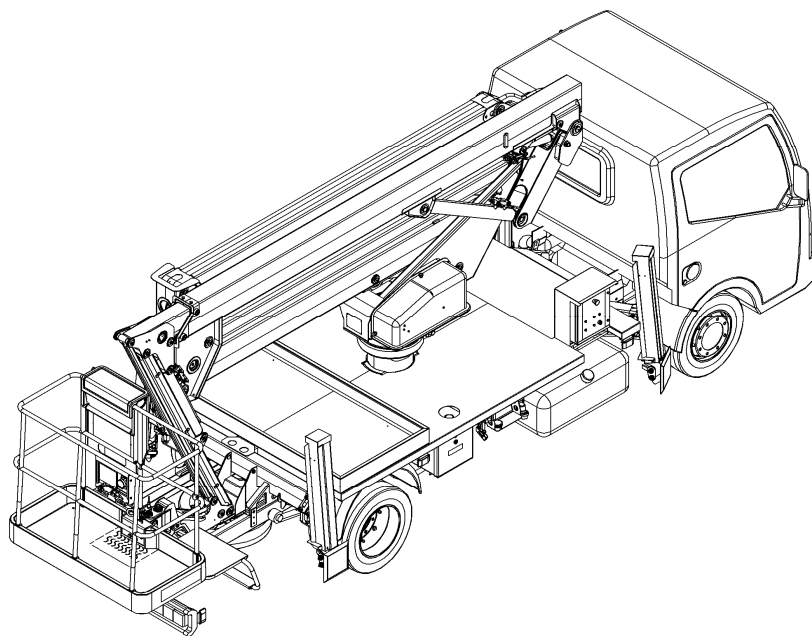


***Use
and maintenance
manual***



**AERIAL WORK PLATFORM
ZED 21.2 JH**

SERIAL N°



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1 INTRODUCTION**1.1 Use and maintenance manual****IMPORTANT!**

Read this manual carefully and understand all Safety Standards and operational instructions before using the machine.

If in doubt, the manufacturer is at your complete disposal for all clarifications.

Keeping the manual

The manual is an integral part of the machine and must be kept in the cab, in the drawer of the dashboard, so that it can always be found.

The manual must always accompany the machine, even if it is sold, until it is put out of service or demolished.

It is recommended to write the machine serial number on the cover so that the manual can be unmistakably identified.

If the manual is lost or deteriorates, request a new one from the manufacturer, indicating the code on the cover or the machine serial number.

1.2 Purpose and limits of the manual**ATTENTION!**

The purpose of this manual is to describe the machine and the use declared by the manufacturer, to illustrate the main technical features, to supply the operator with the instructions necessary for correct use, its routine maintenance and how to fill in the control register.

This manual does not have the purpose of instructing the unskilled operator, or teaching to use the machine. In all descriptions it is supposed that the machine is used only by operators trained expressly to run this type of machine. Reading this manual can in no way replace the training required by the operator.

The operator is directly responsible for the machine and its use.

1.3 Training requested by the operator

The employer must ascertain that:

- the operator has the attitudinal requisites for running the machine
- the operator has been appropriately taught and trained regarding the use of this type of machine.
- the operator has read and understood this manual

**NOTE:**

CTE Spa is available for specific operator courses.

1.4 Modifications and integrations

This manual is in compliance with the Standards and Regulations in force at the date of marketing the machine and therefore must not be considered inadequate or out-of-date in the case of new integrations or modifications implemented by new legal provisions, updating of Standards or new know-how acquired.

However, the manufacturer reserves the right to send the owner any modifications or integrations deemed appropriate relative to the products marketed previously. To make this service easier, it is indispensable to inform the manufacturer of any ownership transfer of the machine.

1.5 Standards and Laws applied

The machine has been designed and built in compliance with the European Directives regarding safety and the harmonisation of the legislations of Member States, specifically, the 2006/42/EC – 2004/108/EC - 2006/95/EC – 2000/14/EC Directives, where applicable.


1.6 Classification

This machine is designed for lifting and moving people and equipment within the maximum capacity allowed by the platform (EWP) towards the positions within the work area. The work platform can only be accessed from the ground through the gate. The limits for use are described in this manual. Any method and condition of use outside of the use limits described in the manual, not declared by the manufacturer is prohibited. The machine is designed for a declared number of work cycles equal to 100,000 and with heavy duty working conditions (e.g. 10 years, 50 working weeks, 40 hours per week, 5 cycles per hour).

The platform must undergo a complete overhaul and check by the manufacturer within the number of cycles declared. In the event of particularly heavy duty use, the overhaul must be brought forward. A check every 2,000 hours is recommended and an overhaul at least every 5,000 hours.

1.7 After-sales assistance and spare parts

To request extraordinary maintenance, repairs or to request spare parts, contact the nearest authorised after-sales centre, which has qualified staff and the equipment suitable to perform the necessary interventions. For further information, contact the After-sales Service.

 **After-sale & Spare-parts Service: Tel. +39 0464 48 50 50**



ATTENTION:
use original manufacturer's spare-parts only for a correct operation
and optimized machine life.

 **After-sale & Spare-parts Service: Tel. +39 0464 48 50 50**

Always state the models and serial number of the machine when requesting spare parts.

1.8 Warranty

The machine is covered by a warranty starting from the delivery date to the customer: for the warranty conditions, refer to the warranty certificate delivered with the machine. The manufacturer reserves the right to repair or replace the pieces acknowledged as faulty during the warranty period. The warranty becomes null and void in the event of failure to comply with the user instructions contained in this manual. The interventions performed under warranty are carried out during normal working hours at authorised workshops or at the manufacturer's establishment. If the intervention is carried out at the customer's establishment, transfer fees for the technical staff will be charged. The transport fees for interventions at the manufacturer's establishment are charged to the customer. With the replacement of the piece deemed faulty, the manufacturer is released from any costs sustained by the authorised dealer and customer, from any presumed damage, present or future, lack of earnings, contract penalty, etc.

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

1.9 Liability

The manufacturer is exonerated from all liability and obligations for any event caused by:

- failure to comply with the manufacturer's instructions regarding use and maintenance of the machine
- improper use of the machine
- failure to comply with the Safety Legislation regarding safety and the Highway Code
- incorrect manoeuvres during use and maintenance of the machine
- lack of maintenance
- use of non-original spare parts or not specific for the model
- modifications made to the machine without previous authorisation from the manufacturer
- exceptional environmental events (acts of God) and incidents outside of normal and correct use of the machine.

In all cases, whenever the user should claim the incident is caused by a machine defect, he must demonstrate that the damage has been the main and direct consequence of the same.

1.10 Terms and definitions

Elevated work platform, code EWP – machine that allows to lift persons in order to perform work within the work platform range.

Work platform – platform equipped with guardrails and control board containing staff authorised to operate.

Operator – person instructed and trained for the use of the elevated work platform.








Maintenance technician – qualified technician that has received suitable training for carrying out the routine maintenance described in this manual.

Authorised workshop – company organisation made up from one or more qualified technicians authorised by the manufacturer to perform extraordinary maintenance and repairs.

Dangerous areas – area affected by machine operations within which there is a risk for persons regarding injury and even death or damage to health.








1.11 Symbols present in the manual

	DANGER: (used to describe procedures or instructions which, if not carried out correctly cause or can cause death or serious injury).
	ATTENTION: (used to describe procedures or instructions which, if not carried out correctly cause injury or damage to the machine).
	NOTE: (used to indicate important information).
	PROHIBITION: indicates actions or procedures that are prohibited and dangerous.
	OBLIGATION: indicates actions or procedures to be performed.
	OBLIGATION: indicates actions or procedures to be performed.
	OBLIGATION: indicates actions or procedures to be performed.

2 DESCRIPTION OF THE MACHINE

2.1 Identification data and marking

Machine:	Elevated work platform (EWP)
Model:	Zed
Type:	21.2 JH/ 21.2 JH VTR <i>[OPTIONAL]</i>
Year of manufacture:	Stated on the CE plate
Manufacturer:	CTE S.p.a. Via Caproni, 7 - Z.I. 38068 ROVERETO (TN) - Italy
Identification plate:	The identification plate is riveted to the turret on the machine and reproduced below
Punching:	The serial number stated on the plate is also embossed on the turret.

 CTE WORK BECOMES EASY	FABBRICANTE/MANUFACTURER: CTE S.p.A. Via Caproni, 7 - 38068 Rovereto (TN) - ITALY Tel +39 0464 485050 - Fax +39 0464 485099	
PIATTAFORMA DI LAVORO MOBILE ELEVABILE / MOBILE ELEVATING WORK PLATFORM		
MODELLO: MODEL:	TIPO: TYPE:	
NUMERO DI FABBRICA FABRICATION NUMBER	ANNO DI COSTRUZIONE YEAR OF CONSTRUCTION	
PORTATA MASSIMA RATED LOAD:	kg	COMPRESO N. INCLUDING N.
MASSIMA ALTEZZA DAL SUOLO MAXIMUM HEIGHT FROM THE GROUND	m	PERSONE E kg PERSONS AND kg
SBRACCIO MASSIMO MAXIMUM OUTREACH	m	ATTREZZATURA EQUIPMENT
SOLLECITAZIONE MANUALE MASSIMA CONSENTITA MAXIMUM ALLOWABLE MANUAL FORCE	N	AL PIANO CALPESTIO PIATTAFORMA AT WORK PLATFORM FLOOR
MASSIMA VELOCITA' DEL VENTO CONSENTITA MAXIMUM ALLOWABLE WIND SPEED	m/s	PARAPETTO PIATTAFORMA GUARD-RAILS WORK PLATFORM
PRESSIONE MASSIMA IMPIANTO IDRAULICO MAXIMUM PRESSURE HYDRAULIC EQUIPMENT	bar	
MASSA A VUOTO COMPRESO VEICOLO NON LOADED MASS WITH VEHICLE	kg	
INCLINAZIONE MASSIMA AMMISSIBILE DEL TELAIO: MAXIMUM ALLOWABLE INCLINATION OF CHASSIS:	 °  °  °	
ALIMENTAZIONE ELETTRICA ESTERNA EXTERNAL ELECTIC POWER	V	Hz
		58305

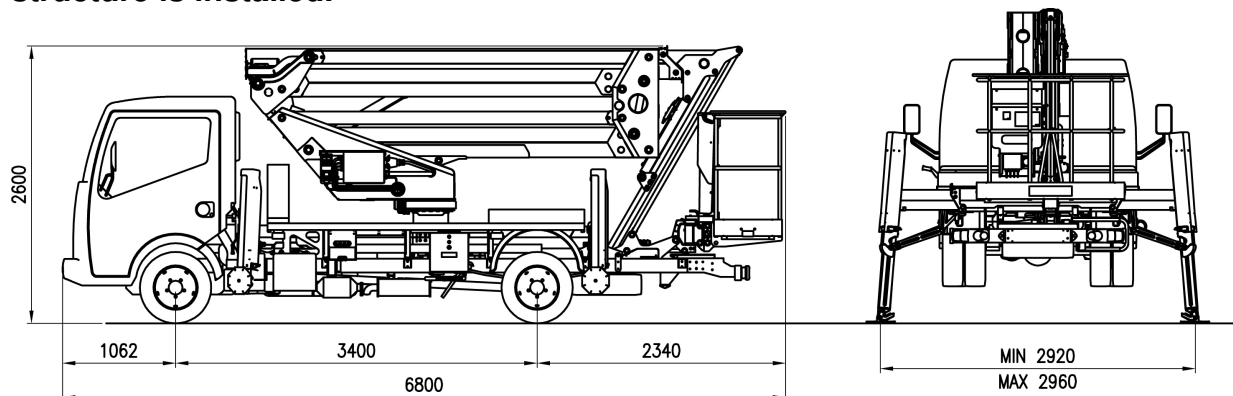
The vehicle has the manufacturer's chassis number. Consult the vehicle manual for its location.

2.2 General description of the machine

The Zed 21.2JH elevated work platform is composed of a frame fixed using bolts to the chassis. The upper part of the frame is covered with a slip-proof aluminium deck. Four hydraulic-operated outrigger feet are fastened to the chassis to stabilise the machine. The outriggers are moved by a manually-activated hydraulic distributor. The rotating turret is fixed onto the chassis, mounted on a bearing turntable and activated by a hydraulic motor. The turret turns by 360°. The boom unit is fixed to the turret. This is composed of two articulated booms activated by a hydraulic cylinder that allows simultaneous movement by means of connecting rods. A telescopic boom with two elements (one fixed and one extendible) is fixed to the articulated boom. The telescopic boom is moved by a hydraulic cylinder. An articulated boom (jib) is anchored to the telescopic boom. This is activated by a hydraulic cylinder. The work platform is anchored to the articulated boom (jib). This has a hydraulic jack rotation device. The work platform is kept horizontal by a hydraulic parallelogram levelling device. The machine is moved by proportional hydraulic controls. The control position is in the work platform. The source of energy for moving the hydraulic device is supplied by the endothermic engine of the vehicle via hydraulic pump activated by power take-off. The electric power supply to the controls is supplied by the vehicle's battery. The following pages describe the controls, functioning modes and the devices present on the machine.

2.3 Clearance

The dimensions indicated refer to the CABSTAR F24 vehicle on which the structure is installed.



2.3.1 Clearance in working order (data relative to the vehicle illustrated)

Length in working order	6800	mm
Width in working order	2090	mm
Height in working order	2600	mm

2.3.2 Stabilised machine clearance (data relative to the vehicle illustrated)

Length	6800	mm
Stabilised machine width (maximum)	3210	mm
Stabilised machine width (minimum)	3170	mm

2.4 Technical data

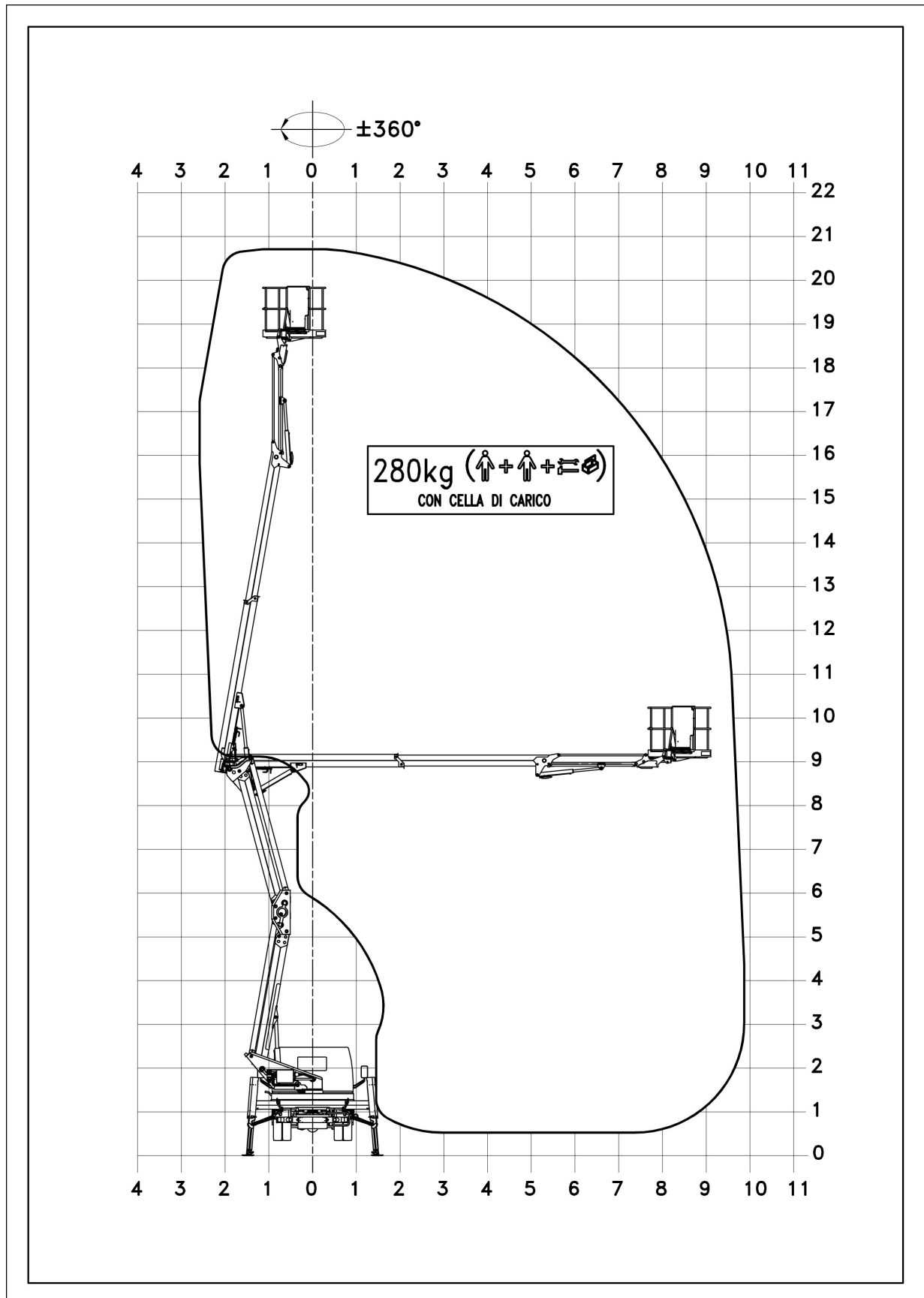
Maximum capacity in the platform	280 kg (2 people and equipment weighing 120 kg)
Maximum height, deck surface	18,7 m
Maximum working height	20,7 m
Maximum reach (from centre of turntable to platform edge)	9,5 m
Maximum work reach	10 m
Maximum inclination accepted from the ground	3°
Maximum inclination accepted of the frame	0°
Maximum wind speed accepted	12,5 m/sec
Turret rotation	360°
Work platform levelling	Parallelogramma idraulico
Work platform rotation	65° destra + 65° sinistra
Work platform dimensions	700 x 1400 x 1100 mm
Maximum accepted lateral manual force	40 daN
Electric plant voltage	12 V
Electro-hydraulic proportional	Proporzionali elettroidraulici
Hydraulic oil tank capacity	28 l
Maximum work pressure	240 bar
Total weight	3,5 t
Maximum reaction of the outrigger on the ground	3000 daN
Stabilisers' centre distance from the plate pins (max)	2960 mm
Stabilisers' centre distance from the plate pins (min)	2920 mm
Stabilisers' longitudinal centre distance from the plate pins (max)	3650 mm
Stabilisers' longitudinal centre distance from the plate pins (min)	3640 mm

**NOTE:**

for other data, consult the "technical features for the EWP and control register" book, which is an integral part of the machine.



2.5 Work area





2.6 Noise

The airborne noise produced by the machine is that caused by the vehicles engine, type-approved for circulation on roads.

The detection of the noise, carried out on the platform at 1.60 m from the floor during the ascent, descent, rotation and extension phases, has not indicated sound pressure levels exceeding 95 dBA.

2.7 Vibrations

The machine does not produce vibrations that are dangerous for the operator.

On the basis of measurements made in the most unfavourable conditions of use, it was ascertained that:

- The total value of vibrations to which the hand arm system is exposed is less than 2.5 m/sec^2
- the weighted mean square value in frequency of acceleration to which the body is exposed is less than 0.5 m/sec^2 .

2.8 Gas emissions

The machine emits combustion gas from the endothermic engine of the vehicle.

The vehicle battery emits hydrogen in the charging phase.

2.9 Main elements

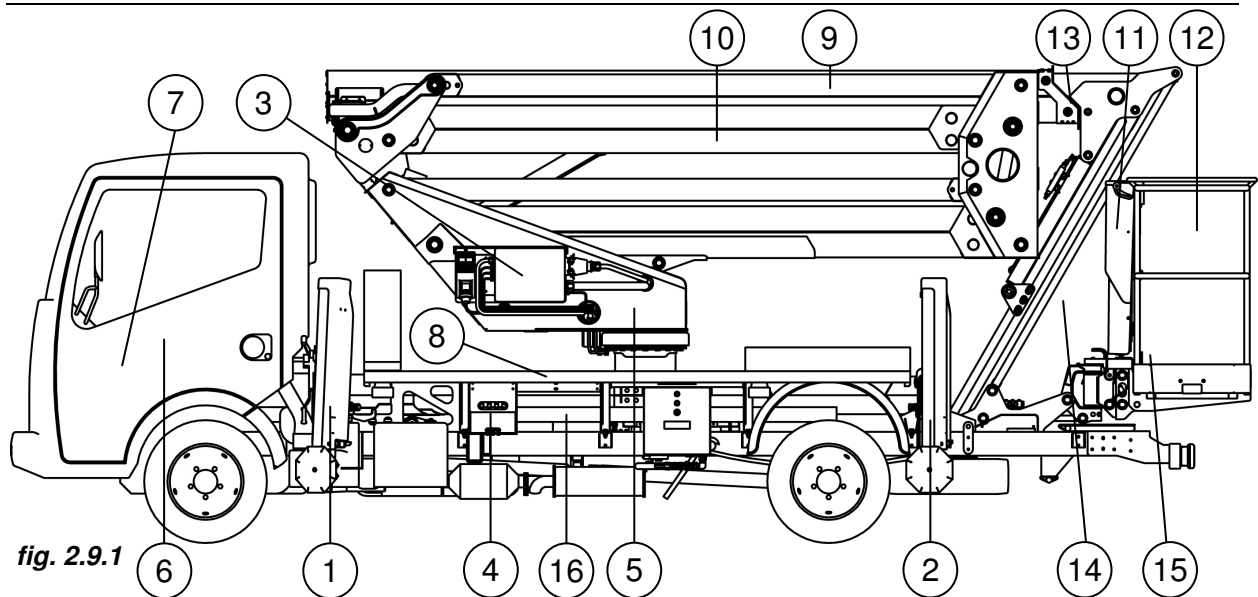
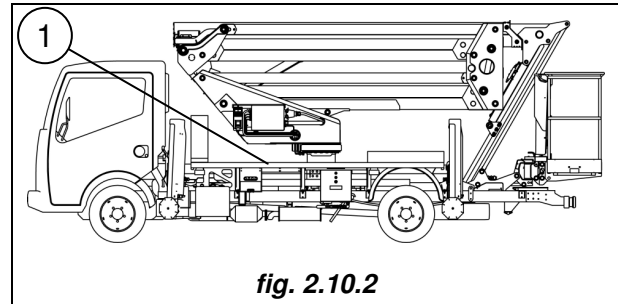
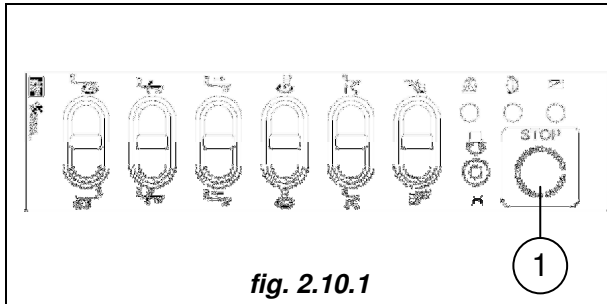


fig. 2.9.1

2.9.1 Key

- | | |
|--|---|
| 1. Front outrigger | 10. Pantograph |
| 2. Rear outrigger | 11. Control board in work platform |
| 3. Main control board | 12. Work platform |
| 4. Outrigger control levers | 13. Telescopic extension |
| 5. Turret | 14. Jib |
| 6. PTO control | 15. Anchorage point for the linkage of harness systems |
| 7. Control board in cab | 16. Socket for control push-button panel |
| 8. Control boards on the ground | |
| 9. Telescopic base boom | |

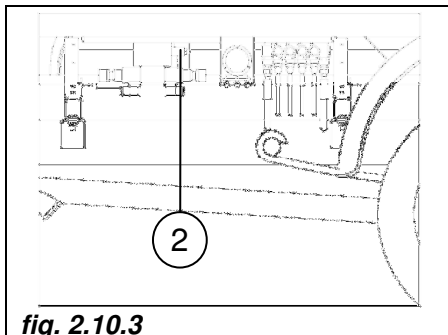
2.10 Safety devices



2.10.1 Emergency stop buttons

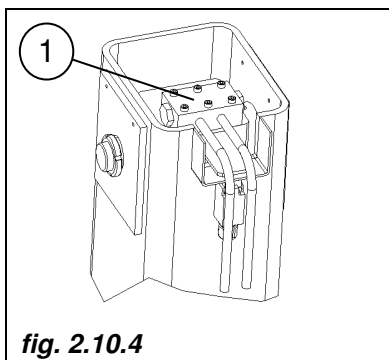
Red mushroom-shaped button on yellow background, one positioned (*pos. 1 fig. 2.10.1*) on the control board in the platform, and the other (*pos. 1 fig. 2.10.2*) on the control board on the ground. By pressing one of the two buttons, all of the work platform manoeuvres are deactivated and the vehicle engine switches off. To reactivate machine functioning, turn the button clockwise.

2.10.2 Maximum pressure valves



Positioned (*pos. 2 fig. 2.10.3*) on the base of the main solenoid valve. Prevents exceeding the maximum working pressure declared.

2.10.3 Block valve on the cylinders



One positioned on every outrigger cylinder (*pos. 1 fig. 2.10.4*), one on the telescopic boom lifting cylinder, one on the telescopic boom extension cylinder (*pos. 9 fig. 2.9.1*), one mounted on the pantograph lifting cylinder (*pos. 10 fig. 2.9.1*), one on the work platform levelling cylinder and one on the work platform rotation cylinder (*pos. 12 fig. 2.9.1*). The block valves are hydraulically-operated; in absence of pressure (e.g. the breakage of a supply pipe) they prevent the uncontrolled movement of the cylinder.

2.10.4 Negative multidisk brake

Situated in the rotation motor reducer, it acts on the lack of pressure in the hydraulic plant, blocking rotation of the turret.

2.10.5 Anti-shock valve

Mounted on the turret rotation hydraulic motor, it prevents the sudden stopping of the rotation movement.



2.10.6 Stabilisation control device

Device comprising 2 limit switches on each stabiliser to check for the correct positioning of each stabiliser on the ground. One limit switch indicates the stabiliser's minimum stroke and the other checks that the stabiliser is resting on the ground.

2.10.7 Spirit level

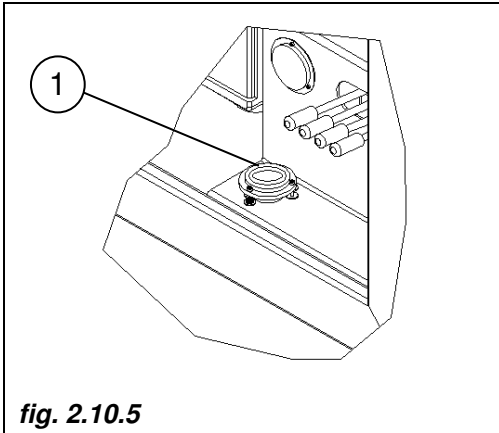


fig. 2.10.5

Situated in proximity of the outriggers control levers (*pos. 1 fig. 2.10.5*) indicates the horizontality of the machine.

2.10.8 Outriggers/boom interlock

The sensor and limit switch on the arm rest clamp. Allows activation of the outrigger controls only when the superstructure is completely closed and the key selector switch is placed in the "outriggers" position. The outriggers controls are deactivated automatically when the boom leaves the rest position.

2.10.9 Outriggers end run at rest

One end run over every outrigger. When the stabilisers have fully retracted, the red indicator light on the cabin panel switches off and the limit switch indicator light "go" switches on.

2.10.10 Selection of control board on the ground/on the platform

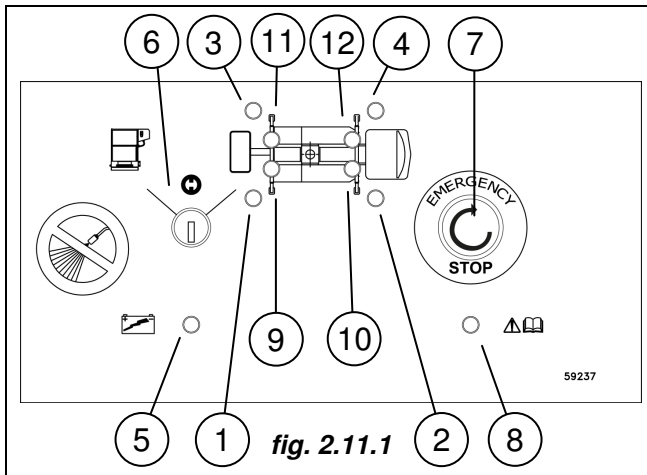
It prevents the controls from being used at the same time. The control panel in the platform is active when the ground control panel key selector switch is turned to "platform". The platform controls are automatically deactivated by removing the blind plug (pos. 8 Fig. 2.9.1) located near the ground control panel. Plugging the supplied portable push-button panel automatically activates its controls.

2.10.11 Basket overload control device

The load cell installed under the basket detects the load present in the basket and if this should exceed the maximum capacity it blocks the movement of all manoeuvres (the LED in the basket switches on and an acoustic warning is activated). It is deactivated by removing the extra load.

2.11 Description of the controls

2.11.1 Control board on the ground



1. Right rear outrigger and minimum stabilisation control.
2. Right front outrigger and minimum stabilisation control.
3. Left rear outrigger and minimum stabilisation control.
4. Left front outrigger and minimum stabilisation control.
5. Voltage presence LED.
6. "Outriggers controls/neutral/basket controls" key selector switch.
7. Emergency stop - by pressing the emergency stop all machine

controls are deactivated and the vehicle engine switches off.

8. Error indicator light: the number of blinks indicates an error code (please contact the Service centre).
9. Rear right stabiliser indicator light and ground contact control.
10. Front right stabiliser indicator light and ground contact control.
11. Rear left stabiliser indicator light and ground contact control.
12. Front left stabiliser indicator light and ground contact control.



ATTENTION:

the outrigger LEDs switch on when the plate has reached the minimum extension and is in contact with the ground but they do not indicate the correct stabilisation. Check correct positioning using a spirit level.

2.11.2 Control board in work platform

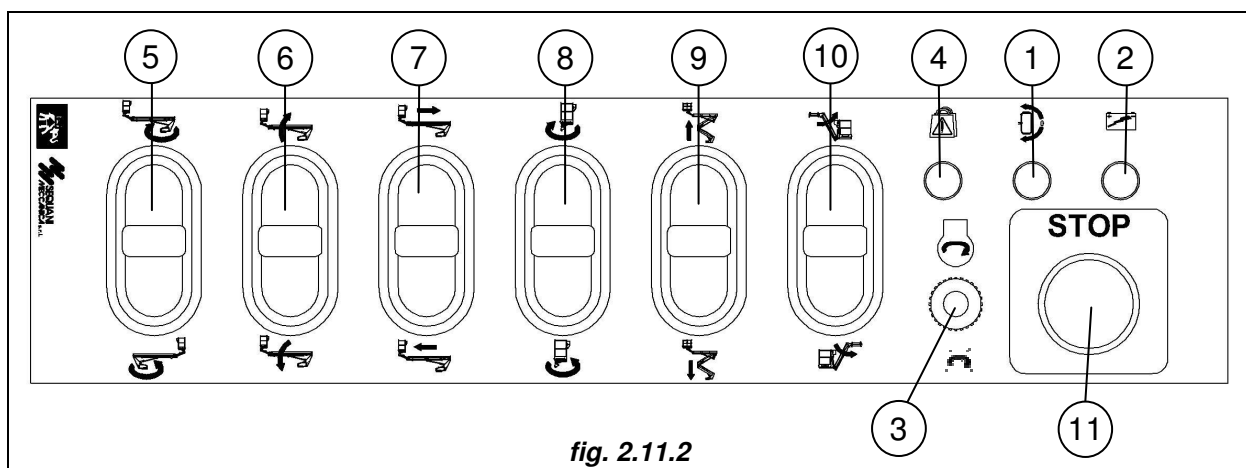
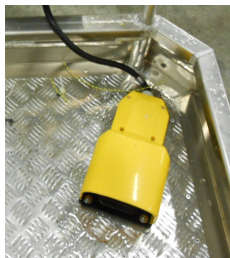


fig. 2.11.2

1. Work platform centre LED – switch-on indicates the correct centring of the work platform. It must always be on when the work platform is centred. If the work platform is not centred the LED switches off and an acoustic signal is activated.
2. Power supply presence LED – switches on in the presence of voltage.
3. Engine start/stop lever - upwards starts the engine, downwards stops it.
4. Overload LED - it switches on when the basket is loaded over the nominal capacity (an acoustic signal is activated simultaneously).

5. Turret rotation control proportional lever - by activating the lever, the turret turns in the direction indicated by the arrow.
6. Telescopic boom lifting control proportional lever - upwards the boom lifts, downwards the boom lowers.
7. Telescopic boom extension control proportional lever - upwards the boom retracts, downwards the boom extends.
8. Work platform rotation control proportional lever - by activating the lever, the work platform turns in the direction indicated by the arrow.
9. Articulated boom lifting control proportional lever - upwards the articulated boom lifts, downwards the articulated boom lowers.
10. Jib lifting control proportional lever - upwards the jib lifts, downwards the jib lowers.
11. Emergency stop - by pressing the emergency stop all machine controls are deactivated and the vehicle engine switches off (to reactivate, turn and lift).

2.11.2.1 Foot switch



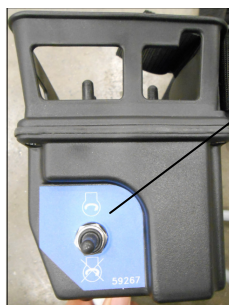
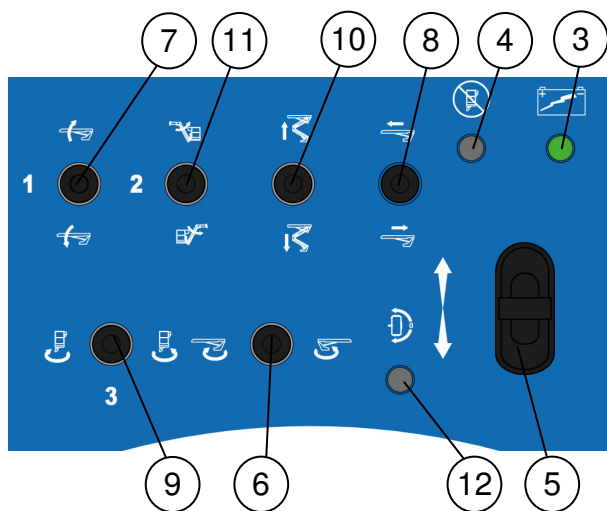
If a foot switch is fitted to the work platform.

Press it to activate manoeuvres from the platform control panel, then carry out the required manoeuvres using the proportional levers.

Manoeuvres are stopped as soon as you remove the foot from the switch.

2.11.3 Push-button panel

fig 2.11.3



2

1



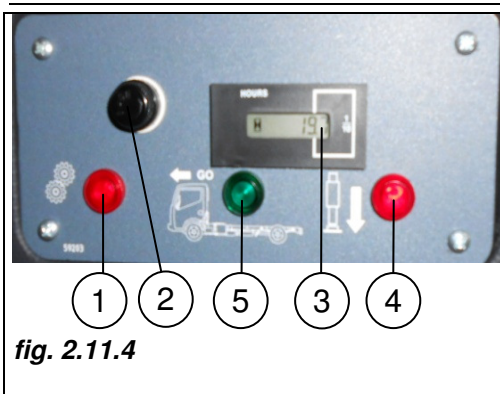
1. Emergency stop button – pressing it, you deactivate all controls of the machine and the engine switches off (to restart, turn and lift).
2. Engine start/stop lever - upwards starts the engine, downwards stops it.
3. Voltage indicator light – switches on when voltage is being supplied.
4. White indicator light - It flashes when the basket's controls are locked.
5. Movements speed joystick – by activating the lever after having activated the desired control (6,7,8,9,10,11) movements are made proportionally.
6. Turret rotation control lever - by activating the lever, the turret turns in the direction indicated by the arrow.
7. Telescopic boom lifting control lever - upwards the boom lifts, downwards the boom lowers.
8. Telescopic boom extension control lever – Upwards, the telescopic boom extends, downwards it retracts.

9. Work platform rotation control lever - by activating the lever, the work platform turns in the direction indicated by the arrow.

10. Articulated boom lifting control lever - upwards the articulated boom lifts, downwards the articulated boom lowers.
11. Jib lifting control lever - upwards the jib lifts, downwards the jib lowers.
12. Work platform centre yellow LED – switch-on indicates the correct centring of the work platform. It must always be on when the work platform is centred. If the work platform is not centred the LED switches off and an acoustic signal is activated.


ATTENTION:

In the event of an emergency, the portable push-button panel has to be plugged into the appropriate socket near the ground control panel.

2.11.4 Control board in cab


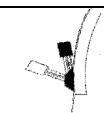
1. Outriggers lowered red LED - when on it indicates that the outriggers are not completely retracted.
2. Fuse 4 A – platform.
3. Hour meter.
4. Stabilisers lowered red warning light – switched on and with the buzzer sounding, it indicates that the stabilisers have not fully retracted.
5. Green "go" indicator light - switched on, it indicates that the stabilisers have retracted for road circulation.

2.11.5 PTO control

The insertion control of the power take-off depends on the truck model.

On some vehicles the power take-off engagement is electrical. In these cases, there is a button on the dashboard and a relative LED.

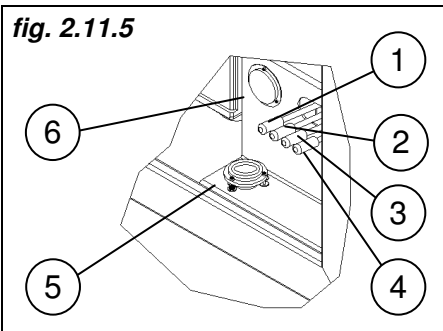
On other vehicles power take-off engagement takes place mechanically via the manual control lever.


Manual control:

power take-off control lever- in vertical position upwards the power take-off is inserted and positioned downwards the power take-off is disconnected.


ATTENTION:

**press the clutch pedal before inserting or disconnecting the power take-off
Never travel with the power take-off inserted, the gear box and the hydraulic pumps could be damaged.**

2.11.6 Outrigger controls and manometer


1. Right rear outrigger control lever - by lowering the lever the outrigger descends, raising it the outrigger lifts.
2. Left rear outrigger control lever - by lowering the lever the outrigger descends, raising it the outrigger lifts.
3. Left front outrigger control lever - by lowering the lever the outrigger descends, raising it the outrigger lifts.
4. Right front outrigger control lever - by lowering the lever the outrigger descends, raising it the outrigger lifts.
5. Spirit level.
6. Hydraulic pressures gauge – indicates the working pressure.

3 SAFETY

3.1 Declared use conditions

The elevated work platform can be used to carry out jobs at a height, which can be performed remaining inside the work platform, such as:

- painting, routine and extraordinary maintenance of buildings
- maintenance of plants and industrial establishments
- maintenance on electric lines and installation of electric plants
- pruning.

The limits for use are described in this manual. Any method and condition of use outside of the use limits described in the manual, not declared by the manufacturer is prohibited.

3.2 Environmental limits




The machine can be used in the following environmental conditions:

- environmental temperature between -10°C and $+40^{\circ}\text{C}$
- humidity 80% at 40°C
- wind speed below 12.5 m/s(45 km/h)-6° on the Beaufort wind scale (*chap. 9*).

The machine cannot be used in the following environmental conditions:

- unfavourable atmospheric conditions and little visibility (rain, snow, fog etc.).
- presence of explosive atmosphere
- indoor environments with insufficient ventilation
- little or insufficient lighting (the lighting must be sufficient to cover the entire work area and allow the stickers on the machine to be read along with the identification of all controls and emergency devices).

3.3 Safety Standards - obligations and prohibitions

	DANGER: the failure to comply with Safety Standards can cause serious injury and even death.
	OBLIGATION: it is mandatory to comply with the national Standards in force, the Safety Standards made by the employer and those relative to the work place.
	ATTENTION: read and understand the Safety Standards before going on the next chapter.

3.3.1 ELECTROCUTION HAZARD

- This machine is **not** electrically insulated and **does not** supply protection from the contact or proximity with electric lines.
- It is mandatory to comply with the minimum safety distance from the equipment and live overhead lines as indicated in the **Legislative Decree dated 09 April 2008 n° 81 ATTACHMENT IX**. Failure to comply with the minimum distance can cause death or serious injury.
- **Table 1 Attachment IX** – safety distances from live parts of electric lines and plants that are not protected or sufficiently protected **to be complied with when**

carrying out non-electric jobs, at net clearance deriving from the type of job, of the tools used and materials handled, as well as lateral shifting of the conductors owing to the action of wind and lowering of heights due to heat conditions.

Nominal Voltage (kV)	Distance (m)
≤ 1	3
$1 < \text{Tensione Nominale} \leq 30$	3,5
$30 < \text{Tensione Nominale} \leq 132$	5
> 132	7

- The distance must be respected considering the maximum extension of the machine boom.
- It is prohibited to use the machine as earth in order to perform welding.
- It is prohibited to use the machine in the event of thunder storms and in the presence of lightning.

3.3.2 TIPPING DANGER

- Before using the machine, make sure that the ground can support the weight of the machine and resist the pressure of the outriggers. The maximum load is indicated on the stickers situated on every outrigger and in the technical specifications in the manual.
- Only position the machine on a flat and stable surface. It is prohibited to stabilise the machine on soft, muddy, frozen or slippery ground or in the immediate vicinity of holes, ditches or manholes.
- Never place the platform on other machines or structures.
- It is prohibited to exceed the maximum inclination of the frame; the maximum inclination accepted is indicated in the technical specifications on the plate on the machine. Do not operate if the slope of the land or its gradient exceeds 3° .
- It is prohibited to exceed the maximum capacity of the work platform and the maximum number of persons allowed (capacity table in the technical data and on the machine).
- It is prohibited to overload the work platform when it is already at a height. If it is necessary to disassemble parts when the platform has already been lifted, carefully check weight to avoid exceeding maximum load.
- It is prohibited to use the machine with wind speed exceeding 12.5 m/s (45 km/h) or in the presence of gusts of wind.
- It is prohibited to increase the surface or load of the platform. The increased surface exposed to the wind decreases the stability of the machine.
- It is prohibited to use the machine in unfavourable atmospheric conditions, in the presence of storms, snow and fog.
- Do not push or try to move any object outside the platform. Maximum manual stress allowed is 40 daN.
- It is prohibited to modify, replace or disable the components that can affect the safety and stability of the machine.
- It is prohibited to modify or alter the work platform. Mounting connections to support tools or other materials on the working platform, on the deck or on the handrail increases weight and the exposed surface of the platform and the load.
- It is prohibited to attach metal wires, cables or similar objects to the work platform. They could become trapped or entangled with a fixed external object.



- It is prohibited to modify, remove or replace any machine component that would reduce overall weight or the stability of the machine base, such as ballasts, emptying tyres, batteries, spare wheels, etc.
- It is prohibited to position or fix projecting loads on any part of the machine. It is prohibited to apply overhanging loads to the platform and to use the machine to lift suspended loads. The machine must not be used as a crane.
- It is prohibited to use the machine to lift loads in the platform or to use the machine as a hoist.
- It is prohibited to use the machine to transfer persons from one surface to another and it is prohibited to use as a lift.
- It is prohibited to use the platform controls to free the platform if it is blocked or in any way hindered by a nearby structure, which prevents normal movement. Request assistance from specialised staff.
- It is prohibited to tip the vehicle cab, stability would be reduced.
- It is prohibited to enter the vehicle cab, stability would be reduced.

3.3.3 FALLING HAZARD

- It is mandatory to wear suitable fall-prevention devices in compliance with the Standards in force. The safety anchor rope must be fixed to the special connection present on the working platform.
- It is prohibited to fasten operators working outside the platform at a height to the platform's safety rope connection.
- It is prohibited to sit on or climb onto the work platform guard rail.
- It is prohibited to use ladders, scaffolding or planks in the platform in order to gain extra height.
- It is prohibited to rest ladders against the structure of the machine
- It is prohibited to descend from the work platform when it is at a height. It is prohibited to descend along the arm.
- It is mandatory to keep the work platform deck free from waste.
- It is mandatory to check that the work platform access gate is closed before use of the same. It is prohibited to block the access gate in an open position.

3.3.4 COLLISION HAZARD

- Always check the work area to ascertain that there are no obstacles overhead or other potential dangers.
- During boom movement, constantly check the area in a way not to strike objects with the boom or work platform.
- Pay the utmost care when gripping the platform's handrail to avoid being crushed.
- It is advised that the operators wear a type-approved helmet during operations with the machine.
- Do not lower the boom if the area below is not free from staff or obstructions.

3.3.5 DANGERS RELATIVE TO THE WORK ENVIRONMENT


- Do not use the machine in environmental temperatures lower than -10°C or exceeding 40°C. To operate in different environmental temperatures, contact the manufacturer.
- Always use the machine in well ventilated places in order to prevent the risk of carbon monoxide poisoning.

- It is prohibited to use the machine in dangerous environments or where inflammable or explosive materials or gases are present or in areas with an explosive atmosphere.
- Do not start the motor if there is an odour or traces of gas, petrol, oil or other explosive substances.
- It is prohibited to use the machine if environmental lighting cannot guarantee sufficient visibility to perform the jobs or move in safe conditions.
- Do not use the machine as a game.

3.3.6 DANGERS RELATIVE TO THE MACHINE

- Carry out an in-depth pre-operational control of the machine and perform tests on all functions before every shift.
- Apply signs and place immediately out of service if controls malfunction or there are safety device faults. It is prohibited to use a damaged or faulty machine.
- Do not use the machine in the presence of hydraulic oil or air leaks. Hydraulic oil or air can cause injury to the skin and burns.
- Make sure that all controls relative to maintenance have been performed, as specified in this manual.
- Make sure that all stickers are present and legible.
- Make sure that the operator instructions manual is integral, legible and put back into the appropriate compartment in the cab.

3.4 Summary table of Standards for the operator

 CTE	INSTRUCTION RULES FOR THE OPERATOR
<ol style="list-style-type: none">1 - The equipment can only be used by trained staff in charge.2 - Never exceed the maximum capacity accepted.3 - It is mandatory to use the safety belts and the helmet on the platform.4 - The use and maintenance instructions supplied by the manufacture must be respected.5 - Accident-prevention Standards in force must be respected during work on the platform.6 - Do not use the platform whose functioning results abnormal.7 - Before use, check the efficiency of the safety devices.8 - Level the truck perfectly using the supplied outriggers. The outriggers must be extracted completely and positioned in a way to discharge the suspensions of the truck.9 - Do not use the machine on weak or loose ground. Avoid inclines or land susceptible to compromising the stability of the platform.10- It is prohibited to move the truck with the platform lifted.11- It is prohibited to work at distances less than 5 metres from bare electrical lines.12- It is prohibited to anchor cables, cords or other to the platform.13- It is prohibited to fix ladders, stools or other inside the platform to increase the work height.14- Operate all controls in a smooth regular manner. Never invert movements abruptly, always stop in correspondence with the neutral position.15- Before making any movement, check that there are no obstacles and no persons are in the trajectory.	
THE COMPANY DOES NOT ASSUME ANY LIABILITY IF THE REGULATIONS STATED ABOVE ARE NOT COMPLIED WITH	

3.5 Operator position

During use, the operator must only control the work platform using the control board positioned on the same.

Only in the machine stabilising phase is the operator's position on the ground in front of the control board on the ground itself.

3.6 Dangerous area

The circular area delimited by the completely extended horizontal boom rotation is dangerous. It is prohibited to stay in this area.

Delimit this area with relevant barriers, site tapes, chains etc.

Use the relevant signs used on roadwork sites.

3.7 Residual risks

Mechanical risks:

- danger of crushing the feet during outrigger manoeuvres
- danger of crushing limbs due to contact with boom articulations during closure.

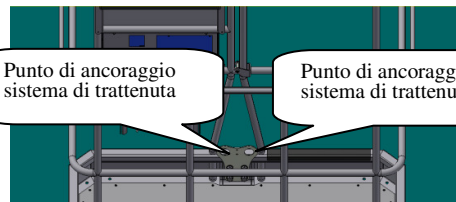
The risk areas are indicated with stickers.

3.8 Individual protection devices

3.8.1 Harness system



OBLIGATION: All the people occupying the work platform must wear an appropriate harness system linked to the dedicated anchorage point.



The work platform is fitted with two restraining points for the linkage of a harness system.

Each anchorage point is sized for a static stress of 3 kN.

All the people occupying the work platform must wear an appropriate fall protection system comprised of a full body harness complying with Standard EN 361, fitted with chest and/or back connection and restraint or positioning adjustable lanyard (EN 354/EN358) and 2 connectors (EN 362) of shape and size suitable for linkage to the lanyard ends.



Note: the pictures above are only indicative.



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.

The hook point inside the work platform is not to be considered an anchorage point for fall arrester systems, but it is a restraint point as it was designed to hold back the person inside the work platform.



The use of fall prevention systems foresees a mandatory training.

Please refer to the instructions for use provided by the manufacturer of the harness system components for the check, use and adjustment of the system.



OBLIGATION:

Use only devices that are well kept and in good working order. Moreover, the devices must be approved and bear the conformity CE-mark. Please refer to the manual provided by the manufacturer for further instructions for use.



DANGER:

It is prohibited to use the anchorage point in the platform to link fall arrester systems.

3.8.2 Additional personal protection equipment



In addition to the harness system, the use of the aerial work platform foresees the use of a safety helmet for overhead works with chinstrap (EN 397) and footwear for professional use (EN 346).

Other equipment may be required depending on the type of job or environment, such as: gloves, goggles, earmuffs, etc. The requirement for and type of PPE must be evaluated by the employer or by the site manager.



4 OPERATIONAL INSTRUCTIONS

4.1 Foreword



ATTENTION:
read and understand the previous chapters before reading this chapter.

The chapter regarding operational instructions supplies the instructions relative to machine functioning. The operator must follow all instructions contained and comply with the Safety Standards and the Legislation.

The machine can only be used by operators trained appropriately for the use of this type of machine and authorised. If the machine must be used by more than one operator at different times during the same work shift, then all operators shall have the same training, follow these instructions and comply with safety laws and regulations.

This means that **every** operator must:

- prevent dangerous situations
- always carry out the pre-operational control
- always carry out the functions tests before using the machine
- check the work area
- **only use the machine for the functions it has been designed for.**



OBLIGATION:
it is mandatory to comply with the national Standards in force, the Safety Standards made by the employer and those relative to the work place.

4.2 Transfer

This elevated work platform is set-up on a vehicle type-approved for circulation on roads.

The drive making the transfer on roads must have a suitable driving license according to legal provisions.

4.2.1 Controls and checks before transport on roads

- Make sure that the vehicle equipment is in perfect working order (brakes, lights, mirrors, tyres, etc.).
- Check the fuel level, lubricant oil and cooling liquid.
- Check that the work platform and the booms are completely closed.
- Check that the outriggers are completely retracted.
- Check that the power take-off is disconnected.
- When moving the machine, always check that the speed is suitable for the local conditions and any Standards, that the route selected is not too rough or too uneven.
- During circulation, pay attention to the clearance of the machine (consult the technical data).

4.3 Using the elevated work platform



ATTENTION:
comply with the Standard in force regarding circulation when operating in a place open to traffic, using flashing lights, acoustic and visual signals and the appropriate signs on the ground.



OBLIGATION:
it is mandatory to cordon off the area where operations will take place.

4.3.1 Controls and checks before use



ATTENTION:
before using the machine, it is mandatory to read and understand the user and maintenance manual.



ATTENTION:
only use the elevated work platform (EWP) for the uses declared by the manufacturer and indicated in this manual.

Before all machine use it is mandatory:

- check that the land is compact and suitable to support the weight of the machine (the load per outrigger is indicated in the technical data and on the outrigger)
- check that the land is flat or within 2° of the maximum inclination accepted
- check the work area (*see chap. 2.5*)
- Check if there are any obstacles or overhead lines in the work area that may hinder or restrict machine use
- check that there is enough fuel in the vehicle's tank
- check that the use and maintenance manual is present, integral and legible
- check that all stickers are present and legible (*see chap. 5.10*)
- check the hydraulic oil level, add oil if necessary (*see chap. 5*).
- inspect the elevated work platform (EWP), checking all the following components and areas for damage and missing/incorrectly installed components, or oil leaks:
 - electric components, wiring and electric cables
 - hydraulic pipes, fittings, cylinders and distributors
 - fifth wheel rotation motor
 - nuts, bolts and other components used for fixing
 - cracks in welding or structural components and damage to the machine
 - Anchorage points of harness systems (cracks, wear and bolts' fastening)
 - work platform and access gate
 - end run and safety devices
 - check that the diverters for restoring level conditions are in the extension position and the padlock is closed.

Check the correct functioning of the platform controls when climbing onto the work platform but before moving to any height.



4.3.2 Stabilisation of the elevated work platform (EWP)

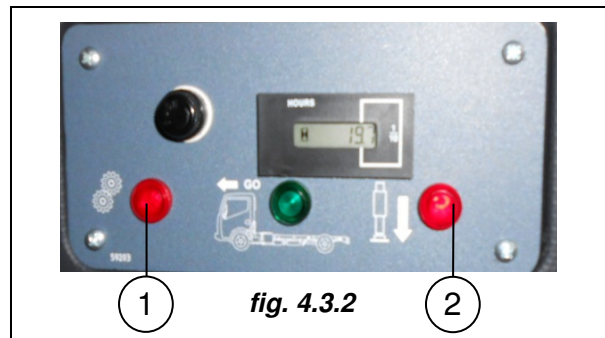
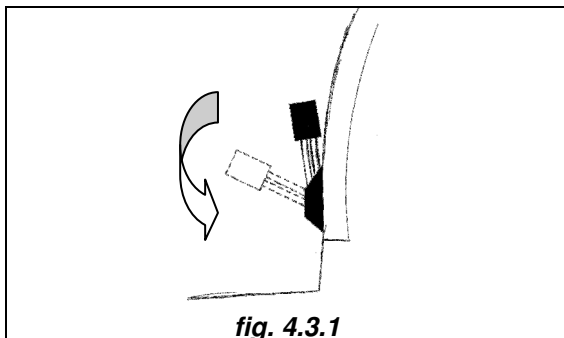
Start the vehicle engine as follows:

- climb into the driver's seat of the vehicle
- block the vehicle using the parking brake and position the gear lever in neutral
- start the engine according to that indicated in the vehicle instructions
- if the vehicle is equipped with an automatic device that increases the revs. accelerate the engine slightly



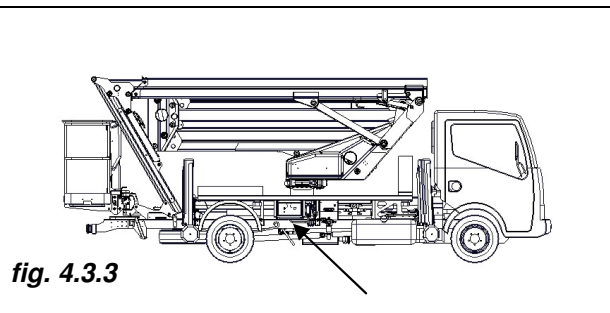
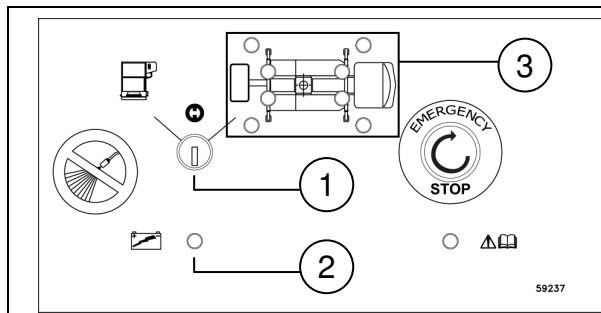
ATTENTION:
never exceed 1000 rpm of the motor.
The motor could overheat and the pump could break.

- insertion of the PTO:
 - press the clutch pedal fully home
 - activate the control lever positioned between the seats (*fig. 4.3.1*) in the “ENGAGEMENT” position, the power take-off LED switches on (*pos. 1 fig. 4.3.2*) and an acoustic signal is activated
 - if the truck has a electro-magnetic joint, via switch (see truck instructions manual) when engagement has taken place, a visual and acoustic signal are activated
 - release the clutch pedal slowly.



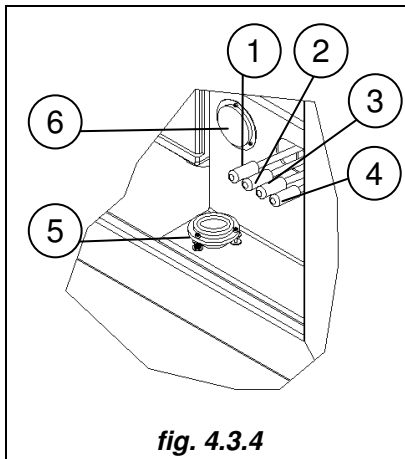
Go to the "Ground control board" positioned at the side of the truck:

- insert the key into the selector switch (*pos. 1 fig. 4.3.3*) and turn to the “Outrigger controls” position (*pos. 3 fig. 4.3.3*)
- the “voltage presence” LED switched on (*pos. 2 fig. 4.3.3*)
- check that all of the outrigger indicators are off: if this is not the case, it means that there is a malfunction in the outriggers end runs.





Stabilise the machine correctly, proceeding as follows:



- Make the outriggers descend by alternately activating the levers (*pos. 1-2-3-4 fig. 4.3.4*). By activating them downwards the outriggers descend, activating them upwards the outriggers retract. Make the outriggers exit completely in a way to lift the truck and discharge the suspensions.
- Observe the spirit level (*pos. 5 fig. 4.3.4*) situated at the side of the outrigger controls and correctly level the truck, by appropriately activating the outrigger levers. The machine is levelled correctly when the air bubble, inside the indicator, is positioned in the central section (0°).
- Check that the LEDs have switched on (*pos. 3 fig. 4.3.3*), that indicate the consent for boom ascent.



ATTENTION:

make sure that the machine is stabilised correctly before climbing on board: lifting carriage levelled, suspensions discharged with all four outriggers resting on suitable ground.



ATTENTION:

LED switch on does not indicate the correct stabilisation of the truck. This is determined by the spirit level.



ATTENTION:

if the ground is not suitable to support the weight, use adequate planks for this purpose and check before use.



OBLIGATION:

put the helmet on before climbing on board.



OBLIGATION:

before moving to any height it is mandatory to check the correct stabilisation of the machine, controlling the effective closure of the block valves installed on the outriggers.
If this should not occur, contact the after-sales centre.



OBLIGATION:

put the harnessing on before climbing on board.

- Start the platform as described in *chap. 4.3.3*.

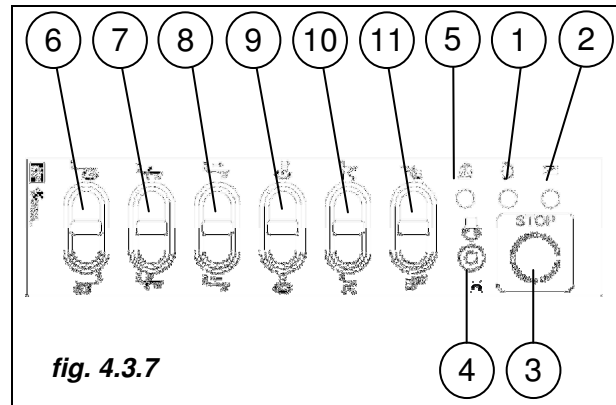
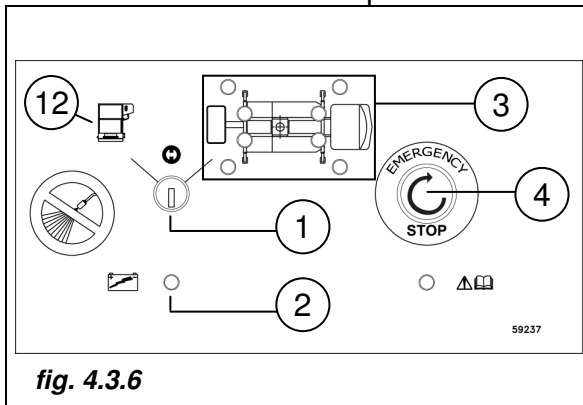
4.3.3 Starting the platform

Start the platform as follows

- turn the key selector switch (*pos.1 fig. 4.3.6*) into the "Work platform" position (*pos.12 fig. 4.3.6*).
- remove the key and keep it with you
- check the integrity of the I.P.D. before use
- put the harnessing and any other IPD on before climbing on board
- carefully climb onto the work platform
- check that the access gate is closed



- attach the snap hook of the harnessing to one of the relevant anchorage points on the inside of the work platform



- check the work platform control board for switch-on of the voltage presence LED (*pos. 2 fig. 4.3.7*) and the basket centre LED (*pos. 1 fig. 4.3.7*)
- lift the telescopic boom in a way to make use of the rotation without being obstructed by the rear outriggers and the boom support
- move the boom by slowly moving the potentiometric control levers (*pos. 6-7-8-9-10-11 fig. 4.3.7*) into the desired position, varying the speed appropriately
- at least one specialised or trained staff member regarding the use of the machine must be present on the ground during the job
- when at a height, pay attention not to strike fixed or mobile parts or against the vehicle cab with the work platform. Respect the minimum safety distances in the presence of electric lines (*see tab. chap. 3.3*). Pay attention during boom movements: ascent and descent rotation. Do not lean out of or grip onto the external part of the work platform.

	<p>NOTA:</p> <p>If you wish to stop the engine once you have reached the required position, move the engine start/stop lever (<i>pos. 4 fig. 4.3.7</i>) downwards. The engine switches off. To restart the engine, move the engine start/stop lever (<i>pos. 4 fig. 4.3.7</i>) upwards.</p>
	<p>ATTENTION:</p> <p>before moving the platform, check that the weight in the basket does not exceed the capacity and that it is equally distributed.</p>
	<p>NOTE:</p> <p>there is a platform load control device present on the machine: when the red "overload" LED switches on (<i>pos. 5 fig. 4.3.7</i>), an acoustic signal is activated and, simultaneously, all platform movements are blocked, meaning that the platform load exceeds maximum capacity. In this case, the extra load must be removed in order to make movements.</p>
	<p>ATTENZIONE:</p> <p>If the machine is equipped with a pantograph anti-collision device, all dangerous manoeuvres are blocked when you are near the vehicle cabin while the other manoeuvres are enabled.</p>

4.3.4 Putting the elevated work platform into rest conditions

Take the work platform into the rest position by making the following manoeuvres:

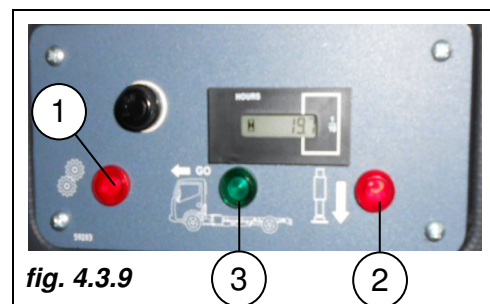
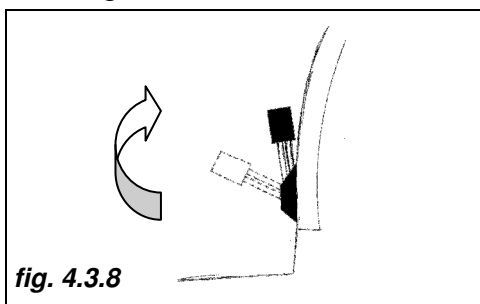
- turn the work platform until it is in the central position (at 90° with respect to the yellow boom LED on *pos.1 fig. 4.3.7*)



- make the extension retract completely, position the turret in the centre making the yellow signs coincide, lower the telescopic boom, close the jib, close the pantograph until reaching the rest position. At this point, a buzzer sounds. Keep acting on the control until the buzzer switches off and the manoeuvre stops automatically (6 seconds).
- check that the jib is positioned on the support
- descend from the work platform carefully
- insert the key into the ground control selector switch (*pos. 1 fig. 4.3.6*) and turn it to the "outriggers" position (*pos. 3 fig. 4.3.6*)
- make the outriggers retract to end run, activating the levers alternately (*pos. 1-2-3-4 fig. 4.3.4*)
- check that the outrigger yellow LEDs switch off (*pos. 3 fig. 4.3.6*)
- turn the key to the "neutral" position and extract it from the selector switch (*pos. 1 fig. 4.3.6*).

4.3.5 Switching the vehicle off

- Seat in the driver's position.
- Check that the indicator light on the cabin control panel is off, indicating full retraction of the stabilisers (*pos. 2 fig. 4.3.9*), the green "go" indicator light should be on (*pos. 3 fig. 4.3.9*).
- Set the hand accelerator at minimum speed (unless acceleration is automatic).
- Disconnect the power take-off as follows:
 - press the clutch pedal
 - press the disconnection button or activate the lever positioned between the seats (*fig. 4.3.8*) in the "DISCONNECT" position
 - release the clutch pedal
 - the red "power take-off" LED (*pos. 1 fig. 4.3.9*) switches-off and the acoustic warning is deactivated.



- Before starting, make sure the circulation documents and driving license are on board and follow the Highway Code.

4.3.6 Parking

- Park the machine in a suitable area or, however, away from traffic congested areas.
- The ground should be level and firm.
- If parking on a slope or incline, insert the parking brake and block the wheels with wedges.
- For gradual cooling of the engine, let it tick-over for a few minutes.
- Switch the engine off.
- Engage the parking brake.
- Remove the key.
- Block all door closures.



- Check closure of the control board, protections and any tool boxes.

4.3.7 Underrun anti-collision bar

A device (*fig. 4.3.11*) is mounted on the machine that blocks all manoeuvres in the case of incorrect manoeuvre and collision with underrun bar. To reactivate the manoeuvres you need to move the engine start/stop lever upwards (*pos. 1 fig. 4.3.10*).

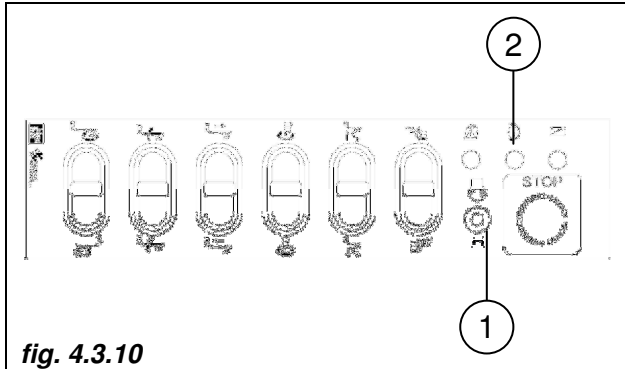


fig. 4.3.10

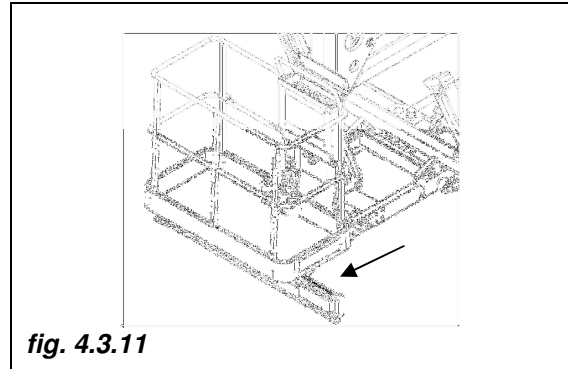


fig. 4.3.11

4.3.8 Work platform centre LED

On the machine there is a device that indicates whether the work platform is not in the central position, when the jib is in the vertical position, by means of a LED and acoustic warning (*pos. 2 fig. 4.3.10*).

4.4 Emergency manoeuvres

4.4.1 Work platform emergency stop

The platform is equipped with an immediate emergency stop device for all movements. To activate it just push the red mushroom-shaped emergency button, whose position is indicated in *chap. 2.10.1*. Once the emergency has been dealt with, normal functioning can be restored by rotating the button one quarter of a turn.

4.4.2 Work platform levelling



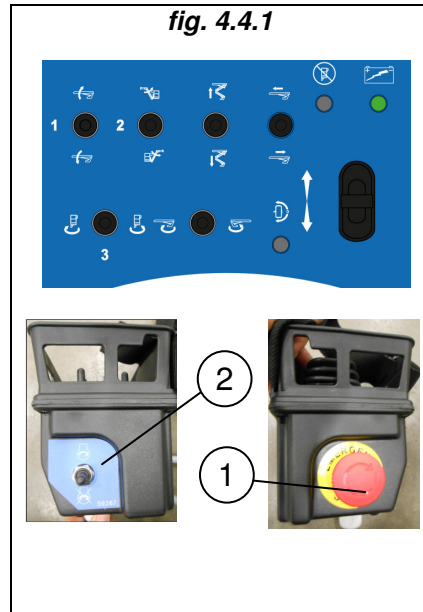
ATTENTION:

whenever you notice that the basket is not level with respect to horizontal, lower the basket to the ground and descend from it.

Restore the safe condition (horizontal basket), operating as indicated in the maintenance chapter, by a qualified technician (M). (*chap. 5.6.8*).

4.4.3 Recovering the basket from the ground if the operator faints

If the platform operator faints, is injured or otherwise unable to act, it is necessary to operate the emergency ground controls as follows :



- remove the cover of the plug for the portable push-button panel located beside the ground control panel.
- switch on the push-button panel plugging it in.
- insert the key into the selector switch and turn it to the "Emergency controls" position (*pos. 2 fig. 4.4.1*).
- activate the control switch required to make the desired movement and activate the speed regulation potentiometric lever simultaneously. Activating the movement control switches with caution, bring the work platform back to the rest position.
- when the operations have been completed , take the key back to the "Basket controls" position (*pos. 1 fig. 4.4.1*).
- remove the key and close the lid.



ATTENTION:

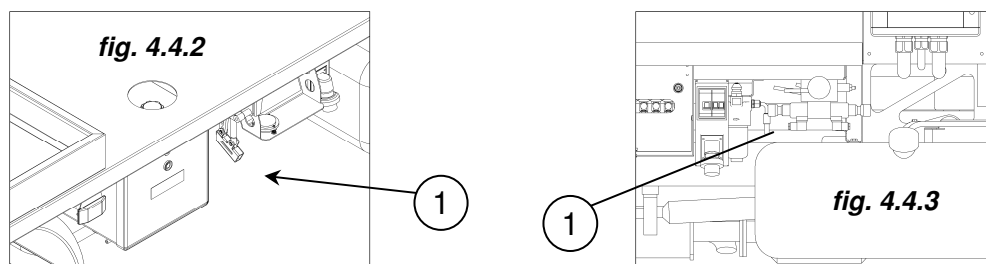
if the operator platform has pressed the emergency stop button, the recovery is only possible by performing the maneuver described in paragraph 4.4.5.

4.4.4 Recovering the work platform in the case of power failure

In case of malfunctioning in the vehicle engine or the gear pump that provides driving power to the whole equipment, the working platform can be returned to the resting position as follows:

- remove the manual pump control lever fixed in the turret, by releasing the black blocking knob
- insert the handle into the manual pump, (*pos. 1 fig. 4.4.2*) located near to the rear outrigger
- activate the manual pump, while the operator in the basket activates the desired movement control.

When the platform has been recovered, return the manual pump control lever to the original position and fix it to the turret using the black blocking knob.





4.4.5 Manual platform recovery from the ground

In case of malfunctioning in the vehicle engine or the gear pump that provides driving power to the whole equipment, or power-cut, the basket can be returned as follows:

- remove the manual pump control lever fixed in the turret, by loosening the black blocking knob
- insert the handle into the manual pump
- remove the lead seal from the (*pos. 1 fig. 4.4.3*) "outriggers/basket control" diverter valve positioned near to the outrigger controls
- remove the cover from the valves block in the turret
- carry out the recovery following the indications on the sticker positioned on the lid (*fig. 4.4.4*).

When the recovery has been made, restore as follows:

- loosen the knobs fully relative to the manoeuvres performed
- loosen knob "P" fully
- loosen the right knob fully (basket side) of the diverter valve

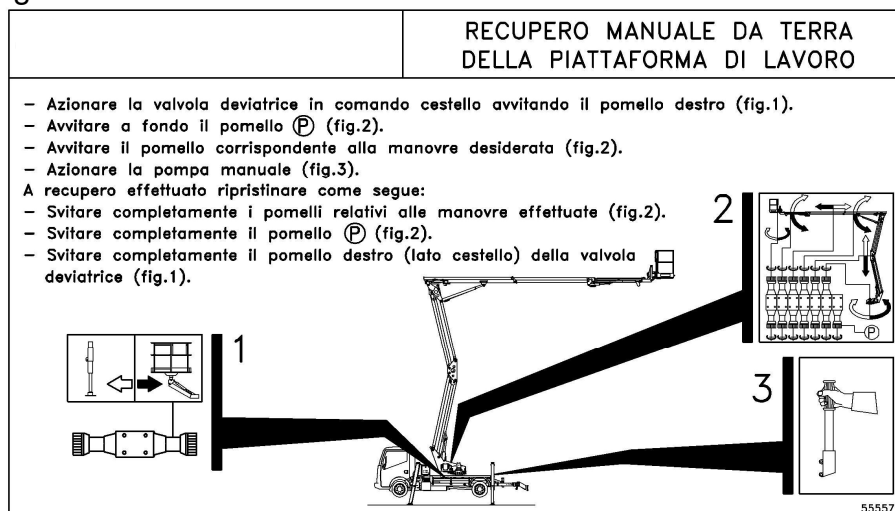


ATTENTION:

contact the After-sales Centre to check and repair the fault and apply a new thread with seals on the previously lead sealed valves.

- re-position the control lever in the turret and fix it to the turret using the black blocking knob.

fig. 4.4.4



4.5 Transport

4.5.1 Loading the machine onto the transport vehicle

- When transporting the platform on a lorry or trailer, it is necessary to know the exact maximum height in order to prevent impacts with low constructions, bridges or electric lines.
- Make sure that all fixing devices are efficient and organised correctly.
- Make sure that the platform is completely closed and blocked in the rest position.
- Check that the outriggers are completely retracted.
- Carefully follow the loading or towing procedures described in the vehicle use and maintenance manual, before loading or towing the machine.
- Check the load capacity of the ramp and lorry where the machine will be loaded.
- Do not lift the platform by the boom when loading the machine onto the lorry.



ATTENTION:
do not tow the machine if you do not know the specific instructions.

4.6 Storage

4.6.1 Standstill for brief periods (less than 15 days)

Clean generally as indicated in *chap. 5.7*. Park the machine in a dry covered place. Lock the doors and remove the keys of the vehicle and the elevated work platform (EWP) in order to prevent use by unauthorised persons. If the machine has a battery disconnection switch, disconnect the battery.

4.6.2 Standstill for long periods

As above, moreover: lubricate and grease as indicated in *chap. 5.8 "Lubrication and greasing"*. Cover the machine with a suitable protection sheet.

**5 MAINTENANCE****5.1 Foreword**

This chapter only describes routine maintenance.

The operator can only carry out routine maintenance classified in the maintenance summary table as "**O** – *by the operator*".

The other maintenance activities classified in the maintenance summary table as "**M** – *by a qualified technician*" must be carried out by qualified technical staff and in compliance with the intervention intervals and the indications given in the manual. It is mandatory comply with the maintenance described in order to keep the equipment in perfect working order and to guarantee safe functioning. The execution of the interventions after the first 100 hours, every three or six months or yearly must be stated in the relevant section 7 (Periodic checks and maintenance) of the Control register supplied with the machine. The Control register is a document used to record the replacement of components of the hydraulic plant, the electric plant, structural mechanisms or elements, safety devices as well as faults of a certain entity and relative repairs. The Control register is considered an integral part of the machine and must therefore accompany the same for its entire life span, until final dismantling. The Control register must be made available for the competent surveillance bodies for a period of five years from the date of the last recording or until the equipment is put out of service, whichever ever occurs first. A document attesting to the execution of the last check must accompany the equipment wherever it is used.

**ATTENTION:**

the maintenance operations not included in this chapter must be carried out exclusively by the After-sales Service or Workshops authorised by the manufacturer.

The overhead platform operates normally in contact with water, sand, earth etc. Rational lubrication is necessary, which assumes vital importance not only for the duration of machine use but also to contain its working cost.

For any clarifications, contact our after-sales service:

Service Centre**☎ 0464/485050**

Before use, make sure that all envisioned maintenance has been performed and carry out the checks indicated in the "before any use" column.

**ATTENTION:**

**place damaged or faulty machines out of service immediately.
Carry out repairs and/or faults before further use.**

The machines that have been out of service for more than three months must be subjected to the three-monthly control before returning into service.

5.2 General Standards

- Always use extractors, wrenches and equipment for removal and re-assembly, in order not to deteriorate the pieces.
- To release tightly fixed parts, use copper hammers or wooden mallets.
- Distinctly separate the pieces of the various groups and partially re-activate the nuts on their pins or studs. Clean the pieces using brushes or cloths and then wash with oil or hot water, removing residues with compressed air.
- After grinding with abrasive bodies, wash the parts thoroughly or subject them to a jet of compressed air, making sure that all abrasive dust has been removed.
- Make sure that the pieces are clean on re-mounting and lubricate appropriately.
- Pay maximum attention to the Seeger ring and the circlips: if they are broken, replace immediately.

**ATTENTION:**

the maintenance described in the following pages is exclusively for the overhead work platform.

Follow that prescribed by the manufacturer for maintenance of the truck on which the machine is set-up.

5.3 Maintenance summary table

O = by operator

M = by qualified technician

Description of operations	Before every use	Every 50 hours	After 100 hours	Every 6 months or 500 hours	Every year or at 1000 hours	References
Visual check	O	O	O	O	O	4.3.1
Use and maintenance control manual	O	O	O	O	O	4.3.1
Plate and sticker legibility	O	O	O	O	O	4.3.1 e 5.10
Check any damage, missing, loosened or detached parts	O	O	O	O	O	4.3.1
Check welding, pins and articulations	O	O	O	O	O	4.3.1
Test of the anchorage points for harness systems	O	O	O	O	O	4.3.1
Check for any hydraulic leaks	O	O	O	O	O	5.6
Check pressures	O	O	O	O	O	5.6.4
Check hydraulic oil level	O	O	O	O	O	5.6.6
Check hydraulic oil filter blocking LEDs	O	O	O	O	O	5.6.7
Controls functioning test in basket and on the ground	O	O	O	O	O	5.9.1
Check safety devices (Emergency stop)	O	O	O	O	O	5.9.1
Test the end run switches	O	O	O	O	O	5.9.2
Power supply differential test in basket	O	O	O	O	O	10.1
Over-loading device test	O	O	O	O	O	5.9.3
Replacing hydraulic plant oil					M	5.6.6
Replacing the hydraulic oil filters			M	M	M	5.6.7
Replacing reducer oil			M		M	5.8.4
Lubrication and greasing		O	O	O	O	5.8.
Check screw tightness on the fifth wheel			M	M	M	5.5.1
Check the correct tightness of all connecting bolts from the counter-chassis to the truck			M	M	M	5.5.1
Check the correct tightness of all bolts on the turret rotation reducer			M	M	M	5.5.1



ATTENTION:

The control to be performed on the structure must be carried out by a CTE authorised workshop, after the first 100 hours and every 1000 hours or every year for the maintenance of warranty conditions.

5.4 Spare parts

Only use original spare parts.

For the request, specify:

- model, serial number and vehicle on which the platform is set-up;
- reference code and technical description of the damaged part;

5.5 Mechanics

5.5.1 General mechanics

The mechanical parts in mutual rotation must be periodically inspected, controlling the tightness of the nuts, screws and bolts in order to check any loosening. Before use, visually check fixing screws and nuts of the fifth wheel to the chassis and turret, of the reducer, the connection of the bracket fixing the rotating joint to the turret, the pin retainers, the fixing nuts to the truck, every other bolt, especially the parts subject to vibrations and movements. Before use, visually check all structural components in order to check for cracks in the welding, corrosion or signs of deterioration. After the first 100 hours and, successively, every 6 months or 500 hours, check:

- the tightness of the fifth wheel fixing nuts with dynamometric wrench (consult the "Coupling torques) table
- the tightness of all turret rotation reducer bolts with dynamometric wrench (consult the "Coupling torques) table
- the tightness of all connecting bolts of the counter-chassis to the truck with a dynamometric wrench (consult the "Coupling torques) table.

5.5.2 Endothermic engine

For maintenance of the endothermic engine, follow the instructions indicated in the manufacturer's manual for the truck.

5.6 Hydraulic plant

The hydraulic plant is made up from different components that require maintenance at different frequencies.

5.6.1 Hydraulic cylinders

Before all use, check that there are no leaks or seepage in the following points: rod gasket, fittings, valves and piping. In the presence of leaks or seeping do not use the machine and contact the After-sales Service.

5.6.2 Rotating joint

Before use, check the sealing between the piping fittings and the rotating joint.

5.6.3 Hydraulic plant piping

Before all use, visually check that there are no leaks in the fittings, valves and piping. Check that the rubber piping is integral and without cracks. In the presence of leaks, do not use the machine and contact the After-sales Service.

5.6.4 Control pressures and valves regulation

Control maximum pressure valve: after having stabilised the platform correctly, use the emergency control board on the ground to retract the booms by activating the relevant control. Check that the pressure indicated by the manometer corresponds to the value given in the technical data table.

If there is difference, contact the After-sales Centre.



ATTENTION:

all valve calibration operations must only be carried out at the manufacturer's establishment or at Authorised Workshop.

5.6.5 Hydraulic pumps and motors

Before all use, visually check that there are no leaks in the fittings, flanges and piping. The hydraulic pumps and motors do not require further maintenance. If there are leaks, contact the After-sales Centre.

5.6.6 Hydraulic oil

Before use, visually check the hydraulic oil level through the indicator on the tank. The level must be at the centre of the indicator. Top-up if necessary through the filling cap. (*fig. 6.5.9*).



ATTENTION:
the following operations must be performed with the platform in the rest position
(outriggers completely retracted and booms closed).

Replace the hydraulic oil at least once a year or every 2000 hours. On this occasion the hydraulic oil filters must also be replaced.

For replacement, use a suitable tank or tanks with sufficient capacity and drain out the waste oil, loosening the drain cap under the tank. Close the drain cap and fill the tank.

Tank

capacity: **28 litres**

Specifications **AGIP OSO 32**

: Viscosity at 40 °C=30 mm²/s
 Viscosity at 100 °C=5.3 mm²/s
 Viscosity index =106
 Flow point =-30 °C

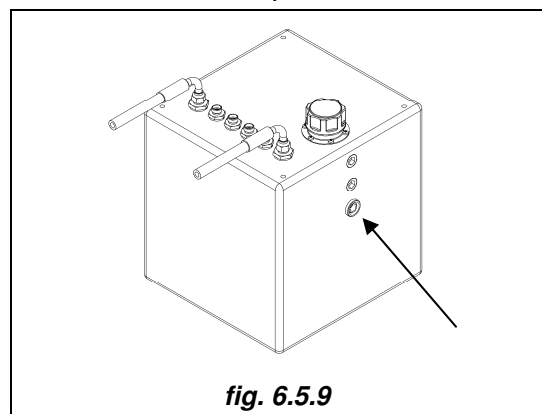


fig. 6.5.9



ATTENTION:
do not disperse hydraulic oil in the environment during replacement.
Dispose of the oil in compliance with the Law.

5.6.7 Hydraulic oil filter

There is a filter near to the tank. At every use, check the blockage indicator on the filter. This control must be carried out during the operational phase. If the indicator is in the red area, the filter must be replaced.

After the first 100 hours and, successively, every 3 months or 500 hours, replace the filter. Comply with the controls and the replacement frequencies indicated as blockage of the filter decreases the efficiency of the machine and causes damage to the hydraulic components.



ATTENTION:
whenever some components of the hydraulic circuit are replaced due to serious faults such as seizure of pumps, hydraulic motors or cylinders with the consequent introduction of large amounts of impurities, it is necessary to repeat the filter replacement procedure from the start, as described above.



Replace the hydraulic oil filter, proceeding as follows (*fig. 6.5.10*):

- loosen the filter using the appropriate chain wrench, if necessary
- screw in the new filter by hand, taking care to lubricate the sealing gasket using grease
- top-up the hydraulic oil tank and control the level through the indicator (*fig. 6.5.9*).

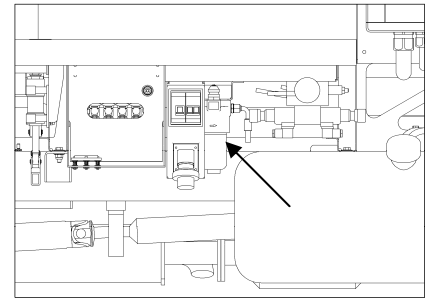


fig. 6.5.10



ATTENTION:

pay attention not to disperse hydraulic oil in the environment during replacement. Dispose of the filter in compliance with the Law.

5.6.8 Restore work platform levelling



ATTENTION:

whenever you notice that the basket is not level with respect to horizontal, lower the basket to the ground and descend from it.



DANGER:

the presence of persons in the basket during the operations is prohibited.



ATTENTION:

this maintenance must be carried out by a qualified technician (M).

Ripristinare la condizione di sicurezza (cestello orizzontale), operando come segue:

- Switch on the push-button panel plugging it into the appropriate socket in the frame
- activate the jib lifting control lever (*pos. 2 fig. 6.1.1*), keeping the lever activated, activate the speed regulation potentiometric lever (*pos. 4 fig. 6.1.1*) until the jib is in a horizontal position

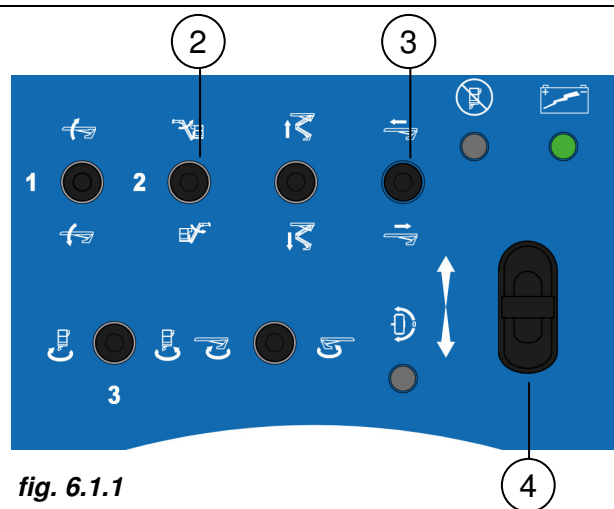
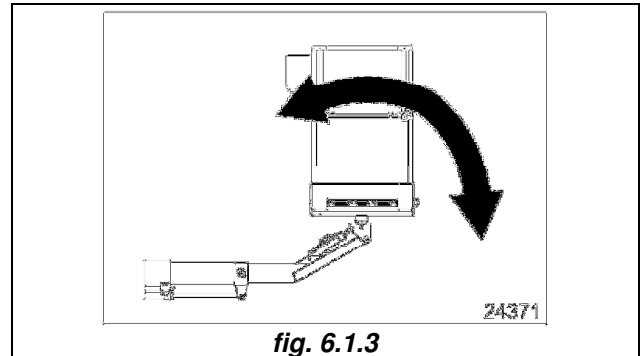
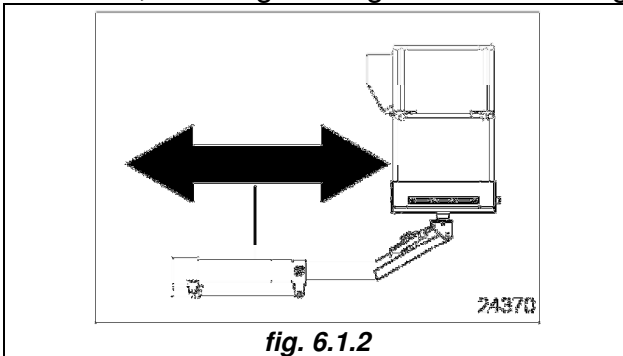


fig. 6.1.1

- ger to open the padlock on the diverter, remove the silver lever situated in the turret by loosening the black locking knob. Turn both two-position diverters situated in the rear of the extension cylinder by 90° to the levelling position (*fig. 6.1.3*)
- descend from the deck and activate the “telescopic boom extension” control lever (*pos. 3 fig. 6.1.1*) and without releasing it, activate the movement speeds control lever. The basket can be levelled in this way (carry out a complete downward and upward run with the basket and then align it) (*fig. 6.1.3*)
- on completion of the operations, take the two position diverters situated at the base of the extendable boom to the original position (extension position, indicated by the sticker) (*fig. 6.1.2*), remove the lever from the diverters and put it in position in the



turret, blocking it using the black locking knob



- test correct functioning of the extension by activating the switch that controls exit of the extension and activate the potentiometric lever. Retract the extension to the rest position.
- Unplug the push-button panel and put it in the cabin to get back to using the basket controls.



DANGER:
during the basket levelling restore operations, it is prohibited to use the telescopic swinging.

5.7 Washing

Washing frequency depends on the type of machine use. Machine washing can be carried out with a high-pressure water jet machine, complying with the following precautions:

- do not exceed 70°
- use neutral detergents
- do not use solvents or petrol
- stay at a suitable distance with the nozzle
- do not aim the jet towards control boards and electrical appliances
- do not wash in the presence of live appliances
- wear suitable I.P.D.
- only carry out washing in areas set-up for this purpose and dispose of the material used according to legal provisions.



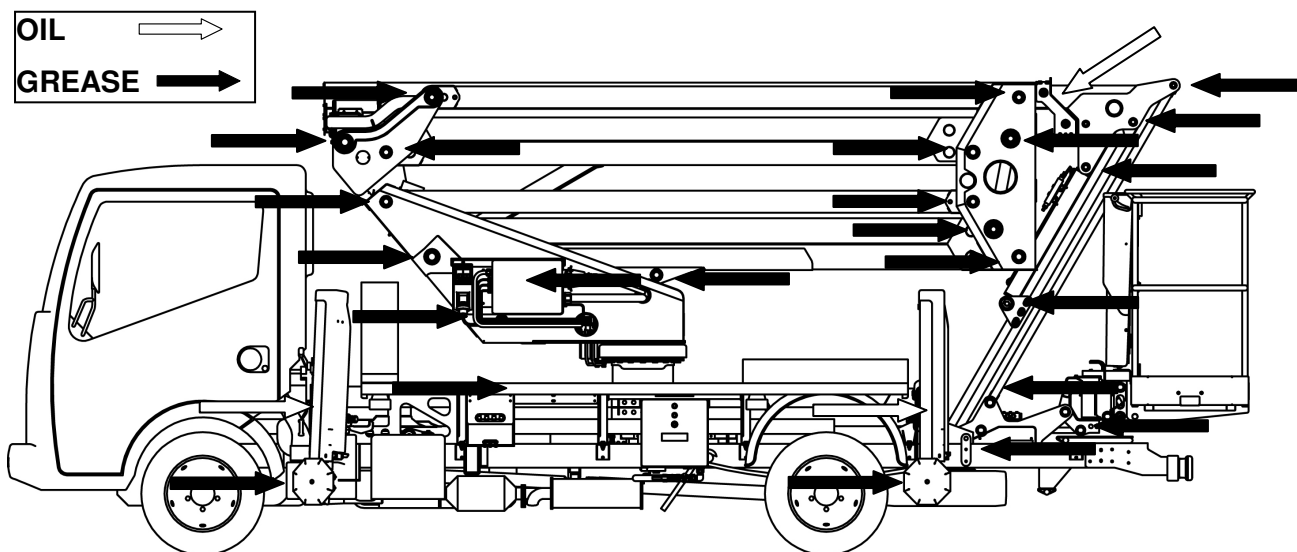
ATTENTION:
after every wash it is indispensable to grease and lubricate all parts indicated in *chap. 5.8*.

5.8 Lubrication and greasing

5.8.1 Greasing the pins

Grease the machine pins once every 50 hours in the points indicated in the figure by pumping a small amount of grease using a manual grease gun through the relevant nipples.

Lubricant: **AGIP F1 GR MU2** pumpable grease or equivalent.



ATTENTION:
do not grease the pair of greasing nipples on the fifth wheel.

5.8.2 Lubricating the outriggers

Every 50 hours, lubricate as follows: stabilize the machine, extending the outriggers completely. Check the lubrication condition of the extension element. In the presence of dust or impurities, clean and remove the grease. Restore with a slight layer of a 50% Agip F1 GR MU2 grease and 50% hydraulic oil Agip OSO32 mixture, applied with a brush.

5.8.3 Lubrication of the telescopic boom elements

Every 50 hours, lubricate as follows: stabilize the machine and extend the telescopic boom completely. Check the lubrication condition of the elements. In the presence of dust or impurities, clean and remove the grease. Restore with a slight layer of a 50% Agip F1 GR MU2 grease and 50% hydraulic oil Agip OSO32 mixture, applied with a brush.

5.8.4 Lubrication of the rotation reducer

Every six months or every 500 hours, check the oil level. We recommend checking for oil leaks in the whole system according to the effective use of the machine.



ATTENZIONE:
tutte le operazioni di lubrificazione ed ingrassaggio devono essere eseguite senza persone a bordo della piattaforma di lavoro.

5.9 Impianto elettrico

5.9.1 Circuito elettrico

Il circuito elettrico è costituito da molteplici componenti i quali a seguito del loro funzionamento vanno soggetti controllo di corretto funzionamento. Prima di ogni utilizzo effettuare un controllo del corretto funzionamento di tutti i comandi di funzione effettuando un ciclo completo di lavoro per ogni comando attraverso il quadro comandi a terra. Controllare anche il corretto funzionamento degli stop d'emergenza.



ATTENTION:
all lubrication and greasing operations must be performed without persons on the work platform.

Climb onto the work platform and repeat the test with the controls on board. Check the state of the power supply cable of the controls on the ground in the part under the turret. If the cable is twisted, remove the plug from the turret control panel and untwist.

5.9.2 Outriggers and interlock end run

Before all use, check for the correct operation of all stabilisers/boom interlock limit switches. To carry out correct functioning test, stabilise the machine and check boom functioning. Lower the boom, retract the outriggers one at a time and check that the boom does not operate.

5.9.3 Overload device in the work platform

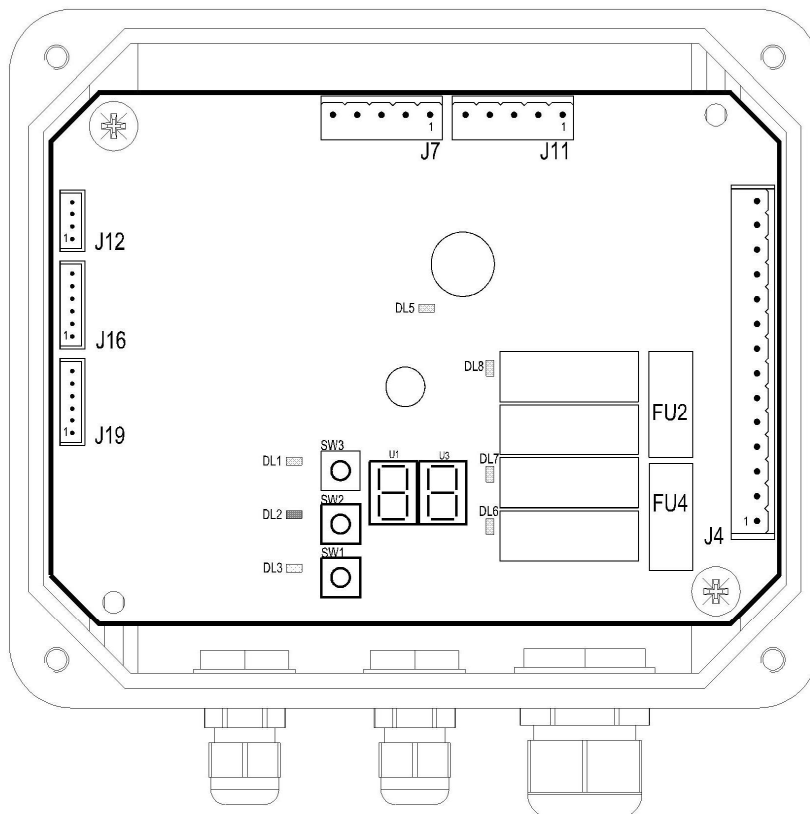
The efficiency of this device must be tested before every use. Stabilise the machine for testing. Position the key selector switch on the work platform controls, position a load such to exceed the maximum capacity slightly. The alarm is triggered, the LED switches-on on the controls, an acoustic warning is heard, the power supply LED on the control board switches-off and the machine blocks.

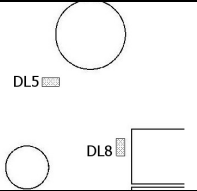
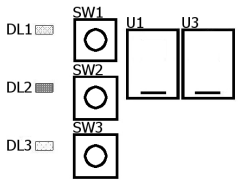
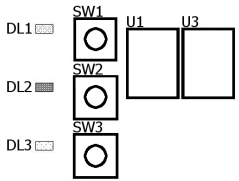
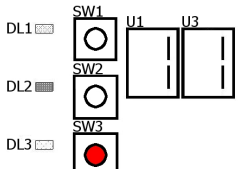
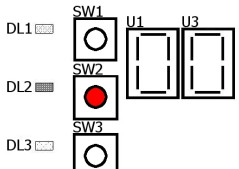
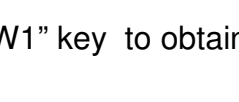
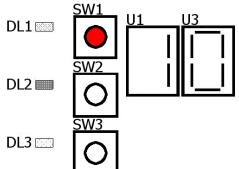
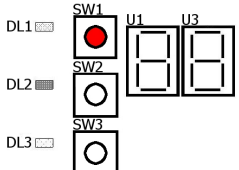
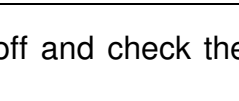
The machine should function correctly when the extra load has been removed.

5.9.4 Load cell calibration procedure

The user calibration allows to acquire an offset (tare) to reset to zero the load reading. This operation is only possible if the current read load value is between -10% and +10% of the maximum load around the original zero.

This calibration is always possible, just follow the procedure given below:



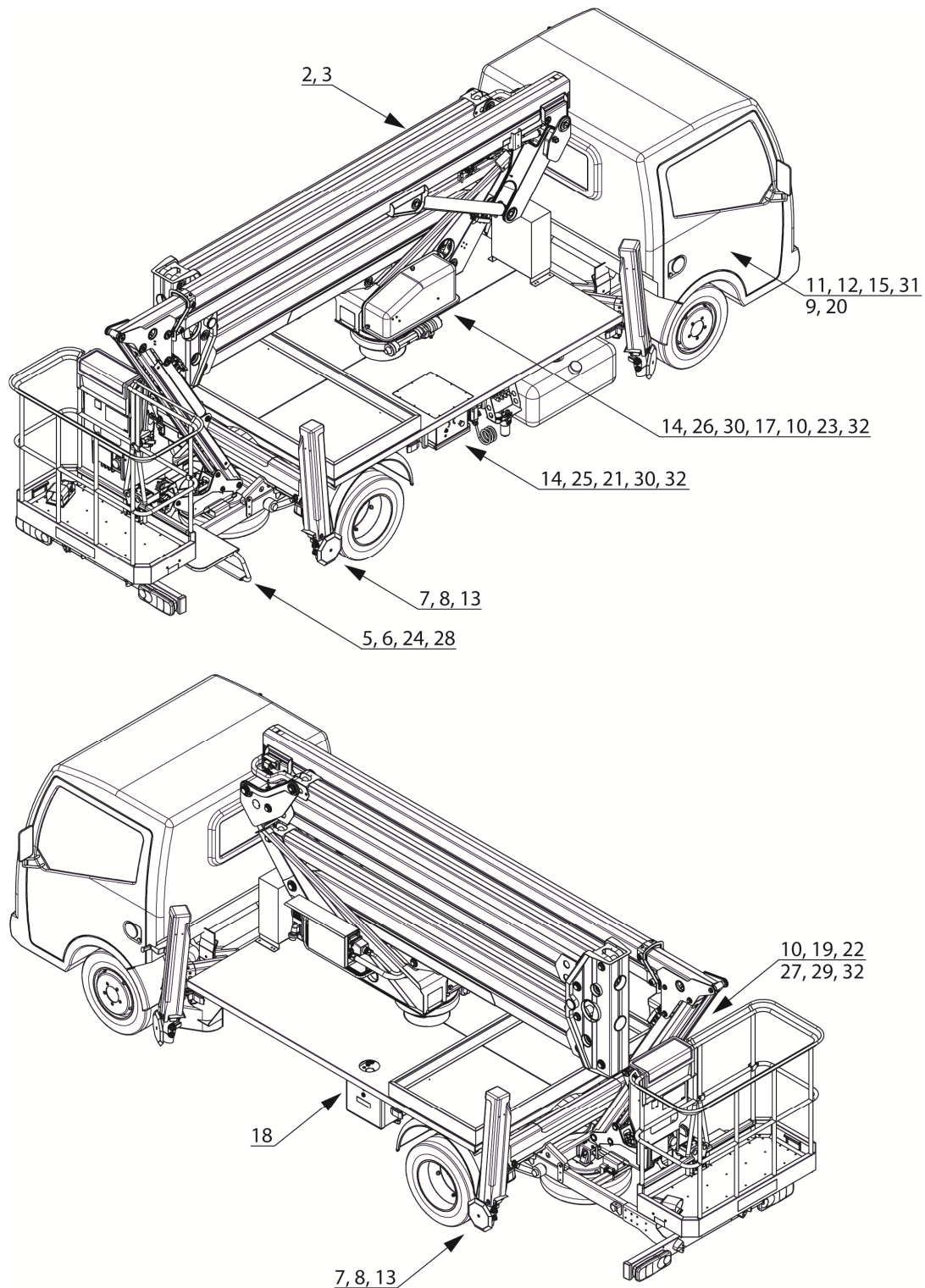
<ul style="list-style-type: none"> • Feed the card: the green led will light (DL5) and the displays (U1-U3) will light up completely for a while. 	
<ul style="list-style-type: none"> • For the first 10 seconds from the ignition, two “_” (U1-U3) will appear on the displays. 	
<ul style="list-style-type: none"> • Wait 10 seconds until the displays turn off. 	
<ul style="list-style-type: none"> • For the calibration procedure press “SW3” key for at least two seconds. On the display two numbers “1” will appear. 	
<ul style="list-style-type: none"> • Press the “SW2” key for two seconds to enter the calibration procedure ; on the two displays will appear intermittently two “0”. This message means : “ waiting for the recalibration of the zero”. 	
<ul style="list-style-type: none"> • Switch the system into rest position (empty basket) and press “ SW1” key to obtain the value of zero. 	
<ul style="list-style-type: none"> • If the load value is between $\pm 10\%$ with respect to zero and performed with the initial calibration, “1” and “0” will appear on the displays intermittently confirming the calibration of the zero. 	
<ul style="list-style-type: none"> • If the load value is over $\pm 10\%$ with respect to zero performed with the initial calibration, “8” will appear on the displays intermittently refusing the calibration of the zero. 	
<ul style="list-style-type: none"> • To exit the calibration procedure press “SW3”, switch the card off and check the proper use of the device. 	

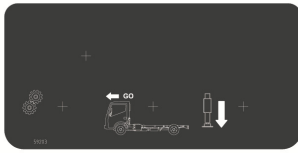


ATTENTION:
any malfunctioning of the device or of the calibration procedure,
please contact the Service Centre.

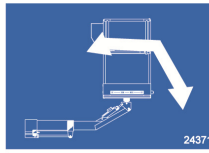
5.10 Stickers – position

Check the legibility and the correct positioning of the stickers as indicated in the figure.

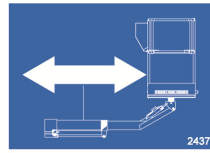




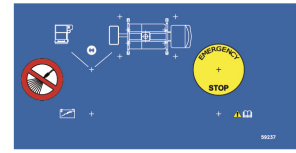
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2) 24371



3) 24370



4) 59237



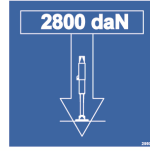
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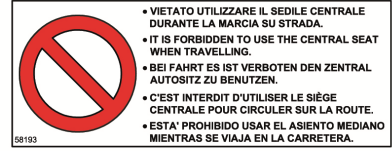
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8) 29902



9) 58193



10) 29914



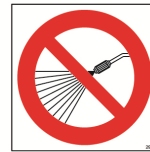
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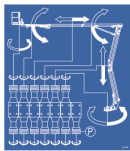
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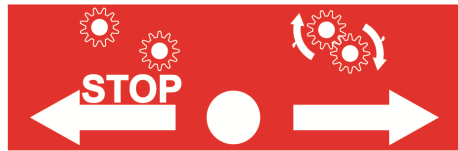
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14) 29911



14) 55556



15) 29908



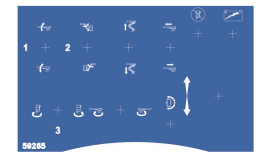
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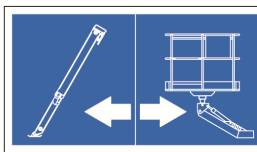
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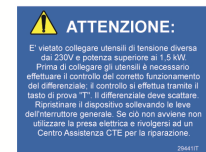
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21) 29906



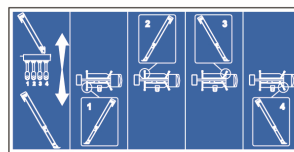
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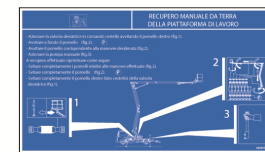
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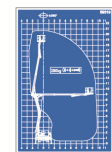
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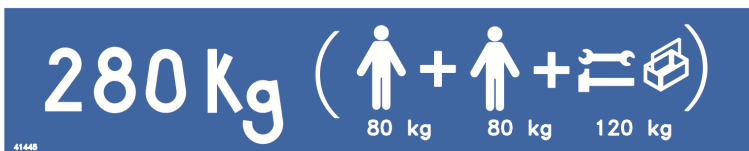
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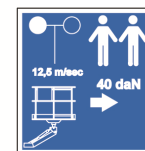
26) 55557



27) 59319



28) 41445



29) 29916



30) 29907



31) 59267



32) 29912

**5.11 Troubleshooting****DIAGNOSTICS**

N.B. The solutions with (*) must only be carried out at Authorised Workshops

Problem	Cause	Solution
Noisy pump	<ul style="list-style-type: none"> ◇ Hydraulic oil viscosity too high. ◇ Hydraulic oil level too low in the tank. ◇ Intake pipe blocked or crushed. ◇ The flanges on the intake lets air in. 	<ul style="list-style-type: none"> ☞ Use recommended hydraulic oil ☞ Top-up with hydraulic oil of the same type. ☞ (*) Check the integrity of the pipe. ☞ (*) Check sealing and replace the gasket.
Slow functioning of some hydraulic operations of the machine.	<ul style="list-style-type: none"> ◇ The maximum pressure valve on the distributor inherent the section of the circuit with malfunctioning is not correctly calibrated or its cut-off is open due to presence of impurities. ◇ Pump worn. 	<ul style="list-style-type: none"> ☞ (*) Re-calibrate the valve. Remove it and clean it and then re-mount it with new metal gaskets. Replace the valve. ☞ (*) Replace the pump
Irregular functioning of the hydraulic cylinder.	<ul style="list-style-type: none"> ◇ Oil seeps between the two chambers of the cylinder and consequently does not sustain the load. ◇ Piston/rod connection loosened. ◇ Max. pressure valve on the distributor jammed or worn. 	<ul style="list-style-type: none"> ☞ (*) Replace the jack gaskets. ☞ Check the piston/rod connection. ☞ (*) Remove and clean the max pressure valve or replace it.
Indicators do not work	<ul style="list-style-type: none"> ◇ Bulb burned ◇ Electric connection cut-off ◇ Fuse burned. 	<ul style="list-style-type: none"> ☞ Replace the bulb. ☞ (*) Restore the connection ☞ Replace the fuse.
Hydraulic oil excessive heating.	<ul style="list-style-type: none"> ◇ Hydraulic oil level too low in the tank. 	<ul style="list-style-type: none"> ☞ Top-up with hydraulic oil of the same type.
Solenoid valves do not work	<ul style="list-style-type: none"> ◇ No voltage ◇ Cursor does not move ◇ The coil does not work 	<ul style="list-style-type: none"> ☞ (*) Check the electric plant ☞ (*) Replace the solenoid valve ☞ (*) Replace the coil





NOTE:
for anything not described in the table, contact the After-sales Centre.



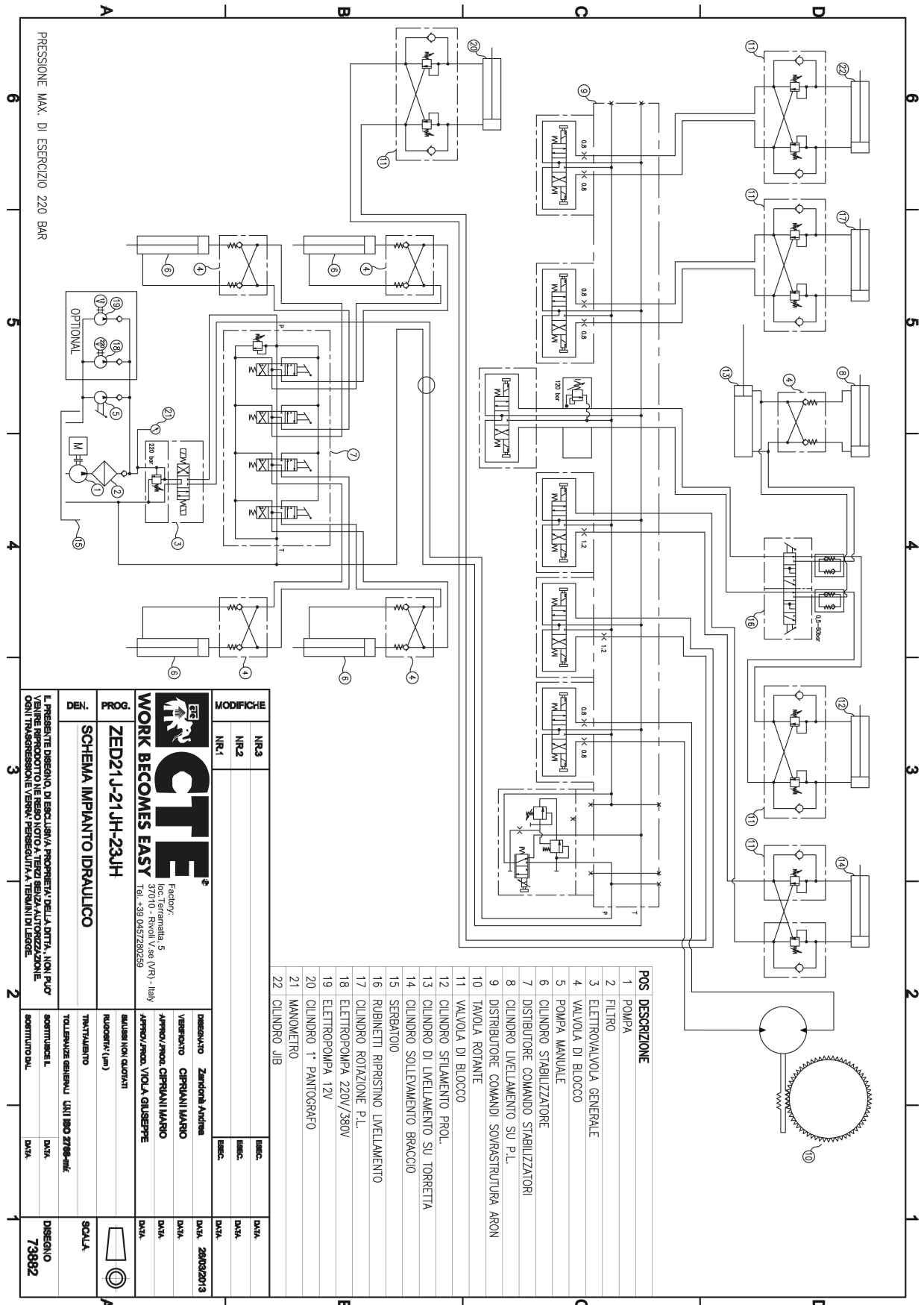
5.12 Demolition and disposal

Demolition must be entrusted exclusively to authorised and specialised companies that collect the oil, disassemble the machine and dispose of parts pursuant to the laws in force in the country where the machine is being demolished. It is also possible to contact the manufacturer regarding demolition. If the machine is demolished or put out of service, inform the manufacturer and, for countries where envisioned, the bodies in charge of periodical inspections (if any).

6 FACSIMILE OF CE DECLARATION OF CONFORMITY

 <p>CTE S.p.A. Via Caproni, 7 - 38068 Rovereto (TN) - ITALY Tel +39 0464 485050 - Fax +39 0464 485099</p>									
<p>DICHIARAZIONE CE DI CONFORMITA' (redatta ai sensi dell'Allegato II lettera A della Direttiva 2006/42/CE)</p>									
<p>La Ditta CTE S.p.A. via Caproni 7 - Z.I. - 38068 Rovereto (TN) - ITALY, "fabbricante" ai sensi della direttiva sopra citata della seguente piattaforma di lavoro mobile elevabile (macchina inclusa nell'allegato IV della Direttiva Macchine):</p>									
<table border="1" style="width: 100%;"> <tr> <td>MODELLO:</td> <td>TIPO:</td> </tr> <tr> <td>DENOMINAZIONE COMMERCIALE:</td> <td>ANNO COSTRUZIONE:</td> </tr> <tr> <td>N° DI FABBRICA:</td> <td>TELAIO:</td> </tr> <tr> <td>VEICOLO:</td> <td></td> </tr> </table>		MODELLO:	TIPO:	DENOMINAZIONE COMMERCIALE:	ANNO COSTRUZIONE:	N° DI FABBRICA:	TELAIO:	VEICOLO:	
MODELLO:	TIPO:								
DENOMINAZIONE COMMERCIALE:	ANNO COSTRUZIONE:								
N° DI FABBRICA:	TELAIO:								
VEICOLO:									
<p>dichiara sotto la sua responsabilità che la piattaforma di lavoro elevabile è una macchina ai sensi e per gli effetti della Direttiva 2006/42/CE e sulla stessa è stata apposta la marcatura "CE";</p> <ul style="list-style-type: none"> • è conforme alla Direttiva 2006/42/CE (direttiva macchine) e alla legislazione nazionale che la traspone; • è conforme alle seguenti altre direttive: <ul style="list-style-type: none"> - 2004/108/CE (compatibilità elettromagnetica) - 2006/95/CE (bassa tensione) <p>(i riferimenti normativi sono da intendersi estesi anche alle eventuali successive modifiche e/o integrazioni)</p> <ul style="list-style-type: none"> • è conforme alla direttiva 2000/14/CE dell'8 Maggio 2000 "sul ravvicinamento delle legislazioni degli stati membri concernenti l'emissione acustica ambientale delle macchine ed attrezzature destinate a funzionare all'aperto", alle relative legislazioni nazionali che la traspongono (recepita in Italia con il D.Lgs. 262/2002) ed alla successiva 2005/88/CE . <p>Tipo macchina: piattaforme di accesso aereo con motore a combustione interna in accordo alla definizione n° 1 dell'allegato I della Dir. 2000/14/CE. Procedura applicata per la valutazione della conformità: Allegato V della Dir. 2000/14/CE Livello di Potenza acustica misurata L_{WA}: Livello di Potenza acustica garantita L_{WA}:</p> <ul style="list-style-type: none"> • potenza netta installata in kW : <ul style="list-style-type: none"> • norma armonizzata applicata: EN280:2013 									
<p>ed inoltre dichiara che:</p> <ul style="list-style-type: none"> • L'ente autorizzato a costituire il fascicolo tecnico è CTE S.p.A. presso l'Ufficio Tecnico in Via Caproni, 7 - 38068 ROVERETO (TN) Italy - info@ctelift.com • La macchina è conforme al prototipo che ha ottenuto la certificazione CE di tipo: n° _____ rilasciata il _____ dal seguente Organismo Notificato: ICE Istituto Certificazioni Europeo S.p.A. Via Garibaldi, 20 - 40011 Anzola Emilia (BO), ON n. 0303. 									
<p>Rovereto, giorno/mese/anno</p>									
<p>..... Lorenzo Cipriani Legale Rappresentante</p>									

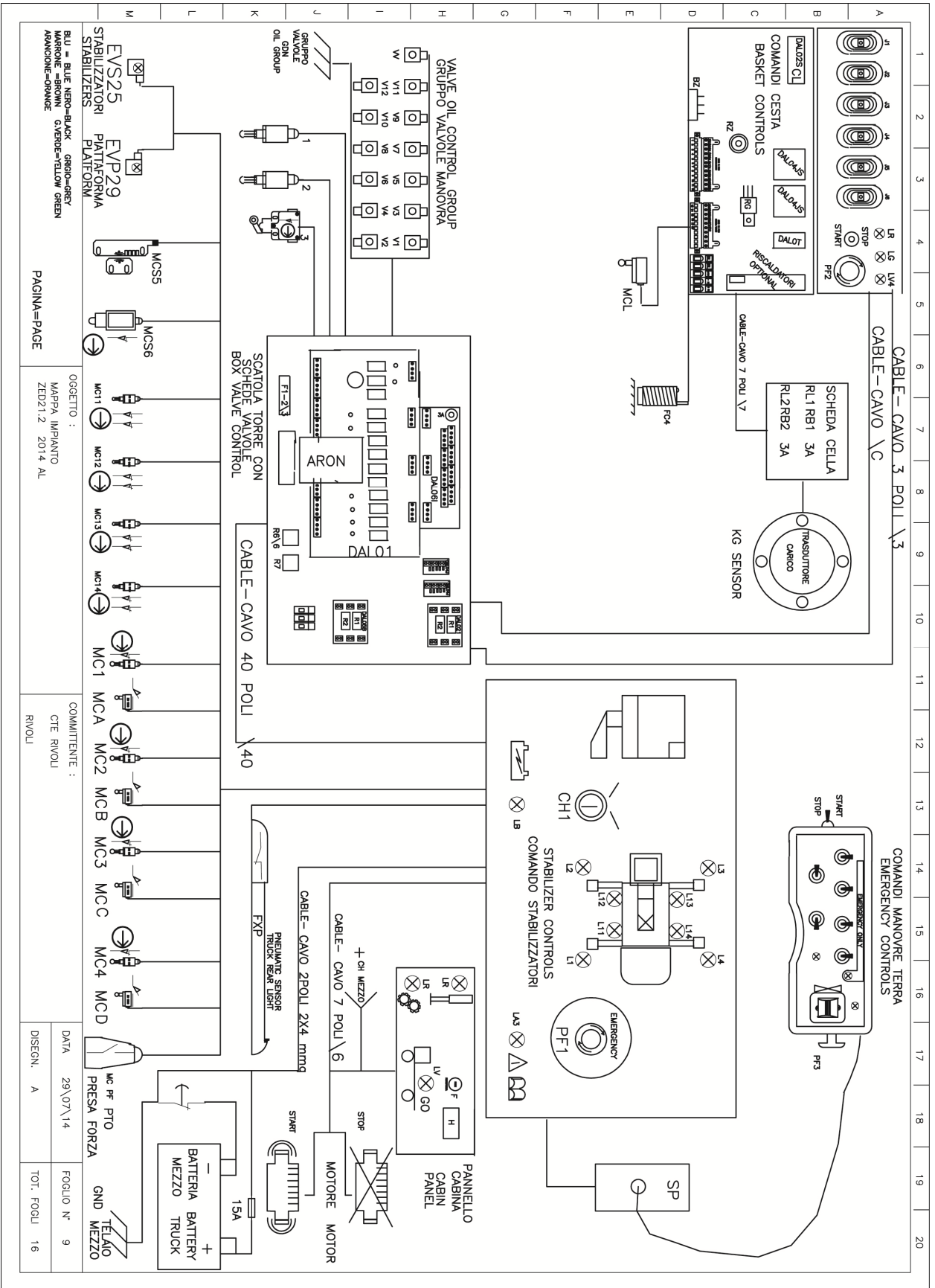
7 HYDRAULIC PLANT LAYOUT



MODIFICHE		DESSIGNO	
NR3	ESB.C.	DATA	28/03/2013
NR2	ESB.C.	DATA	
NR1	ESB.C.	DATA	
 WORK BECOMES EASY Factory: Via S. Felice, 5 37010 - Fivoli (VR) - Italy Tel. +39 0457290259		DESIGNED BY ZANDONA ANDREA	DATA 28/03/2013
ZED21J-21JH-23JH		VERIFIED BY CIPRIANI MARCO	DATA 28/03/2013
SCHEMA IMPIANTO IDRAULICO		APPROVED BY CIPRIANI MARCO	DATA 28/03/2013
DEVELOPER ZANDONA ANDREA		APPROVED BY GIUSEPPE	DATA 28/03/2013
PROG. ZED21J-21JH-23JH		DRAWN BY ZANDONA ANDREA	DATA 28/03/2013
DESIGN ZED21J-21JH-23JH		CHECKED BY ZANDONA ANDREA	DATA 28/03/2013
SCALE 1:1		APPROVED BY ZANDONA ANDREA	DATA 28/03/2013
REVISIONS		APPROVED BY ZANDONA ANDREA	DATA 28/03/2013

POS	DESCRIZIONE
1	POMPA
2	FILTRO
3	ELETTROVALVOLA GENERALE
4	VALVOLA DI BLOCCO
5	POMPA MANUALE
6	CILINDRO STABILIZZATORE
7	DISTRIBUTORE COMANDO STABILIZZATORI
8	CILINDRO LIVELLAMENTO SU P.L.
9	DISTRIBUTORE COMANDI SOVRASTRUTTURAZIONE ARON
10	VALVOLA ROTANTE
11	VALVOLA DI BLOCCO
12	CILINDRO SFIAMMENTO PROL.
13	CILINDRO DI LIVELLAMENTO SU TORRETTA
14	CILINDRO SOLLEVAMENTO BRACCIO
15	SERBATOIO
16	RUBINETTI RIPRISTINO LIVELLAMENTO
17	CILINDRO ROTAZIONE P.L.
18	ELETTROPOMPA 220V/380V
19	ELETTROPOMPA 12V
20	CILINDRO 1° PANTOGRAFO
21	MANOMETRO
22	CILINDRO JIB

8 ELECTRIC WIRING DIAGRAM



9 BEAUFORT WIND SCALE

Force	Type of wind at a height of 10 m above flat and open ground	Nm/h Km/h	Description of the effects on the ground	Description of the effects at sea
0	calm	0-1 0-1	Calm: smoke rises vertically	The sea is like a mirror.
1	light air	1-3 1-5	Direction of wind shown by smoke drift, but not by wind vanes.	Ripples without crests are formed.
2	light breeze	4-6 6-11	Wind felt on face; leaves rustle; ordinary vanes moved by wind.	Small wavelets. Crests glassy, no breaking.
3	gentle breeze	7-10 12-19	Leaves and small twigs in constant motion; wind extends light flag.	Large wavelets, crests begin to break: scattered white caps.
4	moderate breeze	11-16 20-28	Raises dust and loose paper; small branches are moved.	Small waves becoming longer, numerous whitecaps.
5	fresh breeze	17-21 29-38	Small trees in leaf begin to sway; crested wavelets form on inland waters.	Moderate waves taking longer form, many whitecaps, some spray
6	strong breeze	22-27 39-49	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty.	Larger waves start to form
7	near gale	28-33 50-61	Whole trees in motion; inconvenience felt when walking against the wind.	Sea heaps up: and foam from the larger waves breaks up and starts to be blown into streaks.
8	gale	34-40 62-74	Breaks twigs off trees; generally impedes progress	Moderately high waves with breaking crests forming spindrift. Streaks of foam.
9	severe gale			
10	storm			
11	violent storm			
12	hurricane			

10 ACCESSORIES

10.1 230V electric socket in work platform

The machine can be equipped with a 230V electric socket in the work platform. To power the electric socket, connect a power supply cable with minimum section of 2.5x3 mm² and length not exceeding 20 m to the socket situated in the turret.

**ATTENTION:**

it is prohibited to connect tools with voltage different to 230V and power exceeding 1.5 kW.

**ATTENTION:**

before connecting the tool it is mandatory to control the correct functioning of the differential; the control is made using the test key T. The differential must trip. Restore the device by lifting the master switch lever. If this does not occur, do not use the electric socket and contact a CTE After-sales Centre for repairs.

10.2 Work light

(Only for machines equipped with 230V electric socket on the work platform)
It functions by inserting the 230V plug in the basket and activating the ignition switch.

**NOTE:**

the bulb is low voltage and the plant is equipped with transformer.

10.3 Air/water supply piping

It is an automatic hose reel faired in plastic, with moveable fixing bracket, suitable for use with air and water (temp. -10 °C + 60 °C) that can be used with pipes with internal diameter of 8 mm, external diameter 12 mm and maximum length 15 m. 3/8 air inlet fittings. Maximum use pressure 20 Bar.

10.4 Man present pedals in W.P.

The machine can be equipped with pedals on the work platform.
If this accessory is not pressed, it deactivates all manoeuvres of the control board. The pedal must be pressed for the control board to be used and then using the proportional levers it is possible to perform the desired manoeuvres.

10.5 Fifth wheel rotation block system

The machine can be equipped with an electric device that does not allow to perform continuous rotation of the EWP, but only up to 350°, thus only permitting to go back to the starting point.

10.6 230V 2.5 kW single-phase auxiliary electric pumps

The machine can be equipped with an auxiliary electric pump powered by electric current for use in work environments where the use of the endothermic engine is not allowed.

**ATTENTION:**

it is prohibited to use the electric pump with the power take-off inserted.

To use the machine with electric pump, connect the power supply cable with minimum section of 2.5x3 mm² and length not exceeding 20 m. Attention, the cable must be protected to a socket protected by differential switch and plant built in compliance with the Safety Standards in force . The plant is active. Stabilise the machine as described in *chap. 4.3.2*.

**NOTE:**

the electric pump is constantly in use during stabilisation, when using the platform it is only active during movement.

10.7 400V 4.5 kW three-phase auxiliary electric pumps

The machine can be equipped with an auxiliary electric pump powered by electric current for use in work environments where the use of the endothermic engine is not allowed.

**ATTENTION:**

it is prohibited to use the electric pump with the power take-off inserted

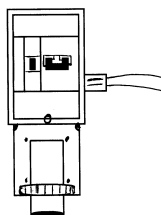
To use the machine with the electric pump, connect the power supply cable with minimum section of 2.5x3 mm² and length that does not exceed 20 m. Attention, the cable must be connected to a socket protected by a differential switch with plant built according to Safety Standards in force. The plant is active. Stabilise the machine as described in *chap. 4.3.2*.

**ATTENTION:**

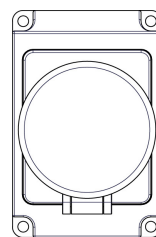
check the correct direction of rotation of the motor (clockwise); in the case of anti-clockwise rotation, invert it using the polarity selector switch.

**NOTE:**

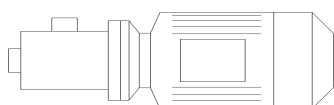
the electric pump is constantly in use during stabilisation, when using the platform it is only active during movement.



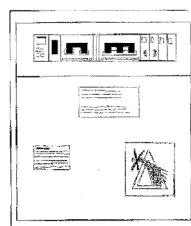
230V electrical plug on the turret



230V electric socket on work platform



Electric pump



Electric pump control board



CTE

Use and maintenance manual

ZED 21.2 JH

PRODOTTO DA:



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