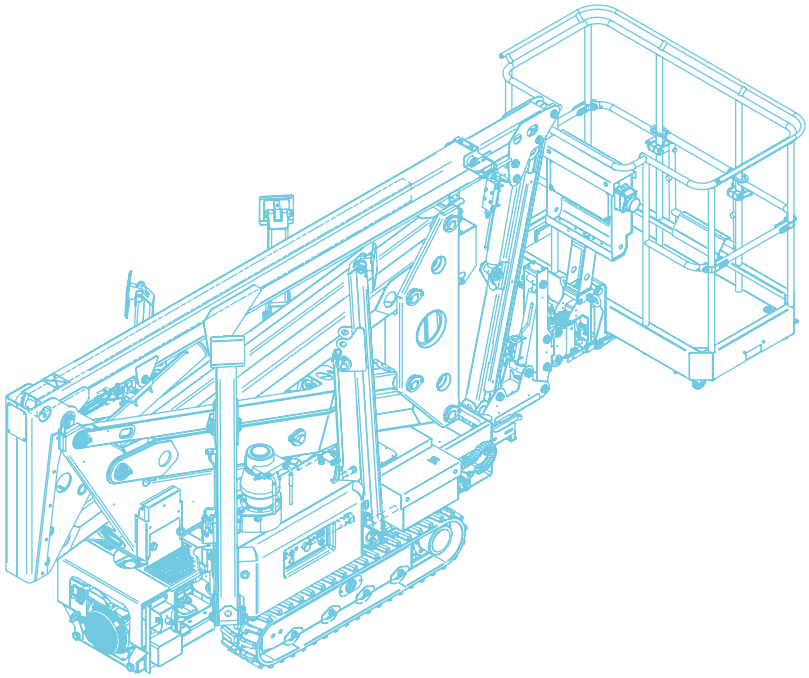
GB

CTE
WORK BECOMES EASY

INSTRUCTION MANUAL

(Translation of original instructions)



MOBILE AERIAL WORK PLATFORM
Serie TRACCESS Mod. 170 V2

SERIAL N° .....

FOLLOW THESE INSTRUCTIONS FOR SAFE AND PROPER USE, KEEP THEM FOR FUTURE REFERENCE.

CE

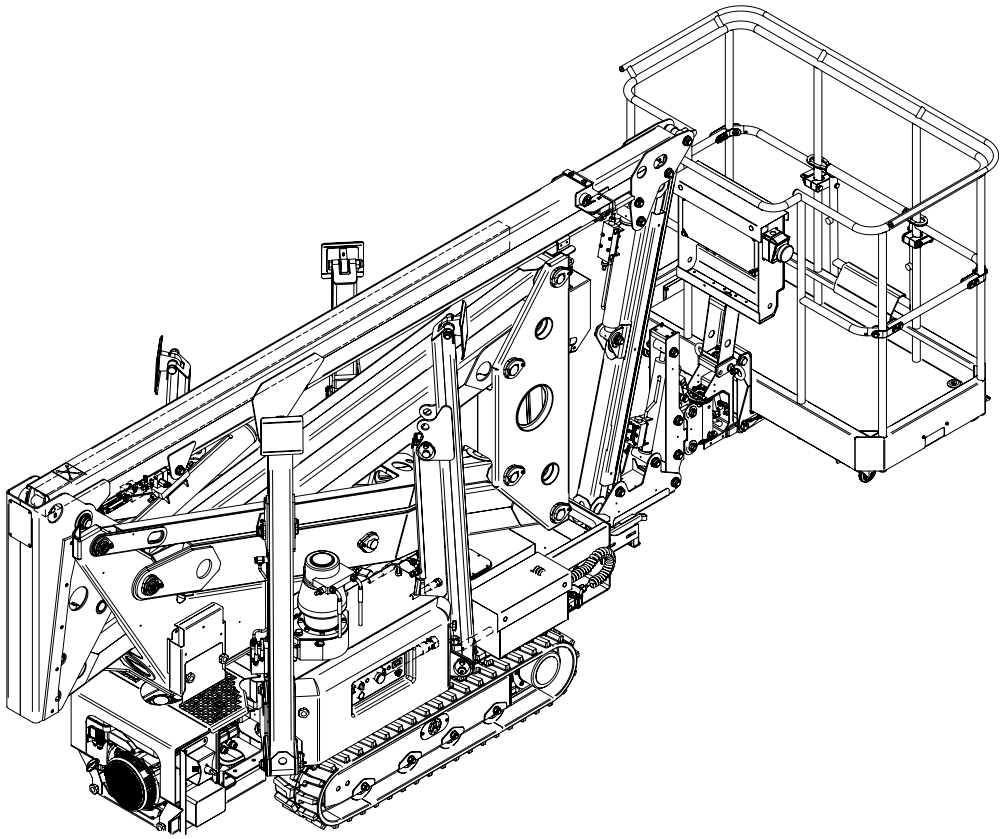
Cod. UM0357_GB - Rev. 00- Ed. 10/25

INTRODUCTION

Dear Customer,
First of all, we would like to thank you for the confidence you have placed in us with the purchase of your new machine **"Mobile elevating work platform - TRACCESS Series - Model 170 V2**".

We are sure that our product will meet your expectations, thanks to the reliability achieved with our constant attention to innovative processes and to the technical and commercial evolutions of the markets.

We trust that we will be able to meet all your future working requirements, and we are pleased to put at your disposal all our experience and knowledge to provide the best solution to any queries you may have.



1 MANUFACTURER

Name	**CTE SPA**
Address	**Via Caproni 7, Z.I. - 38068 Rovereto (TN) Italy**
Tel.	**+39 0464 485050**
Fax	**+39 0464 485099**
E-mail	**info@ctelift.com**
Website	**www.ctelift.com**

TAB. 1 *(Manufacturer)*

1.1 SERVICE CENTRES

Please contact the manufacturer to find an authorised CTE service centre or refer to the list of authorised CTE service centres at www.ctelift.com:
Telephone: +39 0464 711200

Fax: +39 0464 485099

E-mail: service@ctelift.com

1.2 REQUEST FOR TECHNICAL ASSISTANCE

Service requests should be addressed directly to the authorised CTE service centre or to the Manufacturer, specifying**:**
1) The designation of the machine
2) Machine model
3) The serial number (see CE marking or EC declaration of conformity)
4) Year of construction
5) Type of fault found

1.3 TEST RESULT (DOCUMENT SUPPLIED AND COMPLETED ON DELIVERY OF THE MACHINE)

TEST RESULT
(Ref. UNI EN 280-1:2022 – Point 6.3)

Test type	Result		Notes
Functional check	☐ Positive	☐ Negative	
Safety devices test: proper operation check	☐ Positive	☐ Negative	
Operation tests (110% of rated load at nominal speeds in the various machine configurations envisaged)	☐ Positive	☐ Negative	
Static overload test	☐ Positive	☐ Negative	
Machine nameplates and documentation check	☐ Positive	☐ Negative	

On the basis of the measurements made and the result of the tests carried out, the MEWP identified above:

..... did not give rise to any findings.

..... gave rise to the following findings:

.....

.....

.....

Remarks:

.....

.....

.....

Check carried out at ..... date ..../..../.....

Technician. .....

Seal and signature

2 RELEVANT INFORMATION

2.1 IDENTIFICATION OF THE MANUAL

This document is called the **"Instruction Manual (Translation of original instructions)"** (hereinafter referred to as the "manual").
It has been drawn up in accordance with the essential safety requirements of the Machinery Directive 2006/42/EC (Annex I - points 1.7.4, 1.7.4.1 and 1.7.4.2)

The manual is identified by the following data on the cover and at the foot of the page:
- Identification code
- Language abbreviation EN (English)
- Revisions
- Issue

2.2 INFORMATION ABOUT THE MANUAL

⚠ CAUTION

THIS MANUAL MUST ALWAYS BE AVAILABLE TO AUTHORISED OPERATORS AND MUST BE DULY KEPT IN THE VICINITY OF THE MACHINE.

THIS MANUAL MUST BE HANDED OVER TOGETHER WITH THE MACHINE IF IT IS PASSED ON TO ANOTHER USER.

IT IS ADVISABLE TO TAKE NOTE OF THE IDENTIFICATION DATA OF THE DOCUMENT: CODE, ISSUE AND REVISION **(SEE SECT. 2.1)** IN ORDER TO REQUEST A COPY OF THE MANUAL FROM THE MANUFACTURER IN CASE OF LOSS OR DETERIORATION.

THIS MANUAL REPRESENTS THE STATE OF THE ART AT THE TIME OF THE SALE OF THE MACHINE AND CANNOT BE CONSIDERED INADEQUATE JUST BECAUSE, BASED ON NEW EXPERIENCES, IT MAY BE SUBSEQUENTLY UPDATED.

⚠ CAUTION

BEFORE USING THE MACHINE, IT IS COMPULSORY TO READ AND BE SURE YOU HAVE UNDERSTOOD ALL PARTS OF THIS MANUAL.

THIS MANUAL IS AN INTEGRAL PART OF THE MACHINE: KEEP IT FOR FUTURE REFERENCE.

FAILURE TO COMPLY WITH THE INSTRUCTIONS AND WARNINGS DESCRIBED IN THIS MANUAL WILL MAKE THE WARRANTY NULL AND VOID.

THE MANUFACTURER DECLINES ALL LIABILITY FOR DAMAGE TO PERSONS, ANIMALS OR THINGS AS A RESULT OF NON-COMPLIANCE WITH THE INSTRUCTIONS AND WARNINGS DESCRIBED IN THIS MANUAL AND BY IMPROPER USE OF THE MACHINE.

2.3 RECIPIENTS OF THE MANUAL

This manual is intended exclusively for authorised operators trained and instructed in the use and maintenance of the machine on the basis of the specific technical-professional skills required for the type of operation **(see sect. 2.4)**.

2.4 AUTHORISED OPERATORS

⚠ WARNING

AUTHORISED OPERATORS MAY CARRY OUT ON THE MACHINE ONLY WORKS WITHIN THEIR SPECIFIC COMPETENCE.

BEFORE WORKING ON THE MACHINE, AUTHORISED OPERATORS MUST MAKE SURE THAT THEY HAVE THE FULL PSYCHO-PHYSICAL CAPABILITY TO ENSURE COMPLIANCE WITH SAFETY CONDITIONS AT ALL TIMES.

⚠ WARNING

THE EMPLOYER IS OBLIGED TO TRAIN AND INSTRUCT THE AUTHORISED OPERATORS IN THE USE AND ROUTINE MAINTENANCE OF THE MACHINE.

INFORMATION
THE MANUFACTURER IS WILLING TO PROVIDE TRAINING AND INSTRUCTION COURSES FOR AUTHORISED OPERATORS.

Symbol	Description of technical and professional skills
	**OPERATOR IN CHARGE OF OPERATION** An operator who is professionally trained and in possession of all the necessary qualifications, in compliance with the legislation in force in the country where the machine is commissioned. This type of operator is exclusively authorised to: • use the machine **(see chapt. 14)** • perform certain routine maintenance operations **(see sect. 17.2)** using the personal protective equipment (PPE) foreseen in **chapt. 9**.
	**OPERATOR IN CHARGE OF MANOEUVRING** A professionally trained operator who, in compliance with the legislation in force in the country where the machine is commissioned, is authorised to drive forklift trucks, bridge cranes or cranes, in order to carry out the transport and manoeuvring of the machine and/or its parts in safety conditions, using the hand signals indicated in the European Directive 92/58/EEC **(see sect. 21.3)**, equipped with the personal protective equipment (PPE) foreseen under **chapt. 9**.
	**MECHANICAL, HYDRAULIC, PNEUMATIC MAINTENANCE TECHNICIAN** A qualified technician, authorised to work exclusively on mechanical/hydraulic/pneumatic parts in order to carry out adjustments, maintenance or repairs, even with protections disabled (with the consent of the Supervisor) in absolute compliance with the instructions in this manual or any other specific document supplied exclusively by the Manufacturer and/or by the Service Centre, equipped with personal protective equipment (PPE) foreseen under **chapt. 9**.
	**ELECTRICAL MAINTENANCE TECHNICIAN** A qualified technician (electrician in possession of the technical and professional requisites required by the regulations in force in the country where the machine is in service), authorised to work exclusively on electrical devices in order to carry out adjustments, maintenance or repairs, including in the presence of electrical voltage and with protections disabled (with the consent of the Supervisor) in absolute compliance with the instructions in this manual or any other specific document supplied exclusively by the Manufacturer and/or by the Service Centre, equipped with personal protective equipment (PPE) foreseen under **chapt. 9**.
	**MANUFACTURER'S TECHNICIAN** A qualified technician, provided by the Manufacturer and/or the Service Centre, who has specific knowledge of the machine and is authorised to carry out the required technical assistance, routine and extraordinary maintenance work or operations not listed in this manual, equipped with personal protective equipment (PPE) foreseen under **chapt. 9**.
	**SUPERVISOR (person present and recognised only in working environments)** A person who, because of his/her professional competence and within the limits of hierarchical and functional powers appropriate to the nature of the task conferred upon him/her, supervises the work activity and ensures the implementation of the directives received, checking their correct execution by workers and exercising a functional power of initiative.

TAB. 2 *(Authorised operators)*

2.5 NOTES

	Bold text: Highlights significant phrases and references in the text.
	**General or dedicated danger sign:** Highlights risks to the health and safety of authorised operators and/or risks of damage to or malfunction of the machine.
	**General or dedicated obligation sign:** Indicates a requirement (obligation to perform an action).
	**General or dedicated prohibition sign:** Highlights a prohibition on performing an action.
	**EX danger sign (Potentially Explosive Atmosphere):** Highlights a risk of explosion.
	**Crossed-out wheeled bin:** Highlights a prohibition on disposing of waste electrical and electronic equipment (WEEE) in standard bins.
	**Sign: Obligation to read the manual:** In order to use the machine safely, it is compulsory to read and understand this instruction manual and the attached technical documentation in its entirety.
	**Sign: Obligation to disconnect the machine before carrying out maintenance or repair work:** To safely work on the machine, it is compulsory to put the machine in a **"safe state" (see sect. 5.2)**.
	**Authorised operator sign:** The symbol at the beginning of a chapter or section indicates which operators are authorised **(see sect. 2.4)** to carry out the work described.

TAB. 3 *(Notes)*

⚠ DANGER

INDICATES A HAZARD WITH A HIGH LEVEL OF RISK WHICH CAN LEAD TO DEATH OR SERIOUS INJURY.

⚠ WARNING

INDICATES A HAZARD WITH A MEDIUM LEVEL OF RISK THAT CAN LEAD TO DEATH OR SERIOUS INJURY.

⚠ CAUTION

INDICATES A HAZARD WITH A LOW LEVEL OF RISK THAT MAY LEAD TO MINOR OR NON-SERIOUS INJURY.

INFORMATION

INDICATES KEY INFORMATION.

2.6 MAIN ABBREVIATIONS

approx.	Approximately	**Pos.**	Position
chapt.	Chapter	**q.ty**	Quantity
PPE	Personal protective equipment	**Ref.**	Reference
RIGHT	Right-hand	**LEFT**	Left-hand
etc.	Et cetera	**s**	Seconds
e.g.	Example	**TAB.**	Table
FIG.	Figure(s)	**see**	See
h	Hours	**÷**	From, to
MAX.	Maximum	**Ø**	Diameter
MIN.	Minimum	**>**	Greater than
min	Minutes	**≥**	Greater than or equal to
mm	Millimetres	**<**	Smaller than
NO.	Number	**≤**	Smaller than or equal to
p.	Page	**N.A.**	Not Applicable
sect.	Section		

TAB. 4 *(Main abbreviations)*

2.7 GLOSSARY

List and meaning of the main terms used within the manual, according to UNI EN 280-1:2022 (© UNI)

Term	Definition
Lowering	Operations to move the platform to a lower level
Working area	Space inside which the work platform is designed to operate, within the loads and stresses specified for normal operating conditions. N.B.: mobile aerial work platforms may have more than one work area.
Joints	Point of articulation between two or more elements that allow for its movement (synonym: hinge).
Rated load	The load for which the mobile elevating work platform has been designed for normal operation. The rated load includes people, tools and materials acting vertically on the work platform. NOTE: A mobile elevating work platform may have more than one rated load.
Load cycle	Cycle that starts from the access position, carries out work and returns to the access position.
Power system	System that transmits an energy or force used to move a part of the platform (hydraulic, electric, pneumatic, etc.).
Wireless control	Means by which the mobile elevating work platform operator's commands are transmitted without any physical connection for at least a part of the distance between the control console and the rest of the control system
Transport configuration	Configuration of the mobile elevating work platform established by the manufacturer in which the mobile elevating work platform is designed to be transported to its place of use.

continued

Term	Definition
Telescopic element	Two or more hoses which run one into the other, so that the element is extending or retractile (synonym: extension booms or extensions).
Hydraulic extension	Extension or return of a specific element by means of a hydraulic movement.
Manufacturer	The company that manufactures the lifting platform and in some cases also combines it with the vehicle.
Self-revealing failure or fault	A fault or the failure of a component in which the fault or failure is apparent to the mobile elevating work platform operator and that can be detected without the need of diagnostics services. NOTE: The fault or the failure of a component can be evident to the mobile elevating work platform operator: − Through changes in the operating characteristics and/or − Visual evidence and/or − Noise and/or − Other
Machine	The assembly consisting of the mobile platform and the vehicle (or carriage).
Service engineer	A qualified technician trained for carrying out the maintenance.
Authorised service centre	Company with one or more qualified technicians authorised by the manufacturer to carry out extraordinary maintenance and repairs.
Operator	Person in charge of using and checking the elevating work platform. An operator is defined as a person who operates, controls, moves and carries out the checks and maintenance described in this manual (excluding the work that has to be carried out by a service engineer or authorised service centre).
Exposed person	Anyone who is entirely or partly inside a hazardous area.
Aerial lifting platform (basket)	Platform equipped with railings and control panel that can be moved under load to the required operating position. Authorised personnel stay inside the platform.
Mobile elevating work platform (MEWP)	A mobile machine intended to lift people for carrying out work from within the work platform.
Vehicle-mounted mobile elevating work platform	Mobile elevating work platform in which the chassis is a vehicle and the controls for manoeuvring it are located in the cab of the vehicle.
Mobile elevating work platform (self-propelled)	Mobile elevating work platform in which the controls for manoeuvring it are located on in the work platform.
Access position	Position that allows access to the work platform.
Battery disconnect panel	Electrical shut-off panel, with battery power source
Risk	Result determined by the combination of the probabilities and the degree of seriousness of the possible injuries or possible health damages in a dangerous situation.
Rotation	Circular movement of the work platform around the vertical axis
Extension (widening)	Distance between the axis of the turret and the outside wall of the work platform.
Load sensing system	System for monitoring the vertical load and vertical stresses on the work platform. Note: The system includes measurement of the devices, the installation method of the measurement device and the signal processing system.

continued

Term	Definition
Moment sensing system	A system of monitoring the moment acting about the tipping line tending to overturn the mobile elevating work platform.
Wire rope drive system	System that comprises one or more wire rope(s) running on rope drums and/or over rope pulleys as well as any associated rope drums, rope pulleys and compensating pulleys.
Chain drive system	System that comprises one or more chain(s) running on chain sprockets and/or over chain pulleys as well as any associated chain sprockets, chain pulleys ad compensating pulleys.
Lifting	Operations to move the platform to a higher level.
Movement	Any movement of the chassis with the work platform in a position other than its transport configuration.
Stabilisers	All devices and systems used to stabilise the mobile elevating work platforms by supporting and/or levelling the entire mobile elevating work platform or extending structure, for example jacks, suspension locking devices etc.
Extending structure	Structure that is connected to the chassis and work platform supports. It allows movement of the work platform to its required position. It consists of a telescopic or an articulated boom or a combination thereof and may or may not slew on its base.
Chassis	Base of the mobile elevating work platform. In the case of self-propelled machine, the carriage means the vehicle chassis and the basic structure in the case of a mobile elevating work platform mounted on the vehicle.
Hazardous area	Any area inside and/or near a machine where there is a continuous risk for the safety and health of the persons exposed.

TAB. 5 *(Glossary)*

2.8 ALL RIGHTS RESERVED

2.9 WARRANTY

INFORMATION

FAILURE TO COMPLY WITH THE INSTRUCTIONS AND WARNINGS DESCRIBED IN THIS MANUAL WILL MAKE THE WARRANTY NULL AND VOID.

FOR THE WARRANTY CONDITIONS PLEASE REFER TO THE WARRANTY CERTIFICATE DELIVERED WITH THE MACHINE.

The machine is covered by warranty starting from the date it is delivered to the customer. For the warranty terms and conditions, please refer to the warranty certificate delivered with the machine. The manufacturer reserves the right to repair or replace any parts considered to be defective within the period of the warranty.

The warranty becomes null and void if the instructions for use and the requirements indicated in this manual are not observed. Work under warranty is carried out during normal working hours at CTE authorised service centres or at the Manufacturer's premises. Technicians' travel costs are debited for work carried out at the customer's premises. The customer shall be billed for transport costs for work carried out at the manufacturer's premises.

If defective parts are replaced, the manufacturer cannot be held responsible for any expenses incurred by the commercial agent or customer. This includes any supposed present or future damage, loss of earnings or forfeiture.

The warranty does not cover the replacement and/or repairs of parts that are worn out or damaged during ordinary use of the machine.

2.10 LIMITATIONS OF RESPONSIBILITY

The Manufacturer declines all liability for injury or loss or damage to persons or property due to:

- the use of non-original spare parts
- modification of the machine
- damage to the machine caused by incorrect operation during use and/or maintenance
- installation of any equipment not supplied or authorised
- carrying out maintenance operations that do not comply with the instructions **(see chapt. 17)**
- use of the machine by authorised operators **(see sect. 2.4)** who are not professionally trained and instructed
- use of the machine without guards and protection devices **(see chapt. 6)**
- use of the machine outside the indicated technical limits **(see sect. 5.7)**
- failure to observe health and safety, workplace accident prevention legislation and the highway code
- exceptional events (unrelated to the use of the machine as indicated in this manual)

3 IDENTIFICATION OF THE MACHINE

3.1 DESIGNATION

The designation of this machine is as follows:

MOBILE AERIAL WORK PLATFORM

3.2 SERIES / MODEL / TYPE

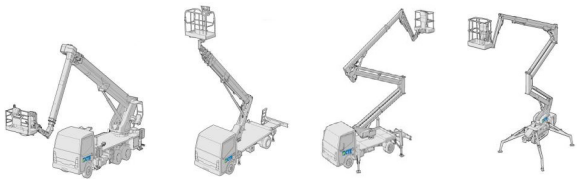
The series, model and type are as follows:

TRACCESS 170 V2

4 CONFORMITY

4.1 EC DECLARATION OF CONFORMITY (DOCUMENT SUPPLIED ON DELIVERY OF THE MACHINE)

WORK BECOMES EASY
CTE S.p.A.
Via Caproni, 7 - 38068 Rovereto (TN) - ITALY
Tel +39 0464 485050 - Fax +39 0464 485099



DECLARATION CE OF CONFORMITY

(drafted in accordance with Annex II letter A of Directive 2006/42/EC)

CTE S.P.A. via Caproni 7 – Z.I. – 38068 Rovereto (TN) - ITALY, "manufacturer", in accordance with the above directive, of the following mobile elevating work platform (machine included in Annex IV of the Machinery Directive):

MODEL	**TRACCESS**	TYPE:	**170 V2**
COMMERCIAL NAME:	**TRACCESS 170 V2**		
SERIAL NUMBER:		YEAR OF CONSTRUCTION:	
VEHICLE:		CHASSIS:	

declare under its responsibility that the mobile elevating work platform:

• it is a machine pursuant to and in accordance with Directive 2006/42/EC and that the "CE" mark was affixed on it;

• it complies with Directive 2006/42/EC (Machinery Directive) and the national legislation that transposes it;

• it complies with the following additional directives:
- 2014/30/UE (electromagnetic compatibility)

(the normative references must be understood as extended to possible subsequent modifications and/or integrations)

Net installed power in kW: kW

• applied harmonized standard: EN 280-1:2022

• The conformity assessment for Directive 2006/42/EC was carried out following the procedure set out in Annex VIII of the same Directive: conformity assessment with internal control on the manufacture of machinery.

and also declares that:

• The body authorised to compile the technical dossier is CTE S.p.A. at the Technical Department Loc. Terramatta 5 – 37010 RIVOLI VERONESE (VR) Italy – info@ctelift.com

• The machine complies with the prototype that obtained CE certification:

Certificate No. : EPT 0477.MAC.24/5611.1

Date: 22/10/2025

Recognized by the Notified Body: n. 0477: Eurofins Product testing Italy S.r.l - Via Cuorgnè, 21 - 10156 Torino - Italia

Rovereto,

.....

Flisi Fiorenzo
Legal Representative

4.2 NAMEPLATE AND CE MARKING

The nameplate and CE marking is attached to the outside of the machine **(see FIG. 1)** in accordance with Directive 2006/42/EC.

⚠ CAUTION

MAKE SURE THAT THE MACHINE IS FITTED WITH THE NAMEPLATE AND CE MARKING WHEN YOU PURCHASE IT. IF THIS IS NOT THE CASE, INFORM THE MANUFACTURER OR THE SERVICE CENTRE IMMEDIATELY.

A MACHINE WITHOUT A NAMEPLATE AND CE MARKING IS NONCONFORMING AND MUST NOT BE USED.

INFORMATION

THE SERIAL NUMBER IS PUNCHED ON THE TURRET.

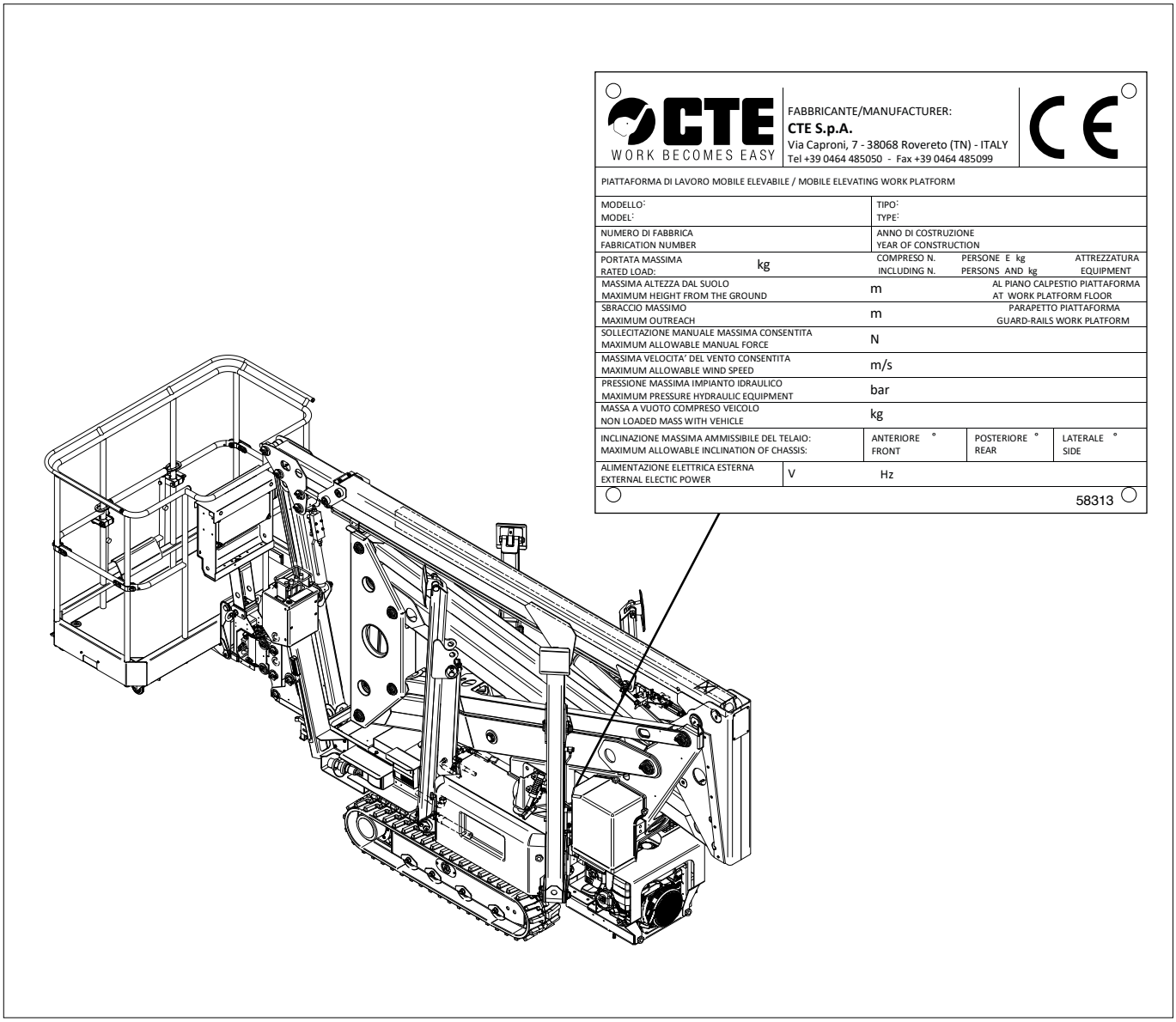


FIG. 1 *(Nameplate and CE marking)*

5 DESCRIPTION OF THE MACHINE

The Mobile aerial work platform **TRACCESS 170 V2** consists of a chassis bolted to the crawler carriage.
Four hydraulically powered stabilisers are anchored to the frame for machine stability. The stabilisers are moved by means of electrohydraulic controls that can be operated manually.

The rotating turret is mounted above the chassis on a slewing ring bearing and is driven by a hydraulic motor.

The turret rotates by 330°.

The boom unit, fixed to the turret, is composed of two articulated booms actuated by a hydraulic cylinder that allows them to be moved simultaneously by means of connecting rods. A telescopic boom, consisting of 2 elements (one fixed and one extensible) moved by a hydraulic cylinder is fixed to the boom unit.

A jib operated by a hydraulic cylinder is attached to the telescopic boom.

The work platform is anchored to the jib.

The work platform is kept horizontal by an automatic hydraulic parallelogram levelling device.

The machine is moved by electrohydraulic controls.

In an emergency, the manual controls in the turret that move the superstructure can be used.

The energy source for the movement of the hydraulic devices is provided by the thermal engine via the hydraulic pump.

The electrical power for the controls is provided by the endothermic engine.

Steering is performed is by means of rubberised tracks moved by gearboxes driven by hydraulic engines complete with negative brake, which engages automatically and stops (brakes) the crawler carriage when the hydraulic engines are not powered. Steering is controlled by regulating the flow of oil to the travel motors using the mobile control console that is fitted with proportional levers.

By powering the hydraulic engine in one direction and then in the other, the minimum possible turning radius is obtained.

5.1 CLASSIFICATION

The machine has been designed to lift and move authorised operators and equipment within the work platform's maximum permissible load **(see sect. 5.7)** to positions located within the work area **(see sect. 5.8)**. The platform should only be accessed on the ground via the gate.

⚠ WARNING

ANY MODE OR CONDITION OF USE OUTSIDE THE LIMITATIONS OF USE DESCRIBED IN THE MANUAL AND NOT INTENDED BY THE MANUFACTURER IS FORBIDDEN.

The machine has been designed for an expected 100,000 work cycles and a heavy work regime (e.g. 10 years, 50 weeks a year, 40 hours a week, 5 cycles an hour).

⚠ WARNING

IT IS COMPULSORY FOR THE MACHINE TO BE COMPLETELY OVERHAULED AND CHECKED BY THE MANUFACTURER WITHIN THE SPECIFIED NUMBER OF CYCLES. IN THE EVENT OF PARTICULARLY HEAVY USE, THE MACHINE SHOULD BE SERVICED SOONER.

INFORMATION

THE LIMITATIONS ON USE ARE DESCRIBED IN THE MANUAL. **(SEE SECT. 5.7)**.

THE MACHINE SHOULD BE INSPECTED EVERY **1,000 HOURS** AND SERVICED EVERY **5,000 HOURS**.

5.2 MACHINE SAFETY STATUS

5.2.1 PARKING CONFIGURATION

The machine is in **"parking configuration"** when it is isolated from energy sources, the engine is switched off, the residual energy has been dissipated and there are no conditions that could compromise the general safety status. To set the machine in **"parking configuration"** proceed as follows:

1) Shut down the machine correctly **(see sect. 14.14)**
2) Raise the stabilisers from the ground **(see sect. 14.16)**
3) Stop the machine **(see sect. 14.17)**
4) Remove the key from the two-position selector switch on the turret control panel, the key from the electrical circuit breaker and the key from the engine control panel and keep them in a safe place

5.2.2 TRANSPORT CONFIGURATION

To set the machine in **"transport configuration"** proceed as follows:

1) Shut down the machine correctly **(see sect. 14.14)**
2) Raise the stabilisers from the ground **(see sect. 14.16)**
3) Stop the machine **(see sect. 14.17)**
4) Remove the key from the two-position selector switch on the turret control panel, the key from the electrical circuit breaker and the key from the engine control panel and keep them in a safe place

5.2.3 MAINTENANCE CONFIGURATION

INFORMATION
THE MAINTENANCE CONFIGURATION DEPENDS ON THE TYPE OF MAINTENANCE THAT IS CARRIED OUT EXCLUSIVELY BY THE AUTHORISED CTE SERVICE CENTRE.

5.3 INTENDED USE

Field of use	Industrial, construction, civil engineering, electrical systems installation and maintenance and landscaping and green area maintenance sectors
Place of use	Inside and outside of buildings, in a sufficiently well-lit place, suitable in terms of safety, according to the legislative provisions in force in the country where the machine is used. The machine must be positioned with the stabilisers resting on ground of suitable consistency or on support plates suitable for the purpose, on a flat, level and stable surface that ensures stability in relation to its overall dimensions **(see sect. 5.6)** and weight **(see sect. 5.7)**
Intended use	Movement of authorised operators and work equipment to positions where they carry out tasks from the work platform within the technical limits indicated **(see sect. 5.7)**provided that authorised operators access and exit the work platform only at the access points at ground level or on the chassis
Operators in charge of operation	**2** authorised operators in possession of the technical-professional requirements described in **sect. 2.4**: • one operator on the work platform to move the work platform • one operator on the ground to control the work area, stabilisation and, if necessary, operate the emergency controls

TAB. 6 *(Intended use)*

5.4 REASONABLY FORESEEABLE IMPROPER USE

The machine has been designed and built for the use foreseen in **sect. 5.3**. Therefore, any other type of use is prohibited, in order to guarantee at all times the safety of authorised operators and the efficiency of the machine itself.

⚠ DANGER

IT IS FORBIDDEN TO PUT THE MACHINE INTO SERVICE IN DANGEROUS ENVIRONMENTS OR IN AREAS WHERE FLAMMABLE GASES OR MATERIALS ARE PRESENT, OR IN AREAS WHERE POTENTIALLY EXPLOSIVE ATMOSPHERE AND/OR COMBUSTIBLE DUST IS PRESENT (E.G.: WOOD DUST, FLOUR, SUGAR AND GRAINS).

⚠ DANGER

1) IT IS FORBIDDEN TO USE AND OPERATE THE MACHINE FOR USES OTHER THAN THOSE INTENDED BY THE MANUFACTURER **(SEE SECT. 5.3)**

2) THE USE OF THE MACHINE IS FORBIDDEN TO UNAUTHORISED PERSONS **(SEE SECT. 2.4)** OR TO ANYONE NOT IN POSSESSION OF THEIR FULL PSYCHO-PHYSICAL CAPACITIES

3) IT IS FORBIDDEN TO USE THE MACHINE WITHOUT GUARDS AND PROTECTION DEVICES OR WITH INEFFECTIVE GUARDS AND PROTECTION DEVICES

4) IT IS FORBIDDEN TO NEUTRALISE, TAMPER WITH, MANIPULATE OR BYPASS THE GUARDS AND PROTECTION DEVICES INSTALLED IN THE MACHINE

5) IT IS FORBIDDEN TO LEAVE THE CONTROL STATION ON THE GROUND CONTROL PANEL UNATTENDED IF AN AUTHORISED OPERATOR IS PRESENT ON THE WORK PLATFORM

6) IT IS FORBIDDEN TO LEAVE THE MACHINE OPEN (RAISED BOOMS) WHEN IT IS NOT WORKING

7) IT IS FORBIDDEN TO USE THE MACHINE OUTSIDE THE INDICATED TECHNICAL LIMITS **(SEE SECT. 5.7)**

8) IT IS FORBIDDEN TO LOAD THE WORK PLATFORM BEYOND THE MAXIMUM PERMITTED CAPACITY

9) IT IS FORBIDDEN TO USE THE MACHINE IN PLACES THAT ARE NOT SUFFICIENTLY VENTILATED

10) IT IS FORBIDDEN TO BRING YOUR HANDS CLOSE TO MOVING PARTS

11) IT IS FORBIDDEN TO CLIMB ONTO THE TELESCOPIC BOOM OR THE TELESCOPIC EXTENSION

⚠ DANGER

12) IT IS FORBIDDEN TO USE THE MACHINE AS LIFTING EQUIPMENT

13) IT IS FORBIDDEN TO USE THE MACHINE FOR LIFTING OR TRANSPORTING GOODS

14) IT IS FORBIDDEN TO LOAD GOODS OR PERSONS ONTO THE RAISED WORK PLATFORM

15) IT IS FORBIDDEN TO USE THE MACHINE AS A LIFELINE HOOK-UP POINT

16) IT IS FORBIDDEN TO USE THE MACHINE AS A RESCUE DEVICE

17) IT IS FORBIDDEN TO CLIMB UP ONTO THE GUARDRAIL OR LEAN OUT FROM THE WORK PLATFORM

18) IT IS FORBIDDEN TO GET ONTO OR DISMOUNT FROM THE RAISED PLATFORM

19) IT IS FORBIDDEN TO OVERLOAD THE PLATFORM

20) IT IS PROHIBITED TO GET NEAR LIVE POWER LINES **(SEE SECT. 8.1)**

21) IT IS FORBIDDEN TO TOUCH LIVE ELECTRICAL CONDUCTORS

22) IT IS FORBIDDEN TO USE THE MACHINE FOR TRACTION OR PUSHING PURPOSES

23) IT IS FORBIDDEN TO COME INTO CONTACT WITH FIXED OBJECTS (BUILDINGS, ETC.) OR MOVING OBJECTS (VEHICLES, LIFTING GEAR, ETC.)

24) IT IS FORBIDDEN TO INCREASE THE REACH OR WORKING HEIGHT OF THE MACHINE BY USING ADDITIONAL EQUIPMENT (E.G. LADDERS)

25) IT IS FORBIDDEN TO USE THE WORK PLATFORM IN WIND SPEEDS GREATER THAN 45 km/h AND ANY ADDITIONAL FACTORS THAT INCREASE THE WIND LOAD **(SEE TAB. 7)** ON THE MACHINE (E.G. WARNING SIGNS)

26) IT IS FORBIDDEN TO TAKE ACCESSORIES OR PIECES OF EQUIPMENT ONTO THE PLATFORM THAT ARE CLASSIFIED AS DANGEROUS (E.G. FLAMMABLE, TOXIC, EXPLOSIVE MATERIALS ETC.) BECAUSE OF THEIR CHEMICAL-PHYSICAL CHARACTERISTICS

27) IT IS FORBIDDEN TO STABILISE THE MACHINE ON SOFT, MUDDY, FROZEN OR SLIPPERY GROUND OR IN THE IMMEDIATE VICINITY OF HOLES, DITCHES OR MANHOLES

28) IT IS FORBIDDEN TO USE THE MACHINE IN UNFAVOURABLE WEATHER CONDITIONS (SUCH AS STORMS, SNOW AND FOG)

29) IT IS FORBIDDEN TO MODIFY OR ADJUST THE WORK PLATFORM OR MACHINE

30) IT IS FORBIDDEN TO POSITION LOADS THAT JUT OUT FROM ANY SIDE OF THE MACHINE

31) IT IS FORBIDDEN TO PLACE THE MACHINE ON OTHER MACHINES OR STRUCTURES DURING USE

⚠ WARNING

1) IT IS FORBIDDEN TO MODIFY THE MACHINE IN ANY WAY. TO DO SO MAKES THE WARRANTY NULL AND VOID

2) IT IS FORBIDDEN TO INSTALL NON-ORIGINAL EQUIPMENT, ACCESSORIES AND/OR SPARE PARTS IN THE MACHINE

3) IT IS FORBIDDEN TO USE PRODUCTS OTHER THAN THOSE INDICATED BY THE MANUFACTURER **(SEE SECT. 5.13)**

4) IT IS FORBIDDEN TO LEAVE THE MACHINE UNATTENDED IN OPERATION OR DURING MAINTENANCE

5) IT IS FORBIDDEN TO PLACE ANY OBJECT ON OR INSIDE THE MACHINE

5.5 BEAUFORT WIND SCALE

Below is an extract from the Beaufort Scale, an empirical method of estimating wind speed by observing the effects on the surrounding environment.

INFORMATION
THE DESCRIPTIVE TERM OF THE WIND REFERS TO A HEIGHT OF 10 M ABOVE FLAT, OPEN LAND.

Force	Descriptive term of the wind	Wind speed		Land conditions	Sea conditions (open sea)
		kn	km/h		
0	Calm	0	0	Smoke rises vertically	Sea like a mirror
1	Light air	1-3	1-6	Direction shown by smoke drift but not by wind vanes	Ripples with appearance of scales are formed, without foam crests
2	Light breeze	4-6	7-11	Wind felt on face. Leaves rustle	Small wavelets still short but more pronounced. Crests have a glassy appearance but do not break
3	Gentle breeze	7-10	12-19	Leaves and small twigs in constant motion	Large wavelets; crests begin to break; foam of glassy appearance. Perhaps scattered white horses
4	Moderate breeze	11-16	20-29	Raises dust and loose paper. Small branches moved	Small waves becoming longer. Fairly frequent white horses
5	Fresh breeze	17-21	30-39	Small trees in leaf begin to sway. Crested wavelets form on inland waters	Moderate waves taking a more pronounced long form. Many white horses are formed; chance of some spray
6	Strong breeze	22-27	40-50	Large branches in motion. Umbrellas used with difficulty. Whistling heard in telegraph wires	Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray
7	High wind	28-33	51-62	Whole trees in motion. Inconvenience felt when walking against the wind	Sea heaps up. White foam from breaking waves begins to be blown in streaks along the direction of the wind
8	Gale	34-40	62-74	Twigs broken off trees, walking against wind very difficult	Moderately high (13-20 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks

TAB. 7 *(Extract of Beaufort anemometer scale)*

5.6 DIMENSIONS

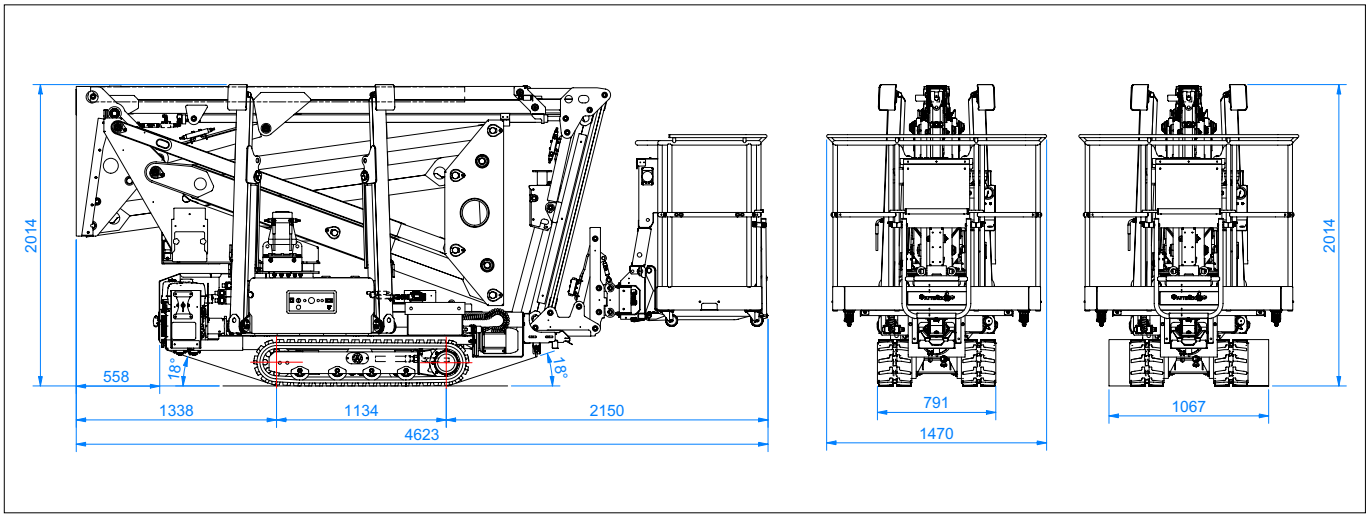


FIG. 2 *(Dimensions)*

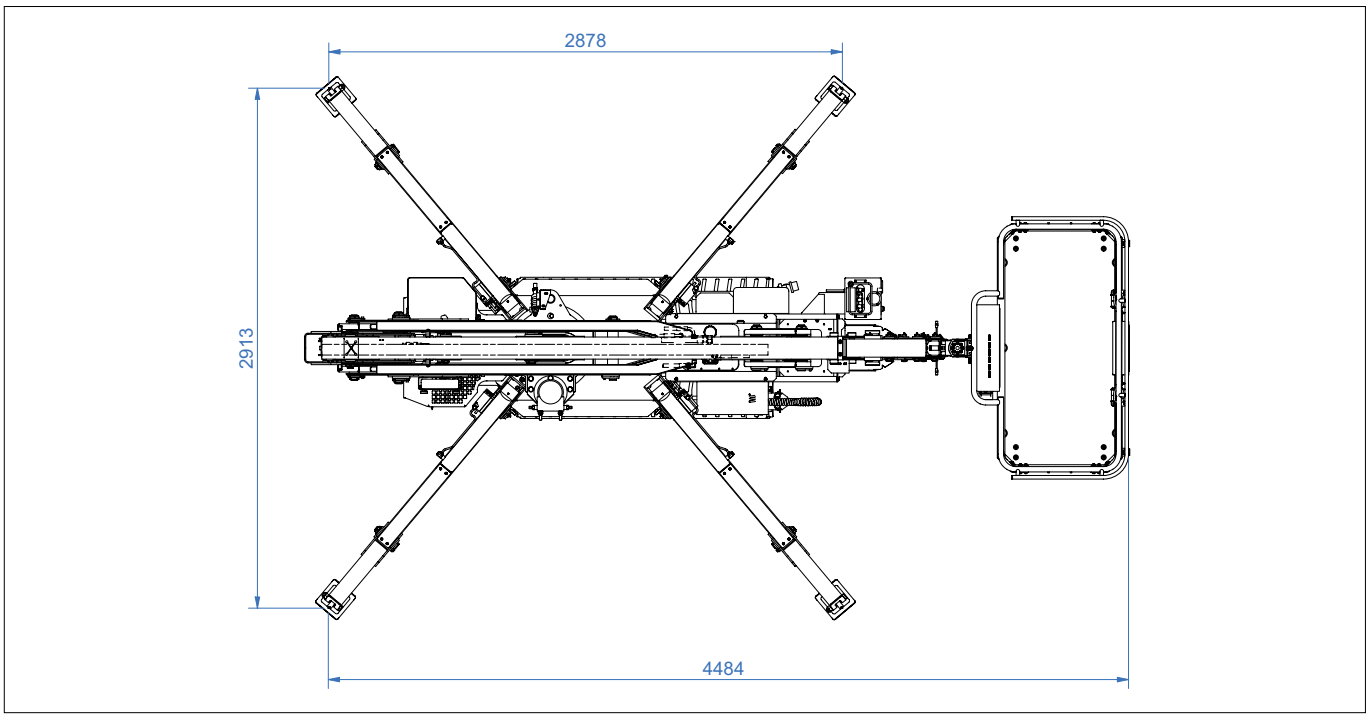


FIG. 3 *(Dimensions)*

5.7 LIMITS OF USE AND TECHNICAL DATA

Machine		
Maximum load on work platform	*kg*	200 (2 people and 40 kg of equipment)
Maximum height above floor level of work platform	*m*	14.80
Maximum working height	*m*	16.80
Maximum outreach, edge of rail	*m*	7.0
Maximum working outreach	*m*	7.5
Maximum permitted inclination of the ground	°	3
Maximum permitted inclination of chassis	°	0
Maximum tolerated wind speed	*m/s*	12.5
Turret rotation	°	± 330
Levelling the work platform		Hydraulic parallelogram
Rotation of work platform	°	90 right + 90 left
Dimensions of work platform	*mm*	1400 x 700 x 1100
Maximum permitted manual force	*daN*	40
Electrical system voltage	*V*	12
Controls		Proportional electro-hydraulic
Hydraulic oil reservoir capacity	*l*	32
Grease for turret gearbox		NLGI 2
Pivot grease		NLGI 2
Grease for telescopic elements		50% NLGI 2 - 50% ISO VG
Chain grease		NLGI 2
Chain tension		N.A.
Maximum working pressure	*bar*	190
Guaranteed sound level	*dB*	102
Overall weight	*t*	2.15
Environmental conditions	*°C*	between 10 and 40°C
Maximum humidity allowed	*RH*	*80%*
Maximum reaction on ground	*daN*	1700
Centre distance between stabiliser plate pins (max)	*mm*	2828 ± 20
Stabilisers' longitudinal centre distance from the plate pins (max)	*mm*	2854 ± 20

TAB. 8 *(Limits of use and technical data)*

5.8 WORKING AREAS

5.8.1 WORK ENVELOPES AND LOAD ACCORDING TO THE STABILISATION

⚠ DANGER

THE OPERATION OF THE MACHINE AND THE WORK AREAS WILL VARY ACCORDING TO THE CHOICE OF STABILISATION.

5.8.2 REAR WORK AREA

The following illustration shows, from the back, the maximum permitted capacity of the aluminium work platform in relation to the boom extension and to the angular position of the turret.

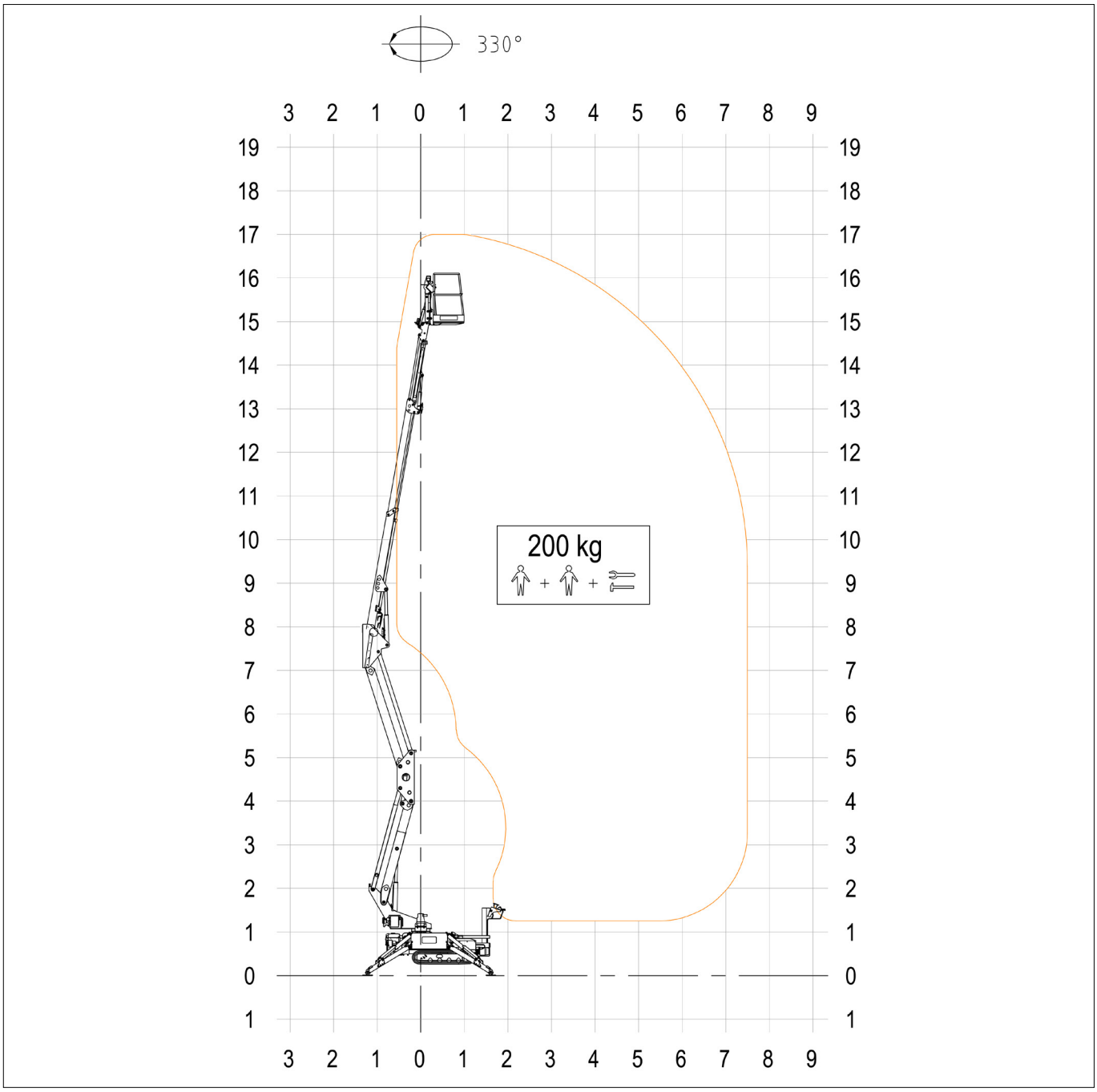


FIG. 4 *(Rear work area)*

5.9 ENERGY SUPPLY SOURCES

The machine is powered by the following energy sources:
- Electric current 12 V DC i.c. engine

5.10 EMISSIONS

INFORMATION

THE VEHICLE'S SEALED BATTERY DOES NOT EMIT GAS.

5.10.1 AIRBORNE NOISE

The A-weighted emission sound pressure level at workplaces (LpA) is **dB(A)** < 70.
The guaranteed sound power level (LwA) is **dB(A)** 102, in accordance with Directive 2000/14/EC.

INFORMATION

AIRBORNE NOISE IS THE NOISE PRODUCED BY THE ELECTRIC PUMP

5.10.2 VIBRATIONS

INFORMATION

THE MACHINE DOES NOT PRODUCE HAZARDOUS VIBRATIONS.

MEASUREMENTS CARRIED OUT UNDER THE MOST UNFAVOURABLE CONDITIONS OF USE HAVE ASCERTAINED THAT:

- THE TOTAL VALUE OF VIBRATIONS TO WHICH THE HAND-ARM SYSTEM IS EXPOSED IS LESS THAN 2.5 m/s^2
- THE WEIGHTED ROOT MEAN SQUARE ACCELERATION VALUE TO WHICH THE MAIN BODY IS EXPOSED IS LESS THAN 0.5 m/s^2

5.10.3 COMBUSTION SMOKE

⚠ DANGER

IT IS FORBIDDEN TO STAND IN THE VICINITY OF THE ENGINE CLOSE TO THE EXHAUST PIPE.

5.11 IONISING AND NON-IONISING RADIATION

⚠ WARNING

IT IS MANDATORY TO PROVIDE ADDITIONAL MEASURES TO PREVENT MALFUNCTIONING OF THE ELECTRICAL EQUIPMENT AND ACCELERATED DETERIORATION OF THE INSULATION, IF CONTINUOUS EXPOSURE TO RADIATION (E.G. MICROWAVES, UV RAYS, LASERS, X-RAYS) IS EXPECTED.

5.12 CONTAMINANT AGENTS

⚠ WARNING

IT IS MANDATORY TO CONTACT THE MANUFACTURER IF THE MACHINE IS EXPOSED TO CONTAMINANTS (E.G. SPECIAL DUST, ACIDS, CORROSIVE GASES, SALT, ETC.) THAT COULD CAUSE MALFUNCTIONS.

5.13 LUBRICANTS USED FOR MAINTENANCE

Lubricant	Characteristics
Pivot grease	**AGIP F1 GR MU2** grease
Oil for booms	Mixture of 50% **Agip F1 GR MU2** grease and 50% **Agip OSO32** oil Type of application: brush
Hydraulic oil	May vary depending on environmental conditions AGIP ROTRA MP SAE 80W/90 -10 °C < T < +30 °C AGIP ROTRA MP SAE 80W/140 +20 °C < T < +45 °C Bio HLP SYNTH E 32 oil may also be used
Gearbox oil	Bio BIOGEAR RS 80W/90 oil may also be used

TAB. 9 *(Lubricants used for maintenance)*

⚠ WARNING

IT IS FORBIDDEN TO USE LUBRICANTS OTHER THAN THOSE SPECIFIED BY THE MANUFACTURER.

⚠ WARNING

IT IS MANDATORY FOR AUTHORISED OPERATORS TO READ AND ASCERTAIN THAT THEY HAVE UNDERSTOOD ALL PARTS OF THE RELEVANT SAFETY DATA SHEETS PROVIDED BY THE MANUFACTURERS.

5.14 DESIGNATION OF MAIN COMPONENTS

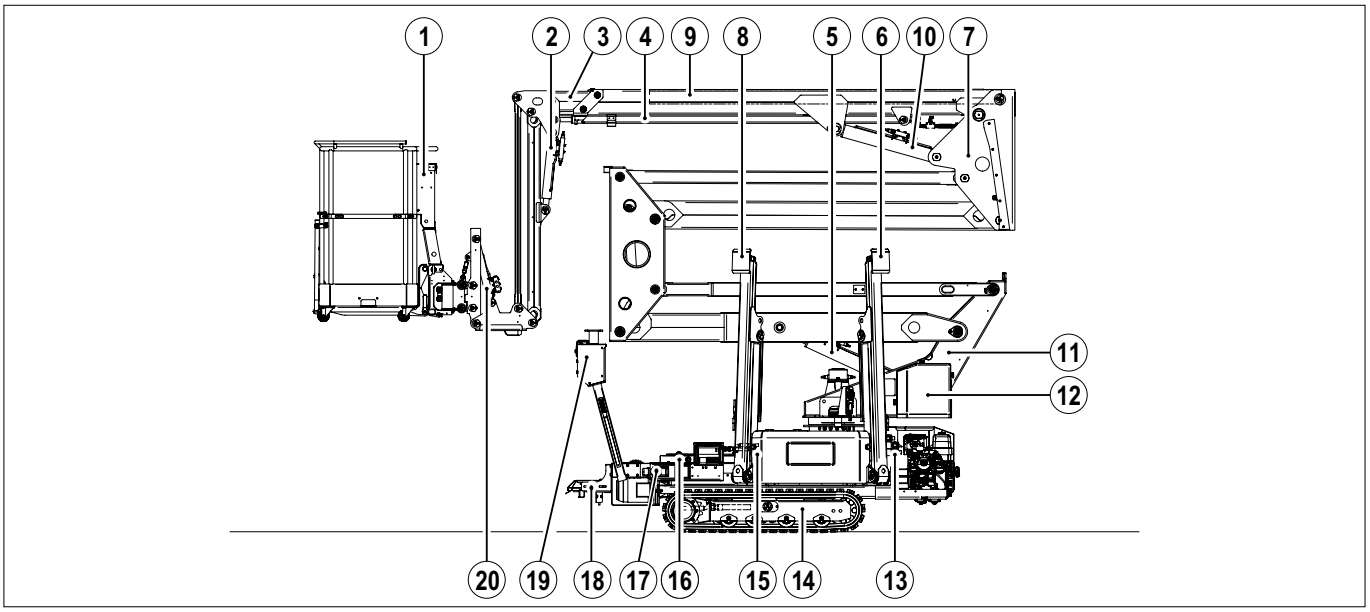


FIG. 5 *(Designation of main components)*

Ref.	Name	Function
1	Control panel on platform	Mobile console housing on the work platform
2	Jib lifting cylinder	Allows jib movements
3	Telescopic extension	Allows the telescopic boom to be extended
4	Telescopic boom extension cylinder	Allows the telescopic boom to be extended
5	Pantograph boom lifting cylinder	Operates the pantograph boom, allowing the platform to be raised
6	Rear stabiliser	Raises the machine off the ground to ensure stability and levelness
7	Articulated pantograph boom	Allows the telescopic boom to be raised
8	Front stabiliser	Raises the machine off the ground to ensure stability and levelness
9	Telescopic arm base	Allows the elevation of the work platform
10	Telescopic boom lifting cylinder	Allows telescopic boom movements
11	Rotary turret	Allows rotation of the telescopic boom
12	Emergency ground controls	Contains the electrical components
13	Electro-hydraulic traction unit	System comprising electrical and hydraulic components that control the transmission of driving force
14	Crawler carriage	Allows the machine to be moved
15	High pressure oil filter	Allows the oil to be filtered
16	Hydraulic oil tank with filter	Collects and filters the hydraulic oil
17	Electrical plug with thermal-magnetic circuit breakers	Electric plug for auxiliary power supply to the electric pump or for power supply to the electrical socket on the work platform.
18	Jib support	Supports the jib to ensure stability, correct positioning and safety during operation
19	Stabiliser controls	These allow the stabilisers to be adjusted to ensure the machine is stable and level
20	Enclosure levelling cylinder	Hydraulic actuator that adjusts the horizontal tilt of the enclosure during boom movement

TAB. 10 *(Designation of main components, right side)*

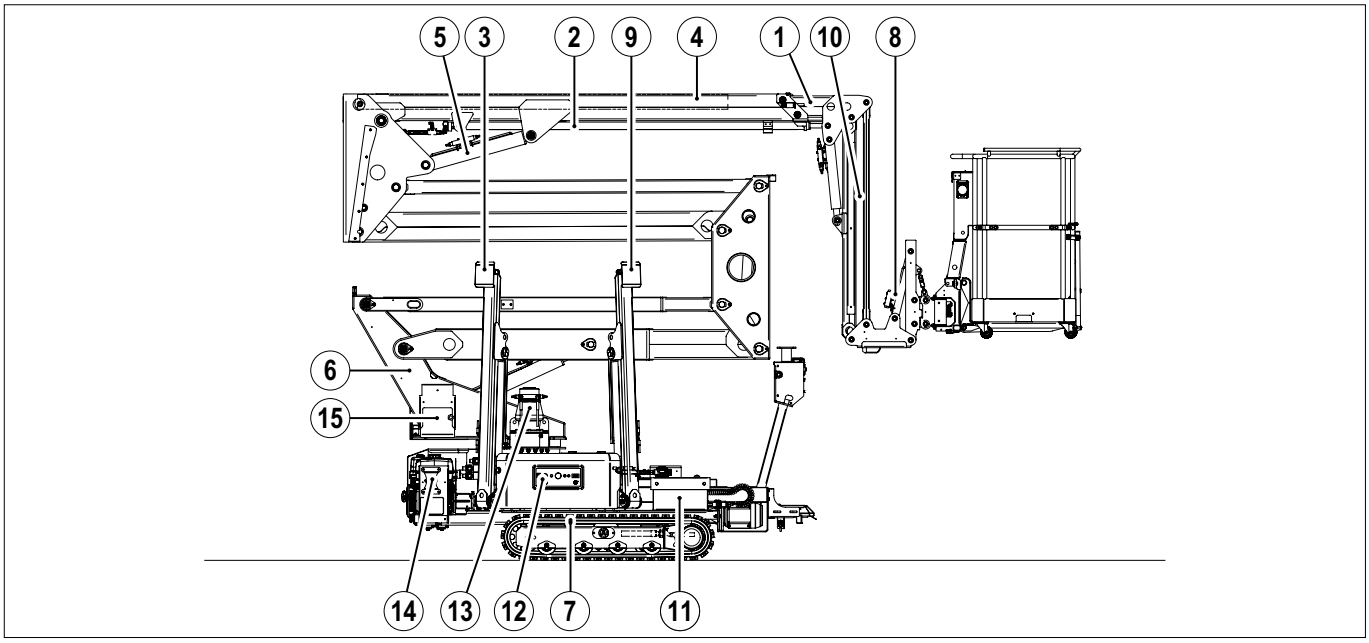


FIG. 6 *(Designation of main components)*

Ref.	Name	Function
1	Telescopic extension	Allows the telescopic boom to be extended
2	Telescopic boom extension cylinder	Allows the telescopic boom to be extended
3	Rear stabiliser	Raises the machine off the ground to ensure stability and levelness
4	Telescopic arm base	Allows the elevation of the work platform
5	Telescopic boom lifting cylinder	Allows telescopic boom movements
6	Rotary turret	Allows rotation of the telescopic boom
7	Crawler carriage	Allows the machine to be moved
8	Enclosure levelling cylinder	Hydraulic actuator that adjusts the tilt of the enclosure to keep it horizontal during boom movement
9	Front stabiliser	Raises the machine off the ground to ensure stability and levelness
10	Jib	An additional boom that is designed to extend the reach of the lifting platform and improve its operating accuracy
11	Mobile traction control panel	A control panel dedicated to traction management
12	Ground panel	A control panel located outside the machine
13	Turret rotation motor	Supplies mechanical energy to the hydraulic pump
14	Battery disconnect panel	Enables or disables battery power
15	Electronic control unit	A control module that processes signals to activate the various devices

TAB. 11 *(Designation of main components)*

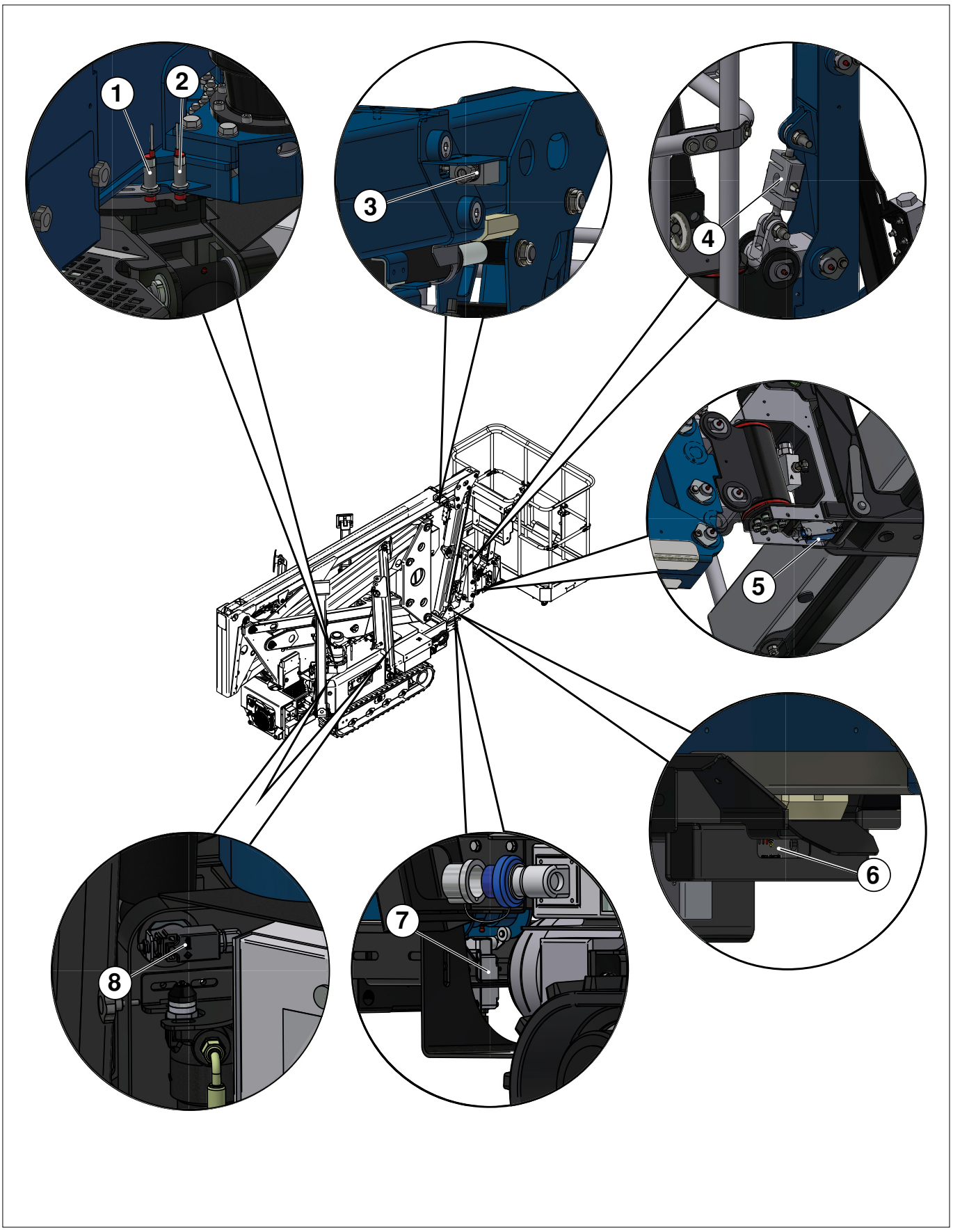


FIG. 7 *(Designation of main components)*

Ref.	Name	Function
1	Turret rotation sensor	Detects the position of the turret. It works simultaneously with the sensor **(FIG. 7 - Ref.)** to detect collisions with the stabiliser controls.
2	Turret rotation sensor	Detects the position of the turret. It works simultaneously with the sensor **(FIG. 7 - Ref.)** to detect collisions with the stabiliser controls.
3	Telescopic boom extension micro switch	Detects the extension of the telescopic boom. It works simultaneously with the sensor **(FIG. 7 - Ref.)** to detect collisions with the stabiliser controls.
4	Overload control device on the work platform	Detects the load on the work platform. If the maximum capacity is exceeded, it locks all movements.
5	Work platform locking pin limit switch	Detects the engagement of the work platform interlock pin
6	Stabiliser/arm interlock	Only allows the stabilisation controls to be activated when the superstructure is fully closed.
7	Boom lifting micro switch	**When the superstructure is closed:** - The machine will only open if stabilised - The first available manoeuvre is opening the pantograph **When the superstructure is open:** - Allows lowering operations, even if one of the stabilisers loses its interlock signal
8	Microswitches on stabilisers (No. 4)	They detect when the stabilisers are resting on the ground

TAB. 12 *(Designation of components)*

5.15 CONTROL AND MONITORING DEVICES

5.15.1 POSITION OF CONTROL AND MONITORING DEVICES

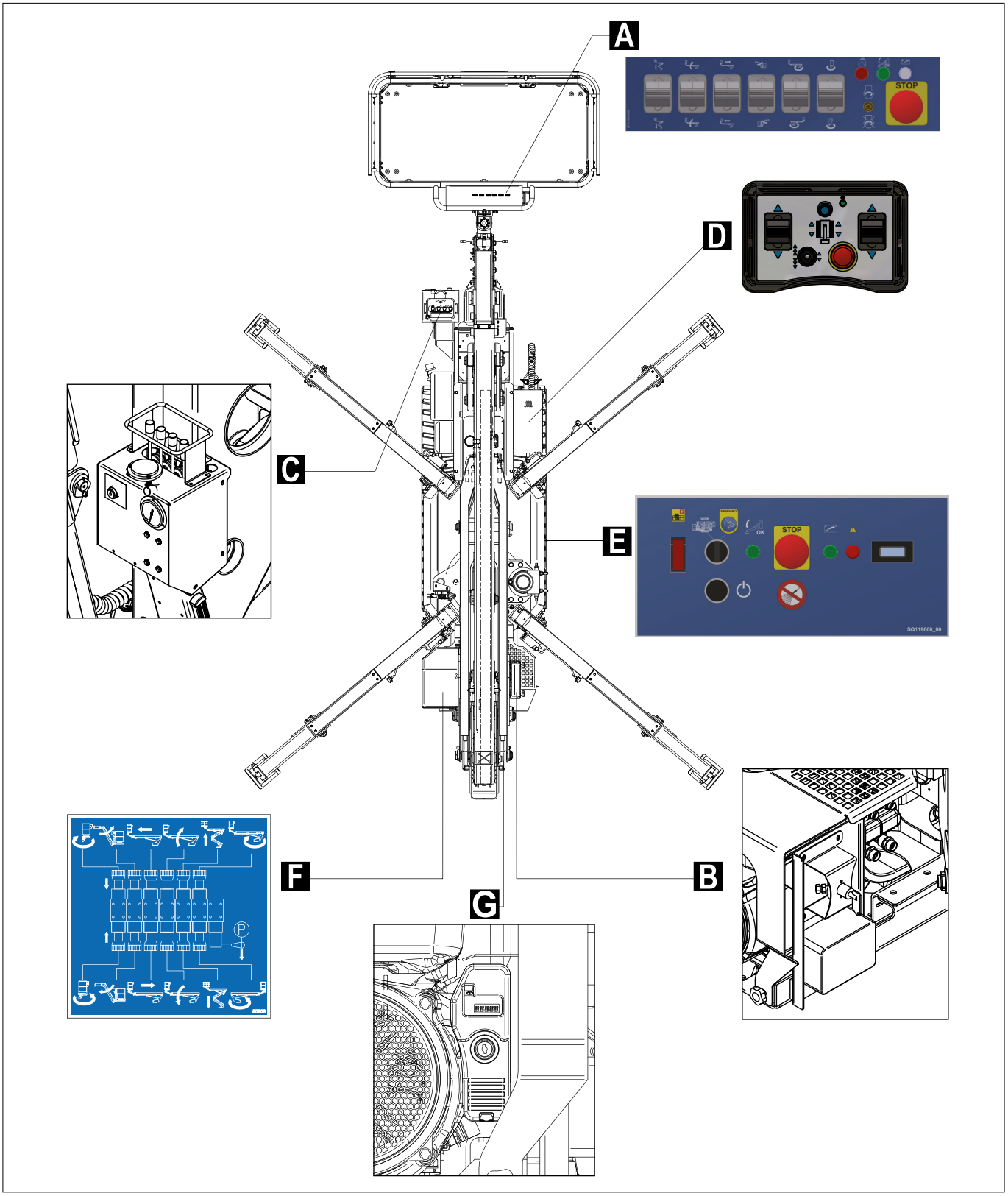


FIG. 8 *(Position of control and monitoring devices)*

Ref.	Name	Function
A	Control panel in the work platform	**(see sect. 5.15.2)**
B	Battery disconnect panel	**(see sect. 5.15.3)**
C	Stabiliser controls and spirit level	**(see sect. 5.15.4)**
D	Mobile traction control panel	**(see sect. 5.15.5)**
E	Ground control panel	**(see sect. 5.15.6)**
F	Emergency control valve unit	**(see sect. 5.15.7)**

TAB. 13 *(Position of control and monitoring devices)*

5.15.2 CONTROL PANEL ON THE WORK PLATFORM (FIG. 8 - REF. A)

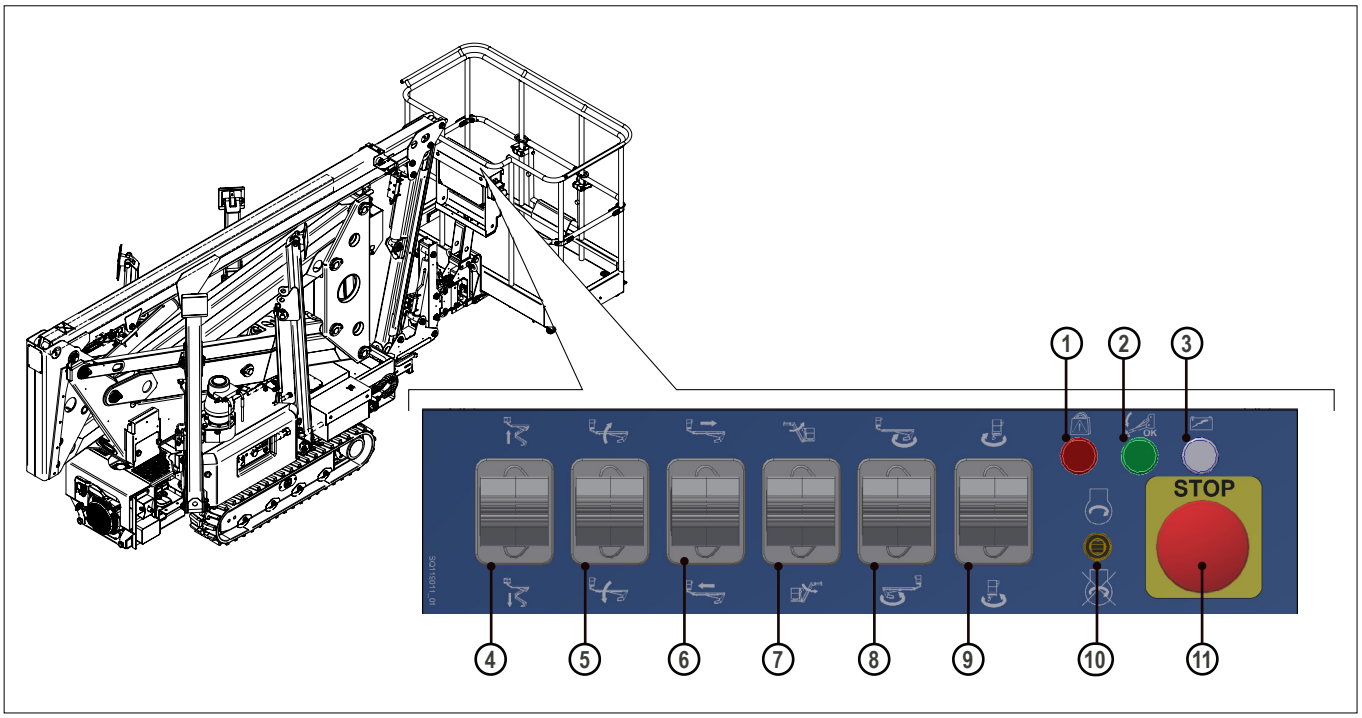


FIG. 9 *(Control panel on the work platform)*

Ref.	Name	Function
1	Overload indicator light	This button lights up when the basket is loaded beyond its nominal capacity. At the same time, an audible warning signal is activated.
2	Stabiliser light:	This button lights up on when the plate has fully extended and is in contact with the ground
3	Voltage presence LED	This button lights up when voltage is being supplied
4	Proportional control lever for articulated boom lifting	• Moving the lever upwards raises the articulated boom, • Moving the lever downwards lowers the boom.
5	Proportional control lever for telescopic boom lifting	• Moving the lever upwards raises the boom, • Moving the lever downwards lowers the boom.
7	Proportional control lever for telescopic boom extension	• Moving the lever upwards retracts the telescopic boom, • Moving the lever downwards extends the boom.
8	Proportional control lever for raising and lowering the jib	• Moving the lever upwards raises the jib • Moving the lever downwards lowers the jib
9	Proportional work platform rotation control lever	Activating the lever causes the work platform to rotate in the direction indicated by the arrow
10	Electric motor start lever	Operating the lever starts and stops the motor.
11	Emergency stop button	Pressing the Emergency Stop Button stops all movement of the superstructure and switches off the engine.

TAB. 14 *(Control panel on the work platform)*

5.15.3 BATTERY DISCONNECT SWITCH (FIG. 8 - REF. B)

The main switch for disconnecting the battery interrupts the electrical circuit, thereby preventing the platform from operating.

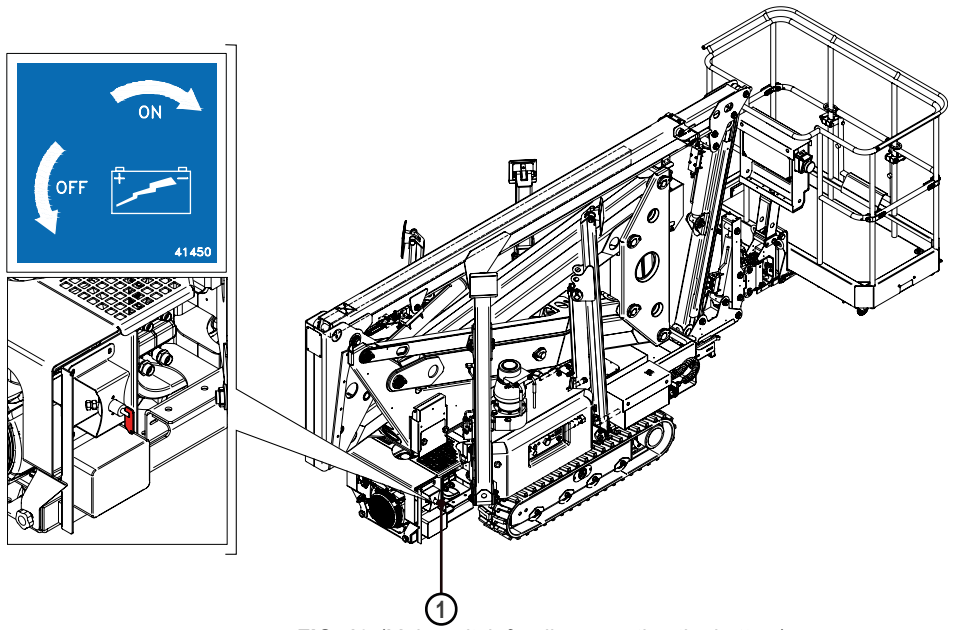


FIG. 10 *(Main switch for disconnecting the battery)*

Ref.	Name	Function
1	Electrical circuit on/off selector switch	• Turning the red key clockwise activates the electric circuit; • Turning the red key anticlockwise breaks the electric circuit.

TAB. 15 *(Main switch panel for battery disconnection)*

5.15.4 STABILISER CONTROLS AND SPIRIT LEVEL (FIG. 8 - REF. C)

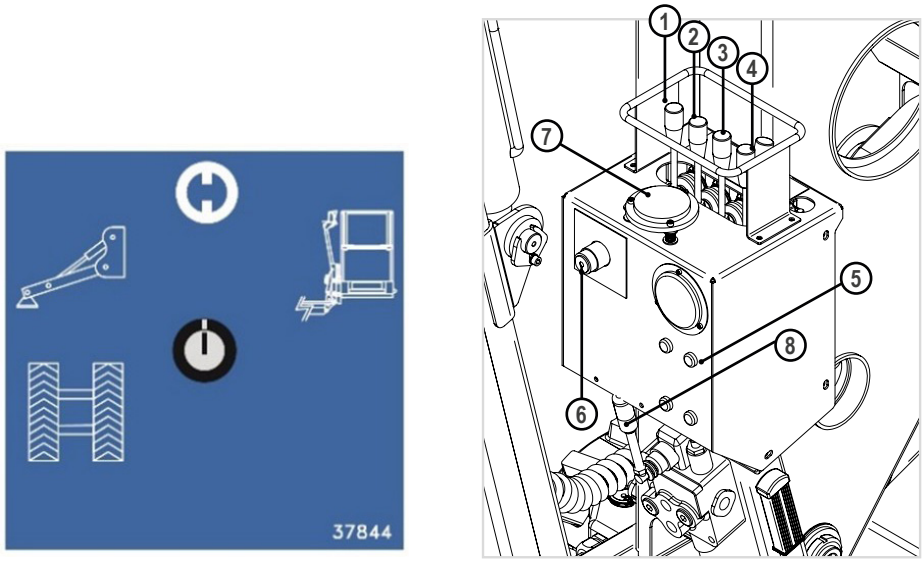


FIG. 11 *(Stabiliser controls and spirit level)*

Ref.	Name	Function
1	Rear left stabiliser control lever	• Lowering the lever lowers the stabiliser, • Raising the lever raises the stabiliser
2	Front left stabiliser control lever	• Lowering the lever lowers the stabiliser, • Raising the lever raises the stabiliser
3	Front right stabiliser control lever	• Lowering the lever lowers the stabiliser, • Raising the lever raises the stabiliser
4	Rear right stabiliser control lever	• Lowering the lever lowers the stabiliser, • Raising the lever raises the stabiliser
5	Stabiliser level indicators	Allow you to monitor the level of each stabiliser
6	Work mode selector	Allows you to select the working mode by turning the rotary selector switch: • Turning it anti-clockwise allows you to adjust the traction stabilisers; • Moving the rotary selector to the central-neutral position, with the engine turned off, switches off the machine. • Rotate clockwise to adjust the work platform
7	Spirit level	Circular bubble level that allows you to check whether the machine is horizontal
8	Carriage extension lever	• Lowering the lever widens the carriage, • Raising the lever, narrows it

TAB. 16 *(Stabiliser controls and spirit level)*

5.15.5 MOBILE TRACTION CONTROL PANEL (FIG. 8 - REF. D)

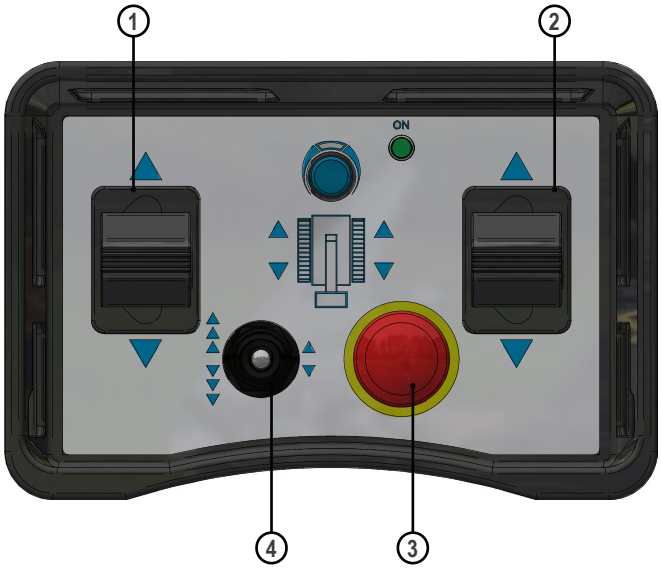


FIG. 12*(Mobile traction controls)*
FIG. 13

Ref.	Name	Function
1	Left traction control lever	• Raising the lever moves the track forwards • Lowering the lever moves the track backwards
2	Right traction control lever	• Raising the lever moves the track forwards • Lowering the lever moves the track backwards
3	Emergency stop	Pressing the emergency stop button the travel and stabilisation controls are deactivated and the engine switches off
4	Speed selector (OPTIONAL)**(SECT. 20.9)**	• Selector to the right, the machine moves at low speed • Selector to the left, the machine moves at higher speed

TAB. 17 *(Mobile traction controls)*

5.15.6 GROUND CONTROL PANEL (FIG. 8 - REF. E)

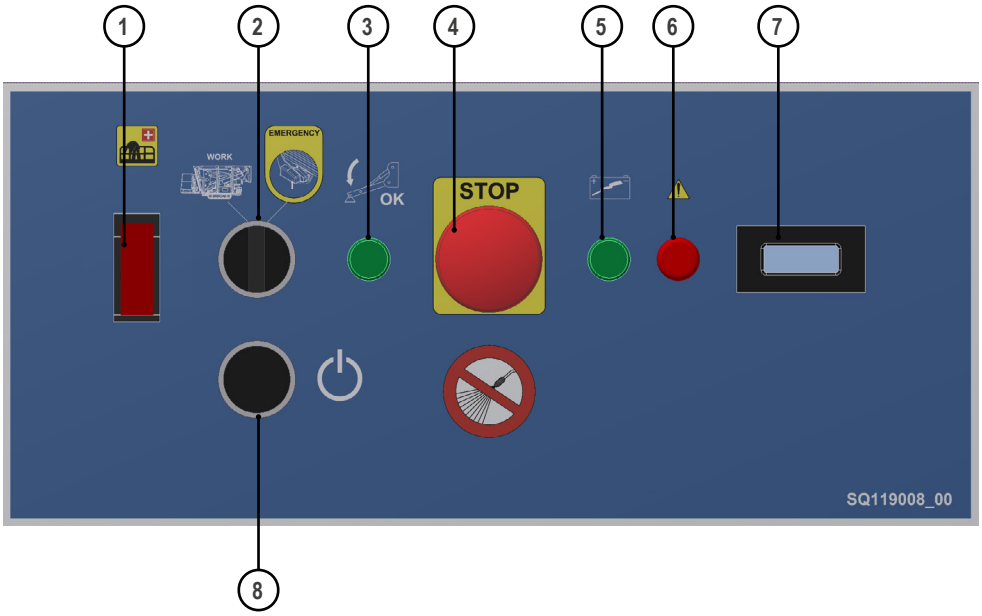


FIG. 14 *(Ground control panel)*

Ref.	Name	Function
1	Two-position by-pass selector switch	• Move it upwards to make an emergency stop • Moving it downwards acts as a load limiter
2	Controls selector switch	• Turning the selector switch to the left activates the controls for normal operation • Turning the selector switch to the right activates the emergency manoeuvres
3	Stabiliser light:	Indicates the status of the stabilisers
4	Emergency stop	Pressing the Emergency Stop button deactivates all of the machine's controls and the engine switches off
5	Voltage presence LED	This backlit light indicates that power is on
6	Error indicator light	Indicates the status of the glow plugs during ignition
7	Hour counter	Indicates the engine operating hours
8	Ignition	Allows the power supply to be switched on or off

TAB. 18 *(Ground control panel)*

⚠ CAUTION

TO START THE ENGINE, TURN THE START SELECTOR SWITCH CLOCKWISE (SECOND "GLOW PLUG HEATING" POSITION) AND KEEP IT THERE UNTIL THE GLOW PLUG PREHEATING INDICATOR LIGHT TURNS OFF. TURN AND HOLD IN THE THIRD POSITION UNTIL THE ENGINE STARTS. ONCE THE ENGINE IS RUNNING, RELEASE THE SELECTOR SWITCH, WHICH WILL RETURN AUTOMATICALLY TO THE FIRST POSITION.

5.15.7 EMERGENCY CONTROL VALVE UNIT (FIG. 8 - REF. F)

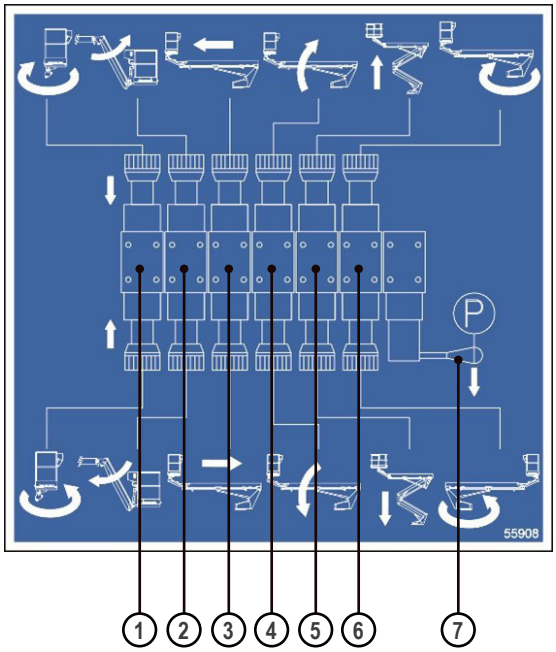


FIG. 15 *(Emergency controls)*

Ref.	Name	Function
1	Work platform rotation solenoid valve	• Press the upper button to rotate the work platform anticlockwise. • Press the lower button to rotate the work platform clockwise.
2	Jib lifting control solenoid valve	• Press the upper button to lower the articulated boom • Press the lower button to raise the articulated boom
3	Solenoid valve for extending the telescopic boom	• Press the upper button to retract the telescopic boom • Press the lower button to extend the telescopic boom
4	Solenoid valve to raise the telescopic boom	• Press the upper button to lower the telescopic boom • Press the lower button to raise the telescopic boom
5	Solenoid valve to raise the telescopic boom	• Press the upper button to lower the telescopic boom • Press the lower button to raise the telescopic boom
6	Solenoid valve to rotate the turret	• Press the upper button to rotate the turret anticlockwise; • Press the lower button to rotate the turret clockwise
7	Movement speed control lever	After pressing the required knob (1, 2, 3, 4, 5 and 6), operating the lever carries out the movement proportionally.

TAB. 19 *(Emergency controls)*

INFORMATION
THESE CONTROLS ARE FOR EMERGENCY USE ONLY AND ARE POSITIONED INSIDE THE TURRET CASING.

5.15.8 ENDOTHERMIC ENGINE CONTROL PANEL (FIG. 8 - REF. G)

5.15.8.1 PETROL ENGINE CONTROL PANEL

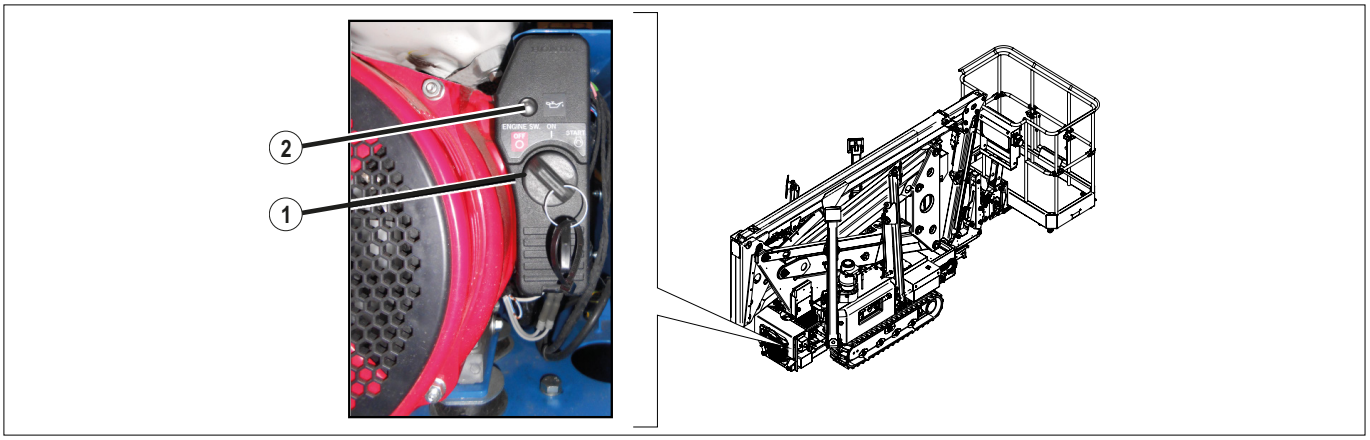


FIG. 16 *(Endothermic engine control panel)*

Ref.	Name	Function
1	Engine start selector	Pos. First position: Inhibited position Pos. Second position: Inhibited position Pos. Third position held clockwise starts the engine
2	Engine oil light	When lit indicates low engine oil pressure

TAB. 20 *(Petrol engine control panel)*

5.15.8.2 DIESEL ENGINE CONTROL PANEL

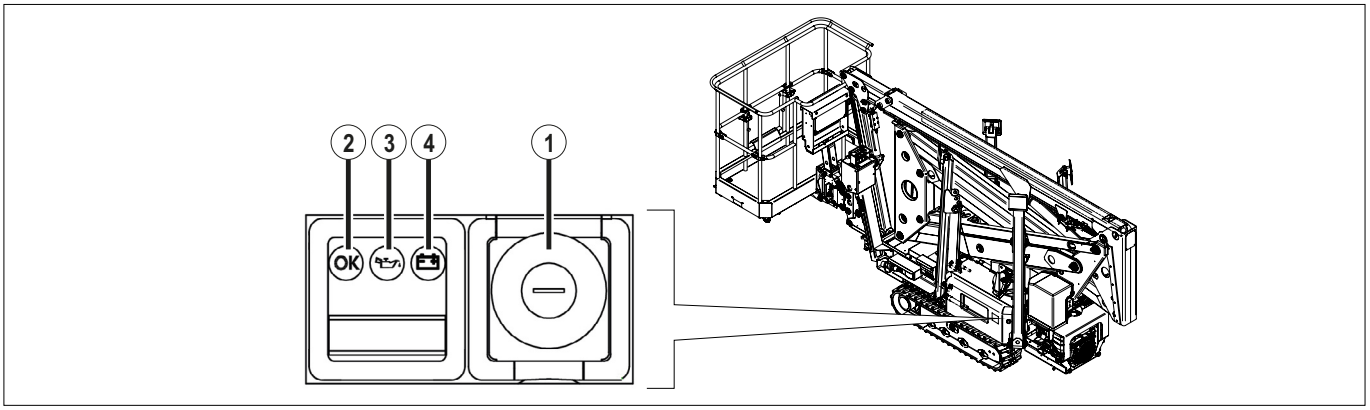


FIG. 17 *(Diesel engine control panel)*

Ref.	Name	Function
1	Engine start selector	Pos. First position: turning anticlockwise turns off the engine Pos. Second position: Voltage in the electrical panel Pos. Third position held clockwise starts the engine
2	“OK” light	It lights up when the “Engine oil” and “Alternator” lights are off and indicates that it is working correctly
3	“Engine oil” light	If it lights up with the engine running, indicates low engine oil pressure
4	“Alternator” light	If it lights up with the engine running, it indicates a fault in the engine alternator

TAB. 21 *(Diesel engine control panel)*

5.15.9 BUZZERS

Ref.	Name	Function
1	Buzzer	Located next to the main electrical panel on the chassis and on the electrical box in the work platform. They are activated as follows: • A short sound is emitted, when the jib is resting on its support • An intermittent sound is emitted while the machine is moving • An intermittent sound is emitted during turret rotation • A short sound is emitted to warn of an unauthorised manoeuvre

TAB. 22 *(Buzzers)*

5.15.10 EMERGENCY STOP BUTTONS

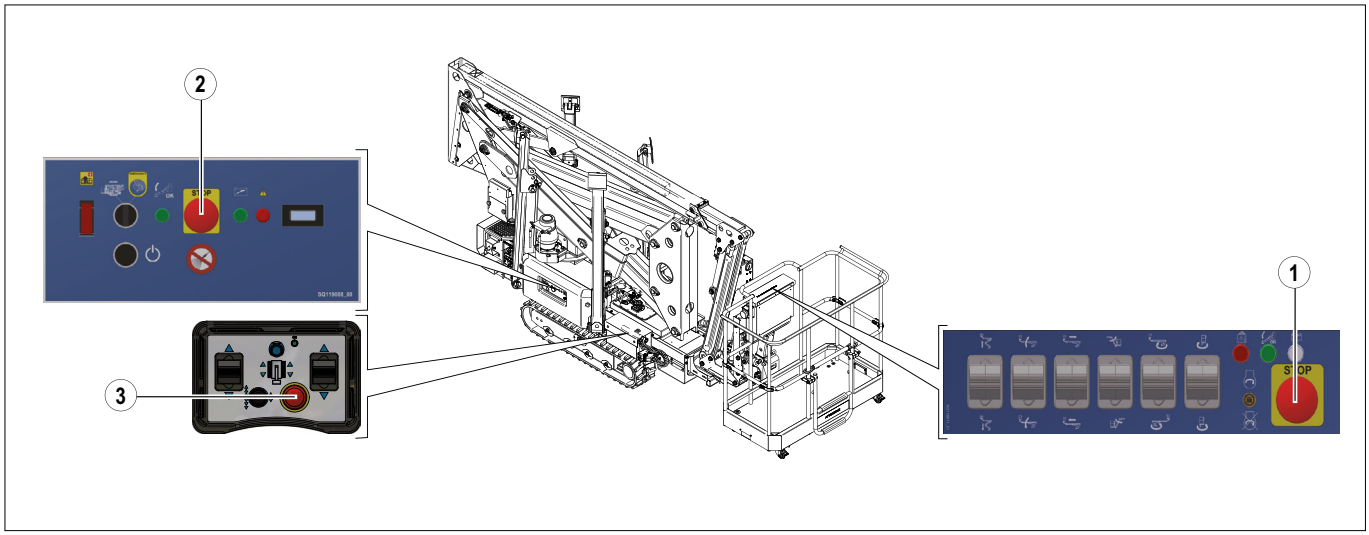


FIG. 18 *Location of emergency stop buttons*

Ref.	Name	Characteristics
1	**"Emergency stop"** button **(N. 1)** *(Red mushroom-head button on a yellow background)*	Mushroom-head button. Locks superstructure manoeuvres. Switches off the engine.
2	**"Emergency stop"** button **(N. 1)** *(Red mushroom-head button on a yellow background)*	Mushroom-head button. Locks superstructure manoeuvres and carriage movement (travel and stabilisation). Switches off the engine.
3	**"Emergency stop"** button **(N. 1)** *(Red mushroom-head button on a yellow background)*	Mushroom-head button. Locks carriage movements (travel and stabilisation). Switches off the engine.

TAB. 23 *(Emergency stop buttons)*

INFORMATION
TO REACTIVATE THE MACHINE, TURN THE BUTTON IN A CLOCKWISE DIRECTION AND RESTART THE ENGINE IF NECESSARY.

6 GUARDS AND PROTECTION DEVICES

⚠ DANGER

IT IS FORBIDDEN TO NEUTRALISE, TAMPER WITH, MANIPULATE OR BYPASS THE GUARDS AND PROTECTION DEVICES INSTALLED IN THE MACHINE.

IT IS FORBIDDEN TO REPLACE THE MACHINE GUARDS AND PROTECTION DEVICES WITH NON-ORIGINAL SPARE PARTS.

IT IS FORBIDDEN TO USE THE MACHINE IF ONE OR MORE GUARDS OR SAFETY DEVICES ARE DAMAGED OR FAULTY.

⚠ WARNING

IT IS MANDATORY TO CONSTANTLY CHECK THAT ALL GUARDS AND PROTECTION DEVICES ARE WORKING PROPERLY.

IT IS MANDATORY TO PROMPTLY REPLACE INEFFECTIVE OR DAMAGED GUARDS AND PROTECTION DEVICES.

IT IS MANDATORY TO REPORT ANY TYPE OF FAULT TO THE SUPERVISOR OR TO THE AUTHORISED CTE SERVICE CENTRE AND TO AWAIT INSTRUCTIONS BEFORE USE.

INFORMATION

TO ORDER SPARE PARTS FOR GUARDS AND PROTECTION DEVICES **SEE CHAPT. 19**.

⚠ CAUTION

IT IS MANDATORY TO PERIODICALLY CHECK THE INTEGRITY AND EFFICIENCY OF THE GUARDS AND PROTECTION DEVICES. OPERATING INSTRUCTIONS CAN BE FOUND IN **SECT. 17.4**.

7 SAFETY AND INFORMATION SIGNS

The safety signs consist of a series of labels applied to the machine as shown in **FIG. 19,** and **FIG. 20**.

⚠ WARNING

IT IS MANDATORY TO KEEP THE SAFETY SIGNS CLEAN TO ENSURE GOOD VISIBILITY.

IT IS MANDATORY TO REPLACE DETERIORATED SAFETY SIGNS, BY REQUEST TO THE MANUFACTURER OR THE SERVICE CENTRE.

⚠ WARNING

IT IS FORBIDDEN TO REMOVE AND/OR DAMAGE THE SAFETY SIGNS ATTACHED TO THE MACHINE.

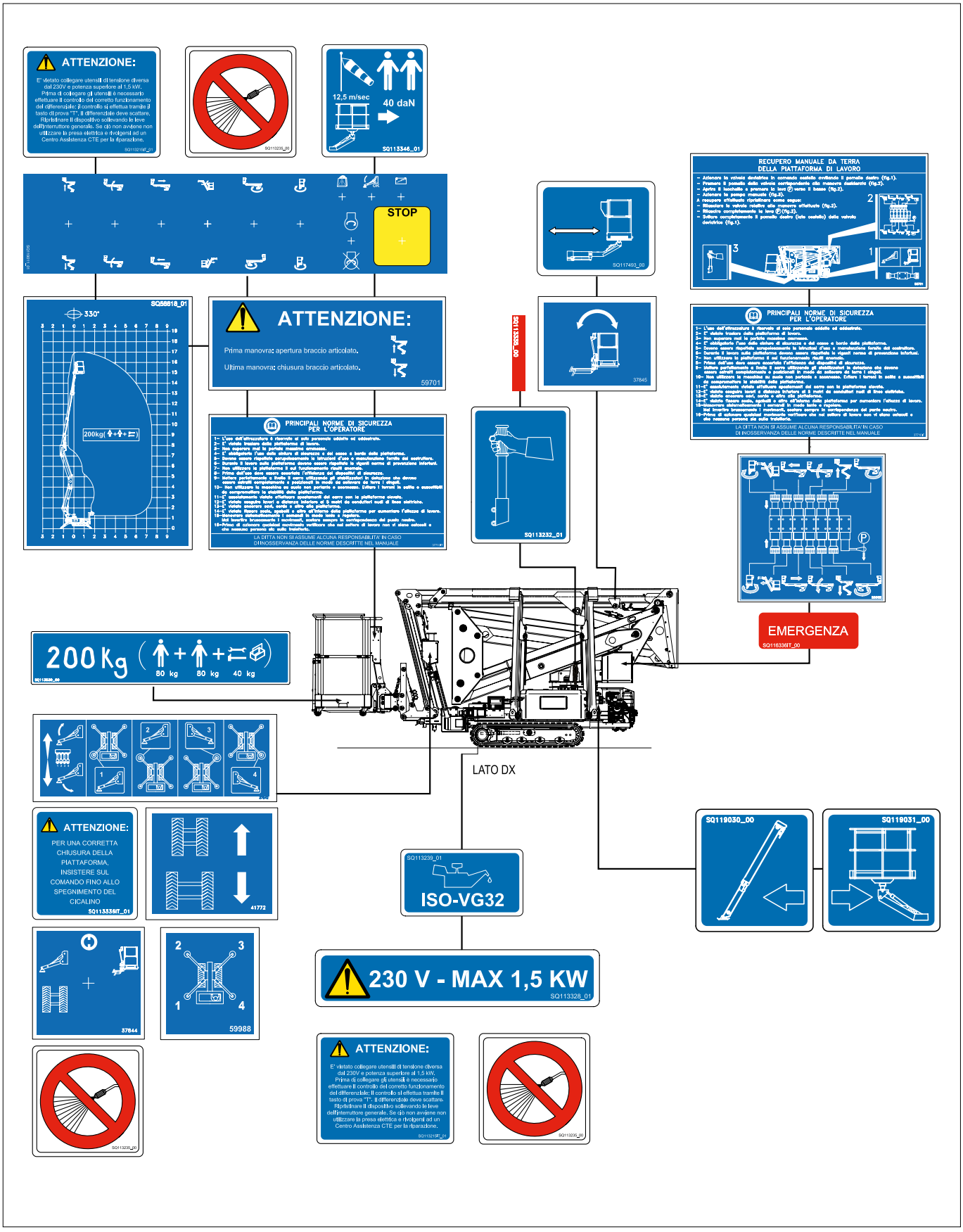


FIG. 19 *(Safety and information signs)*

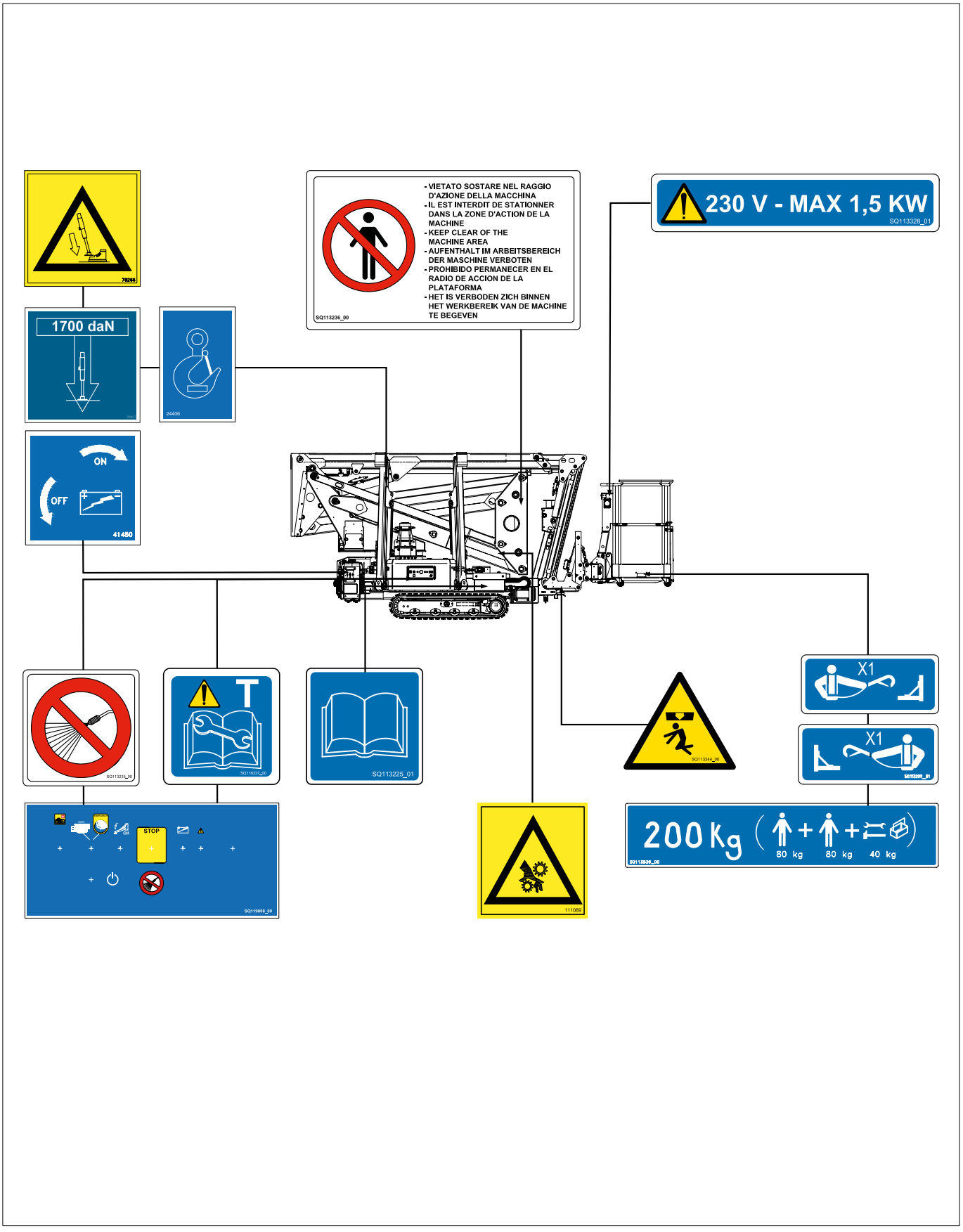


FIG. 20 *(Safety and information signs)*

7.1 SAFETY SIGN LABELS

SIGN	MEANING	SIGN	MEANING
	**DANGER** Crushing of the feet when lowering the stabilisers		**DANGER** Crushing of hands
	**DANGER** Overhead obstruction		**PROHIBITED** Do not spray water

TAB. 24 *(Safety sign labels)*

8 RESIDUAL RISKS

The operator is informed that, despite the fact that the Manufacturer has adopted all possible technical and constructional measures to make the machine safe, there remain possible residual risks as described below.

⚠ DANGER

IN ORDER TO LIMIT EXPOSURE TO RESIDUAL RISKS, IT IS FORBIDDEN TO USE THE MACHINE FOR **(SEE SECT. 5.4)** PURPOSES OTHER THAN THOSE INTENDED BY THE MANUFACTURER **(SEE SECT. 5.3)**.

IT IS COMPULSORY TO OBSERVE THE SAFETY SIGNS **(SEE CHAPT. 7)** AND TO WEAR THE PERSONAL PROTECTIVE EQUIPMENT **(SEE CHAPT. 9)** INDICATED IN THIS MANUAL.

RESIDUAL RISKS NO. 1

THERE IS A **DANGER OF ELECTRIC SHOCK** DUE TO ACCIDENTAL CONTACT WITH LIVE ELECTRICAL CONDUCTORS IF THE AUTHORISED OPERATORS USE THE MACHINE IMPROPERLY **(SEE SECT. 5.3)** AND DO NOT COMPLY WITH THE FOLLOWING INSTRUCTIONS.

- KEEP THE MINIMUM SAFETY DISTANCE REQUIRED BY APPLICABLE NATIONAL LEGISLATION **(SEE SECT. 8.1)**.

RESIDUAL RISKS NO. 2

THERE IS A **RISK OF OVERTURNING** IF THE AUTHORISED OPERATORS:

- FAIL TO POSITION THE FOUR STABILISERS ON GROUND OF SUITABLE CONSISTENCY OR ON SUPPORT PLATES SUITABLE FOR THE PURPOSE, ON A FLAT, LEVEL AND STABLE SURFACE THAT ENSURES STABILITY IN RELATION TO ITS OVERALL DIMENSIONS **(SEE SECT. 5.6)** AND WEIGHT **(SEE SECT. 5.7)**.
- FAIL TO CHECK THAT THE MACHINE IS PROPERLY LEVEL **(SEE SECT. 14.11) AND (SEE SECT. 14.18)**.

RESIDUAL RISKS NO. 3

THERE IS A **DANGER OF FALLING** FROM THE WORK PLATFORM IF THE AUTHORISED OPERATORS DO NOT COMPLY WITH THE FOLLOWING REQUIREMENTS:

- OBLIGATION TO WEAR THE REQUIRED PPE **(SEE CHAPT. 9)**.
- OBLIGATION TO ADOPT THE PROCEDURES FOR CORRECT USE AND MAINTENANCE.

RESIDUAL RISKS NO. 4

THERE IS A **DANGER OF COLLISION AND CRUSHING** DUE TO ACCIDENTAL CONTACT WITH OBSTACLES IF THE AUTHORISED OPERATORS USE THE MACHINE IN AN IMPROPER WAY **(SEE SECT. 5.3)** AND DO NOT COMPLY WITH THE FOLLOWING INSTRUCTIONS:

- OBLIGATION TO WEAR THE REQUIRED PPE **(SEE CHAPT. 9)**.
- OBLIGATION TO ADOPT THE PROCEDURES FOR CORRECT USE AND MAINTENANCE.
- OBLIGATION TO CONSTANTLY CHECK THE WORK AREA.

RESIDUAL RISKS NO. 5

THERE IS A **DANGER OF INHALING COMBUSTION FUMES** IF THE AUTHORISED OPERATORS USE THE MACHINE IN AN IMPROPER WAY **(SEE SECT. 5.3)** AND DO NOT COMPLY WITH THE FOLLOWING REQUIREMENTS:

- OBLIGATION TO WEAR THE REQUIRED PPE **(SEE CHAPT. 9)**.
- OBLIGATION TO ADOPT THE PROCEDURES FOR CORRECT USE AND MAINTENANCE.

RESIDUAL RISKS NO. 6

THERE IS A **DANGER OF CRUSHING THE FEET** DUE TO ACCIDENTAL CONTACT WITH THE STABILISERS IF THE AUTHORISED OPERATORS USE THE MACHINE IN AN IMPROPER WAY **(SEE SECT. 5.3)** AND DO NOT COMPLY WITH THE FOLLOWING INSTRUCTIONS:

- OBLIGATION TO WEAR THE REQUIRED PPE **(SEE CHAPT. 9)**.
- OBLIGATION TO ADOPT THE PROCEDURES FOR CORRECT USE AND MAINTENANCE.

RESIDUAL RISKS NO. 7

THERE IS A **DANGER OF CRUSHING LIMBS** DUE TO ACCIDENTAL CONTACT WITH THE TELESCOPIC BOOM AND THE TELESCOPIC EXTENSION IF THE AUTHORISED OPERATORS USE THE MACHINE IN AN IMPROPER WAY **(SEE SECT. 5.3)** AND DO NOT COMPLY WITH THE FOLLOWING INSTRUCTIONS:

- OBLIGATION TO WEAR THE REQUIRED PPE **(SEE CHAPT. 9)**.
- OBLIGATION TO ADOPT THE PROCEDURES FOR CORRECT USE AND MAINTENANCE.

8.1 SAFETY DISTANCES FROM POWER LINES

⚠ DANGER

THE MINIMUM SAFETY DISTANCES REQUIRED BY THE NATIONAL REGULATIONS IN FORCE OR, FAILING THAT, THE MINIMUM DISTANCES SPECIFIED IN ISO 18893:2014 MUST BE OBSERVED, **(SEE TAB. 25)**, AS THE MACHINE IS NOT ELECTRICALLY INSULATED AND DOES NOT PROVIDE PROTECTION AGAINST CONTACT WITH OR PROXIMITY TO POWER LINES.

Phase to phase voltage field (kV)	Minimum safe distance (m)
0 to 50	3
51 to 220	4
221 to 500	5
501 to 750	10
751 to 1,000	13

TAB. 25 *(Minimum safety distances specified by ISO 18893:2014)*

For Italy, please refer to Tab.1 - Ann. IX of Legislative Decree 81/2008 "*Observe safety distances from unprotected or insufficiently protected power lines and electrical system live parts, when performing non-electrical works, relating to the dimensions deriving from the type of work, the equipment used and the materials handled, as well as swaying of the conductors due to wind and drops in height due to temperature conditions*".

Nominal voltage Un (kV)	Distance D (m)
≤ 1	3
1 < Un ≤ 30	3.5
30 < Un ≤ 132	5
> 132	7

TAB. 26 *(Minimum safety distances specified in Tab. 1 - Ann. IX of Legislative Decree 81/2008)*

9 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The use of Personal Protective Equipment (PPE) is mandatory in accordance with the legislation on health and safety in the workplace in force in the country where the machine is commissioned.
The employer and authorised operators must be aware of and apply the obligations and duties set out in the above regulations.

⚠ DANGER

IT IS MANDATORY TO CONSTANTLY CHECK THE STATE OF WEAR AND TEAR OF PERSONAL PROTECTIVE EQUIPMENT.

⚠ WARNING

IT IS PROHIBITED TO WEAR CLOTHING AND ACCESSORIES THAT COULD GET CAUGHT IN THE MACHINE (LOOSE CLOTHING, TIES, BELTS, NECKLACES, BRACELETS, WATCHES, EARRINGS, RINGS, ETC.). IT IS COMPULSORY TO TIE LONG HAIR.

Sign	Mandatory PPE for all authorised operators
	Hand protection (protective gloves)
	Feet protection (non-slip shoes with reinforced toe cap EN 346)
	Body protection (protective clothing)
	Safety harness (fall arrest device) **(see sect. 9.1)**
	Head protection (helmet with chinstrap EN 397)
	Hearing protection (ear muffs)
	Eye protection (protective visor)

TAB. 27 *(Personal protective equipment - PPE)*

9.1 FALL ARREST DEVICE

⚠ DANGER

IT IS MANDATORY THAT OPERATORS AUTHORISED TO USE THE WORK PLATFORM TO WEAR A SUITABLE FALL ARREST DEVICE THAT IS CONNECTED TO THE ANCHORAGE POINTS.

⚠ DANGER

IT IS MANDATORY TO USE A CE-MARKED FALL ARREST DEVICE.

The work platform has two anchorage points for connecting a fall arrest device. Each anchorage point is designed to withstand a static stress of **6 kN**.

A fall arrest device consists of a full body harness conforming to Standard EN 361, fitted with a chest and/or back harness and an adjustable fall arrest or positioning lanyard (EN 354/EN 358) and 2 connectors (EN 362) of a shape and size suitable for connection to the end of the lanyard.

The lanyard must be adjusted as short as possible so as to hold the body inside the work platform. This assembly should not be regarded as a fall arrester, however, it prevents falls.

9.1.1 USING FALL ARREST DEVICES

INFORMATION

ALWAYS FOLLOW THE MANUFACTURER'S INSTRUCTIONS WHEN CHECKING, ADJUSTING AND USING THE FALL ARREST DEVICE.

ONLY OPERATORS WHO HAVE RECEIVED PROFESSIONAL TRAINING SHOULD USE THE DEVICE.

9.1.2 INSPECTION AND MAINTENANCE OF ANCHORAGE POINTS

⚠ DANGER

IT IS MANDATORY THAT OPERATORS AUTHORISED TO USE THE WORK PLATFORM CHECK THAT THE ANCHOR POINTS ARE CORRECTLY SECURED BEFORE EACH USE.

Proceed as follows:

1) Set the machine to transport configuration **(see sect. 5.2.2)**

2) Manually check the security of the anchorage points

3) Secure the anchorage points with suitable equipment if necessary

10 WORK STATIONS

Depending on the type of work, authorised operators must only occupy the workstations shown in and described in the table below.

Authorised operators	Work station	Description of service
	**On the four sides of the machine**	To perform extraordinary maintenance **(see sect. 17.5)**
	**On the four sides of the machine**	To perform routine maintenance **(see sect. 17.2)**
	A	Standing in front of the control console on the work platform when: • starting the platform **(see sect. 14.4)** • parking the machine in the work area **(see sect. 14.9)** • stabilising the machine **(see sect. 14.11)** • Opening the elevating work platform **(see sect. 14.13)** • Closing the elevating work platform **(see sect. 14.14)** • Closing the stabilisers **(see sect. 14.16)** • stopping the engine. **(see sect. 14.17)** • carry out an emergency machine stop, if necessary **(see sect. 14.17.3)**
	B	Standing in front of the access ladder to: • climbing onto the work platform **(see sect. 14.12)** • getting down from the work platform **(see sect. 14.15)**
	C	Standing in front of the stabiliser controls when: • starting the platform **(see sect. 14.4)** • widening or closing the carriage **(see sect. 14.7)** • stabilising the machine **(see sect. 14.11)** • Closing the stabilisers **(see sect. 14.16)**
	D	Standing on the right when: • levelling the elevating work platform **(see sect. 14.18)** • lowering the work platform to the ground in case of hydraulic failure **(see sect. 14.19.1)** • lowering the work platform to the ground in case of hydraulic or power failure **(see sect. 14.19.2)**
	E	Standing on the left when: • starting the platform **(see sect. 14.4)** • stopping the engine. **(see sect. 14.17)** • carry out an emergency machine stop, if necessary **(see sect. 14.17.3)** • levelling the elevating work platform **(see sect. 14.18)** • lowering the work platform to the ground in case of hydraulic failure **(see sect. 14.19.1)** • lowering the platform to the ground in the event of an emergency stop or if the load limiter has been activated **(see sect. 14.19.4)**
	F	Standing on the left with the traction control panel when: • moving the platform **(see sect. 14.8)** • carry out an emergency machine stop, if necessary **(see sect. 14.17.3)**
	G	Standing on the left with the traction control panel when: • starting the platform **(see sect. 14.4)** • stopping the engine. **(see sect. 14.17)** • Manual traction recovery in case of control panel breakdown **(see sect. 14.19.3)**

TAB. 28 *(Work stations)*

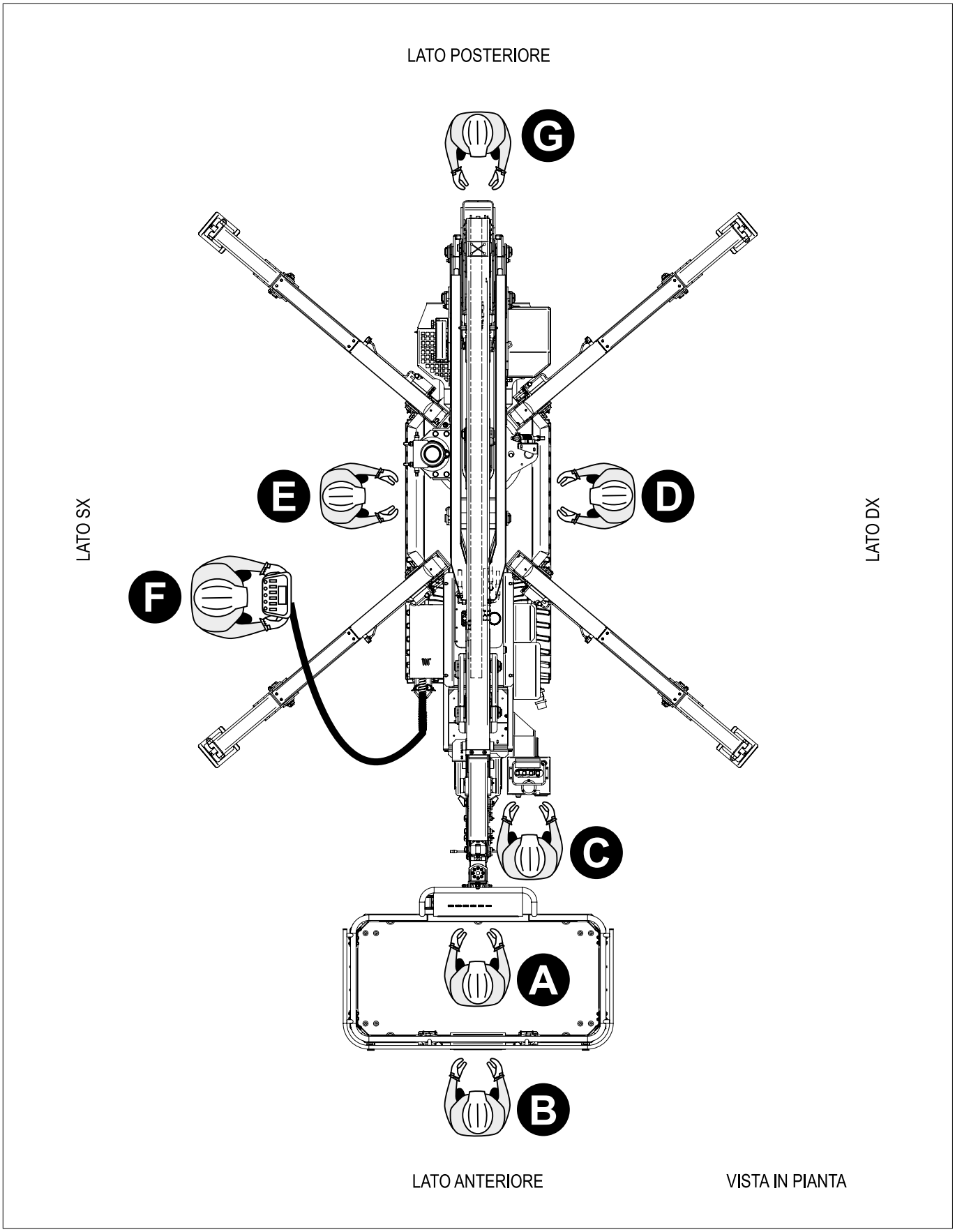


FIG. 21 *(Work stations)*

11 TRANSPORT AND MOVEMENT

Generally, the machine is collected from the Manufacturer's premises or transported to the customer's premises by the Manufacturer or by a "specialised transport company", which, using its own personnel and suitable means of transport and in compliance with current regulations, ensures loading, transport and unloading operations depending on the type of transport (by land, sea or air).

11.1 LIFTING

⚠ WARNING

IT IS MANDATORY TO KNOW THE WEIGHT OF THE MACHINE **(SEE SECT. 5.7)** IN ORDER TO USE A SUITABLE MEANS OF TRANSPORT.

IT IS MANDATORY TO KNOW THE MAXIMUM HEIGHT OF THE MACHINE **(SEE SECT. 5.6)** AND THE MEANS OF TRANSPORT IN ORDER TO AVOID IMPACT WITH LOW BUILDINGS, BRIDGES OR POWER LINES DURING TRANSPORT.

IT IS MANDATORY TO ENSURE THAT THE MACHINE IS IN **"TRANSPORT CONFIGURATION" (SEE SECT. 5.2.2)** AND THAT ALL THE RETAINING DEVICES ARE EFFICIENT AND CORRECTLY POSITIONED.

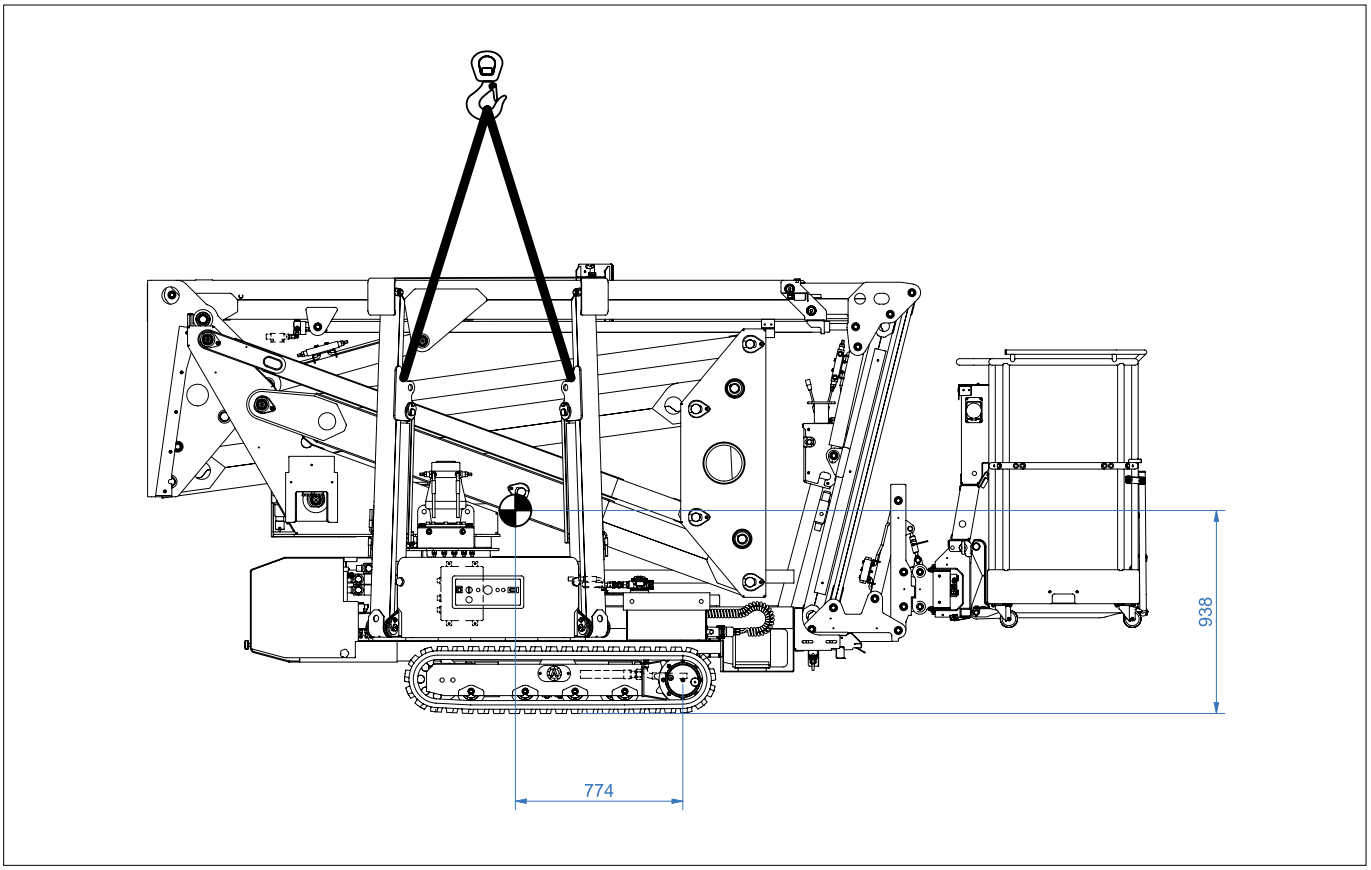


FIG. 22 *Centre of gravity positioning for equipment lifting operations*

11.2 LOADING THE MACHINE ONTO A VEHICLE

All lifting procedures described in section **(see sect. 11.1)**, must be followed carefully before loading the machine.

- Never lift the platform by its boom when loading the machine onto the truck.
- Use the appropriate hooks on the stabilisers to lift the platform.
- Ensure that the lifting equipment has an adequate capacity for the load to be lifted and handled.

11.3 LOADING THE MACHINE ONTO A VEHICLE USING RAMPS

⚠ DANGER

ALWAYS USE ACCESS RAMPS OF ADEQUATE SIZE AND CAPACITY. THE LENGTH OF THE RAMPS MUST BE SUCH AS TO GUARANTEE A MAXIMUM INCLINE OF 15%.

⚠ DANGER

WHEN LOADING THE PLATFORM ONTO A VEHICLE USING RAMPS, THE OPERATOR MUST CONTROL THE MACHINE, MAINTAINING A MINIMUM DISTANCE OF 3 METRES FROM THE PLATFORM.

⚠ DANGER

IT IS PROHIBITED FOR ANYONE TO REMAIN ON THE PLATFORM WHILE IT IS BEING LOADED ONTO A VEHICLE USING RAMPS.

Loading procedure:

- Install the ramps and secure them with the locking pins;
- Move the machine forwards and stop as soon as the tracks are fully positioned on the ramps.

Unloading procedure:

- Repeat the operations performed for going up, but in reverse.

11.4 BLOCKING ON TRUCK OR TRANSPORT TRAILER

Read carefully all the lifting instructions **(see sect. 11.1)** before loading the machine.

- Set the key switch to 'off' and remove the key before transport.
- Check the entire machine for loose or unblocked components.
- Use chains or securing devices rated for heavy loads.
- Use at least 4 chains or 4 load securing devices.
- Adjust the load securing devices to prevent damage

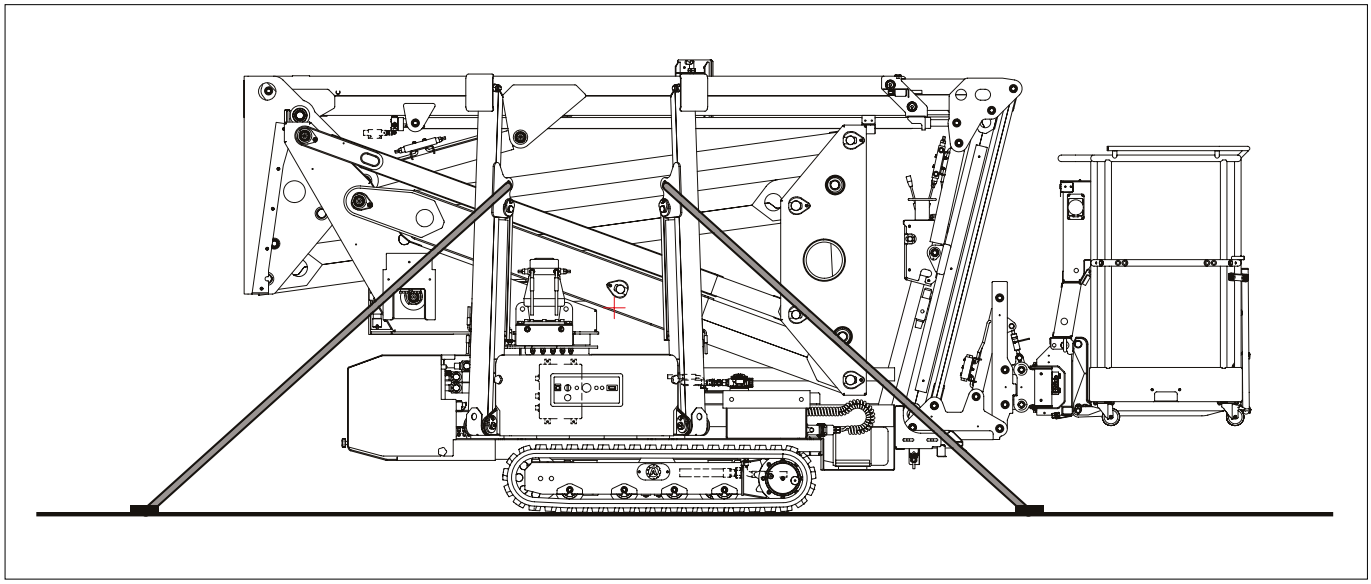


FIG. 23 *Centre of gravity positioning for equipment lifting operations*

11.5 DESCRIPTION OF THE SUPPLY

The scope of supply includes:

1 Machine
1 Instruction Manual for the machine
1 Inspection logbook

TAB. 29 *(Description of the supply)*

INFORMATION
IF THE MACHINE IS DAMAGED OR FAULTY ON DELIVERY, CONTACT THE MANUFACTURER AND DO NOT USE IT.

12 STORAGE

12.1 SHORT-TERM STORAGE

If you are going to leave the machine unused for a short period of time (less than 15 days), you should:
1) Clean the machine.
2) Park the machine in a dry, sheltered area.
3) Remove the keys from the mobile elevating work platform (MEWP) to prevent unauthorised use.
4) If the machine is fitted with a battery isolator switch, disconnect the battery.

12.2 PRECAUTIONS BEFORE STORAGE

If the machine is to be left unused for a long period of time, it is necessary to:
1) Clean the machine
2) Park the machine in a dry covered place
3) Grease the mechanical parts
4) Protect the machine with a tarpaulin to prevent the accumulation of dust
5) Disconnect the battery power cable

⚠ WARNING

IT IS MANDATORY, DURING STORAGE, TO PROTECT THE MACHINE FROM ATMOSPHERIC AGENTS SUCH AS BAD WEATHER, SUNLIGHT AND DUST.

12.2.1 CHECKS AFTER A PERIOD OF STORAGE

⚠ WARNING

IT IS MANDATORY, AFTER A STORAGE PERIOD OF **MORE THAN 90 DAYS** TO CONTACT AN AUTHORISED CTE SERVICE CENTRE TO CARRY OUT THE QUARTERLY INSPECTION.

INFORMATION

IF THE MACHINE IS DAMAGED OR FAULTY, CONTACT THE MANUFACTURER AND DO NOT USE IT.

13 INSTALLATION

INFORMATION

INSTALLATION OF THE MACHINE MEANS PARKING **(SEE SECT. 14.9)** AND DELIMITING THE WORK AREA **(SEE SECT. 14.10)**.

14 USE OF THE MACHINE

14.1 CHECKS AND OPERATIONS BEFORE STARTING

⚠ DANGER

BEFORE USING THE MACHINE, IT IS MANDATORY THAT AUTHORISED OPERATORS READ AND ARE SURE THAT THEY HAVE UNDERSTOOD ALL PARTS OF THIS MANUAL.

⚠ WARNING

IT IS ESSENTIAL TO CARRY OUT THE CHECKS AND OPERATIONS IN **TAB. 30** EACH TIME BEFORE STARTING THE MACHINE.

INFORMATION

IF THE MACHINE IS DAMAGED OR FAULTY, CONTACT THE MANUFACTURER AND DO NOT USE IT.

Ref.	Inspections and operations
1	Ensure that there are no unauthorised persons in the vicinity of the machine
2	Ensure that the machine is intact in all its parts. If not, contact the manufacturer
3	Ensure that the guards and protection devices are intact and function correctly **(see chapt. 6)**
4	Check for any alarms **(see sect. 15.2)**
5	Make sure that the **"Emergency stop" buttons (see sect. 14.17.3)** are not engaged
6	Check for possible oil leaks from the pipes
7	Check the level in the fuel tank of the engine **(see sect. 14.2)**
8	Make sure that the work platform and telescopic boom are fully retracted
9	Check that the stabilisers are fully retracted
10	Check the hydraulic oil level in the tank **(see sect. 17.2)**
11	Check that the anchorage points on the work platform are properly secured **(see sect. 9.1.2)**
12	Make sure that routine maintenance has been carried out after the last use **(see sect. 17.2)**

TAB. 30 *(Checks and operations before starting)*

14.2 FILLING THE FUEL TANK OF THE ENGINE

⚠ WARNING

IT IS PROHIBITED TO FILL THE FUEL TANK WITH THE MACHINE IN OPERATION.

IT IS PROHIBITED TO USE NAKED FLAMES, SMOKE OR POUR FUEL ONTO HOT PARTS, WHILE FILLING THE TANK WITH FUEL.

⚠ WARNING

IT IS MANDATORY TO WEAR THE PERSONAL PROTECTIVE EQUIPMENT PROVIDED.

⚠ CAUTION

MAKE SURE THAT NO FOREIGN BODIES ENTER THE TANK WHILE IT IS BEING FILLED.

From workstation C (see chapt. 10).

1) Make sure that machine is set to **"safety state" (see sect. 5.2)**

2) Unscrew the fuel tank cap **(FIG. 24 - Ref. 1)** and remove it

3) Using suitable equipment (tank, hose, funnel, etc.) add the correct fuel (petrol or diesel depending on the version of the platform) until the tank is full, taking care not to overfill it.

4) Screw the cap back on

⚠ CAUTION

THOROUGHLY CLEAN UP ANY FUEL SPILT WHILST REFUELLING.

ONLY REFUEL OUTDOORS OR IN WELL-VENTILATED AREAS.

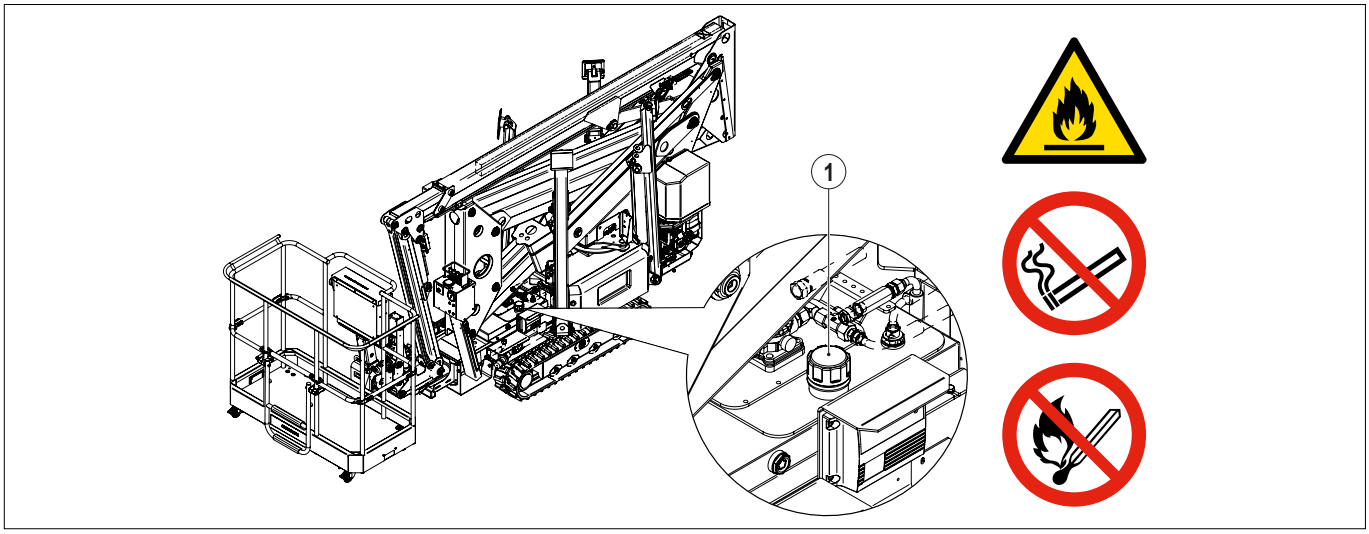


FIG. 24 *(Filling the fuel tank)*

14.3 RECHARGING THE STARTER BATTERY

While using the elevating work platform, the starter battery is recharged using the endothermic engine or the electric pump powered by an external power supply.

14.4 START-UP

14.4.1 STARTING WITH THE ENGINE

⚠ DANGER

BEFORE STARTING THE MACHINE, IT IS MANDATORY TO READ AND BE SURE YOU HAVE UNDERSTOOD ALL PARTS OF THIS MANUAL.

⚠ WARNING

IT IS ESSENTIAL TO CARRY OUT THE CHECKS AND OPERATIONS IN **SECT. 14.1** EACH TIME BEFORE STARTING THE MACHINE.

From workstation C (see chapt. 10).

1) Make sure that the control selector switch **(FIG. 25 - Ref. 5)** is rotated anticlockwise. In the central position, the platform does not start.

From workstation E (see chapt. 10).

2) Make sure that the control selector switch **(FIG. 25 - Ref. 6)** is rotated anticlockwise. Turning the selector to the left activates the controls for normal operation.

From workstation G (see chapt. 10).

3) Enable the electrical circuit by turning the key selector switch on the battery disconnect panel **(FIG. 25 - Ref. 1)** clockwise

4) Turn the endothermic engine start selector **(FIG. 25 - Ref. 3)** clockwise, to the second position, to enable the engine **(Diesel engine only)**

5) Start the engine in one of the following ways:

- **From workstation G (see chapt. 10)**.
  Turn and hold the endothermic engine start selector **(FIG. 25 - Ref. 2)** clockwise, in the third position, until the engine starts **(Diesel engine only)**

- **From workstation A (see chapt. 10)**.
  Move and hold the **"ENGINE"** selector on the work platform control panel upwards to **"START ENGINE" (FIG. 25 - Ref. 3)**.

- **From workstation E (see chapt. 10)**.
  Press the power button **(FIG. 25 - Ref. 4)** located in the ground control panel

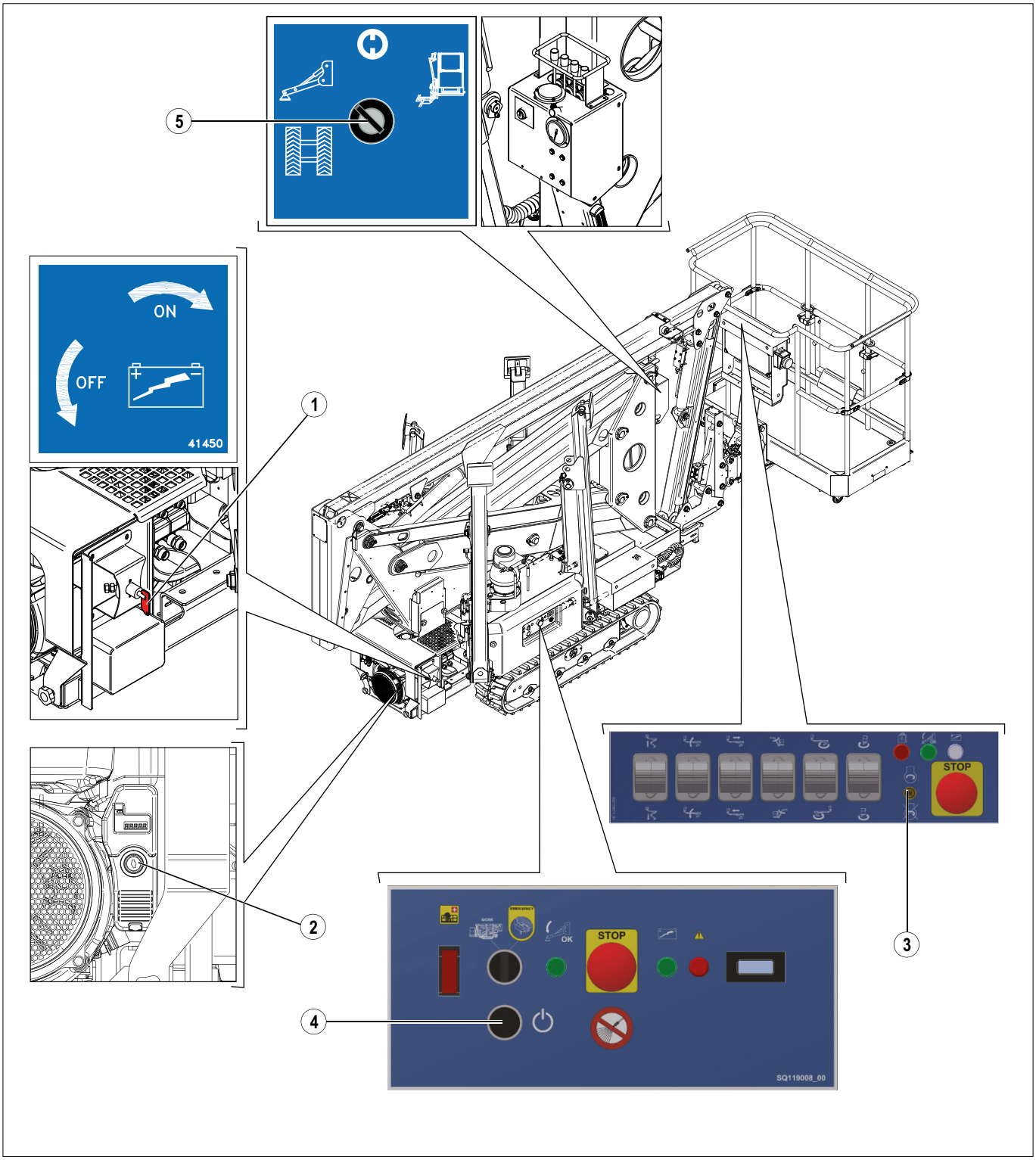


FIG. 25 *(Starting with the engine)*

14.4.2 STARTING WITH THE ELECTRIC MOTOR

⚠ WARNING

BEFORE STARTING THE MACHINE WITH THE ELECTRIC MOTOR, SWITCH OFF THE ENDOTHERMIC ENGINE BY TURNING THE SELECTOR **(FIG. 25 - REF. 2)** CLOCKWISE.

⚠ DANGER

IT IS MANDATORY TO CHECK THAT THE ELECTRICAL CHARACTERISTICS OF THE MAINS (VOLTAGE, PHASES, FREQUENCY, POWER) ARE COMPATIBLE WITH THE EQUIPMENT AND ACCESSORIES USED.

⚠ WARNING

IT IS MANDATORY THAT THE MACHINE BE STABILISED AT THE PLACE OF USE BEFORE MAKING THE AUXILIARY ELECTRICAL CONNECTION.

⚠ WARNING

ANY ELECTRICAL EQUIPMENT USED FOR THE CONNECTION MUST BE SUITABLE FOR USE, "CE" MARKED (IF SUBJECT TO THE LOW VOLTAGE DIRECTIVE 2006/95/EC) AND MUST MEET THE REQUIREMENTS OF THE REGULATIONS IN FORCE IN THE COUNTRY WHERE THE MACHINE IS PUT IN SERVICE.

⚠ CAUTION

THE MANUFACTURER DECLINES ALL LIABILITY FOR FAILURES OR FAULTS IN THE OPERATION OF THE MACHINE CAUSED BY ELECTRICAL VOLTAGE SHOCKS THAT EXCEED THE TOLERANCES PROVIDED BY THE DISTRIBUTOR (VOLTAGE ±5% - FREQUENCY ±2%).

⚠ DANGER

THE POWER LINE MUST HAVE A MINIMUM RATING OF 16A. RECOMMENDED EXTENSION: 3GX2.5MM² MAX. LENGTH 20 M

INFORMATION

IT IS NOT POSSIBLE TO CARRY OUT TWO MANOEUVRES AT THE SAME TIME WHEN THE 220 V ELECTRIC MOTOR IS USED.

From workstation D (see chapt. 10)

1) Remove the cap **(FIG. 26 - Ref. 1)** from the plug.
2) Connect the auxiliary electrical connection cable to the plug **(FIG. 26 - Ref. 1)** on the machine.
3) Connect the other end of the auxiliary electrical connection cable to the mains power supply

From workstation C (see chapt. 10).
4) Make sure that the control selector switch **(FIG. 25 - Ref. 5)** is rotated anticlockwise

From workstation E (see chapt. 10).
5) Make sure that the control selector switch **(FIG. 25 - Ref. 6)** is rotated anticlockwise. Turning the selector to the left activates the controls for normal operation.

From workstation G (see chapt. 10).
6) Enable the electrical circuit by turning the key selector switch on the battery disconnect panel **(FIG. 25 - Ref. 1)** clockwise
7) Start in one of the following ways:

- **From workstation A (see chapt. 10)**.
  Move and hold the **"ENGINE"** selector on the work platform control panel upwards to **"START ENGINE" (FIG. 25 - Ref. 3)**.
- **From workstation E (see chapt. 10)**.
  Press the power button **(FIG. 25 - Ref. 4)** located in the ground control panel

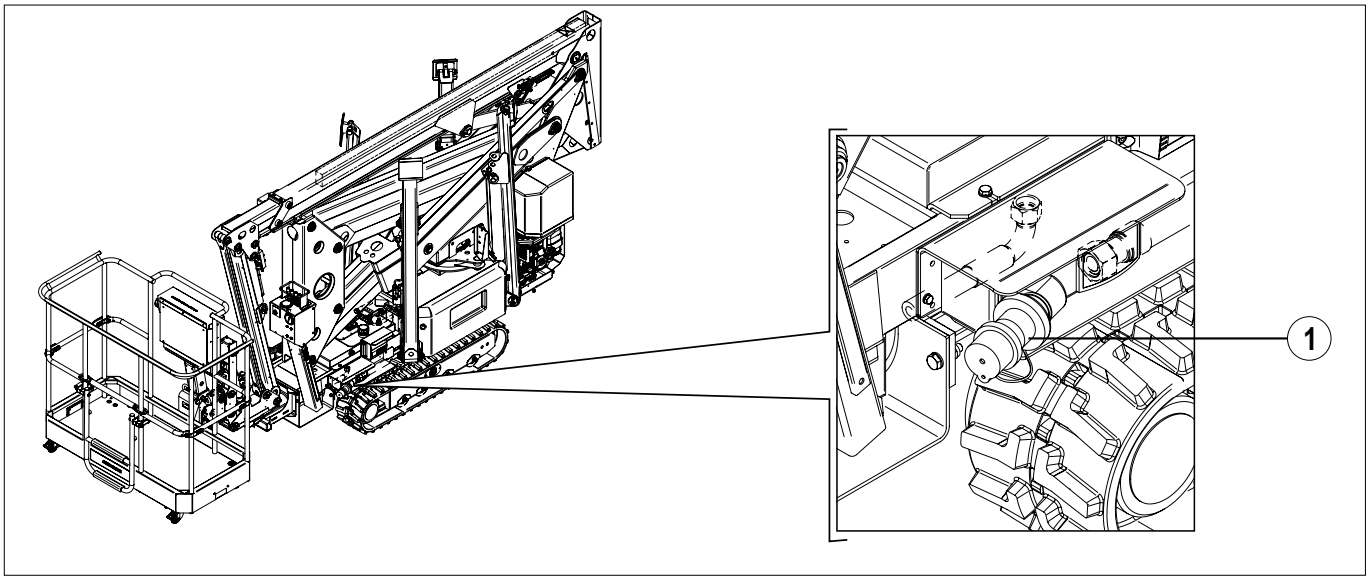


FIG. 26 *(Auxiliary electric connection)*

⚠ WARNING

BEFORE STARTING ANY MANOEUVRE (IN COLD WEATHER), RUN THE HYDRAULIC SYSTEM PUMP AT IDLE SPEED FOR A FEW MINUTES SO THAT THE OIL REACHES THE MINIMUM WORKING TEMPERATURE (ABOUT 40°C) TO ALLOW IT TO FLOW CORRECTLY.

14.5 DRIVING ON THE ROAD

⚠ DANGER

THIS ELEVATING WORK PLATFORM IS MOUNTED ON A TRACKED VEHICLE THAT IS NOT APPROVED FOR USE ON ROADS.

14.6 CHECKS AND OPERATIONS BEFORE PARKING IN THE WORK AREA

Ref.	Inspections and operations
1	Check and evaluate the work area safety conditions (ground, wind, level, etc.)
2	Check for any obstacles and/or overhead lines that may restrict the use of the machine in the work area

TAB. 31 *(Checks and operations before parking in the work area)*

14.7 EXTENDING OR RETRACTING THE CARRIAGE

⚠ WARNING

THE CARRIAGE SHOULD BE RETRACTED WITH THE PLATFORM STABILISED IN ORDER TO AVOID DAMAGE TO THE TRACKS. ONCE THIS HAS BEEN DONE, IT IS RECOMMENDED THAT YOU EXTEND THE CARRIAGE AGAIN BEFORE MOVING THE PLATFORM.

From workstation C (see chapt. 10).
1) Insert the key into the selector switch on the control console and turn the selector anticlockwise **(FIG. 27 - Ref. 1)**;
2) Stabilise the work platform as described in **sect. 14.11**;
3) Keep the control lever in the down position **(FIG. 26 - Ref. 2)** to extend the carriage tracks (minimum width: 791 mm);
4) Keep the control lever in the up position **(FIG. 26 - Ref. 1)** to narrow the carriage tracks (maximum width: 1067 mm).

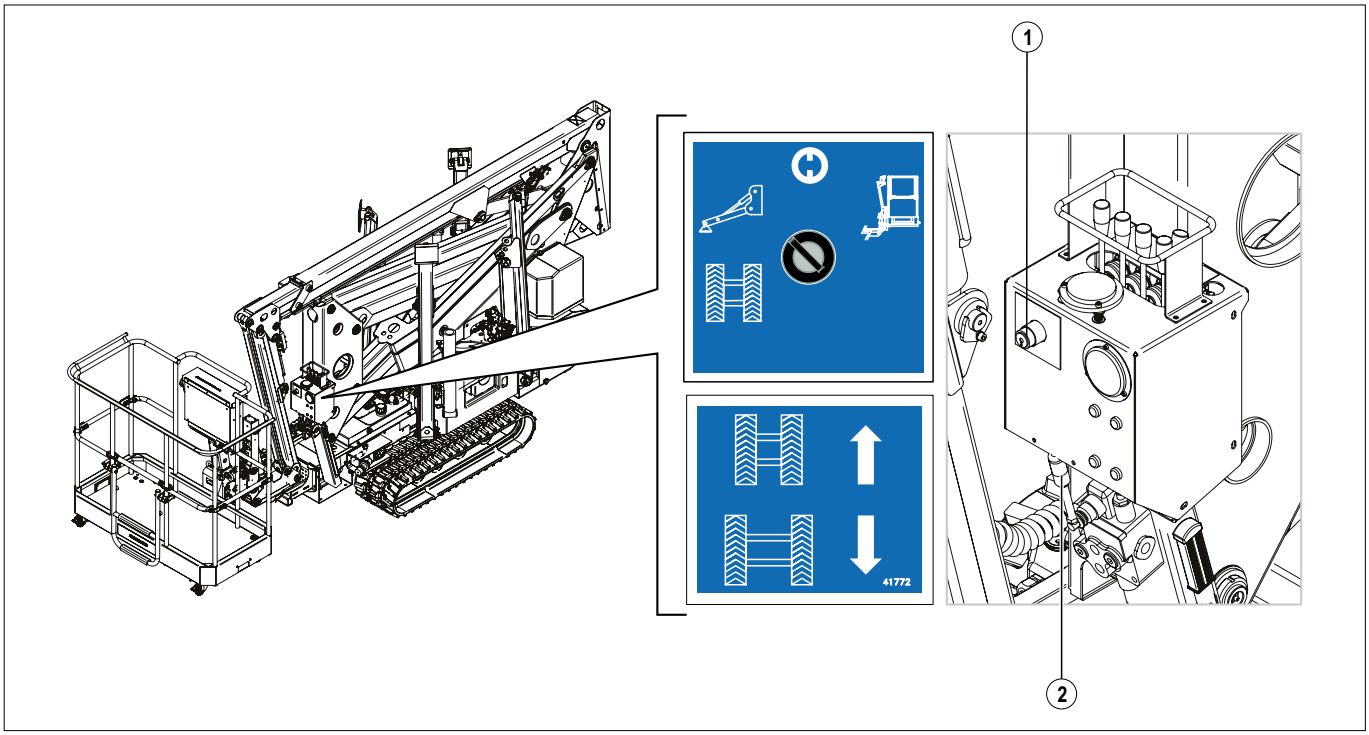


FIG. 27 *(Extending or retracting the carriage)*

14.7.1 CLOSING THE CARRIAGE

To close the carriage again, you need to:
1) Lift the carriage by lowering the stabilisers until the tracks are fully lifted from the ground.
2) Close the carriage by moving the carriage extension lever **(FIG. 26 - Ref. 1)** upwards until it is fully closed.
3) Close the stabilisers.

14.8 MOVING THE MACHINE

14.8.1 MOVING THE MACHINE USING THE MOBILE CONTROL CONSOLE

Refer to section **sect. 5.15.5** for detailed information on operating the control unit.

⚠ WARNING

IF NECESSARY, THE JIB CAN BE OPENED WHILE THE PLATFORM IS BEING MOVED FROM THE GROUND.

⚠ DANGER

THERE MUST NOT BE ANYONE ON THE PLATFORM WHILST IT IS BEING MOVED FROM THE GROUND.

⚠ WARNING

DURING TRAVEL THE OPERATOR MUST BE AT LEAST 3M AWAY FROM THE PLATFORM.

ALWAYS USE ACCESS RAMPS OF ADEQUATE SIZE AND CAPACITY.

THE RAMPS MUST ALSO HAVE A MAXIMUM SLOPE OF 15°.

GO UP AND DOWN WITH THE WORK PLATFORM DOWNSTREAM.

From workstation C (see chapt. 10).

1) Make sure that the control selector switch **(FIG. 25 - Ref. 5)** is rotated anticlockwise

From workstation E (see chapt. 10)

2) Turn the selector switch on the ground control panel **(FIG. 28 - Ref. 1)** anticlockwise to enable "Platform controls".

3) Press and hold the button **(FIG. 28 - Ref. 5)** until it switches on.

From workstation F (see chapt. 10)

4) Remove the mobile traction control panel from the compartment.

5) Use the levers **(FIG. 28 - Ref. 2 and 3)** on the traction control panel to move the platform, ensuring you maintain a minimum distance of 3 metres and check for obstacles along the route**.**

6) Adjust the travel speed using the selector **(FIG. 28 - Ref. 4).**

7) When you reach the work area, return the traction control panel to the appropriate compartment.

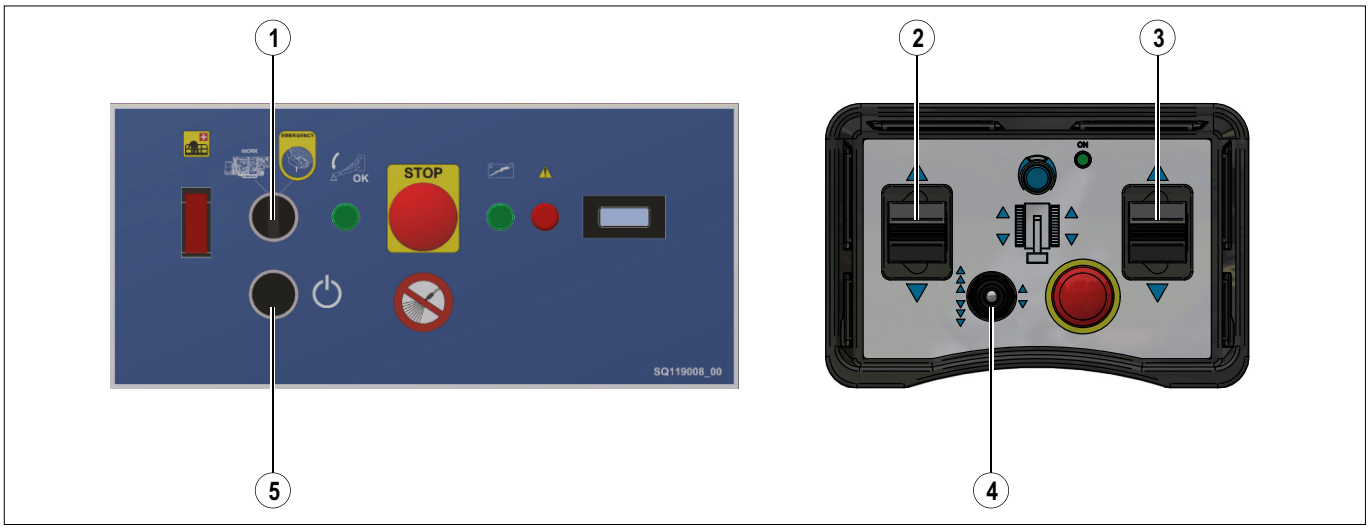


FIG. 28 *(Moving the machine from the mobile control console)*

14.9 PARKING THE MACHINE IN THE WORK AREA

From workstation A (see chapt. 10)

Park the machine in a suitable area.

⚠ DANGER

IT IS FORBIDDEN TO PARK THE MACHINE ON ESCAPE ROUTES, EMERGENCY ROUTES, PEDESTRIAN WALKWAYS AND TRANSIT ROUTES.

IT IS FORBIDDEN TO PARK THE MACHINE IN SUCH A WAY THAT IT OBSTRUCTS THE VISIBILITY OF LIGHTS AND SIGNS.

IT IS FORBIDDEN TO PARK THE MACHINE IN THE OPERATING AREA OF OTHER EQUIPMENT.

IT IS FORBIDDEN TO PARK THE MACHINE ON SURFACES THAT TRANSMIT VIBRATIONS AND IN ENVIRONMENTS WHERE THERE IS A DANGER OF IMPACT WITH OTHER MECHANICAL UNITS.

⚠ WARNING

BEFORE PARKING THE MACHINE IN THE WORK AREA, IT IS ESSENTIAL TO CARRY OUT THE CHECKS AND OPERATIONS IN **SECT. 14.6**.

⚠ CAUTION

IT IS MANDATORY TO PARK THE MACHINE IN SUCH A WAY AS TO ALLOW THE AUTHORISED OPERATOR TO ACCESS THE GROUND CONTROL PANEL AND THE STABILISATION CONTROL PANEL.

14.10 DELIMITATION OF THE WORK AREA

⚠ DANGER

THE WORK AREA MUST BE CORDONED OFF **(SEE SECT. 5.8)** WITH BARRIERS, BOUNDARY STRIPS AND/OR SIGNS.

⚠ DANGER

IT IS FORBIDDEN FOR UNAUTHORISED PERSONS TO ENTER THE WORK AREA.

14.11 STABILISING THE ELEVATING WORK PLATFORM (MEWP)

⚠ WARNING

DO NOT STABILISE THE PLATFORM IF ONE OR MORE LIGHTS COME ON BEFORE THE STABILISERS REACH THE GROUND, THIS INDICATES THAT THERE IS A FAULT WITH THE STABILISER LIMIT SWITCHES.

⚠ WARNING

BEFORE CARRYING OUT THE STABILISATION PROCEDURE, ENSURE THAT THE JIB IS FULLY CLOSED AND THAT THE PLATFORM CLOSED LED **(FIG. 29 - REF. 3)** IS LIT.

From workstations A, C (see chapt. 10)

1) Climb onto the work platform **sect. 14.12** and check that the gate is properly closed.
2) Check that the controls are in the stabilisers/ traction position **(FIG. 29 - Ref. 1)**.
3) Ensure that the stabiliser light **(FIG. 29 - Ref. 3)** is not lit: This would indicate a malfunction in the stabiliser limit switches.

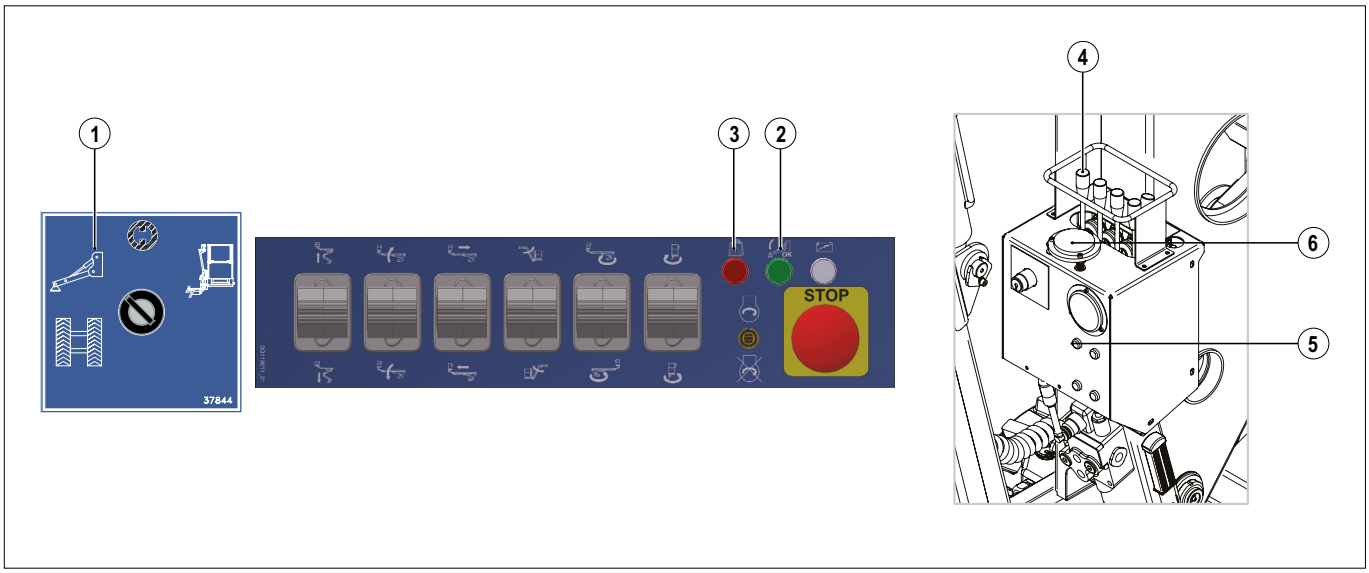


FIG. 29 *(Stabilising the elevating work platform (MEWP))*

4) Lower the stabilisers by operating the proportional levers in turn **(FIG. 29 - Ref. 4)**. Moving the levers upwards retracts the stabilisers, while moving them downwards extends them.
5) Fully extend the stabilisers in order to lift the platform;
6) Check that the lights are on **(FIG. 29 - Ref. 5)**.
7) Look at the spirit level on the chassis and use the stabiliser levers to level the platform correctly. The machine is perfectly level when the bubble in the spirit level is at the centre (0°).
8) Check that the light **(FIG. 29 - Ref. 3)** indicating consent for superstructure manoeuvres has come on. If you have the optional inclinometer see **sect. 20.3**:

- Flashing light: stabilisers on the ground but machine not levelled
- Fixed light: machine levelled.

⚠ WARNING

THE INDICATOR LIGHTS **(FIG. 29 - REF. 5)** COMING ON DOES NOT MEAN THAT THE MACHINE HAS BEEN PROPERLY STABILISED. THIS IS ONLY INDICATED BY THE LEVELLING SPIRIT LEVEL **(FIG. 29 - REF. 6)**.
BEFORE GETTING ONTO THE PLATFORM, MAKE SURE THAT THE MACHINE IS PROPERLY STABILISED: CARRIAGE LIFTED AND LEVEL, RESTING ON SUITABLY FIRM GROUND. IF THE GROUND IS NOT FIRM ENOUGH TO WITHSTAND THE WEIGHT, USE PLANKS THAT ARE SUITABLE FOR THE PURPOSE AND THAT HAVE BEEN CHECKED BEFORE USE.

14.12 CLIMBING ONTO THE WORK PLATFORM

From workstation B (see chapt. 10)
Climb onto the work platform as follows:
1) Rotate the upper safety lever **(FIG. 30 - Ref. 1)** which secures the access ladder to the work platform
2) Rotate the access ladder **(FIG. 30 - Ref. 2)** towards the outside of work platform
3) Rotate the lower safety lever **(FIG. 30 - Ref. 3)** to secure the access ladder
4) Carefully climb the access ladder
5) Lift the sliding rail of the work platform **(FIG. 30 - Ref. 4)**

From workstation A (see chapt. 10)
6) Access the work platform **(FIG. 30 - Ref. 5)** and make sure that you close the sliding rail securely
7) Attach the snap hook of the harness onto one of the anchorage points **(FIG. 30 - Ref. 6)**
8) Rotate the lower safety lever **(FIG. 30 - Ref. 3)** to release the access ladder
9) Rotate the access ladder **(FIG. 30 - Ref. 2)** towards the work platform
10) Rotate the upper safety lever **(FIG. 30 - Ref. 1)** which secures the access ladder to the work platform

⚠ DANGER

IT IS MANDATORY TO WEAR PPE **(SEE CHAPT. 9)** BEFORE CLIMBING ONTO THE WORK PLATFORM.

IT IS MANDATORY TO USE THE ACCESS LADDER AND THE SLIDING RAIL AS THE ONLY ACCESS POINTS TO THE WORK PLATFORM.

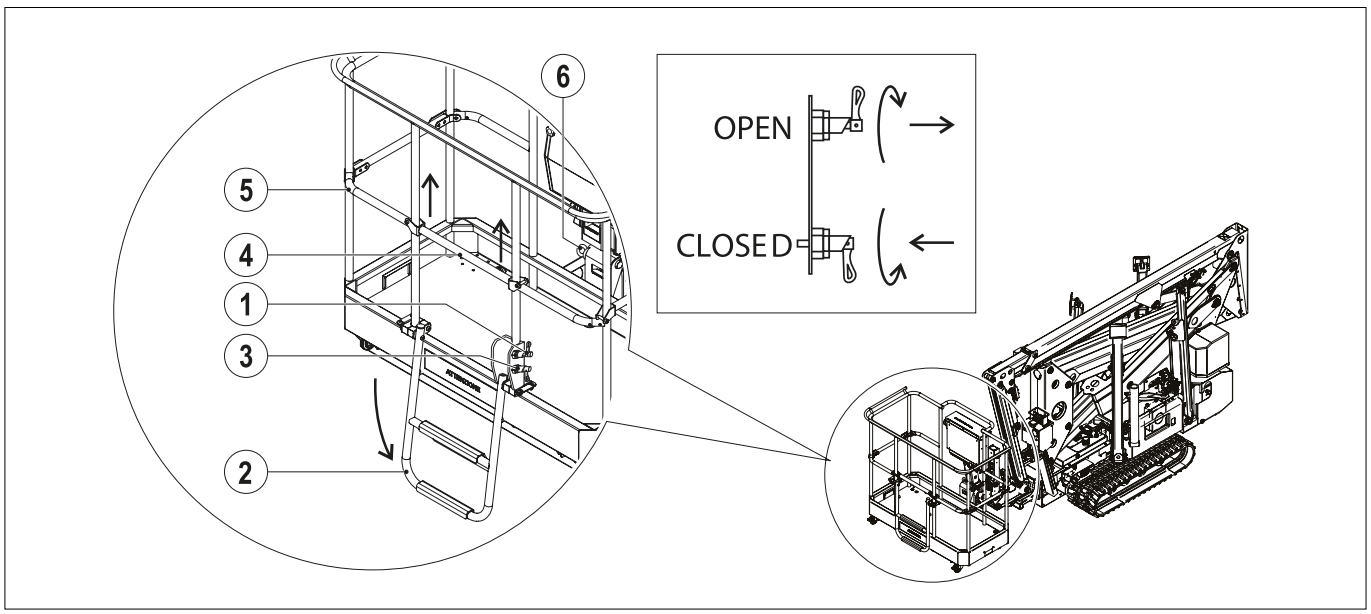


FIG. 30 *(Climbing onto the work platform)*

14.13 OPENING THE ELEVATING WORK PLATFORM (MEWP)

⚠ WARNING

BEFORE MOVING THE PLATFORM, MAKE SURE THAT THE WEIGHT IN THE BASKET IS EVENLY DISTRIBUTED AND THAT IT DOES NOT EXCEED THE MAXIMUM PERMISSIBLE LOAD. A MAXIMUM OF TWO MANOEUVRES CAN BE PERFORMED AT THE SAME TIME.

⚠ WARNING

THE LIFTING OF THE JIB INHIBITS THE STABILISING MOVEMENTS.

⚠ WARNING

FIRST LIFT THE ARTICULATED BOOM.
IT WILL ONLY BE POSSIBLE TO PERFORM ROTATION MANOEUVRES WHEN THE JIB AND THE ARTICULATED BOOM HAVE REACHED THE MINIMUM POSITION.
THE ARTICULATED BOOM MAY ALSO BE LOWERED TO THE GROUND, BETWEEN THE STABILISERS.

⚠ WARNING

AT LEAST ONE PERSON WHO IS QUALIFIED OR TRAINED TO USE THE MACHINE SHOULD BE PRESENT ON THE GROUND WHILST IT IS BEING USED. WHEN THE PLATFORM IS RAISED, MAKE SURE THAT IT DOES NOT COLLIDE WITH FIXED OR MOBILE PARTS. KEEP A SAFE DISTANCE FROM POWER LINES **(SEE SECT. 8.1)**.

⚠ WARNING

THE RED **"OVERLOAD"** LIGHT INDICATES THAT THE WORK PLATFORM IS OVERLOADED. AN ACOUSTIC SIGNAL IS EMITTED FOR A FEW SECONDS AND, AT THE SAME TIME, ALL PLATFORM MOVEMENTS ARE STOPPED. ONCE THE EXCESS LOAD HAS BEEN REMOVED FROM THE PLATFORM, THE CONTROLS WILL BE AVAILABLE AGAIN.

From workstations A (see chapt. 10).

1) Ensure that the platform is stable
2) Insert the key into the selector switch **(FIG. 31 - Ref. 2)** and turn it to the “Work platform” position.
3) Remove the key and take it with you.
4) Check that the light **(FIG. 31 - Ref. 3)** indicating that the control panel on the platform is switched on is lit;
5) Check that the light **(FIG. 31 - Ref. 6)** indicating that the boom can be raised is lit.
6) The first manoeuvre should be to lift the articulated boom so that subsequent manoeuvres are not obstructed by the stabiliser controls (other movements will be inhibited)
7) Move the boom by gradually operating the proportional levers **(FIG. 31 - Ref. 2)**
8) When at height, take care not to hit any fixed or mobile parts with the work platform. Keep a safe distance from power lines. Rotate, lift and lower the boom with caution. Do not lean out from or hold onto the outside of the work platform.
9) You can switch the engine off and on again **(FIG. 31 - Ref. 5)**

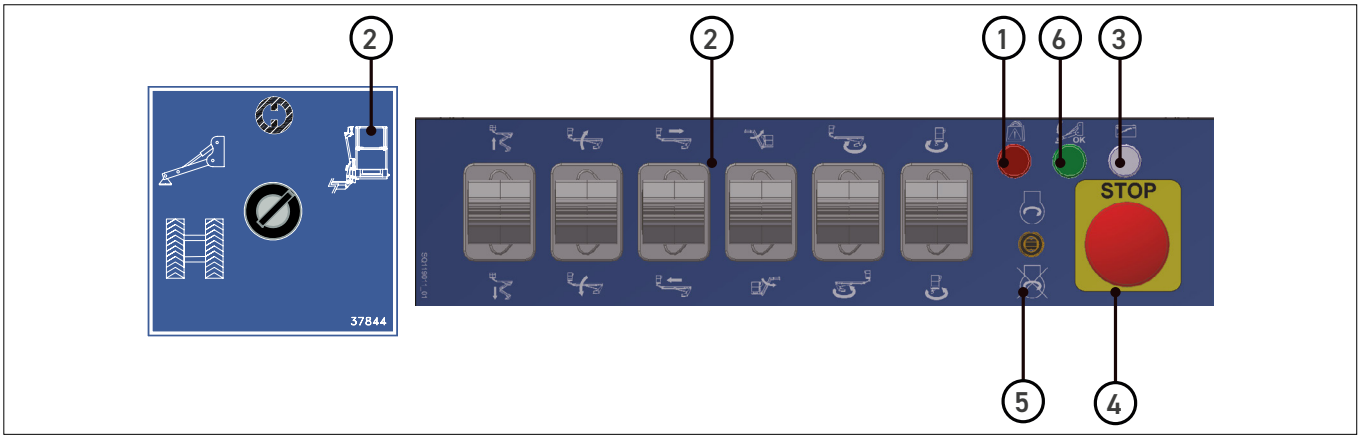


FIG. 31 (*Start-up procedure for the mobile elevating work platform - MEWP into)*

⚠ WARNING

AT LEAST ONE PERSON THAT IS QUALIFIED OR TRAINED TO USE THE MACHINE SHOULD BE PRESENT ON THE GROUND WHILST IT IS BEING USED.

14.14 CLOSING THE ELEVATING WORK PLATFORM (MEWP)

⚠ WARNING

BEFORE MOVING THE PLATFORM, MAKE SURE THAT THE WEIGHT IN THE BASKET IS EVENLY DISTRIBUTED AND THAT IT DOES NOT EXCEED THE MAXIMUM PERMISSIBLE LOAD. A MAXIMUM OF TWO MANOEUVRES CAN BE PERFORMED AT THE SAME TIME.

From work stations A (see chapt. 10).

1) Rotate the basket until it is in a central position (90° to the telescopic boom) **(FIG. 32 - Ref. 4)**
2) Close the telescopic boom extension almost completely **(FIG. 32 - Ref. 3)**
3) Close the jib **(FIG. 32 - Ref. 6)**
4) Lower the telescopic boom until it reaches the stowed position **(FIG. 32 - Ref. 5)**
5) Rotate the platform until it is in a central position so that the red marks line up **(FIG. 32 - Ref. 1)**
6) Close the telescopic boom extension completely **(FIG. 32 - Ref. 3)**
7) Lower the articulated boom until it reaches the stowed position **(FIG. 32 - Ref. 2)**
8) Insert the key into the selector switch on the stabiliser/platform control panel and turn it to the “stabilisers” position **(sect. 5.15.4 - Ref. 6)**
9) Close the stabilisers using the levers
10) Make sure that the stabiliser indicator lights turn off **(sect. 5.15.4 - Ref. 5)**
11) Rotate the key to the “neutral” position in the centre and remove it from the selector switch **(sect. 5.15.4 - Ref. 6)**
12) Carefully get off the work platform using the ladder **(see sect. 14.15)**
13) Visually check that the boom is centred correctly on its rest
14) Check that there is nothing in the work platform

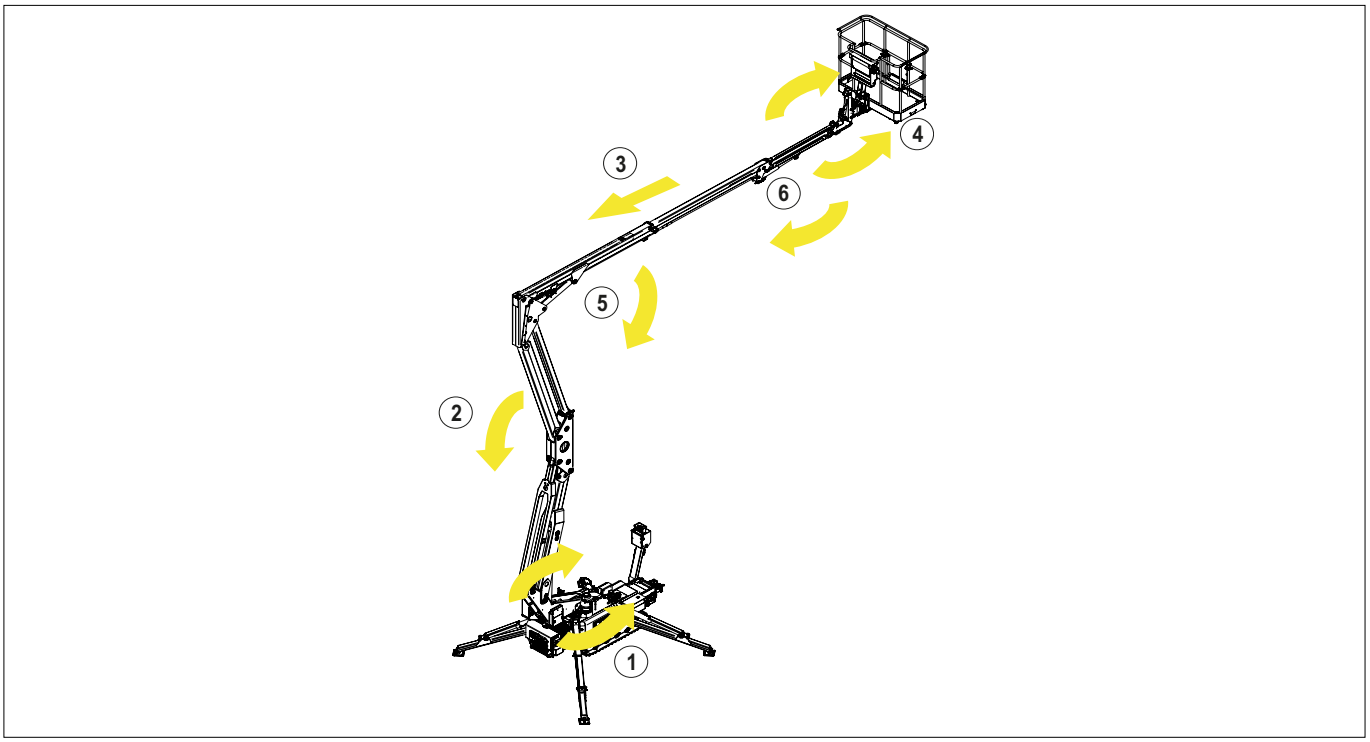


FIG. 32 *(Closing the elevating work platform - MEWP)*

⚠ WARNING

ROTATION MANOEUVRES WILL BE INHIBITED ONCE THE ARTICULATED BOOM IS COMPLETELY CLOSED. ONLY PERFORM THIS MANOEUVRE WHEN THE PLATFORM CENTRE POSITION IS REACHED.

14.15 GETTING DOWN FROM THE WORK PLATFORM

To get down from the work platform. proceed as follows:

From workstation A (see chapt. 10)
1) Rotate the upper safety lever **(FIG. 33 - Ref. 6)** which secures the access ladder to the work platform
2) Rotate the access ladder **(FIG. 33 - Ref. 4)** towards the outside of work platform
3) Rotate the lower safety lever **(FIG. 33 - Ref. 5)** to secure the access ladder
4) Unhook the snap hook of the harness from the anchorage points **(FIG. 33 - Ref. 1)**
5) Lift the sliding rail **(FIG. 33 - Ref. 2)** and descend from the work platform **(FIG. 33 - Ref. 3)**
6) Carefully go down the access ladder **(FIG. 33 - Ref. 4)**

From workstation B (see chapt. 10).
7) Make sure that the sliding rail has been lowered
8) Rotate the lower safety lever **(FIG. 33 - Ref. 5)** to release the access ladder
9) Rotate the access ladder towards the work platform
10) Rotate the upper safety lever **(FIG. 33 - Ref. 6)** which secures the access ladder to the work platform

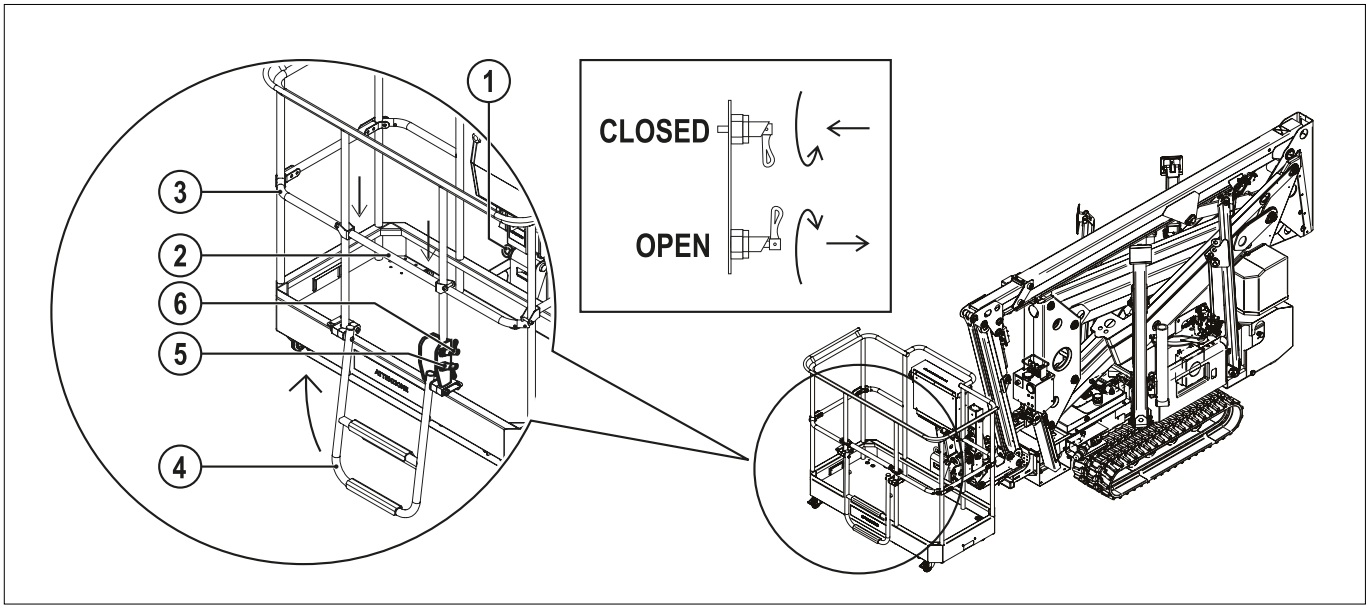


FIG. 33 *(Getting down from the work platform)*

14.16 CLOSING THE STABILISERS

From workstations A, C (see chapt. 10).
1) Make sure that all the stabiliser indicator lights are illuminated **(FIG. 34 - Ref. 5)**
2) Retract the stabilisers by moving the levers upwards one by one **(FIG. 34 - Ref. 4)**;
3) Make sure that the stabiliser indicator lights turn off **(FIG. 34 - Ref. 5)**

INFORMATION
IF ONE OR MORE INDICATOR LIGHTS ARE OFF, IT MEANS THAT THERE IS A FAULT WITH THE STABILISER LIMIT SWITCHES.

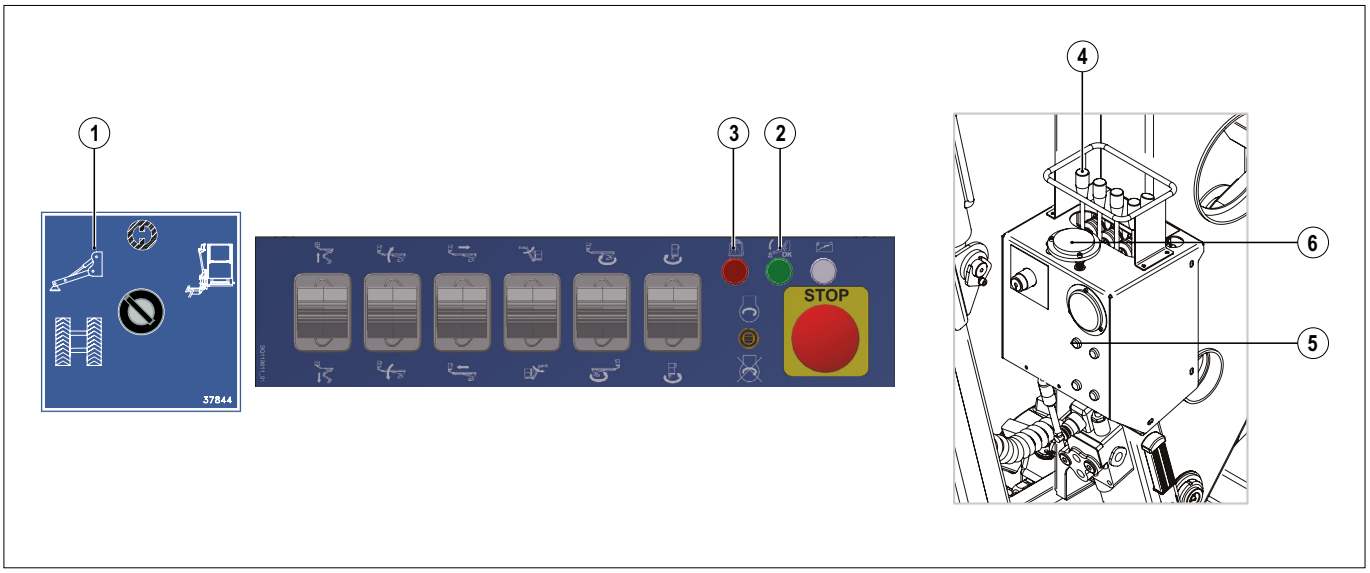


FIG. 34 *(Stabilising the elevating work platform - MEWP)*

14.17 STOPPING

14.17.1 STOPPING THE ENGINE

1) From workstation G (see chapt. 10).
Switch off the endothermic engine by turning the selector on the endothermic engine control panel to the first position **(FIG. 17 - Ref. 1) (Diesel engine only)**

From the workstation A (see chapt. 10)
Switch off the endothermic engine by keeping the selector **(FIG. 31 - Ref. 5)** on the control console in the work platform in the down position.

From the workstation E (see chapt. 10).
2) Disable the electronics by turning the key selector switch on the battery disconnect panel anticlockwise (OFF) **(FIG. 10 - Ref. 1)**.
3) Remove the key and take it with you

14.17.2 STOPPING THE ELECTRIC MOTOR

From workstation E (see chapt. 10).
1) Disable the electrical circuit by turning the selector switch on the battery disconnect panel anticlockwise (OFF) **(FIG. 25 - Ref. 1)**
2) Remove the key and take it with you

From workstation A (see chapt. 10).
1) Keep the selector **(FIG. 31 - Ref. 5)** on the control console in the down position.
2) From workstation E (see chapt. 10).
Disable the electrical circuit by turning the selector switch on the battery disconnect panel anticlockwise (OFF) **(FIG. 10 - Ref. 1)**
3) Remove the key and take it with you

14.17.3 EMERGENCY STOP

Refer to section **sect. 5.15.10** for detailed information on operating the emergency stop buttons.

From workstations A, E, F (see chapt. 10).
In order to manage any dangerous situations that may arise suddenly, authorised operators must:
1) Press the **"Emergency Stop"** button as quickly as possible.
The buttons are positioned:
- On the control console on the work platform
- On the emergency ground control console
- On the traction control console

2) Report the emergency to the Supervisor **(see sect. 2.4)**

⚠ DANGER

AFTER PRESSING THE **"EMERGENCY STOP"** BUTTON AND REPORTING THE EMERGENCY TO THE SUPERVISOR, IT IS MANDATORY TO REFRAIN FROM ANY OPERATION ON THE MACHINE UNTIL THE SUPERVISOR'S AUTHORISATION IS RECEIVED.

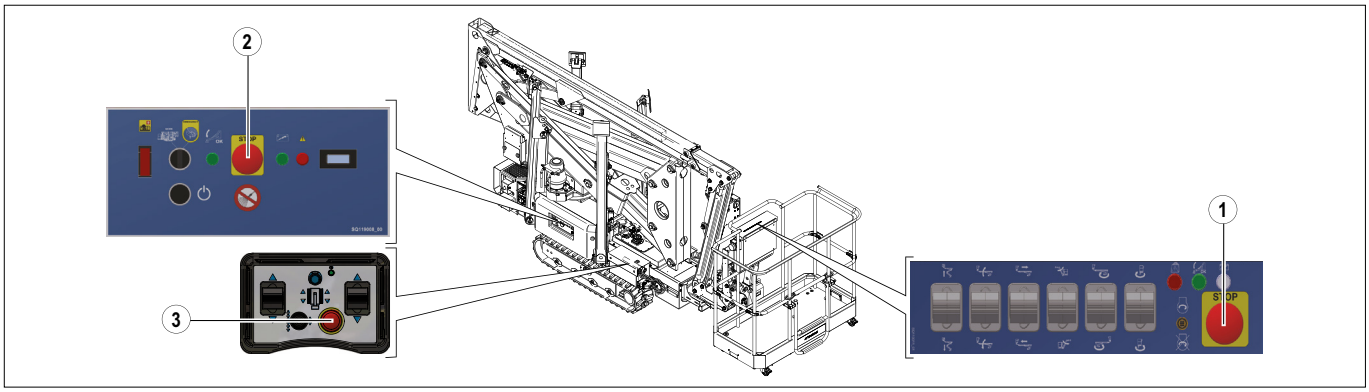


FIG. 35 *(Emergency stop)*

14.17.4 RESTORING OPERATION AFTER AN EMERGENCY STOP

Once the causes of the emergency have been removed and the absence of damage and/or faults in the machine has been verified, obtain the authorisation of the Supervisor to proceed as follows:

1) Carry out the pre-start checks **(see sect. 14.1)**

2) Release the “Emergency stop” button by turning it clockwise

3) Carry out the start-up **(see sect. 14.4)**

14.18 LEVELLING THE ELEVATING WORK PLATFORM (MEWP)

⚠ DANGER

IT IS STRICTLY PROHIBITED FOR PERSONNEL TO REMAIN INSIDE THE BASKET WHILE LEVELLING OPERATIONS ARE TAKING PLACE.

⚠ DANGER

IT IS PROHIBITED TO USE THE TELESCOPIC SWING DURING BASKET LEVELLING OPERATIONS.

⚠ WARNING

IF YOU NOTICE THAT THE WORK PLATFORM IS NOT PERFECTLY HORIZONTAL, LOWER IT TO THE GROUND AND GET OFF. RESTORE THE LEVEL OF THE PLATFORM IMMEDIATELY.

⚠ CAUTION

IT IS MANDATORY TO CONTACT AN AUTHORISED CTE SERVICE CENTRE TO HAVE A SEAL INSTALLED ON THE VALVES

From workstations D, E (see chapt. 10)

Level the elevating work platform as follows:

4) Turn the selector switch **(FIG. 34 - Ref. 1)** to the “Emergency controls” position**.**

5) Remove the protective casing from solenoid valve on the turret**.**

6) Press and hold the knob of the valve that controls the lifting of the articulated boom **(FIG. 36 - Ref. 2)** while simultaneously operating the speed control lever (P) **(FIG. 36 - Ref. 3)**, until the enclosure has been raised by at least half a metre. Refer to the sticker to identify the correct valve.

7) Press and hold the knob of the valve that controls the lifting of the jib **(FIG. 36 - Ref. 4)** while simultaneously operating the speed adjustment lever (P) **(FIG. 36 - Ref. 3)** until the jib exceeds the vertical position.

8) Open the padlock on the diverter **(FIG. 36 - Ref. A)** using the key kept by the safety manager.

9) Remove the silver-coloured lever located in the turret by loosening the black locking knob.

10) Install the lever on the second diverter **(FIG. 36 - Ref. B).**

11) Rotate both 90° two-position diverter valves to the levelling position **(FIG. 34 - Ref. C)**.

12) Press and hold the knob of the valve that controls the extension of the telescopic boom **(FIG. 36 - Ref. 5)** while operating the adjustment lever (P) **(FIG. 36 - Ref. 3)** to level the enclosure. Complete a full downward and upward stroke of the enclosure and then align it.

13) Once these operations have been completed, return the two-position diverters located at the base of the extensible boom to their original position **(FIG. 36 - Ref. D)**.

14) Remove the lever from the diverter **(FIG. 36 - Ref. B)** and replace it in the turret, fixing it with the black locking knob.

15) Put the padlock back in the locking position **(FIG. 36 - Ref. A)**, lock it, and return the key to the safety manager.

16) Carry out a test to ensure that the telescopic boom extension is operating correctly after locking the diverters. Press and hold the knob of the valve that controls the extension of the telescopic boom **(FIG. 36 - Ref. 5)** while operating the adjustment lever (P) **(FIG. 36 - Ref. 3)**. Only the telescopic boom should be removed while the work platform remains stationary.

17) Carry out the closing manoeuvres.

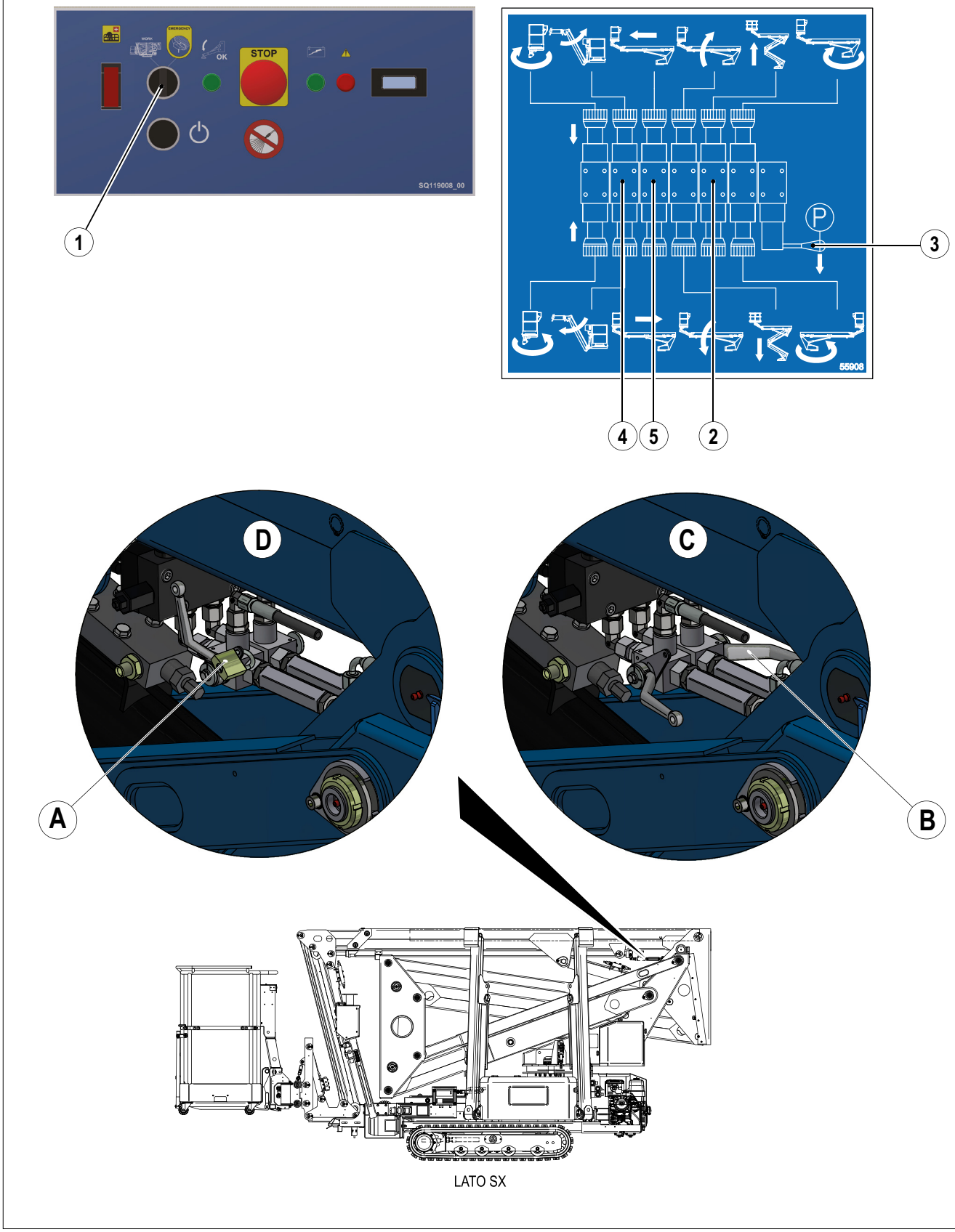


FIG. 36 *(Levelling the elevating work platform - MEWP)*

14.19 EMERGENCY MANOEUVRES

Carry out all operations with great care and follow the instructions provided in this manual.

⚠ CAUTION
IT IS MANDATORY TO CONTACT AN AUTHORISED CTE SERVICE CENTRE TO HAVE A SEAL INSTALLED ON THE VALVES

INFORMATION
ONLY PRESS ONE VALVE AT A TIME. BEFORE MOVING TO THE NEXT VALVE, RELEASE THE PREVIOUS VALVE.

14.19.1 LOWERING THE WORK PLATFORM TO THE GROUND IN CASE OF HYDRAULIC FAILURE

From workstation D - E (see chapt. 10)

If necessary, the emergency controls can be activated as follows:

1) Remove the protective casing from the solenoid valve on the turret.
2) Turn the selector switch **(FIG. 37 - Ref. 1)** clockwise until it is in the “Emergency controls” position.
3) If the engine is switched off, pressing the button **(FIG. 37 - Ref. 2)** will turn it on.
4) Position yourself in front of the turret solenoid valve unit.
5) Begin the recovery operation by pressing the knob of the valve that controls the required movement, while simultaneously operating the speed adjustment lever (P) **(FIG. 38 - Ref. 4)**. For information on the function of the individual valves, refer to the sticker **(FIG. 38 - Ref. 3)**.
6) At the end of each movement, press another valve to perform a new movement, if necessary.
7) Once you have finished, replace the turret cover.
8) Turn the selector switch anticlockwise to the “Platform Controls” position **(FIG. 37 - Ref. 1)**.

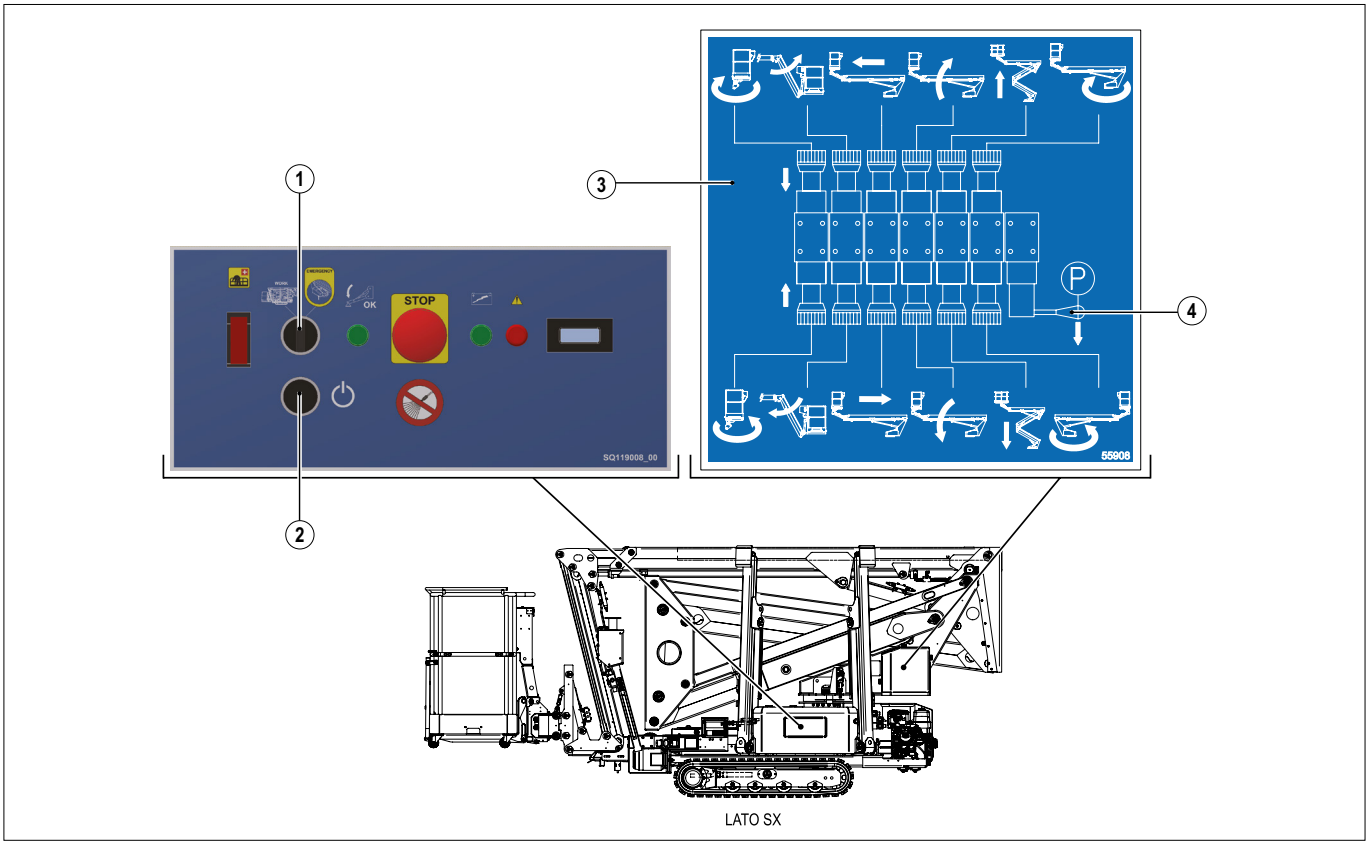


FIG. 37 *(Lowering the work platform to the ground)*

14.19.2 LOWERING THE WORK PLATFORM TO THE GROUND IN CASE OF HYDRAULIC AND POWER FAILURE

From workstation D (see chapt. 10)

If the engine malfunctions, the gear pump that supplies power to all the equipment fails or there is a power cut, the work platform can be returned to the ground as follows:

1) Unscrew the black locking knob and take the hand pump control lever.
2) Attach the control lever to the hand pump **(FIG. 38 - Ref. 3)**.
3) Remove the protective casing from the solenoid valve on the turret.
4) Remove the seal from the diverter valve **(FIG. 38 - Ref. 1)**.
5) Adjust the diverter valve on the enclosure control panel by tightening the relevant knob (**FIG. 38 - Ref. 1);**
6) Begin the recovery operation by pressing the knob of the valve that controls the required movement, while simultaneously operating the speed adjustment lever (P) **(FIG. 38 - Ref. 4)**. For information on the function of the individual valves, refer to the sticker **(FIG. 38 - Ref. 2)**.
7) Operate the hand pump **(FIG. 38 - Ref. 3)** to perform the required movement
8) At the end of each movement, press another valve to perform a new movement, if necessary.
9) Once the platform has been lowered, replace the hand pump control lever.
10) Loosen the right knob of the diverter valve completely **(FIG. 38 - Ref. 1)**.
11) Replace the turret protective casing.

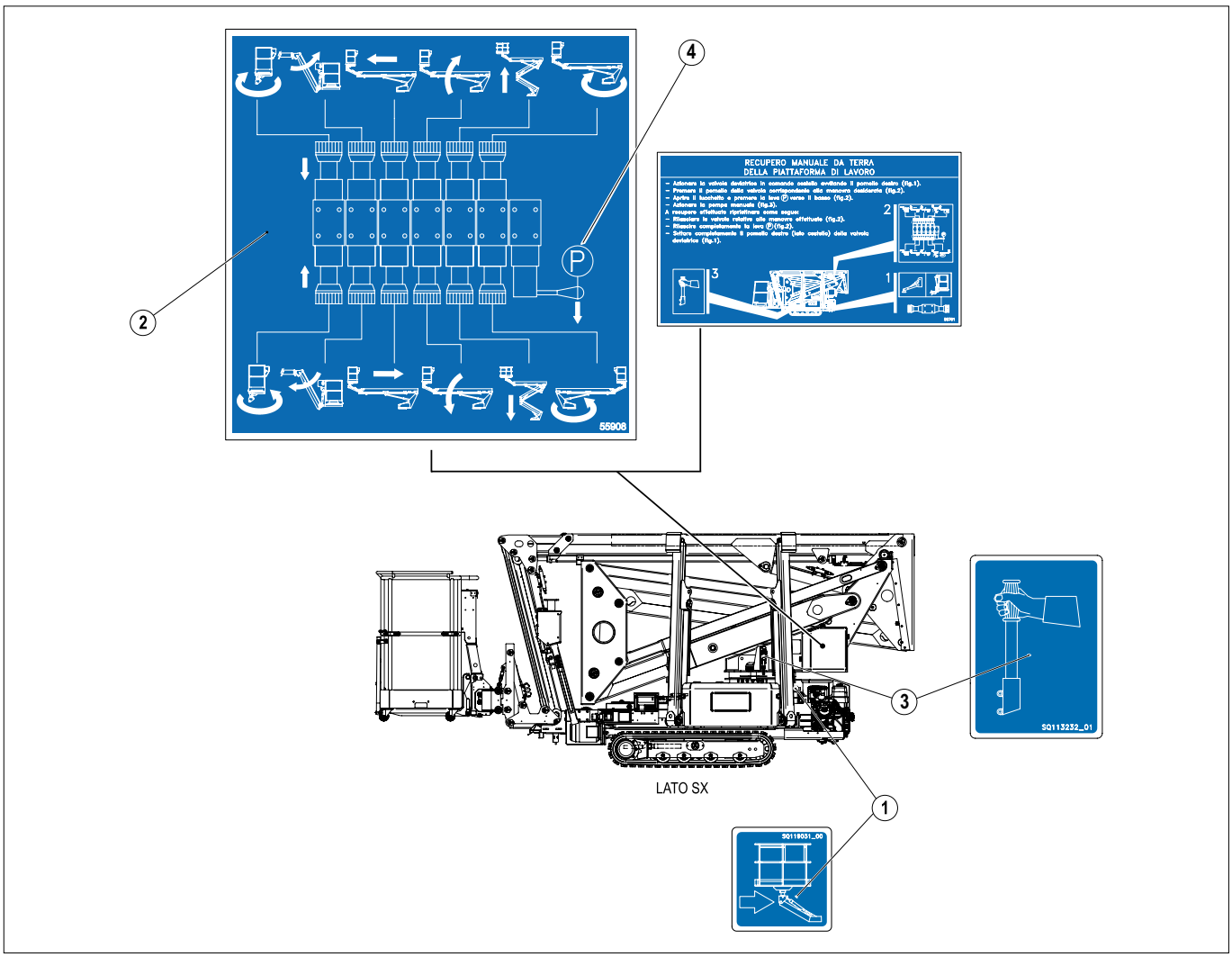


FIG. 38 *(Lowering the work platform manually using the ground controls)*

⚠ CAUTION

IT IS MANDATORY TO CONTACT AN AUTHORISED CTE SERVICE CENTRE TO HAVE A SEAL INSTALLED ON THE VALVES.

14.19.3 MANUAL TRACTION RECOVERY IN CASE OF CONTROL PANEL BREAKDOWN

From workstation G (see chapt. 10)

In the event of a failure in the traction control panel, the platform can be moved as follows:
1) Switch on the platform **(see sect. 14.4)**.
2) Place the work mode selector in the central position. **(FIG. 39 - Ref. 3).**
3) Operate the diverter valve in the stabiliser controls **(FIG. 39 - Ref. 1)**.
4) Use the two traction valves to move in the required direction **(FIG. 39 - Ref. 2)**.
5) When finished, return the solenoid valves to their original position.

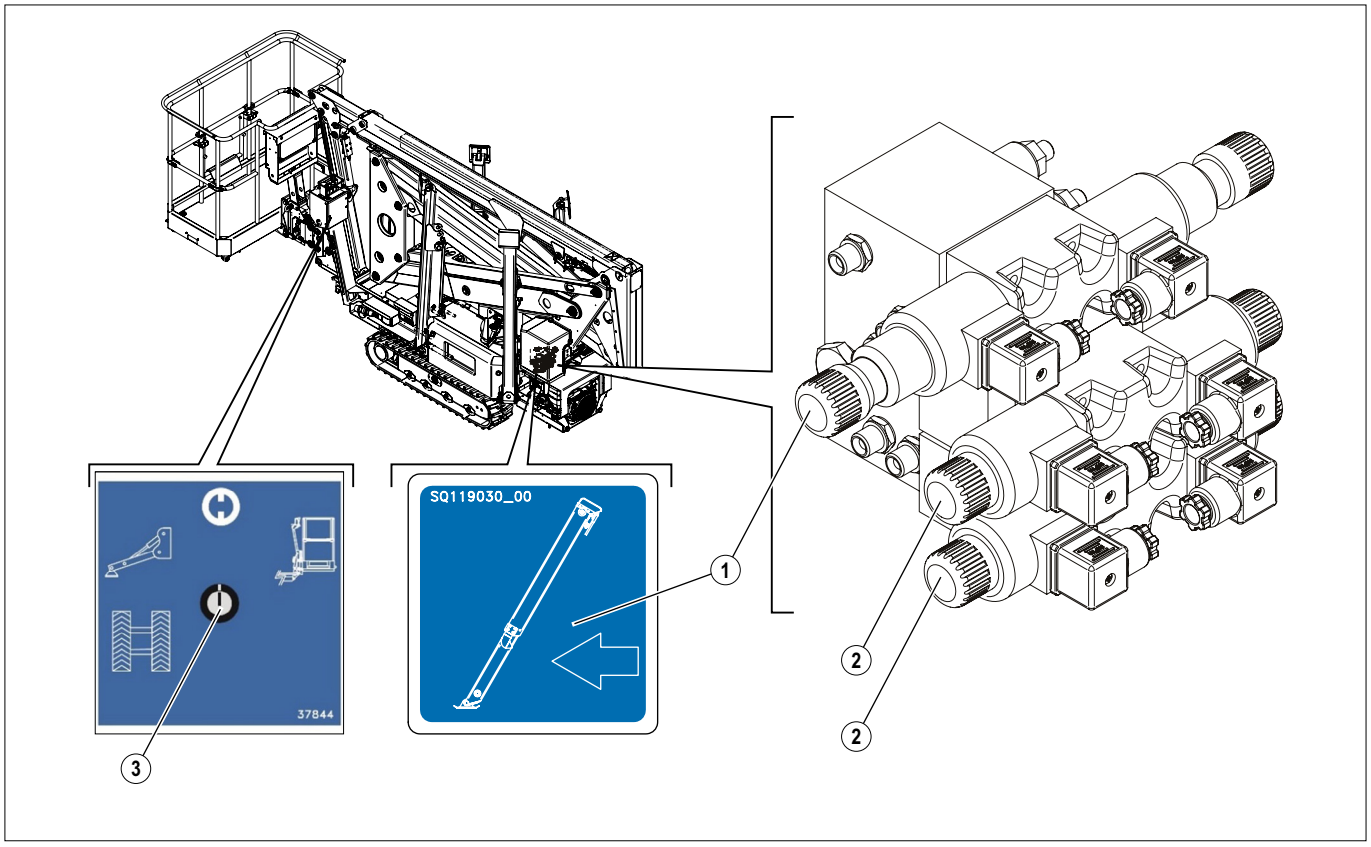


FIG. 39 *(Manual stabilisation and traction recovery)*

⚠ CAUTION

TAKE CARE AS THE VALVES INSTALLED NEAR THE HOT SURFACES OF THE ENGINE WILL ALSO BE HOT

⚠ CAUTION

IT IS MANDATORY TO CONTACT AN AUTHORISED CTE SERVICE CENTRE TO HAVE A NEW SEAL INSTALLED ON THE VALVE

14.19.4 LOWERING THE PLATFORM TO THE GROUND IN THE EVENT OF AN EMERGENCY STOP OR IF THE LOAD LIMITER HAS BEEN ACTIVATED

From workstation E (see chapt. 10)

If the work platform has stopped due to the emergency button on the work platform console being pressed **(FIG. 40 - Ref. 1)**, of it has been locked because the load limit has been exceeded, it is possible to bypass the emergency condition for a predefined time and lower the platform.

The procedure to recover the platform is as follows:

1) Go to the side of the platform and stand in front of the main ground control panel**.**

2) Remove the protective casing from solenoid valve on the turret.

3) Press and release the bypass switch **(FIG. 40 - Ref. 3).**

- The emergency/lock condition is bypassed for a predefined period of time.
- This bypasses the emergency button on the work platform **(FIG. 40 - Ref. 1)** and/or the load limiter**.**
- The LED **(FIG. 40 - Ref. 4)** will flash as long as the bypass is active.
- Turn on the engine by pressing the button **(FIG. 40 - Ref. 5)**
- Press the knob of the valve that controls the required movement **(see sect. 5.15.7)**
- Once the recovery operations have been completed, turn the selector **(FIG. 40 - Ref. 2)** to the "Work Platform Controls" position.

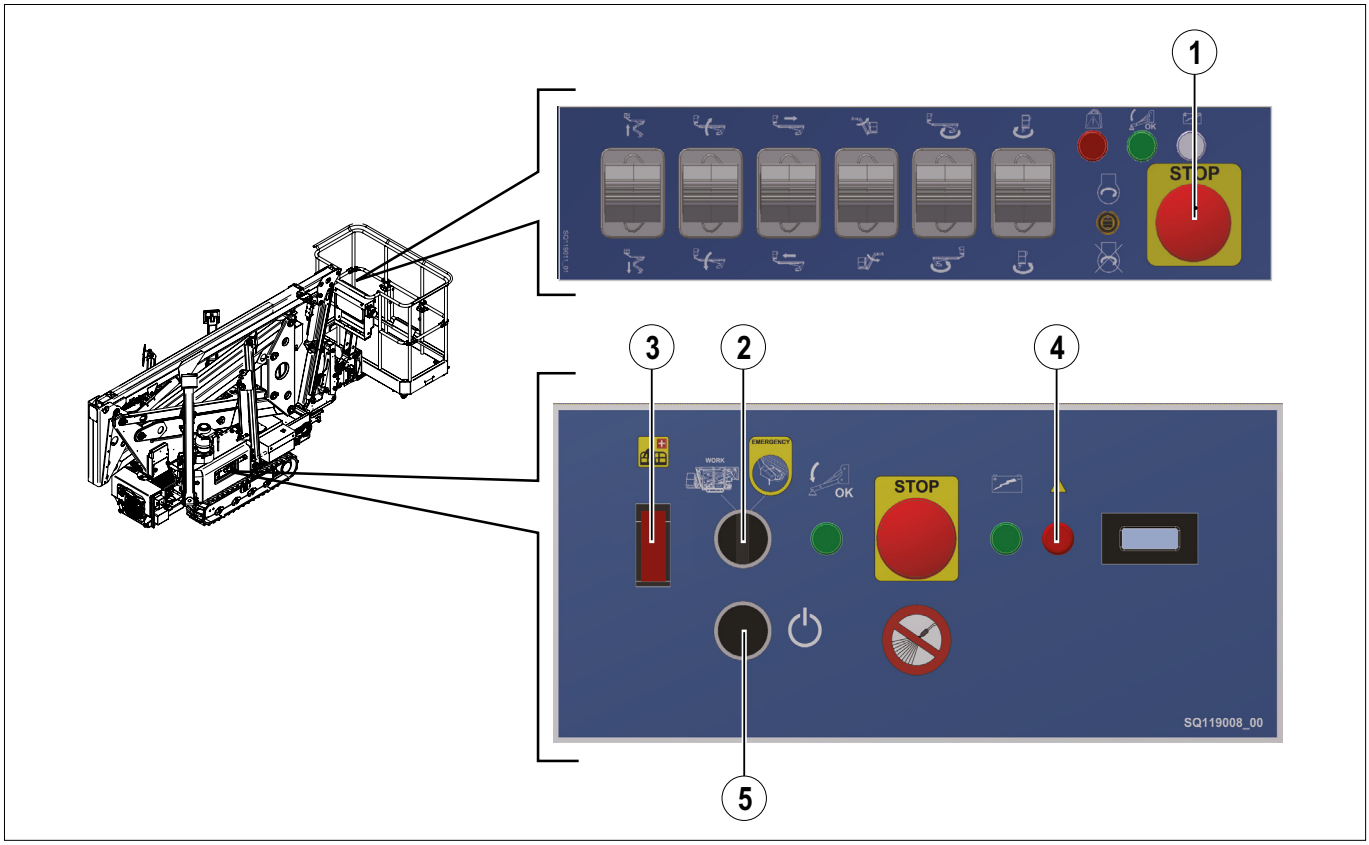


FIG. 40 *(Lowering the platform to the ground in the event of an emergency stop)*

INFORMATION
AT THE END OF THE PREDETERMINED PERIOD OF TIME, THE CONTROL BYPASS IS STOPPED. THE BYPASS SWITCH MUST BE ACTIVATED AGAIN IF NECESSARY

INFORMATION
THE BYPASS CONTROL SHOULD ONLY BE USED WHEN ABSOLUTELY NECESSARY. IF USED IN ANY SITUATION OTHER THAN AN EMERGENCY STOP, AN OVERLOAD SITUATION, OR WHEN THE SELECTOR IS IN THE "PLATFORM CONTROLS" POSITION **(FIG. 40 - REF. 2),** AN ALARM WILL SOUND.

15 SOFTWARE

INFORMATION

THE ALARM CODE CORRESPONDS TO THE NUMBER OF FLASHES OF THE RED INDICATOR LIGHT ON THE CONTROL PANELS.

15.1 ALARMS

⚠ CAUTION

IN THE EVENT OF ALARMS THAT CANNOT BE RECTIFIED, IT IS ESSENTIAL TO CONTACT AN AUTHORISED SERVICE CENTRE **(SEE SECT. 1.1)**.

15.2 ALARM LIST

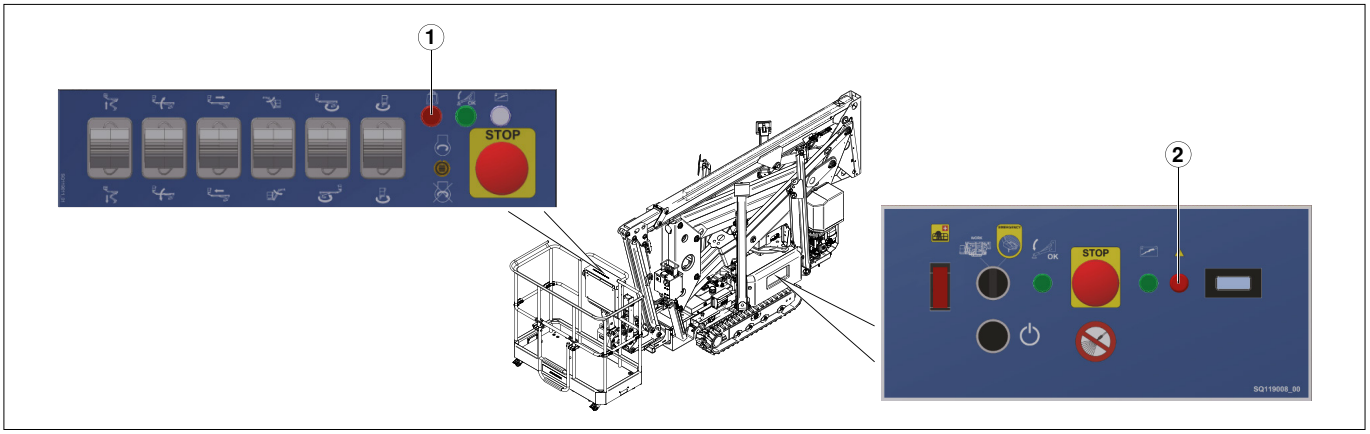


FIG. 41 *(Alarm list indicator lights)*

Ref.	Error	Indication	Description	Solution
2 FIG. 41	**1**	**1 LONG FLASH**	Articulated boom fails to move at start of movement	Release the control for a few seconds, then try again
2 FIG. 41	**2**	**2 LONG FLASHES**	Control already activated at startup	Release the control for a few seconds, then try again
2 FIG. 41	**3**	**3 LONG FLASHES**	Boom closed electronic detection device fault (B001)	Release the control for a few seconds, then try again
2 FIG. 41	**4**	**4 LONG FLASHES**	Boom closed electronic detection device fault (S015)	Release the control for a few seconds, then try again
1 and 2 FIG. 41	**5**	**5 LONG FLASHES**	Valve EVP29 blocked (pressure switch alarm)	Check that the valve's emergency control has not remained active.
	6	**6 LONG FLASHES**	Bypass circuit failure	Turn the control station selector to the "Platform/ traction" position. Press the emergency stop button and wait a couple of seconds, then press it again.
	7	**7 LONG FLASHES + CONTINUOUS BEEP**	Work platform overload	Unload the work platform

Ref.	Error	Indication	Description	Solution
1 and 2 FIG. 41	8	8 LONG FLASHES	Work platform locking pin missing	Ensure that the pin is present
	9	9 LONG FLASHES	Work platform joystick control fault	Contact an authorised CTE service centre
	11	1 LONG FLASH + 1 SHORT FLASH	Missing GND signal on board MMS1417	Contact an authorised CTE service centre
	12	1 LONG FLASH + 2 SHORT FLASHES	Aerial movements not allowed, the machine is not stabilised and not closed	Make sure the machine is properly stabilised
	13	1 LONG FLASH + 3 SHORT FLASHES	MMS 1417 control unit error.	Contact an authorised CTE service centre
	14	1 LONG FLASH + 4 SHORT FLASHES	Auxiliary battery discharged	Recharge or replace the battery
	15	1 LONG FLASH + 5 SHORT FLASHES	Proportional SV connection error	Contact an authorised CTE service centre
	16	1 LONG FLASH + 6 SHORT FLASHES	Battery charge level below 20% (Full electric model)	Charge the battery
	17	1 LONG FLASH + 7 SHORT FLASHES	Inverter error. (Full electric model)	Check the diagnostic LED on the inverter
	18	1 LONG FLASH + 8 SHORT FLASHES	Inverter communication error. (Full electric model)	Contact an authorised CTE service centre
	19	1 LONG FLASH + 9 SHORT FLASHES	Aerial movements not allowed; the machine is stabilised but not levelled [SQA011]	Ensure that the machine is level
	22	2 LONG FLASHES + 2 SHORT FLASHES	Battery BMS error (Full electric model)	Contact an authorised CTE service centre
	23	2 LONG FLASHES + 3 SHORT FLASHES	Communication error with the battery BMS. (Full electric model)	Ensure the battery connectors are connected correctly / Contact an authorised CTE service centre
	24	2 LONG FLASHES + 4 SHORT FLASHES	Inclinometer error [SQA011]	Check that the inclinometer is connected correctly/ Contact an authorised CTE service centre
	25	2 LONG FLASHES + 5 SHORT FLASHES	Inclinometer reading error [SQA011]	Contact an authorised CTE service centre
	26	2 LONG FLASHES + 6 SHORT FLASHES	Anti-crushing barrier active	Check/release the anti-crushing bar on the work platform
	27	2 LONG FLASHES + 7 SHORT FLASHES	Pedal error: pedal always active or manoeuvres requested when pedal is not active	Check that the pedal is working correctly

TAB. 32 *(Alarm list)*

INFORMATION

THE ALARM CODE CAN BE OBTAINED BY CONNECTING TO THE GROUND PANEL OR BY REMOTE ASSISTANCE IF THE OPTIONAL CTE CONNECT IS PRESENT

INFORMATION

THE ALARM IS RESET AUTOMATICALLY WHEN THE CAUSE OF THE ERROR HAS BEEN CORRECTED. THE OPERATOR CANNOT FORCE AN ALARM RESET.

16 FAULTS: CAUSES AND REMEDIES

⚠ DANGER

NEVER USE THE MACHINE IF IT PRESENTS ANY KIND OF FAULT.

DO NOT LEAVE THE MACHINE UNATTENDED AND TAKE ALL MEASURES TO AVOID ACCESS BY UNAUTHORISED PERSONS DURING MAINTENANCE WORKS.

⚠ DANGER

IF THE MAINTENANCE PERSONNEL CANNOT CORRECT THE FAULT, CONTACT THE MANUFACTURER'S TECHNICIAN ON THE FOLLOWING NUMBER **+39 0464 711200 (SEE SECT. 1)**.

⚠ DANGER

ALL MAINTENANCE OPERATIONS ON THE MACHINE MUST BE CARRIED OUT WITH THE MACHINE IN A **"SAFE STATE" (SEE SECT. 5.2)**.



Fault	Cause	Remedy
Vibration of cylinders, telescopic elements, which do not move smoothly during the first manoeuvres	Hydraulic oil temperature too low	Operate at idle for a few minutes in order to heat up the hydraulic oil
Vibrations during all movements when oil is hot	Lack of hydraulic oil in the tank	Add hydraulic oil
	There is air inside the hydraulic system	Repeatedly move the cylinders to the end of their stroke in both directions
Vibrations during extension of telescopic elements	Lack of lubrication	Grease the telescopic elements
	Worn sliding blocks	Replace the sliding blocks (*)
	Incorrectly adjusted extension cylinder valve	Calibrate the valve (*)
The machine does not lift the work platform	Damaged pump	Replace the pump (*)
	Valves incorrectly adjusted	Calibrate the valves (*)
	Worn cylinder seals	Replace seals (*)
The machine lifts but cannot support the load	Worn cylinder seals	Replace seals (*)
	Valves incorrectly adjusted	Calibrate the valves (*)
	Jack valves dirty or worn	Replace the valves (*)
The machine does not rotate correctly	Vehicle inclined beyond the maximum permissible flatness	Stabilise the vehicle within the permissible tolerance range
	Valves on the distributor are poorly adjusted or dirty.	Calibrate or clean the valves (*)
	Malfunctioning slewing gearbox	Replace the slewing gearbox (*)
Creaking of joints and bushings	Lack of lubrication	Grease the joints or bushings
Stabiliser cylinder seal failure	Dirty lock valves	Clean or replace the valves (*)
The levers do not control any movement	Worn cylinder seals	Replace seals (*)
	Emergency stop button pressed	Rotate the button until it reaches normal position
Solenoid valve blocked	Dirt inside	Use the solenoid valve cursor to try to unblock it and contact an authorised CTE service centre
	Defective solenoid valve	Replace solenoid valve
No power	Faulty fuse	Replace the fuse

continued

Fault	Cause	Remedy
Traction system fault	No voltage	Check the electrical system (*).
	Faulty coil	Replace the coil (*).
	Traction reducer not working	Move the platform as indicated in **sect. 14.8**
Noisy pump	Viscosity of hydraulic oil is too high	Use the recommended hydraulic oil
	Level of hydraulic oil in the tank is too low	Top up with the same type of hydraulic oil
	Suction pipe is blocked or crushed	Check the pipe for damage (*)
	Air entering via the suction flange	Check the tightness and replace the seal (*)
Some hydraulic components of the machine are working slowly	Maximum pressure valve on the distributor of the section of the malfunctioning circuit is incorrectly adjusted or its shutter is open because of dirt	Calibrate the valve. Remove and clean it, then reinstall with new metal seals. Replace the valve (*)
	Worn out pump	Replace the pump (*)
Hydraulic cylinder working incorrectly	Oil leak between the two chambers in the cylinder and consequent inability to support loads	Replace the seal of the jack (*)
	Piston / rod joint loose	Check the joint between piston/rod
	Max. pressure valve on distributor is stuck or worn	Dismantle and clean the max. pressure valve and replace it (*)
Lights do not work	Burnt out bulb	Replace the bulb
	Broken electrical connection	Repair the connection (*)
	Burnt out fuse	Replace the fuse
Excessive heating of hydraulic oil	Level of hydraulic oil in the tank is too low	Top up with the same type of hydraulic oil
Solenoid valves do not work	No power	Check the electrical system (*)
	Cursor does not move	Replace the solenoid valve (*)
	The coil does not work	Replace the coil (*)

(*) To be carried out by an authorised CTE service centre

TAB. 33 *(Faults: causes and remedies)*

INFORMATION
FOR ANYTHING NOT DESCRIBED IN **TAB. 33** CONTACT AN AUTHORISED CTE SERVICE CENTRE **(SEE SECT. 1.1)**.

17 MAINTENANCE

17.1 GENERAL PRECAUTIONS

⚠ DANGER

ALL MAINTENANCE OPERATIONS ON THE MACHINE MUST BE CARRIED OUT WITH THE MACHINE SWITCHED OFF **(SEE SECT. 14.17)**.

⚠ DANGER

AUTHORISED OPERATORS ARE FORBIDDEN TO LEAVE THE MACHINE UNATTENDED AND MUST TAKE ALL MEASURES TO AVOID THE ACCESS OF UNAUTHORISED PERSONS DURING MAINTENANCE WORKS.

⚠ WARNING

AUTHORISED OPERATORS MUST ONLY CARRY OUT THE MAINTENANCE OPERATIONS REQUIRED ON THE BASIS OF THEIR SPECIFIC PROFESSIONAL COMPETENCE AND WITH THE AUTHORISATION OF THE SUPERVISOR.

⚠ WARNING

IT IS FORBIDDEN TO USE PRODUCTS OTHER THAN THOSE SPECIFIED BY THE MANUFACTURER **(SEE SECT. 5.3)**.

IT IS MANDATORY FOR AUTHORISED OPERATORS TO READ AND ASCERTAIN THAT THEY HAVE UNDERSTOOD ALL PARTS OF THE RELEVANT SAFETY DATA SHEETS PROVIDED BY THE MANUFACTURERS.

⚠ WARNING

IT IS MANDATORY TO RECORD THE FOLLOWING IN THE INSPECTION LOGBOOK PROVIDED BY CTE:

- CHANGES OF OWNERSHIP
- REPLACEMENT OF MECHANICAL PARTS, STRUCTURAL PARTS, ELECTRICAL COMPONENTS, HYDRAULIC COMPONENTS, SAFETY DEVICES AND CORRESPONDING COMPONENTS
- SIGNIFICANT FAULTS AND RELATIVE REPAIRS
- REGULAR INSPECTIONS
- THE RESULTS OF INSPECTIONS AND TESTS

⚠ WARNING

IT IS MANDATORY TO CARRY OUT MAINTENANCE WORK ON THE VEHICLE IN ACCORDANCE WITH THE VEHICLE'S INSTRUCTION MANUAL. THE CTE WARRANTY IS NULL AND VOID IF MAINTENANCE IS NOT CARRIED OUT ON THE VEHICLE. ATTENTION:

⚠ WARNING

THE MAINTENANCE PROCEDURES DESCRIBED IN THE FOLLOWING PAGES APPLY ONLY TO THE AERIAL WORK PLATFORM. REFER TO THE MANUFACTURER'S INSTRUCTIONS FOR THE MAINTENANCE OF THE ELECTRIC MOTOR.

INFORMATION

THE INSPECTION LOGBOOK SHOULD ALWAYS ACCOMPANY THE MACHINE AND BE KEPT AT THE DISPOSAL OF SUPERVISORY BODIES FOR A PERIOD OF FIVE YEARS FROM THE DATE OF THE LAST RECORD, OR UNTIL THE MACHINE IS DECOMMISSIONED.

INFORMATION

THE SERVICING INTERVALS REFER TO "NORMAL USE" WITH A PRODUCTION CYCLE OF 8 HOURS PER DAY. IN THE EVENT OF "HEAVY DUTY" USE (PRODUCTION CYCLE WITH MORE THAN 8 HOURS PER DAY) THE SERVICING INTERVALS MUST BE PROPORTIONALLY DECREASED.

INFORMATION

VEHICLE MAINTENANCE MUST BE CARRIED OUT AT THE VEHICLE MANUFACTURER'S AUTHORISED SERVICE CENTRE.

INFORMATION

WHEN REMOVING AND REINSTALLING PARTS, ALWAYS USE EXTRACTORS, SPANNERS AND EQUIPMENT THAT WILL NOT DAMAGE THE COMPONENTS. USE COPPER HEADED HAMMERS OR WOODEN MALLETS TO RELEASE PARTS THAT ARE SECURELY FASTENED.

INFORMATION

SEPARATE THE PIECES OF THE VARIOUS UNITS AND PARTIALLY SCREW THE NUTS ONTO THEIR CORRESPONDING PINS OR STUD BOLTS. CLEAN THE PARTS USING BRUSHES OR RAGS, THEN WASH THEM USING PETROLEUM OR WARM WATER AND REMOVE ALL RESIDUES USING COMPRESSED AIR.

INFORMATION

AFTER GRINDING WITH ABRASIVE TOOLS, THOROUGHLY WASH OR BLOW THE PARTS CLEAN WITH COMPRESSED AIR TO ENSURE ALL THE ABRASIVE DUST HAS BEEN REMOVED.

INFORMATION

WHEN REASSEMBLING PARTS, ENSURE THAT THEY ARE CLEAN AND ADEQUATELY LUBRICATED.

INFORMATION

PAY PARTICULAR ATTENTION TO THE CONDITION OF THE CIRCLIPS AND SPRING PINS. IF THEY SHOW ANY SIGNS OF DAMAGE, REPLACE THEM IMMEDIATELY.

17.2 ROUTINE MAINTENANCE

Routine maintenance is the set of operations aimed at maintaining the optimal conditions of use and operation of the machine (adjustments, visual inspections, topping up fluids, etc.) carried out by the operator in charge according to the specified frequency.

17.2.1 TABLES OF MAINTENANCE OPERATIONS CARRIED OUT BY THE OPERATOR

⚠ CAUTION

IN ORDER FOR THE WARRANTY TO REMAIN VALID, INSPECTION AND MAINTENANCE MUST BE CARRIED OUT AT AN AUTHORISED CTE SERVICE CENTRE AFTER THE FIRST 100 HOURS OF OPERATION AND AFTER EVERY 1000 HOURS (OR EVERY YEAR) THEREAFTER.

INFORMATION

PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK.

AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

Operator	Interval	Table for recording service operations
	**Pre-start checks**	**A**
	Every 50 hours	**B**
	**After the first 100 hours**	**C**
	Every 500 hours or 6 months	**D**
	Every 1,000 hours or 1 year	**E**
	Every 10,000 hours or 10 years	**F**

TAB. 34 *(Overview)*

17.2.2 COMPLETION OF THE TABLE(S)

In the fields of the table, record:

Field	Description
Machine model	See nameplate
Serial No.	See nameplate
Hour counter	See hour counter reading
Owner	Name and surname or company name
Name of maintenance technician	Name and surname
Company	Of the maintenance technician performing the service
Date	Of service

TAB. 35 *(Field / Description)*

One of the following must be entered in the **"RESULT"** column:

Text	Meaning
YES	Service was successful
NO	Service was not successful. In this case the machine should be marked and not used. After successful repair, the table must be filled in again and the job marked **R**
R	The machine was repaired
N.A.	Not Applicable

TAB. 36 *(Text / Meaning)*

TABLE FOR RECORDING SERVICE OPERATIONS BY THE OPERATOR			
Machine model:.	Owner:.	Date:. ... /. ... /. ...	
Serial No.:	Maintenance technician:	Table	**A**
Hour counter:.	Signature:.		

Operator	Interval	Description of service	Result
	**Pre-start checks**	Check that the instruction manual is present and that it is intact and legible	
		Check that the plates **(see sect. 4.2)** and pictograms are legible **(see chapt. 7)**	
		Check for damage and missing, loose or detached parts	
		Welds, pins or joints check	
		Check for any oil leaks	
		Check pressures	
		Hydraulic oil filter clogging indicator check **(SM-01)**	
		Check the hydraulic oil level and top up if necessary **(SM-02)**	
		Check the operation of the controls in the platform and on the ground	
		Check safety devices check (emergency stop) **(see sect. 17.4)**	
		Test the safety limit switches	
		Test power supply differential circuit breaker in the platform.	
		Test of the anchorage points for harness systems	
		Check lubrication and greasing	
		Check track tension and integrity **(SM-03)**	
		Check emergency manoeuvres from the ground control panel	
		Check track gearbox oil level **(SM-04)**	

TAB. 37 *(Table for recording service operations A)*

INFORMATION

PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK.

AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

TABLE FOR RECORDING SERVICE OPERATIONS BY THE OPERATOR			
Machine model:.....	Owner:.....	Date:..... /..... /.....	
Serial No.:.....	Maintenance technician:.....	Table	**B**
Hour counter:.....	Signature:.....		

Operator	Interval	Description of service	Result
	**Every 50 hours**	All inspections listed in table **A** **(see TAB. 37)**	
		Lubrication and greasing **(SM-07 and SM-08)**	

TAB. 38 *(Table for recording service operations B)*

INFORMATION

PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK.

AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

TABLE FOR RECORDING SERVICE OPERATIONS BY THE AUTHORISED OPERATORS			
Machine model:.....	Owner:.....	Date:..... /..... /.....	
Serial No.:.....	Maintenance technician:.....	Table	**C**
Hour counter:.....	Signature:.....		

Operator	Interval	Description of service	Result
	**After the first 100 hours**	All inspections listed in table **B** **(see TAB. 38)**	
		Replace hydraulic oil filters	
		Change oil in gearbox	
		Check that the turret bolts are correctly tightened	
		Internal check of control panels (presence of water, etc.)	
		Check and adjust superstructure sliding blocks **(SM-05)**	
		Check slewing ring fixing screws	
		Check for interference and possible collision	
		Check pressures	

TAB. 39 *(Table for recording service operations C)*

INFORMATION
PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK. AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

TABLE FOR RECORDING SERVICE OPERATIONS BY THE AUTHORISED OPERATORS			
Machine model:.....	Owner:.....	Date:..... /..... /.....	
Serial No.:.....	Maintenance technician:.....	Table	**D**
Hour counter:.....	Signature:.....		

Operator	Interval	Description of service	Result
	**Every 500 hours or 6 months**	All inspections listed in table **C** **(see TAB. 39)**	
		Check paint condition and possible restoration, if necessary	
		Check rotary table fixing screws	

TAB. 40 *(Table for recording service operations D)*

INFORMATION

PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK.

AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

TABLE FOR RECORDING SERVICE OPERATIONS BY THE AUTHORISED OPERATORS			
Machine model:.....	Owner:.....	Date:..... /..... /.....	
Serial No.:.....	Maintenance technician:.....	Table	**E**
Hour counter:.....	Signature:.....		

Operator	Interval	Description of service	Result
	**Every 1000 hours or 1 year**	All inspections listed in table **D** **(see TAB. 40)**	
		Check slewing ring clearance **(SM-06)**	
		Change the hydraulic oil **(SM-11)**	
		Inspect the telescopic boom elements and carry out any necessary maintenance **(SM-08)**	

TAB. 41 *(Table for recording service operations E)*

INFORMATION

PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK.

AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

TABLE FOR RECORDING SERVICE OPERATIONS BY THE AUTHORISED OPERATORS			
Machine model:.....	Owner:.....	Date:..../...../.....	
Serial No.:.....	Maintenance technician:.....	Table	**F**
Hour counter:.....	Signature:.....		

Operator	Interval	Description of service	Result
	**Every 10000 hours or 10 years**	All inspections listed in table **E** **(see TAB. 41)**	
		Replace hydraulic hoses	
		Replace hydraulic pumps	
		Replace jacks seals	
		Inspect the telescopic boom elements and carry out any necessary maintenance **(SM-08)**	
		Service electrical system	

TAB. 42 *(Table for recording service operations F)*

INFORMATION
PHOTOCOPY THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** FOR FUTURE WORK. AFTER COMPLETION, INSERT THE **"TABLE FOR RECORDING SERVICE OPERATIONS"** IN THE INSPECTION LOGBOOK ATTACHED TO THE MACHINE.

17.3 MAINTENANCE CHARTS

On the following pages you will find the **"Maintenance sheets" (SM)** with a description of the service point and instructions for the type of service.

	Maintenance sheet **SM-01**	Point of service	**Machine**
		Type of service	**Check hydraulic oil filter clogging indicator**

INTERVAL: Pre-start checks

Check that the hydraulic oil filter clogging indicator is green

⚠ CAUTION

IT IS MANDATORY TO CONTACT AN AUTHORISED CTE SERVICE CENTRE IF THE CLOGGING INDICATOR FOR THE HYDRAULIC OIL FILTERS IS RED IN ORDER TO ARRANGE FOR THE HYDRAULIC OIL FILTERS TO BE REPLACED.

INFORMATION

THE FIRST HYDRAULIC OIL FILTER IS PROVIDED TOGETHER WITH THE MACHINE.

	Maintenance sheet **SM-02**	Point of service	**Hydraulic oil tank**
		Type of service	**Check hydraulic oil level and top up if necessary**

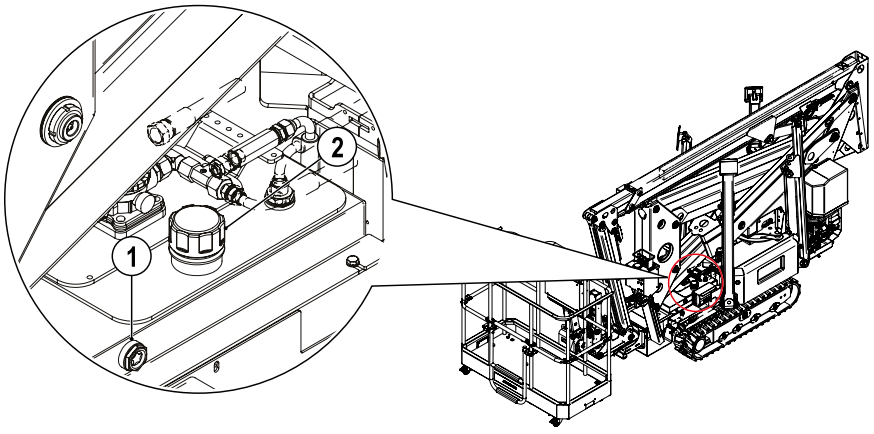
INTERVAL: Pre-start checks

1) Set the machine to **"safety state" (see sect. 5.2)**
2) Visually check the level of the hydraulic oil through the indicator on the tank **(Ref. 1)**. The level should be at the centre of the indicator. If necessary, restore as follows:
- loosen the hydraulic oil tank cap **(Ref. 2)**
- restore the level with the type of oil shown in the table
- screw the hydraulic oil tank cap

Hydraulic oil type	T = Temperature
ISO VG 22	-20 °C < T < +30 °C
ISO VG 32	-5 °C < T < +40 °C
ISO VG 46	0 °C < T < +50 °C
ISO VG 68	+10 °C < T < +60 °C

⚠ WARNING

THE HYDRAULIC OIL TANK MUST BE TOPPED UP WITH THE TYPE OF OIL SHOWN IN THE TABLE.



	Maintenance sheet **SM-03**	Point of service	**Tracks**
		Type of service	**Check tension and wear**

INTERVAL: Every 1000 hours

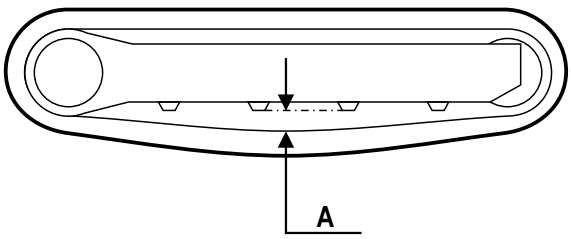
Set the machine on a level, flat and stable floor

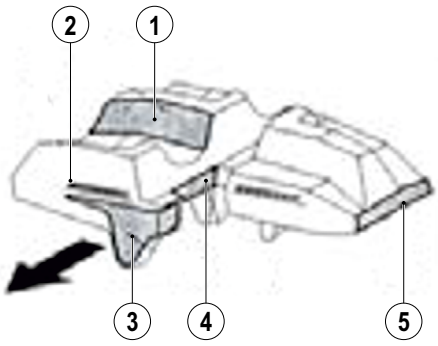
CHECKING THE TENSION

1) Measure the distance **"A"** in correspondence with the central track roller, from the bottom of the roller to the inside of the rubber track (the tension is correct when it is between 10 and 15 mm)
2) If it is not possible to adjust the distance, contact the authorised CTE service centre or the manufacturer)

CHECKING WEAR

1) Check the track for wear at the following points: stipe **(Ref. 1)**, steel cord **(Ref. 2)**, steel core **(Ref. 3)**, drive wheel tooth hole **(Ref. 4)** and side **(Ref. 5)**
2) In the event that it is very worn at the points listed above, contact the authorised CTE service centre or the manufacturer





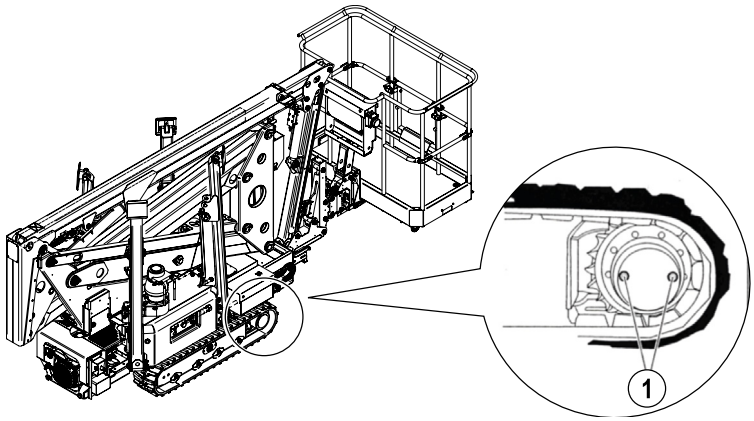
	Maintenance sheet **SM-04**	Point of service	**Track gearboxes**
		Type of service	**Oil level check**

INTERVAL: Pre-start checks

1) Position the machine so that the caps **(Ref. 1)** are horizontal
2) Remove the caps and check that the oil level is aligned with them. If necessary, top up via one of the two caps, using the other as a level indicator
3) Screw the caps back on

⚠ WARNING

THE OIL LEVEL IN THE TRACK GEARBOXES MUST BE CHECKED BEFORE EACH USE.



	Maintenance sheet **SM-05**	Point of service	**Telescopic elements and sliding blocks**
		Type of service	**Sliding block wear and clearance check**

INTERVAL: Every 50 hours

1) Set the machine to **"safety state" (see sect. 5.2)**

SLIDING BLOCK WEAR CHECK:

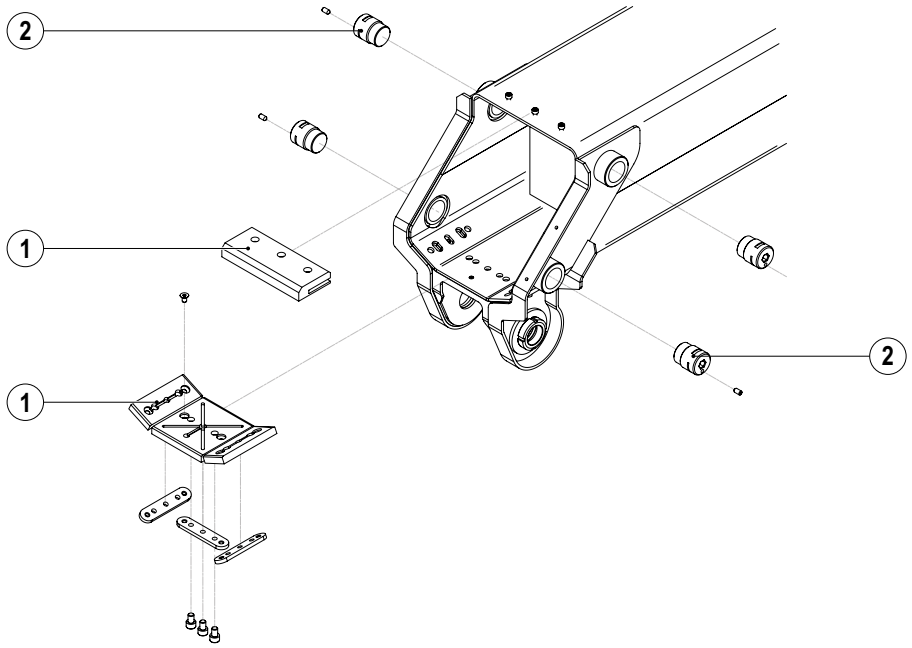
2) The special adjustable blocks **(Ref. 1)** help reduce sliding friction when the boom is extended:
- check the wear of the sliding blocks of the telescopic elements
- replace the sliding blocks if there is a clearance of more than **5 mm**between the tubulars of the telescopic elements when the boom and the telescopic elements are fully retracted

TELESCOPIC ELEMENT CLEARANCE CHECK

3) Check the clearances and adjust as necessary:
- this operation must be performed with the platform in the stowed position
- tighten the adjusting nuts **(Ref. 2)** until they come into contact with the removable inner boom
- loosen the nut by half a turn to allow a slight clearance between the elements

⚠ WARNING

WHILE INSERTING THE BOOM, DO NOT EXERT EXCESSIVE PRESSURE ON THE SLIDING BLOCKS; THIS MAY DAMAGE THE STRUCTURE OF THE BOOMS.



	Maintenance sheet **SM-06**	Point of service	**Slewing ring**
		Type of service	**Check clearance**

INTERVAL: Every 50 hours

1) Set the machine to **"safety state" (see sect. 5.2)**

The clearance between the slewing rings increases during the life of the slewing bearing because of wear. The amount of clearance should therefore be checked regularly during the service life of the machine. The measured values should then be compared to other measurements taken over time using an identical method.

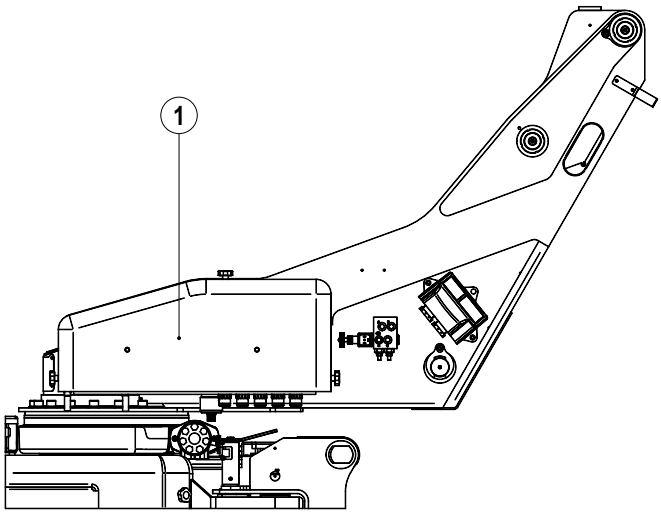
The measurement should be taken using a centesimal comparator when the turret is stationary. Proceed as follows:

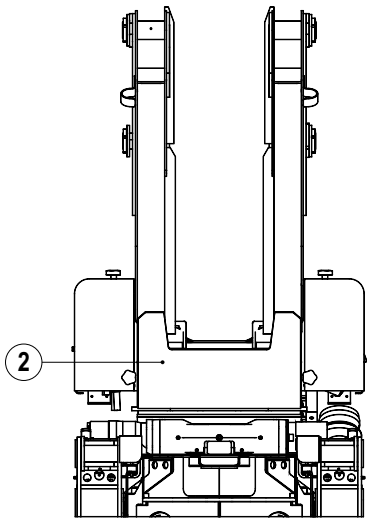
2) thoroughly clean the points on which the measurement is to be taken

3) raise the boom until it is at 0° and extend it completely until it reaches its **MAX.** extension with the turret aligned with the axis of the vehicle

4) position the comparator as indicated in the diagram **(Ref. 1)** and measure the Amax axial clearance. The measured value must be less than or equal to: **Amax = 1.35 mm** If the measured value is greater, contact an authorised service centre

5) position the comparator as indicated in the diagram **(Ref. 2)** and measure the **Bmax** axial clearance. The measured value must be less than or equal to: **Bmax = 1.50 mm** If the measured value is greater, contact an authorised service centre.





	Maintenance sheet **SM-07**	Point of service	**Slewing ring**
		Type of service	**Greasing**

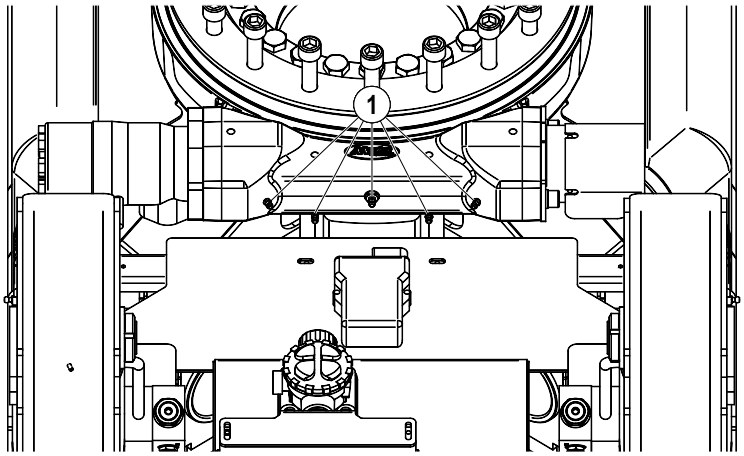
INTERVAL: Every 6 months

1) Set the machine to **"safety state" (see sect. 5.2)**
2) Remove the left side casing
3) Lubricate the visible grease nipples **(Ref. 1)** using a manual or pneumatic grease gun
4) Replace the left side casing

⚠ WARNING

DO NOT MOVE THE PLATFORM WHEN MAINTENANCE IS BEING CARRIED OUT ON THE SLEWING RING

ONLY USE THE TYPE OF GREASE INDICATED IN THE TECHNICAL SPECIFICATIONS. OTHERWISE, CONTACT THE ASSISTANCE SERVICES OR AN AUTHORISED WORKSHOP.



	Maintenance sheet **SM-08**	Point of service	**Chains**
		Type of service	**Inspection, lubrication and checking tension**

INTERVAL: Every 1000 hours

1) Set the machine to **"safety state" (see sect. 5.2)**

GREASING THE MAIN BOOM

2) Lift the boom to a **MAX.** angle of **(20°)**

3) Extend the telescopic elements completely For this operation, use another platform next to the telescopic elements.

GREASING THE JIB

1) Open the JIB and fully extend its elements

2) Fully extend the telescopic elements of the boom, use a brush to apply a new film of lubricant to the entire surface of the lower chains that extend the telescopic elements.

⚠ WARNING

IF THE CHAIN IS CONTAMINATED FROM ABRASIVE PARTICLES (E.G. SAND OF PAINT) CLEAN IT CAREFULLY USING SUITABLE SOLVENTS BEFORE LUBRICATING.

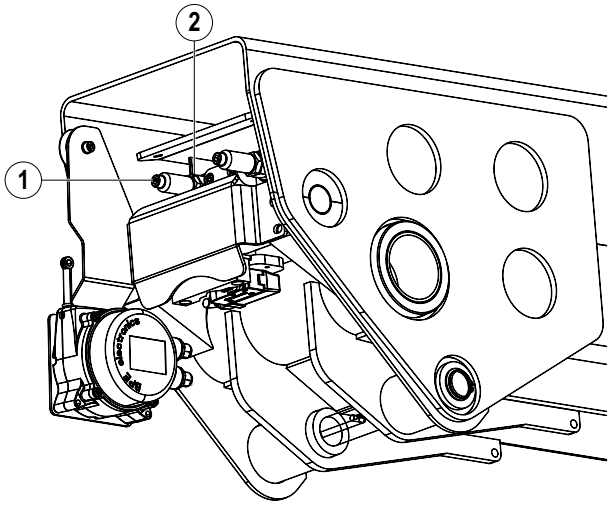
TIGHTENING THE CHAINS

1) Loosen the nuts **(Ref. 1)**

2) Tighten the nuts using a torque wrench **(Ref. 2)**

⚠ WARNING

DO NOT MOVE THE CHAINS DURING TENSIONING.



17.4 PERIODICAL CHECK OF THE EFFECTIVENESS OF GUARDS AND PROTECTION DEVICES

For ease of use, we recommend that you photocopy the regular check list in **TAB. 43**.

⚠ DANGER

IT IS FORBIDDEN TO TAMPER WITH, DISABLE AND/OR REMOVE ANY GUARD OR PROTECTION DEVICE.

IT IS FORBIDDEN TO REPLACE THE MACHINE GUARDS OR PROTECTION DEVICES WITH NON-ORIGINAL SPARE PARTS.

⚠ WARNING

IT IS MANDATORY TO CONSTANTLY CHECK THAT ALL GUARDS OR PROTECTION DEVICES ARE WORKING PROPERLY.

IT IS MANDATORY TO PROMPTLY REPLACE INEFFECTIVE OR DAMAGED GUARDS OR PROTECTION DEVICES.

⚠ DANGER

ALL OPERATIONS AIMED AT CHECKING THE INTEGRITY AND EFFECTIVENESS OF THE GUARDS AND PROTECTION DEVICES MUST BE CARRIED OUT BEFORE START-UP AND WITH THE MACHINE IN A **"SAFETY STATE" (SEE SECT. 5.2)**.

⚠ DANGER

DO NOT LEAVE THE MACHINE UNATTENDED AND TAKE ALL MEASURES TO AVOID ACCESS BY UNAUTHORISED PERSONS DURING INSPECTIONS.

⚠ WARNING

ANY GUARDS AND PROTECTION DEVICES MUST BE REPLACED ONLY BY A

MAINTENANCE TECHNICIAN OR BY A MANUFACTURER'S TECHNICIAN

INFORMATION

THE SPECIFICATIONS OF SPARE PARTS AND HOW TO ORDER THEM CAN BE FOUND IN **CHAPT. 19**.

Ref.	Name	Verification
1	Emergency stop button (Red mushroom-head button on a yellow background)	Press one of the three “Emergency stop” buttons, check that it is working correctly as shown in **sect. 5.15.10**
2	Jib support sensor	Use the control panel in the basket to raise the jib by more than 5 cm. Work the stabiliser control levers **(see sect. 5.15.4)**: no movement will be possible
3	Microswitches on stabilisers (No. 4)	Place the stabilisers on the ground one at a time and check that the corresponding light on the control panel lights up. **(see sect. 5.15.4)**
4	Collision avoidance devices	With the boom raised and extended by approximately 1.5 m, rotate the turret in correspondence with the stabiliser control support. Retract the telescopic boom and check that it stops at the correct distance from the support. Extend the telescopic boom again, centre the turret, and check that the telescopic boom closes completely.
5	Work platform load cell	Place a weight of more than 250 kg on the work platform. No manoeuvres will be possible and an acoustic warning will sound
6	Emergency hand pump	Stop the engine of the machine keeping the work platform raised. Operate the emergency hand pump as described in **sect. 14.19.1** and at the same time select a manoeuvre from the ground control panel
7	Anchorage points for fall arrest devices (qty. 2)	Check that the anchorage points for the fall arrest devices are not worn and are well secured to the work platform
8	Spirit level	Place a spirit level on the covering in the longitudinal and transverse directions and check the levelness on the spirit level
9	Maximum pressure valve	Hold a lifting manoeuvre at the end of the stroke (e.g. retract the telescopic extension) and check that the reading on the pressure gauge matches the value shown on the machine's CE plate (tolerance +/- 10 bar).
10	Ground control panel buzzer	Check that the acoustic signals correspond to the indications in **sect. 5.15.9**
11	Buzzer on the control panel on work platform	

TAB. 43 *(Guards and protection devices)*

17.5 EXTRAORDINARY MAINTENANCE

This is the set of activities carried out to keep the machine in good conditions of use and operation, through various types of intervention (adjustments, replacements, etc.) that should only be carried out by a qualified technician.

⚠ WARNING

EXTRAORDINARY MAINTENANCE WORKS MUST BE CARRIED OUT ONLY BY AN AUTHORISED CTE SERVICE CENTRE OR BY THE MANUFACTURER.

18 DECOMMISSIONING, DISMANTLING AND DISPOSAL INSTRUCTIONS

⚠ DANGER

IT IS MANDATORY TO CHECK THE RESIDUAL PRESSURE IN THE HYDRAULIC CIRCUIT.

DECOMMISSIONING MUST BE CARRIED OUT BY SPECIALISED AND QUALIFIED COMPANIES WITH SUITABLE EQUIPMENT. ALTERNATIVELY, YOU CAN ALSO CONTACT THE MANUFACTURER.

⚠ WARNING

IT IS FORBIDDEN TO DISCHARGE RESIDUAL LIQUIDS AND OILS INTO THE ENVIRONMENT.

⚠ WARNING

DISPOSE OF POLLUTING AND DANGEROUS PRODUCTS ONLY THROUGH AUTHORISED COMPANIES SPECIALISED IN THE VARIOUS TYPES OF PRODUCT.

SEPARATE THE CONSTITUENT PARTS OF THE MACHINE ACCORDING TO THE DIFFERENT TYPES OF CONSTRUCTION MATERIAL (PLASTIC, IRON, ETC.).

WHEN DISMANTLING THE MACHINE, IT IS MANDATORY TO COMPLY WITH THE REQUIREMENTS OF REGULATIONS IN FORCE.

⚠ CAUTION

ALL THE COMPONENTS OF THE MACHINE MUST BE IDENTIFIED ACCORDING TO THE DEFINITIONS OF THE "EWC CODES" (EUROPEAN WASTE CATALOGUE) AND DISPOSED BY AUTHORISED AND SPECIALISED COMPANIES, IN ABSOLUTE COMPLIANCE WITH THE REGULATIONS IN FORCE IN THE COUNTRY WHERE THE MACHINE IS SCRAPPED.

⚠ CAUTION

IF THE EQUIPMENT IS TO BE DECOMMISSIONED OR DEMOLISHED, NOTIFY THE MANUFACTURER AND, IN COUNTRIES WHERE THIS IS REQUIRED, THE ORGANISATIONS RESPONSIBLE FOR PERIODIC INSPECTIONS.

⚠ CAUTION

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REGULATIONS IN FORCE IN THE COUNTRY WHERE THE MACHINE IS SCRAPPED.

19 SPARE PARTS

19.1 ORDERING PROCEDURES

⚠ DANGER

THE USE OF NON-ORIGINAL SPARE PARTS AND THE INSTALLATION OF ANY EQUIPMENT NOT SUPPLIED OR AUTHORISED IS PROHIBITED.

⚠ CAUTION

ORIGINAL ACCESSORIES AND REPLACEMENT SPARE PARTS MUST BE OBTAINED EXCLUSIVELY FROM THE MANUFACTURER OR FROM THE SERVICE CENTRE **(SEE SECT. 1.1)**.

20 OPTIONAL UNITS AND ACCESSORIES

INFORMATION

THE IMAGES OF THE OPTIONAL UNITS AND MEWPS ARE FOR ILLUSTRATIVE PURPOSES ONLY.

INFORMATION

THE MOBILE ELEVATING WORK PLATFORM "MEWP" CAN BE FITTED WITH THE FOLLOWING OPTIONAL UNITS AND ACCESSORIES.

20.1 WORK LAMP

The machine can be fitted with an adjustable work lamp **(FIG. 42 - Ref. 1)** positioned on the work platform. Connect the lamp to the 12V electrical socket in the basket and press the switch on the lamp.

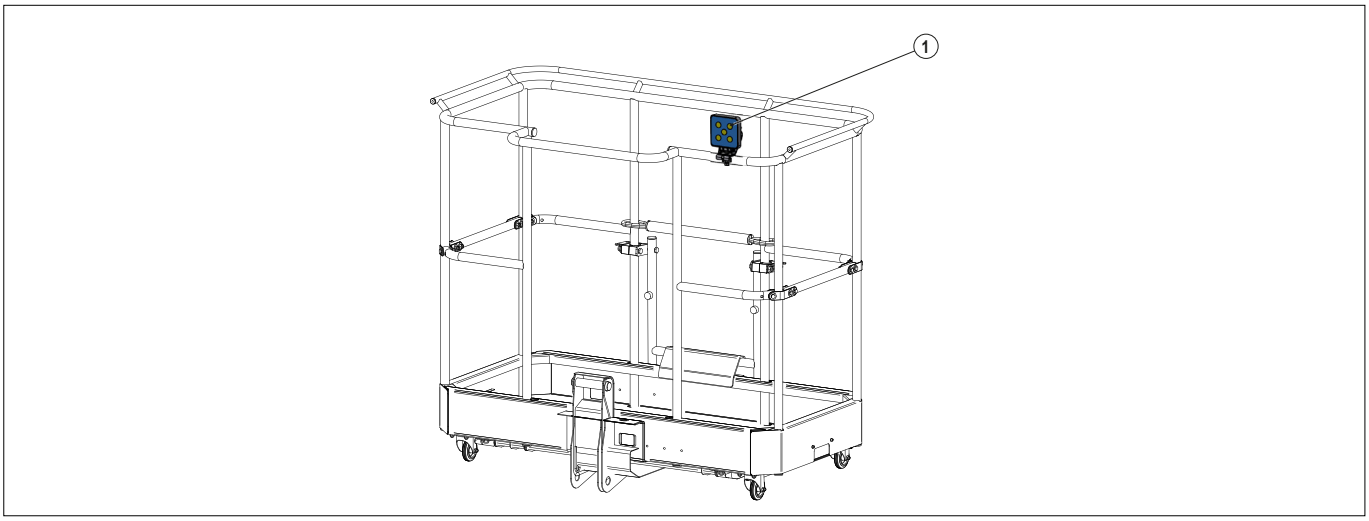


FIG. 42 *(Work light on basket)*

20.2 AIR/WATER HOSE UNIT

The machine can be fitted with an automatic plastic-encased hose reel **(FIG. 43 - Ref. 1)** with a pivoting wall bracket for use with air and water (temp. –10°C + 60°C) can be used with hoses with an internal diameter of 8 mm, external diameter of 12 mm and maximum length of 15 m. 3/8” air inlet fittings. Maximum operating pressure 20 bar

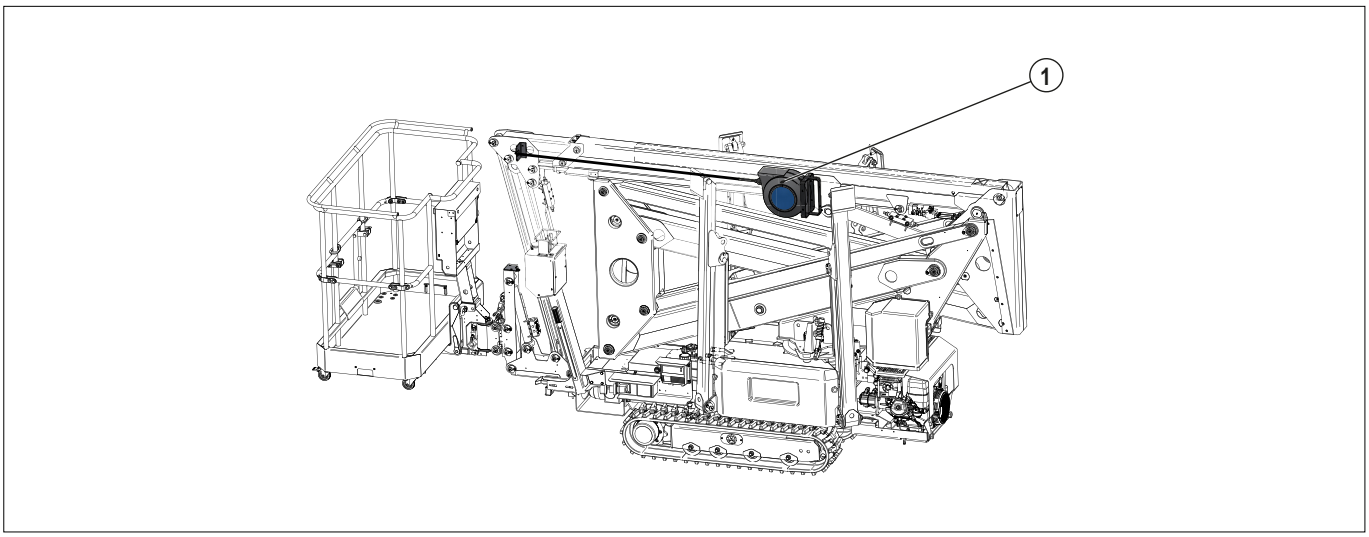


FIG. 43 *(Air/water hose unit)*

20.3 INCLINOMETER

The machine can be fitted with an electronic inclinometer **(FIG. 44 - Ref. 1)** positioned on the work platform. It detects the alignment of the chassis in relation to the horizontal plane and prevents the superstructure from opening at an excessive inclination angle

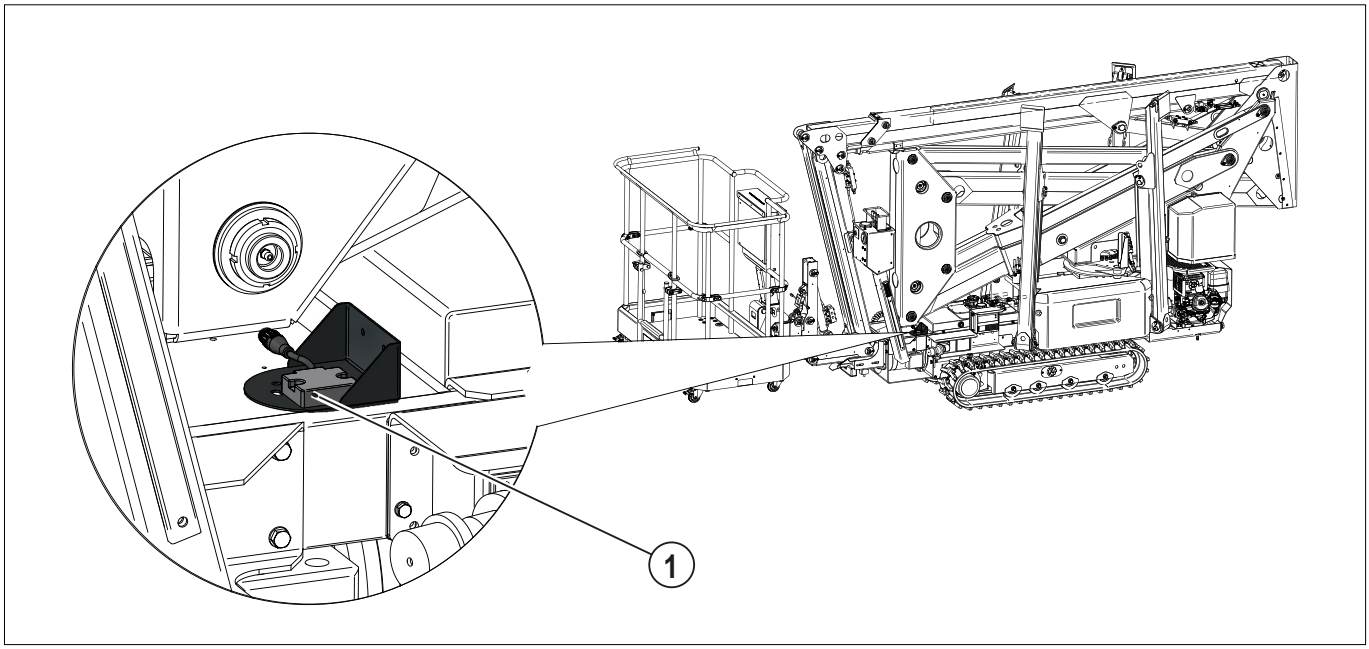


FIG. 44 *(Inclinometer)*

20.4 MAGNETIC FLASHING LAMP

The machine can be fitted with a magnetic flashing lamp **(FIG. 45 - Ref. 1), which can per installed wherever required**. The flashing lamp activates when voltage is applied to the machine's electrical system **(see chapt. 14.4)**.

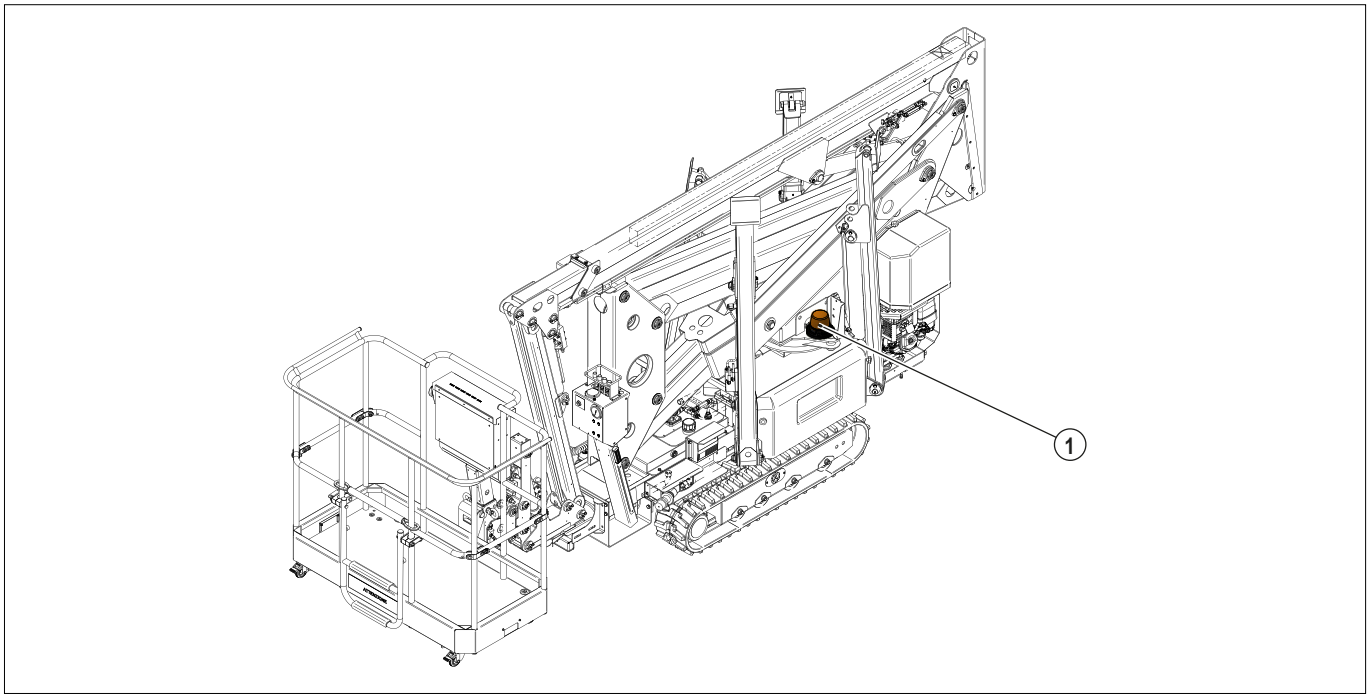


FIG. 45 *(Flashing lamp)*

20.5 DEAD-MAN-CONTROL: PEDAL IN THE BASKET ON THE WORK PLATFORM

The machine can be fitted with a “dead-man” control pedal **(FIG. 46 - Ref. 1)** on the work platform.
If not pressed, this accessory deactivates all manoeuvres from the control panel on the work platform. In order to use the control panel on the work platform, you first have to press the pedal and then you can perform the required manoeuvres using the proportional levers.

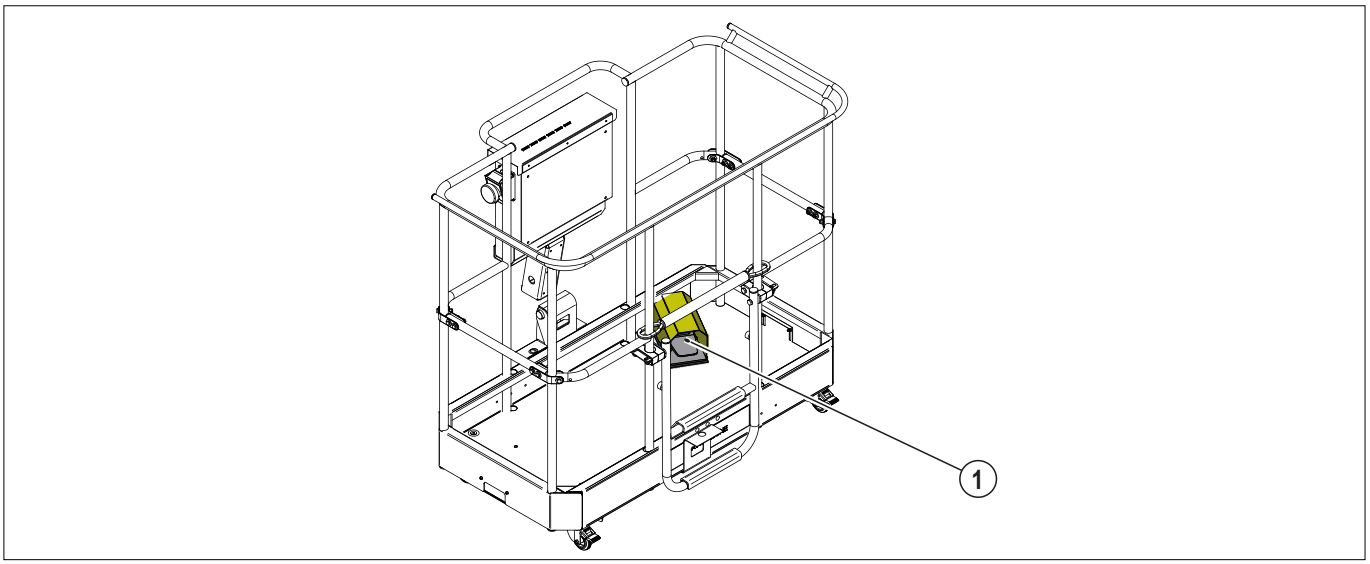


FIG. 46 *(Pedal on the work platform)*

20.6 SINGLE PERSON WORK PLATFORM

The machine can be equipped with a single person work platform **(FIG. 47 - REF 1)**

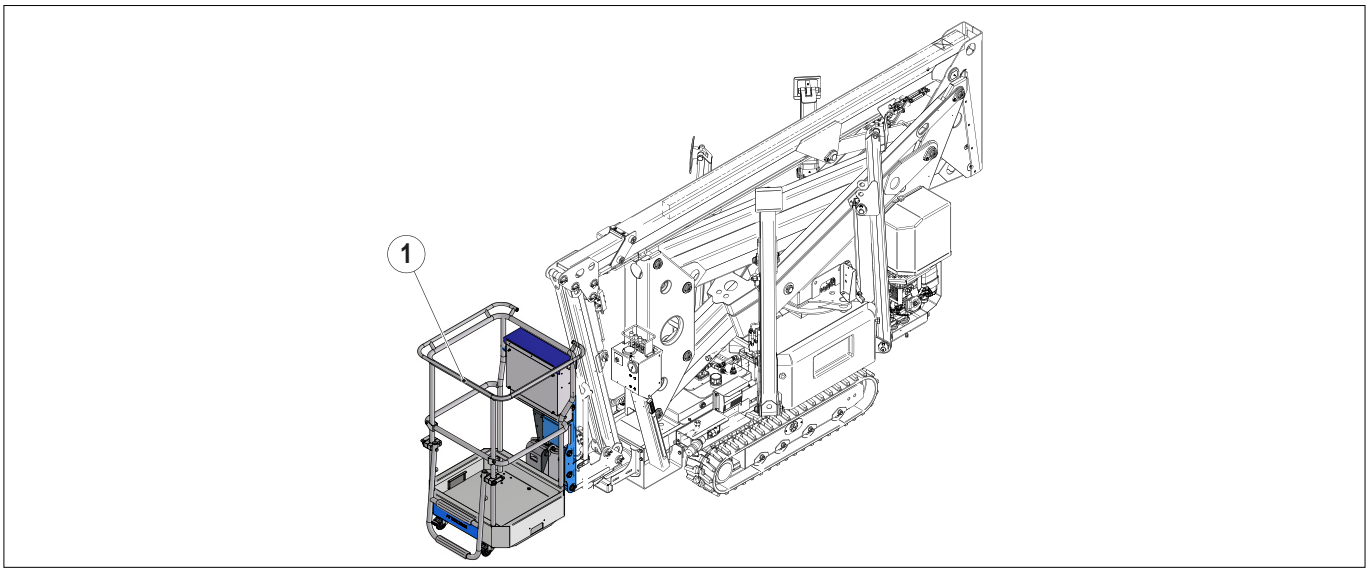


FIG. 47 *(Single person work platform)*

Data with single-seat work platform		
Maximum load on work platform	*kg*	200 (1 people and 120 kg of equipment)
Dimensions of work platform	*mm*	780 x 700 x 1100

With regard to the work area, refer to the data in section **chapt. 5.8.**

20.7 VTR WORK PLATFORM

The machine can be equipped with a VTR work platform **(FIG. 48 - RIF 1)**

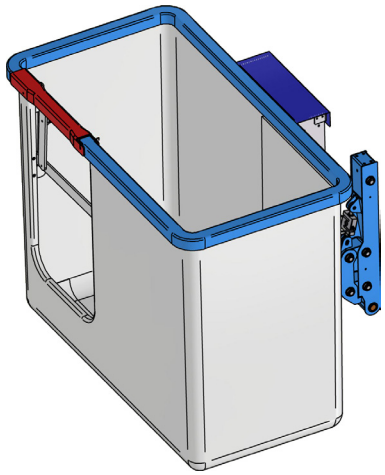


FIG. 48 *(VTR work platform)*

Data with VTR work platform		
Maximum load on work platform	*kg*	200 (2 people and 40 kg of equipment)
Dimensions of work platform	*mm*	1390 x 690 x 1100

With regard to the work area, refer to the data in section **chapt. 5.8.**

20.8 110V 50HZ ELECTRIC PUMP

The machine can be equipped with a 110V 50Hz auxiliary electric pump **(FIG. 49 - Ref. 1)** The electric pump allows the machine to be connected to and powered by a 110V 50HZ power supply to be used without an endothermic motor **(see chapt. 14.4.2)**.

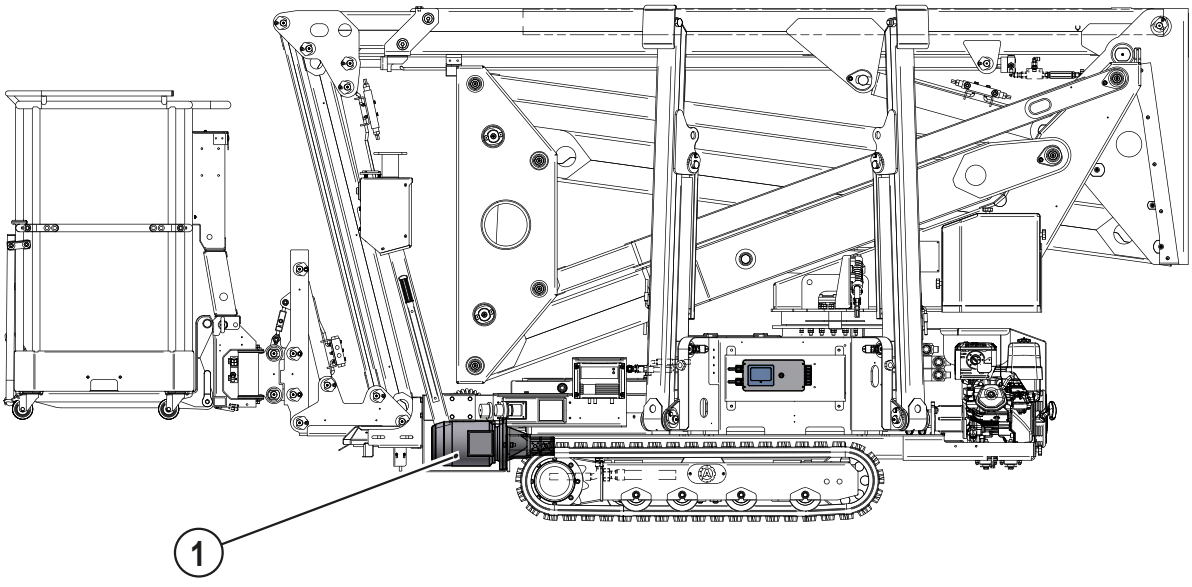


FIG. 49 *(Electric pump)*

20.9 DOUBLE SPEED

The machine can be with double speed **(FIG. 50 - Ref. 1)**.
This accessory permits to add an additional speed to the traction of the crawler carriage.

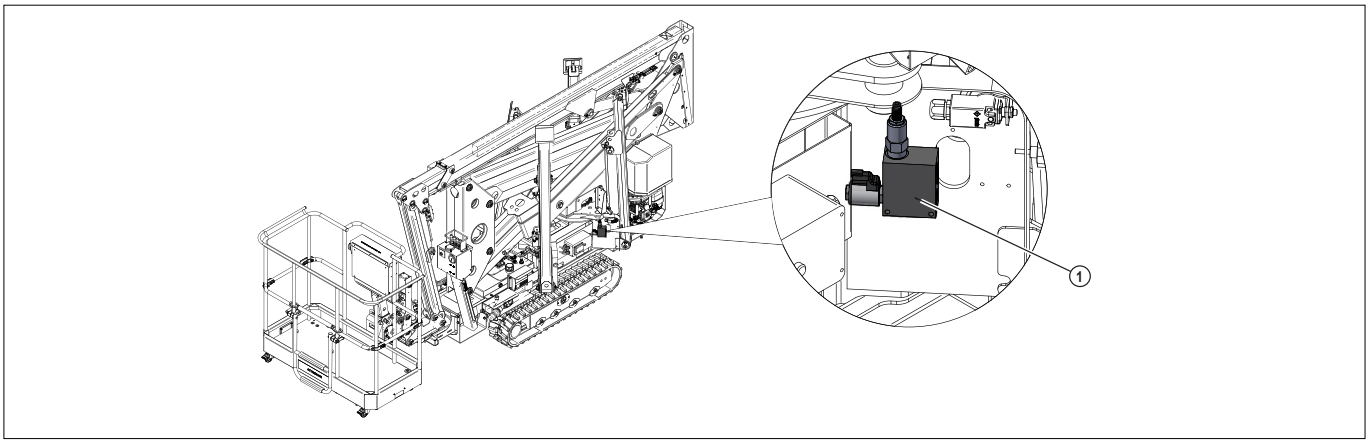


FIG. 50 *(Double speed)*

20.10 NON-MARKING TRACKS

The elevating work platform carriage can be fitted with white, non-marking tracks **(FIG. 51 - Ref. 1)**. This type of track does not leave any black marks on the operating surface. They are particularly suitable for indoor use on industrial, painted or tiled flooring. These tracks have a greater ductility/flexibility than those of standard "black" tracks.

Due to their characteristics, the following precautions must be observed during transfers.

- Perform machine travel in transfer condition and with no additional loads.
- Perform machine travel at a reduced speed.
- Always perform machine travel on flat surfaces.
- Avoid contact between the tracks and the lubricant, wash immediately in case of contamination.
- Avoid counter-rotations of the machine on site and/or at high speed.
- Make sure that the track tension is correct (see chapter "Maintenance").
- Avoid prolonged exposure to the sun.
- Avoid use on surfaces such as: asphalt concrete, waste materials, pre-spaced porphyry and paving, sand, surfaces contaminated with ferrous and wood materials.
- In case of prolonged stops, position the machine with the tracks off the ground.

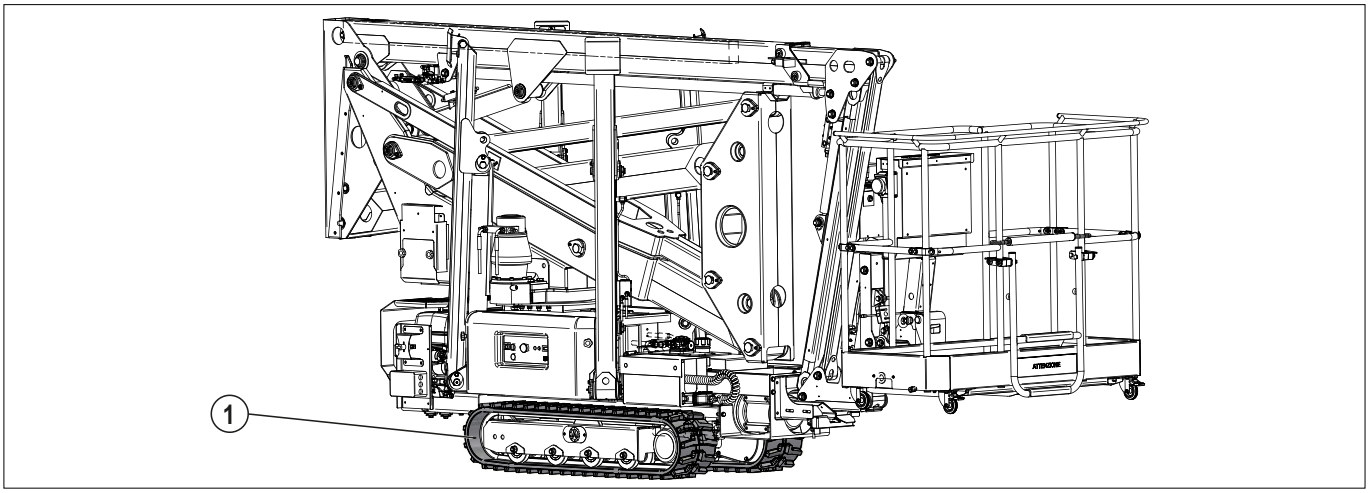


FIG. 51 *(Non-marking tracks)*

INFORMATION

FAILURE TO OBSERVE THE PRECAUTIONS LISTED ABOVE CAN CAUSE PREMATURE DETERIORATION OF THE TRACKS AND TREAD PATTERNS THAT WILL NOT BE COVERED BY WARRANTY.

20.11 FLASHING LAMP

The machine can be fitted with a flashing lamp **(FIG. 52 - Ref. 1)**, positioned on the side of the turret. The flashing lamp activates when voltage is applied to the machine's electrical system **(see chapt. 14.4)**.

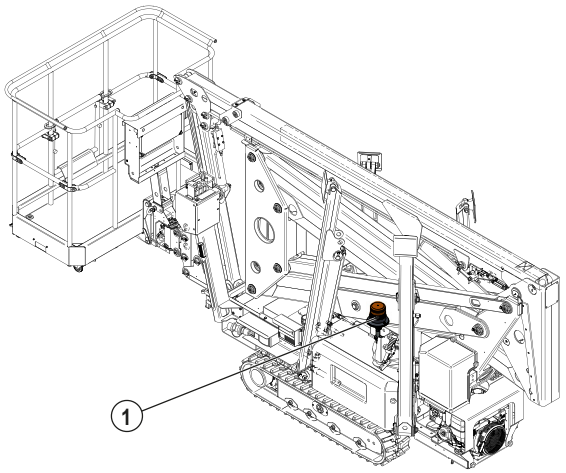


FIG. 52 *(Flashing lamp)*

20.12 ANTI-CRUSH WARNING DEVICE

The machine can be equipped with an anti-crush warning device **(FIG. 53 - REF 1)** positioned on the work platform.
If the anti-crushing warning device is triggered because the operator has been crushed in the basket, the control panel on the work platform will be disabled immediately.
The controls are re-enabled when the anti-crushing is released.

⚠ DANGER

THERE IS A **DANGER OF COLLISION AND CRUSHING** DUE TO ACCIDENTAL CONTACT WITH OBSTACLES IF THE AUTHORISED OPERATORS USE THE MACHINE IN AN IMPROPER WAY **(SEE SECT. 5.4)** AND DO NOT COMPLY WITH THE FOLLOWING INSTRUCTIONS:

- OBLIGATION TO WEAR THE REQUIRED PPE **(SEE CHAPT. 9)**.
- OBLIGATION TO ADOPT THE PROCEDURES FOR CORRECT USE AND MAINTENANCE.
- OBLIGATION TO CONSTANTLY CHECK THE WORK AREA.

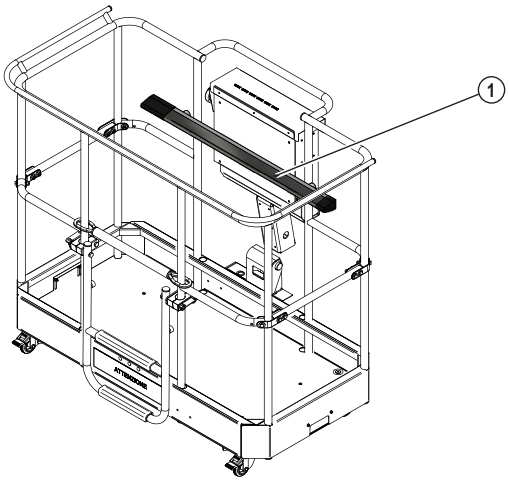


FIG. 53 *(Anti-crushing warning device)*

20.13 AUXILIARY HOOK ATTACHMENT

The machine can be fitted with a secondary hook attachment **(FIG. 54 - Ref. 1)**.
This accessory can be used as a support point to help move the machine, if necessary.

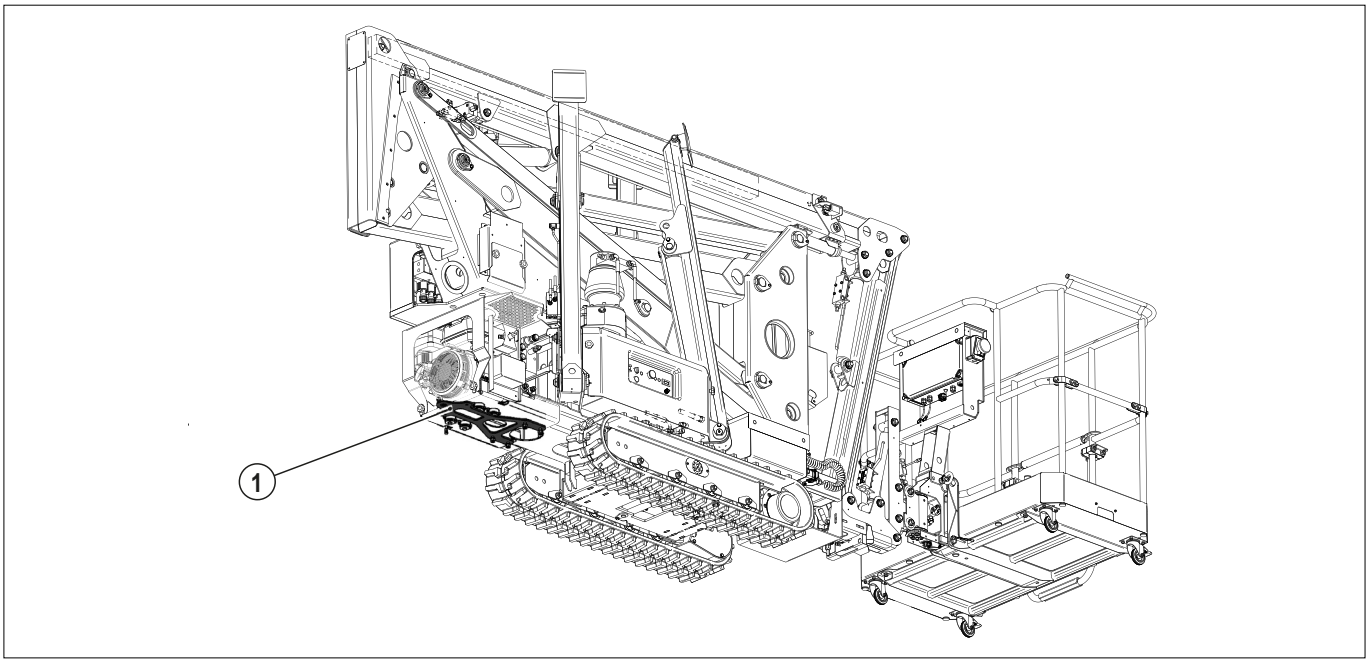


FIG. 54 *(auxiliary hook attachment)*

20.14 PRESSURE GAUGE BLANKING PORT

The machine can be fitted with a blanking plug for pressure gauge removal **(FIG. 55 - Ref. 1).** It must be applied when the pressure gauge is removed.

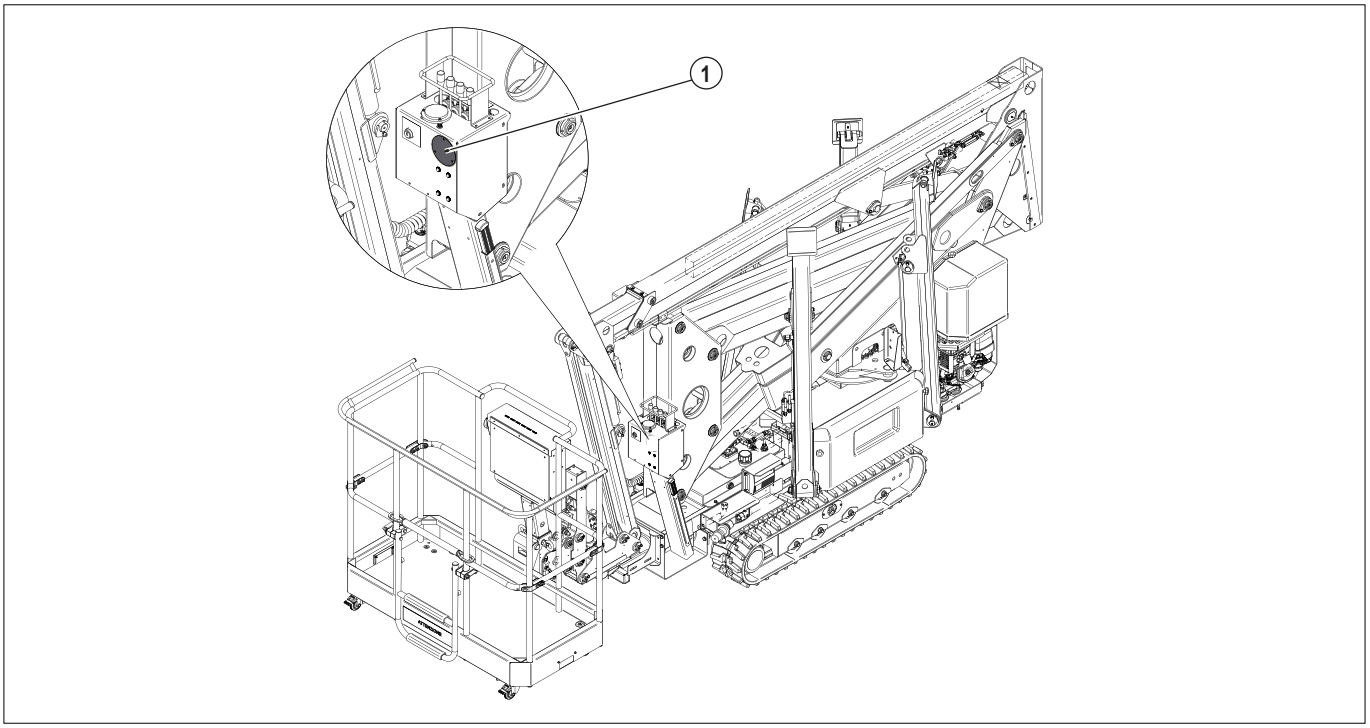


FIG. 55 *(Pressure gauge blanking port)*

20.15 TRACTION CONTROL COMPARTMENT COVER

The machine can be fitted with a rigid traction control compartment cover **(FIG. 56 - Ref. 1)**.
This replaces the original traction control compartment cover with a rigid one that offers greater impact resistance

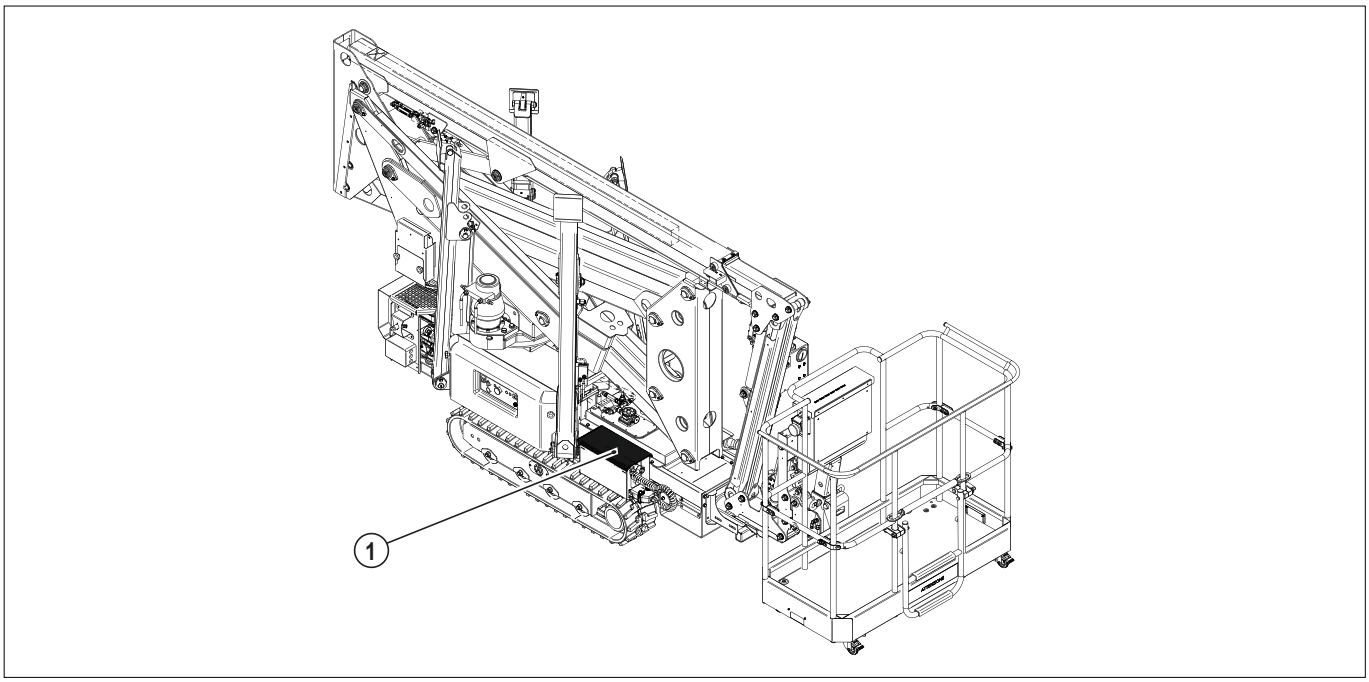


FIG. 56 *(Traction control compartment cover)*

20.16 FOLDING STEP

The machine can be fitted with a folding step **(FIG. 57 - Ref. 1)**.
This replaces the standard step with a larger one to make it easier to access to the work platform.

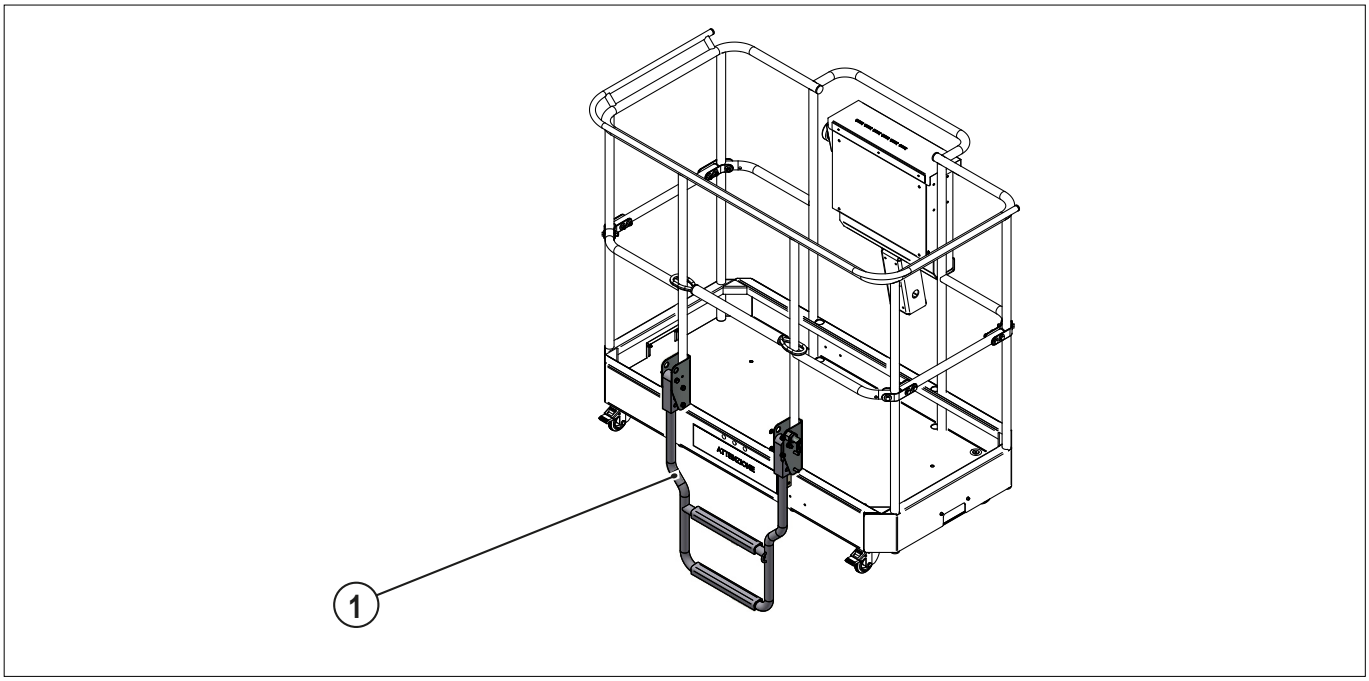


FIG. 57 *(Tilting step)*

20.17 NYLON PLATE SET

The machine can be fitted with nylon plates **(FIG. 58 - Ref. 1 - 4)**.
This accessory enables the load to be distributed evenly and optimally, stabilising the MEWP even on different types of surfaces and/or terrain and ensuring reliability and efficiency.

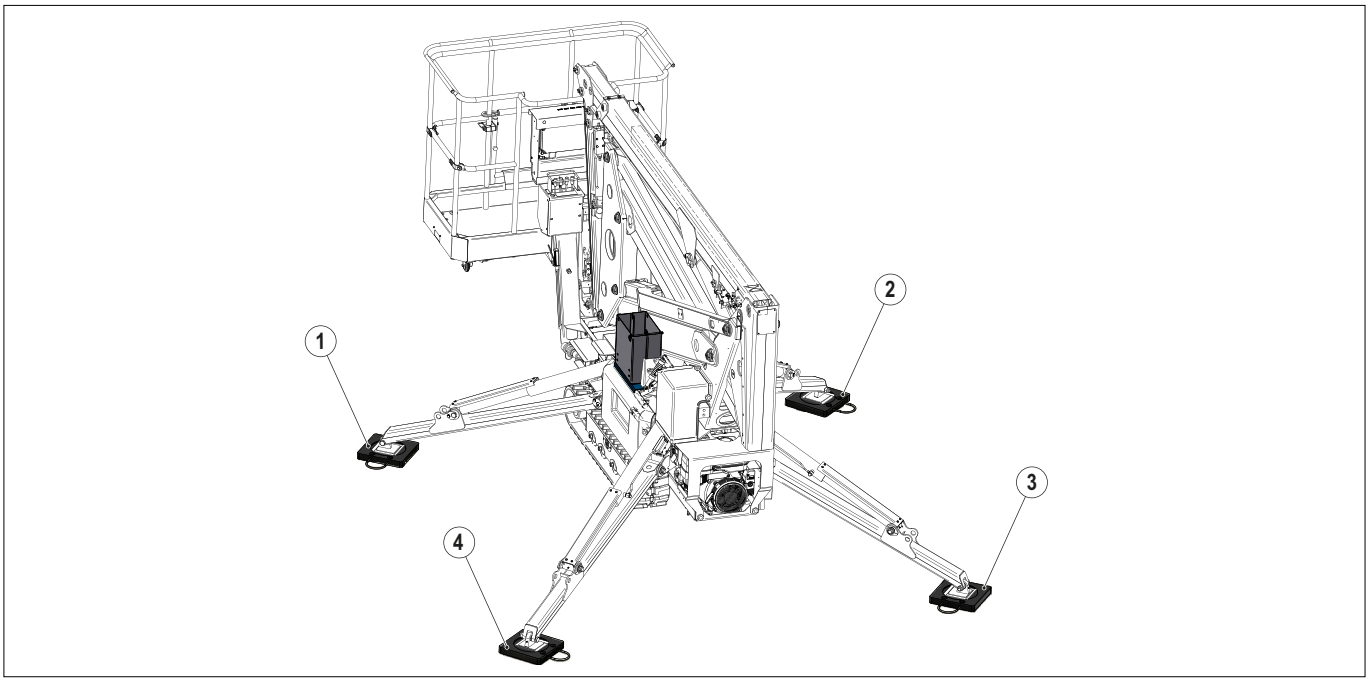


FIG. 58 *(Nylon plate set)*

20.18 110V 60HZ ELECTRIC PUMP

The machine can be equipped with a 110V 60Hz auxiliary electric pump **(FIG. 59 - Ref. 1)**
The electric pump allows the machine to be connected to and powered by a 110V 60HZ power supply to be used without an endothermic motor **(see chapt. 14.4.2)**.

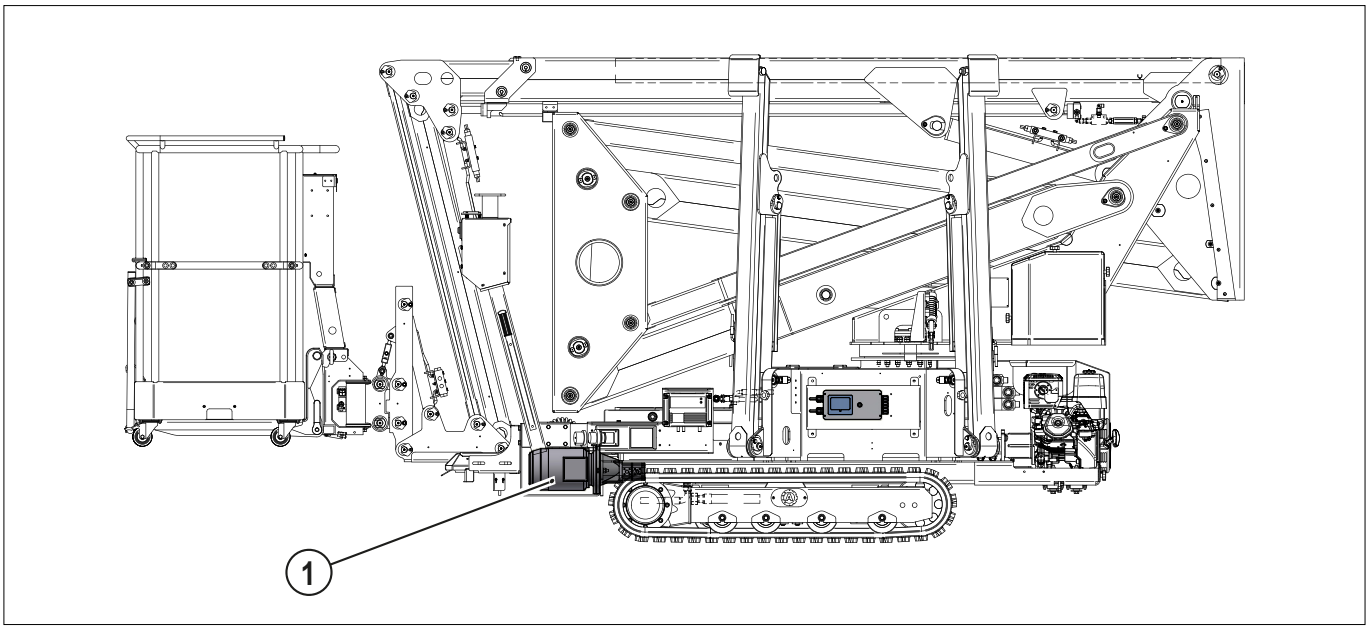


FIG. 59 *(Electric pump)*

20.19 CTE CONNECT

The machine can be equipped with CTE CONNECT **(FIG. 60 - Ref. 1)**.
This module allows remote connection for CTE assistance.

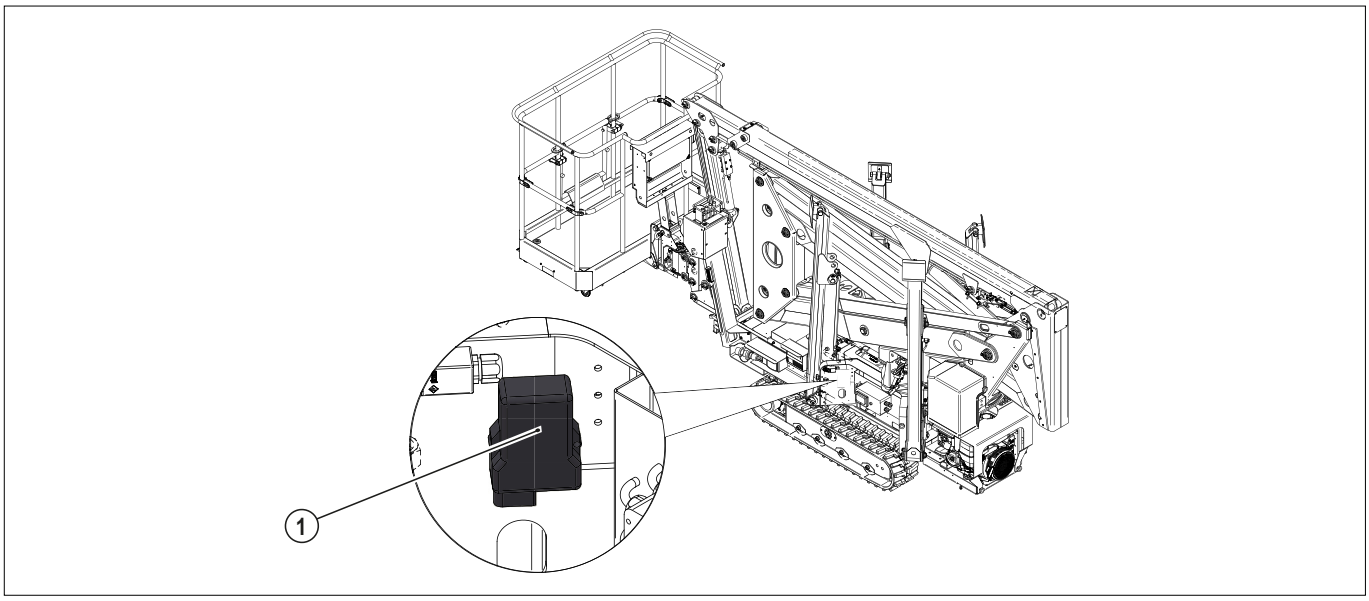


FIG. 60 *(CTE CONNECT)*

20.20 EARTHING

The machine can be equipped with an earthing accessory **(FIG. 61 - Ref. 1)**. The accessory provides safe discharge path, ensuring that all operations on the work platform can be carried out without the risk of electric shock. The system comprises a line running through the entire structure, connecting the first grounding contact point on the work platform **(FIG. 61 - Ref. 1)** to the second earthing point on the chassis **(FIG. 61 - Ref. 2)**.

The point **(FIG. 61 - Ref. 2)** must be connected to a verified earthing point. Any electrical equipment on which work is to be carried out should be connected to point **(FIG. 61 - Ref. 1)**.

⚠ WARNING

THE SECTION OF THE CABLE MOUNTED ON THE PLATFORM IS 10 MM². MAKE SURE THAT IT IS SUITABLE FOR THE WORK TO BE CARRIED OUT.

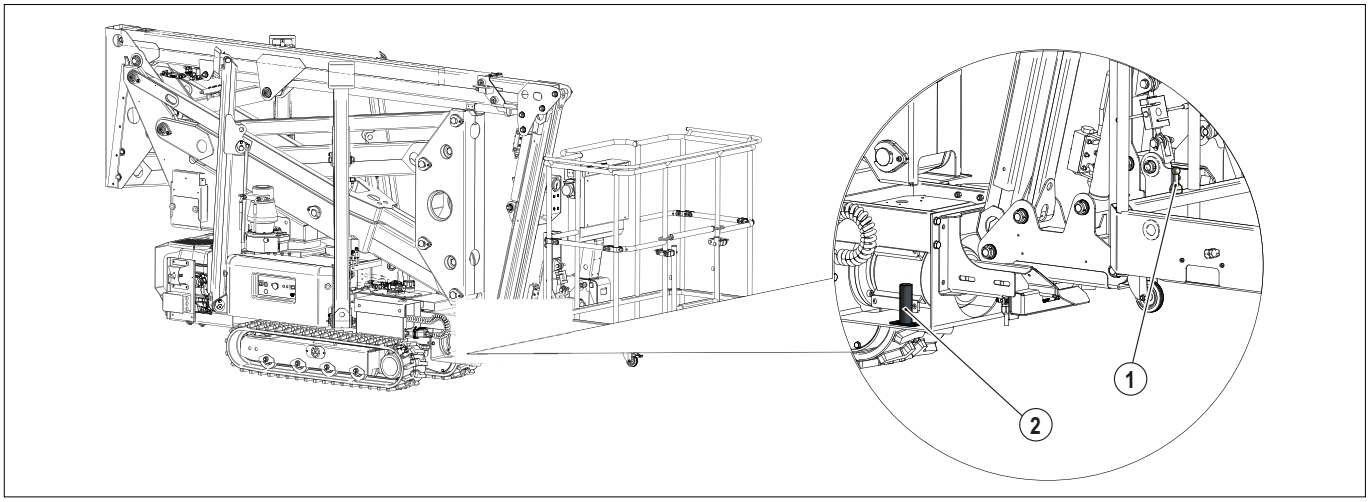


FIG. 61 *(Earthing)*

20.21 HYDRAULIC OIL AND SYNTHETIC BIODEGRADABLE GEARBOX OIL

The machine can be equipped with synthetic biodegradable oil. This type of oil is used in aerial platform components: BIOGEAR RS 80W/90 is used in gearboxes and HLP SYNTH E 32 is used as hydraulic oil. The type of oil present in the combustion engine is indicated in the manufacturer's manual. The presence of biodegradable oil is indicated by the pictogram on the tank.

20.21.1 SYNTHETIC BIODEGRADABLE HYDRAULIC OIL

⚠ DANGER

THE FOLLOWING OPERATIONS SHOULD BE PERFORMED WITH THE PLATFORM IN ITS STOWED POSITION (STABILISERS AND BOOMS FULLY RETRACTED)

Before each use, check the level of the hydraulic oil on the tank indicator **(FIG. 62 - Ref. 1)**. The level should be at the centre of the indicator.
If necessary, remove the filler cap **(FIG. 62 - Ref. 2)** and top it up.

Replace the hydraulic oil every 12000 hours. At the same time, replace the hydraulic oil filters. Use a suitable container of sufficient capacity and remove the outlet plug under the tank to empty the oil. Close the drain plug and refill the tank.

Tank capacity: 32 litres

Specifications:

- PANOLIN HLP SYNTH E 32
- Viscosity at 40°C = 30.1 mm²/s
- Viscosity at 100°C = 6.1 mm²/s
- Viscosity index =153
- Flow point = -50°C
- Iodine number ≤ 7
- Biodegradable and non-toxic synthetic static esters (HEES) based lubricant, certified under the European label "certified European Eco Label" as per Directive 2005/360/EC.

⚠ WARNING

IT IS FORBIDDEN TO DISCHARGE RESIDUAL LIQUIDS AND OILS INTO THE ENVIRONMENT.

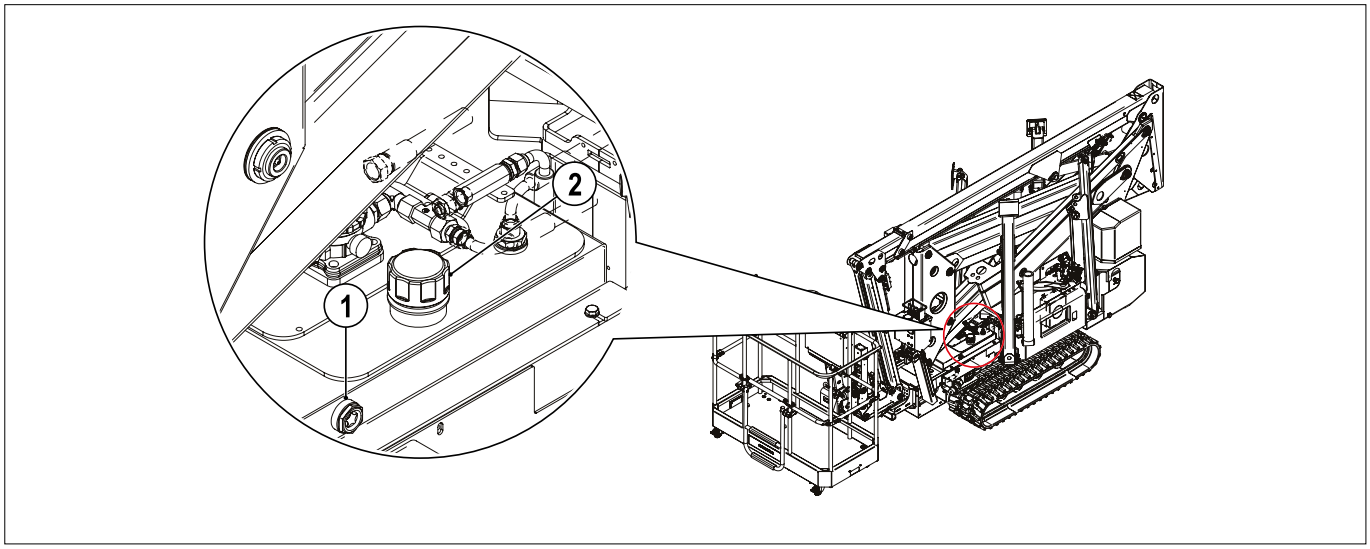


FIG. 62 *(Hydraulic oil tank)*

20.21.2 SYNTHETIC BIODEGRADABLE SLEWING GEARBOX OIL

⚠ DANGER

THE FOLLOWING OPERATIONS SHOULD BE PERFORMED WITH THE PLATFORM IN ITS STOWED POSITION (STABILISERS AND BOOMS FULLY RETRACTED)

Check the oil level every three months or every 500 hours. If necessary, top up. If you notice that more than 10% of the lubricant volume requires topping up, it is advisable to check for oil leaks in the unit. After the first 100 hours of operation and then every 6000 hours or every 3 years, change the oil in the rotation gearbox.

Use PANOLIN BIOGEAR RS 80W/90 oil for ambient temperatures between -10 and +45°C

These intervals can be varied according to the actual operating conditions. During the oil change, it is recommended to wash the inside of the protective casing with a suitable liquid for the purpose and recommended by the lubricant manufacturer. To prevent sludge from settling, the oil must be changed with the gearbox hot. Do not mix different types of oil together, regardless of whether they are of the same brand or not; the same applies to mineral oils with synthetic oils

⚠ WARNING

IT IS FORBIDDEN TO DISCHARGE RESIDUAL LIQUIDS AND OILS INTO THE ENVIRONMENT.

20.21.3 DISPOSAL OF BIODEGRADABLE OIL

They can be incinerated, when local legislation allows it. Recycling is recommended instead of disposal at a landfill or incineration. In accordance with local and national regulations, waste code (OTRS): 1440

- European waste catalogue, code (EWC code): 13 01 12 biodegradable hydraulic oil.
- European waste catalogue, code (EWC code): 13 01 06 biodegradable gearbox oil.

21 ATTACHMENTS

21.1 WIRING DIAGRAM

INFORMATION

THE HARD COPY OF THE WIRING DIAGRAM AND THE INSTRUCTIONS MANUAL MUST BE KEPT BY THE BUYER AND MADE AVAILABLE DURING THE NORMAL USE OF THE MACHINE.

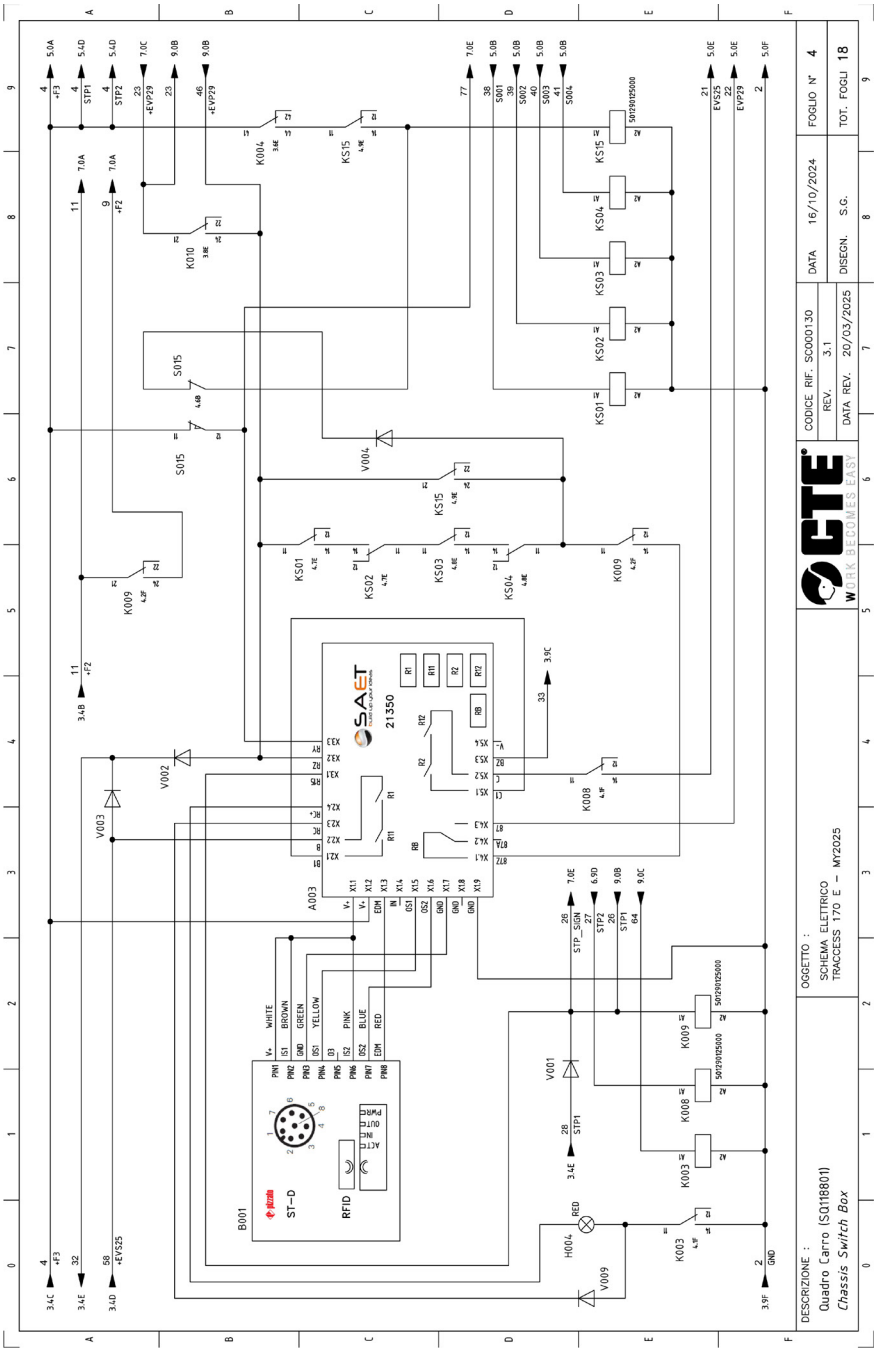


FIG. 63 *(Wiring diagram)*

21.2 HYDRAULIC DIAGRAM

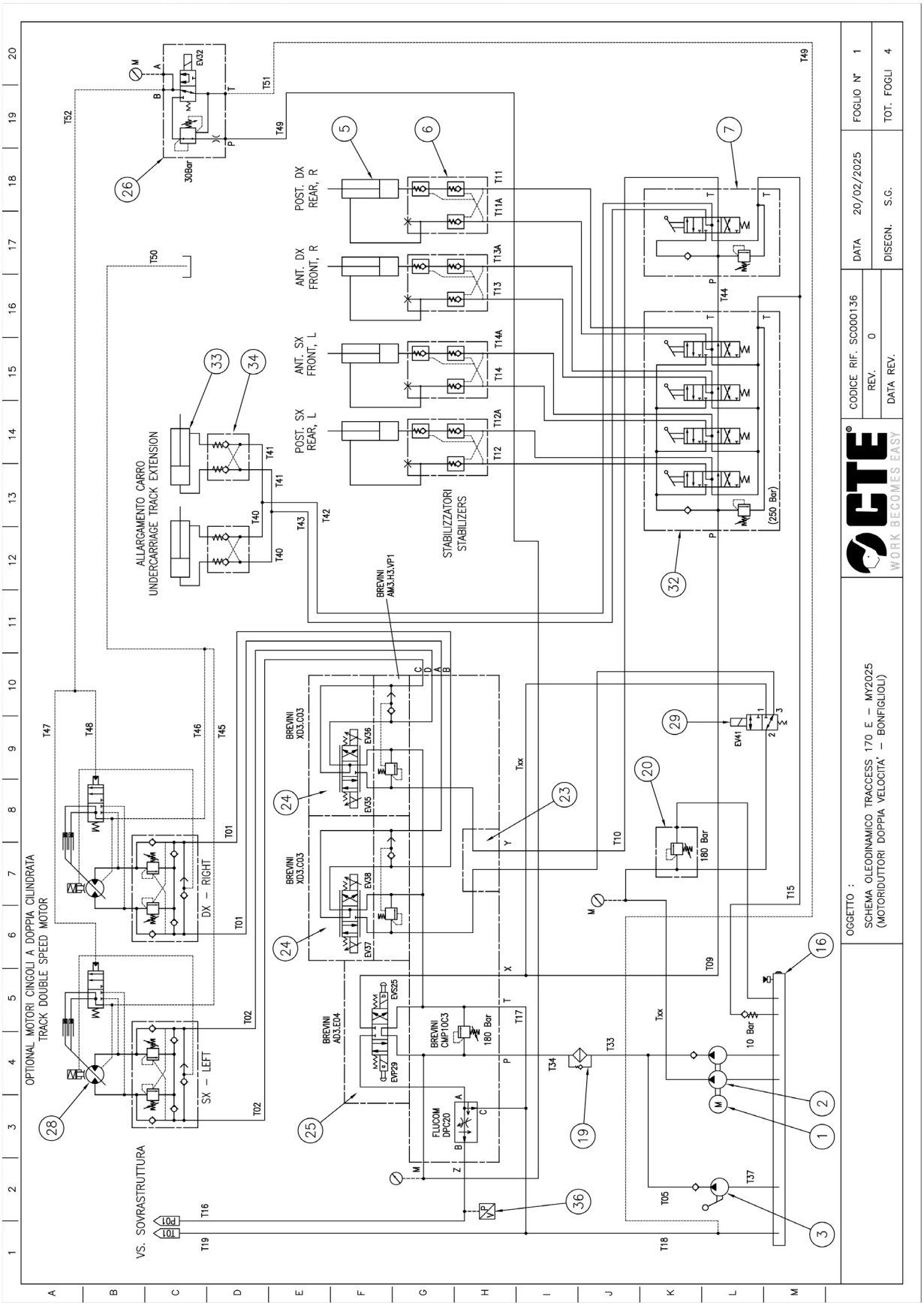


FIG. 64 *(Hydraulic diagram)*

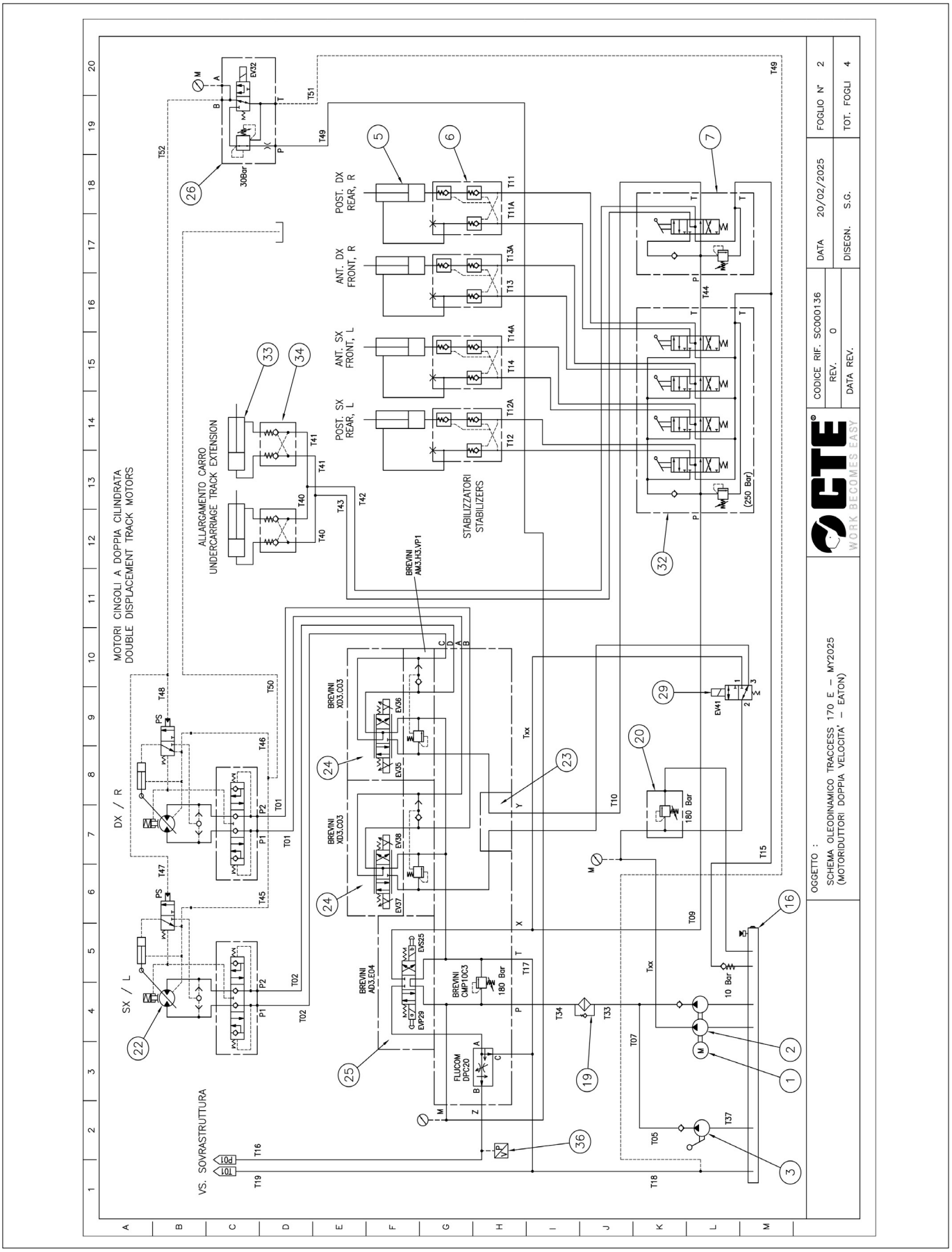


FIG. 65 *(Hydraulic diagram)*

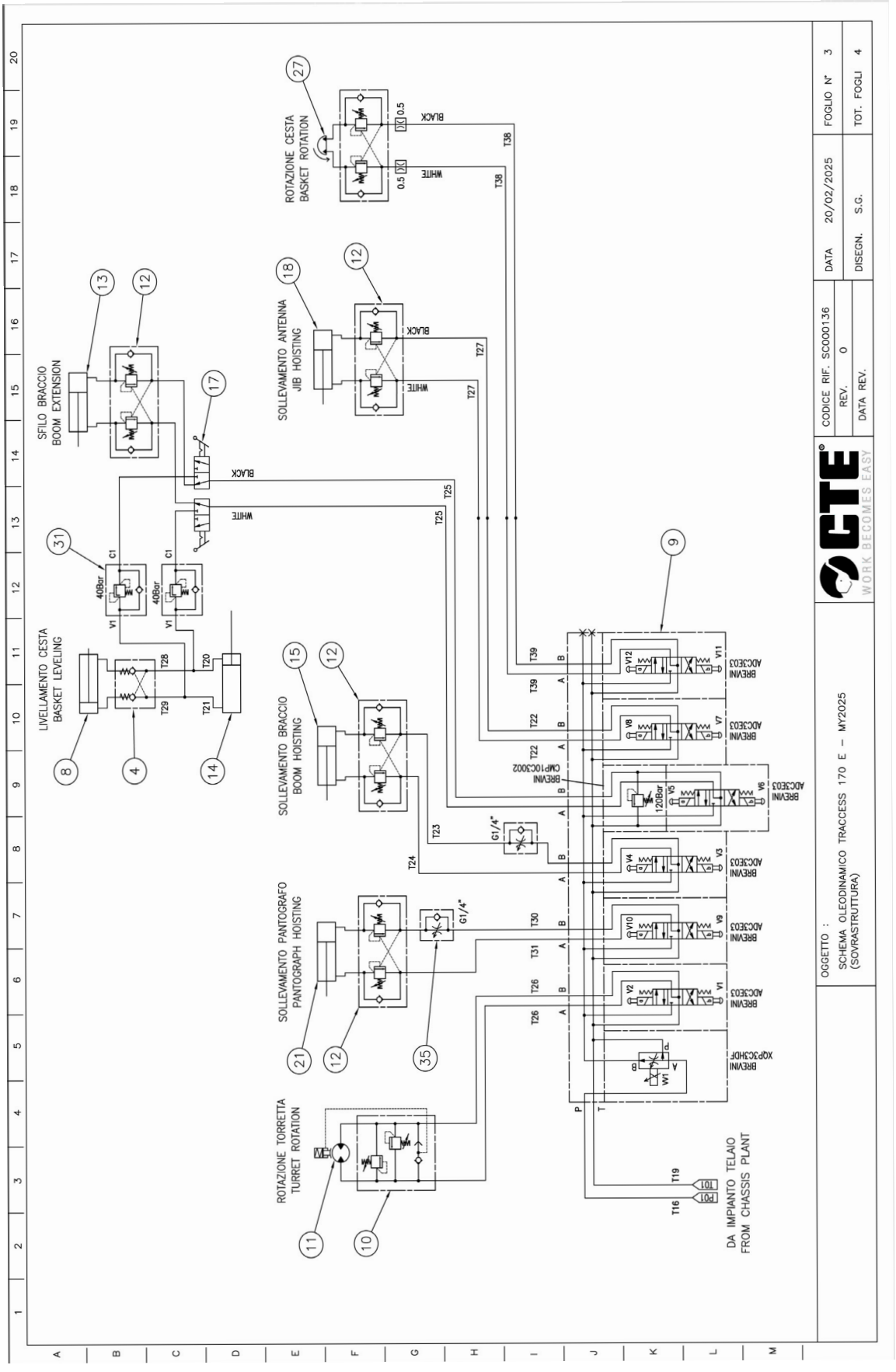
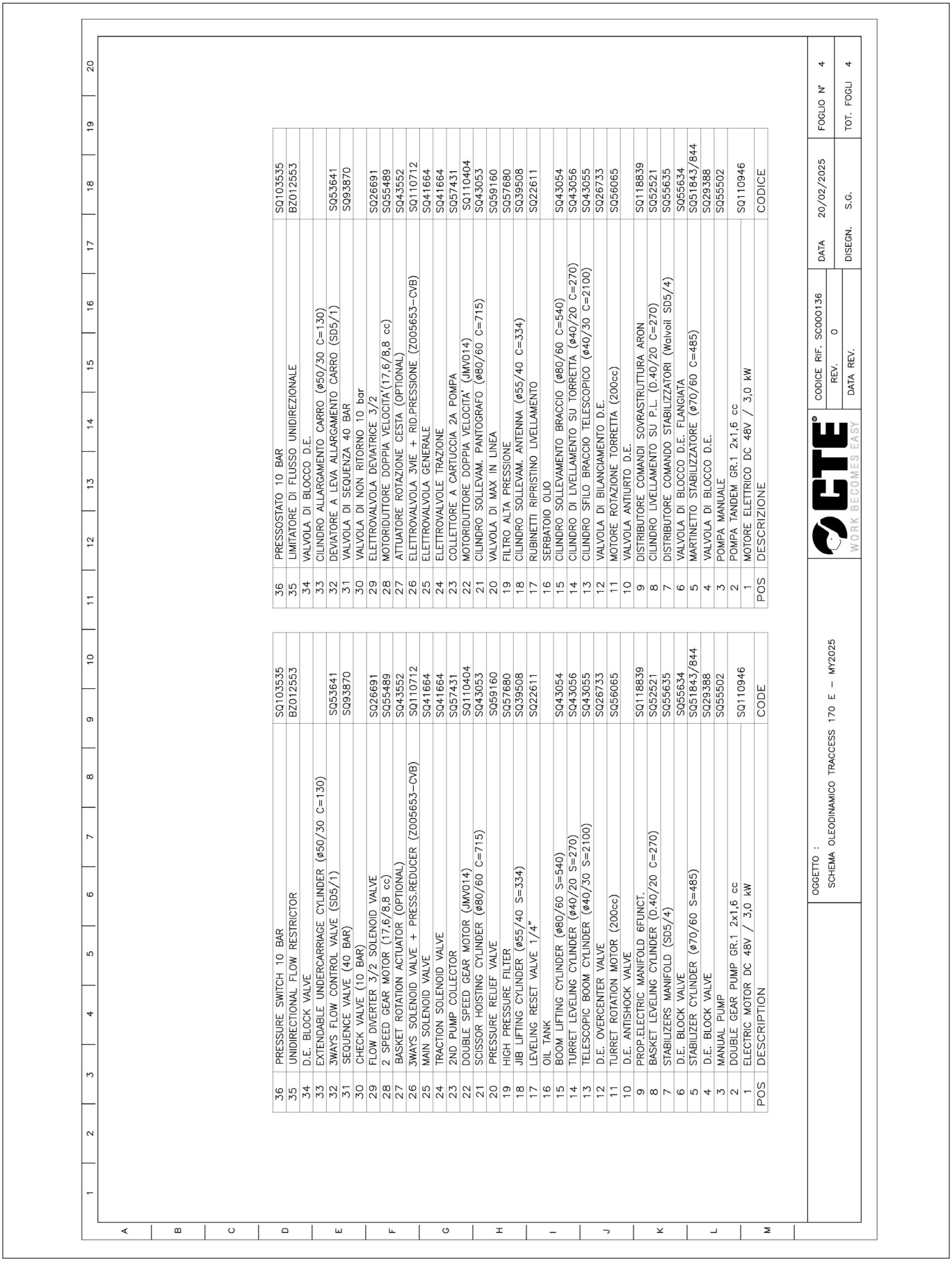


FIG. 66*(Hydraulic diagram)*



POS	DESCRIPTION	CODE
1	ELECTRIC MOTOR DC 48V / 3,0 kW	SQ110946
2	DOUBLE GEAR PUMP GR.1 2x1,6 cc	
3	MANUAL PUMP	SQ55502
4	D.E. BLOCK VALVE	
5	STABILIZER CYLINDER (ø70/60 S=485)	SQ51843/844
6	D.E. BLOCK VALVE	SQ55634
7	STABILIZERS MANIFOLD (SD5/4)	SQ55635
8	BASKET LEVELING CYLINDER (D.40/20 C=270)	SQ52521
9	PROP.ELECTRIC MANIFOLD 6FUNCT.	SQ118839
10	D.E. ANTISHOCK VALVE	SQ56065
11	TURRET ROTATION MOTOR (200cc)	
12	D.E. OVERCENTER VALVE	SQ26733
13	TELESCOPIC BOOM CYLINDER (ø40/30 S=2100)	SQ43055
14	TURRET LEVELING CYLINDER (ø40/20 S=270)	SQ43056
15	BOOM LIFTING CYLINDER (ø80/60 S=540)	SQ43054
16	OIL TANK	
17	LEVELING RESET VALVE 1/4"	SQ22611
18	JIB LIFTING CYLINDER (ø55/40 S=334)	SQ39508
19	HIGH PRESSURE FILTER	SQ57680
20	PRESSURE RELIEF VALVE	SQ59160
21	SCISSOR HOISTING CYLINDER (ø80/60 C=715)	SQ43053
22	DOUBLE SPEED GEAR MOTOR (JMV014)	SQ110404
23	2ND PUMP COLLECTOR	SQ57431
24	TRACTION SOLENOID VALVE	SQ41664
25	MAIN SOLENOID VALVE	SQ41664
26	3WAYS SOLENOID VALVE + PRESS.REDUCER (ZQ05653-CVB)	SQ110712
27	BASKET ROTATION ACTUATOR (OPTIONAL)	SQ43552
28	2 SPEED GEAR MOTOR (17,6/8,8 cc)	SQ55489
29	FLOW DIVERTER 3/2 SOLENOID VALVE	SQ26691
30	CHECK VALVE (10 BAR)	
31	SEQUENCE VALVE (40 BAR)	SQ93870
32	3WAYS FLOW CONTROL VALVE (SD5/1)	SQ53641
33	EXTENDABLE UNDERCARRIAGE CYLINDER (ø50/30 C=130)	
34	D.E. BLOCK VALVE	
35	UNIDIRECTIONAL FLOW RESTRICTOR	BZ012553
36	PRESSURE SWITCH 10 BAR	SQ103535

POS	DESCRIZIONE	CODICE
1	MOTORE ELETTRICO DC 48V / 3,0 kW	SQ110946
2	POMPA TANDEM GR.1 2x1,6 cc	
3	POMPA MANUALE	SQ55502
4	VALVOLA DI BLOCCO D.E.	
5	MARTINETTO STABILIZZATORE (ø70/60 C=485)	SQ51843/844
6	VALVOLA DI BLOCCO D.E. FLANGIATA	SQ55634
7	DISTRIBUTORE COMANDO STABILIZZATORI (Walvoil SD5/4)	SQ55635
8	CILINDRO LIVELLAMENTO SU P.L. (D.40/20 C=270)	SQ52521
9	DISTRIBUTORE COMANDI SOVRASTRUTTURA ARON	SQ118839
10	VALVOLA ANTIURTO D.E.	SQ56065
11	MOTORE ROTAZIONE TORRETTA (200cc)	
12	VALVOLA DI BILANCIAMENTO D.E.	SQ26733
13	CILINDRO SFILO BRACCIO TELESCOPICO (ø40/30 C=2100)	SQ43055
14	CILINDRO DI LIVELLAMENTO SU TORRETTA (ø40/20 C=270)	SQ43056
15	CILINDRO SOLLEVAMENTO BRACCIO (ø80/60 C=540)	SQ43054
16	SERBATOIO OLIO	
17	RUBINETTI RIPRISTINO LIVELLAMENTO	SQ22611
18	CILINDRO SOLLEVAM. ANTENNA (ø55/40 C=334)	SQ39508
19	FILTRO ALTA PRESSIONE	SQ57680
20	VALVOLA DI MAX IN LINEA	SQ59160
21	CILINDRO SOLLEVAM. PANTOGRAFO (ø80/60 C=715)	SQ43053
22	MOTORIDUTTORE DOPPIA VELOCITA' (JMV014)	SQ110404
23	COLLETTORE A CARTUCCIA 2A POMPA	SQ57431
24	ELETTROVALVOLE TRAZIONE	SQ41664
25	ELETTROVALVOLA GENERALE	SQ41664
26	ELETTROVALVOLA 3VIE + RID.PRESSIONE (ZQ05653-CVB)	SQ110712
27	ATTUATORE ROTAZIONE CESTA (OPTIONAL)	SQ43552
28	MOTORIDUTTORE DOPPIA VELOCITA'(17,6/8,8 cc)	SQ55489
29	ELETTROVALVOLA DEVIATRICE 3/2	SQ26691
30	VALVOLA DI NON RITORNO 10 bar	
31	VALVOLA DI SEQUENZA 40 BAR	SQ93870
32	DEVIATORE A LEVA ALLARGAMENTO CARRO (SD5/1)	SQ53641
33	CILINDRO ALLARGAMENTO CARRO (ø50/30 C=130)	
34	VALVOLA DI BLOCCO D.E.	
35	LIMITATORE DI FLUSSO UNIDIREZIONALE	BZ012553
36	PRESSOSTATO 10 BAR	SQ103535

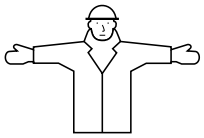
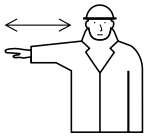
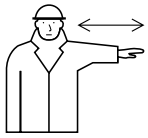
OGGETTO :
SCHEMA OLEODINAMICO TRACCESS 170 E - MY2025

CTE WORK BECOMES EASY

CODICE RIF. SC000136 | DATA 20/02/2025 | FOGLIO N° 4
REV. 0 | | TOT. FOGLI 4
DATA REV. | DISEGN. S.G.

FIG. 67*(Hydraulic diagram)*

21.3 HAND SIGNALS (92/58/EEC DIRECTIVE)

A. GENERAL SIGNALS		C. HORIZONTAL MOVEMENTS	
	• START • CAUTION • START OF COMMAND BOTH ARMS ARE EXTENDED HORIZONTALLY WITH THE PALMS FACING FORWARD.		• MOVE FORWARDS BOTH ARMS ARE BENT WITH THE PALMS FACING UPWARDS, AND THE FOREARMS MAKE SLOW MOVEMENTS TOWARDS THE BODY.
	• STOP • INTERRUPTION • END OF MOVEMENT THE RIGHT ARM POINTS UPWARDS WITH THE PALM FACING FORWARDS.		• MOVE BACKWARDS BOTH ARMS ARE BENT WITH THE PALMS FACING DOWNWARDS, AND THE FOREARMS MAKE SLOW MOVEMENTS AWAY FROM THE BODY.
	• END OF THE OPERATION BOTH HANDS ARE CLASPED AT CHEST HEIGHT.		• TO THE RIGHT OF THE SIGNALLER THE RIGHT ARM IS EXTENDED MORE OR LESS HORIZONTALLY WITH THE PALM FACING DOWNWARDS AND SLOWLY MAKES SMALL MOVEMENTS TO THE RIGHT.
B. VERTICAL MOVEMENTS			
	• RAISE THE RIGHT ARM POINTS UPWARDS WITH THE PALM FACING FORWARD AND SLOWLY MAKES A CIRCLE.		• TO THE LEFT OF THE SIGNALLER THE LEFT ARM IS EXTENDED MORE OR LESS HORIZONTALLY WITH THE PALM FACING DOWNWARDS AND SLOWLY MAKES SMALL MOVEMENTS TO THE LEFT.
	• LOWER THE RIGHT ARM POINTS DOWNWARDS WITH THE PALM FACING INWARDS AND SLOWLY MAKES A CIRCLE.		• HORIZONTAL DISTANCE THE HANDS INDICATE THE RELEVANT DISTANCE.
		D. DANGER	
	• VERTICAL DISTANCE THE HANDS INDICATE THE RELEVANT DISTANCE.		• DANGER • STOP OR EMERGENCY STOP BOTH ARMS POINT UPWARDS WITH THE PALMS FACING FORWARDS.

TAB. 44 *(Hand signals - 92/58/EEC Directive)*

21.4 DECLARATION OF DELIVERY OF THE INSTRUCTION MANUAL

THE EMPLOYER, IN ACCORDANCE WITH THE PROVISIONS OF LEGISLATION IN FORCE ON THE SAFETY AND HEALTH OF WORKERS IN THE WORKPLACE, DECLARES THAT HE HAS PROVIDED THE AUTHORISED OPERATORS WITH THIS MANUAL FOR CORRECT INFORMATION AND TRAINING ON THE USE AND MAINTENANCE OF THE MACHINE.

Authorised operators	Date	Signature to acknowledge receipt
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
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Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....
Mr./Ms	....../....../......	....

TAB. 45 *(Declaration of delivery of the instruction manual)*

(N.B. Before completing the table, we recommend that you photocopy it for future reference).

WORK BECOMES EASY

CTE SPA

Headquarter and Factory
Via Caproni, 7
36068 Rovereto (TN)

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loc. Terramatta, 5
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Fax +39 0464 48.50.99
info@ctelift.com

www.ctelift.com