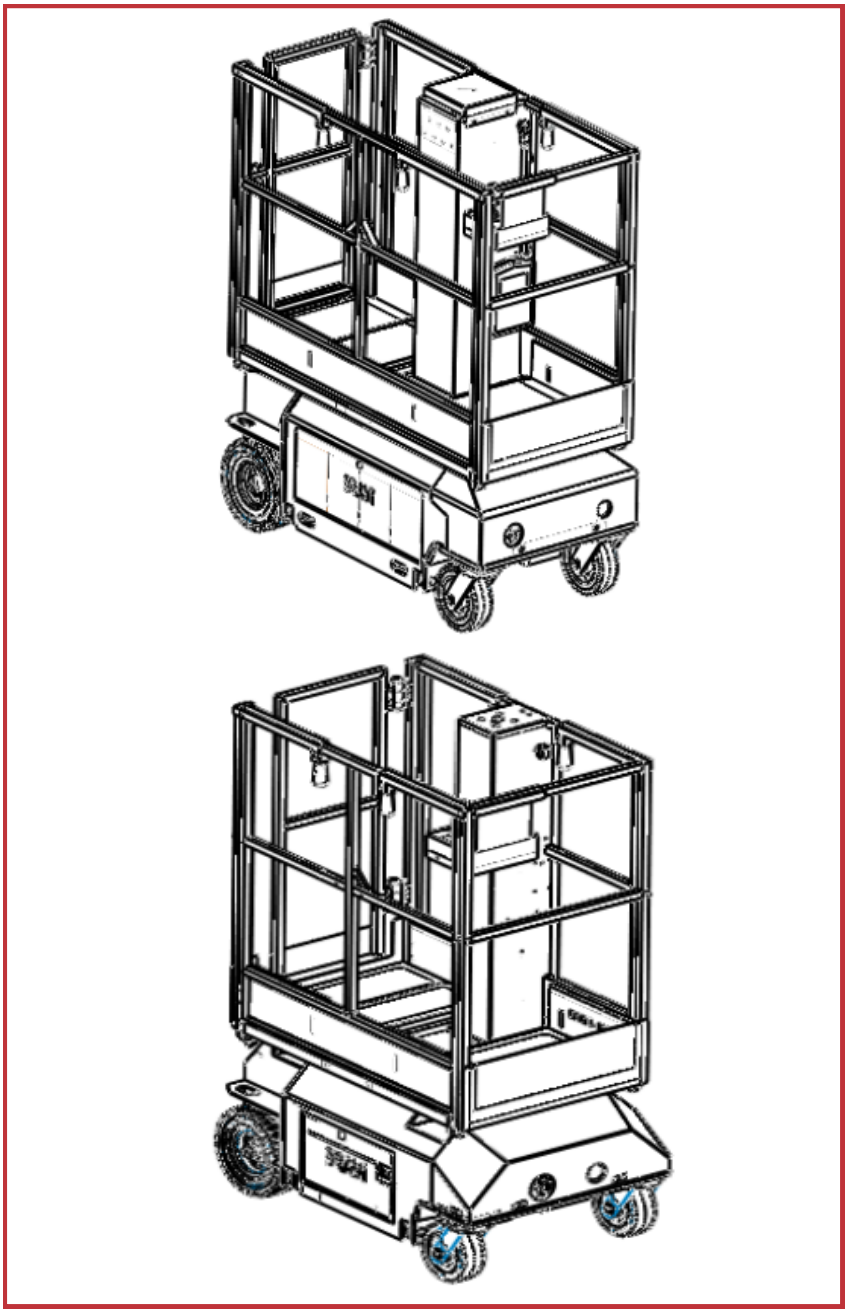
USER AND MAINTENANCE MANUAL

Original instructions

LUI WH 460
LUI HD
LUI HD WD
LUI HD EL



English

ANSI A92.20 - 2018 - AS/NZS 1418.10 (int). - EN280 2013 04-2020 Rev 01

SOME NOTES ON THIS USER MANUAL

Remember that the USER MANUAL is not an accessory of the platform but it is an integral part of it and a SAFETY MEASURE (EN 12100-1).
It has been designed in this form to let you easily find what you are looking for.
This is the reason why you have to keep it in good condition close to the platform itself.
In this way it can be obtained from the PLATFORM all the information about the reason it has been manufactured and use it in a maximum security.
Remember that any update must be inserted in the manual itself as it will be indicated by Braviisol Divisione Meccanica srl.
The manual must not be damaged, it should remain intact (do not tear the sheets), kept away from moisture and heat during the consultation should be avoided to get oil on it or deteriorate its readability.
To make the consultation easier, the manual has been divided into parts, so that, each step is well articulated.
For practicalness of use, each subject has been divided into numbered steps which, when the action requires it, are written on the drawings themselves.
Parts that need more attention are highlighted with symbols and well-detailed illustrations on the side of the page.
In this way, BRAVIISOL DIVISIONE MECCANICA wants to draw – unequivocally- the operator's attention to WARNINGS, CAUTIONS and HAZARDS concerning him.

This Platform has been manufactured in Italy by:
BRAVIISOL DIVISIONE MECCANICA SRL
S.S. 16 Adriatica km. 314,600 60022 Castelfidardo (AN)
Tel.0039.071.7819090 Fax 0039.071.7819355
If you have any question about use and/or working, please contact the Manufacturer.
This Platform is in compliance with EC directives, ANSI A92.20 - 2018, AS/NZS 1418.10 (int) standards.
With reference to EN 280/2013 static and dynamic tests were verified by:

TÜV SÜD ITALY
Via Isonzo, 61
40033 Casalecchio Di Reno
Bologna
Italy

Report Number :TŰV IT 0948 20 MAC 0172 B (LUI WH 460)

Date : 23/03/2020

Report Number :TŰV IT 0948 20 MAC 0170 B (LUI HD)

Date : 12/02/2020

Report Number :TŰV IT 0948 20 MAC 0171 B (LUI HD WD)

Date : 03/03/2020

Report Number :TŰV IT 0948 20 MAC 0176 B (LUI HD EL)

Date : 25/03/2020

DECLARATION OF CONFORMITY
WE

TRADE NAME	**BRAVIISOL DIVISIONE MECCANICA SRL**
ADDRESS AND HEAD OFFICE	S.S. ADRIATICA 16 KM 314,600 - 60022 CASTELFIDARDO (AN) ITALY
FISCAL CODE AND VAT NUMBER	**01234570420**
TELEPHONE – TELEFAX	**Tel. +39.071.7819090 Fax +39.071.7819355**
INTERNET SITE	www.bravi-platforms.com
MAIL	info@bravi-platforms.com

DECLARE UNDER OUR OWN RESPONSIBILITY THAT THE PLATFORM:
HYDRAULIC MOBILE WORK PLATFORM

Model: _____

Serial Number: _____

Year of manufacture: _____

AS DESCRIBED IN THE ATTACHED DOCUMENTATION AND IN OUR ARCHIVES IS IN COMPLIANCE WITH THE **EU DIRECTIVES**:
2006/42/EC Machineries
2014/30/EU Electromagnetic Compatibility

NAME AND SURNAME **BRAVI PIERINO**

POSITION **MANAGING DIRECTOR**

DATE _____

NOTIFIED BODY:

RESIDUAL RISKS

Even if Braviisol Divisione Meccanica srl has done everything possible to manufacture the Platform with the greatest knowledge in its possession on security and consulting all the directives, laws and regulations at its disposal, still exist, even if reduced, some residual risks during the phases of:

- Transport and Handling
- Maintenance

Therefore, who works in these areas or is responsible for these phases must be a trained person acquainted with the fact that are “dangerous” and as regards the Platform protections category, has not been possible to eliminate them entirely.
The staff in charge with these operations must be always have at disposal and consult the USER AND MAINTENANCE MANUAL.
The user and maintenance manual shows step by step all the necessary indications beginning from the 1.7.4 paragraph (use instructions) of the Annex 1 of the Machinery Directive, and it is specifically required to follow it step by step, in order to avoid clumsy actions which, even if minimal, can cause harm to someone.

ORIGINAL CE DECLARATION OF CONFORMITY

BRAVIISOL DIVISIONE MECCANICA SRL
S.S. ADRIATICA 16 KM 314,600 - 60022 CASTELFIDARDO (AN) ITALY

DECLARES UNDER ITS SOLE RESPONSIBILITY THAT THE AERIAL PLATFORM

Model: LUI

Serial Number

Year of Manufacture: 201X

COMPLIES WITH THE FOLLOWING PROVISIONS, STANDARDS AND TECHNICAL SPECIFICATIONS:

- ***Directive 2006/42/EC (Machineries Directive)***
- ***Directive 2014/30/EU (Electromagnetic Compatibility Directive)***

Notified body according to Annex IX of the Machinery Directive: TUV ITALIA (0948)
CE CERTIFICATION N°: XXXXXXXXXXXX

The name of the person authorized to establish the Technical File and the Legal Representative of BraviisolD.M. srl, S.S. ADRIATICA 16KM314,600 - 60022 CASTELFIDARDO (AN) ITALY.

Castelfidardo, dd/mm/yyyy *Legal Representative*

BRAVI PIERINO

TEST REPORT

Company: *BRAVIISOL DIVISIONE MECCANICA SRL S.S. ADRIATICA 16 KM 314600 60022 CASTELFIDARDO (AN) ITALY*

Subject: *AERIAL PLATFORM*

Model: *LUI*

Serial number:

Year of manufacture *201X*

TESTS CARRIED OUT:

- *OIL HYDRAULICS SYSTEM CHECK* *YES*
- *ELECTRICAL SYSTEM CHECK* *YES*
- *MAXIMUM LOAD LIMITER OPERATION CHECK* *YES*
- *LOAD TEST WITH RATED CAPACITY* *YES*

Castelfidardo, dd/mm/yyyy *INSPECTOR*

MAINTENANCE SUMMARY TABLE

The following instructions must be followed in order to ensure the correct operation of the Mobile platform:

TYPE OF MAINTENANCE	EVERY	PAGE
9.1 - Ordinary Maintenance Introduction	always	9.56
9.2 - Safety positioning, lifted basket	maintenance	9.58
9.2a - If the basket does not lift electrically - For models : LUI HD - LUI HD WD - LUI HD EL - LUI WH 460.	maintenance	9.59
9.2b - If the basket does not lift electrically -	maintenance	9.59
9.3 - Caster Wheel Greasing	6 months	9.60
9.4 - Oil Check and Refill	3 months/150 h	9.60
9.5 - Battery Terminals Check	2 months	9.61
9.6 - Battery water Level Check	32 h	9.62
9.7 - Battery Charge Procedure	8 h	9.63
9.8 - Nuts, Bolts and Pins tightening Procedure	1 month	9.64
9.9 - Wiring Check	2 months	9.64
9.10 - Inspections		9.65
9.10a Frequent Inspection “Frequent Inspection Check List ”	3 months	9.65
9.10b Annual Inspection “Annual Inspection Check List ”	1 year	9.66

INDEX

1.1 DELIVERY NOTE

The operator must not accept any responsibility of exercise without first having understood his responsibilities shown in this manual and in the ANSI Manual of Responsibilities supplied together with the Platform.

The Platform can be operated only by authorized staff. **It is forbidden to make changes to the Platform without the written consent of the manufacturer.**

The Platform has been manufactured in compliance with the directives:
2006/42/EC, 2014/14/EU and have been designed respecting the other standards in question and according to ANSI Standard A92.20 - 2018, and AS/NZS 1418.10 (int).

Therefore, it does not present any danger to the operator:

- If used according to the instructions shown in this manual;
- On condition that the technicians, who are charged by the manufacturer, have attended a training course,
- And on condition that the safety devices are kept in constant efficiency.

This sheet is intended to certify that on receipt of the Platform:

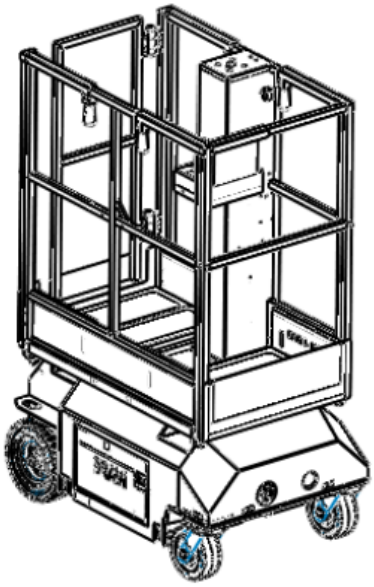
- Safety devices are efficient,
- That together with the Platform has been supplied the present manual
- And that the operator takes the responsibility of following it step by step.

Braviisol Divisione Meccanica srl informs that any modification or tampering of the Platform and/or operations carried out not in compliance with what is written in this manual, especially the non-observance of safety requirements, will invalidate the warranty and the EC declaration of original conformity become null and void.

Remember that:

- All technical values refer to the Platform (see Part 3),
- The drawings and any other document supplied together with the Platform is property of Braviisol Divisione Meccanica srl that reserves all rights and cannot be put at disposal of third parties without Its written consent.

The manufacturer hopes that you can take advantage of the multiple functions of the Platform.
It is strictly forbidden any reproduction, even partial, of the text and illustrations. The original copy has been given to the owner together with all of the documents relating to the Platform.

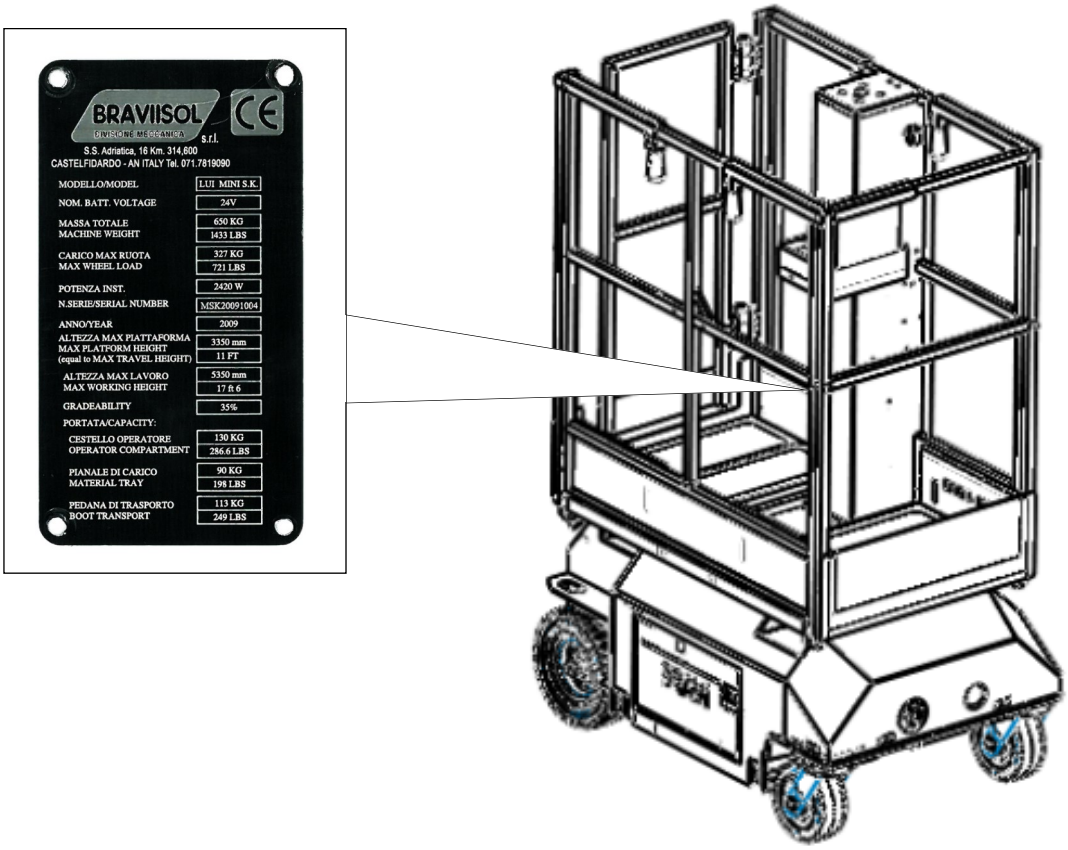


Macchina/Machine *Modello/Modell* *Tipo/Type*
Matricola/Serial number
Timbro/Stamp
Data/Date *Firma/Signature*

1.2 PLATFORM IDENTIFICATION AND SERIAL NUMBER

1.2.1
The number of this manual is written at the bottom of each page.
Each Platform has its own number, with the consequent CE marking.

1.2.2
To contact Braviisol Divisione Meccanica srl or its centres of assistance concerning the Platform, please always refer the model and serial number legibly affixed to the identification plate placed on the basket of the Platform.



1.3 GENERAL DELIVERY NOTES

Platforms and their components and/or accessories can be shipped in containers, or on a pallet wrapped in a protective film, or packed in boxes (optional).

Always verify that upon receipt:

1 - The packaging is intact

2 - The supply corresponds to the order specifications (see bill of lading or packing-list)

3 - There is no damage to the Platform or accessories.

4 - The safety devices, at the time of delivery, are in perfect efficiency.

5 - The present manual has been delivered together with the Platform.

6 - The operator accepts the responsibility, point by point, of the following

In case of damages or missing parts, please immediately contact the Manufacturer, his local representatives, the dispatcher or the insurance company, providing detailed information and/or photos.

Spare parts and accessories can sometimes be shipped in separate containers.

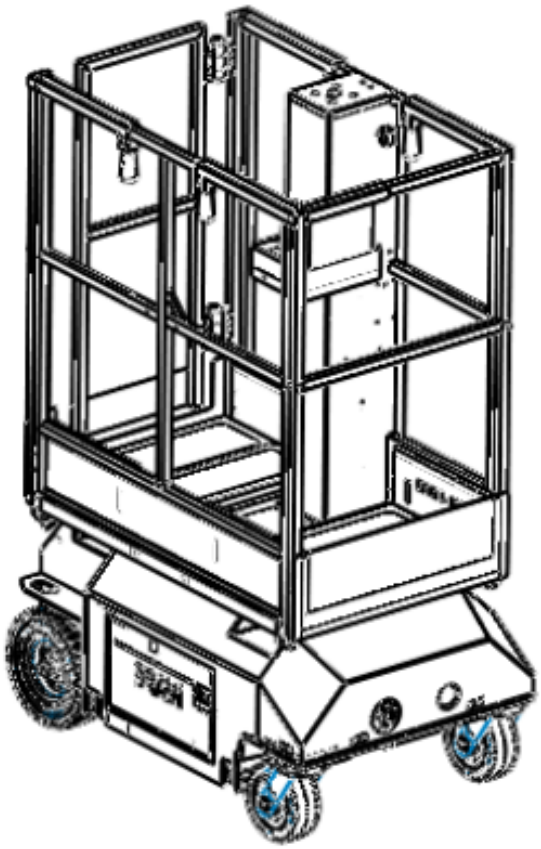
Description
1 Complete Platform

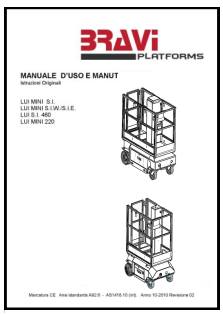
2 Loading/unloading device on request

3 Use and maintenance manual

4 Platform original documents:
- Warranty
- Delivery note
- Test sheet
- TÜV certificate
- EC declaration

5 The raised floor for model LUI HD WD
is made of 4 pieces on request:
N. 01 Side Railing (single piece)
N. 01 side railing + N. 02 front railings
N.01 Walking base
N. 01 Ladder





1.4 LIMITED WARRANTY—Warranty Statement

IF THE WARRANTY IS NOT INCLUDED IN THE SALES CONTRACT, THE FOLLOWING GUIDELINES APPLY TO THE MACHINE WARRANTY.

The Manufacturer BRAVIISOL SRL warrants that all new units of equipment manufactured and sold by it conform to the Company latest specifications. Moreover, Mast and hydraulic cylinder carry a Special Warranty of 10 years. The manufacturer warrants its equipment to the original purchaser against defect in material and/or workmanship under normal use and service for 3 years from date of registered sale or date the unit left the factory if not registered. Excluded from such warranty is the battery(s) which carries 1 year warranty from described purchase date. Warranty claims within such warranty period shall be limited to repair or replacement of the defective part in question. The manufacturer will send, free of charge, any component recognized as having faulty design or defective construction. The labor to perform the necessary repair or replacement and the travel expenses involved carry a warranty of 1 Year from described purchase date, based on the Manufacturer's then current flat rate.

Warranty claims are valid ONLY providing the defective part in question is shipped prepaid to the Manufacturer and is found upon inspection by the Manufacturer to be defective in material and/or workmanship. Furthermore, warranty claims can be
accepted ONLY when all information specifically required by the Manufacturer (such as Serial Number) are provided.

The manufacturer reserves the right to replace, repair, exchange, or to provide a new, used or rebuilt component, assembly, sub-assembly, or weldment based on its unquestionable judgment.

This Warranty policy does not cover damages caused by:

1. Shipment
2. Misuse of unit, including operation beyond Factory established limits, loads and/or specifications.
3. Natural disasters (such as flood, fire, wind and lightning)
4. Failure to properly service and maintain the unit in accordance with the Company manuals or Factory Service Bulletins.

BRAVIISOL DOES NOT ACCEPT ANY RESPONSIBILITY FOR:

1. Any part requested for work that was tampered with.
2. Unauthorized alterations or modifications to the unit carried out without being agreed upon in writing in advance with the manufacturer.
3. Labor on consumable items, such as tire, batteries
4. Any indirect incidental, consequential or special damage (including without limitation to loss and profits, loss of revenue, cost of capital, cost of substitute equipment, downtime, examination fees, claims of third parties, and injury to person or property) based upon any claim of breach of warranty, breach of contract, negligence, strict liability in tort, or any legal theory.

ELECTRICAL COMPONENTS ARE COVERED BY THE WARRANTY UNDER THE FOLLOWING CONDITIONS
The battery is properly connected for re-charge, according to the specifications of this manual and/or electrical drawing provided by the Manufacturer.

***PROCEDURE OF THE WORKS COVERED BY THE WARRANTY*:**
The manufacturer must be notified of all claims covered by the warranty within 48 hours of the anomaly, in writing or by fax (not only verbally) and as detailed as possible.

Warranty claims should be forwarded to your nearest local distributor or directly to the Manufacturer:
BRAVIISOL DIVISIONE MECCANICA SRL.
S.S. 16 Adriatica km. 314,600 60022 Castelfidardo (AN) Italia
Tel. +39.071.7819090 Fax +39.071.7819355 info@bravi-platforms.com

The manufacturer will confirm in writing or by fax the final acceptance of the intervention under warranty carried out by the customer and will provide assistance through its technicians .

Any defective material replaced by the customer (authorized by the manufacturer) must either be held 120 days so that the manufacturer can question or verify defective material. If needed defective parts will be sent back to the Manufacturer.

If required, please, take photographs of the defective part and of the area where the machine has been operated. This is both to prevent unpleasant controversies and to improve the quality, warranty, and safety of our machines.

THIS WARRANTY STATEMENT IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. ALL SUCH OTHER WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. No employee, dealer, Sales Representative, or other person purporting to act on behalf of BRAVIISOL DM SRL is authorized to alter the terms of this warranty, or in any manner assume on behalf of the Manufacturer any liability or obligation which exceeds BRAVIISOL DM SRL obligations under this warranty.

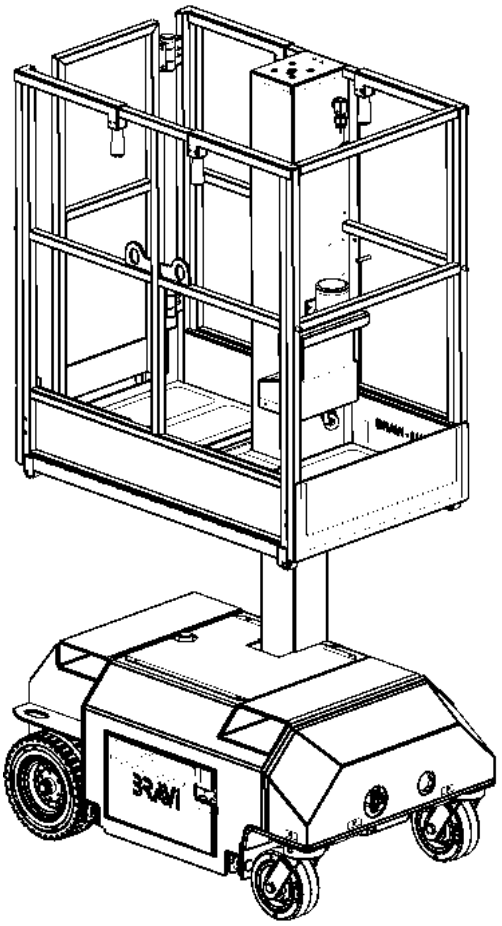
1.5 PLATFORM DESCRIPTION

1.5.1 Platform description

With “Platform” we intend the set of Platforms
- LUI WH 460
- LUI HD
- LUI HD WD
- LUI HD EL

1.5.2 Intended Use or Platform Purpose or Function

The machine is an aerial work platform with compact dimension designed for an easily working and for the operator safety. The purpose of the Platform is to bring the necessary personnel their tools and materials on the work position. It has been manufactured to solve different users’ difficulties as: painters, electricians, hydraulics, false ceilings installers, manufacture industrials as they must work at very high heights (see Part 3 “Specifications”).



Safety is our priority.
The Platform eliminates the necessity of scaffolds, scissor lifts. Nor stairs or stands. It is possible to easily work on safety, in a speed and efficient way.

Its unique design allows to use very narrow areas. Little lifts, narrow entrances, passages, mezzanines and restricted work areas, these are only some of the different places where the Platform can work.

The transport represents another key factor.
Light, compact and easily loadable on vans, tracks or pickups, the Platform can operated or dandled only by a person.

The Manufacturer has made possible to lengthen the work surface (see Part 3 “Specifications”), so the operator has a bigger work area, nevertheless it stands firm.

The Platform is provided with a battery charger which allows to recharge batteries through the connection of a simple cable, avoiding loss of time and a more safe work.

A characteristic of the lifting column is that it does not need particular maintenance.

1.5.3 Improper use

Any other use different from the provided use is to be considered improper.

1.5.4 Reasonably expected improper use

It can happen that some users use the Platform as a crane, please note that the Platform has been designed only to be used as provided and any other use is to be considered improper.

1.5.5 Environment of use

The platform is used indoors, with the exception of LUI HD WD which can be used outdoors in windy but rainless weather conditions .

2.1
FOREWORD TO SAFETY REQUIREMENTS

The BRAVIISOL DIVISIONE MECCANICA SRL has designed the Platform to be safe and reliable. It is designed to place the personnel together with the equipment and materials on aerial work positions.

The owner/user/operator of the Platform does not accept any responsibility when using the Platform without an adequate training period.

The ANSI A92.20-2018 standards identify all the requirements of all parties who can be involved in the use of the self-moving working Platform. Il Manuale delle Responsabilità A92.22 is considered integral part of this Platform and it is inserted in the proper seat of the Platform.

To ensure a safe use it is necessary to carry out frequently and yearly inspections of pre-starting, as specified in Section 6.1 of the ANSI A92.20-2018 , Standard, at fixed intervals as prescribed by the same Standard, in accordance with the recommendations of Braviisol Divisione Meccanica srl expressed in the attachment of the User and the Assistance Manual.

2.2
CONVENTIONAL SYMBOLS AND THEIR MEANING

During the consultation of this user and maintenance manual, and on the Platform itself, you will find some symbols, color coding and signaling words, which have a particular meaning.

SAFETY ALERT SYMBOL
This symbol is used to alert personnel to potential personal injury hazards. Strictly obey all safety messages that follows this symbol to avoid possibile seriours injury or death.

DANGER— White font on a red Background
It indicates the presence of an imminent hazardous situation which, if not avoided, *will* result in death or seriou injury.

WARNING—Black letters on a orange background
It indicates the presence of a potentially hazarous situation which, if not avoided, *could* result in death or serious injury.

CAUTION—Black Letters on a yellow background
It indicates the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate injury or damage to the equipment.

NOTICE—White letters on a green or background
It indicates maintenance or operation information

WARNING ELECTRIC SHOCK HAZARD
It warns the personnel in question that the described operation could cause an electric shock if not carried out in compliance with safety regulations.

WARNING GENERAL HAZARD
It warns the personnel in question that the described operation could cause physical injuries if not carried out in compliance with safety regulations.

NOTE
Draws the attention of the staff in charge to some relevant or important information.

WARNINGS
They inform the personnel in question that failure to follow the indications could cause minor personal injury or damage to the Platform.

OPERATORE O CONDUTTORE PIATTAFORMA
Refers to qualified staff, i.e. staff having specific skills, inasmuch as the operations are entirely manual and will therefore require all of the driver's attention to ensure the best quality results.

It is therefore strictly forbidden for the operator to perform the indicated operations as they fall under the responsibility of the mechanical or electrical maintenance technician.

MAINTENANCE TECHNICIAN
Qualified technician who can operate the machine under normal conditions of use and carry out all adjustment, maintenance and repair interventions needed on mechanical parts.
However this person is not qualified to carry out interventions on live electrical plants.

ELECTRICAL TECHNICIAN OR SKILLED PERSON
(See EN 60204 paragraph 3.55)
Qualified technician who can drive the machine under normal conditions of use and carry out all electrical adjustment, maintenance and repair interventions. This person can work on live electrical cabinets and boxes.

PERSONAL PROTECTION
When one of the symbols appearing next to the description is found, the operator must absolutely
be equipped with safety wear because of the implicit hazard.

EXTRAORDINARY MAINTENANCE OPERATIONS
Any maintenance intervention highlighted by this symbol must to be required to the authorized dealer Braviisol Divisione Meccanica srl.

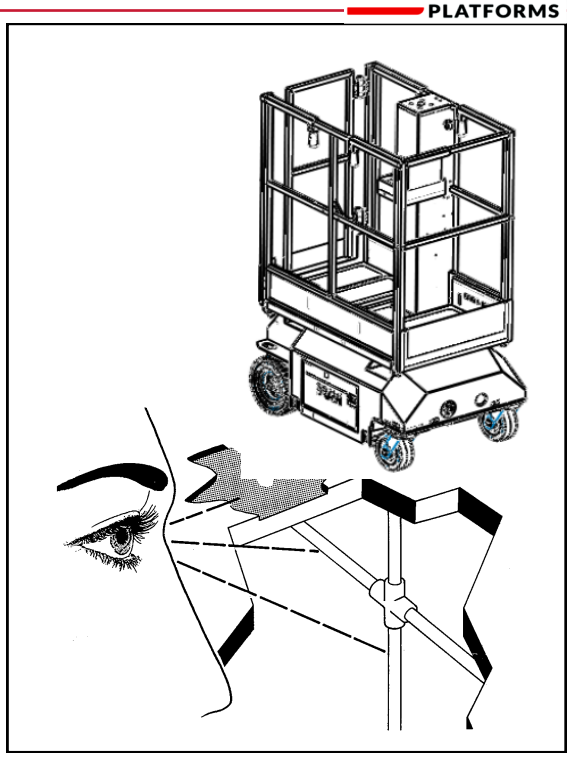
2.3

Before using the Platform, the operator must make sure that:

- The floor, where it will be used, is sufficiently leveled (leveled and without holes)
- Can support the weight (see Chapter 3 Specifications)
- The environment is closed and well lit.

Only LUI HD WD model

it can also be used outdoors in conditions of good visibility, on flat and uniform floor, when the wind speed does not exceed 12.5 m/sec and in dry weather conditions.



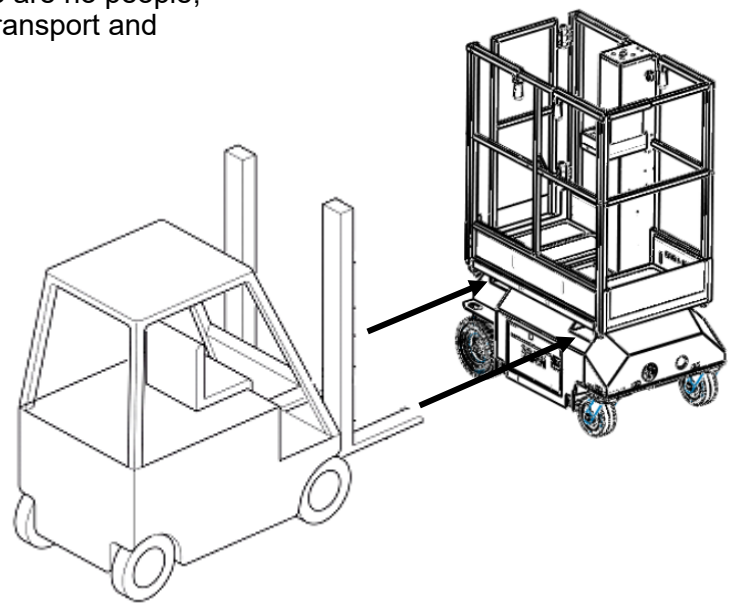
2.4

The personnel in charge of using and moving the Platform must always wear work gloves, safety shoes, helmet and belt..

2.5

As regards all the moving operations of the packaged Platform please see Part 4 “Transport and handling ”. In any case, you have to:

- **Lift it with the basket completely lowered**. It is absolutely forbidden to lift it up, even if a little, with the column to operate.
- Lift it up at no more than 30 cm from ground (unless obstacles)
- Move it very slowly.
- The operator must look out that there are no people, animals or things on the way of the transport and that there are no holes in the floor..



2.6 "ZERO"POWER CONDITION: DISCONNECTION FROM POWER SOURCE

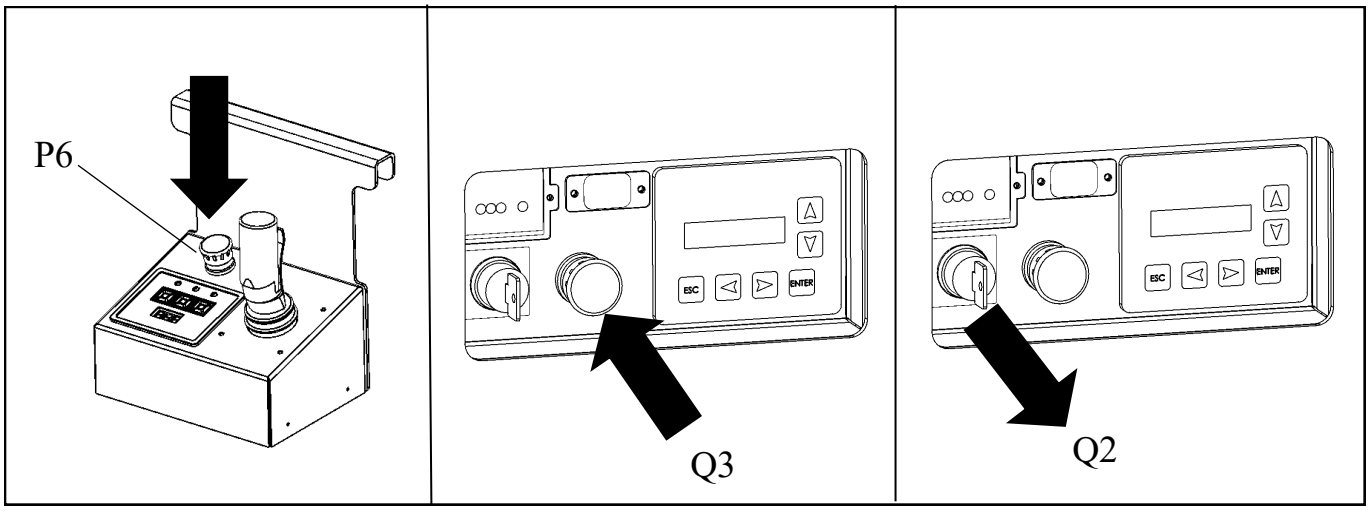
Before performing any cleaning, maintenance and lubricating operation, it is necessary to bring the Platform to the Zero Power Condition, that is:

- Platform completely lowered (see PART 5 Control Panel) or, in case of maintenance, with the basket locking device on.

- The emergency buttons pressed .

- The **Q2** Key switch must be removed from the Ground module and handed over to the Production Manager.

2.7
CAUTION! DANGER OF ELECTROCUTION

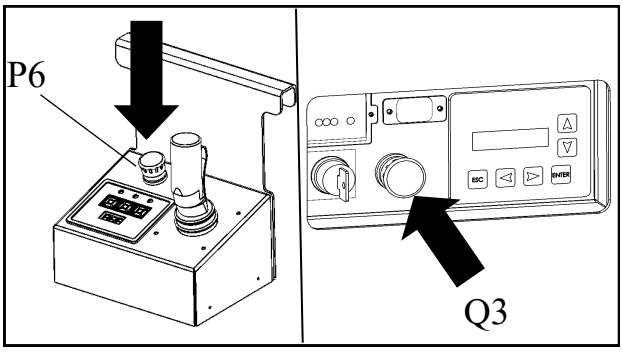


Only a licensed electrician can intervene on the electrical system and carry out the necessary maintenance, but always only bringing the Platform to the Zero Power Condition. It is absolutely forbidden to tamper with the electrical system.

2.8

If any mishap arises when using of the Platform please immediately press the STOP/EMERGENCY button.
Please remember that the STOP/EMERGENCY button stops immediately all the moving parts, so you have to pay the maximum attention especially when the Platform is lifted up.

Moreover, please read in the Part 4 "Shut down" all the ways to have the Platform stopped.

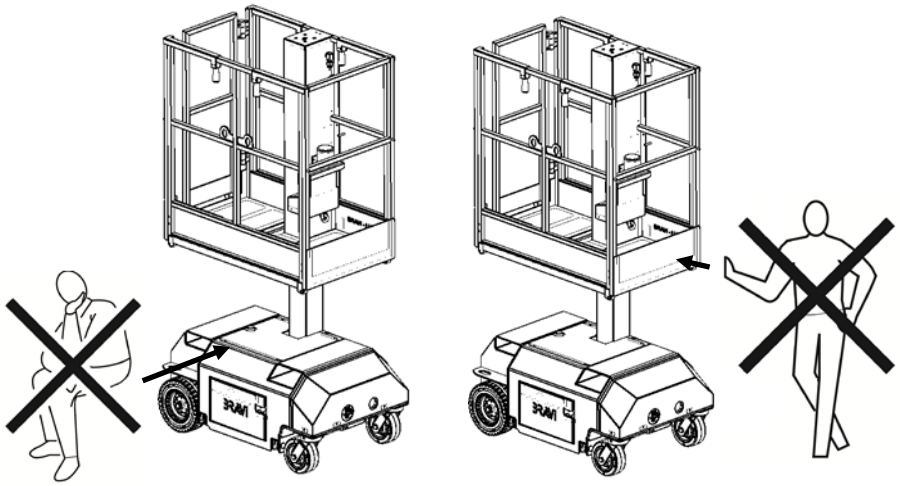


2.9

If, in case of extraordinary interventions, it would not be possible to bring totally the Platform to the Zero PowerCondition, please signal work in progress by placing the sign on the Platform.

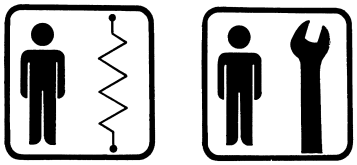
2.10

Never lean or sit for any reason on any part of the Platform, whether it is in the phase of the productive cycle, or in the emergency state or in the Zero Power Condition.
The operator must be careful, physically fit, and does not be under the influence of alcohol or drugs which can distort sight, hearing, attention and reactions.



2.11

Only highly qualified and trained personnel, who has attained a practical course at the Manufacturer or its authorized Distribution centres, enabling him to use the Platform, can use it.
Besides, he must have read and understood all the safety prescriptions and content of this Manual.

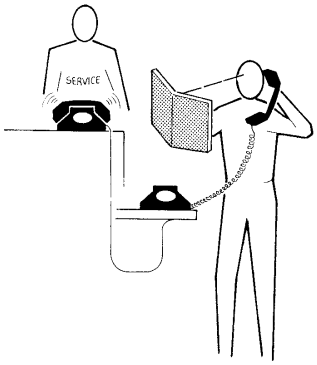


2.12

The maintenance of the Platform should be carried out only by the trained Electric Maintenance or Maintenance Technician, who has attained a practical course at the Manufacturer or its authorized Distribution Centers, enabling him to use the Platform. Besides, he must have read and understood all the safety prescriptions and content of this Manual.

2.13

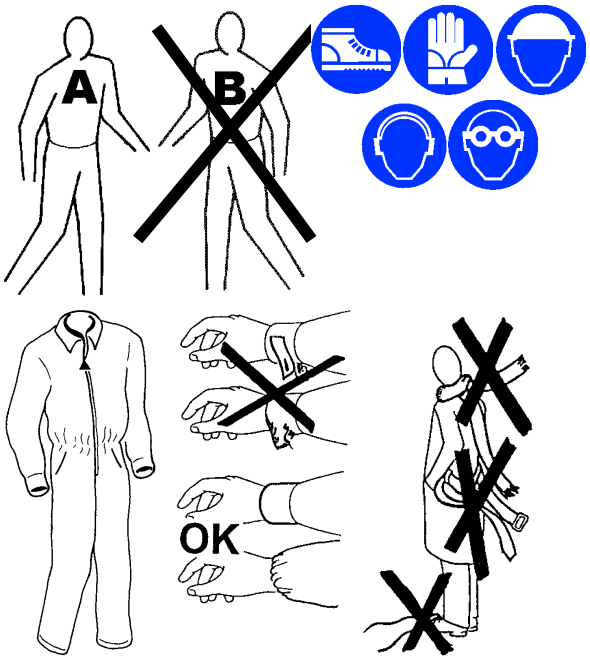
The keys to drive the Platform shall be always handed over the Production Manager when the Platform is not used.



2.14

The use, cleaning and maintenance must be strictly performed, unless otherwise indicated, by a single operator and never by MORE PEOPLE.
The operator must always wear all work safety protections.
Moreover he has to:
- Wear a work overall closed at the wrists.
- In case of long hair he has to tie them.

He never has to wear objects and/or fluttering and/or tore clothes (as for example: necklaces, watches, rings, bracelets, scarves, ties, etc.).



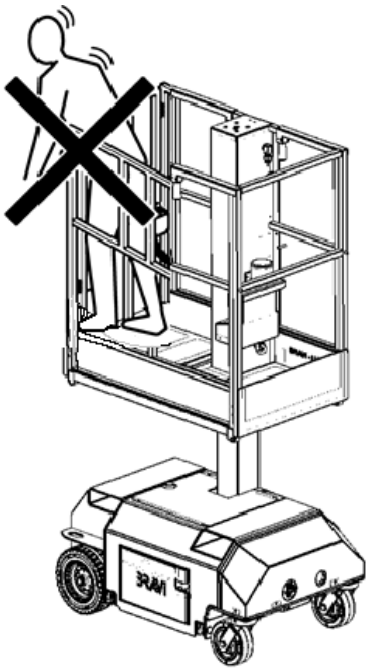
2.15

Never temper with or restrain or disconnect the microswitches or other safety devices, for no reason, nor create by-pass or use them for purposes different from those established and for those they have been installed.

2.16

Caution Risk of Falling

The guardrail system around the perimeter of the platform is the fall protection system for self propelled elevating platforms, as per the American National Standards Institute ANSI/SIA A92.6
Standard. It is prohibited to use this machine with any portion or all of the guardrails removed.
Lanyard anchorage points on this type of equipment are not required to conform to the applicable ANSI/SIA Standard.
THE IMPROPER USE OF FALL ARREST SYSTEMS MAY CAUSE MACHINE TO TIP RESULTING IN SERIOUS INJURY OR DEATH.
The platforms can be equipped with an anchor point located at the intersection of the railings in the side railing (opposite the column) and marked with the respective symbol if required by the sites/countries where the platform is used. The length of the cord must not exceed the internal space of the basket.



2.17

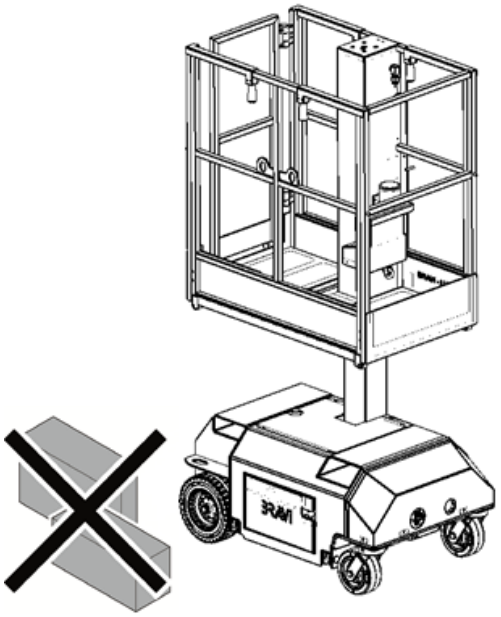
When using the Platform the correct position, in which the operator must stand, is in front of the push-button panel.
From that point the operator can observe the operating space of the Platform and, in case, turn away people who are exposed.
It is strictly forbidden to lean out of the parapet of the Platform.

2.18

Please remember, that after each cleaning, lubricating, adjustment and maintenance intervention all safety devices must be reinstated and all the safety carters reassembled and/or closed.

2.19

At the end of the maintenance or repair, before having the Platform moving, verify that there are no tools, rags or other materials left in the spaces containing the parts in motion.



2.20

The first installation must be done by the Manufacturer and it is strictly forbidden to carry out any kind of unauthorized intervention**.**

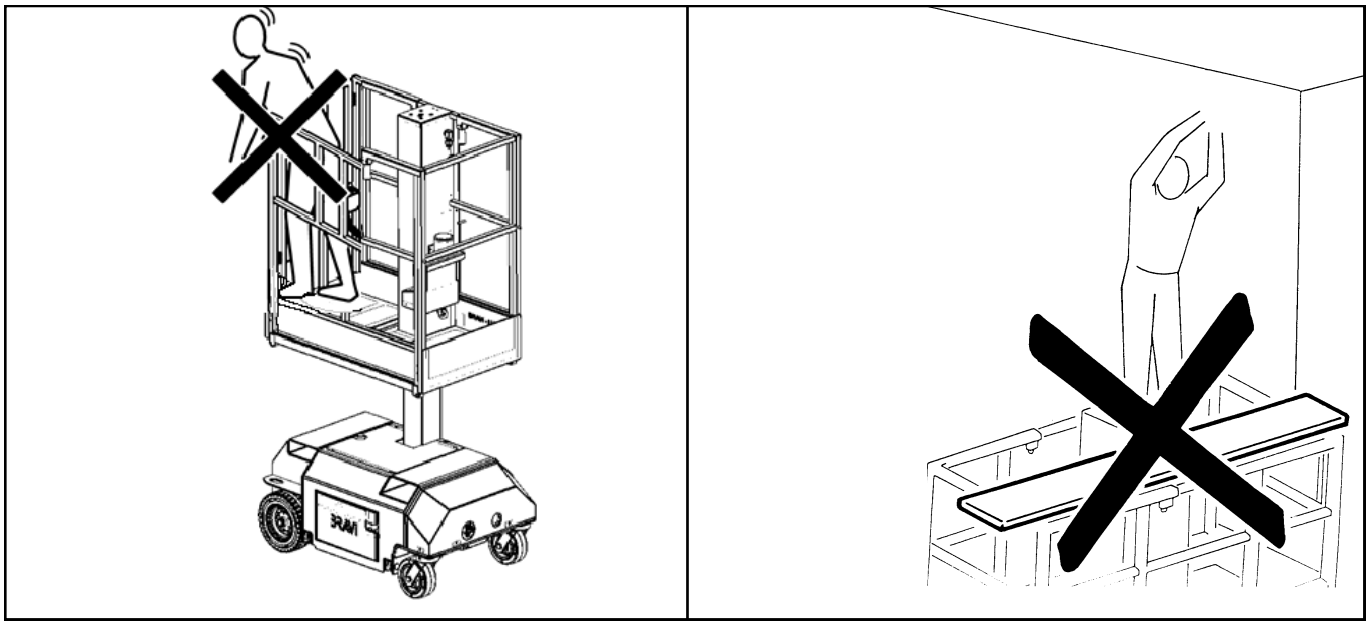
2.21

Before using the machine the operator must check all the operations descrive in the Part 6 “Introduction before each use ”.

2.22

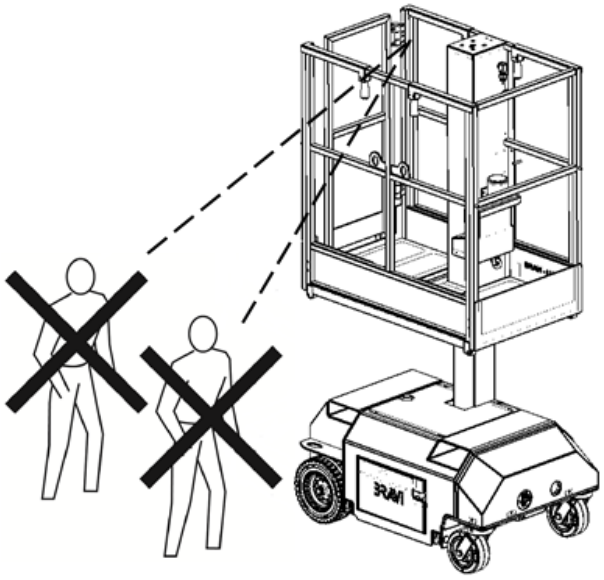
Caution– Risk of fall
It’s forbidden:

- To let go on the Platform more than a person, (except for model LUI WH 460 where can go on two persons).
- identify the objects that lead to exceeding the load limits for which the Platform is approved and/or prepared. (see Part 3 ”Technical Specifications”).
- use trestles, ladders, bridges or any other means to further raise the walking surface.
- loading and unloading operations with raised Platform



2.23

It is to be considered dangerous the zone within two meters from the Platform. The operator must be sure that there are no standing or passing people, animals, things exposed in this area and that there are no obstacles both in the lower part of the Platform (in the ground), and in the higher (as tie-rods, columns, rods or other air barriers).



2.24

The operator must constantly carry out the maintenance operations (Part 9).

2.25

Be careful never hook yourself to an adjacent structure while you are on the Platform

2.26

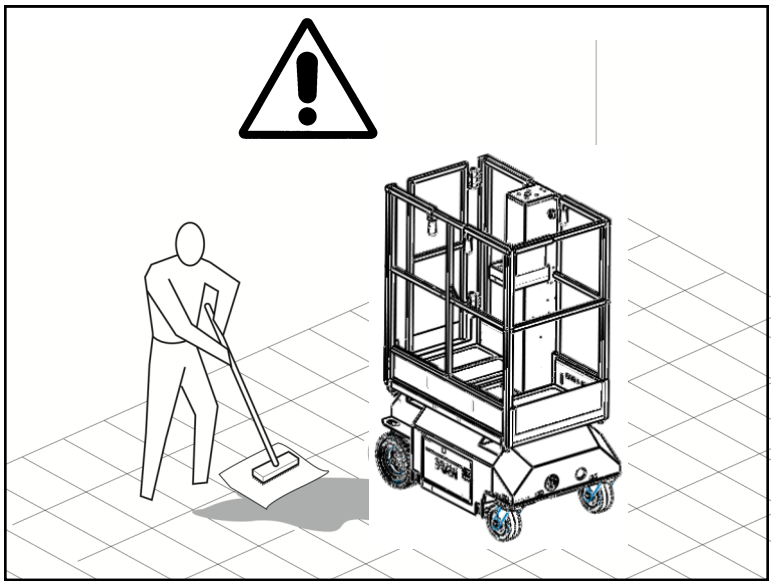
Caution – Risk of fall

Make sure before using it, that the entrance to Platform is well closed.

2.27

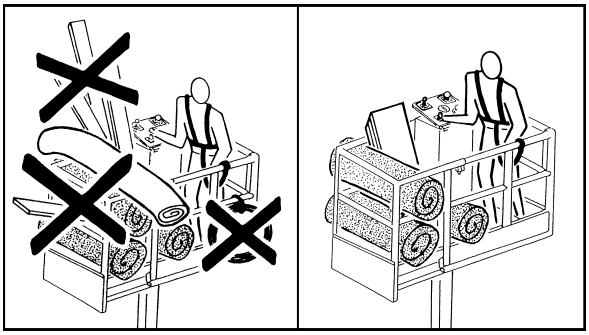
Caution – Risk of Overturning

During the movements ahead or back, the operator must constantly make sure that there are no exposed persons, besides must also be sure that the floor is clean, without holes, dips, inclinations or objects.



2.28

The additional load of the Platform MUST NOT:
- Exceed the working load limit (See Part 3, Specifications)
- Stick out from the basket, but must be well balanced.



2.29

It is strictly forbidden to use the Platform as a crane .

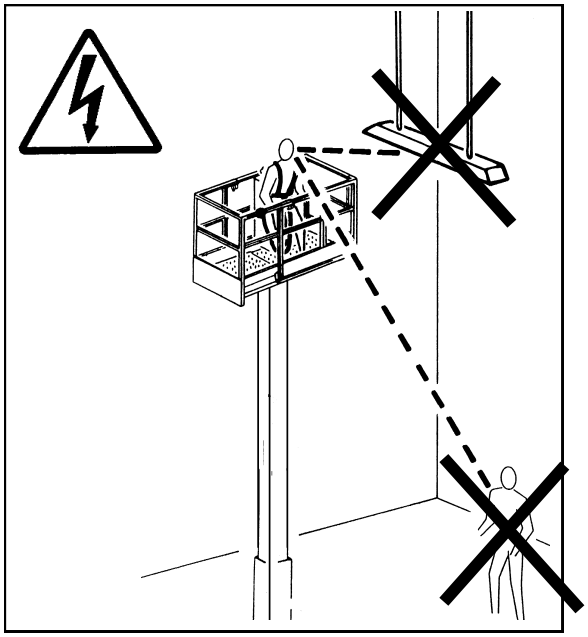
2.30

The operator must monthly check the state of tightening of ALL the screws and if necessary replace them (Section 9.8 Maintenance).

2.31

Attenzione Pericolo di Shock elettrico.
E' vietato l'uso della Piattaforma vicino alla linee elettriche di tensione non protette.

La Piattaforma e la recinzione non sono isolate elettricamente.
Do not operate the platform near power lines



Keep a distance of at least 3 m (10 ft) between the parties of the machine and the occupants, with their relative tools and equipments, and a power line or equipment provided with a electric charge up to 50.000 volts.

It is possible to reduce the minimum safe operating distance in presence of insulating barriers installed to prevent contacts and if these barriers are set to the voltage of the power line to be protected.

The barriers should not be a part of the machine or be connected to it.

The minimum safe operating distance should be reduced within the provided operating dimensions of the insulating barrier.
This distance should be determined by a qualified person in accordance with the company, local and government regulations regarding the conduct of the work near equipments under voltage.

VOLTAGE RANGE (FROM PHASE TO PHASE)	MINIMUM OPERATIONAL SAFETY DISTANCES m (ft)
From 0 to 50 kV	3 (10)
From over 50 kV to 200 kV	5 (15)
From over 200 kV to 350 kV	6 (20)
From over 350 kV to 500 kV	8 (25)
From over 500 kV to 750 kV	11 (35)
From over 750 kV to 1000 kV	14 (45)
NOTE: These minimum operational safety distances are to be applied except in cases in which company, local or governmental regulations are more stringent.	

2.32
DO NOT REPLACE CRITICAL ITEMS FOR THE STABILITY OF THE PLATFORM WITH ARTICLES WITH DIFFERENT WEIGHTS AND SPECIFICS.
Battery total weight: 42 kg (LUI HD each battery 21 Kg); 120Kg (LUI WH 460 each battery 30Kg)
To replace all broken or worn parts, use only original spare parts.

2.33
Safety devices applied to the Platform are :

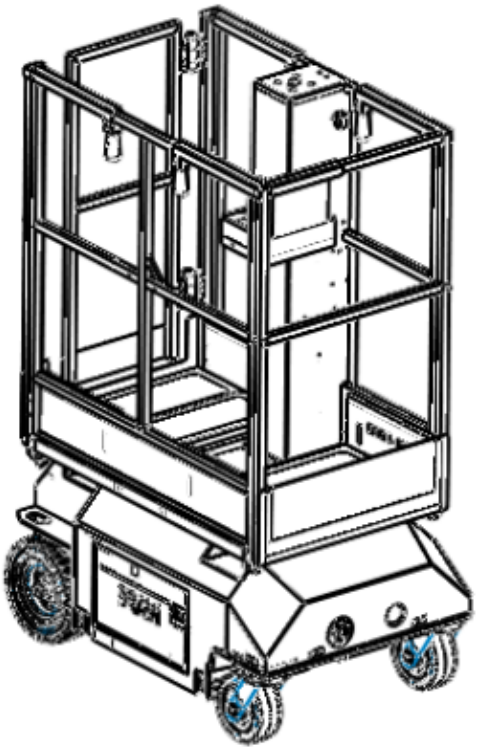
2.34
Do not temper with or voluntarily damage the safety screens, end strokes, nor remove or hide warning labels. In case of damage or illegibility of the labels please ask immediately for their change.

2.35
It is forbidden to carry out makeshift repairs in order to work .

2.36
Supplemental information (only for CE machines)
The following information is provided in accordance with the requirements of the European Machinery Directive 200/42/CE and are exclusively applicable to the CE Machinery.

As regards electric powered machines, the level of the continuous sound pressure (A measurement), in correspondence with the platform, is lower than 70 dB (A).

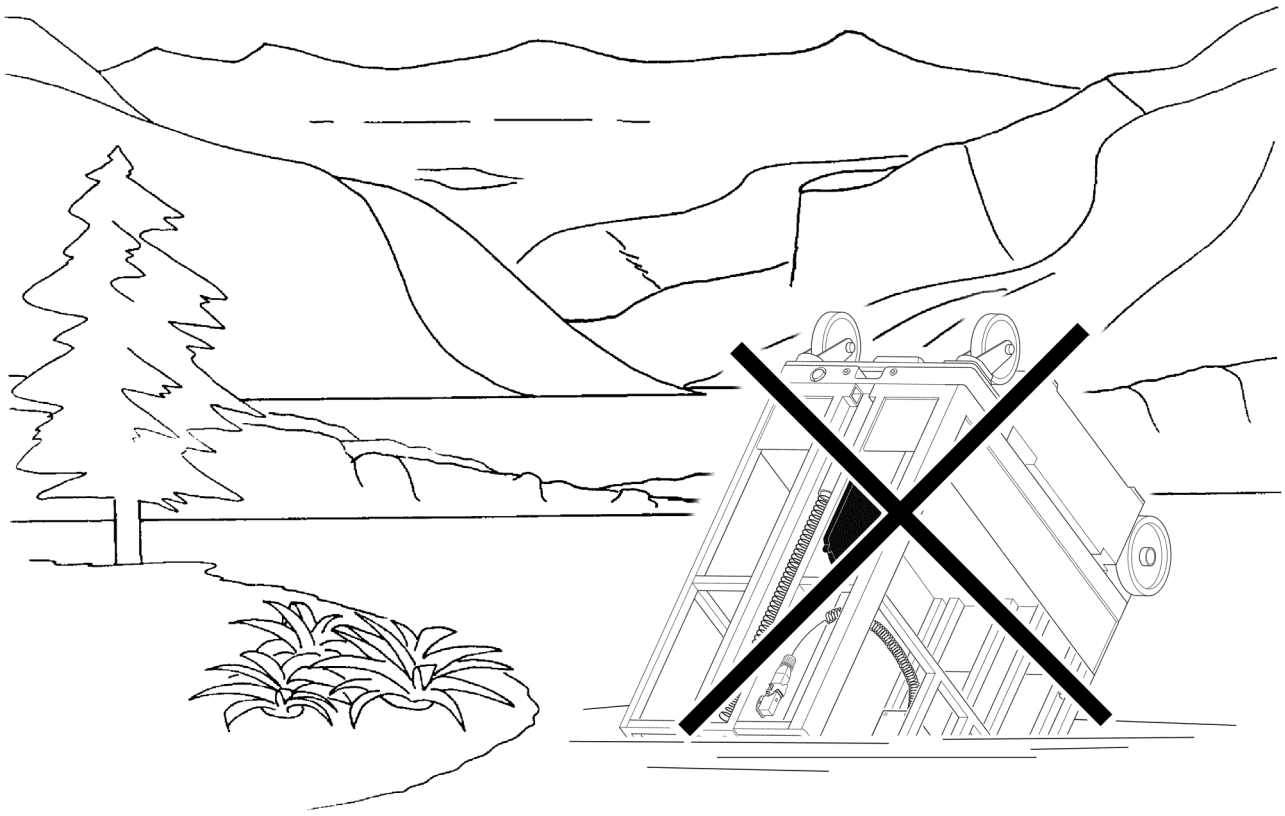
The total value of vibrations to which the hand-arm system is subjected does not exceed 2,5 m/s^2. The weighted maximum medium quadratic value of the weighted acceleration in the whole body subjected does not exceed 0.5 m/s^ 2.



2.37
In case it is necessary to replace worn and/or broken parts, please use exclusively original spare parts.

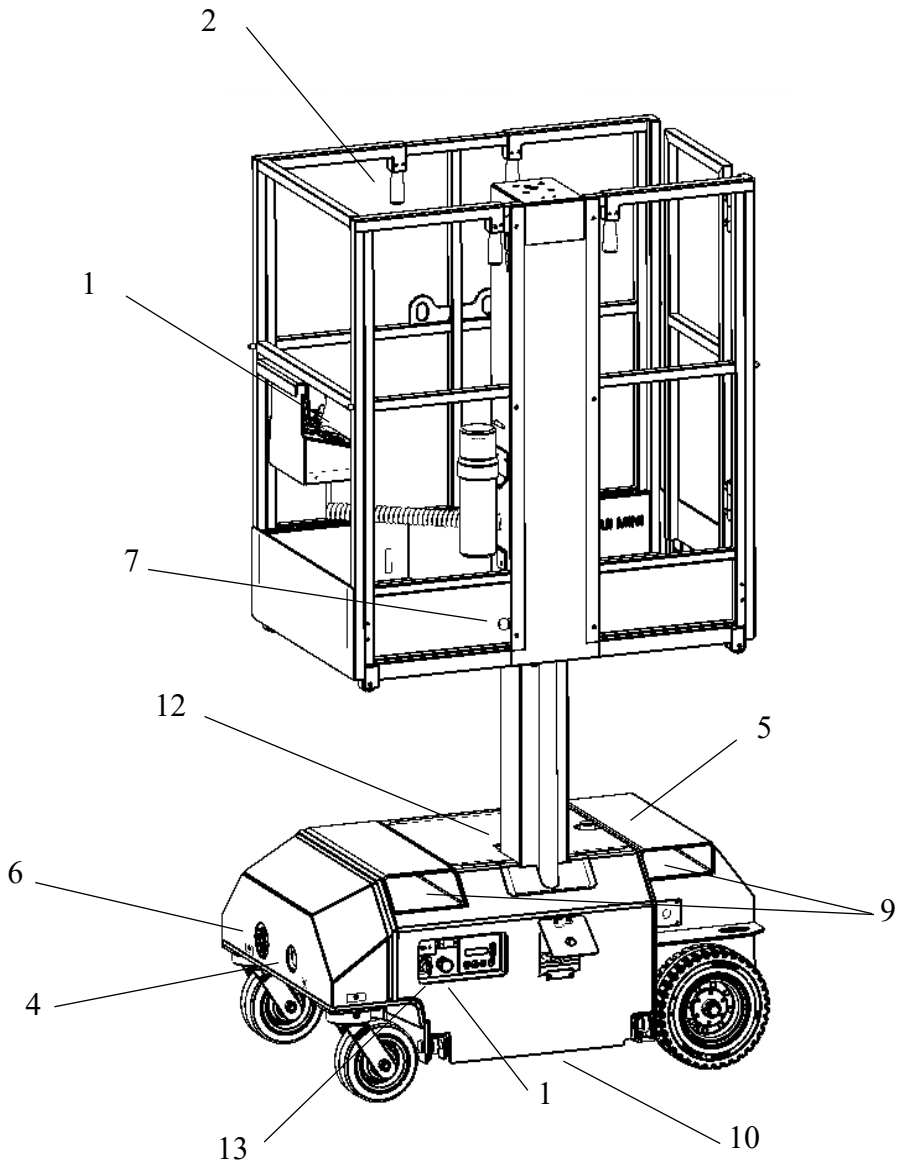
2.38
At the end of the work it is forbidden to leave the Platform in potentially dangerous areas, so bring it to the **Zero Power Condition** .

2.39
Caution – Risk of Pollution
At the end of the life of the Platform, do not throw away it in the environment, but address to authorized waste agencies or directly to the Manufacturer, who will give you written instructions about it. In any case, before throwing the Platform, remove oil (Part 11 lubrication), batteries (Part 10 maintenance), stop all the moving parts and move it (Part 4 handling).

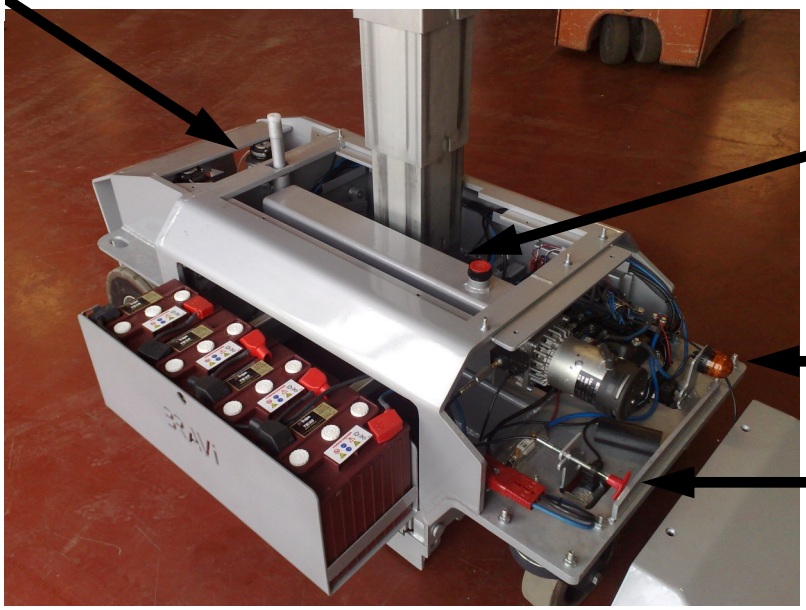


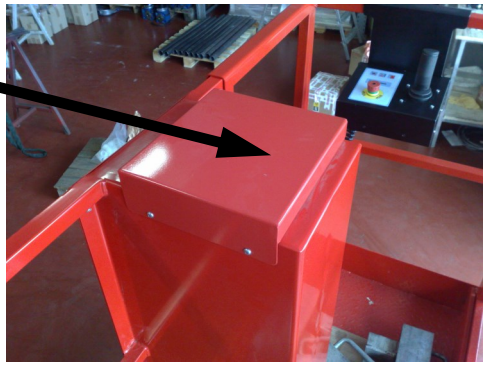
1 Emergency Stop Button
2 Locking knobs Basket extension
3 Bumper Rubber
4 Flashing/Acoustic alarm device
5 Electronic tilt control
6 Mechanical emergency descent lever
7 Safety rod
8 Lifting device for Handling Platform Manual (standard 8a – optional 8b)
9 Anchor and lifting points
10 Anti-tilt device
11 Overload device
12 Limit switch
13 Ignition key

LUI HD

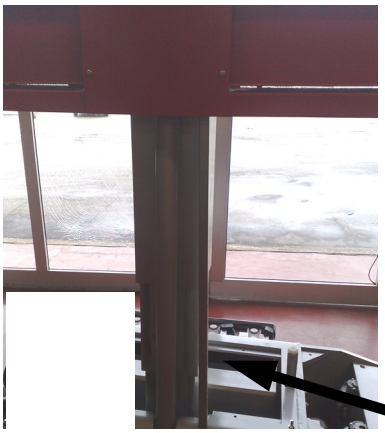


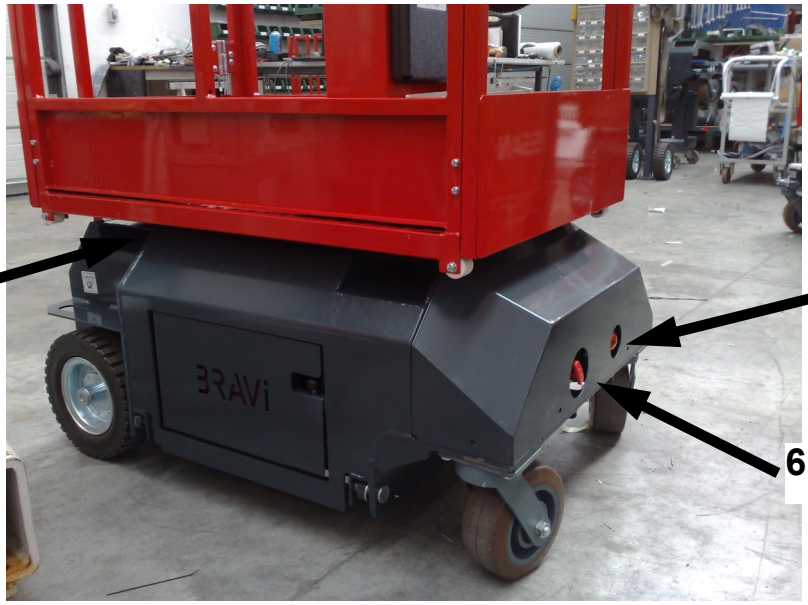
LUI WH 460





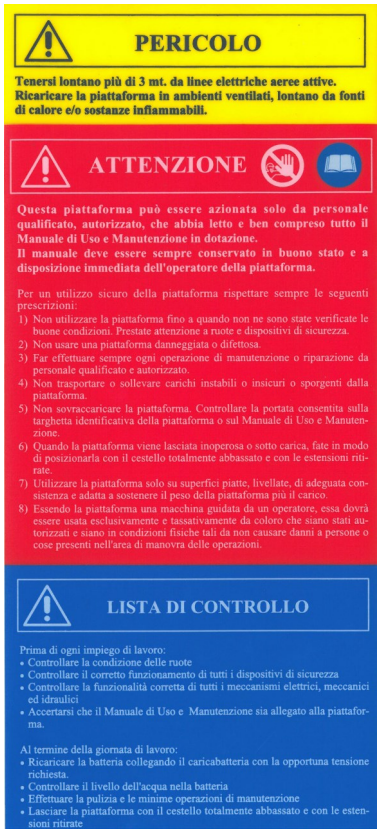
LUI HD– LUI HD WD—LUI HD EL





N°	ANSI/CE DESCRIPTION
001	Prescription for a safe use of the platform WARNING
001	Rated Workload, Side Load, Rated number of occupants
001	Critical components for the stability of the machine
001	Total Batteries weight
001	ANSI Compliance - Section 4
001	Close the gate before any operation performed from the basket
001	DANGER tip-over hazard
002	DANGER–Machine not electrically insulated–Prescription of distances from power lines
002	WARNING – Check list before every use
002	Notice of the Inspections required
002	WARNING – not to replace component without written authorization of the Manufacturer
003	DANGER rated Workload, Side Load, Rated number of occupants
005	WARNING: Batteries
009	Manual emergency descent sticker
010	Safety belt anchor point sticker
011	Lifting point
012	Manual
013	Stop-Emegency

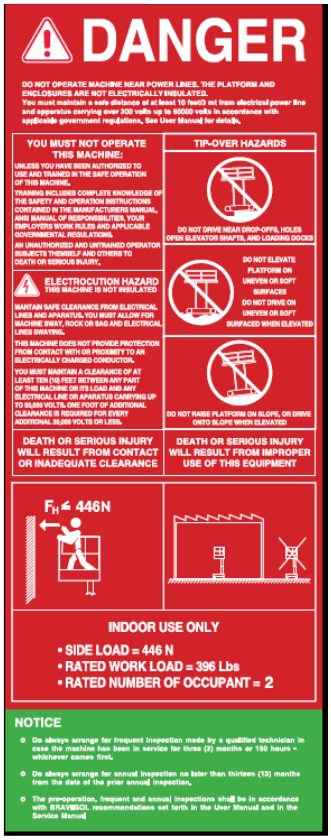
001 CE



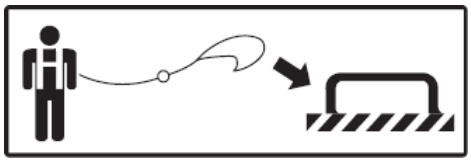
001 ANSI

002 CE

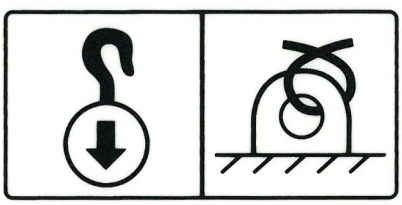
002 ANSI



010 ANSI / CE



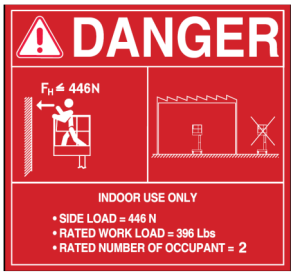
011 ANSI / CE



012 ANSI / CE

003 CE

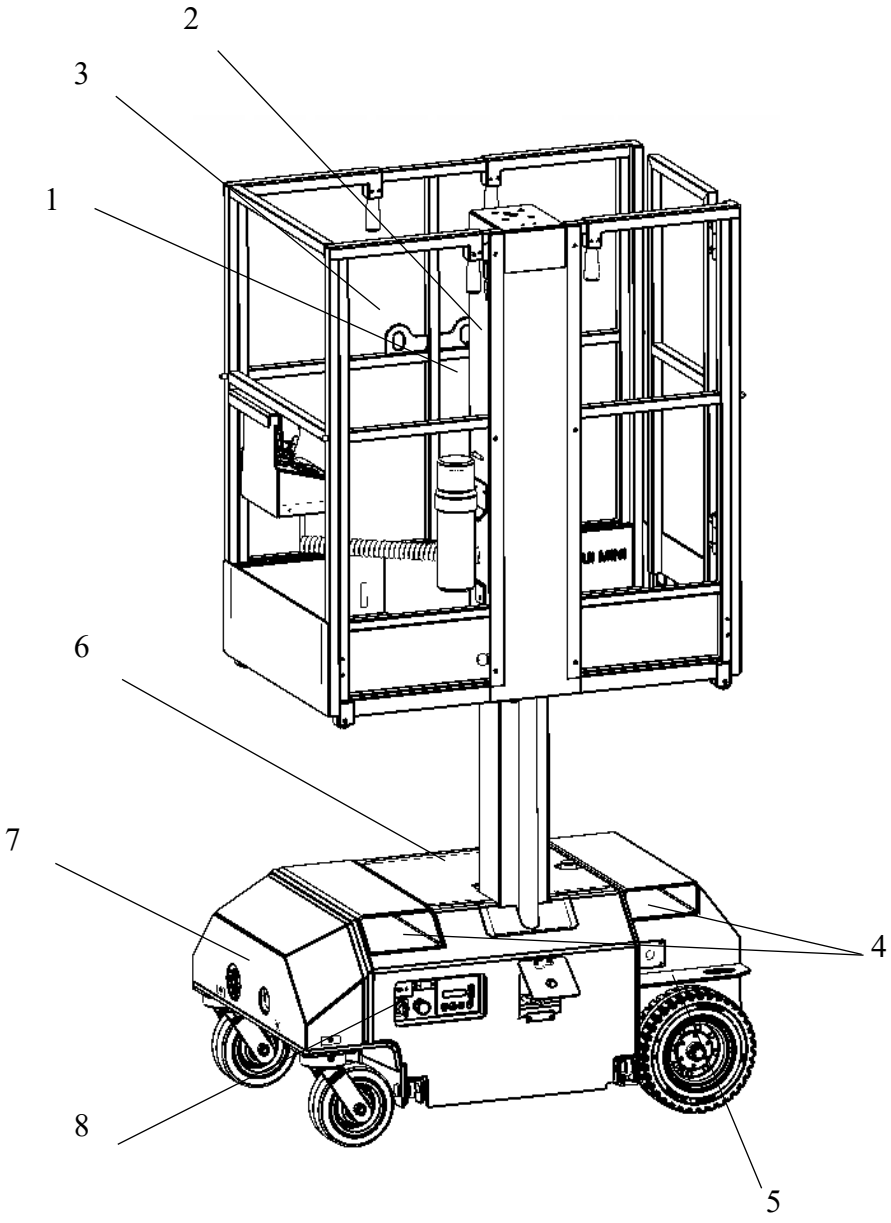
003 ANSI



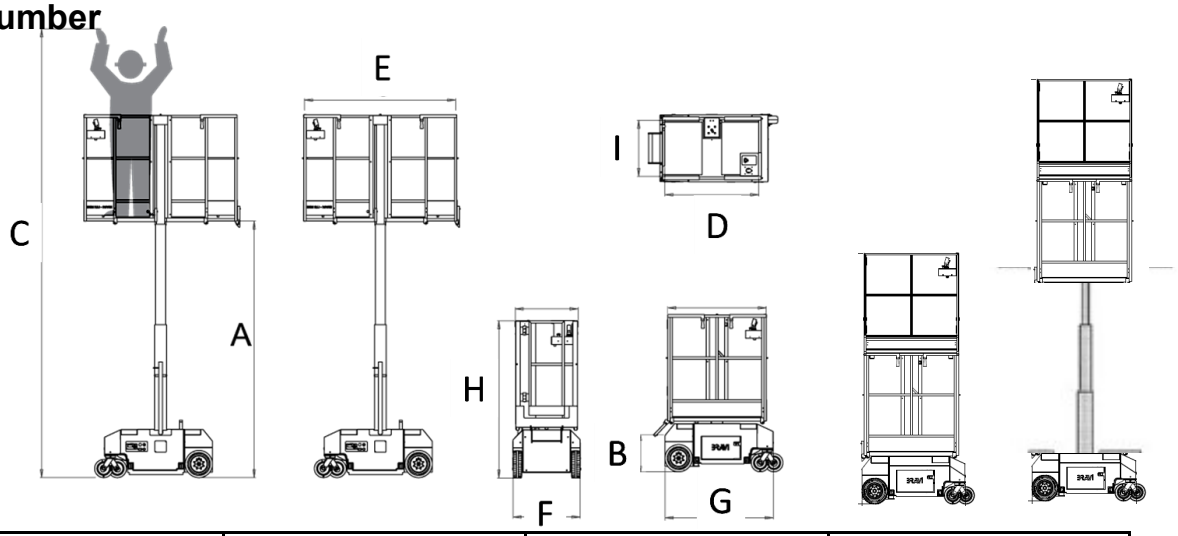
005 ANSI

009 ANSI / CE

013 CE



3.1 MACHINE SPECIFICATIONS
LUI HD serial number

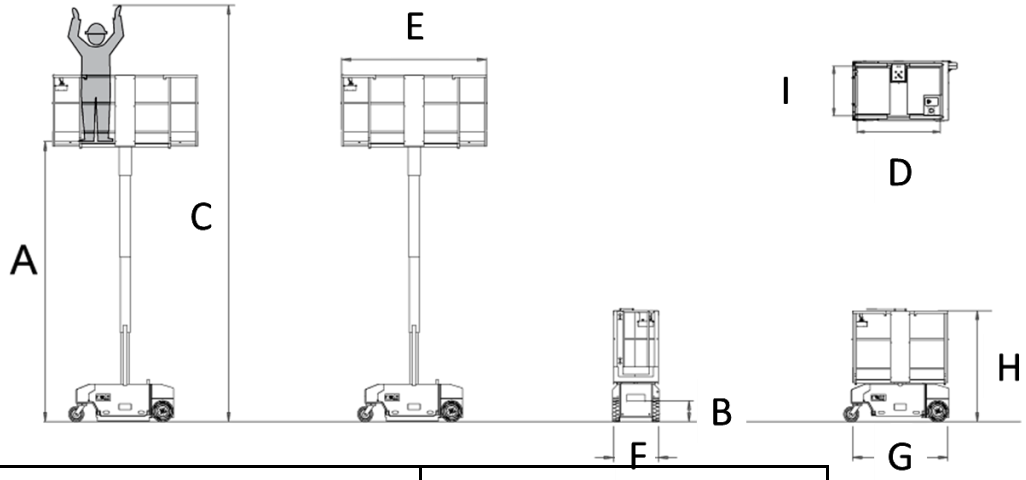


MODEL	LUI HD	LUI HD WD	LUI HD EL
DIMENSIONS			
Working Height **C**	4900 mm - 16 ft		6040mm - 19.3ft
Platform Height **A**	2900 mm - 9 ft 6 in		4040mm - 12.8ft
Height with basket lowered **H**	1747 mm - 5 ft 7 in		2870mm - 9.4ft
Total Length G/ open extensions E	1192mm - 3 ft 10 in /1700mm -5 ft 6 in		1200mm - 3ft 11in
Width **F**	760 mm - 2 ft 5 in		
Frame Height from the ground	60 mm - 2.3 in		
Payload (also with basket at max extension)	180 Kg - 397 lbs		140 Kg - 308lbs
Platform Lenght (Internal) **D**	1036 mm - 3 ft 5 in		
Platform Width (Internal) **I**	630 mm - 2 ft		
Max Wind Speed	Zero - indoor use only	12,5 m/sec	Zero - indoor use only
Entrance step Height **B**	400 mm 1 ft 3 in		
Rated number of occupants	1	1	1
PERFORMANCE			
Max. Running Speed	3 Km/h - 1.9 mph		
Min. Running Speed	0.6 Km/h - 0.35 mph		
Turning Radius (Internal)	ZERO zero		
Turning Radius (External)	1050 mm - 3 ft 5 in		
Max. Tilt	35%		Not allowed
Ascent/descent speed	16/21 sec		
Power			
Mains power supply	110/220 V ca, 24V cc		
Battery	N 02, 12V 85Ah@20h		
Hydraulic System Capacity	4 lt / 1.05 gal		
Total Weight	530Kg-1168 lbs	560 Kg-1234 lbs	595 Kg-1311 lbs
Certification	Ansi A92.6, CE Compliance, AS1418.10(int)		

LUI HD – LUI HD WD

Translatory Movement Motors	Watt 500; Volt24; Nm 1.33; F.F. 1; RPM 3600; Ah26; IP 54; DUTY S2;Brake 24V +6/-10% stabilized
Gearbox	MRIV 50 U03A; PW 1400 min-1: 0,27 Kw; Speed: i=56;
Pump	2200W; 24V; 105 Ah; 2100 RPM; Nm 9.09; IP 20; F.F. 1
Wheel Blocking Electromagnets	18W; 24V; IP 40
Rear Drive Wheels	mm 300x90
Controls	Proportional Joystick
Tires	Non-marking Full Rubber
Hydraulic Oil	ROLOIL mineral oil LI22 HIV
Filter	Filter 90 µ
Oil Pressure	50 bar
Slow movement	***m/min 8,5***
Fast movement	***m/min 40***
Lifting	***m/min 5***
Noise	***75 dB(A)***

3.2 MACHINE SPECIFICATIONS
LUI WH 460 serial number

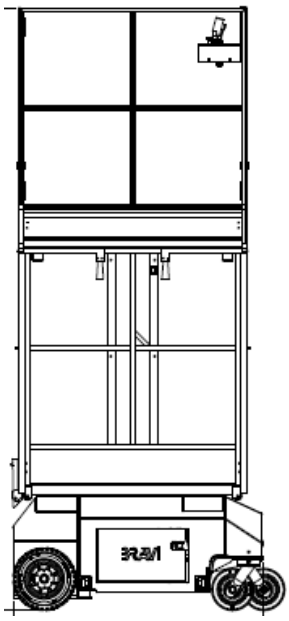


MODEL	LUI WH 460
DIMENSIONS	
Working Height **C**	6620mm- 21 ft 8 in
Platform Height **A**	4620mm - 15 ft 2 in
Height with basket lowered **H**	1850mm - 6 ft
Total Length **G**/ open extensions **E**	1659mm - 5 ft 5.36 in / 2376mm - 7 ft 10 in
Width **F**	760mm - 2 ft 5 in
Frame Height from the ground	65mm - 2.56 in
Max payload (with basket at max extension)	280 Kg - 617 lbs
Platform Lenght (Internal) **D**	1560mm - 5 ft
Platform Width (Internal) **I**	680mm - 2 ft 3 in
Wind Speed	Zero - indoor use only
Entrance step height **B**	340mm - 1 ft 3 in
Rated number of occupants	2
PERFORMANCE	
Max. Running Speed	3,2 Km/h - 1.98 mph
Min. Running Speed	0.6 Km/h - 0.35 mph
Turning Radius (Internal)	ZERO zero
Turning Radius (External)	1345mm - 4 ft 4 in
Max. Tilt	35%
Ascent/descent speed	26/15 sec
POWER	
Power Source	110/220 V ca, 24Vcc
Batteries	N 04, 6V 240Ah 5h
Hydraulic System Capacity	12 lt / 3.17 gal
Weight (without load)	1250 Kg-2755lbs
Standard Compliance	Ansi A92.6, CE Compliance, AS1418.10(int)

LUI WH 460 serial number

MODEL	LUI WH 460
Translation motors	Watt 1200; Volt24; Nm 3.2; F.F. 1; RPM 3600; Amp65; IP 20; DUTY S2
Gearmotors/Reducer	MRIV 63 U03A; PW 1400 min-1: 0,74 Kw; i=63.6;
Pump	2000W; 24V; 150 Ah; 2250 RPM; Nm 8; IP 54;
Electromagnet for Wheel Block	18W; 24V; IP 40
Rear Drive Wheels	mm 350x100
Drive System	Proportional Joystick
Wheels	Non-marking Full Rubber
Hydraulic Oil	ROLOIL mineral oil LI22 HIV
Filter	Internal filter 90 µ
Oil Pressure	65 bar
Reduced speed	m/min 10
Regular speed	m/min 50
Lifting speed	m/min 10
Noise	75 dB(A)

3.3 TECHNICAL SPECIFICATIONS
LUI WH EL serial number



LUI HD EL

MODEL	LUI HD EL
DIMENSIONS	
Working Height	mm 5900 -
Platform Height	mm 3900 -
Height of the machine at rest	mm 2870 -
Total Length of the machine	mm 1215 -
Total Width of the machine	mm 760 -
Total Payload	140 Kg -
Platform Width (Internal)	mm 680 -
Wind Speed	ZERO WHEN THE RAISED FLOOR IS INSTALLED ON THE MACHINE, IT CAN ONLY BE USED INDOORS.

4.1 PREMISE TO TRANSPORT AND HANDLING

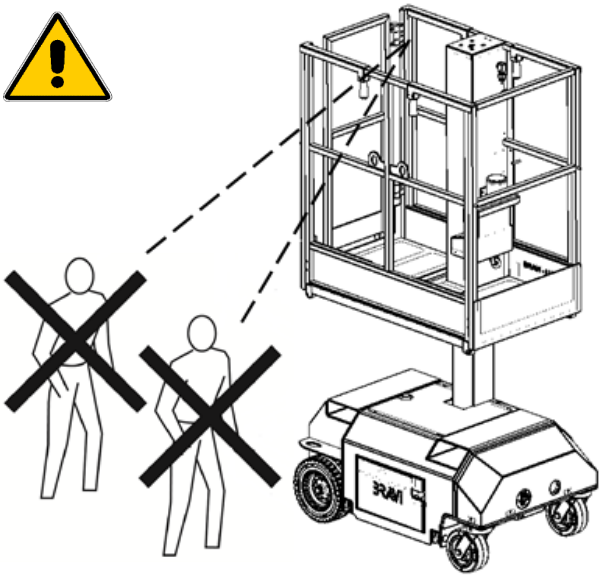
4.1.a
Danger of crushing, collusion and abrasion
The staff in charge of the Platform moving must have read and understood the safety requirements in lead of this manual (see Part 2).
It should wear work gloves, helmet and safety shoes.

4.1.b
Independently by the number of persons in charge of the moving of the Platform, there must be always a responsible.

4.1.c
Before transporting the Platform, make sure that the floor is leveled and without holes.

4.1.d
Before starting, please read all the Part 4 in order to be prepared in time in case of need.

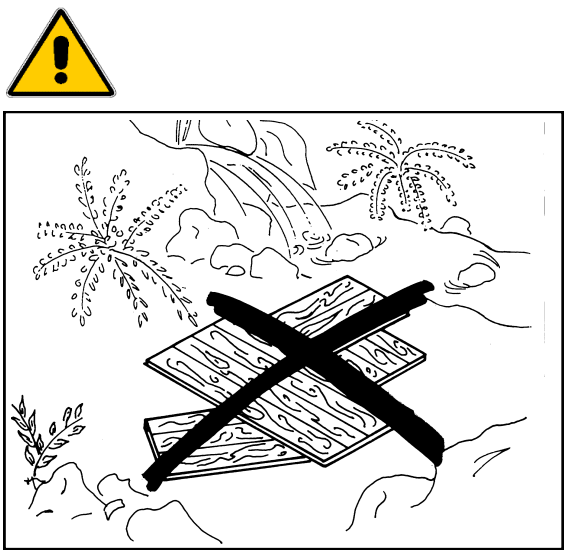
4.1.e
Clean the area where the Platform will be positioned, in order to prevent slipping, tripping or falling.



4.1.f
The Platform can be unloaded in 4 different ways:
1-With a forklift with a suitable lifting capacity (see Part 3 Specifications or on marking the voice “weight”) see Section 4.2.
2-By using the loading/unloading device and a suitable set of ramps, see Section 4.3.
3-By using loading and unloading skids and a cargo winch, see Section 4.4.
4-By moving the Platform by a crane, see Section 4.5.

4.1.g
Danger of crushing and capsizing
Transport operations are dangerous, so the operator must carry out them very slowly, must be very careful and make sure that there are no exposed people, animals or things.

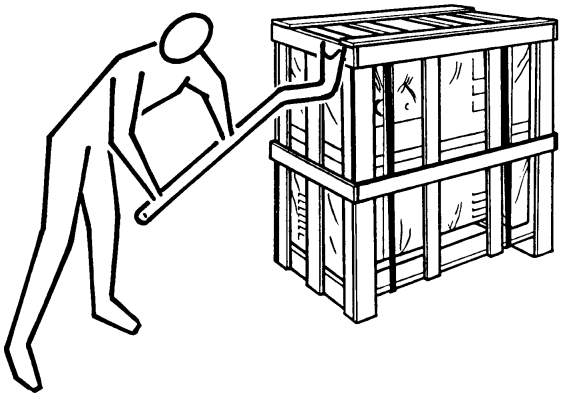
4.1.h
Danger of pollution
Do not throw away the packing in the environment, but select it depending on the type of material (cardboard, wood, steel, polyurethane, etc. …), then it must be given for disposal (depending on the rules of the country where the Platform is used).



4.1.i
The Platform is on the truck, please make sure that there are no pipes or cables that may interfere with the forks.

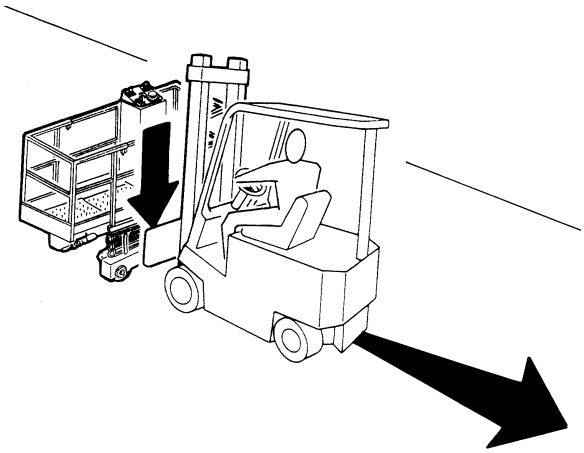
4.2 UNLOADING/UPLOADING PLATFORM PROCEDURES WITH A FORKLIFT

4.2.a
The Platform can arrived:
4.2.a1- boxed with a pallet
4.2 a2 – wrapped in cellophane with a pallet
4.2.a3 – wrapped in cellophane without pallet



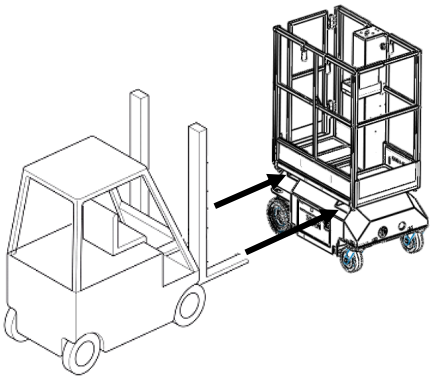
4.2.a1 - Boxed with a pallet
To unload the Platform in a box with a pallet using a fork-lift , do as follows:

-Place the forks of the forklift in the pallet.
- Lift the box very slowly for about 10 or 20 cm and …
- Making sure that there are no people exposed, take the box out of the truck or container and place it on the ground.



- **Danger of cutting**
Once placed it on the ground, the operator must wear cut-resistant gloves and with a suitable tool remove the lid, therefore
-Unscrew the screws on the wall and remove the 4 walls.

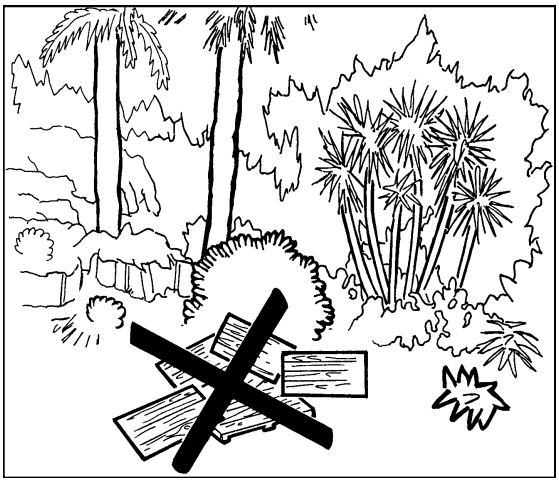
- **Danger of pollution**
Do not throw the packing in the environment, but apply to authorized disposal agencies or keep the package for future transports.
-Remove the forks from the pallet and …
-Insert the forks in the suitable housings of the Platform.
-Making sure that in the area there are no people exposed, lift up again very slowly the Platform for about 10 or 20 cm and bring it near the area of use.
-the unload of the Platform in the box with the pallet using the forklift is done.



4.2.a2 - Wrapped in cellophane with pallet

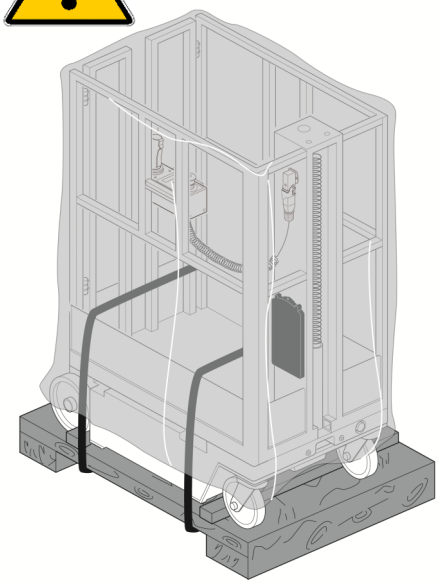
To unload the Platform with cellophane on a pallet using the forklift do as follows:

-Place the forks of the forklift in the pallet.
-Lift up the Platform very slowly for about 10 or 20 cm and …
-Making attention that in the area there are no people exposed, take the Platform out of the truck or container and place it on the ground.



Danger of cutting
The operator must wear anti cut gloves

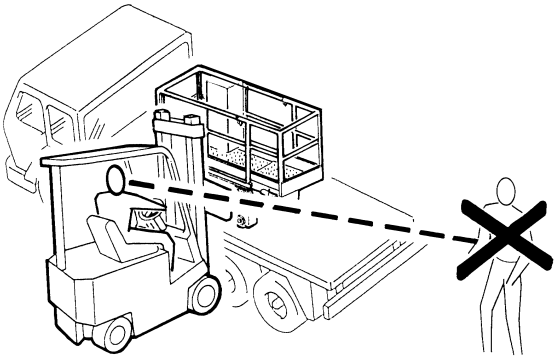
-Take the scissors and cut the small bands
-So, always making attention, lift up again the Platform very slowly for about 10 or 20 cm and take it near the area of use.
- the unload of the Platform in the box with the pallet using the forklift is done.

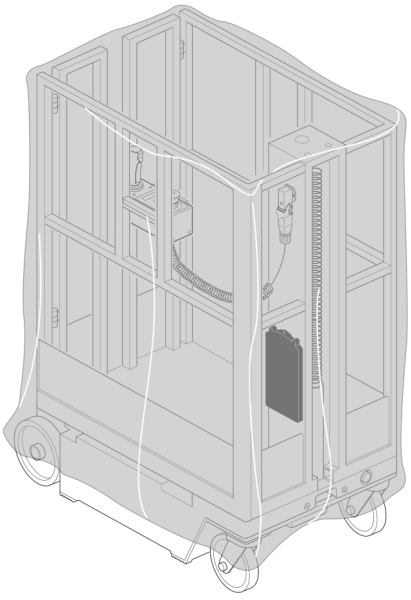


4.2.a3 - Wrapped in cellophane without pallet

To unload the Platform with cellophane by using the fork lift do as follows:

-Place the forks in the suitable housings of the Platform.
-Lift up the Platform very slowly for about 10 or 20 cm and …
-Making attention that there are no people exposed in the area, take the Platform out of the truck or container and take it near the area of use.
- the unload of the Platform wrapped in cellophane using the forklift is done.





4.3 PLATFORM LOADING/UNLOADING PROCEDURE BY USING RAMPS AND WINCH (FOR LUI WH 460; LUI HD; LUI HD WD)

4.3.a
In order to perform the loading/unloading procedure of the Platform by using the ramps and the winch, proceed as follows:

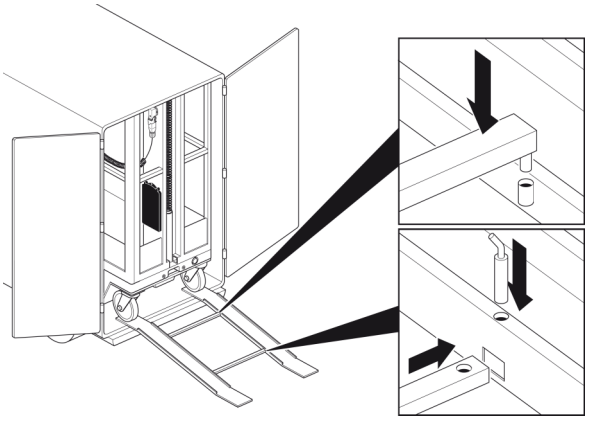
Warning cutting hazard
The operator must wear cut-resistant gloves

- Take a cutter

- Remove the cellophane making sure not to injure your hands and not to damage the platform.

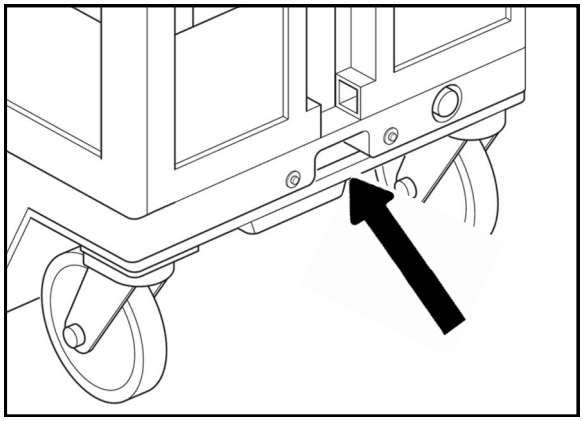
- **Warning Slipping Hazard**
  Remove the cellophane and immediately dispose of it in the special waste containers.

4.3.b Positioning of unloading ramps
- Obtain suitable loading and unloading ramps authorized by the manufacturer in order to support the weight of the Platform; other types are not authorized (see part 3 Technical Specifications).



- Position the loading/unloading ramps and fasten them to the means of transport by means of a bolt and when possible between them by using spacers to make the descent safer and more stable.

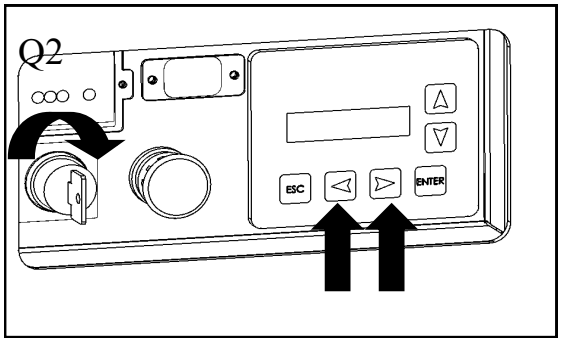
- Warning general hazard
The operator must make sure that:
- The Platform is completely lowered,
- There are no people, animals or things exposed in the maneuvering area,
- The floor is flat (without holes) and properly cleaned.



4.3.c
Take the winch hook (making sure it is well fixed) and insert it in the appropriate seats on the Platform making sure that the cable is well pulled.

Release the Stop/Emergency buttons **Q3** and/or **P6**.

4.3.d
Turn the ignition key **Q2** to the right (relative light is on with the ZAPI system) to enable the controls from below.
Press the two buttons **Q9** and **Q10** simultaneously within 30 seconds until you hear a "CLICK" in order to release the electric brake, and both the basket and carriage lights start flashing with the ZAPI system (from this moment the electric brakes are disabled).
Information will be displayed by means of the TRONIC system.



4.3.e
Warning overturning hazard
Proceed very slowly on ramps making sure that both wheels are well guided.

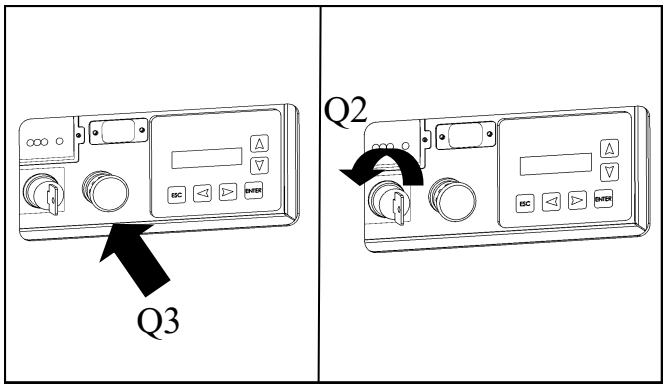
4.3.f
Position the Platform manually on the ramps and...

4.3.g
...operate the winch carefully in order to move the Platform and/or to bring it closer to the loading and unloading ramps.

4.3.h
Turn off the Winch once the handling and/or unloading from the ramps have been completed.

Press the Stop/Emergency button **Q3** and/or **P6** and turn the ignition key **Q2** to "0".

4.3.i
Remove the loading and unloading ramps from the means of transport.



4.3.l
The loading/unloading procedure of the Platform by using the ramps and the winch is completed .

4.4 LOAD/UNLOAD PLATFORM PROCEDURE USING A CRANE

4.4.a
To carry out the procedure to load/unload the Platform using a crane please do as follows:

4.4.b
Danger of cutting
The operator must wear anti cut gloves

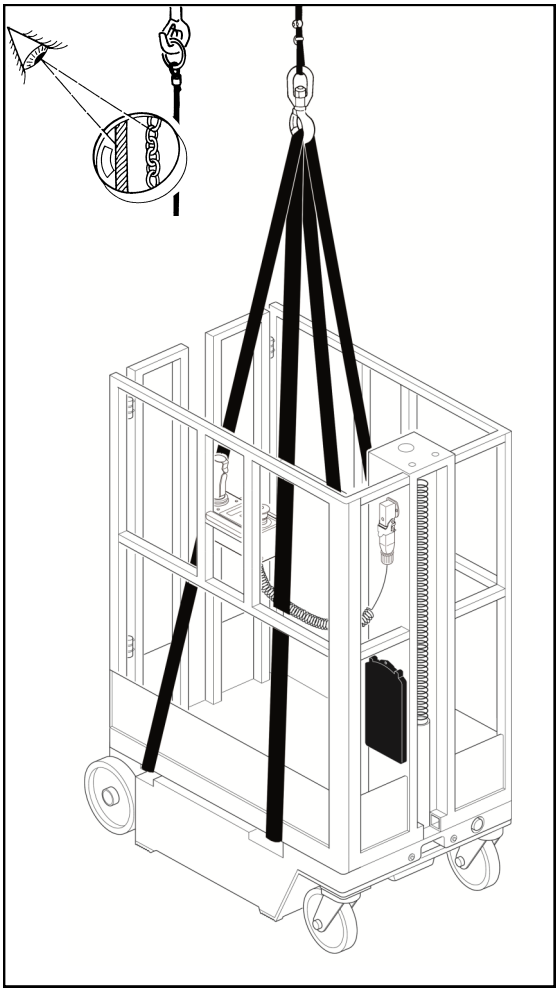
-Take the shears
-Take away the cellophane making attention not to hurt the hands and damage the Platform.

- **Danger of sliding**
Take away the cellophane and immediately throw it into the suitable containers for special waste materials.

4.4.c
Danger of crushing
Check the chains and belts in order to verify that there are no anomalies before using them to move the Platform.

Make sure that they are securely fixed to the hook of the crane and that the crane can support the load of the Platform (see Part 3 “Specifications”).

It is strictly forbidden to stand in the dangerous zone when this last one is moved by a crane!!
The minimum safety distance must be of 3 meters.



4.4.d
Check that the **Q3** and/or **P6** Stop/Emergency buttons are pressed.
Remove the push-button panel and put it inside the basket.

4.4.e
Insert the chains or belts of suitable capacity in the four holes of the frame.

4.4.f
Pass the tip of the chains or belts through the inside of the basket and ensure all of them to the hook of the crane.

4.4.g
Move the Platform making sure there are no exposed people or animals, until the positioning on the ground area.

4.4.h
Repeat backwards all the operations described above.

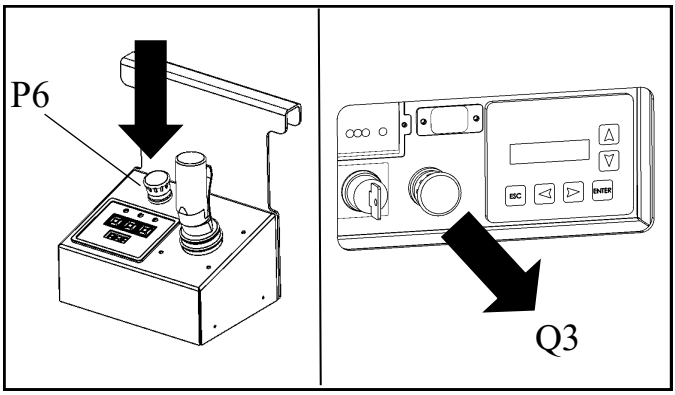
4.4.i
The procedure of load/unload of the Platform using a crane is done.

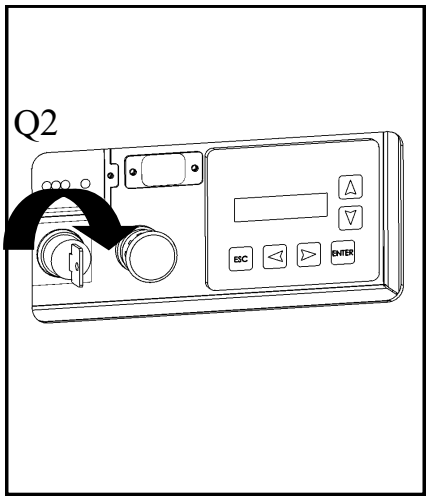
4.5 **MANUAL EMERGENCY HANDLING for LUI WH 460; LUI HD; LUI HD WD; LUI HD EL.**

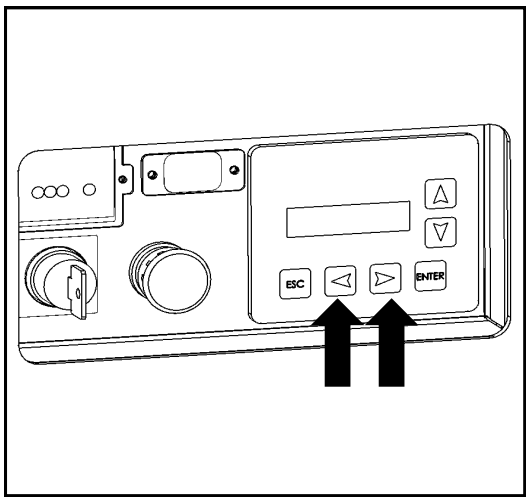
4.5.a
Pull the **Q3** and/or **P6** Stop/Emergency buttons.

4.5.b
Turn the ignition key Q2 to the right (relative light is on with the ZAPI system) to enable the controls from below.
Press the two buttons Q9 and Q10 simultaneously within 30 seconds until you hear a "CLICK" in order to release the electric brake, and both the basket and carriage lights start flashing with the ZAPI system (from this moment the electric brakes are disabled).
Information will be displayed by means of the TRONIC system.

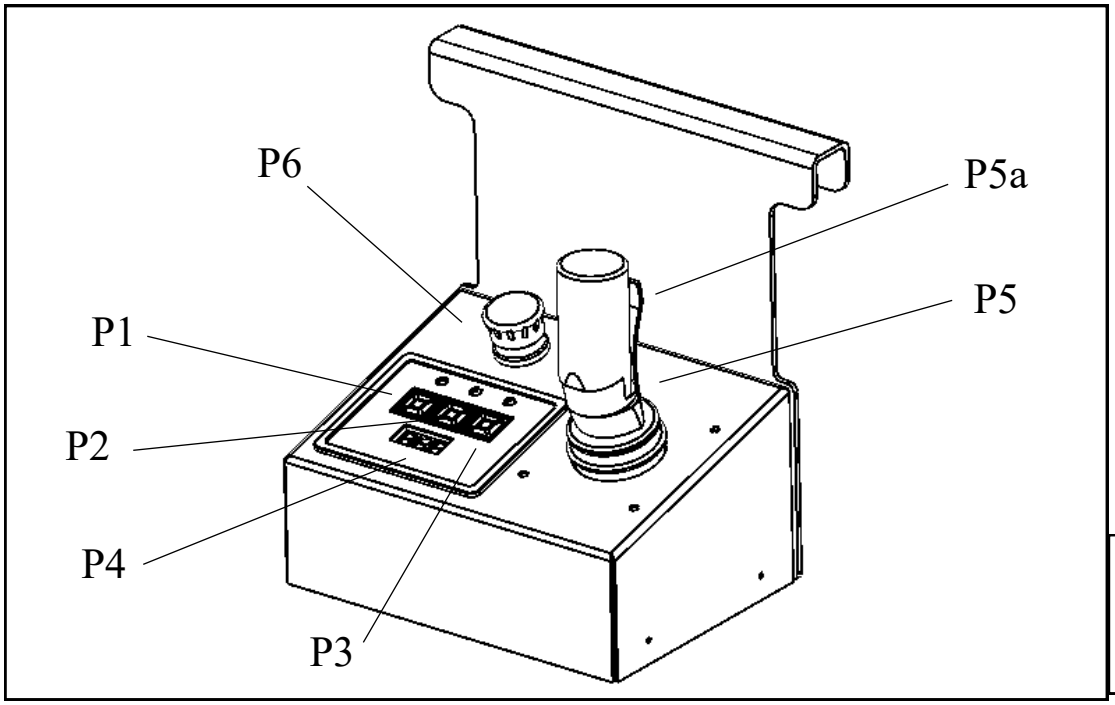
4.5.c
Place by hand the Platform in the prearranged repair area.







5.1 CONTROL PANEL



LUI WH 460;
LUI HD;
LUI HD WD;
LUI HD EL

CONTROL PANEL AND ITS DESCRIPTION

The ground modules and control boxes can have different positions, personalization or composition, even divided in different panels or joined in a single block.

The disposition here represented shows the complete versions. In any case, if the command is different from the scheme represented, there is always written in it the function to which it refers.

NOTE
For further information about the scheme, please refer to the reference scheme of the installed Platform.

P - PLATFORM CONTROL BOX

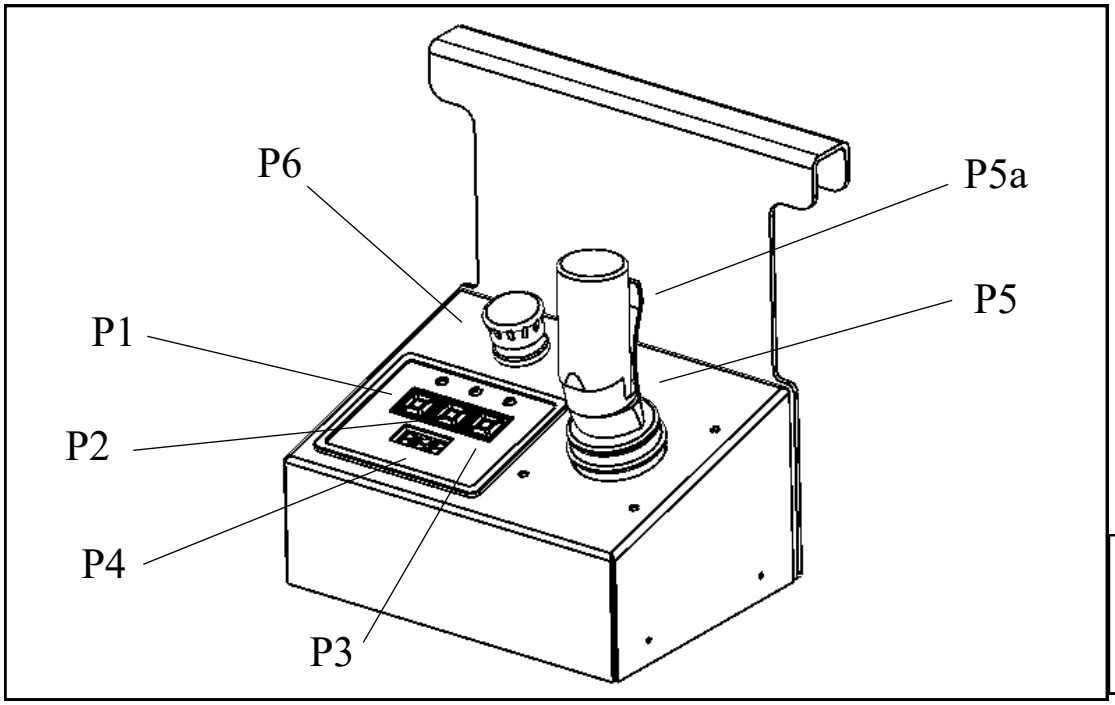
P1 - Dispositivo bloccaggio ruote:
The wheel locking device is enabled by positioning the selector to the right or pressing the relative button, thus allowing the vehicle to be driven only along a straight line, both forward and backward.

LED ON indicates that the wheel stop device has been activated.
LED OFF indicates that the device is deactivated allowing, therefore, to drive the vehicle in any direction.

P2 - Mode key Lift/Lower
LED ON means that the lifting/lowering function has been selected.
LED OFF indicates that the lifting/lowering function has not been selected.

P3 - Mode key Traction
LED ON indicates that the drive function has been activated.
LED OFF indicates that the drive function has not been activated.

P4 - Battery Gauge
This is a 10-bars lighted display which highlighted the state of the battery charge.
A lighted LED refers to the minimum level of the battery charge, while 10 LEDs indicate the fully charge.



LUI WH 460;
LUI HD;
LUI HD WD;
LUI HD EL

P5 - Joystick Module
The Joystick controls the driving of the vehicle as well as the lifting and lowering of the Platform.

The Joystick is equipped with the "Human Presence" lever control (P5a) which is used to handle the Platform.
It must be pressed every time the joystick is operated, and once pressed it enables an acoustic signal.

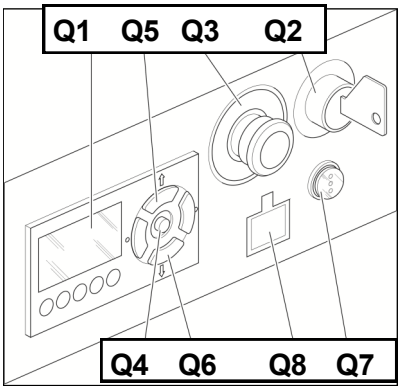
Releasing the joystick it locks the vehicle in drive mode.
In the lift mode, the release of the joystick stops the Platform during the lifting or lowering phase. The speed of movement is proportional and it is controlled by the Joystick movement. With the basket in the lower position, the speed can be raised even by using the Speed Selector (**P7**).
Once lifted the basket, the speed will automatically pass to Safety low speed.

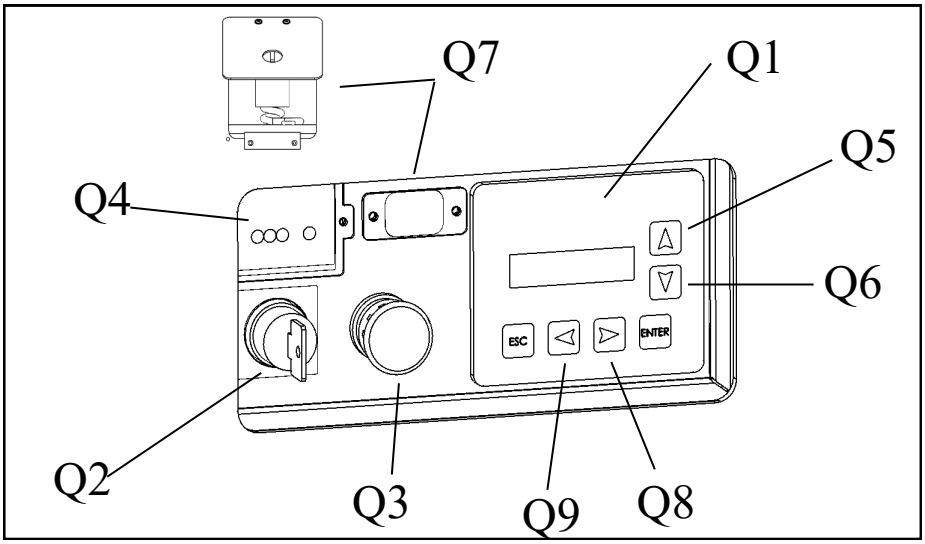
P6 - Emergency Stop Button
In case the Platform will work improperly or there will be an urgent need to block all the moving activities of the vehicle, press this button to cut off the power supply. If the button is deactivated, it will not start the Platform but will enable the entering of the tension.

P7 - Speed Selector
The progressive moving of the selector to the right, will increase the driving speed within the limits fixed by the Manufacturer.
The gradual moving of the selector to the left, will gradually decrease the driving speed.

The currently selected speed is shown on the Display 5 LED (**P4**).

A lighted LED refers to the setup of the lower speed, while five lighted LED indicate that the higher speed setup has been selected.





Q - GROUND MODULE

When the Ground Module is selected, the Platform Control Box is automatically excluded

Q1 - DISPLAY

This is the main display for the control system and shows useful information regarding the status of the system as well as diagnostic information, should the system detect a problem with the vehicle.

Q2 - 3 POSITION KEYSWITCH

Turned to the **left** it enables only the commands from the control box on the Platform board (for LUI WH 460, LUI HD, LUI HD WD and LUI HD EL. lights up the LED **Q1l**).
Turned to the **right** it enables only the commands from the ground module of the chassis. (for LUI WH 460, LUI HD, LUI HD WD and LUI HD EL lights up the LED **Q1m**).
In **central position**, switch off each contact. The operator must take the key off and give it to the responsible for Security.

Q3 - EMERGENCY STOP BUTTON

When pressed, it immediately stops all the phases of the Platform.
If lifted up **DOES NOT** restart the Platform, but allows the insertion of voltage.

Q4 - BUTTON FOR THE SOLE USE OF THE MANUFACTURER OR TRAINED AND QUALIFIED TECHNICIANS

Q5 - UP ARROW

This button works only when the key switch **Q2** is turned on the **right**.
By pressing and keeping it pressed, this button allows the raising of the basket.

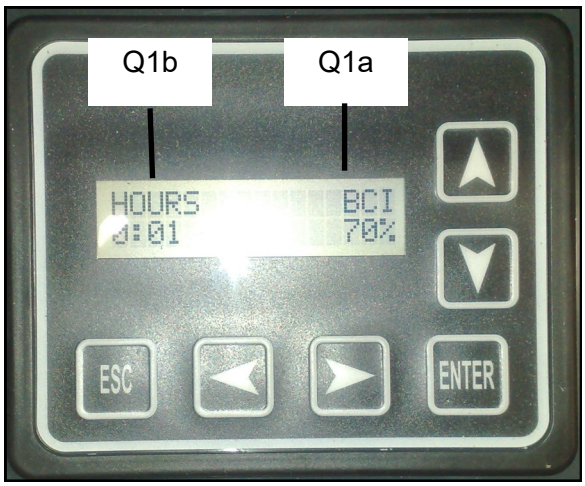
Q6 - DOWN ARROW

This button works only when the key switch **Q2** is turned on the **right**.
By pressing and keeping it pressed, this button allows the lowering of the basket.

Q7 - BATTERY STATUS INDICATOR WHEN IT IS UNDER CHARGE

Yellow indicator light shows that the battery is nearly discharged.
Red indicator light shows that the battery is discharged.
Green indicator light shows that the battery is charged.

Q8 - BATTERY CHARGER SOCKET



Q1 - Display
It is the main display of the control system and shows useful information regarding the system status and any anomalies.

Q1a BATTERY CHARGE STATE
The indicator of the battery charge status is represented by 10 notches: each notch represented 10% of the battery charge. When the battery become discharged the notches progressively disappear, one after the other, from the top to the bottom, in proportion to the value of the battery residual charge. When the battery charge is lower or equal to 40%, the notches displayed start to blink.

Q1b HOUR METER
The number displayed shows the hours worked.

6.1 INTRODUCTION BEFORE EVERY USE

6.1.a

Danger of crushing – collision and abrasion

The operator in charge of using the Platform must be informed about the safety instructions shown in this manual (see Part 2) and must wear work gloves and safety shoes.

6.1.b

Before and after every use at the beginning of every moving the operator **must always carry out:**

The pre-start inspection (6.2) – Functioning test (6.3).

6.2 PRE-START INSPECTION

6.2.a

Make sure that all manuals are in the suitable containers on the Platform board.

6.2.b

Make sure that the marking of the Platform and all safety labels are in their place perfectly integral and readable.

6.2.c

Check the Platform to verify the absence of anomalies (example: cracks on the weldings, missing or loosing bolts, different dents, buckling, etc.), malfunction or non authorized variations (example: non authorized lifted flatcar) depending on how the Platform has been delivered by the Manufacturer.

6.2.d

Check the integrity of the basket and the right functioning of the entrance (automatic lock).

6.2.e

Check and test the functioning of all the safety devices (**Q3** and **P6** Stop/Emergency buttons, flashing, safety bar, microswitch, tilt device, pot hole devices).

6.2.f

Check the functioning of the key switch **Q2**.

6.2.g

Check and test the functioning of the safety manual lowering lever

6.2.h

Check the water level in the batteries, make sure there are no leaks. Cables must be constantly right fixed to the clamps; there must be no corrosion.

6.2.i

Check that the rubber wheel has not any damage, abrasion or deep cuts and that there are no rubbish on the wheels or around them.

6.2.l

Check the basket extension system.

6.2.m

Check that there are no leak of oil.

6.2.n

Check that the hydraulic oil is at level, in case fill to the correct level (see Part 9 Maintenance).

6.2.o

In case you will find one or more anomalies is forbidden to use the Platform, so do all the necessary before starting to use it (see Part 9 Maintenance).

6.2.p

The pre-starting inspection procedure is finished.

Proceed with the working test.

6.3 FUNCTION TEST

Do not forget that, before carrying out the Function Test, the operator must have carried out the pre-starting inspection procedure.

6.3.a
Danger – Risk of electrocution
The machine is **NOT** insulated.

6.3.b
Maintain safe clearances from electrically charged conductors (power lines) and apparatus. You must allow for machine sway (side to side movement) when elevated and electrical line movement. This machine does not provide protection from contact with, or proximity to, an electrically charged conductor.

6.3.c
Warning: electrocution hazard
Before operating the Platform make sure that the area above it is free from obstacles in order to allow the full elevation of the Platform itself.

6.3.d
Do not operate the Platform if the following controls show a defect.

6.3.E FUNCTION TEST
- A) GROUND CONTROL OPERATION AND CHECK

6.3.e1
Turn the key switch **Q2** to the right (chassis control).

6.3.e2
Press and keep pressed the lifting button **Q5** to allow the raising of the basket. If you want to stop the platform elevation release the button.

6.3.e3
Press and keep pressed the lowering button **Q6** to allow the lowering of the basket. If you want to stop the platform descend release the button.

6.3.e4
Q3 Stop/Emergency working test.
With the Platform in motion, press the **Q3** Stop/Emergency button.
The Platform must immediately stop.

6.3.e5
Emergency mechanical lowering lever test.
With the Platform with the basket lifted, pull the emergency lever to mechanically lower the basket of the Platform.
The release of the lever must stop the lowering.

6.3.e6
The “Working Test procedure – A) Ground Control Operation and Check” is finished.
Proceed with the “Function test procedure – B) Check and working of the basket control”.

6.3.F FUNCTION TEST
- B) CONTROL AND OPERATION OF THE BASKET :

6.3.f 1
Turn the key switch **Q2** to the left (control panel).

6.3.f 2
Enter the basket, then close and secure the entrance.

6.3.f 3
Press the **P3** drive mode button to select the drive function.
Press and hold the "Human Presence" lever **P5a** of the joystick and, moving joystick **P5**, check the steering wheel (left/right-forward/backward).
To lock the drive, release the "Human Presence" lever **P5a** or reset the joystick to the central position.

6.3.f 4
Stop/Emergency function test.
Press the Stop/Emergency button **P6** with the Platform in motion.
The Platform stops immediately.

6.3.f 5
Press the lifting/lowering mode selector **P2** to select the lift/lower functions.

6.3.f 6
Press and hold the "Human Presence" lever **P5a** of the joystick and, moving joystick **P5** back and forth, and check the lifting and lowering of the basket.

To lock the lifting/lowering, release the "Human Presence" lever **P5a** or reset joystick **P5** to the central position.

6.3.f 7
Stop/Emergency **P6** function test.
Press the Stop/Emergency button **P6** with the Platform in lifting/lowering mode.
The Platform stops immediately.

6.3.f 8
It is forbidden to use the Platform if one or more anomalies are found, preferably before starting the processing (see Part 9 Maintenance)

6.3.f 9
Set the platform to **Zero Energy Status**.

6.3.f 10
Repairs must be carried out before operating the Platform; it is essential to ensure its safe operation.

6.3.f 11
The "Function test - B) Control and operation of the basket" procedure is finished; continue with use.

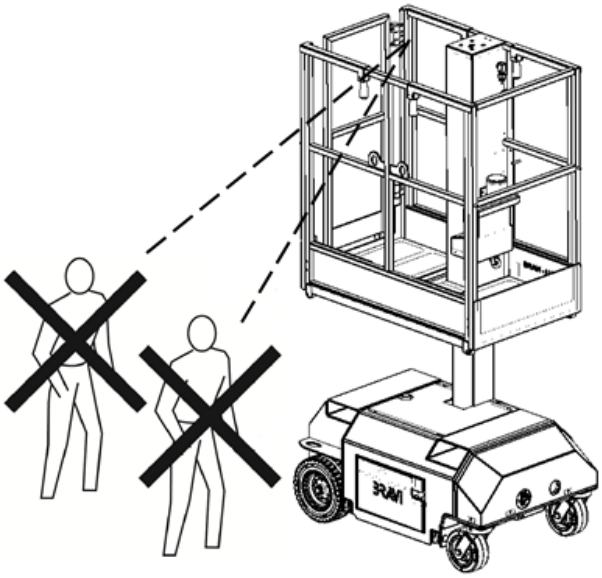
6.4 OPERATING INSTRUCTION - Introduction

6.4.a
Warning – Generic risks
Operation must be only carried out by qualified Operators who have been trained on how to use the machine. Operators must also carefully read and understand the safety regulations in Part 2 and the contents of this manual before operating the machine.

6.4.b
BEFORE STARTING THE OPERATION
Warning – Generic risks
The operator must:

a) Check that the Platform is positioned on a clean floor, without holes and well leveled and is capable to support the weight of the Platform (see Part 3 Specifications).

b) Check that in the moving area there are no exposed people, animals or things and that there are no aerial obstacles in the area where you will work.



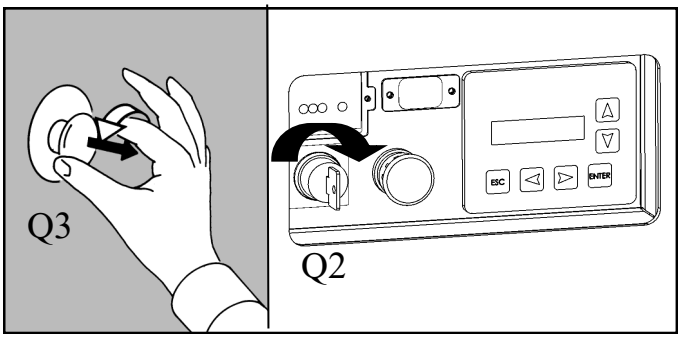
c) Do not forget that:
-The operator must carry out all the maneuvers through the controls settled on the push-button panel on the Platform board;

-The translation is adjustable through the joystick **P5**,
-When the basket is totally lowered the maximum speed is about 50 m/min;
-When the basket is lifted the speed is automatically limited to a maximum of 9 m/min.
-The extensions of the basket must be withdrawn during the incoming/outgoing of the operator to/from the basket.

6.5 BEFORE GETTING IN THE PLATFORM

Check in the ground module that:
- the Key selector **Q2** is in the left position (Control on board)

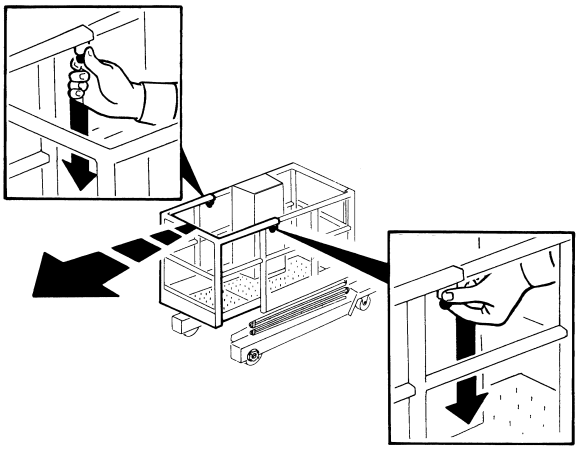
- the Stop/Emergency Button **Q3** is reset,



6.6 GET ON THE PLATFORM

6.6.a
When you need to extend the basket do as follows:

-Pull the black knobs down (they will go out from the housing).
-Push forward on the extension of the basket until the end stroke.
-Release the knobs, you will hear a noise. The two knobs are in their safety position again.
-Repeat the procedure to extend the other side of the basket.

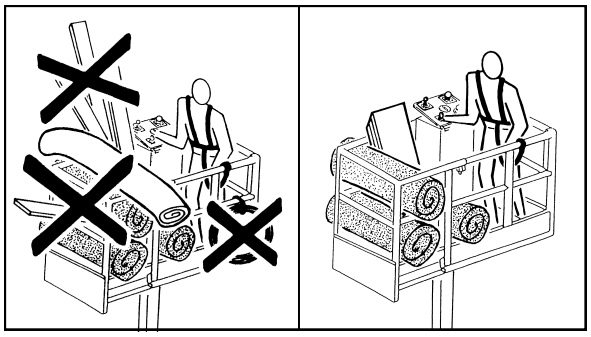


6.6.b

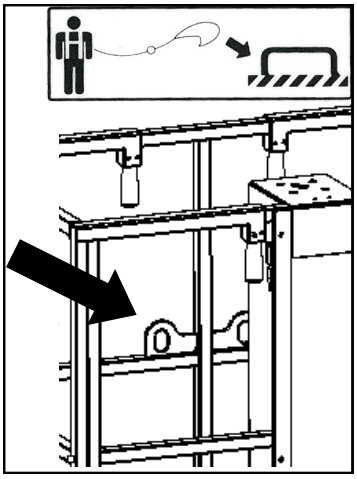
To positioning the load on the basket make sure that:
- il carico sia bilanciato,

- do not exceed the maximum load weight also including the person's weight (see part 3 Technical specifications). In case of overload, the relief valve (see hydraulic diagram on page 11.82) intervenes preventing the basket from being lifted. Any replacement of the valve not authorized by Braviisol D.M., is forbidden.

- the load does NEVER stick out more than 20 cm from both sides of the basket ,



- **Warning Danger of Crush**
if some parts of the load are sticking out, tie them to the basket rail
- NEVER tie anything out of the basket .



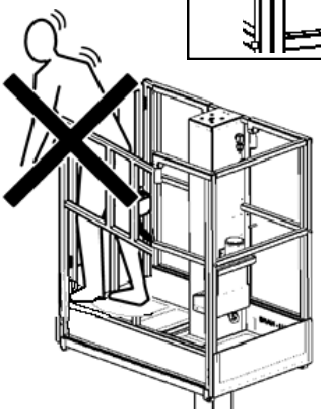
6.6.c

If required, wear the safety belt and hook it into the suitable housing.

6.6.d

Danger: hands could be crushed or limbs severed

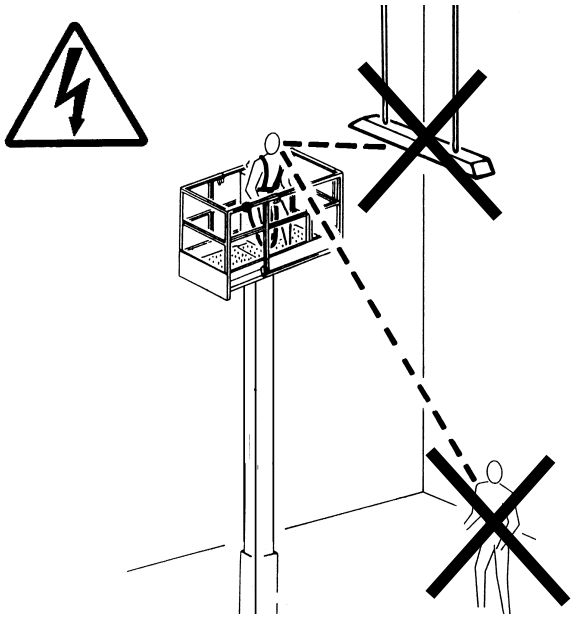
During moving operations, position your body inside the basket so that your limbs do not interfere with the surrounding fixed parts.



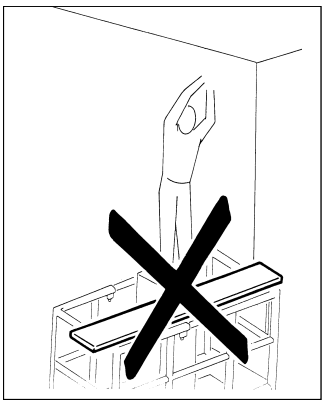
6.6.e

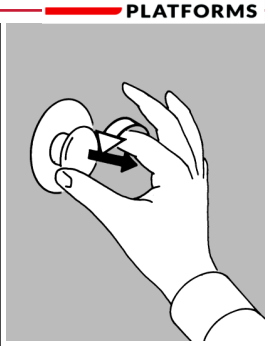
Warning Risk of collision

During the translation and/or lifting/lowering operation, the operator must paying attention in order that the working area on the ground and over the basket is always free from obstacles or dangers



6.6.f
Warning-Danger of Fall
The operator does not, in any case, go on the railings of the basket, nor place on it stairs, boards or other things to reach higher working positions. Moreover, does not in any case lean out of the basket railing of the Platform.

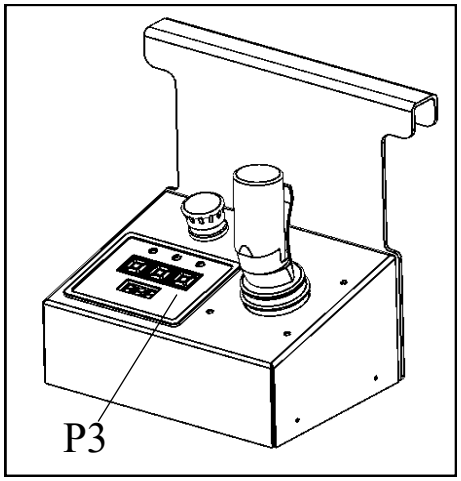




6.6.g
Decide what function activate, whether the translation or the lifting/lowering.

6.6.h
The “Operating Instruction” procedure is finished, proceed with the other drive operations.

6.7 DRIVING OPERATIONS



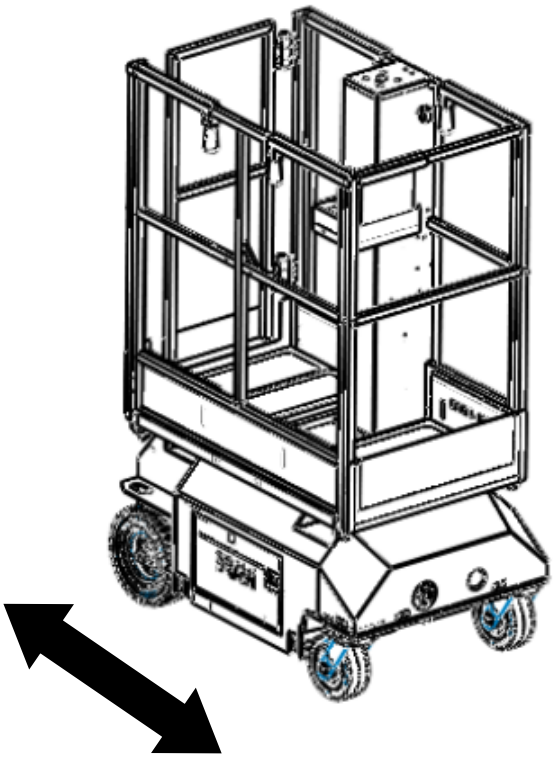
6.7.a
Press once the **P3** traction modality button, the corresponding led will lighten (drive function activated).
Note: when the LED blink or is off, to restart the function press the same button again.

6.7.b
Only if available, check, that the wheel blocking device **P1** is not activated.

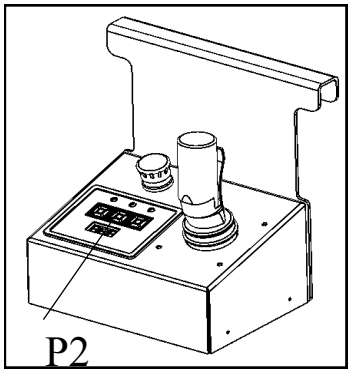
6.7.c
Press and keep pressed the enable lever **P5a** of the Joystick **P5** and move it depending on the necessity.

6.7.d
To stop the vehicle is sufficient to release the enable lever **P5a** of the Joystick **P5**, or the joystick **P5** itself.
Brake is automatic.

6.7.e
If necessary move the Platform along a straight line (ahead/back), use the selector **P1** to activate the wheel blocking device.
The LED will lighten to indicate that the Wheel Block Device has been activated.



6.7.f Lifting/Lowering Operation



- Press once the **P2** button, the LED will lighten to indicate that the lifting/lowering function has been selected.

Note: when the LED is blinking or off, to restart the function please press the button again.

- The enable lever **P5a** of the joystick **P5** is used to enable the controls of the joystick **P5** and must be kept pressed when the joystick **P5** is used.
- Move the joystick **P5** to lift or lower the basket.
- Release the joystick to stop the vehicle during the lifting/lowering phase .

6.7.g

If during the working there is the necessity to change place use the joystick **P5**, that is to say press and keep pressed the enable lever **P5a** of the joystick **P5** and move it depending on the necessity after having pressed the **P3** button.

6.7.h

Once finished the work in that area or if you need to do a new load proceed as follows:

6.7.i

Warning Danger of Crushing

Make sure that under the Platform there are no people, animals or things .

6.7.l

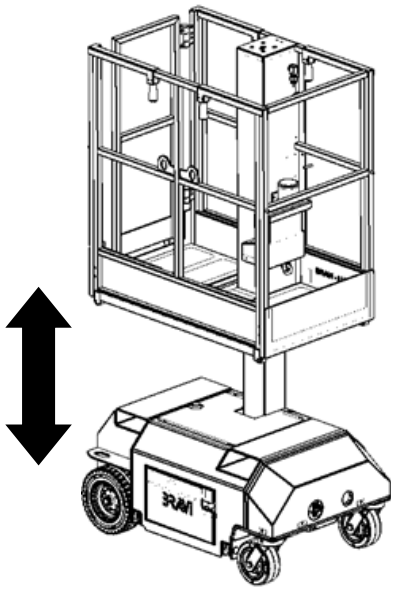
Move the joystick **P5** and completely lower the Platform and proceed with the work.

6.7.m

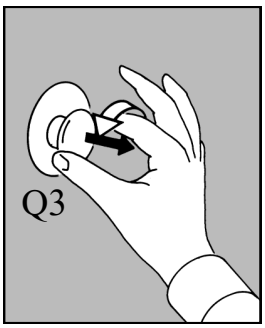
At the end of the work bring the Platform to the **Zero Power Condition**.

6.7.n

The “Operating Instruction” procedure is finished.



6.8 AT THE END OF WORKING DAY



6.8.a

Check the water level in the battery, and if necessary fill up as described in the Section 9.6.

6.8.b

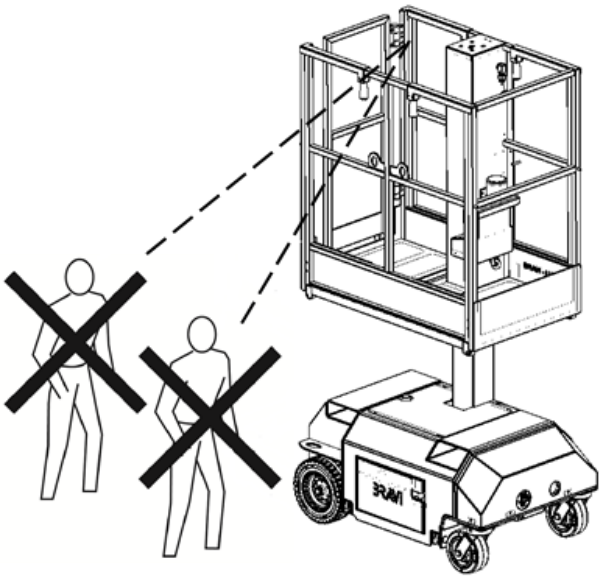
Check the battery charge state and if necessary recharge as described in the Section 9.7

6.8.c

Clean daily as described in the Part 8

6.8.d

The “At the end of working day” procedure is finished.



6.9 ON REQUEST - RAISED PLATFORM ASSEMBLY FOR MODEL LUI HD WD

NOTE:
The superelevation kit **MUST** only be installed on a **LUI HD WD** platform and must be used only indoors on a flat floor.

6.9.a
The raised platform is formed by four pieces:
- **A** Side Railing (single piece);
- **B** Side railing + N. 02 front railings (single piece) with relative hooks;
- **C** Walking base
- **D** Ladder;

6.9.b
The extension kit is very easy to assemble:

- Place the platform frame on the platform railing and make sure that the 4 fixing hooks are well anchored to the platform railing. (you must hear a "CLICK" indicating that the base has reached the safety position).

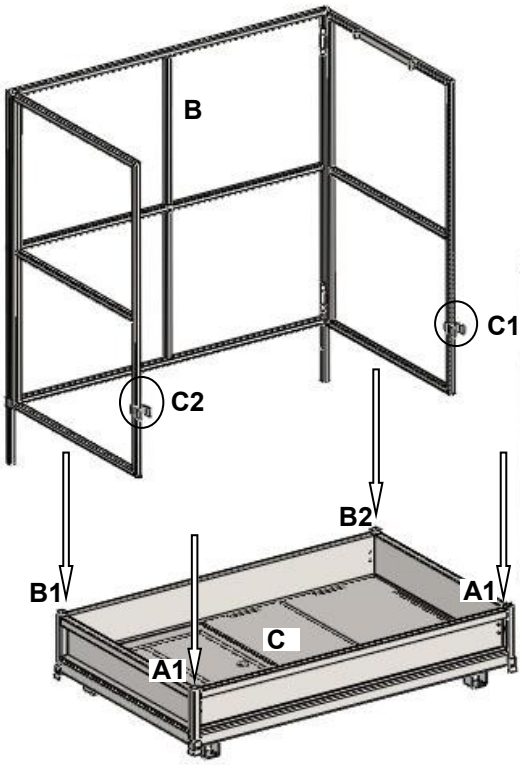
- Insert the Side rail in the respective holes on the walking surface basement and make sure each of the two poles at the base of the side rail are back in their safety position. (A “click” must be heard to indicate the poles have reached their place).

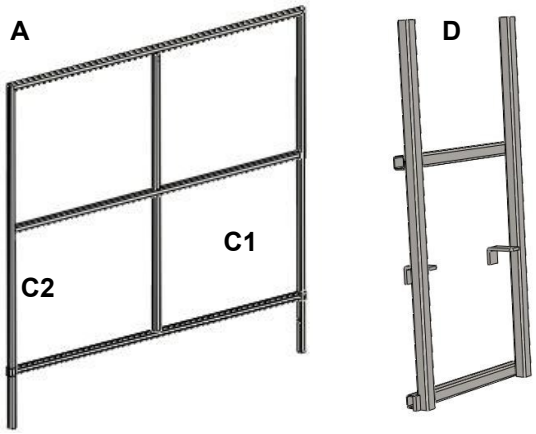
- Follow the same procedure for positioning the side railing + N. 02 front railings and make sure that the two hooks C1 and C2 are fixed to the railing in order to keep the two components together .

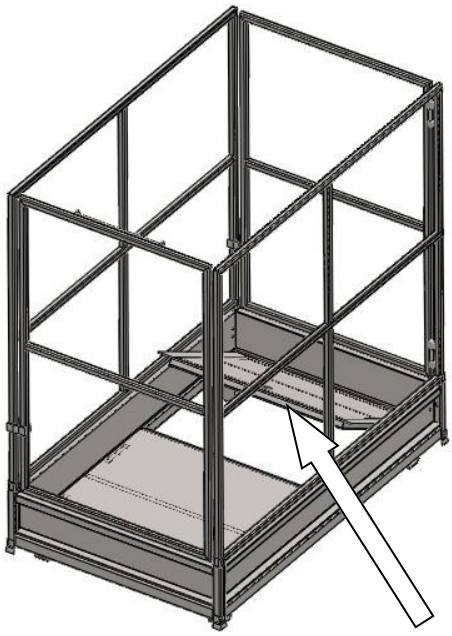
- To access the raised surface, hook on the ladder to the platform rail, in proximity of the trap door.

- Bring the button panel to the raised floor and hook it to the railing.

6.9.c
The assembly of the raised platform is complete.







ACCESS TRAPDOOR SUPERELEVATION

7 INTRODUCTION-SHUTDOWN PHASE

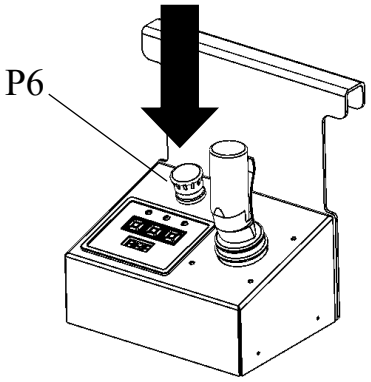
The Platform can be stopped as described hereunder:

7.1 - Temporary shutdown
7.2 - Daily shutdown
7.3 - Prolonged shutdown
7.4 - Emergency shutdown
7.5 - Emergency lowering
7.6 - Manual emergency handling

The following information describes how to behave in each of the aforementioned cases .

7.1 TEMPORARY SHUTDOWN

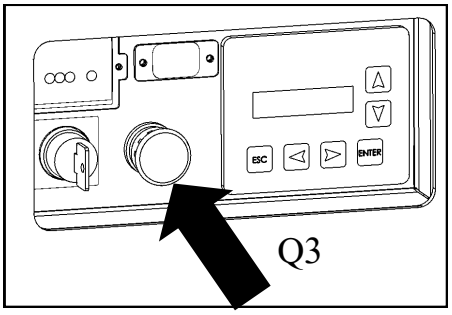
For a temporary platform stop, release the control joystick **P5** and the enable lever **P5a** and all the movement-related functions will automatically stop.



7.2 DAILY SHUTDOWN

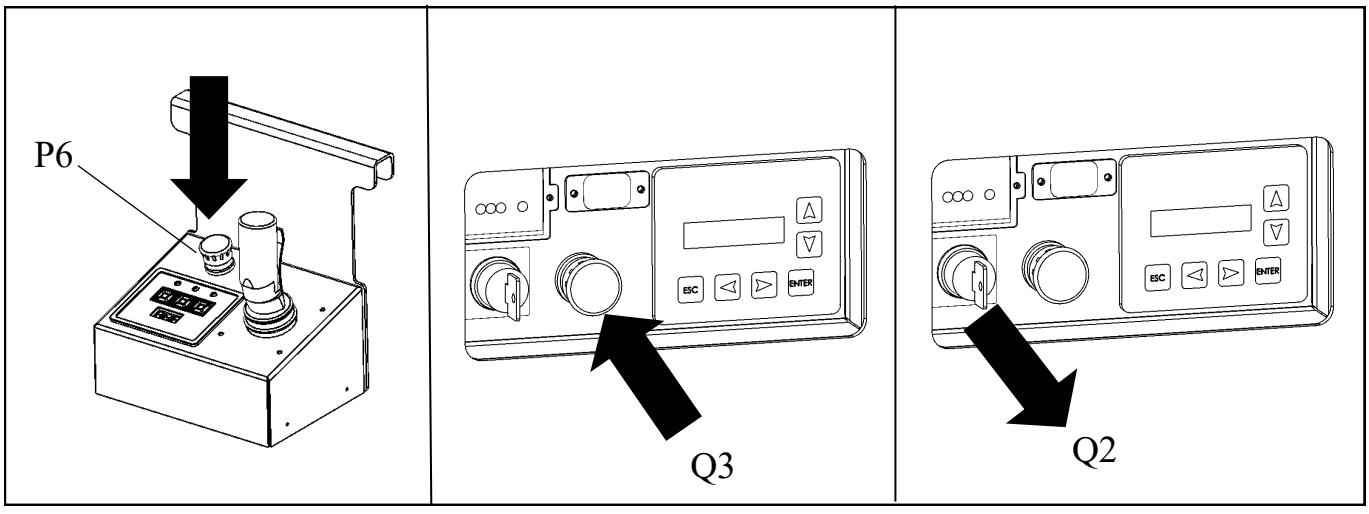
To stop the machine at the end of the working day perform the following actions:

7.2.a
Bring the Platform indoors in an area protected from possible water infiltration or in an environment where there is no condensation; in an area where the presence of people is controlled and the staff is authorized (remember that any possible external tampering situation must be removed for the safety of the operators).



7.2.b
Make sure that the machine is in “zero” power condition, that is:
- the platform is completely lowered,
- the Stop/Emergency Button **Q3-P6** is pressed
- the Keyswitch **Q2** has been removed from the control panel and is under the responsibility of the Production Manager.

7.2.c
Check the status of the batteries and if necessary have the battery re-charged, as shown in the Section 9.7



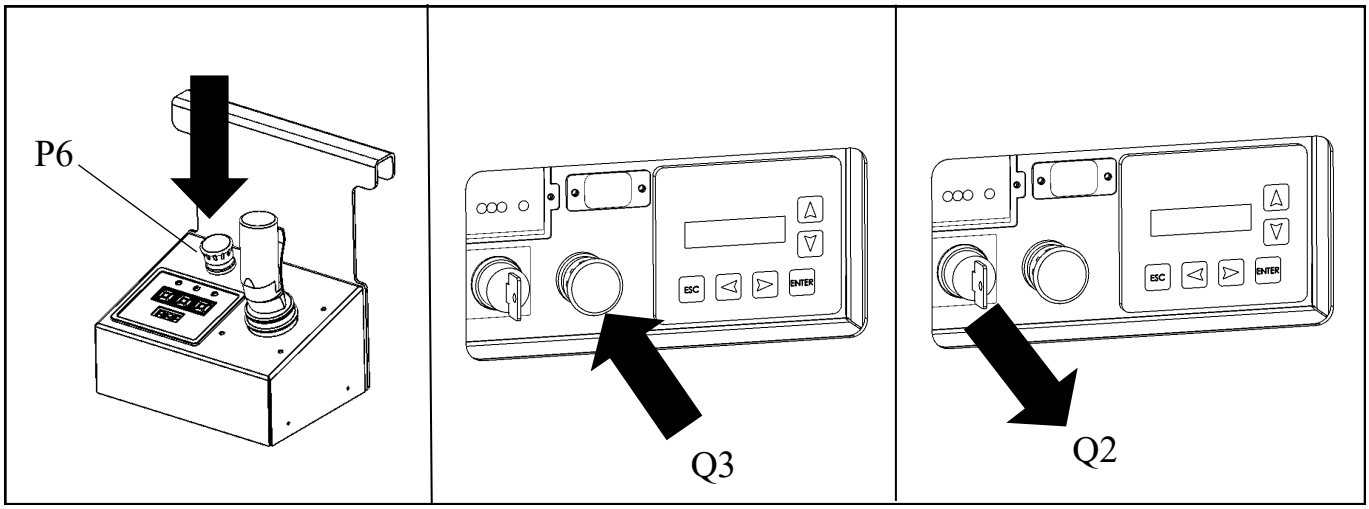
7.2.d
The daily shutdown procedure is finished.

7.3 PROLONGED SHUTDOWN

For this kind of shutdown, please do as follows:

7.3.a
Move the platform indoor, to an area protected against any water leakage or condensate; the access to this area must only be allowed to trustworthy staff (any potential external tampering condition must be eliminated thus guaranteeing the operators safety).

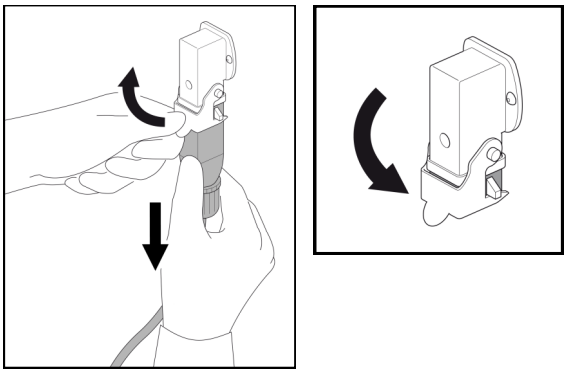
7.3.b
Make sure the Platform is in **Zero Power Condition**



7.3.c
Perform the ordinary maintenance as described in Part 9 “Routine Maintenance ”

7.3.d
Clean the machine as descibed in Part 8 Cleaning .

7.3.e
Is preferable remove the Control box as described herunder:



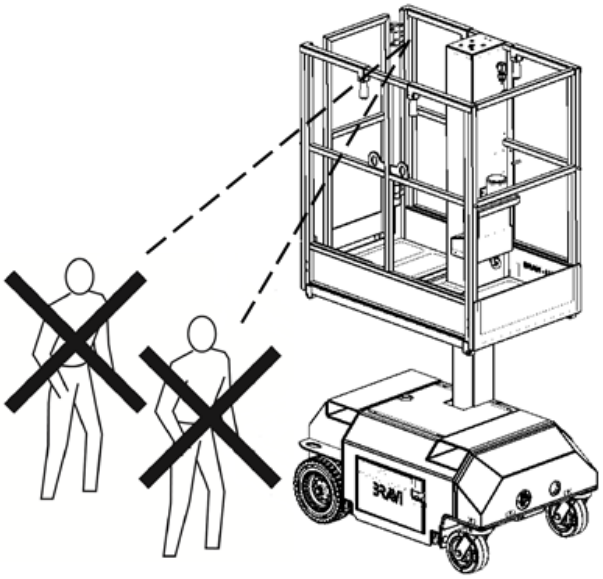
7.3.f
Disconnect the ILME connector and put the safety cover

7.3.g
Remove the Control Box and put it in a safe place.

7.3.h
The Prolonged shutdown procedure is finished.

7.4 EMERGENCY SHUTDOWN

7.4.a
In case the operator is compelled to push the Stop Emergency button **P6-Q3**, perform the following operation.



7.4.b
Inspect the machine to find out the cause of the emergency stop.

7.4.c
Choose:
A – whether it is necessary to bring the machine to the **Zero Power Condition**.

b - whether it is possible to repair the damage.

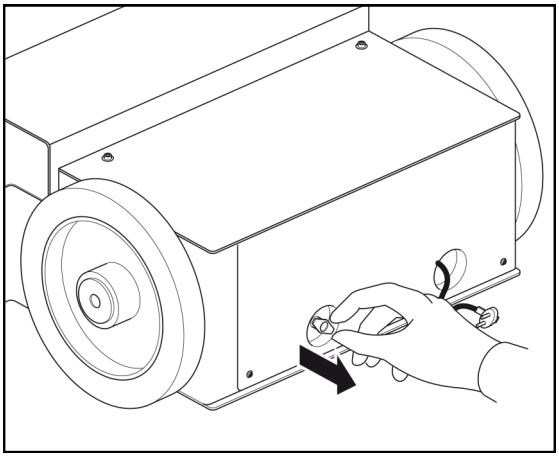
c - whether it is necessary to contact the technical assistance.

7.4.d
If it is possible to eliminate the cause of the emergency stop, pull the Emergency stop button **P6-Q3** and start the platform following the instruction on Part 6 “Use ”.

7.4.e
The emergency shutdown procedure is finished.

7.5 EMERGENCY LOWERING

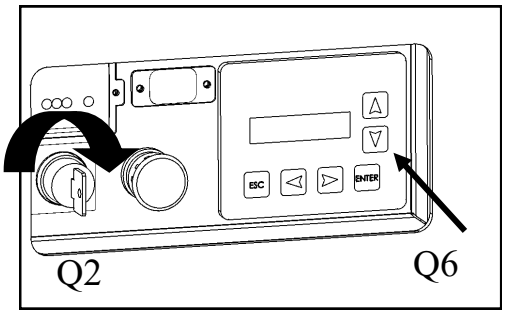
7.5.a
WARNING: CRUSHING HAZARD



When carrying out this activity the operator must make sure that no individuals, animals or objects are located in a 2-metre area and that no impediments are present above the cover (this is the area that the basket needs during the lowering stage).

7.5.b
The emergency descent can be done in two different ways:
a - operating the manual emergency descent lever.
b - with the button on the control panel

a - Simply pull the lever **By operating the manual emergency descent lever**. In this way the basket will begin to slowly descend.
- Release the lever once the descent phase is finished.



b - Position the key selector **Q2** on the right **by pressing the Q6 button** on the control panel
- Press the **Q6** Button to lower the basket.

7.5.c
Follow the procedure as descibed in section 7.4 Emergency shutdown.

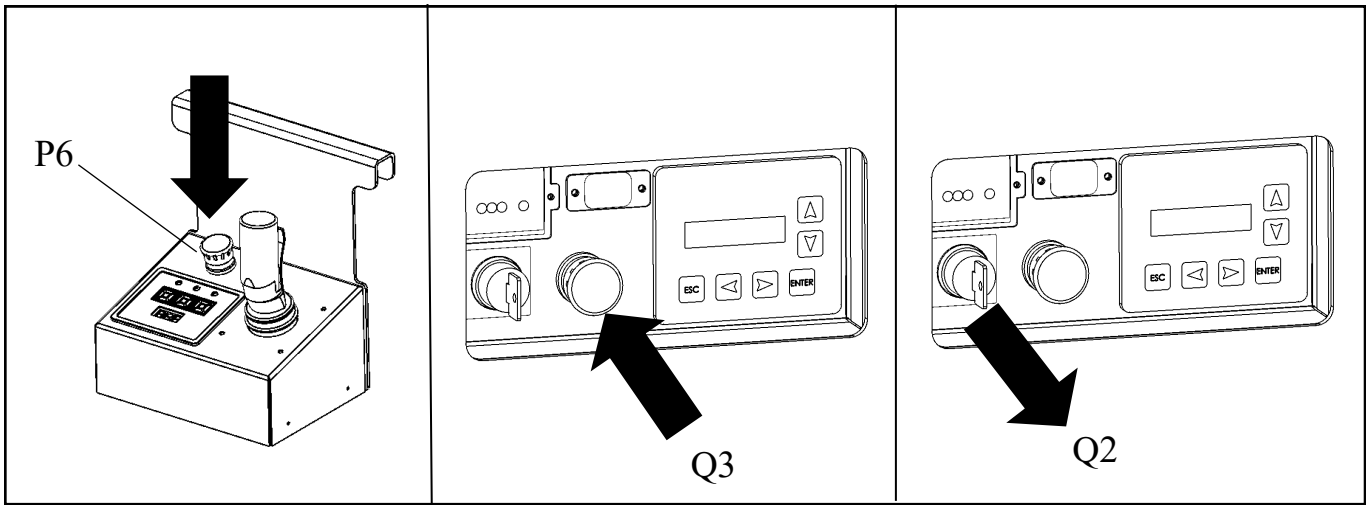
7.5.d
The emergency lowering procedure is finished.

8.1 CLEANING

8.1.a
As the Platform works in presence of dusts, it must be daily or whenever it would be necessary clean it.

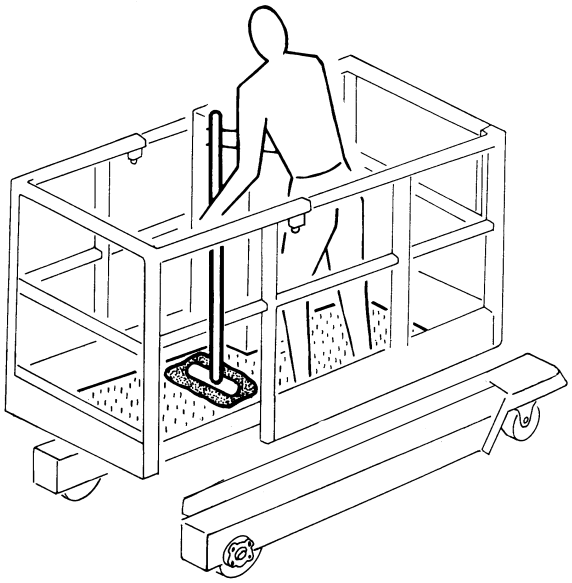
8.1.b
The person in charge with the cleaning must have read and well understood the safety prescriptions shown in this manual (Part 2).

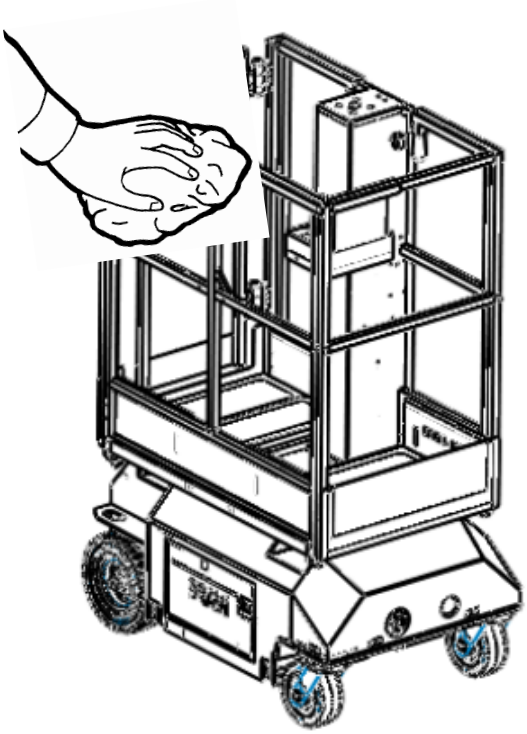
8.1.c
Before each cleaning operation bring the Platform to the Zero Power Condition.



8.1.d
With a cloth slightly dampened with water clean:
-the switchboards,
-the trampling surface of the Platform,
-the lifting/lowering operator zone.

8.1.e
The cleaning procedure is finished.





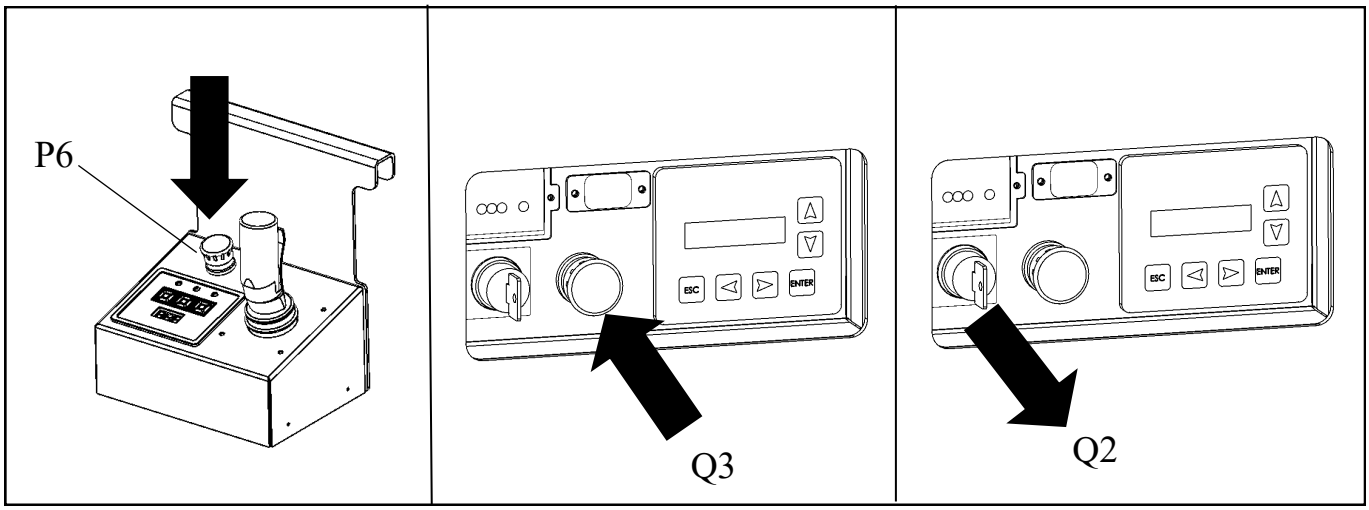
9.1 PREFACE AND GENERAL MAINTENANCE TIPS

9.1.a
Routine maintenance is the key to the economic and efficient operation of the Platform. Braviisol Mechanical Division srl has worked hard to increase reliability and simplify routine maintenance operations.
A minimal attention to the few routine maintenance operations required will be sufficient in order to guarantee an efficient performance of the Platform.

9.1.b
The person in charge with the maintenance must have read and well understood all the safety prescriptions shown in this manual as described in the Part 2 “Safety Prescriptions”).

9.1.c
The maintenance must be strictly carried out with the Platform in the **Zero Power Condition** (Part2 page 2. 16).

9.1.d
The maintenance operations must be strictly carried out only by a single qualified operator, unless where specified, NEVER BY MORE PEOPLE.



9.1.e
Warning Generic Risks
The maintenance operations must be carried out by qualified staff:

- who has read and well understood the safety prescriptions shown in this manual (see Part 2).
- who has the individual safety devices and use them when necessary
- must have on disposal clothes, suitable equipments and must wear and use them depending on the necessities and dangers.
- and with the Platform in the **Zero Power Condition**.

9.1.f
Each intervention not specified here below is to be considered as extraordinary maintenance.

9.1.g
Repairs, modifications, extraordinary maintenance operations other than the ones indicated below cannot be carried out without the prior written approval of the Manufacturer’s after-sales technical service.

9.1.h
Based on the specific situation, the Manufacturer will give his written approval (together with all the necessary instructions) or recommend the intervention of his own technical staff.

9.1.i
Such a cautious measure is necessary since incorrect or improper operations may cause functional anomalies, machine damages and personal injuries. The Manufacturer accepts no responsibility for the possible consequences of the aforementioned operations.

9.1.l
Besides they void the warranty and annul the EC declaration of original conformity.

9.1.m
Before resuming operation, check the entire system as indicated in the start procedures. (see Part 6).

9.1.n
Failure to comply with these precautions may cause machine damages and personal injuries.

9.1.o
Here below are shown the ordinary maintenance interventions.

9.2 - Safety positioning, lifted basket

9.2a - In case the basket cannot be electrically lifted
- For LUI WH 460. - LUI HD - LUI HD WD and LUI HD EL.

9.2b - In case the basket cannot be electrically lifted

9.3 - Caster wheel greasing

9.4 - Oil check and refill

9.5 - Battery terminals check

9.6 - Battery water level check

9.7 - Battery charge procedure

9.8 - Nuts, bolts and pins tightening Procedures

9.9 - Wiring check

.10 - Inspections

9.10a Frequent Inspection “Frequent Inspection Check List ”

9.10b Annual Inspection “Annual Inspection Check List ”

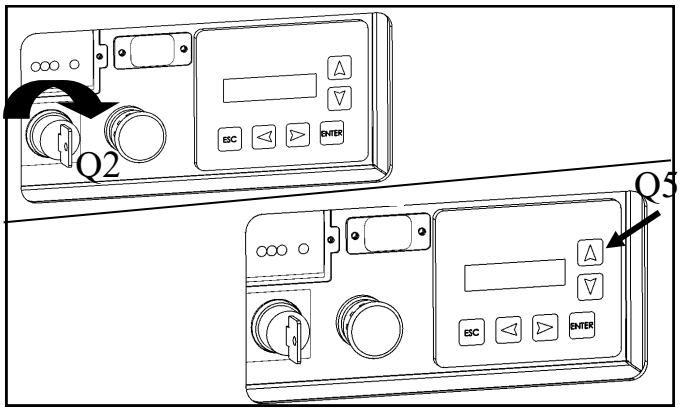
Here below is shown what you have to do in each one of these cases.

9.2 STANDARD SAFETY POSITION WITH LIFTED BASKET

This operation must be performed only when maintenance activities are required. The operator must use the ground control according to the following procedure:

9.2.1
Disabling all the Emergency buttons.

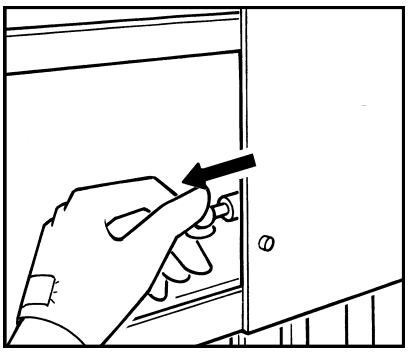
9.2.2
Select the Ground Station Mode turning the Keyswitch **Q2** to the right.



9.2.3
Press the Up Key **Q5** to lift the basket up to 1,5 mt.

9.2.4
Remove the base cover

9.2.5
Place your left hand under the outlet of the safety rod and simultaneously pull the bar release knob .



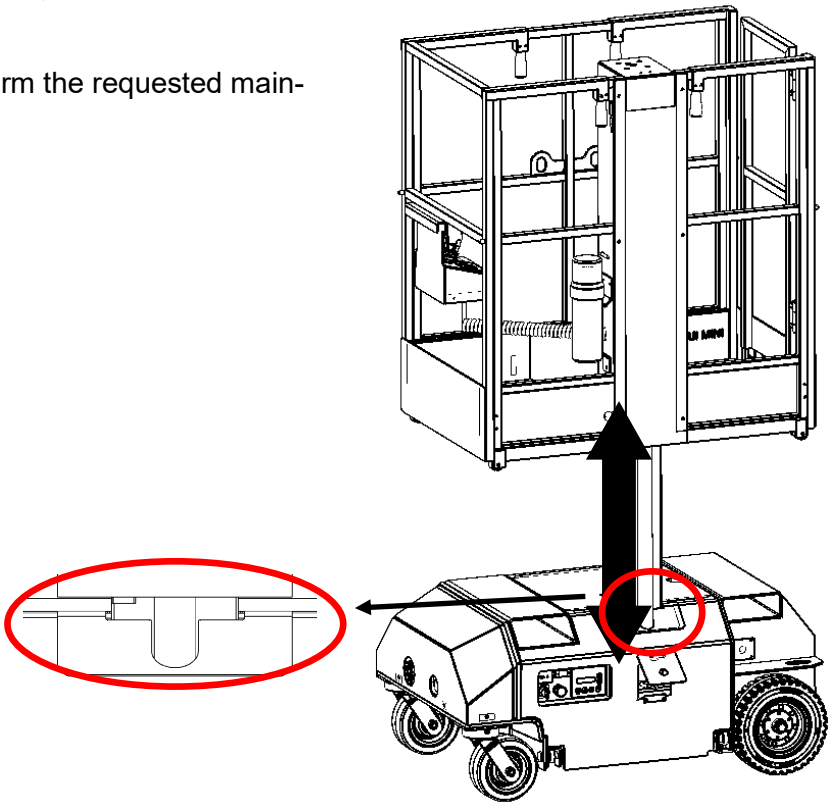
9.2.6
Use your hands to fully release the safety rod .

9.2.7
Press the Up or Down Keys **Q5 - Q6** to slowly move the basket until the edge of the safety bar touch the chassis.

9.2.8
Select the OFF Mode turning the Keyswitch **Q2** to the center and remove the key.

9.2.9
Press the Stop/Emergency Button **Q3**.

9.2.10
At this point it is possible to perform the requested maintenance operation .



9.2A THE BASKET CANNOT BE ELECTRICALLY LITED - FOR LUI WH 460 - LUI HD - LUI HD WD AND LUI HD EL

9.2a1
Bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

9.2a2
Take a forklift with a suitable capacity (See Chapter 3 “Specifications”).

9.2a3
Lift up with the forks the basket and take it slowly to a height of 1,5 meters.

9.2a4
Remove the covers.

9.2a5
Unhook and let totally go out the safety bar, you will hear a “CLICK”.

9.2a6
With the basket held by the forks of the forklift, lower the basket until the safety bar leans on the frame.

9.2a7
At this point it is possible to carry out the necessary maintenance operations.

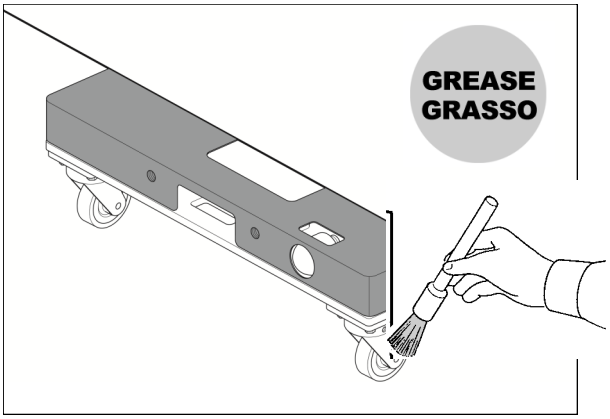
9.3 CASTER WHEEL GREASING

9.3.a
Six-monthly check and if necessary grease the caster wheels articulations with small quantities of grease as:
STRINGY COMMON GREASE

9.3.b
To proceed with this operation it is necessary to bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

9.3.c
Apply the grease on the swivel wheels joints by using a brush .

9.3.d
The caster wheel greasing procedure is finished.



9.4 OIL CHECK AND REFILL

99.4.a
Every three months check the oil level and, if necessary, fill it with mineral oil type: ROLOIL LI22 HIV.

9.4.b
To proceed with this operation it is necessary to bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

9.4.c
Remove:

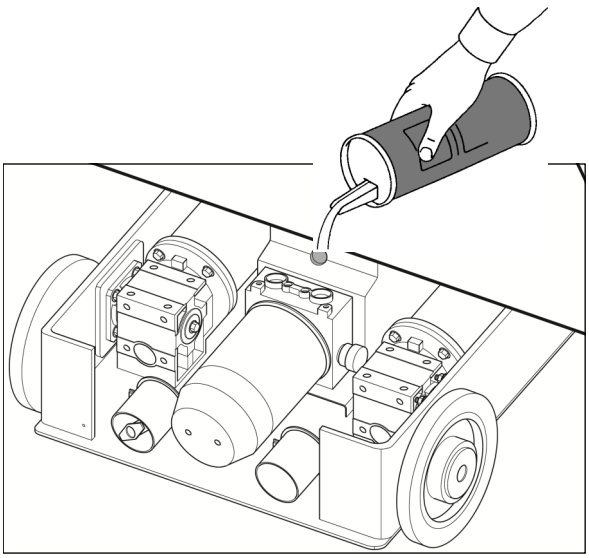
- For LUI HD - LUI HD WD - LUI HD EL. the front cover.
- For LUI WH 460 the central cover.

9.4.d
Remove the oil cap.

9.4.e
Fill up with mineral oil until reaching the proper level.

9.4.f
Repeat backward the operation described

9.4.g
The oil check and refill procedure is finished .

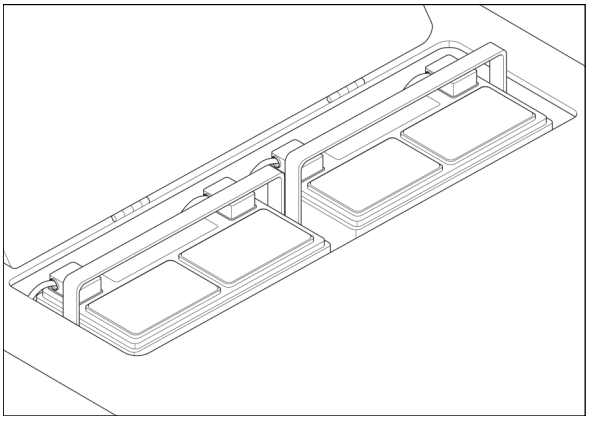


9.5 BATTERY TERMINALS CHECK

To proceed with this operation it is necessary to bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

9.5.a
The condition of the battery terminals must be checked every two months.

9.5.b
If the battery terminals are dirty or oxidized, perform the following actions:



9.5.c

- For LUI WH 460 - LUI HD - LUI HD WD - LUI HD EL open the hatch using the black pommel.

9.5.d
Loosen the nuts with a 10 mm screwdriver .

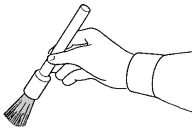
9.5.e
Disconnect the terminals and clean them with a cloth slightly soaked in water.
If the oxide layer is high, remove the surface layer with a brush .

9.5.f
Dry them thoroughly.

9.5.g
Place them back paying attention to the position of the positive and negative poles. Then tighten them.

9.5.h
Cover the terminals with protective contact lubricant (such as pharmaceutical petroleum jelly based lubricant), and then reconnect them .

9.5.i
Tighten the nuts with a 10 mm screwdriver .

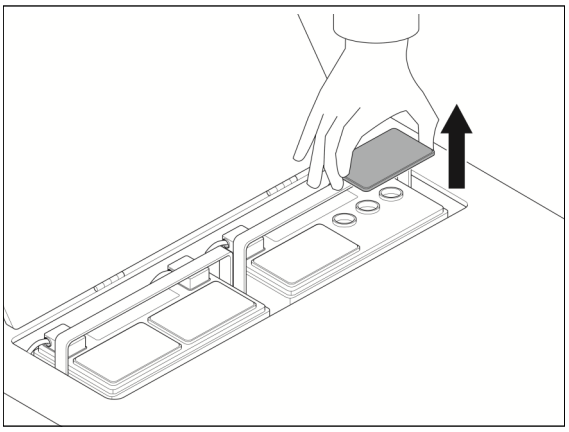


9.5.l
Place and/or close again the cover.

9.5.m
The battery terminals check procedure is finished.

9.6 BATTERY WATER LEVEL CHECK

9.6.a
Bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).



9.6.b
The battery water level must be checked every 4 working days or before recharging the battery.

9.6.c
It is possible to check the water level by removing the hood.

- For LUI WH 460 - LUI HD - LUI HD WD - LUI HD EL open the hatch using the black pommel.

9.6.d
Remove the battery covers and make sure that the water level is above the plates of the internal parts for at least 5mm; if necessary, restore the level with demineralized water.

9.6.e Warning
As during the charge part of the water evaporates it is necessary to check again after 30 minutes of work.

9.6.f
Perform standard operations with the machine for 30 minutes and perform this procedure another time to achieve the required water level

9.6.g
For the right maintenance of the battery please refer to the relative user manual .

9.6.h
Warning explosion hazard
Acid traction batteries generate explosive gases. Always keep flames or sparks away from batteries; you must not smoke near the batteries during charging.

9.6.i
Replace the plastic cover on the batteries.

9.6.l
Place and/or close again the cover of the machine.

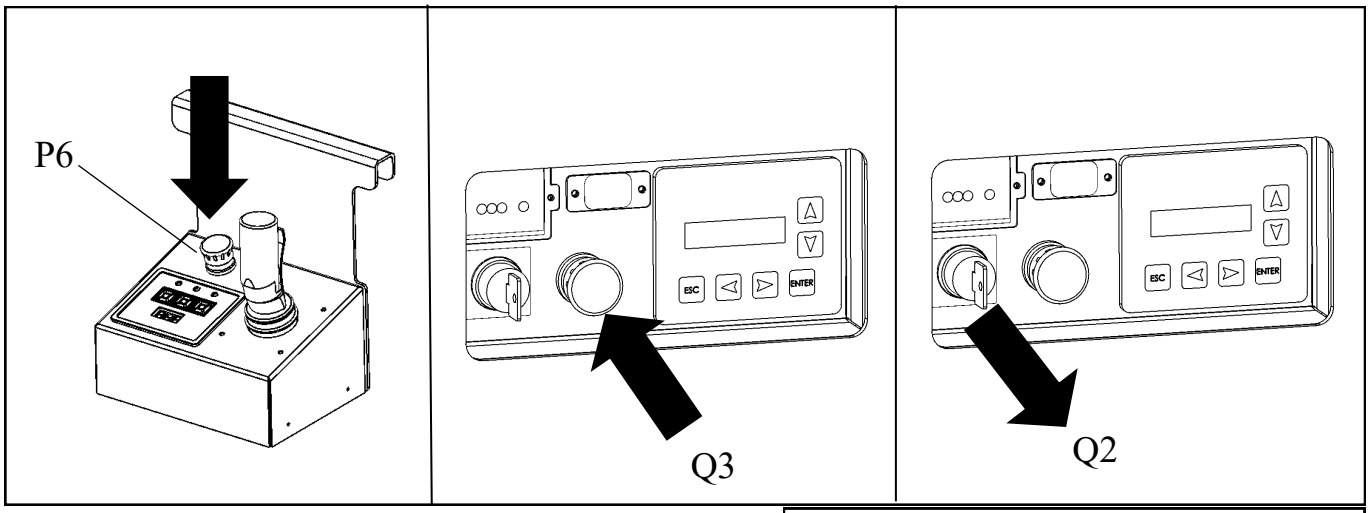
9.6.m
The battery water level check is finished.

9.7 BATTERY CHARGE PROCEDURE

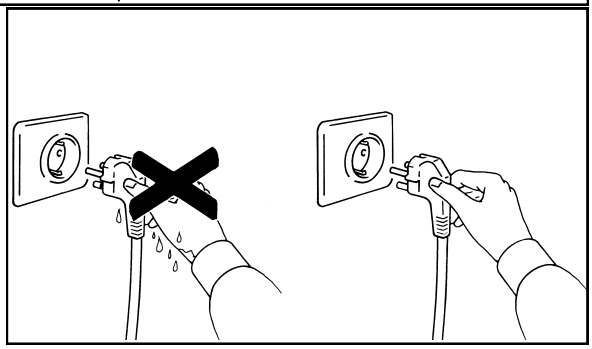
9.7.a
Bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

9.7.b
Warning – Battery check and recharge
The full charge of the batteries must be done:
-After the daily use
-After a long work stoppage of the Platform
-And at least once every 7 days.

9.7.c
To have the batteries charged do as follows:

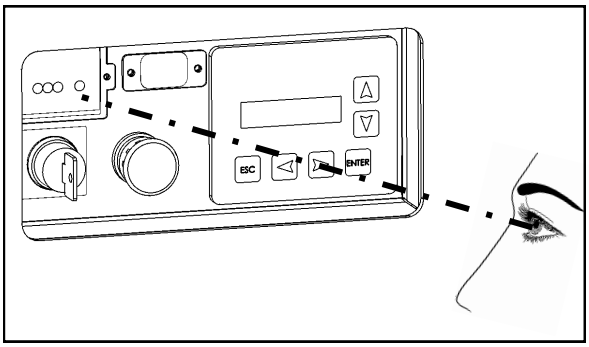


9.7.d
Bring the Platform to the **Zero Power Condition** .



9.7.e
Connect the appropriate cable into the socket.

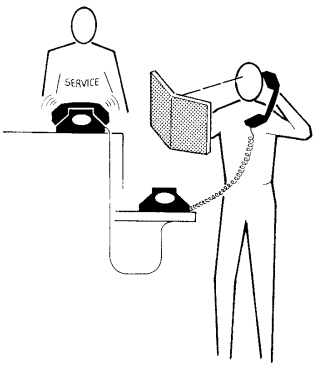
9.7.f
The batteries charge is finished when the Battery Charge signal **Q7** (green LED on) shows that the batteries are charged.



9.7.g
Once have the batteries charged, disconnect the cable.

9.7.h
Once have the batteries charged, disconnect the cable.

9.8 NUTS, BOLTS AND PINS TIGHTENING PROCEDURE



9.8.a
Bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

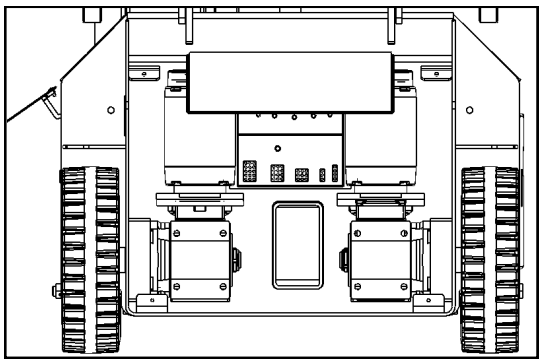
9.8.b
The operator must check once a month nuts and bolts and pins and, if it necessary, must call for the technical assistance which will carry out the necessary maintenance.

In any case, once a year he must call for the technical assistance which will check and carry out the maintenance of the nuts and bolts and pins of all the Platform.

Do not forget that all the operations must be carried out only and strictly by maintenance technicians authorized by Braviisol Divisione Meccanica srl and who have followed a training course in the authorized assistance centers.

9.9 WIRING CHECK

9.9.a
These operations must be carried out every two months. To carry out the visual check of the cables do as follows.

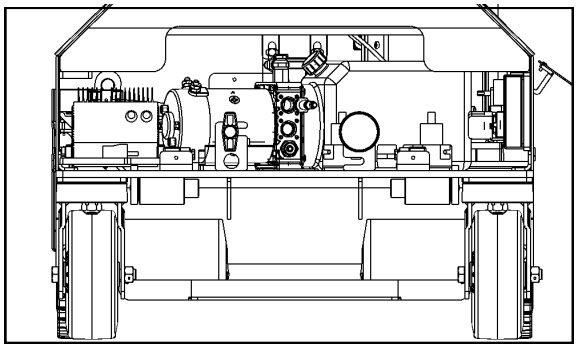


9.9.b
:The operator must:
-wear work clothes, in particular gloves,
-have read and well understood the safety prescriptions shown in the Part 2 of this manual,
-bring the Platform to the **Zero Power Condition** (Part 2 page 2.16).

9.9.c
Remove all the covers.

9.9.d
Check the wear and tear state of the cables.

9.9.e
If it is necessary to replace them, please call for the technical service which will provide with the replacement.



9.9.f
The wiring check procedure is finished.

9.10 INSPECTION - Introduction

The user/operator should not accept operating responsibility until the Manual has been read and fully understood as well as having operated the lift under supervision of an experienced and qualified operator.

Only trained and authorized personnel shall be permitted to operate this machine.

This manual and its attachments should be considered integrant part of this machine and should remain with the machine all the time.

As the manufacturer has no direct control over utilisation and application of this machine proper safety practice are responsibility of the user and operating personnel, it is the responsibility of the operator to perform a pre-start inspection and routine maintenance.

9.10a FREQUENT INSPECTION - FREQUENT INSPECTION CHECK LIST

WARNING
THIS INSPECTION MUST BE COMPLETED EVERY 3 MONTHS OF SERVICE OR 150 HOURS, WHICHEVER OCCURS FIRST, OR IF A MACHINE HAS BEEN OUT OF SERVICE FOR GREATER THAN 3 MONTHS. FAILURE TO DO SO COULD RESULT IN DEATH OR SERIOUS INJURY.

Owner or user is responsible for Frequent inspections
The inspection must be performed by a qualified technician, qualified as a mechanic, trained on the use and maintenance of this specific make and model of aerial work platform.
Always keep inspection records up-to-date
Record and report all discrepancies and anomalies to your supervisor.

FREQUENT INSPECTION CHECK LIST

MODEL _____

SERIAL NUMBER _____

YEAR OF CONSTRUCTION _____

	DESCRIPTION
_____	1. Perform all checks listed on Pre-start Inspection
_____	2. Check the oil level and status - be sure that the oil has a clear light colour.
_____	3. Check the entire machine for signs of damage, broken welds, loose bolt, improper or makeshift repairs
_____	4. Check that all adjustable flow valves are locked
_____	5. Check that the basket with a full load does not lower
_____	6. Inspect the motor and motor brushes
_____	7. Check the electrical components and wires for any damaged or oxidized part.
_____	8. Check the demineralised water level in the batteries

DATE _____ SIGNATURE _____ INSPECTED BY _____

9.10b ANNUAL INSPECTION - ANNUAL INSPECTION CHECK LIST - FORM B

WARNING
THIS INSPECTION MUST BE COMPLETED NO LATER THAN 13 MONTHS FROM THE DATE OF THE PRIOR ANNUAL INSPECTION. FAILURE TO PERFORM THIS INSPECTION COULD RESULT IN DEATH OR SERIOUS INJURY.

Owner or user is responsible for Frequent inspections
The inspection must be performed by a qualified technician, qualified as a mechanic, trained on the use and maintenance of this specific make and model of aerial work platform.
Always keep inspection records up-to-date

Date:
Serial Number:
Model:
Date last inspection :
Date placed into Service

Customer:
Address:
City/State/ZIP code:
Phone:
Contact Name:

Record and report all discrepancies and anomalies to your supervisor.

Dealer:
Address:
City/State/ZIP code:
Phone:
Contact Name:

DECAL	
Legibility	
Loading Capacity clearly marked	
Correct Position	
Quantity	
PLATFORM RAILS	**PLATFORM RAILS**
Entry Gate closes properly	
Weather Resistant container for Manuals on board the machine	
Manuals into the container	
Proper Weld— no signs of corrosion or damage	
PLATFORM EXTENSION	**PLATFORM EXTENSION**
Sliding smoothly and easy	
Teflon sliding wheels entire and not damaged	
Bolt and washers	
ELEVATING SYSTEM	**ELEVATING SYSTEM**
Mast structure	
Lifting movement and speed	
Noise while lifting/Lowering	
Spiral cable passing through the steel tube	
SAFETY MAINTENANCE BAR	**SAFETY MAINTE-NANCE BAR**
Functioning	
Stability	

ELECTRICAL COMPONENTS	
Ground Module Functioning	
Connectors	
Wires	
Joystick Functioning	
Spiral cable	
Batteries Integrity	
Batteries proper Functioning	
Battery Charger Functioning	
EMERGENCY STOP	
Break all circuit	
CHASSIS	
Bolts tight	
Chassis Proper Weld— no signs of corrosion or damage	
Drive Shaft Fastened	
Front Turning Wheels Secured	
Load bearings	

ANNUAL INSPECTION CHECK LIST - FORM B

10.1 TROUBLESHOOTING AND ERROR CODES (ZAPI) MODEL LUI WH 460

TYPE W=warning A=allarm	CO-DE		DESCRIPTION
W	66	BATTERY LOW	Battery low voltage
W	228	TILLER OPEN	The truck is in standby when the tiller switch remains open for more than 30 seconds
W	247	DATA ACQUISITION	The maximum current calibration procedure is in progress
W	249	CHECK UP NEEDED	Maintenance is required
A	8	WATCHDOG	Sound alarm due to a hardware or software problem
A	221	FLASH CHECKSUM	The software is corrupt or the inverter flash is damaged
A	231	WATCHDOG#2	Hardware or software problems
A	212	WRONG RAM	RAM microcontroller is corrupted
A	17	LOGIC FAILURE #3	Damage in the hardware high current protection circuit
A	225	CURRENT SENS. KO	Damaged current sensor
A	244	PHASE KO	One of the motor phases is open
A	28	PUMP VMN LOW	Pump output too low compared to the power input
A	29	PUMP VMN HIGH	Pump output too high compared to the power input
A	31	VMN HIGH	Motor output voltage too high
A	254	AUX DRIV SHRT	EB Mosfet in short circuit
A	251	WRONG BATTERY	Battery voltage is too high or too low (< 0,8 Vbatt OR > 1,2 Vbatt)
A	246	AUX DRIV.OPEN	EB coil driver damaged (cannot close)
A	239	EVP2 NOT OK	Evp2 driver in short circuit
A	240	EVP1 NOT OK	Evp1 driver in short circuit
W	241	LIFT + LOWER	Double command request
A	214	EVP1 COIL OPEN	Evp1 coil not connected between Paux and NEVP1 output, the EVP TYPE parameter in the menu is set to Analog or Digital
A	215	EVP2 COIL OPEN	Evp2 coil not connected between Paux and NEVP1 output, the EVP TYPE parameter in the menu is set to Analog or Digital
W	52	PUMP I=0 EVER	Current in pump always 0
A	53	STBY I HIGH	The return of the current exceeds the limits set in standby
A	252	WRONG ZERO	Voltage output from amplifiers too high or too low
A	19	LOGIC FAILURE #1	Overvoltage/undervoltage
A	18	LOGIC FAILURE #2	Motor return circuit damaged
W	217	PUMP I NO ZERO	The current in the pump has irregular values
A	197	VMN NOT OK	Voltage in the traction motor different from the set value by more than 20%
A	60	CAPACITOR CHARGE	Condensers fail to charge
W	250	THERMIC SENS. KO	Thermal sensor beyond the allowed values
W	62	TH. PROTECTION	The controller has reached the cutting temperature 85° C
W	65	MOTOR TEMPERAT.	Battery <= 10% when the BATTERY CHECK parameter is set > 0
A	206	TRUCK DISABLED	Machine connected to the power grid

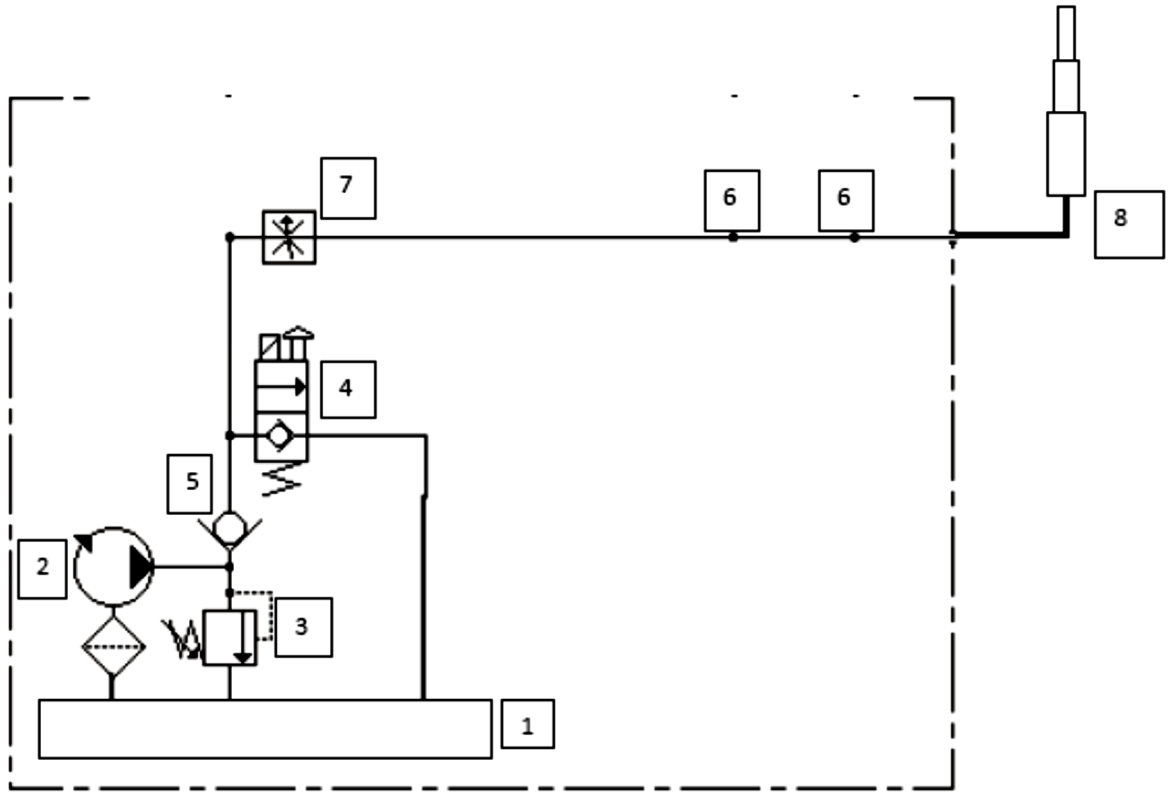
W	218	SENS MOT TEMP KO	Motor temperature sensor out of order
A	248	NO CAN MSG.	The motor does not receive the CAN message from the display or from TILLER
A	222	SMARTDRIVER KO	The board does not provide positive EB
W	224	WAITING FOR NODE	Canbus node in alarm
A	69	CURRENT SENS.KO	Current measured in standby higher than expected
W	13	EEPROM KO	Eeprom error
A	30	VMN LOW	Motor output voltage lower than expected
A	74	DRIVER SHORTED	LC coil driver in short circuit or disconnected
A	213	AUX BATT. SHORT.	When the AUX + is controlled by the tiller, the positive is high and the tiller is updated again
A	234	DRV. SHOR. EV	EV in short circuit
A	37	CONTACTOR DRIVER	Main contact closed
A	75	CONTACTOR DRIVER	LC contact blocked
A	232	CONT. DRV. EV	Valve contactor driver
A	220	KEY OFF SHORTED	Low key-off
A	223	COIL SHOR. MC-EB	Short circuit in LC or EB
W	235	COIL SHOR. EV.	EV in short circuit
A	38	CONTACTOR OPEN	LC not closed
A	208	TILLER ERROR	Different inputs between hard & soft switch and tiller
W	78	VACC NOT OK	Accelerator value too high, direction/enable switch open.
W	79	INCORRECT START	Wrong starting sequence
W	242	PUMP INC START	Wrong pump drive
W	80	FORW + BACK	Two directions active simultaneously
A	230	EMERGENCY	PAUX connector not connected to the battery or different voltage
A	229	POS. EB. SHORTED	High board output when tiller is open
A	233	POWER MOS SHORT	Mosfet power in short circuit
W	245	PUMP VACC NOT OK	High Vacc for the pump
A	236	CURRENT GAIN	The overcurrent gains have not been calibrated
W	200	KEY ON INC.ST. P	Update the pump request when the key is turned
W	201	KEY ON INC.ST. T	Update the drive request when the key is turned
A	237	ANALOG INPUT	Problem in the A/D conversion of C
W	219	DEAD MAN ABSENT	With "Positive EB" parameters at level 2 in the "HW setting" menu and "Deadman" input
A	195	TILTED	Inclinometer
A	196	OVERLOAD	Overload
A	84	STEER SENSOR KO	Driving controls malfunction

10.2 Troubleshooting and error code (TRIONIC) MODEL LUI HD - LUI HD WD - LUI HD EL

MOST COMMON ERRORS	ERROR CODE
LOW BATTERY	FLASH BCI when at LOW BATTERY
DEAD BATTERY	FLASH BAT on CAN DISPLAY
BATTERY CHARGING	FLASH `2-3
BRAKES Manually Released	FLASH`8-2
Trigger Fault	FLASH`2-4
Footswitch Fault	FLASH`2-5
Drive Joystick Fault	FLASH`2-6
Steer Joystick Fault	FLASH `2-7
OVERLOAD	FLASH `2-8
TILT	FLASH `2-9 when elevated
ELEVATION SWITCH	FLASH `6.3

DECRIPTION	ERROR CODE
FAULT: BAD P/N	1,1
NOT CALIBRATED	1,1
HEIGHT NOT CALIBRATED	1,1
FUNCTIONS LOCKED - NOT CALIBRATED	1,1
FUNCTIONS LOCKED - TEST MODE SELECTED	2,2
FUNCTIONS LOCKED - POTHOLE	2,2
FUNCTIONS LOCKED - ARMGUARD	2,2
FUNCTIONS LOCKED - OVERLOADED	2,2
FUNCTIONS LOCKED - UNDERLOADED	2,2
FUNCTIONS LOCKED - TOO HIGH	2,2
FUNCTIONS LOCKED - TILTED	2,2
FUNCTIONS LOCKED - EXTERNAL SHUTDOWN	2,2
DRIVE LOCKED - CANNOT STEER	2,2
CHECK GROUND INPUT SWITCHES	2,2
CHECK DRIVE/LIFT SELECT SWITCH	2,2
CHECK JOYSTICK	2,2
RELEASE TRIGGER	2,2
RELEASE GROUND SWITCHES	2,2
RELEASE ROTATE SWITCHES	2,2
RELEASE JOYSTICK SWITCHES	2,2
SHUTDOWN - CHECK EMS SWITCHES	2,1
FAULT: ENERGIZED VALVE - CHECK P9 WIRING	3,2
FAULT: BAD INTERNAL SAFETY OUTPUT	3,4
DRIVE LOCKED - BRAKING	3,4
MOTOR OVERLOAD	3,4
FAULT: CAPBANK VOLTAGE TOO HIGH - CHECK LINE CONT	3,3
FAULT: VALVE FEEDBACK HIGH - CHECK VALVE WIRING	3,2
FUNCTIONS LOCKED - BATTERY	4,4
FAULT: BAD INTERNAL 12V	4,3
FAULT: BAD 5V JOYSTICK SUPPLY - CHECK P15-12 WIRING	4,5
FAULT: BAD INTERNAL 5V	4,2
FAULT: BAD TILT SENSOR	4,2
FAULT: BAD INTERNAL SLAVE	4,2
FUNCTIONS LOCKED - TOO HOT	4,2
FAULT: BATTERY VOLTAGE TOO LOW	4,4
FAULT: BATTERY VOLTAGE TOO HIGH	4,4
FAULT: CHECK ELEVATION SWITCH	6,3
FAULT: CAN BUS	6,6
FAULT: MOTOR A SHORT TO HIGH	7,2
FAULT: MOTOR A SHORT TO LOW	7,3
FAULT: MOTOR B SHORT TO HIGH	7,4
FAULT: MOTOR B SHORT TO LOW	7,6
FAULT: MOTOR CONNECTIONS SHORTED	7,5
FAULT: CAPBANK VOLTAGE TOO LOW - CHECK STUD WIRING	7,7
DRIVE LOCKED - CHECK FIELD CURRENT	7,7
B+ SUPPLY ERROR	9,9
BRAKES MANUALLY RELEASED	8,2

11.2 HYDRAULIC DIAGRAM - LUI WH 460

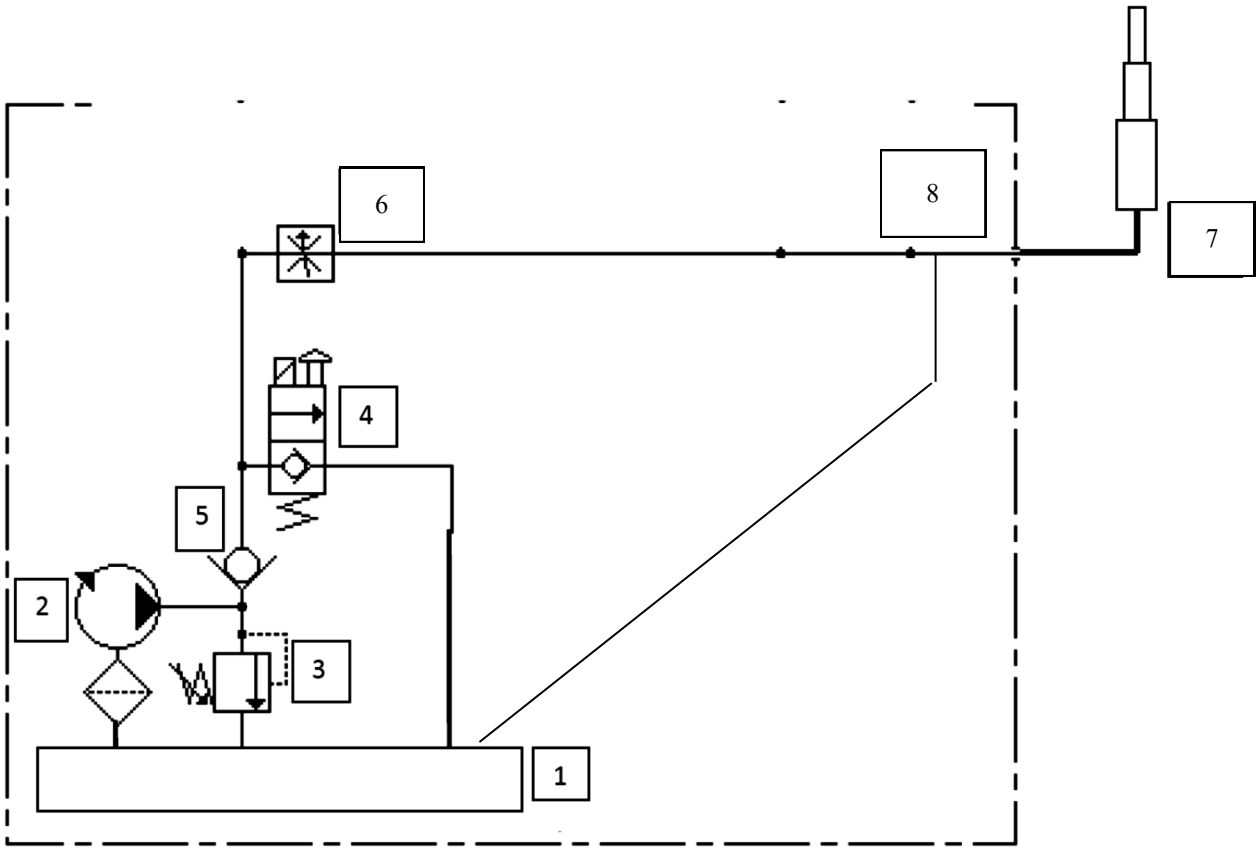


1 Oil tank
2 Electric pump
3 Unlock valve (loading capacity)
4 Block solenoid
5 One- way valve
6 plug
7 Flow- rate control valve
8 Single-acting telescopic cylinder

1 - Serbatoio
2 - Pompa elettrica
3 - Valvola di massima
4 - Elettrovalvola di blocco
5 - Valvola unidirezionale
6 - Tappo
7 - Valvola di controllo portata
8 - Cilindro telescopico

DISEGNO n° 001.2009.0930	DRAWING n° 001.2009.0930
Data 30.09.2009	Date 30.09.2009

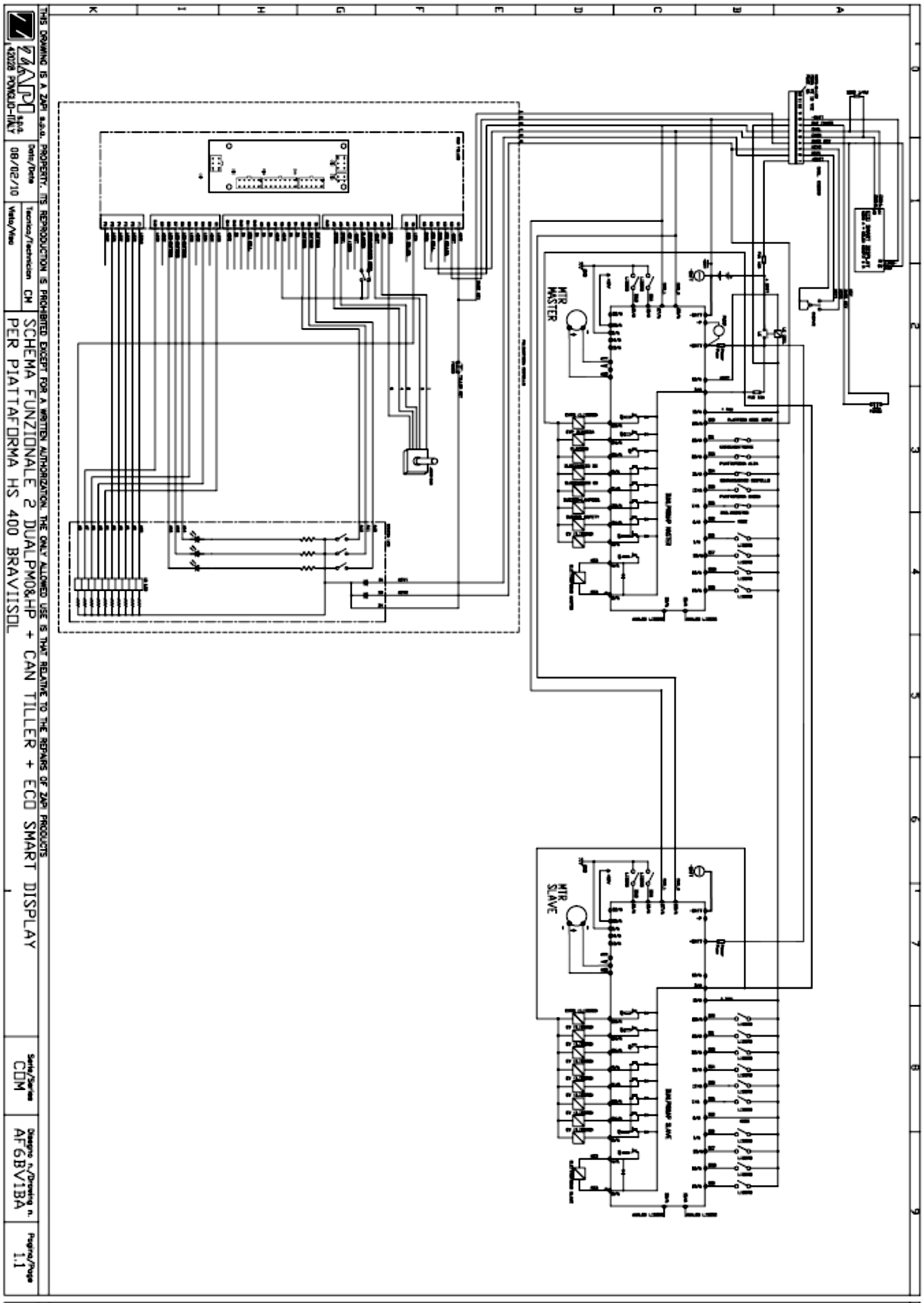
11.3 HYDRAULIC DIAGRAM LUI HD - LUI HD WD - LUI HD EL



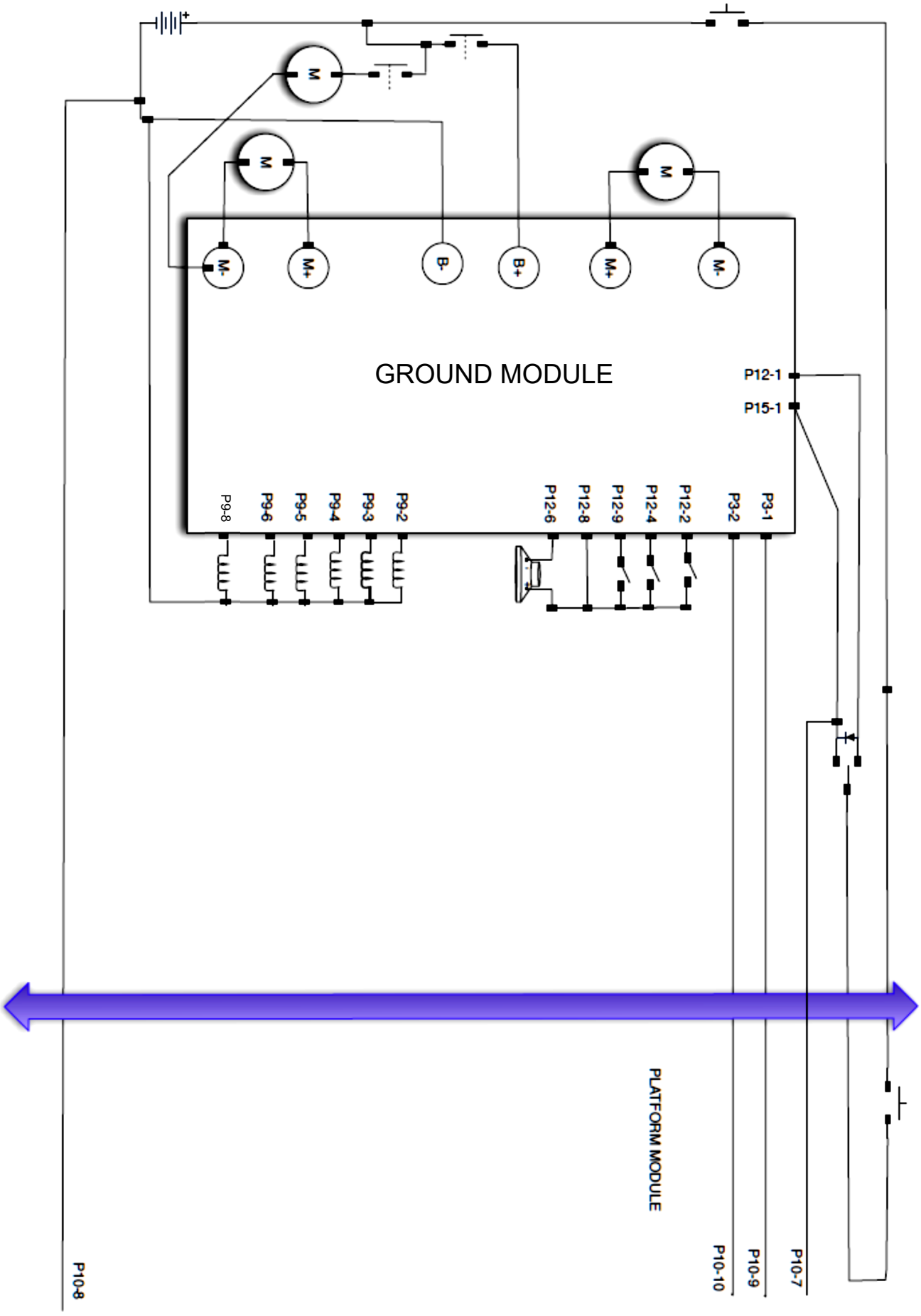
1 Serbatoio	Oil tank
2 Elettropompa	Motor pump
3 Valvola di massima	Unlock valve(loading capacity)
4 Elettrovalvola di blocco	Block solenoid
5 Valvola unidirezionale	One way valve
6 Valvola di controllo portata	Flow rate control valve
7 Cilindro telescopico	Telescopic cylinder
8 Pompa a mano	Hand pump

DISEGNO n° 001.2010.1010	DRAWING n° 001.2010.1010
Data 10.10.2010	Date 10.10.2010

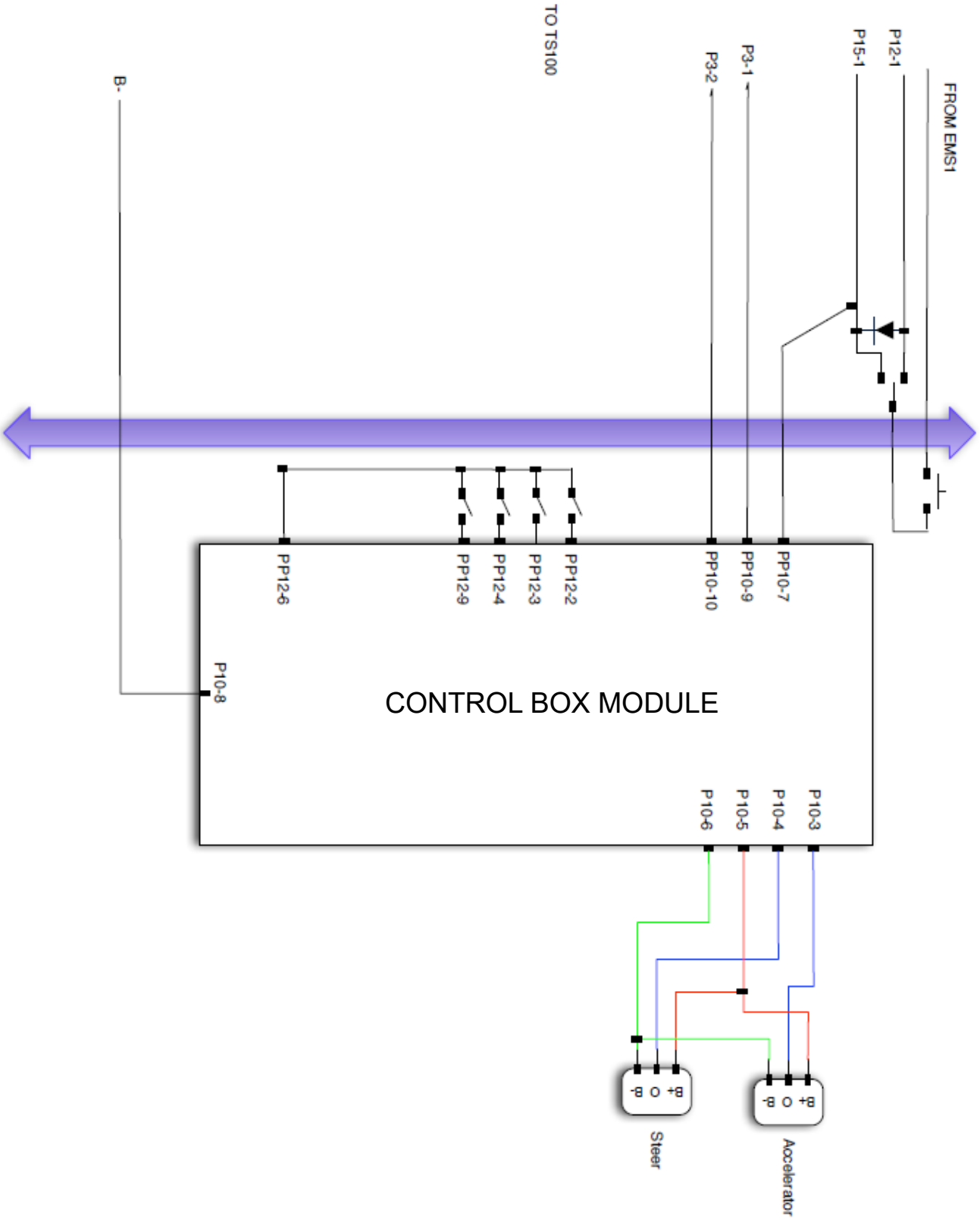
11.5 ELECTRIC DIAGRAM - LUI MINI WH 460



11.7 ELECTRIC DIAGRAM (TRIONIC)
LUI HD - LUI HD WD - LUI HD EL



TS100 PIN	DESCRIPTION	INPUT
PCAN-1	CAN1H	TO CAN DISPLAY MODULE (Plat)
PCAN-2	CAN1L	TO CAN DISPLAY MODULE (Plat)
PCAN-3	Shield	
PRS232-1	RS232 B+ supply	
PRS232-2	RS232 Rx	to DIAGNOSTIC CENTER
PRS232-3	RS232 Tx	to DIAGNSOTIC CENTER
PRS232-4	RS232 Gnd	
P9-1	PWM High side output (B+ when active)	
P9-2	PWM High side output (B+ when active)	DOWN VALVE
P9-3	High side output (B+ when active)	Brake
P9-4	High side output (B+ when active)	Pump contactor
P9-5	High side output (B+ when active)	*Drive contactor*
P9-6	High side output (B+ when active)	*CASTOR LOCK*
P9-7	High side output (B+ when active)	
P9-8	switch input (B+=active)	POT HOLE (Optional)
P9-9	High side output (B+ when active)	
P12-1	switch input (B+=active)	GND select/supply
P12-2	switch input/Low side sw	Battery Cutout
P12-3	switch input/Low side sw	
P12-4	switch input (B+=active)	
P12-5	switch input (B+=active)	
P12-6	Low side sw. 1.7A min.	GND Alarm
P12-7	Analog Input	
P12-8	B+ feed	B+ supply for sensors/switches
P12-9	switch input (B+=active)	ELEVATION SWITCH
P12-10	Analog Input	
P12-11	Analog Input	
P12-12	Analog Input	
P15-1	switch input (B+=active)	PLATFORM MODE
P15-2	switch input (B+=active)	
P15-3	switch input (B+=active)	
P15-4	Low side sw. 1.7A min.	
P15-5	switch input (B+=active)	
P15-6	switch input (B+=active)	
P15-7	Low side sw. 1.7A min.	
P15-8	switch input (B+=active)	
P15-9	switch input (B+=active)	
P15-10	Low side sw. 1.7A min.	
P15-11	switch input (B+=active)	
P15-12	5V (low current, for sensors only)	
P15-13	Analog Input	
P15-14	Analog Input	
P15-15	0V (low current, for sensors only)	


B-
TO TS100
P3-2
P3-1
P15-1
P12-1
FROM EMS1
PP12-6
PP12-9
PP12-4
PP12-3
PP12-2
PP10-10
PP10-9
PP10-7
P10-8
CONTROL BOX MODULE
P10-6
P10-5
P10-4
P10-3
B+ O B-
B+ O B-
Steer
Accelerator

CAN TILLER	DESCRIPTION	INPUT
P10-1	out 1	TILT ALARM
P10-2	out 2	OVERLOAD ALARM
P10-3	ana 1	HALL A/B (Drive FWD/REV)
P10-4	ana 2	HALL C/D (STEER LEFT/RIGHT)
P10-5	5V for ana	5V for Joystick
P10-6	neg for ana	Neg For Joystick
P10-7	B+ supply in	FROM P15-1
P10-8	B- supply in	FROM B-
P10-9	CAN H	FROM P3-1 of TS100
P10-10	CAN L	FROM P3-2 of TS100
12 positions		
P12-1	digital input 1	
P12-2	digital input 2	Horn (Optional)
P12-3	digital input 3	Trigger Switch
P12-4	digital input 4	Overload(Optional)
P12-5	out 3	
P12-6	Sw. B+supply	
P12-7	digital input 5	
P12-8	digital input 6	
P12-9	digital input 7	Slow Speed
P12-10	digital input 8	
P12-11	digital input 9	
P12-12	digital input 10	

FREQUENT INSPECTION CHECK LIST

MODEL _____

SERIAL NUMBER _____

YEAR OF CONSTRUCTION _____

DESCRIPTION

_____ 1. Verification of the controls detailed in the pre-start list.

_____ 2. Check oil level and appearance (light brown).

_____ 3. Complete verification of the Platform to check for cracks on welds, damaged parts, bolt tightening, improper or unauthorized repairs.

_____ 4. Check of all flow valves: check for hydraulic leaks

_____ 5. Check that the fully loaded basket does not tend to descend

_____ 6. Motor check: check of the sliding brushes

_____ 7. Check of electrical components and wiring for any damage or oxidized parts.

_____ 8. Check of the distilled water level in the batteries

DATE _____ SIGNATURE _____ INSPECTED BY _____

ANNUAL INSPECTION CHECK LIST - FORM B

Date:
Serial Number:
Model:
Date last inspection :
Date placed into Service

Customer:
Address:
City/State/ZIP code:
Phone:
Contact Name:

Dealer:
Address:
City/State/ZIP code:
Phone:
Contact Name:

DECALCOMANIA	
LEGIBILITY	
LOAD CAPACITY CLEARLY HIGHLIGHTED	
PLATFORM BASKET	
THE ACCESS GATE CLOSES CORRECTLY	
MANUAL DOCUMENT HOLDER ON THE PLATFORM	
MANUAL	
WELDS - NO SIGNS OF CORROSION OR DAMAGE	
BASKET EXTENSIONS	
CHECK SLIDING	
TEFLON SLIDING WHEELS INTACT AND UNDAMAGED	
BOLTS AND WASHERS	
LIFTING SYSTEM	
CHECK COLUMN INTEGRITY	
MOVEMENT AND LIFTING SPEED	
NOISE DURING LIFTING/LOWERING	
SPIRAL CABLE-INTEGRITY CHECK	
SAFETY MAINTENANCE BAR	
OPERATION	
CHECK WEAR/DAMAGE	

ELECTRICAL COMPONENTS	
GROUND MODULE OPERATION	
CONNECTORS	
CABLES	
JOYSTICK AND BUTTON PANEL OPERATION	
SPIRAL CABLE	
BATTERY INTEGRITY	
CORRECT OPERATION OF BATTERIES	
BATTERY CHARGER OPERATION	
EMERGENCY STOP	
CHECK THE INTERRUPTION OF THE WHOLE CIRCUIT	
PLATFORM FRAME	
BOLTS TIGHTENING	
WELDS - NO SIGNS OF CORROSION OR DAMAGE	
MOTOR SHAFT - NO SIGNS OF CORROSION OR DAMAGE	
FRONT AND TRACTION SWIVEL WHEELS: NO SIGNS OF CORROSION/ WEAR OR DAMAGE	
LOAD BEARINGS	
TEFLON SLIDING WHEELS INTACT AND UNDAMAGED	

ANNEX 1

EXTRA EQUIPMENT

All the Aerial Platforms showed in this Manual can have dedicated extra equipment that can be installed only if supplied by Braviisol D.M. srl. or its approval.
Extra equipment can be used only if the User has read and understood his responsibilities shown in this manual and in the extra equipment User Manual supplied with each device.
The intended use of any extra device need to be clearly understood before using it.
For extra equipment detailed spec. please contact Braviisol D.M. srl.

ANNEX 2

Wheel lock device:

It is the device (P1) described in part 5 - Control panel of this user manual.
The wheel lock is enabled by moving the selector to the right or by pressing the corresponding button, allowing the vehicle to be driven only towards a straight line, both from and towards the other.

LED ON indicates that the Wheel Blocking device has been activated.
LED OFF indicates that the Wheel Blocking device is deactivated allowing, therefore, to drive the vehicle in any direction.

WARNING:
When Wheel Blocking device is on, fixation of the front wheels will only be actual and effective after the wheels have reached a straight-forward or straight-backward position, so that the locking pins have engaged in on both caster supports and locked them.

If the wheels are not in a straight position when the Wheel Blocking device is activated, drive forwards or backwards sufficiently, so that the front wheels reach the correct straight position. Check that the Wheel Blocking device is actually started, before proceeding to the next steps. A visual inspection and the slow movement of the joystick left or right will instantly indicate if the block is effectively activated or not.

BRAVIISOL Divisione Meccanica S.r.l.
S.S. 16 Adriatica km. 314,600
60022 Castelfidardo (AN)

Tel. 071.7819090
Fax 071.7819355

E-mail: info@bravi-platforms.com
Website: www.bravi-platforms.com
Spare parts: www.bravi-parts.com