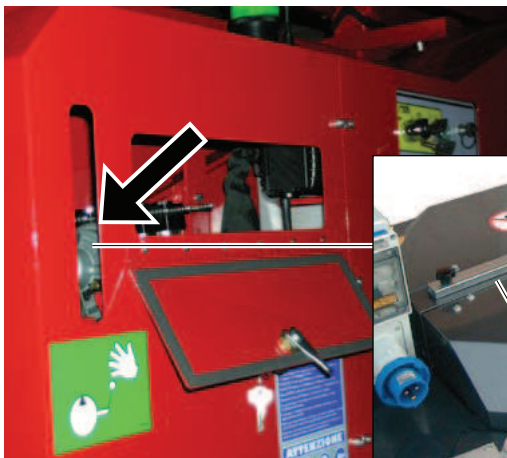
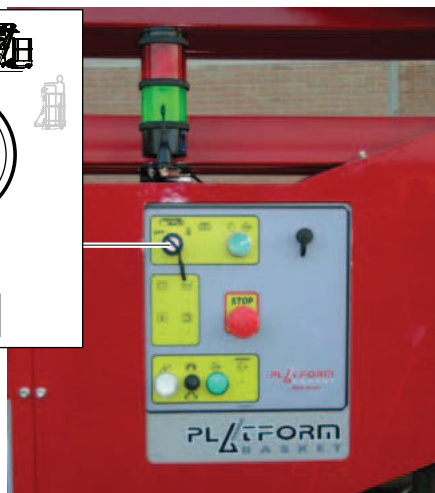
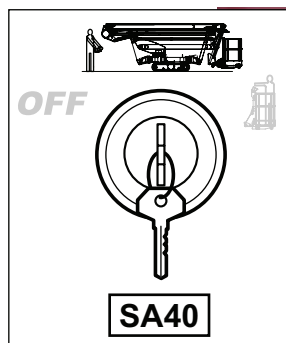
### I.14.2. Stabiliser movement

#### A - Situation where there is:

**Fault with the pumps/main engines with active electrical control part**

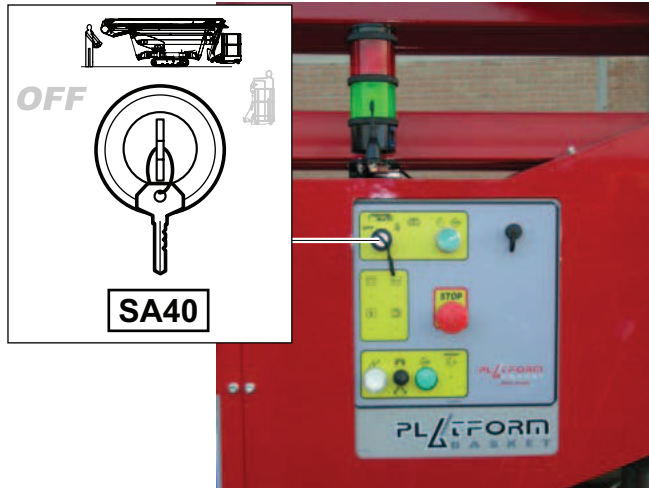
***Machine without 12 V emergency electric pump (optional)***

- Turn the selector (**SA40**) to “ground controls”.
- Activate the emergency hand pump using the lever (**B**).
- Select the radio control operating mode, moving the switch (**SA3T**) to “ground part”.
- Activate the handpump and command the machine movements with the radio control.



### **Machine with 12 V emergency electric pump (Optional)**

- Turn the selector (**SA40**) to “ground controls”.
- Select the radio control operating mode, moving the switch (**SA3T**) to “ground part”.



- Activate the emergency pump using the button on the main panel (**SB74A**) and command the machine movements with the radio control.

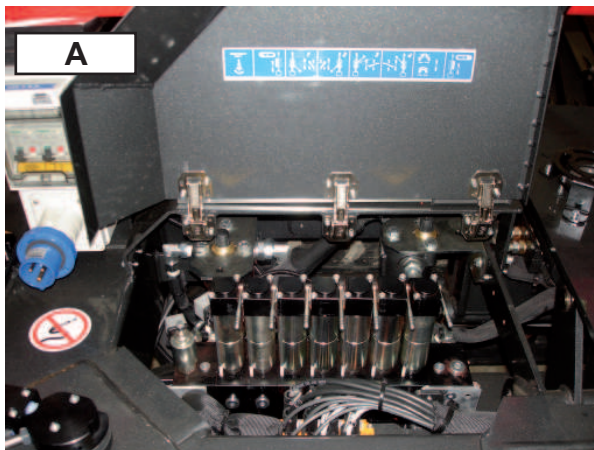




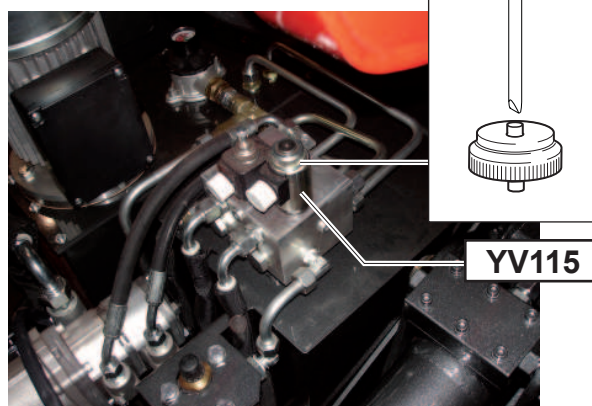
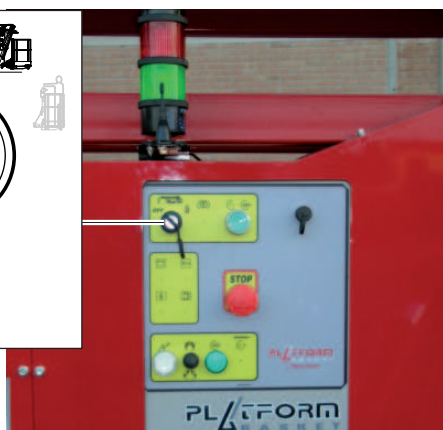
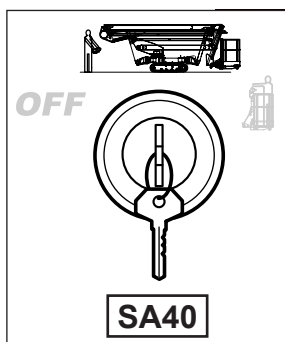
### B - Situation where there is:

#### No radio control operation

- Activate the movements using the carriage distributor (**A**), operating as follows:



- Turn the selector (**SA40**) to "ground controls".  
To bypass the valve (**YV115**).
- Push with a screwdriver the pin on the solenoid valve (**YV115**).



- Push & twist the valve (**YV138**) on the carriage distributor.
- Start the engine using **SB67**.
- Move the stabilisers using the carriage movement distributor levers.

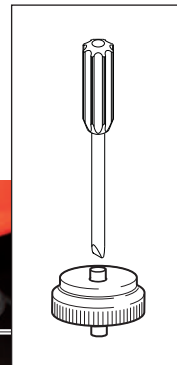
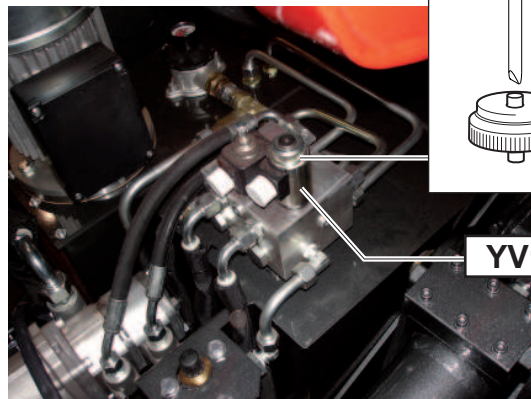
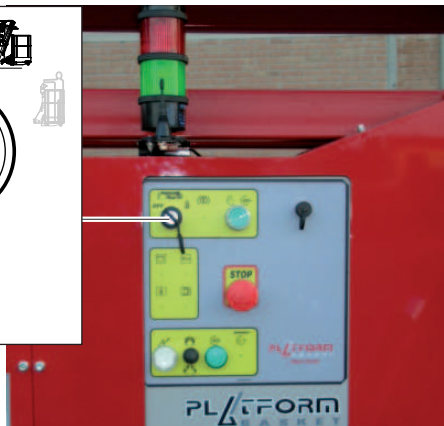
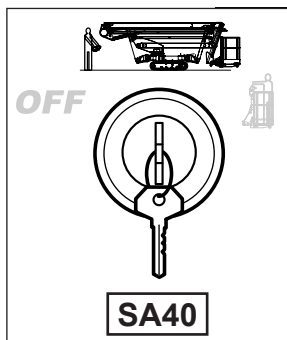




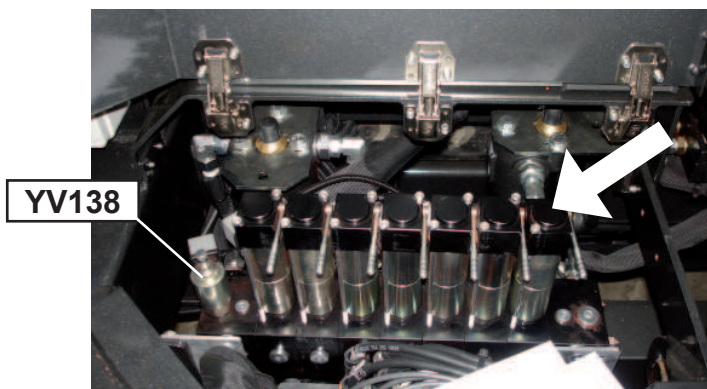
### C - Situation where there is:

**Fault with the main electrical system and it is possible to start up the pumps/main engines**

- Turn the selector (**SA40**) to "ground controls".  
To bypass the valve (**YV115**)
- Push with a screwdriver the pin on the solenoid valve (**YV115**).



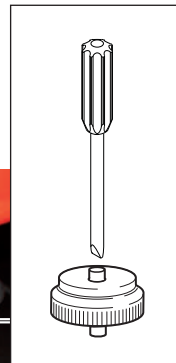
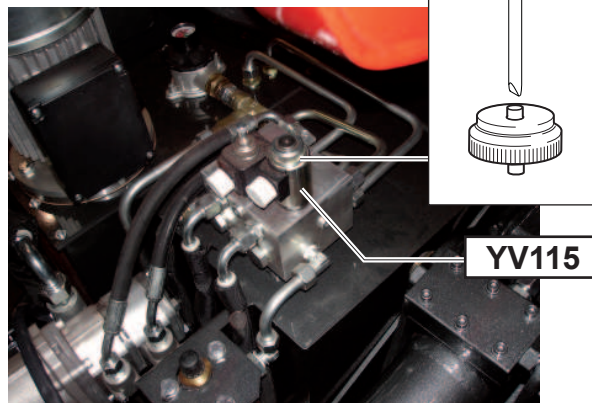
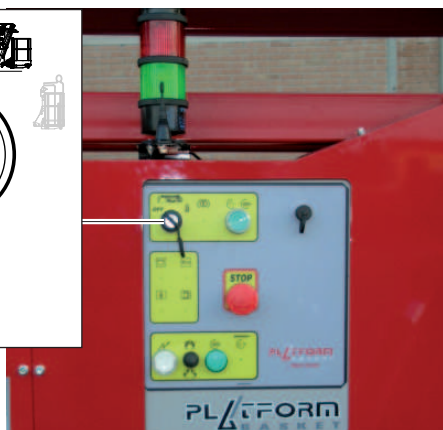
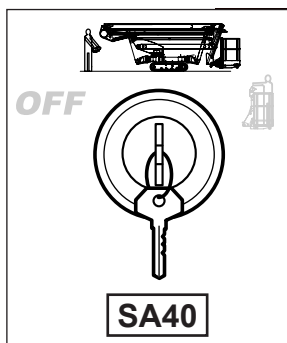
- Start the engine using **SB67**.
- Move the stabilisers using the carriage movement distributor levers.  
Pushing & twisting the valve (**YV138**), it is possible to move the 4 stabilisers.  
By keeping the valve (**YV138**) rotate, it is possible to move slowly, manoeuvring the tracks with the 2 levers positioned on the end of the distributor.



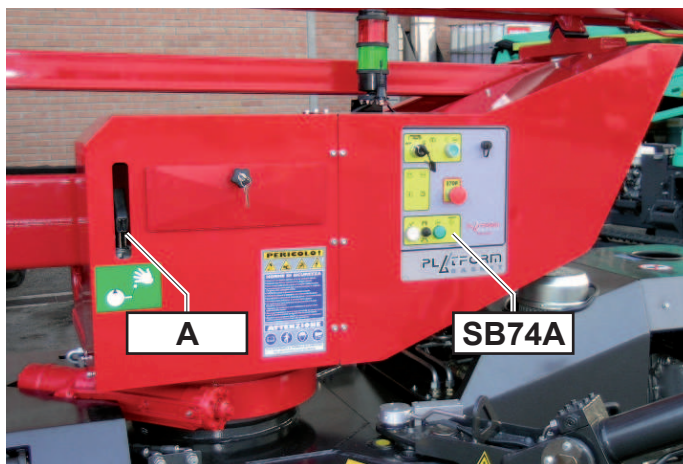
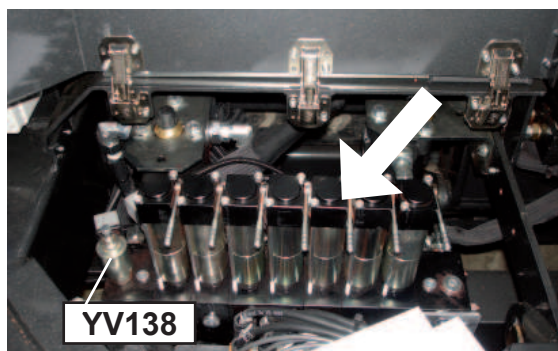
## D - Situation where there is:

**Fault with the main electrical system and it is impossible to start up the pumps/main engines**

- Turn the selector (**SA40**) to "ground controls".
- To bypass the valve (**YV115**):
- Push with a screwdriver the pin on the solenoid valve (**YV115**).



- Push & twist the valve (**YV138**) on the carriage distributor.
- Move the stabilisers from the carriage distributor using the manual pump (**A**) or, if present and operational, the emergency electric pump 12 V **SB74A**.



### Attention

Using the machine in an emergency in conditions B, C and D, the machine has no safety devices controlling range limitation therefore, before reusing the machine, it is obligatory to contact an authorised service centre for any repairs necessary and to replace all the safety devices and place seals on any solenoid valves which have been tampered with.

### L.1. Foreword



#### **Danger**

**The operations described in the various headings must be carried out exclusively with the machine stopped and disconnected from the power sources (electrical and pneumatic).**



#### **Attention**

**The following cases describe possible faults each associated with a sequence of checks to be carried out in order to remedy the possible causes.**

#### L.1.1. Technical support

Consult your PLATFORM BASKET Dealer, or contact PLATFORM BASKET Technical Service directly, specifying the information found on the machine identification dataplate:

- Type of machine
- Serial number

Also supply all the relevant information concerning the problem detected.

## L.2. Mains defects



### Attention

The operations reported in this chapter are to be done exclusively by the authorised shops.

#### The engine does not start although the starter starts up correctly.

<i>Causes</i>	<i>Remedy</i>
No fuel - Insufficient oil pressure	Check the quantity of hydraulic oil in the tank (petrol only). Check the quantity of fuel (petrol engine only). See the enclosed user instructions for the endothermic engine.

#### The hydraulic pump is very noisy.

<i>Causes</i>	<i>Remedy</i>
Too low oil level.	Check oil level.
The pump sucks too much air.	Fasten the line fittings.
Too thick oil.	Replace oil.
Wear kinematisms.	Overhaul the pump.

#### Cylinders loosing oil, decreasing capacity with pump not working, power decreasing.

<i>Causes</i>	<i>Remedy</i>
Wear tight-seals.	Replace seals, checking wear not coming from linings on the telescopic rod or on the cylinder.
Leakages on lock valves.	Overhaul valves check valves cleanness and setting.
Control valve with internal leakages.	Overhaul control valve, check valves cleanness and setting.

#### The machine moves with irregular motions of booms, jerkily and slowly.

<i>Causes</i>	<i>Remedy</i>
Presence of air in the hydraulic circuit.	Sometimes make stopper- up going- down going-movements untill the complete discharge of air
Telescopic boom wear pads.	Replace worn down wear pads.

#### The machine doesn't complete the movements, jerkily steerings

<i>Causes</i>	<i>Remedy</i>
Oil not enough.	Reset oil level.
Air suction.	Fasten fittings.
Valves wrong setting.	Withdraw valves.
Breakdown pump.	Check the pump.

#### Metal particules founded in the oil filters

<i>Causes</i>	<i>Remedy</i>
Parts of the oleo dynamic system are damaged.	Find the breakdown parts, replace them.

## L - TROUBLES – CAUSES – REMEDIES

<b>Movements prevented.</b>	
<i>Causes</i>	<i>Remedy</i>
Machine overloaded.	Let the extensions come in.
Impurities presence in solenoid valve spool.	Disassemble the valve and clean the internal parts.
The coil of the solenoid valve does not work.	Change the coil.

<b>Light oil filaments in cylinders seals.</b>	
<i>Causes</i>	<i>Remedy</i>
After long inactive periods.	After a certain number of working hours, you will not have any filaments.

<b>Load holding valves whistle too much.</b>	
<i>Causes</i>	<i>Remedy</i>
Dirty load holding valve.	Disassemble and clean the valve.
Ruined load holding valve.	Check valve setting.
Too low valve setting.	Check control valve setting.
Too high control valve setting.	Replace valve.
Enervate valve spring	

<b>Oil loosing from the cylinders tops.</b>	
<i>Causes</i>	<i>Remedy</i>
Ruined cylinder seals.	Replace cylinder seals.
Too slow end cap on rod.	Unfasten end cap, clean and reassemble with loctite.
Cylinder with swelled outer casing.	Replace cylinder.
Rust under seals setting place.	Replace only the ruined component.

<b>Radio control is disengaged and goes into emergency mode.</b>	
<i>Causes</i>	<i>Remedy</i>
Presence of high voltage lines near the machine.	Replace radio card of the control valve.
Discharged remote control battery.	Replace remote control battery.

<b>The machine seeps much oil of connectors and of seals generally</b>	
<i>Causes</i>	<i>Remedy</i>
General seal ruined.	Fasten fittings or check however their sealing.
Too slow fittings.	Add oil in tank.
Too warm oil.	
Few oil in tank.	
Too old or ruined system rubbers.	

## L - TROUBLES – CAUSES – REMEDIES

<b>Control valve lever which stops or which comes back hardly.</b>	
<i>Causes</i>	<i>Remedy</i>
Dirt into the spool.	Disassemble and clean spool even with paste erasing micro-impurities. Replace spool. Replace springs. Unfasten double control rod and set it. Check discharge pressure from the CE cylinders. Check pressure on draining. Replace OR seals. Check with a dynamometric key the control valve tightening tie rods. Slacken caps screws. Clean with air the control valve element.
Ruined spool.	
Return spring too weak or broken.	
Too much friction on the shaft of the double command.	
CE cylinders, which do not discharge pressure.	
Radio module stop or always in voltage.	
Too back pressure in control valve discharge.	
Cursor opening and closing badly done.	
Sealing OR which produce too friction.	
Assembled control valve and tie rods too strongly fastened.	
Too strongly fastened rod-side or opposite side caps.	

<b>Machine with electric pump which does not move.</b>	
<i>Causes</i>	<i>Remedy</i>
Electric pump does not receive power.	Check electric connections. Check electric pump. Replace electric pump. Replace or add oil. Replace pump or oil cover. Replace fuse and discover why it has blown.
Burnt electric pump.	
Wrong electric connection.	
Emergency pushbutton pressed	
Oil lack.	
Pump leaking oil.	
Burnt fuse.	

<b>Stabiliser cylinders come out unable to keep pressure.</b>	
<i>Causes</i>	<i>Remedy</i>
Dirty or damaged load holding valve.	Check valve. Check control valve spool. Check internal cylinder sealings. Replace gaskets/seals. Replace cylinder.
Damaged cylinder gaskets.	
Cylinder with swelled outer casing.	
Centre distributor spool open.	



### M.1. Foreword



#### Attention

**Before doing any maintenance work and especially maintenance and/or repairs to the electrical system or if it is necessary to do WELDING, COMPLETELY DISCONNECT ALL THE BATTERIES OF THE MACHINE BY REMOVING THE CONNECTOR TERMINALS.**

The terms periodic and routine maintenance refer to interventions which must be performed regularly throughout the whole of the machine's working life at a set frequency.

Inspection and careful maintenance allow the machine to work continually and with maximum efficiency. The following is a list of operations to be performed on the machine.

Remember also that the prompt replacement of a worn part avoids further damage and reduces the time that the machine is inoperative.

Other maintenance work not covered by this section is to be considered as special maintenance and is not part of the duty assigned to the operators who use the machine. This kind of work must be done by a specialized workshop.



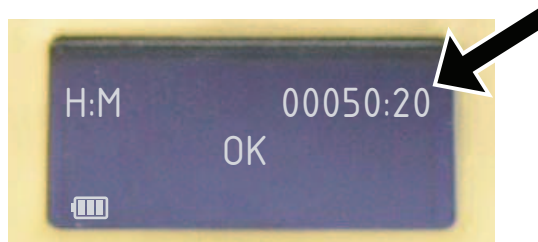
#### Danger

**All maintenance work must be done with the machine inoperative, in other words with the motor switched off, the electrical voltage to the panels cut off and the machine in the rest position.**



#### Attention

**A few pages have been added to this manual so that the operator assigned to maintenance can keep notes of the maintenance work done and the number of hours the machine has worked, in the latter case making use of the hour-meter.**



During operating and maintenance do not dispose of pollutants (oils, greases, etc.) into the environment, and dispose of the various products separately in compliance with current laws in this regard.

Electrical and Electronic waste may contain hazardous substances that may potentially be harmful to the environment and the health of people. We urge you to dispose of it in the correct manner.

In terms of the EEEW (Electrical and Electronic Equipment Waste) directive, when scrapping, the user is to separate the electrical and electronic components and dispose of them via authorised collection centres, or they must hand them over, still installed, to the seller when making a new purchase.



### M.2. Maintenance work safety

- Never perform maintenance operations while the batteries are charging.
- Use tools and equipment that are suitable for the purpose.
- In the area/workshop used for the maintenance or during battery recharging only the qualified personnel assigned to maintenance should be present.
- Never leave metal tools such as spanners or the like on the machine as these could cause irreparable damage.
- Replace worn parts with identical, original spare parts.
- It is forbidden to make modifications or replacements using components which are unsuitable or not authorised by the manufacturer.
- Before doing any intervention on pressure lines, it is necessary to depressurise them by using the control levers.
- At the end of maintenances or reparations and before activating the machine again, check that you have not some tools, rags or some other material near the moving parts.



#### **Attention**

**Wear specific anti-piercing gloves when performing maintenance work.**

Maintenance interventions must be carried out at least at the recommended intervals, although the precise frequency depends on the conditions of use of the machine

During maintenance, repair, cleaning, or adjustment indicate the machine stoppage in a clearly visible manner with a sign placed on the control panel reading "WORK IN PROGRESS"



#### **Attention**

**Before starting the machine up again, correctly re-mount and tighten all the parts which have been removed (in particular fixed and moving covers and safety components).**



#### **Danger**

**Read the "Safety" section of this manual in its entirety before starting work.**

#### Key to symbols used in the chapter



Cleaning by hand



Inject grease through the grease nipple



Cleaning with vacuum cleaner



Grease by means of a grease gun

## M - MAINTENANCE

### M.3. Routine maintenance frequency table

When working over a single shift Corresponding hours for more than one shift	Assiduity of maintenance							
	A	B	C	D	E	F	G	H
	°	8	50	100	250	500	900	1800

#### CLEANNESS

Machine cleaning			X					
Cleaning the dataplates and indicator lights	X							

#### LUBRICATION

Greasing joints <sup>(1)</sup>					X			
Hydraulic oil level check <sup>(1)</sup>			X					
Check the oil level in the track reduction gears			X					
Extension greasing			X					
Replace the hydraulic oil						X		
Replace track reduction gear oil						X		
Stabiliser greasing				X				
Telescopic component chain lubrication				X				
Turret rotation unit greasing					X			

#### MECHANICAL MAINTENANCE

Replace pressure filter cartridges <sup>(1)</sup>					X			
Replace the discharge filter cartridge								
Checking and tensioning the tracks								
Checking for wear and wear pad adjustment			X					
Checking the battery charging level			X					
Checking and topping up the level of electrolyte liquid in the battery								
Checking the parts are secured well <sup>(1)</sup>					X			
General structure check <sup>(2)</sup>					X			

#### ELECTRICAL MAINTENANCE

Check limitswitch					X			
Check emergency buttons			X					
Fuse replacement	X							

#### Key

- A. If necessary
- B. Day
- C. Week
- D. Months
- E. Two-month period
- F. Three months
- G. Six Months
- H. Year

<sup>(1)</sup> First 10 hours of operation.

<sup>(2)</sup> Must only be performed by a specialised workshop.

### M.4. Cleanness

After every trip and every intervention, clean carefully the equipment (joints, pins, sliding pads).

For crane versions with top controls, keep possible handles and footboards clean from oils, greases and dirtiness, to prevent any sliding and falling.

When you wash the machine, protect properly its components and electric connections, because using direct and under pressure jets on equipments and electric connections could cause damages.

For avoiding the early usury of junction clean dust, impurities and dirt from jacks shaft using no abrasive material or cleansings



#### **Attention**

**This procedure must be performed with care to avoid scratching or scoring the rods.**

- Clean impurities and dirt on controls
- The carpentry protected by paint has to be cleaned with water and non-corrosive cleansers.

We suggest you to dry carefully after every washing (by blowing compressed air).



#### **Danger**

**It is strictly forbidden to address water jets near electric components (boards, electric valves, push button, etc.) and oil plugs.**

### M.4.1. Cleaning the dataplates and indicator lights

Whenever it becomes necessary, clean the control indications, the indicator lights, the plates and, above all, the safety pictograms.

All dataplates and decals on the machine or on parts of the machine must be clearly legible.

If deterioration is found, request a replacement by contacting the manufacturer's spare parts service directly.

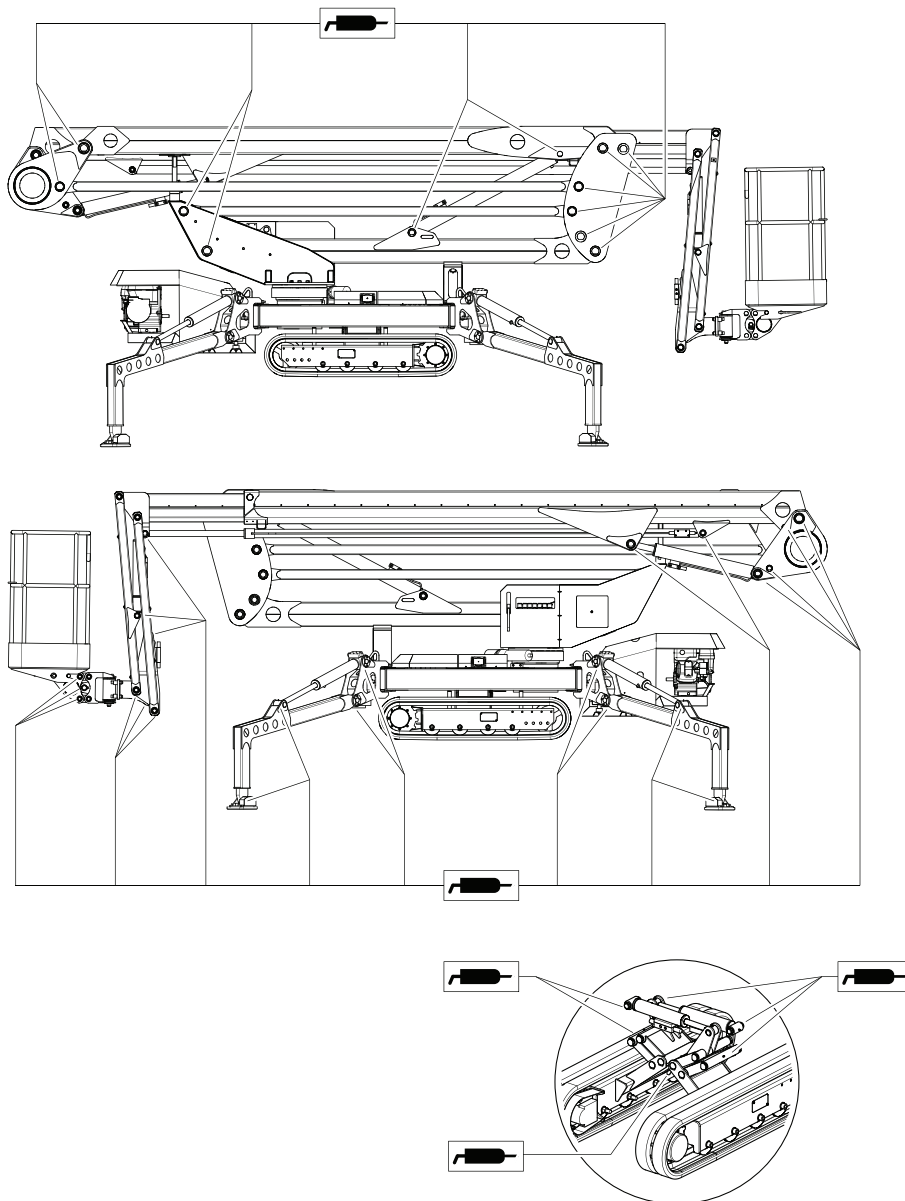
### M.5. Greasing

Using the pump lubricator, put lubricating grease through the grease nipples on all the articulation points until lubricant leaks out, thereby replacing the used grease. (See M.5.1. "Greasing points diagram").

Start up the machine for the time strictly necessary to perform a few movements with the greased joints.

#### M.5.1. Greasing points diagram

The illustration below shows the grease nipples. Inject grease into all the grease nipples.



### M.6. Lubrication

The smooth surfaces and the gears should first be cleaned of spent grease with a spatula and then lubricated with fresh grease using a brush.

Always remove excess grease.



#### **Attention**

**Damaged or clogged lubricators must always be replaced.**

---



#### **Attention**

**Use lubricant grease having the same characteristics as that shown in the specific table in this section.**

---

### M.7. Checking the level and replacing the hydraulic oil

#### M.7.1 Inspection

Check the right level directly on the tank.

The quantity of oil present in the tank is correct if the level is visible in the indicator **a** and is between the min and max points on the level indicator.

#### M.7.2. Replacement



##### Danger

**Oil at high temperature. Risk of burns**

**Before realising the interventions, wait some minutes with the machine stopped and the motor off.**

---

- Prepare a vessel able to contain the quantity of oil in the tank and place it under the tank.
- Remove the magnetic cap B for discharging oil
- waiting for the fully outgoing of oil, clean and assemble the cap **A** again
- Open the cap **B** e put oil into it, reaching the right level
- Close the cap **B** again



##### Attention

**Use the hydraulic oil with the same characteristics.**

---



##### Attention

**Do not introduce oil directly in the tank without having filtered it previously.**

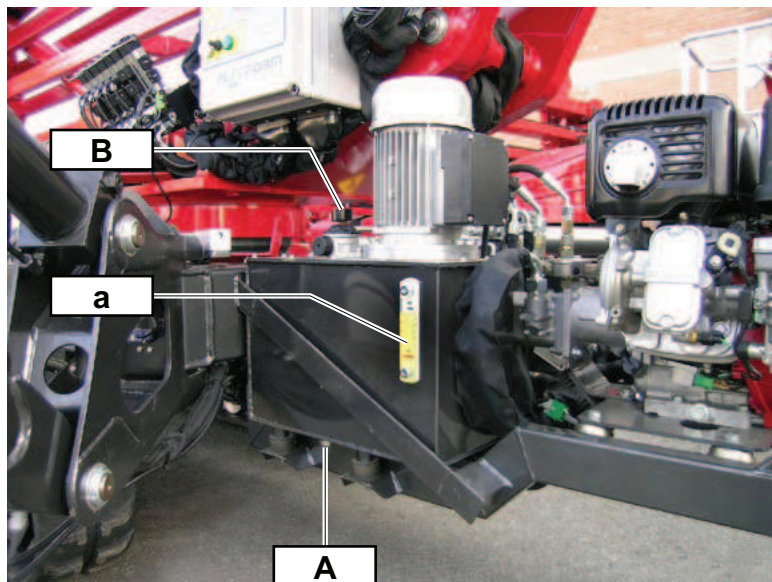
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##### Attention

**Spent oil must be disposed of in compliance with local legislation.  
It has to be delivered to a collecting and sale body for used oils.**

---



### **M.8. Check oil level/top up/Replace track reduction gear oil.**

#### **M.8.1. Check oil level**

Carry the wheel with the two caps positioned as shown in the figure and remove the top one: the oil must leak out slightly.

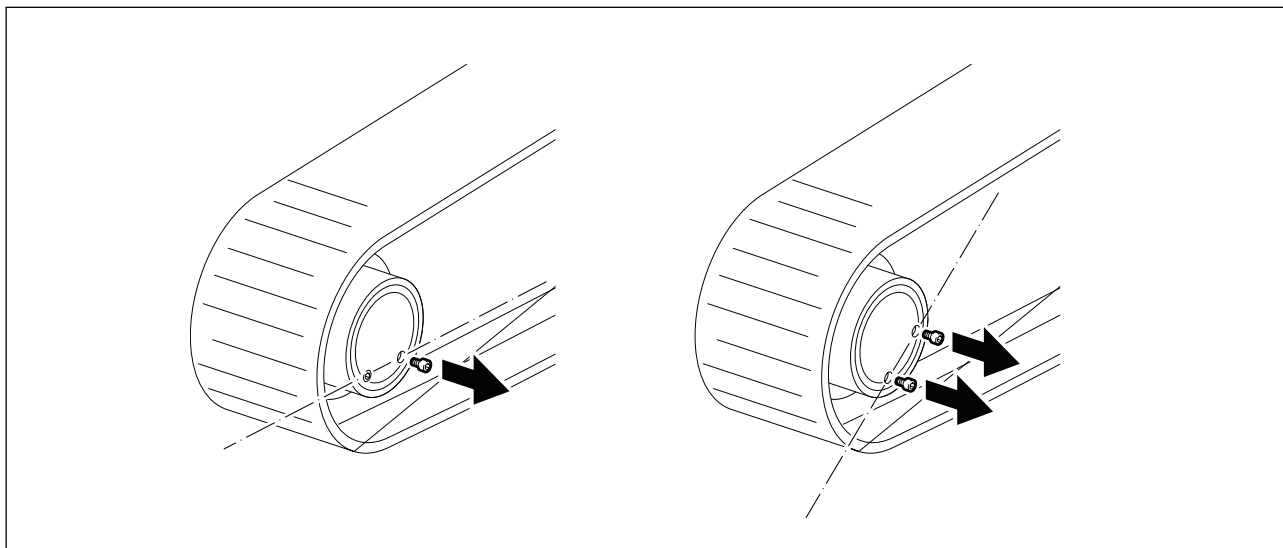
#### **M.8.2. Topping up oil**

Pour oil in through the removed cap until the right level is reached.

#### **M.8.3. Oil replacement**

Carry the wheel with the two caps positioned as shown in the figure and remove both of them. Wait for all the oil to come out.

Pour in the oil as explained in the paragraph “oil top up”.





### M.9. Extension greasing

Configure the stabilised machine with the boom positioned horizontally and extended as far as it will go.

Scrape off the old layer of grease with a plastic spatula.

Spread on a new layer of grease using a brush.



#### **Attention**

**The parts which remain inside the telescopic components will be lubricated by the grease which penetrates the pits of the upper and lower sliding wear pads.**

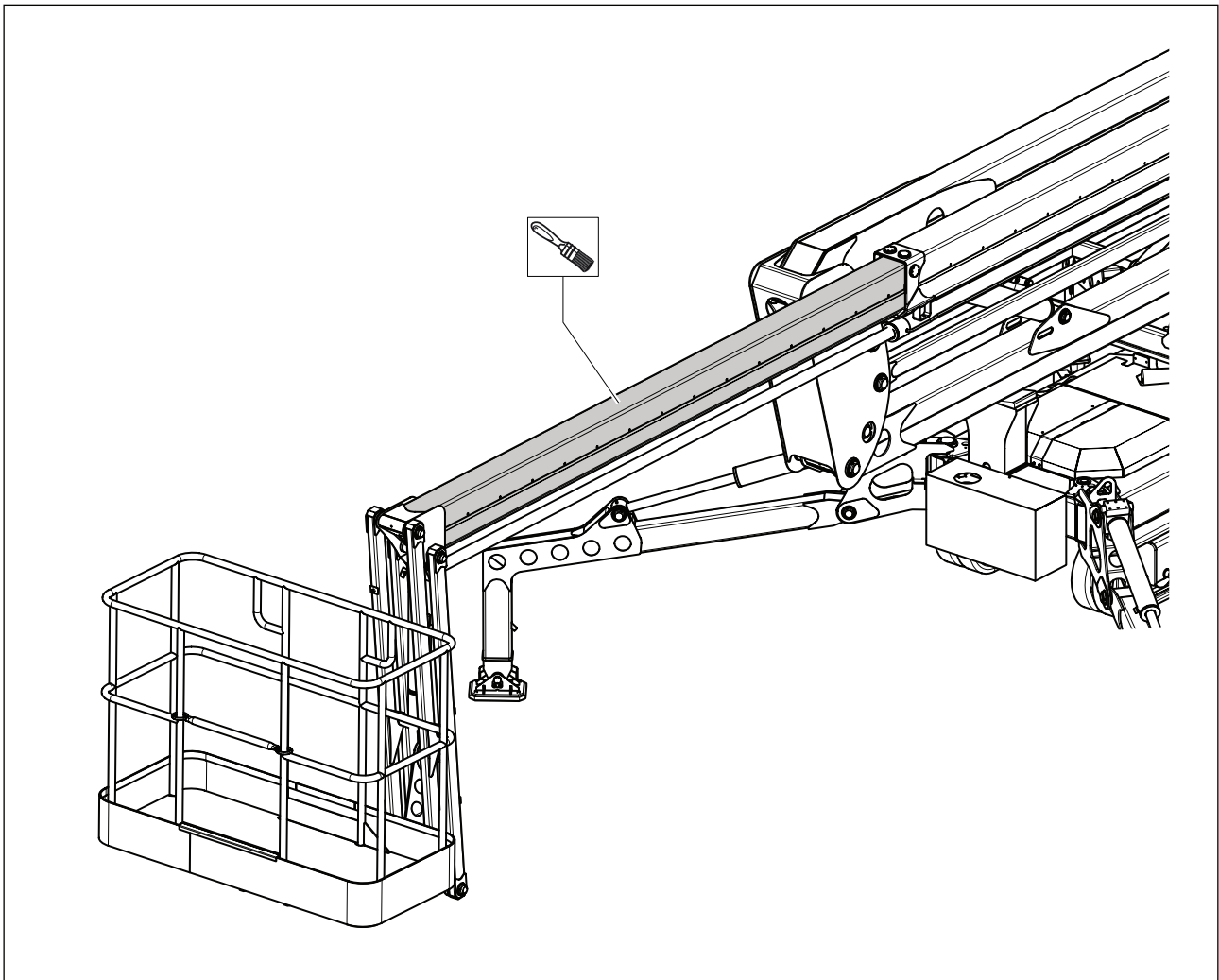
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#### **Attention**

**Use lubricant grease having the same characteristics as that shown in the specific table in this section.**

---



## M - MAINTENANCE

### M.10. Lubricants table






#### Attention

All maintenance work must be done with the motor switched off and the machine in the rest position.



#### Attention

Do not add oil different to what the manufacturer advises.

	<b>Grease</b> 	<b>Grease</b> 	<b>Hydraulic oil</b> 	
<b>TOTAL</b>	MULTIS EP 2	MULTIS EP 2	AZOLLA ZS 46 ZS 68 <sup>(*)</sup>	
<b>MOBIL</b>	MOBIL GREASE MP	MOBIL GREASE MP	DTE 25	
<b>ESSO</b>	BEACON EP2	BEACON EP2	NUTO H 46 H 68 <sup>(*)</sup>	INVAROL EP 46
<b>AGIP</b>	GR MU EP 2	GR MU EP 2	OSO 46 68 <sup>(*)</sup>	ARNICA 46
<b>IP</b>	ATHESIA EP2	ATHESIA EP2	HYDRUS 46 68 <sup>(*)</sup>	
<b>BP</b>	ENER- GREASE LR MP	ENER- GREASE LR MP	HENERGOL HL 80	

<sup>(\*)</sup> For hot climates.

### M.11. Replace pressure filter cartridges

The hydraulic filter **a** is provided with an indicator **b** that shows when the filter is blocked. Move the machine into the rest configuration.



#### Danger

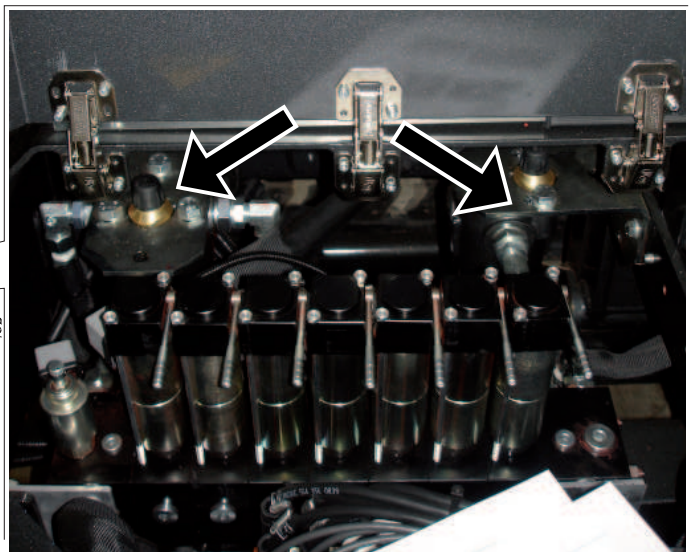
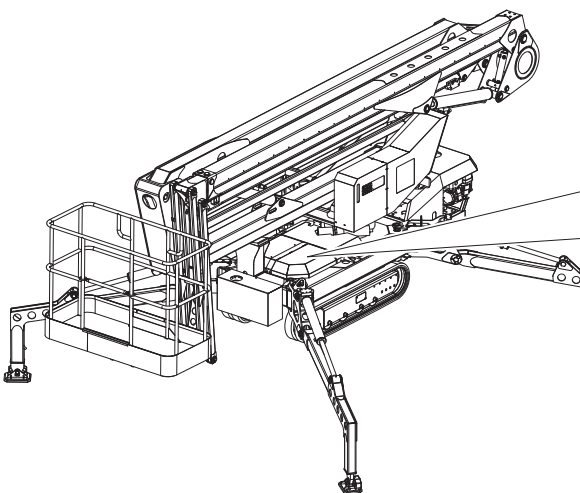
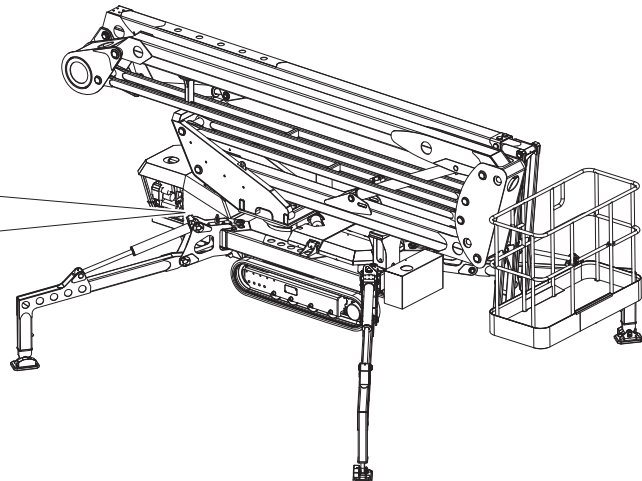
**Turn off the machine by cutting off the electrical power to the control panels, also making sure that the hydraulic oil is not at a temperature of 40°C.**

With a special strap wrench unscrew and replace the filter cartridges with new ones having the same filtration grade (20 µ).



#### Attention

**Before putting back the filter, grease the seal.**



### M.11.1. Cleanness/replacement of the return filter

During the operations of replacement and cleanness of the filter, the pump must be disconnected.

Clean the area near the filter before removing it.

In the period established and however when the optical gauge **A** indicates the obstruction, it is necessary to replace the filtering element.



#### **Attention**

**Oil at high temperature. Risk of burns**

---

- Unscrew the cover **B** of the filter
- Extract the filter and clean or replace it with one with the same filtering capacity (20 µ).



#### **Attention**

**Lubricate and check the position of the seal between the cover and the filter.**

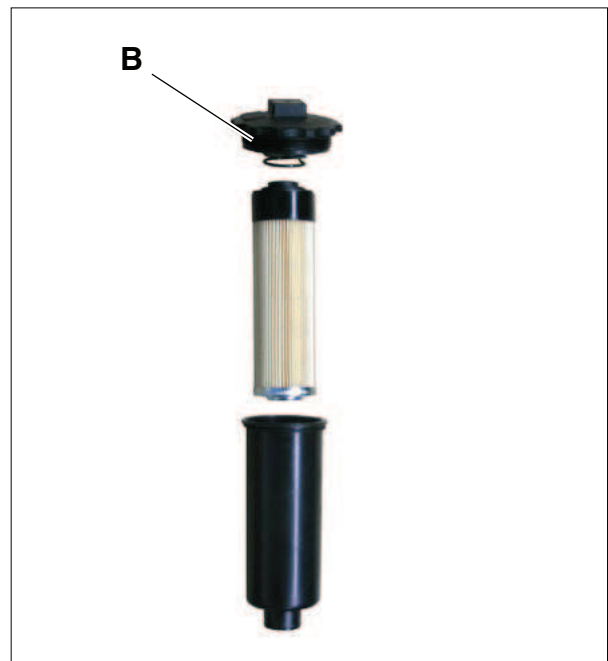
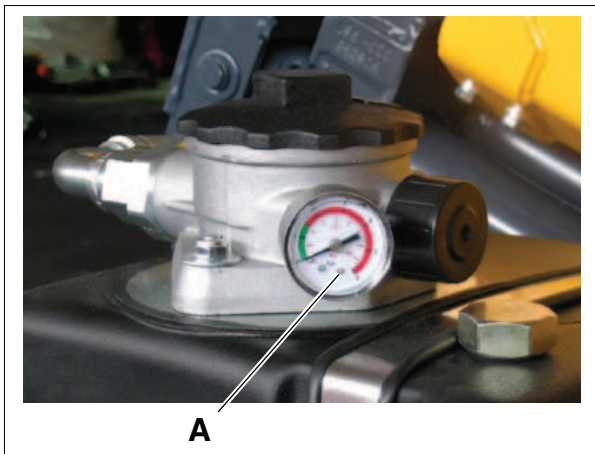
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**Cartridge cleaning:** It is better to change it, otherwise it is possible to clean it blowing compressed air in it.

Check that at the end of the operation the cartridge doesn't have impurities left on the filtering web.

In case you find damages or breaks, replace it.

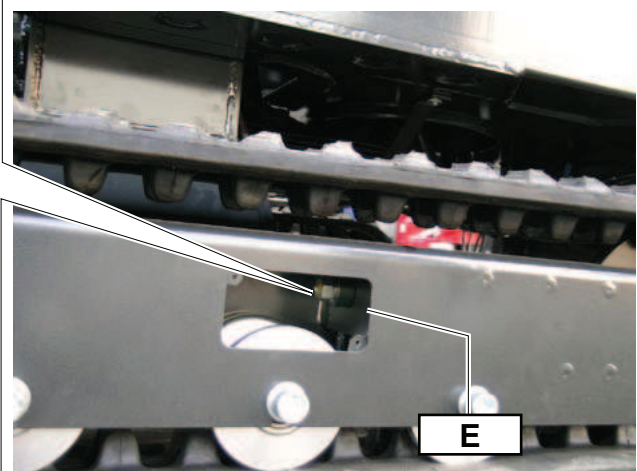
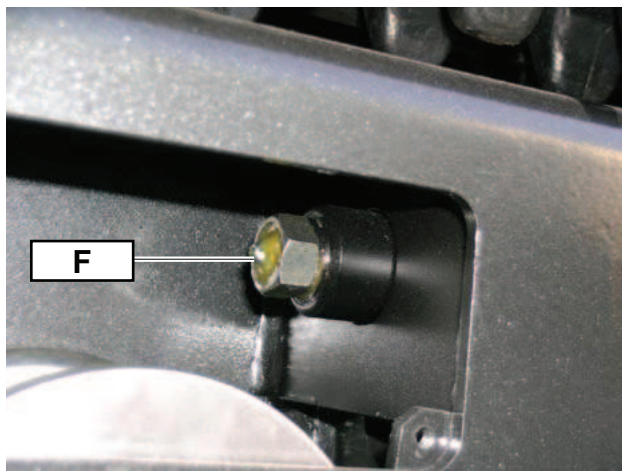
**Reassembling:** reassembling the components being sure that the possible seals are not damaged, on the contrary replace them.



### M.12 Checking and tensioning the tracks

If, during movement, the track, with a high level of bending begins to flap, becoming noisy, it is necessary to tension it.

- Remove the inspection covers (E) (one per side).
- Insert the pump in the end lubricator of the valve (F).
- Inject grease until belt bending is corrected completely.
- If the tension is excessive, loosen the valve (F) so that the excess quantity of grease comes out.
- Reposition the covers (E).



### M.13. Checking for wear and wear pad adjustment

Check for wear to the extension wear pads. If, when the boom and extensions are completely retracted, there is a gap of more than 5 between one extension and the other, it is necessary to replace them.



#### **Attention**

**Replacement of the sliding blocks must be done at an authorized workshop.**

---

Check the centring of the extension and intervene on the registers (A) if necessary: loosen or tighten the register to move the extension nearer to or further away from the wall.





### M.14. Checking and topping up the level of electrolyte liquid in the battery



#### **Danger**

The battery contains sulphuric acid-based electrolyte which can cause serious burns and produce explosive gas.

**Avoid contact with the skin, eyes and clothing.**

---



#### **Danger**

Keep away from naked flames and cigarettes.

Do not create sparks with the electrical cable terminals.

**Ventilate the rooms where the battery is charged or handled sufficiently.**

---

- Remove the guard.
- Disconnect the battery.
- Open the slot-on cover (A).
- Remove the cap from each component. If there are special control inserts, make sure that the level of the electrolyte touches the bottom.
- If the inserts are not affixed, check that the level of the electrolyte exceeds the upper edge of the plates by at least 10/15 mm.
- If necessary, add an appropriate quantity of distilled water, using a special doser.
- Fully tighten the caps.



#### **Attention**

Always check that the vent caps are correctly positioned and tightened.

The same intervention frequency is not envisaged for the low maintenance batteries as for the conventional ones.

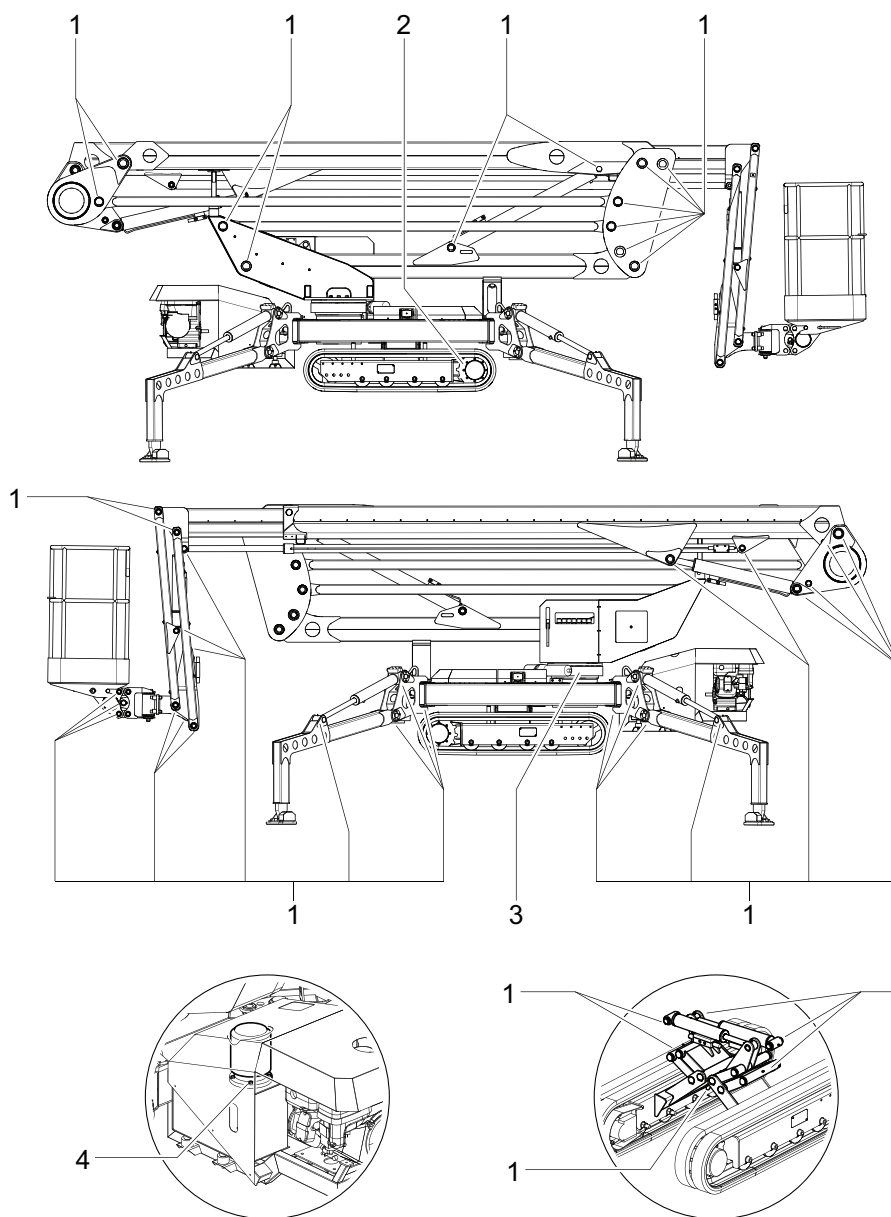
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### M.15. Checking the parts are secured well

1. Stabiliser ring nuts and joints
2. Track reduction gear screws
3. Slewing ring screws
4. Motor pump lock screws



### M.16. Screw tightening

All screws are to be tightened always with a torque wrench.

Excessive tightening of the screws may damage them while insufficient tightening defeats their purpose.

Each screw has its own specific value and the calibration of the torque wrench depends on its diameter and type.

If there are a number of screws for the same component (for example the slewing ring, plates, motor-gearboxes) it is necessary to tighten them two at a time in diametrically opposite positions.

Below is the table of values to be used.

#### M.16.1 Screw tightening table

If the screws are lubricated then 60% of the torque value for tightening is to be used while if the screws are not lubricated then 70% of the value given in the table is to be used.

##### Pre-load and torque for screws with iso thread and wide pitch

Nominal screw diameter	Max. pre-load V (kg.)				Max moment Ma (kgm.)			
	6,6	8,8	10,9	12,9	6,6	8,8	10,9	12,9
	6 D	8 G	10 K	12 K	6 D	8 G	10 K	12 K
<b>M 4x0,7</b>	222	394	554	665	0,17	0,31	0,43	0,52
<b>M 5x0,8</b>	357	635	895	1070	0,33	0,60	0,84	1,01
<b>M 6x1</b>	507	902	1270	1520	0,58	1,03	1,46	1,75
<b>M 7x1</b>	728	1300	1820	2180	0,94	1,69	2,36	2,83
<b>M 8x1,25</b>	920	1640	2310	2770	1,39	2,48	3,49	4,19
<b>M 9x1,25</b>	1210	2160	3050	3630	2,05	3,67	5,18	6,17
<b>M 10x1,5</b>	1480	2600	3660	4380	2,83	4,97	7,00	8,37
<b>M 12x1,75</b>	2120	3780	5320	6380	4,74	8,46	11,90	14,30
<b>M 14x2</b>	2890	5160	7250	8700	7,54	13,46	18,92	22,70
<b>M 16x2</b>	3950	7020	9900	11900	11,50	20,40	28,80	34,60
<b>M 18x2,5</b>	4840	8600	12100	14500	16,00	28,40	40,00	48,00
<b>M 20x2,5</b>	6160	11000	15450	18500	22,20	39,60	55,60	66,60
<b>M 22x2,5</b>	7630	13600	19100	22900	30,00	53,00	74,50	90,00
<b>M 24x3</b>	8900	15900	22300	26700	39,00	70,00	98,00	117,00
<b>M 27x3</b>	11500	20600	28900	34700	56,00	101,00	142,00	170,00
<b>M 30x3</b>	14100	25200	35400	42400	77,00	138,00	193,00	232,00

## M - MAINTENANCE

### Pre-load and torque for screws with iso thread and small pitch

Nominal screw diameter	Max. pre-load V (kg.)				Max moment Ma (kgm.)			
	6 D	8 G	10 K	12 K	6 D	8 G	10 K	12 K
	6,6	8,8	10,9	12,9	6,6	8,8	10,9	12,9
<b>M 8x1</b>	995	1750	2470	2960	1,48	2,60	3,70	4,40
<b>M 10x1,25</b>	1540	2740	3860	4630	2,90	5,20	7,30	8,70
<b>M 12x1,25</b>	2420	4140	5800	6980	5,30	9,10	12,80	15,40
<b>M 12x1,5</b>	2220	3960	5570	6680	5,00	8,90	12,50	15,00
<b>M 14x1,5</b>	3150	5600	7880	9450	8,00	14,30	20,00	24,00
<b>M 16x1,5</b>	4200	7500	10500	12600	12,00	21,50	30,00	36,00
<b>M 18x1,5</b>	5430	9700	13600	16300	17,40	31,00	43,00	52,00
<b>M 20x1,5</b>	6900	12100	17150	20600	24,40	43,00	61,00	73,00
<b>M 22x1,5</b>	8400	15000	21000	25200	32,00	57,50	80,50	97,00
<b>M 24x2</b>	9650	17200	24200	29000	41,00	73,50	103,00	124,00
<b>M 27x2</b>	12500	22300	31300	37500	60,00	107,00	150,00	180,00
<b>M 30x2</b>	15700	27800	39200	47000	83,00	147,00	208,00	250,00

The pre-load has been calculated as 70% of the minimum yield load.

The torque has been calculated using the formula (39) of the Junker & Blume manual, and giving a friction coefficient  $\mu$  ges the average value  $\mu$  ges = 0,14.

### M.17. Checking sensors and microswitches

Check that the sensors and microswitches installed are intact and in good working order.

Simulate the intervention of the activated device. It should prevent the functions or movements it controls. If the manoeuvre or function is activated anyway, contact an authorised workshop to restore normal safety conditions.

The sensors to check are described in the "F - Devices" chapter.

### M.18. Check emergency buttons

Check that the individual emergency buttons work correctly.

When the machine is on, press one of the mushroom-head buttons and attempt to perform a manoeuvre.

This should be prohibited. If it is activated anyway, switch the machine off and contact an authorised workshop to restore normal safety conditions.



### M.19. Electrical maintenance



#### Attention

The machine must be isolated from all power supplies.

---

#### M.19.1. Fuse replacement

To access and replace the ground control panel fuses, proceed as follows:

- Remove transmission cover **A**.
- Open the electrical panel hatch.
- Remove the bayonet support of the fuse in question and replace it with one with the same amperage.

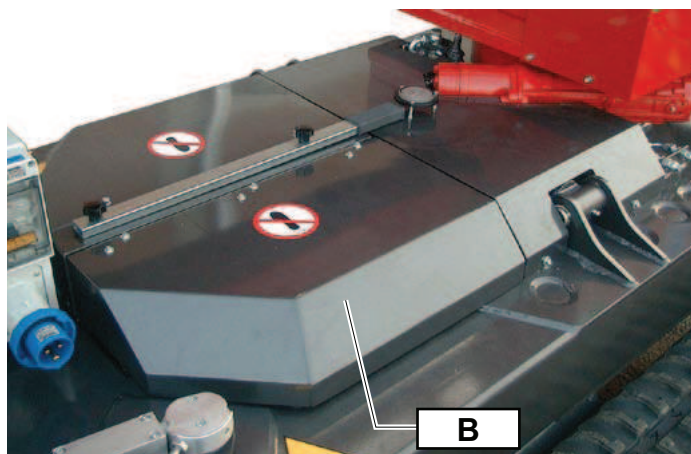


## M - MAINTENANCE

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To access and replace the starter and electric pump fuses (if present).

- Remove transmission cover **B**.
- Disconnect the fuse in question and replace it with one of the same amperage.



Name	Ampere	Protection
<b>F1P</b>	160	Starter
<b>F2P</b>	255	Electric pump (if present)
<b>FU1</b>	4	Power supply unit
<b>FU2</b>	4	
<b>FU3</b>	16	General
<b>FU4</b>	16	Battery
<b>FU5</b>	3	Remote control



### **M.20. Placing the machine out of service for a prolonged period of disuse**

In the event of prolonged disuse perform the following operations on the machine:

- Thorough cleaning
- Lubrication of all moving parts
- Anti-rust surface treatment on all unpainted metal parts (apply oil or MoS<sub>2</sub> spray).
- Cover the machine with a waterproof tarpaulin to protect it from dust and damp.

### N.1. Warning

Emmegi machines do not require any special precautions at the time of disposal because more than 90% (by weight) of the machines is made of recyclable materials.

The machine should be scrapped adopting safety measures that take account of the logistic and environmental conditions and the state of wear.

Nonetheless, follow the general rules below:

- Wear protective clothing and accessories (helmet, safety footwear, gloves, and safety spectacles and facemask if necessary) approved in accordance with statutory safety legislation.
- Disconnect the machine from all energy sources.
- Check all pressurised systems, depressurising them if necessary.
- Render the machine inoperative and impossible to use by breaking a number of vital machine organs and transfer it to a safe place where nobody can gain access to it.
- Use suitable lifting means as indicated in the "Transport" section of the "Lifting systems" chapter.
- Break the latches on the doors of the machine and of the enclosures where persons or animals could get trapped.
- Break down the machine into easily transportable units.
- To dispose of the machine separate non-polluting materials from polluting materials (electrical insulation, plastics, rubber, etc.)
- Never set fire to the machine or part of it, since the products of combustion of plastic materials and paints may develop noxious and polluting gases.
- Concerning the laws on "safety in the work environment" take all the instructions in this manual into consideration and, in particular, all the paragraphs marked with the symbol:



#### **Attention**

**The machine should ideally be scrapped and disposed of by specialised and qualified personnel who are in possession of specific information and equipment for this type of operation.**

---

### O.1. Maintenance records and logbook

This inspection record is issued by the manufacturer to the platform owner in compliance with annex I of Directive 89/392/CEE.

The inspection record is to be considered as a part of the machine and must accompany it throughout its life until it is finally demolished.

In the register it is necessary to record the following situations in regard to the life of the machine:

- transfers of ownership;
- replacement of motors, mechanisms, structural elements, electrical components, hydraulic components, safety devices and their related components;
- significant faults with their relative repairs;
- routine inspections.



#### **Note**

**If there are not enough sheets in the record, add other sheets as necessary, photocopying them or drawing them up in the same way as the ones present.**

**On the additional sheets, the user will indicate the type of platform, the factory serial number and the year of manufacture so that they can become an integral part of this record.**

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## O - REGISTER AND CONTROL COUPONS

---

### O.2. Change of ownership record

#### O.2.1. Section A: ownership

##### DELIVERY OF THE PLATFORM TO THE FIRST OWNER

Platform work type

---

Serial number

---

Year of manufacture

---

referred to in this logbook, was handed over  
by PLATFORMBASKET on

---

to the company

---

with registered address at

---

According to the conditions agreed, with the technical characteristics, dimensions and functions specified in this instruction manual and in the summary contained in this Register.

PLATFORMBASKET

---

---

## O - REGISTER AND CONTROL COUPONS

### O.2.2. Data sheet B: successive changes of ownership

#### SUCCESSIVE CHANGES OF OWNERSHIP

Date \_\_\_\_\_

The ownership of the WORK PLATFORM \_\_\_\_\_

described in this manual is transferred to the Firm/Company:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

\_\_\_\_\_  
\_\_\_\_\_

#### SUCCESSIVE CHANGES OF OWNERSHIP

Date \_\_\_\_\_

The ownership of the WORK PLATFORM \_\_\_\_\_

described in this manual is transferred to the Firm/Company:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

\_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### SUCCESSIVE CHANGES OF OWNERSHIP

Date \_\_\_\_\_

The ownership of the WORK PLATFORM \_\_\_\_\_

described in this manual is transferred to the Firm/Company:

---

---

---

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

---

---

### SUCCESSIVE CHANGES OF OWNERSHIP

Date \_\_\_\_\_

The ownership of the WORK PLATFORM \_\_\_\_\_

described in this manual is transferred to the Firm/Company:

---

---

---

It is hereby certified that, at the date mentioned above, the technical specifications, dimensions and functions of the WORK PLATFORM described in this manual conform to those originally existing and that any modifications have been recorded in this Register

The Seller

The Buyer

---

---



## O - REGISTER AND CONTROL COUPONS

---

### O.3. Maintenance record

#### O.3.1. Spare part replacement record

##### REPLACEMENT PART RECORD

Substitution of:

Date

Manufacturer's  
number

Manufacturer

Specifications

Replaced by:

Manufacturer's  
number

Manufacturer

Specifications

Reason for the replacement

The representative of the company responsible for the replacement

The user

## O - REGISTER AND CONTROL COUPONS

---

### REPLACEMENT PART RECORD

Substitution of:

Date

Manufacturer's  
number

Manufacturer

Specifications

Replaced by:

Manufacturer's  
number

Manufacturer

Specifications

Reason for the replacement

The representative of the company responsible for the replacement

The user

## O - REGISTER AND CONTROL COUPONS

---

### REPLACEMENT PART RECORD

Substitution of:

Date

Manufacturer's  
number

Manufacturer

Specifications

Replaced by:

Manufacturer's  
number

Manufacturer

Specifications

Reason for the replacement

The representative of the company responsible for the replacement

The user

## O - REGISTER AND CONTROL COUPONS

---

### REPLACEMENT PART RECORD

Substitution of:

Date

Manufacturer's  
number

Manufacturer

Specifications

Replaced by:

Manufacturer's  
number

Manufacturer

Specifications

Reason for the replacement

The representative of the company responsible for the replacement

The user

## O - REGISTER AND CONTROL COUPONS

---

### MECHANISM REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### MECHANISM REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### MECHANISM REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### MECHANISM REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_



## O - REGISTER AND CONTROL COUPONS

---

### STRUCTURAL PART REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### STRUCTURAL PART REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### STRUCTURAL PART REPLACEMENT RECORD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

### STRUCTURAL PART REPLACEMENT RECORD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### HYDRAULIC COMPONENTS REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### HYDRAULIC COMPONENTS REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### HYDRAULIC COMPONENTS REPLACEMENT RECORD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

### HYDRAULIC COMPONENTS REPLACEMENT RECORD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### ELECTRICAL COMPONENT REPLACEMENT RECORD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

### ELECTRICAL COMPONENT REPLACEMENT RECORD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### ELECTRICAL COMPONENT REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### ELECTRICAL COMPONENT REPLACEMENT RECORD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### SAFETY EQUIPMENT REPLACEMENT CARD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_

### SAFETY EQUIPMENT REPLACEMENT CARD

Date

\_\_\_\_\_

Description of the element

\_\_\_\_\_

Manufacturer

\_\_\_\_\_

Supplied by

\_\_\_\_\_

Reason for the replacement

\_\_\_\_\_

\_\_\_\_\_

The representative of the company responsible for the replacement

\_\_\_\_\_

The user

\_\_\_\_\_

\_\_\_\_\_



## O - REGISTER AND CONTROL COUPONS

---

### SAFETY EQUIPMENT REPLACEMENT CARD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### SAFETY EQUIPMENT REPLACEMENT CARD

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### SERIOUS FAILURES

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### SERIOUS FAILURES

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

## O - REGISTER AND CONTROL COUPONS

---

### SERIOUS FAILURES

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_

### SERIOUS FAILURES

Date \_\_\_\_\_

Description of the element \_\_\_\_\_

Manufacturer \_\_\_\_\_

Supplied by \_\_\_\_\_

Reason for the replacement \_\_\_\_\_  
\_\_\_\_\_

The representative of the company responsible for the replacement \_\_\_\_\_

The user \_\_\_\_\_  
\_\_\_\_\_











**P.1.      Pneumatic system**

**P.2. Electrical system**

## Q - TEMPERATURE SENSOR

---

Near the ground control panel is positioned the temperature sensor that monitors the ambient temperature.



The temperature sensor is set with two steps:

- when the temperature reaches  $-15^{\circ}\text{C}$ , the display of the remote control displays a warning message and the operator is also notified by a beep. The operator must stop the machine and cannot longer work until the temperature returns above  $-15^{\circ}\text{C}$ .



- when the temperature reaches  $-20^{\circ}\text{C}$ , the display of the remote control displays a warning message and the machine stops. The machine must be stopped following the procedure of emergency manoeuvres and can not be used until the temperature returns above  $-15^{\circ}\text{C}$ .





PLATFORM BASKET S.R.L.  
Via Grande 27, 42028 POVIGLIO (RE)  
Tel. 0522/967666 Fax 0522/967667  
Cod. Fisc e Part. IVA : 02183010350



## ORIGINAL DECLARATION OF CONFORMITY

The Legal person charged with the constitution of the Technical Dossier is the Technical Dept. of the PLATFORM BASKET SRL Company with seat in 42028 POVIGLIO (Reggio Emilia), Italy, Via Grande, 27, Manufacturer Company of the Machine.

The undersigned Simona Iraci Tobbi born in Reggio Emilia on 31.07.1982 and living in Cadelbosco Sopra (Reggio Emilia) Via Panini n.15, President of the board of directors of PLATFORM BASKET Srl with head offices in POVIGLIO (REGGIO EMILIA) Via Grande 27, manufacturer of the following Machine:

### **MAN LIFTING DEVICE WITH RISK OF VERTICAL FALLS GREATER THAN 3 M. (Attachment IV point 17 – Directive 2006/42/CE).**

Description : AWP Aerial Working Platform  
Commercial name of the machine: SPIDER 2210  
Serial no. : PB ???? Manufacturing Year: ????  
Expected use: - LIFTING PERSONS  
- MOBILE, LIFTING WORK PLATFORM

declares, under his own personal responsibility, that it complies with:

- CEE Rules: 2006/42/CE ; 2004/108/CE ; 2000/14/CE  
- and to the rules : EN280 :2001+A2 :2009 ; EN 12100-1:2003 ; EN 12100-2 :2003 ;  
EN 60204-1 :2006

and that, in compliance with attachment IV of the Directive, each and every part of the machine has undergone the above EC-type examination performed by:

**VERICERT srl - Certificazioni e Verifiche – Organismo Notificato No. 1878  
with head office in Via Cavina, 19 – 48100 RAVENNA – ITALY -  
which has issued the EC-TYPE EXAMINATION CERTIFICATE:  
1878M170008CT0110 dd 20/01/2010**

- Anyhow the machine is equally corresponding to the dispositions of the directives 2000/14/CE receipt from the decree No 262 of 04/09/2002

Type of machine: aerial working access platform with engine with internal combustion according to the definition n.1 of the enclosure I Art. 13 Dir.2000/14/CE.

Applied procedure for the conformity evaluation: Enclosure V of the Dir. 2000/14/CE

Net power fitted 9,5 (Kw)

Measured acoustic power level Lwa 102dB(A) is less of the guaranteed value.

Measured acoustic power level Lwa 104dB(A) it is the value given by the PLE manufacturer.

Poviglio, xx/yy/xyxy

President of the board of directors of

The present certificate is only valid with the  
Platform Basket Srl corporate stamp



Simona Iraci Tobbi



PLATFORM BASKET S.R.L.  
Via Grande 27, 42028 POVIGLIO (RE)  
Tel. 0522/967666 Fax 0522/967667  
Cod. Fisc e Part. IVA : 02183010350



## ORIGINAL DECLARATION OF CONFORMITY

The Legal person charged with the constitution of the Technical Dossier is the Technical Dept. of the PLATFORM BASKET SRL Company with seat in 42028 POVIGLIO (Reggio Emilia), Italy, Via Grande, 27, Manufacturer Company of the Machine.

The undersigned Simona Iraci Tobbi born in Reggio Emilia on 31.07.1982 and living in Cadelbosco Sopra (Reggio Emilia) Via Panini n.15, President of the board of directors of PLATFORM BASKET Srl with head offices in POVIGLIO (REGGIO EMILIA) Via Grande 27, manufacturer of the following Machine:

### **MAN LIFTING DEVICE WITH RISK OF VERTICAL FALLS GREATER THAN 3 M. (Attachment IV point 17 – Directive 2006/42/CE).**

Description : AWP Aerial Working Platform  
Commercial name of the machine: SPIDER 2210  
Serial no. : PB ???? Manufacturing Year: ????  
Expected use: - LIFTING PERSONS  
- MOBILE, LIFTING WORK PLATFORM

declares, under his own personal responsibility, that it complies with:

- CEE Rules: 2006/42/CE ; 2004/108/CE ; 2000/14/CE  
- and to the rules : EN280 :2001+A2 :2009 ; EN 12100-1:2003 ; EN 12100-2 :2003 ;  
EN 60204-1 :2006

and that, in compliance with attachment IV of the Directive, each and every part of the machine has undergone the above EC-type examination performed by:

**VERICERT srl - Certificazioni e Verifiche – Organismo Notificato No. 1878  
with head office in Via Cavina, 19 – 48100 RAVENNA – ITALY -  
which has issued the EC-TYPE EXAMINATION CERTIFICATE:  
1878M170008CT0110 dd 20/01/2010**

- Anyhow the machine is equally corresponding to the dispositions of the directives 2000/14/CE receipt from the decree No 262 of 04/09/2002

Type of machine: aerial working access platform with engine with internal combustion according to the definition n.1 of the enclosure I Art. 13 Dir.2000/14/CE.

Applied procedure for the conformity evaluation: Enclosure V of the Dir. 2000/14/CE

Net power fitted 12,5 (Kw)

Measured acoustic power level Lwa 102dB(A) is less of the guaranteed value.

Measured acoustic power level Lwa 104dB(A) it is the value given by the PLE manufacturer.

Poviglio, xx/yy/xyxy

President of the board of directors of

The present certificate is only valid with the  
Platform Basket Srl corporate stamp



Simona Iraci Tobbi