



ENGLISH

Translation of the original language version

# **GREEN CLIMBER**

EN

## **LV300 Pro**

### **OPERATIONS AND MAINTENANCE MANUAL**



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AZIENDA CON SISTEMA DI GESTIONE QUALITÀ CERTIFICATA DA DNV GL ISO 9001:2015



Manual Version Rev.  
03 of 04/11/2020

# IMPORTANT SAFETY INFORMATION

Most of the accidents that occur during the use, maintenance and repair of the product are caused by failure to comply with the rules or basic safety precautions. An accident can always be avoided by recognising potentially dangerous situations in advance. Operators must pay attention to potential dangers. They must also have the necessary training, skills and tools to carry out these activities correctly.

Improper use, lubrication, maintenance or repair of this product can be dangerous and cause injury or death.

Use or carry out lubrication, maintenance or repair on this product only after reading and understanding the information regarding its operation, lubrication, maintenance and repair.

This manual and the product contain safety precautions and warnings. Personal injury or death to the user or other persons may occur if these danger warnings are not taken into account.

Risks are identified by the "Safety Warning Symbol" followed by a "Warning" such as "Danger",

The safety "Warning" sign is shown below.



The meaning of this safety symbol is:

**Caution! Be careful! This involves your safety!**

The message below the warning explains the danger, and can be either written or depicted graphically.

A non-exhaustive list of operations that can cause damage to the product is identified by the "PLEASE NOTE" labels on the product and in this publication.

MDB cannot envisage every possible circumstance that may involve a potential danger.

The warnings in this manual and on the product are, therefore, not to be considered as absolute. Do not use this product in any way other than the one indicated in this manual without having considered all safety rules and regulations, along with the precautions applicable to the operation of the product at the place of use, including site-specific precautions and regulations applicable to the workplace. If a tool, procedure, working method or operating technique not specifically recommended by MDB is used, you need to make sure it is safe for you and others. You must also make sure that the product is not damaged or made unsafe by the operation, lubrication, maintenance or repair procedures that you intend to carry out. The information, specifications and illustrations in this publication are based on information available at the time of publication. Specifications, torques, pressures, measurements, adjustments, illustrations and other items can change at any time. These changes may affect the service offered to the product. Request the complete and most up-to-date information before starting any work.

MDB dealers have more up-to-date information.

**Caution!**



MDB recommends using original replacement parts or parts with equivalent specifications including, but not limited to, size, type, strength and material when replacement parts are required for this product.

Failure to comply with this warning may lead to premature breakdowns, product damage, personal injury or death.



# LV300 PRO

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## LV300 PRO

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### FOREWORD

*MDB S.r.l. Would like to thank you for having chosen this machine.*

*This manual provides all necessary information regarding the use and necessary instructions to carry out the main operations of use and maintenance, both ordinary and scheduled, of the LV 300 PRO machine correctly.*

*The instructions for use must be observed to obtain the best performance, ensure the long working life of the various parts, and work in complete safety.*

*Operators of the LV 300 PRO must read this manual before use. This manual must be considered as an integral part of the machine; and must be stored and protected so as to preserve its integrity, as well as transmitted together with the machine, to a possible subsequent owner.*

*MDB S.r.l. reserves the right to use qualitatively better equipment and safety means at any time so as to provide safe, efficient and technologically advanced machinery.*

*Sincerely,*

*Legal Representative*

*Mario Di Biasi*



## LV300 PRO

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### 1. GENERAL INFORMATION

#### 1.1 IDENTIFICATION OF THE "OPERATIONS AND MAINTENANCE MANUAL"

The "Operation and Maintenance Manual" is a document issued by **MDB S.r.l.** and must be considered an integral part of the machine.

##### COPYRIGHT

**MDB S.r.l.** owns the copyright of this operation and maintenance manual. This manual is intended for personnel using the LV 300 PRO machine. It contains instructions and drawings of a technical nature, which must not be reproduced (even in part), nor disclosed by any means, used for competitive purposes nor made available to third parties.

***MDB S.r.l. prohibits the total or partial reproduction of this manual and its diffusion in any form of its contents.***

#### 1.2 PURPOSE OF THE MANUAL

The purpose of the "Operations and maintenance manual" is to provide all personnel using the LV 300 PRO with all the necessary information for its diligent use and maintenance in optimal conditions; particular attention has, of course, been paid to the fact that this is carried out with the most extensive possible safety conditions for operators.

The equipment is supplied for use as indicated in this manual. When using the machine, operators must





## LV300 PRO

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always be aware of safety aspects, so as to improve its safety.



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### PLEASE NOTE:

The machine manufacturer may not be held responsible for damage to persons, animals, property or the environment resulting from use of the equipment by operators who do not meet the necessary requirements.

---

## 1.3 STORAGE

The following instructions must be followed closely in order to keep the manual in perfect conditions:

- ☞ Use the manual so that it does not undergo any kind of deterioration;
- ☞ Do not remove, add, change or write on any parts of this document; updates will be made exclusively by MDB S.r.l.;
- ☞ Store the manual in an area protected against damp, so that its life-time is not compromised;
- ☞ Hand over the manual to any other user or future owner of the machine.

## 1.4 GENERAL INFORMATION

Get to know the equipment before starting to use it by reading this manual carefully. It is of great importance that operators be properly and comprehensively instructed regarding the contents of CHAPTER 2 relating to the use and operation of the machine before using it.



## Operations and Maintenance



### LV300 PRO

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The operating and maintenance instructions for the LV 300 PRO are two integral parts and must be followed throughout its working life up to dismantling and disposal.

MDB S.r.l. declines all responsibility regarding problems, breakages, damage to persons, property or animals, even if caused by non-use of the equipment or failure to comply with the procedures and instructions in this manual;

- Due to failure to comply with the normal workplace safety regulations;
- Due to lack of diligence when working;
- Due to personnel's lack of expertise and improper use of the machinery;
- Due to failure to comply with accident prevention regulations while operating or carrying out maintenance on the machinery, even if not expressly mentioned in our manual;
- Due to modifications, variations and/or installation of accessories not authorised by MDB S.r.l.
  
- **MDB S.r.l.** may not be held responsible for damage caused by:
  - ☞ Natural disasters;
  - ☞ Revolts and riots;
  - ☞ Lack of maintenance or incorrect maintenance;

For replacements parts, the customer must only use ORIGINAL SPARE PARTS.

To obtain optimal performance from the equipment, check it periodically, and if necessary, replace all parts that, by their nature, are subject to wear.



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## Operations and Maintenance



# LV300 PRO

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Replacing a part at the right time not only allows the machine's operation to meet expectations, but also prevents more serious damage and/or personal injuries.

Using original spare parts maintains the machine's quality over time and entitles you to the product's WARRANTY for the period for which it is provided. This manual contains safety alerts to highlight the risks or dangerous operations. Each alert starts with a symbol followed by a warning.

The symbols used are as follows:



### DANGER

This symbol indicates an imminent risk that, if not prohibited, would cause serious injury or death to the persons involved.



### CAUTION:

This symbol indicates a potential risk to the machine's integrity that, if not prevented, could cause damage to the machine, which could indirectly cause serious injury or death to the persons involved.



### IMPORTANT NOTE:

This symbol indicates things that are particularly important to work with the machine in a simpler and safer way.



## LV300 PRO

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### 1.5 WARRANTY AND INFORMATION REGARDING RESPONSIBILITY

The warranty covers manufacturing defects.

The manufacturer may not be held responsible for damage caused during transport.

The machine is shipped without packaging, covered with a plastic film that protects the parts subject to oxidation in the event of contact with water or moisture.

The manufacturer undertakes to take care of fastening the machine, assuming liability if the transport is carried out with his own means.

If transportation is carried out by a carrier, all care will be taken to ensure that the machine is not damaged but, as already noted above, the manufacturer assumes no liability if it is.

For this reason, if transported by a carrier, adequate insurance coverage should be requested.

The customer is responsible for checking the state of the goods on arrival and promptly notifying the carrier and the manufacturer of any damage.

The machine may be packed in a wooden crate at an additional cost if the customer deems it appropriate.

The accessories and documents that accompany the machine are located on board, duly protected to prevent being damaged.

Items not covered by the warranty are:

- Items that are part of the machine, but that are not manufactured by MDB (such as: tracks, transmission belts, bearings, gearboxes, etc.): these are only covered by the warranty provided by their respective manufacturers.
- Items that have deteriorated due to wear.



## Operations and Maintenance



### **LV300 PRO**

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Exceptions that void the warranty:

- Modifications carried out on the machine without the written approval of MDB.
- Repairs carried out by unauthorised workshops.
- Use of non-original spare parts.
- Negligence during maintenance.
- Use of the machine not compliant with what is defined in this manual.
- Removal of the protection devices applied to the machine: said protections must never be removed; they must also be checked regularly and, if damaged, restored to their original conditions;
- Failure to respect the safety measures concerning the machine mentioned in the operations manual.

The warranty period is specified in the offer and does not, in any case, exceed 12 months from the date of shipment.

#### Warranty request

A warranty request must be made in writing to MDB by the dealer, within 4 weeks from the fault, specifying: name and address of the user; type, model, serial number, date of sale, date of the fault, number of hours of operation, circumstances and alleged causes.

The parts must be sent to MDB in order to be examined for the granting of the warranty, which, in turn, authorizes the replacement of the parts.



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## **LV300 PRO**

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### **1.6 MANUFACTURER ID**

Name : **MDB S.r.l.**

Head office : **C.da Sant'Onofrio, 6/A – LANCIANO (CH) -  
ITALIA**

Tel.: **+39 0872.50221**

Fax : **+39 0872.50231**

E-mail : **info@mdbsrl.com**

VAT number : **01960690699**

#### **1.6.1 TECHNICAL ASSISTANCE**

Technical assistance is always provided by the manufacturer. For further information, please call:

**+39 0872.50221**



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## LV300 PRO

### 1.7 MACHINE IDENTIFICATION DATA

The LV 300 PRO is identified by the CE marking drawn up according to the specifications of European Directive 2006/42/EC, of Legislative Decree no. 17/2010 implementing the Machinery Directive in Italy, and Legislative Decree 81/08 and subsequent amendments, the Consolidated Law on Safety in the Workplace implementing the European directives in this regard.

Essential data for marking can be found on the ID plate on the lower part of the machine (see fig. a).

C.da S. Onofrio, 6/A - 66034 Lanciano (CH) ITALY Tel. (+39) 0872 50221 - 508566 - Fax (+39) 0872 50231	
<input type="radio"/> <b>Designazione:</b>	<input type="radio"/>
<b>Modello:</b>	<b>Anno:</b>
<b>Potenza:</b>	<b>Matricola:</b>
<b>Portata:</b>	<b>Peso:</b>
Conforme alle Direttive comunitarie CEE/2006/42/CE e successive implementazioni In conformity with ECC rules 2006/42/CE and subsequent implementation	

Fig. a: CE Identification Label



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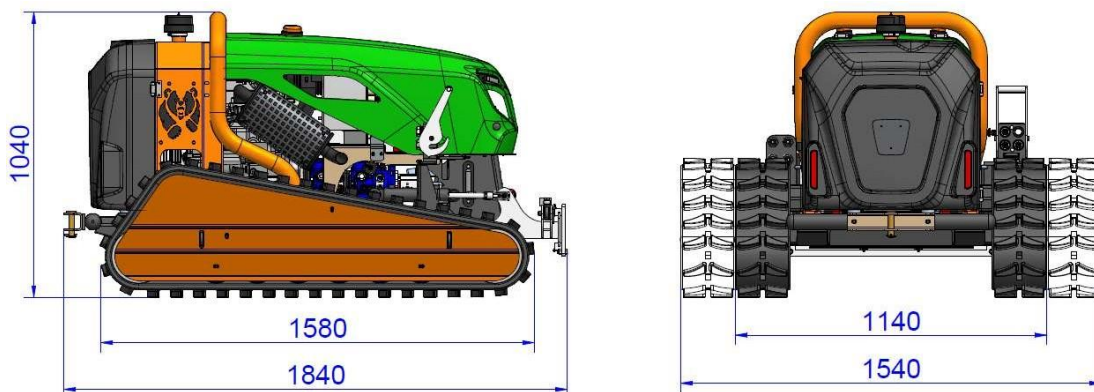


## LV300 PRO

### 1.8 DESCRIPTION OF THE MACHINE

#### 1.8.1 TECHNICAL DATA

DESCRIPTION	U.M	
Machine height	mm	1040
Minimum machine width	mm	1140
Maximum machine width	mm	1540
Machine length	mm	1840
Machine weight	kg	870
Maximum working slope with open tracks	°	56
Type and model of engine	YANMAR 3TNV82A-BDSA2	
Rated power of the engine	kW	23
Engine fuel	diesel	
Diesel fuel tank capacity	l	20
Radiator capacity RC10452812C	l	3.3 water - 1.9 oil
Max. speed Km/h	9	
Hydraulic oil tank capacity	l	17
Type and model of remote control device	IMET M880 ZEUS 2 B1N LDC 10078	







## LV300 PRO

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### 1.8.2 WORK ENVIRONMENT

#### LIGHTING

The machine has two lighting devices at the front to improve the machine's visibility in the work area and not to light the work area at night. The machine must only be used during the day, with sufficient visibility for the operator to see the work area for a radius of at least 100 m.

#### VIBRATIONS

The machine generates vibration during use. Since it is operated from a distance by means of a radio remote control, these vibrations cannot harm the operator.

#### NOISE

The machine is intended only for outdoor use. Noise was measured at the control station, as indicated by the machinery directive, dynamic - static measurement at a distance of 1 m with the machine in motion, detection duration 5" for a length of 5.6 m), operator positioned at the side of the machine. The measured sound pressure level was 85 dB(A) with an uncertainty of  $K_{pA} \pm 2.8$ .

#### DEMOLISHING THE MACHINE

For the normal procedure of disposal of the machine (after dismantling) and the delivery of each component to a specialized company for the transport, disposal and/or recovery of waste.



## LV300 PRO

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### 1.8.3 GENERAL DESCRIPTION OF THE MACHINE AND ITS OPERATION

The LV 300 PRO is made up of:

1. S355 and S700 steel base frame. Welded structure;
2. Tracks;
3. Hydraulic oil reservoir;
4. Diesel tank;
5. Hood;
6. Roll-bar;
7. Rear cover panel;
8. Air filter;
9. Exhaust unit;
10. Engine;
11. Battery;
12. Radio remote control receiver;
13. Radio remote control transmitter;
14. Plate for quick coupling of equipment;
15. Control unit;
16. Headlights;
17. Flashing lights;
18. Spare battery and battery charger for the radio remote control;
19. Vortex filter;
20. Towing hook.

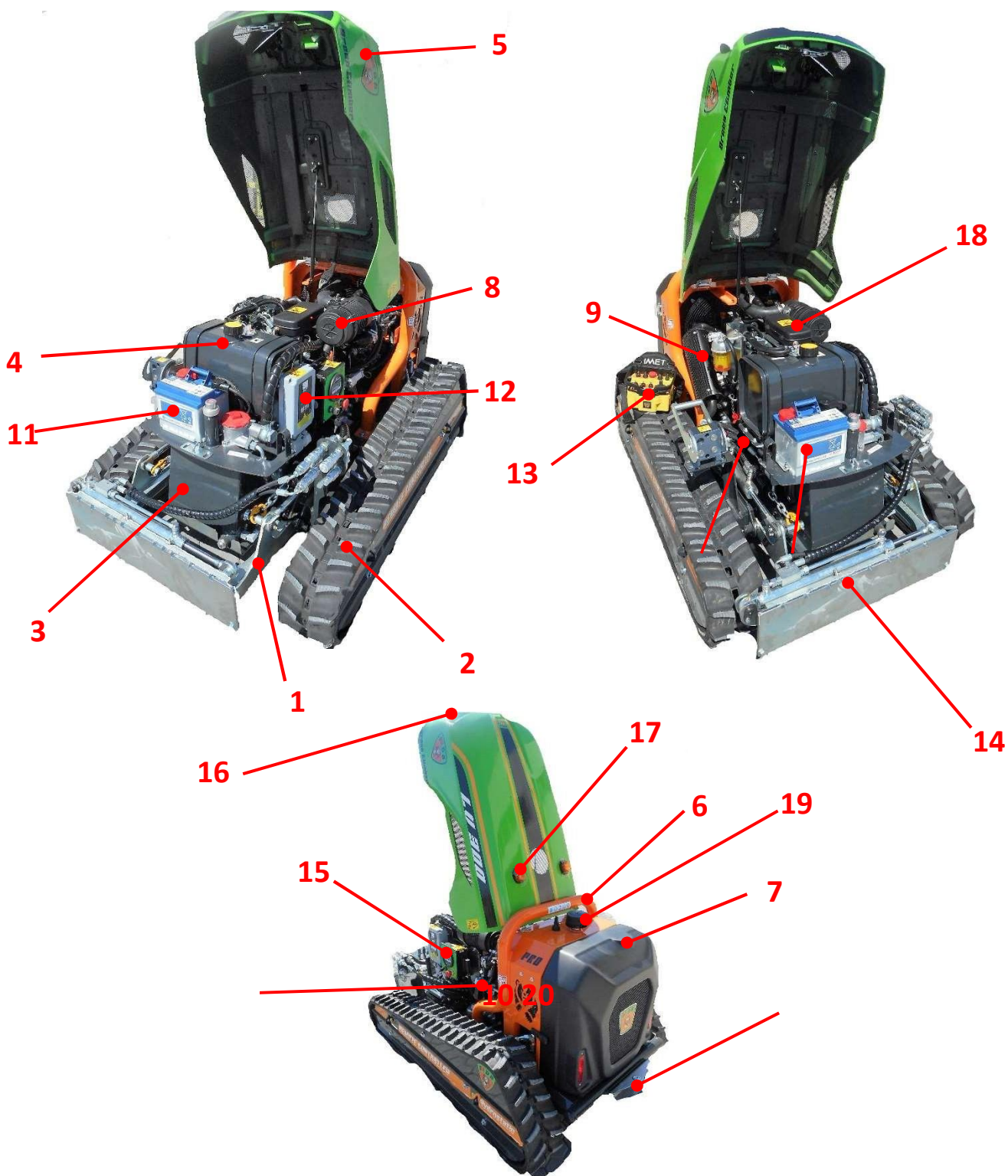


# Operations and Maintenance



## LV300 PRO

LV 300 PRO



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## Operations and Maintenance



### LV300 PRO

The LV 300 PRO is made up of a welded steel frame, to which the components have been attached. It is moved by rubber tracks. The vehicle's gauge is variable and configurable by means of the radio remote control system. The diesel engine drives the machine's hydraulic circuit by means of hydraulic pumps.

The self-propelled LV 300 PRO has been designed to be used in farming and forestry environments. The front of the machine is equipped with fast coupling for the attachment of equipment exclusively designed and built by MDB. Equipment authorized by the MDB to be applied to the LV 300 PRO is:

Shred



Snow





# Operations and Maintenance

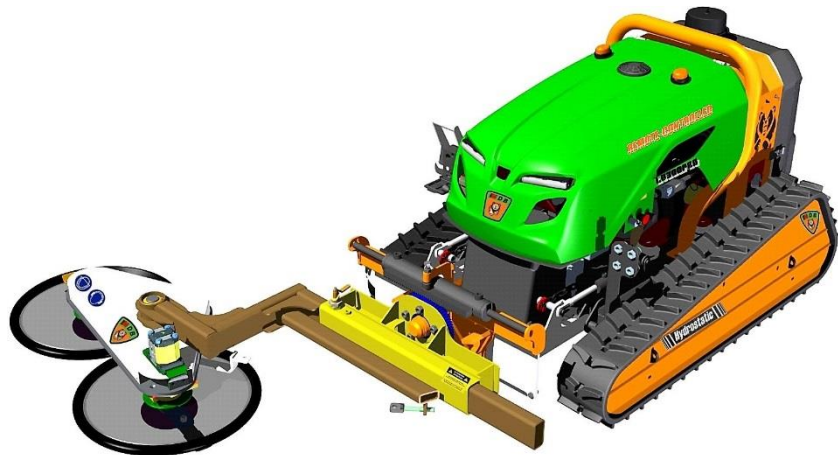


## LV300 PRO

Grass cutter



String trimmer



Wood chipper



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## LV300 PRO

Forestry  
Shredder



The LV 300 PRO can easily work on any type of terrain - even with considerable slopes - thanks to its extremely low centre of gravity. It has, in fact, been subjected to a stability test by simulating a transverse slope of over 56° in maximum width configuration (undercarriages fully extended).



Its remote control allows the operator to work in complete tranquillity even on the most inconvenient and impractical terrain.



**Caution!**

The recommended inclination for working in safety, especially on terrain with conformation other than sandy, should not be exceeded.



## LV300 PRO



### **Danger!**

Never stand or manoeuvre the machine from below it on sloping terrain as the machine could overturn. Always stand or manoeuvre the machine from above.



## 1.9 OPERATING CONDITIONS

The LV 300 PRO has been built in compliance with the workplace safety regulations, applicable European directives and standards. Only the equipment indicated in point 1.8 of this manual can be connected to it. Before applying equipment other than that indicated in point 1.8, the customer must request authorisation from MDB's technical department, that will perform the necessary checks and reply, confirming the application or otherwise. Those who apply equipment not provided for by MDB to the LV 300 PRO, without first requesting authorization and receiving an official response, exempts MDB from any constructive and functional responsibility regarding the machine.

For reasons of safety concerning people, goods and animals, the work area where the machine must operate must always be cleared and marked out before the start of work, and the operator must forbid entry to non authorized persons.



## LV300 PRO

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### 1.10 WORK POSITION

The operator in charge of the LV 300 PRO machine must be trained and informed regarding its operations by the MDB dealer before use. The end user is responsible for the application of the laws of the country of origin for the proper use of the equipment. When the machine is in use, no other person may be positioned and/or working near the machine or within the marked out area unless authorised.

The operator controls the machine through a radio remote control, and is therefore not near the danger area. He must, however, bear in mind that he must remain at a distance of at least 3 metres behind the machine, never in front of it. The maximum operating range of the radio remote control is set to 100 m.

### 1.11 REFERENCE STANDARDS

#### 1.8.1 ITALIAN LEGAL REGULATIONS

- ☞ LEGISLATIVE DECREE no. 81/2008 and subsequent amendments and additions;
- ☞ LEGISLATIVE DECREE no. 17/2010;
- ☞ LEGISLATIVE DECREE no. 262/2002;
- ☞ LEGISLATIVE DECREE no. 80/2016;
- ☞ LEGISLATIVE DECREE no. 86/2016

#### 1.8.2 EUROPEAN STANDARDS

- ☞ MACHINERY DIRECTIVE 2006/42/EC;
- ☞ ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2014/30/EU;
- ☞ LOW VOLTAGE DIRECTIVE 2014/35/EU;





## LV300 PRO

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- ☞ DIRECTIVES FOR THE IMPROVEMENT OF THE SAFETY AND HEALTH OF WORKERS DURING WORK 80/1107/CEE, 82/605/CEE, 83/477/CEE, 86/188/CEE, 88/642/CEE, 89/391/CEE, 89/654/CEE, 89/655/CEE, 89/656/CEE, 90/269/CEE, 90/270/CEE, 90/394/CEE, 90/679/CEE, 93/88/CEE, 95/63/CE, 97/42/CE, 98/24/CE, 99/38/CE, 99/92/CE, 2001/45/CE, 2003/10/CE, 2003/18/CE, 2004/40/CE, 92/58/CEE, 2002/44/CE, 2006/25/CE, as applicable;
  - ☞ ENVIRONMENTAL ACOUSTIC EMISSION DIRECTIVE FOR MACHINES AND EQUIPMENT INTENDED FOR USE OUTDOORS 2000/14/CE and 2005/88/CE;

### 1.8.3 TECHNICAL HARMONISED STANDARDS

- ☞ EN ISO 12100:2010 - Safety of Machinery – General Principles for Design – Risk Assessment and Risk Reduction;
- ☞ EN ISO 4254-1:2015 - Agricultural machinery – Safety – Part 1: General Requirements;
- ☞ EN ISO 60204-1:2006 + AC:2010 - Machine safety - Electrical equipment of machinery - Part 1: General Requirements;
- ☞ EN ISO 16231-1:2013 - Self-propelled agricultural machinery – Assessment of stability – Part 1: Principles;
- ☞ EN ISO 16231-2:2015 - Self-propelled agricultural machinery – Assessment of stability – Part 2: Determination of static stability and test procedures;
- ☞ EN 349:1993+A1:2008 - Machine safety - Minimum spaces to avoid crushing parts of the body;



## Operations and Maintenance



### LV300 PRO

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- ☞ EN ISO 13857:2008 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
  - ☞ EN ISO 4254-7:2010 - Agricultural Machinery – Safety – Part 7: Combine harvesters, forage harvesters and cotton harvesters;
  - ☞ EN ISO 4254-12:2012 - Agricultural machinery – Safety – Part 12: Rotary disc and drum mowers and flail mowers;
  - ☞ EN ISO 3744:1995 - Acoustics - Determination of sound power levels of noise sources using sound pressure;
  - ☞ ISO 6395:1988 - Acoustics - Measurement of exterior noise emitted by earth-moving machinery - Dynamic test conditions.



## LV300 PRO

## 2. USING THE LV 300 PRO

### 2.1 TRANSPORT

The LV 300 PRO is shipped to the buyer adequately protected against impact during transport. Once arrived at destination, the attachment points on the machine must be used to position it, which are located in the areas indicated in the photos below.





## LV300 PRO

### 2.2 USING THE MACHINE

The LV 300 PRO has a single control system by means of remote control.

The thermal engine of the vehicle must be switched on in order to operate the machine.

First make sure that the red battery isolator lever (Fig. 1) has been turned clockwise



Insert the key in the control panel at the left of the machine as indicated in Figure 2.

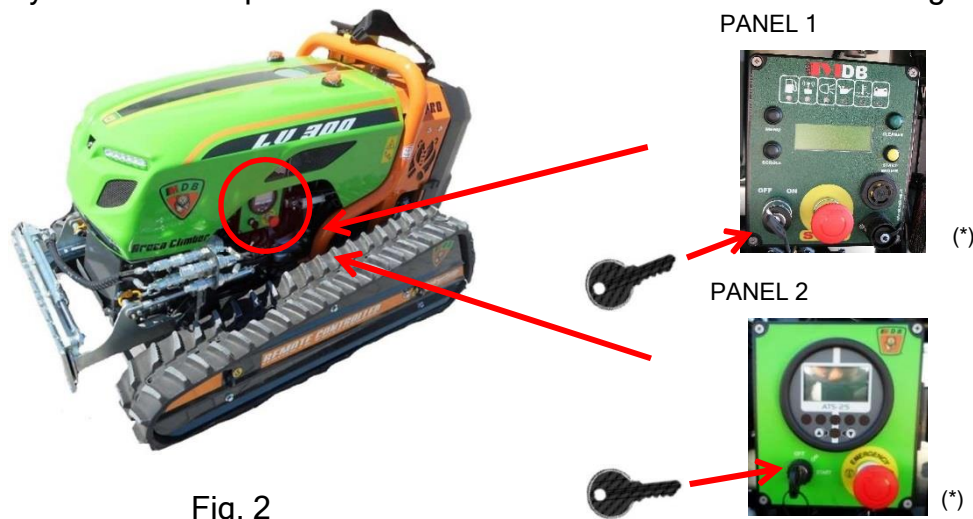


Fig. 2

(\*) there are two types of control panels, check the one installed on your machine and follow the instructions for use specified below.



## LV300 PRO

### CONTROL PANEL 1:



Fig. 2

Move the switch to ON by means of the key switch (20);

The control unit diagnoses the status of the entire system, followed by the preheating phase, and then prepares the engine for starting.

Engine start-up can take place in two ways:

1-holding down the "START" button (120) until complete start-up.

2-by means of the remote control and carrying out the commands indicated on page 30. The green LED light will turn on to indicate that the engine has started. If the engine does not start, consult the appropriate section in this manual (PARAGRAPH 3.2.2 TROUBLESHOOTING) to solve the problem.



## LV300 PRO

### CONTROL PANEL 2:



Key inserted in the OFF position.



Turn the key clockwise and click it in 1 in the ON position. The message MDB appears on the display of the control unit and all the lights come on as shown in the figure.

The engine of the LV300 machine can be powered up in two different ways:

- A. Turning the key to the “start” position as follows;
- B. By using the remote control.



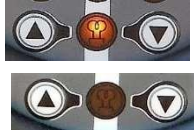
## Operations and Maintenance



# LV300 PRO

### A- ENGINE START-UP WITH THE KEY FROM THE CONTROL PANEL

To power up the engine with the key, proceed as follows:



Turn the key clockwise making it click the 2nd click and bring it to the START position. Keep the key in the START position for as long as the spark plug light (as shown in the figure) is on, when the spark plug preheating time has finished, the light will go out and the starter motor will start running and start up the engine.



**Caution!**  
If the machine does not start up, wait a few seconds before repeating the ignition procedure.



**Caution!**  
**NEVER** leave the key in the START position for more than per più di seconds or the starter motor will overheat.



**Caution!**  
NEVER operate the starter motor when the engine is running, as this could damage the starter motor pinion and/or the spur gear.

Keep the engine running idle for at least 15 seconds before starting work.



**Caution!**  
Leave the engine to run idle for about 15 minutes at first start-up, while checking that the engine oil pressure is correct, that there are no diesel or coolant leaks and that the warning lights and/or indicators are working correctly.



## Operations and Maintenance



### LV300 PRO



**Caution!**

Vary the speed and load of the engine during the first hour of operation. Short periods of maximum engine speed and load are recommended. Avoid prolonged operation with minimum and maximum speed and load

Work can now be started using the remote control (fig. 5) after having connected the transmitter to the radio receiver.

Make sure that all the control warning lights are off when the engine is running.

If the engine fails to start, refer to the dedicated section in this manual (PARAGRAPH 3.2.2 PROBLEM SOLVING) to solve the problem.





## LV300 PRO

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### CONNECTING THE TRANSMITTER TO THE RADIO RECEIVER

Take the "TX" radio transmitter (detail no.13 on page 15), with the transmitter off:

- Insert a charged battery into the transmitter.
- Check that the STOP mushroom-shaped button is not activated and there are no other active commands.

Connect the TX radio transmitter to the RX radio receiver on the LV 300 PRO, holding down the green button "A" (fig.3).



Fig. 3

Wait 2 seconds until the RX radio receiver carries out the safety tests. The red "STOP A", "STOP B" LEDs and the green POWER LED of the receiving unit will remain lit as in fig. 4 if the test result is positive.

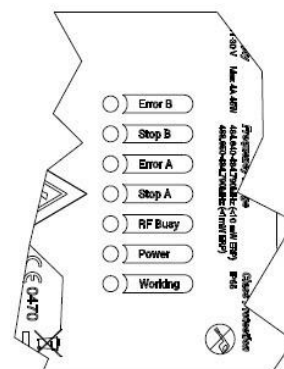


Fig. 4



# Operations and Maintenance



## LV300 PRO

Press and hold down the green A button of the TX transmitter until TX transmitter and RX receiver are connected. To find out if the connection between the two has been successful, check the display of the radio transmitter TX and that of the receiver RX (fig. 5).



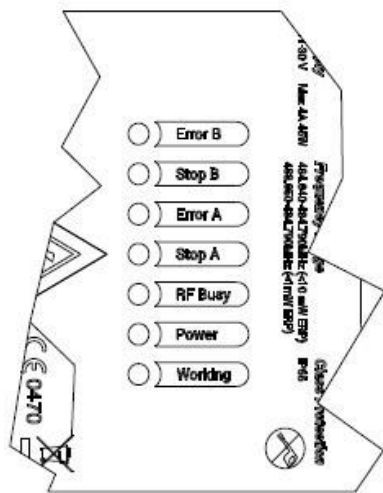
Green TX light and Blue RX light off: NO CONNECTION



Flashing green TX light and flashing blue RX light: CONNECTION IN PROGRESS



Green TX light on steady and Blue RX light on steady: CONNECTION SUCCESSFUL



LED RF Busy BIANCO on: CONNECTION SUCCESSFUL

Fig. 5



## LV300 PRO

### RADIO REMOTE CONTROL LED INDICATORS

The radio remote control is equipped with LEDs that signal the following to the user:

- The operating status
- Malfunctions
- Type of fault

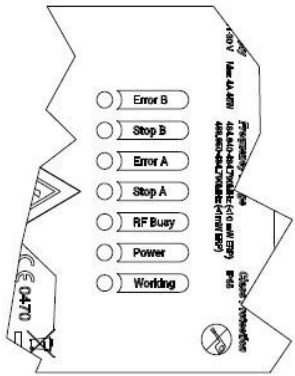
TRANSMITTER	
	<p>The transmitter is equipped with 3 LEDs indicating the operator:</p> <ul style="list-style-type: none"> <li>- Operating status</li> <li>- Malfunctions</li> <li>- Type of faults and diagnostic functions</li> <li>- Low battery</li> </ul>
STATUS OF THE LED TX (GREEN)	INDICATION
Off	The transmitter is off or is faulty (see chap. 3.2.2)
On	The transmitter is operating
Flashing	The transmitter is turned on but is not operational
STATUS OF THE LED (YELLOW)	INDICATION
Two flashes every 20s.	Low battery
Morse Code	Indication of transmitter error
RX LED STATUS (BLUE)	INDICATION
Off	The receiver is off or faulty
Flashing	Radio connection with receiver established
On	The receiver is operational



# Operations and Maintenance



## LV300 PRO

RECEIVER	
	<p>The receiver is equipped with 7 LEDs indicating:</p> <ul style="list-style-type: none"> <li>- Operating status</li> <li>- Malfunctions</li> <li>- Type of faults and diagnostic functions</li> <li>- Power status</li> <li>- Connection status</li> </ul>
LED	INDICATION
Error B (Red/green LED)	Normally off during operation. Red/green for the duration of the data error on channel B.
Stop B (Red/green LED)	Green during operation. Red indicates that the system channel A is in STOP conditions
Error A (Red/green LED)	Normally off during operation. Red/Green for the duration of data error on channel A.
Stop A (Red/green LED)	Green during operation. Red indicates that the system's channel A is in the STOP state.
RF busy (White LED)	On indicates that the radio connection between the transmitter and the receiver has been established. The intensity is proportional to the intensity of the received signal. The LED flashes at a fixed frequency if the connection has been carried out with a control cable.
Power Supply (Green LED)	On indicates that the power is on.
Working (Blue LED)	On indicates that the receiver has established the link with the remote device with the voltages necessary for their proper functioning.



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## LV300 PRO

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### BATTERY CHARGE STATUS

The battery charge status is indicated by the YELLOW LED. YELLOW LED off means that the battery is charged. If the YELLOW LED is flashing regularly, it indicates that the battery is low and the transmitter must be switched off to replace the battery with a charged one. A low battery will last for about 10-15 min.



### B - ENGINE START-UP WITH REMOTE CONTROL

The engine of the machine can be started up using the TX radio transmitter by pressing button "C" in fig. 6, keeping it pressed for as long as the glow plug indicator light (as shown in the CONTROL PANEL figure on page 26 of the manual) is on. When the glow plug preheating time has elapsed, the warning light will go off and the starter motor will begin to run and start the engine.



**Caution!**

If the machine does not start up, wait a few seconds before repeating the ignition procedure.



Fig. 6



# Operations and Maintenance



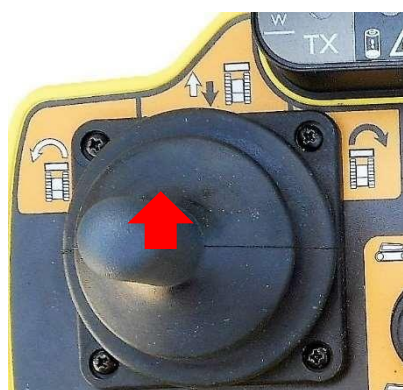
## LV300 PRO

Once the engine is switched on, after having made sure that the transmitter and the radio receiver have established contact at the pre-set frequency, the machine can start to move by means of the front controls of the remote control (fig. 7).



Fig. 7

### TX RADIO TRANSMITTER CONTROL FUNCTIONS



**FORWARD**





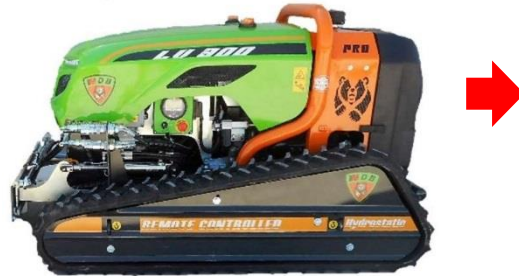
# Operations and Maintenance



## LV300 PRO



BACKWA



FORWARD TURNING  
RIGHT



FORWARD TURNING  
LEFT



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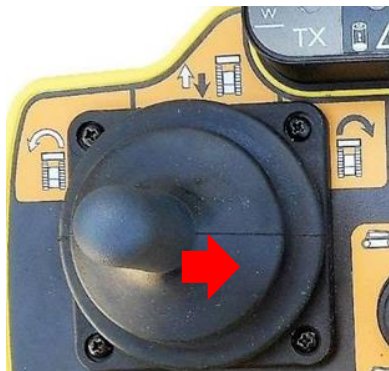
REVERSE  
TURNING LEFT



BACKWARD TURNING  
RIGHT



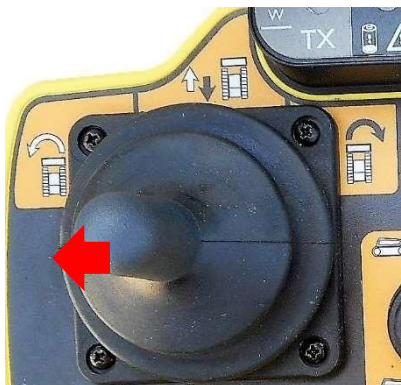
COUNTER ROTATION TO THE RIGHT







## LV300 PRO



### COUNTER ROTATION TO THE LEFT



(\*) BEFORE CARRYING OUT THE COUNTER-ROTATION COMMAND, ALWAYS MOVE THE JOYSTICK LEVER TO THE IDLE (CENTRAL) POSITION.



## LV300 PRO

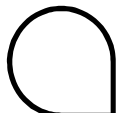
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### TX RADIO TRANSMITTER CENTRAL CONTROL FUNCTIONS

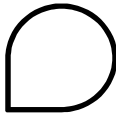


- 2 MACHINE SPEED ADJUSTMENT
- 3 SET THE DIRECTION OF THE MACHINE
- 4 LIFT/LOWER EQUIPMENT ATTACHMENT PLATE
- 5 INCREASE/REDUCE THE TRACK WIDTH OF THE MACHINE
- 6 RIGHT/LEFT MOVEMENT OF THE EQUIPMENT ATTACHMENT PLATE

#### 2 - ADJUSTING THE SPEED



TURN CLOCKWISE: MAXIMUM SPEED



TURN ANTICLOCKWISE: MINIMUM SPEED



## LV300 PRO

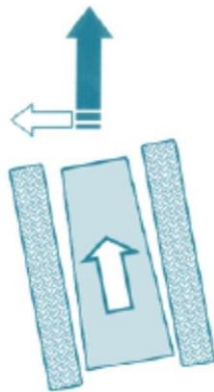
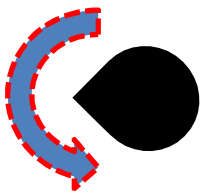
### 3 - TRAJECTORY OF THE MACHINE

The trajectory function allows the machine to advance straight or more or less towards left or right, depending on how far knob no. 2 is turned clockwise or anticlockwise. This function is necessary when the machine travels over steep terrain to move it in the correct direction, without this being affected by the disconnected terrain.

ROTATION

DIRECTION

ANTICLOCKWISE

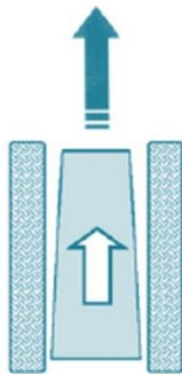


LEFT DIRECTION

TURN THE KNOB  $\pm$  ANTICLOCKWISE TO STEER THE MACHINE STRAIGHT WITH A TRAJECTORY TOWARDS THE LEFT

"0"

POSITION

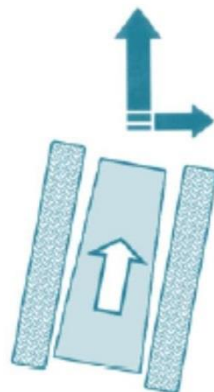
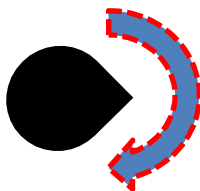


"0" POSITION

THE MACHINE WILL CONTINUE STRAIGHT WITHOUT FOLLOWING ANY

TURN

CLOCKWISE



TRAJECTORY TO THE

TURN THE KNOB  $\pm$  CLOCKWISE TO STEER THE MACHINE STRAIGHT WITH A TRAJECTORY TOWARDS THE RIGHT

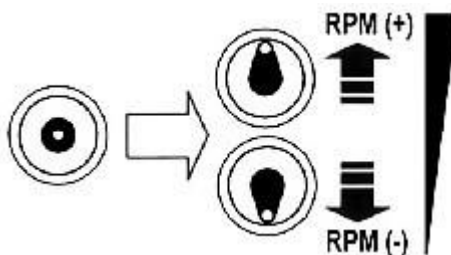


## LV300 PRO

### TX RADIO TRANSMITTER LOWER CONTROL FUNCTIONS



- EQUIPMENT ON/OFF: ON - OFF
- 7 Press the button for at least 3 seconds to switch on the equipment. Turn to OFF before connecting the radio remote control.
- 8 INSERTING THE FLOATING OR FIXED MOVEMENT OF THE DOOR PLATE EQUIPMENT (position n. 14 figure page 15)
- 9 EMERGENCY SWITCH
- 10 INCREASES OR DECREASES ENGINE RPM: move to MIN position before Connect the remote control



Switch up: max engine rpm

Switch down: min engine rpm

- 11 AUXILIARY HYDRAULIC CONTROL OF THE EQUIPMENT (see chapter reference equipment for its correct use)

#### **Danger!**



Operating the machine with equipment inserted from the front is forbidden. Operations must always be carried out from behind the machine.



# Operations and Maintenance



## LV300 PRO



### Caution!

With equipment mounted on the machine, there is a hazard to the operator's body and face from blunt objects being projected from the front area of the machine. Always use the PPE indicated in this manual and on the labels on the machine. Follow the intended use in safety indications by always staying behind the machine and NEVER in front of it, do not fail to do so for any reason.



### Danger!

On steep terrain, never stand or drive the machine from a position in the area below it, as the machine could overturn in this area. Always stand or drive the machine from the area above it.



### Caution!

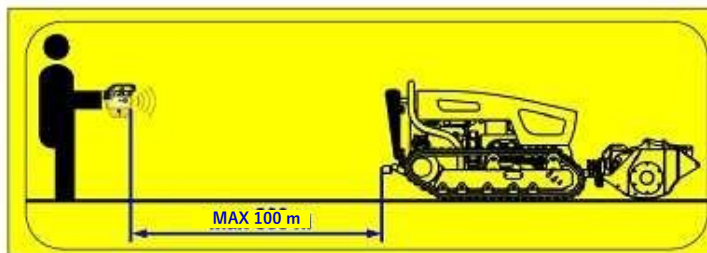
The radio signal between the transmitter and the receiver has been set for a maximum operating radius of 100 metres. If this distance is exceeded, the signal would be lost and this would block the machine by switching off the engine. To restore normal operation, follow the instructions in paragraph 2.2.1 of this manual.



## Operations and Maintenance



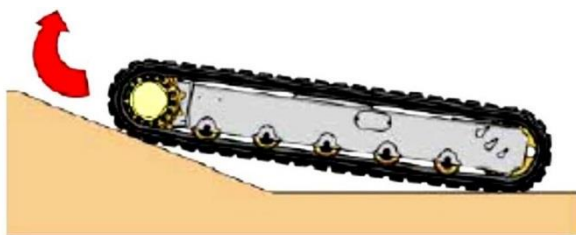
### LV300 PRO



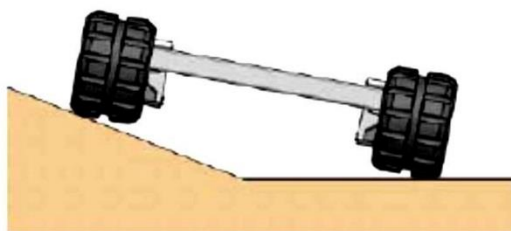
#### **Danger!**

Make sure that there are no persons and/or animals in the work area before starting work and manoeuvring the machine. Mark out the work area so that people and/or animals cannot enter. Failure to comply with this safety procedure could cause risk of serious injury and/or death to persons or animals.

### OPERATING THE MACHINE CORRECTLY



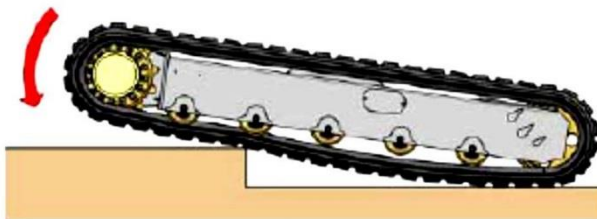
While moving, never steer from flat terrain onto uphill terrain. If it is absolutely necessary to do so, steer gradually, taking great care.



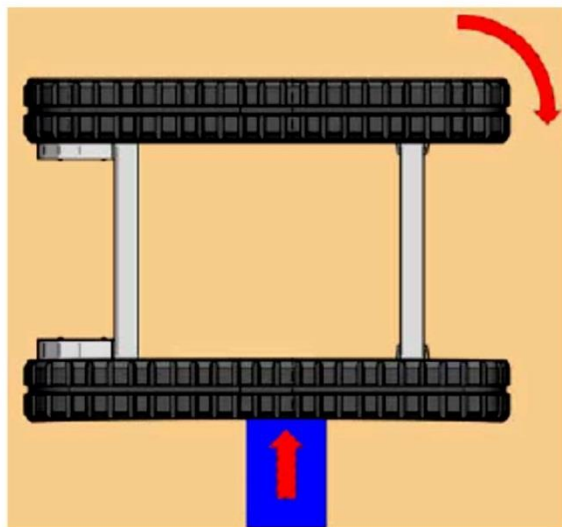
Avoid moving along the edge of sloping terrain or in rough terrain with one track on horizontal ground and the other on a slope. Always proceed with the skids on the same level so as to avoid damaging the tracks.



## LV300 PRO



When the machine moves as shown in the figure, it creates a gap between the supporting rollers and the track, with the risk that the track comes out of its seat.



When changing direction in a situation in which the track cannot move sideways because of an obstacle, the track could be damaged and come out of its seat.

### STOPPING THE MACHINE

The engine of the machine can be stopped in two ways:

- Manually;
- With the radio remote control.

To turn off the engine manually, move the key selector of the control panel in Fig. 2, page 24, to "OFF".

To turn off the engine in "RADIO" mode, press button "D" in Fig. 6 page 32



## LV300 PRO



### Caution!

Do not stop the engine suddenly, especially when the engine is at high rpm or the machine is moving at high speed unless in an emergency situation. Let the motor run idle and without load for a short time (at least 5 minutes) before turning it off, always deactivate the equipment being used by means of lever 7 of the LOWER CONTROL FUNCTIONS (page 38).

Stopping the engine of the machine without first deactivating the equipment could cause damage to the hydraulic system.

At the end of the work session, always turn the battery isolator shown in



Fig. 1 anticlockwise to open the safety circuit.



### Danger!

Do not use the emergency button to turn off the machine, unless there is an emergency situation. Continuous use of this button to stop the engine in normal conditions could cause damage to the hydraulic system.



### Danger!

Never tamper with the machine's safety systems, nor remove its fixed or mobile guards.



### Caution!

Before starting the machine at the beginning of the work shift, always check that all the safety systems are in working condition, the fluid levels are correct and the tension of the tracks correspond to the parameters given in the maintenance chapter.





## LV300 PRO

### 2.2.1 EMERGENCY OPERATION

In the event of a radio remote control failure, repair the machine on site. If this is not possible, inform the breakdown services so that lifting equipment can be used to take the machine to the nearest authorised workshop.

Replace the exhausted battery with the spare one in the special container indicated on page 16 (component n. 18) of this manual and in fig. 8.

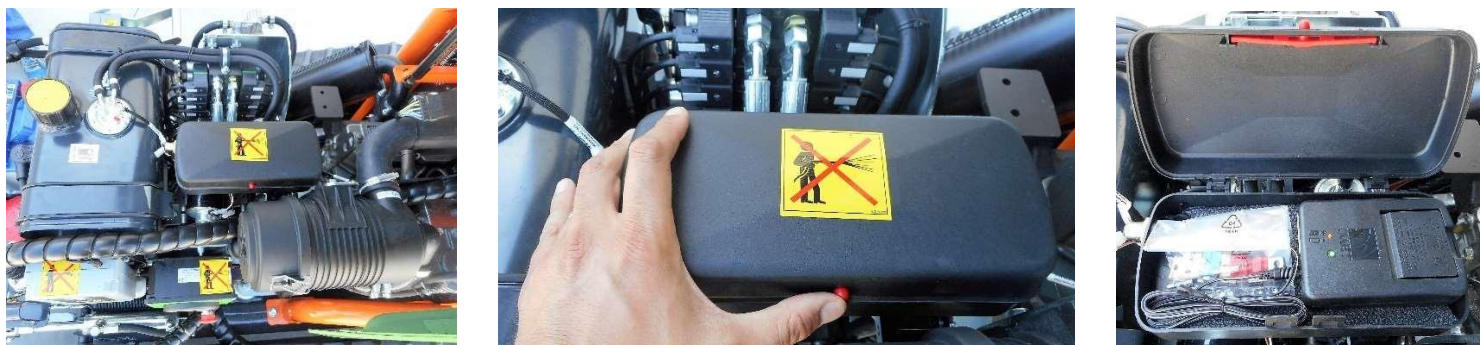


Fig. 8

### 2.2.2 EMERGENCY INTERVENTION

If the operator needs to block the machine during use and is unable to do so using the normal radio remote control and/or control panel, the machine is equipped with 2 emergency buttons. One is on the left side of the machine, on the control panel, and the other is on the radio remote control. These are easy to see, red, mushroom-shaped (Fig. 9).



## LV300 PRO

Fig. 9



When the emergency button is pressed, it remains down, and the machine's engine is immediately turned off, blocking any movement. To start the machine again once safe working conditions have been restored:

- Turn the red emergency button clockwise (fig. 10)



## LV300 PRO



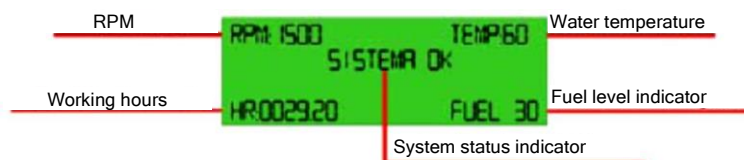
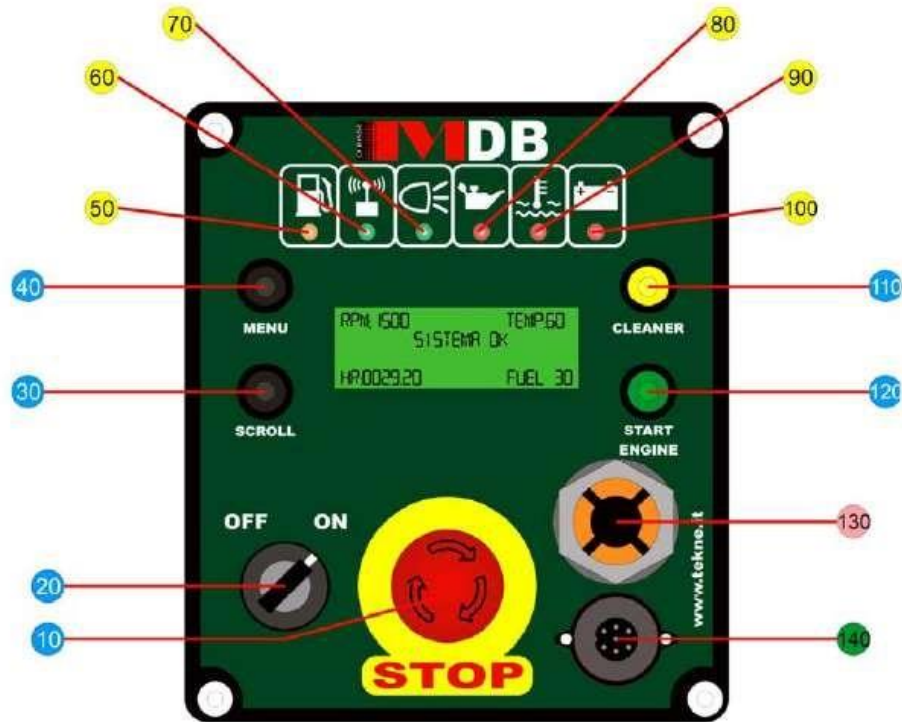
Fig. 10

- The button is now unlocked, to start the engine and resume work, follow the instructions in paragraph 2.2 of this manual.



## LV300 PRO

### 2.2.3.1 DESCRIPTION OF THE CONTROL PANEL1



10	EMERGENCY BUTTON
20	KEY SWITCH
30	SCROLL VIDEO PAGE
40	MENU
50	FUEL INDICATOR LIGHT Indicator light on indicates that the fuel level is low or and is in reserve. The system activates the acoustic warning with two beeps when the fuel level drops below 30%. See paragraph 2.2.7 of the following manual for fuel topping up methods.



## Operations and Maintenance



### LV300 PRO

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60	<b>RADIO INDICATOR LIGHT</b> Indicator light on indicates that the transmitter and radio receiver are connected and functioning correctly.
70	<b>FRONT LIGHTS INDICATOR</b> Indicator light on indicates that the front lights are on.
80	<b>OIL INDICATOR LIGHT</b> Indicator light on indicates low oil pressure. If this error persists for more than 2 seconds: <ul style="list-style-type: none"><li>- three beeps are emitted;</li><li>- the engine stops;</li><li>- the error that caused the machine to shut down is displayed on the control panel display;</li></ul> To resolve the anomaly, check the oil level in the tank, topping up if too low. If the oil level is normal, check the working slope of the machine, if it has exceeded the maximum allowed of 45°, restore machine operations on suitable slopes. See paragraph 2.2.8 of the following manual for topping up methods.
90	<b>COOLING FLUID INDICATOR LIGHT</b> Indicator light on indicates that the engine has overheated. When the coolant temperature reaches 95°C, the system warns with two beeps. When the coolant temperature reaches 115°C, the system warns with two beeps and turns off the engine. To resolve the anomaly, turn off the engine and wait for it to cool down. Once cooled down, check the quantity of fluid in the cooling fluid tank, topping up if too low. See paragraph 2.2.9 of the following manual for topping up methods.

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## LV300 PRO

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100	<b>BATTERY INDICATOR LIGHT</b> Indicator light on indicates that the battery is not charging. Possible causes of the failure: alternator or belt not working.
110	<b>CLEANING THE RADIATOR</b> The radiator cleaning cycle will activate when pressing the yellow button. The fan reverses the flow of air and pushes the debris out of the heat exchanger. The system carries out a cleaning phase every 8 minutes during normal operations. This function can also be activated by means of the remote control using lever 9 indicated in the LOWER CONTROL FUNCTIONS of the radio control, see page 28 of the following manual. To enable the cleaning command from the radio control: after starting the system, press the MENU button (40) and, moving with the SCROLL button (30) select the item "CLEANER RADIO ON", press the MENU button (40) to exit.
120	<b>TURNING ON THE ENGINE</b>
130	<b>BUZZERS/HORNS</b>
140	<b>CONNECTION OF THE REMOTE CONTROL CABLE</b>

### CONTROL PANEL DISPLAY OPERATION

During normal use, the electronic system of the MDB control panel analyses any anomalies and indicates the operating status of the system on the display. The information that can be visualised on the display are:

1. SYSTEM STATUS OK OR ERROR WHICH CAUSED THE ENGINE SHUT DOWN;
2. ENGINE rpm;
3. WORKING HOURS (h)
4. WATER TEMPERATURE (TEMP\_\_);
5. DIESEL LEVEL (FUEL\_\_\_\_\_);



## LV300 PRO

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### 6. CLOGGED AIR FILTER (ONLY FOR MACHINES

WITH 37 kW MOTOR): the system warns with three beeps. The display shows the error that caused the system to shut down. "CLOGGED FILTER NEEDS MAINTENANCE!";

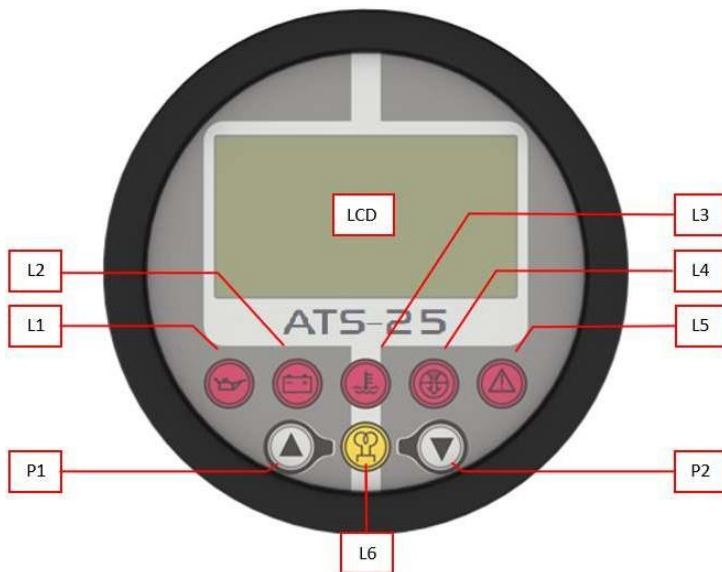
5. SCHEDULED MAINTENANCE DATE REACHED, THE FOLLOWING MESSAGE IS SHOWN ON THE DISPLAY: "SERVICE NEEDS MAINTENANCE";

### 2.2.3.2 DESCRIPTION OF THE CONTROL PANEL2





## LV300 PRO



POS.	TYPE	DESCRIPTION
LCD	LDC 128X46	Graphic display with amber backlight for displaying data on the device
P1	BUTTON 1	Increase button, ESC button if held down
P2	BUTTON 2	Decrease button, ENTER button if held down
L1	OIL LED	On: low oil pressure (digital input)
L2	BATTERY LED	On: low alternator voltage
L3	TEMPERATURE LED	On: high water temperature (digital input)
L4	AIR FILTER LED	On: air filter clogged (digital input)
L5	ALARM LED	On: alarm activated
L6	LED plugs	On: plugs activated

### LCD - CONTROL UNIT DISPLAY



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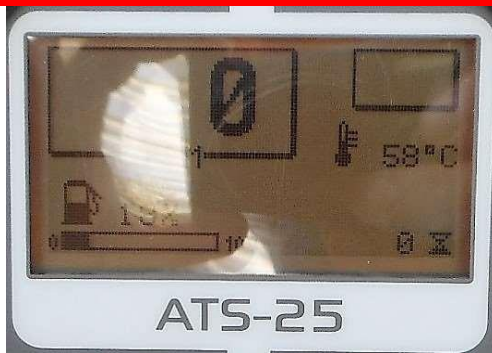




# Operations and Maintenance



## LV300 PRO



This device has been installed to warn the operator in the event of anomalies, provide information regarding machine working hours and the hours remaining before carrying out scheduled maintenance.

	Engine revs (RPM): shows the engine revs per minute.
	Hours counter: shows the hours of operation with the engine running.
	Fuel level: shows the level of fuel both in percentage as well as graphically by means of a horizontal bar.
	Engine temperature: shows the engine temperature in ° Celcius.
	Alert Box: shows different graphic symbols for: <ul style="list-style-type: none"> <li>▪ Active alarms</li> <li>▪ Cleaner function active</li> <li>▪ Lights on</li> <li>▪ Start input active</li> <li>▪ Stop input active</li> </ul>

The control unit monitors several parameters to detect engine faults and, if necessary, switches it off to avoid causing damage to the engine.

The monitored parameters, with engine shut-down if anomalies occur, are:



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## Operations and Maintenance



### LV300 PRO

- High engine water temperature;
- Low engine oil pressure; The light

on only indicates:

- Low battery charger alternator voltage;
- Low battery voltage;
- Clogged air filter.

A programming menu covering several pages is provided to set the instrument correctly.

If an alarm is triggered, an indication relating to the alarm will appear. Press P1 or P2 to return to the homepage.

All alarms can be reset by pressing P1 or P2 for 5 seconds.

#### CONTROL UNIT PROGRAMMING MENU

To enter the menu, press and hold down the P1 and P2 buttons for 5 seconds at the same time; 3 digits will appear on the instrument with "000" indicated.

Press P1 to enter the basic menu where some options of the instrument can be changes, but not the configuration from the machine. The display is shown as in figure 2.

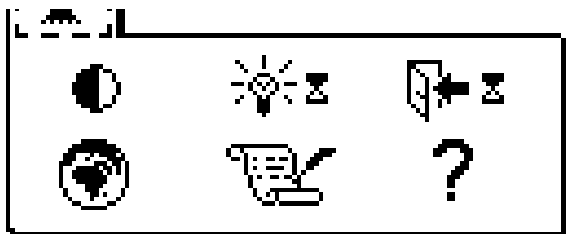


Figure 2: basic menu page

To confirm the menu page, hold down P2 for 5 seconds, selecting the first icon, then press P2 to go forward in the menu by selecting the various parameter icons one by one; pressing P1 will take you back through the menu by selecting the icons in the reverse order.



## Operations and Maintenance



### LV300 PRO

Once the desired parameter has been selected, hold down P2 for 5 seconds to enter the edit page.

This menu allows to set the following options:



**Display contrast:** this parameter allows to choose a number that identifies the contrast of the liquid crystals, so as to increase the contrast in the event that the display is very clear due to the low temperatures to which the instrument is subjected.



**Display lighting time:** this parameter allows to select the seconds required by the display backlight to turn on from when the buttons are no longer pressed. Selecting 0 means that the backlighting will not switch off.



**Exit time from the main menu:** this parameter allows to select the minutes to exit the menu to display the main page from when the buttons are no longer pressed. Selecting 0 disables this function.



**Language:** this parameter allows to choose the language for the non-symbolic menu items of the advanced menu. The selectable languages are Italian, English and French.



**Alarm history:** this parameter shows a list of the 10 most recent alarms a list of the last 10 alarms detected with the relative indication of the working hours, with the possibility of scrolling the list using P1 and P2, while resetting is possible by pressing down P2 for 5 seconds, but only when entering through the advanced menu.



**Information and assistance:** this page shows information regarding dealers for technical assistance, also

indicating the programmed software version.

Each page allows to change parameters by means of P1 and P2, confirming the change of the parameter by pressing P2 for 5 seconds, and going back without saving the change by pressing P1 for 5 seconds.

Press both P1 and P2 for 5 seconds from anywhere in the menu to return to the homepage.

The indicator lights and displayed information are:









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## Operations and Maintenance



### LV300 PRO

	Engine oil level	Steady light on indicates that the engine oil level is low: the engine is switched off to protect it from possible failures.
	Spark plugs	The indicator light turns on when the key selector is on 1. Wait for it to switch off and then start the engine within 5 seconds by turning the key selector to START.
	Battery power level	Indicator light on signals that the battery voltage is low, recharge or replace the battery if necessary.
	Engine temperature	Indicator light on signals that the engine temperature is higher than the set limit: the engine is switched off to protect it from failure. Check the coolant level and clean the radiator area.
	Clogged filter	Indicator light on signals that the air filter is clogged, clean or replace the air filter before turning on the engine.
	Alarm	Warning light on signals low power supply to the alternator battery charger.



## LV300 PRO

### 2.2.4 REFUELLING

Once the fuel warning light on the control panel has come on (see paragraph 2.2.3 of this manual), immediately refuelling the machine is recommended. Lift the hood using the elastic pin shown in fig. 11 and fig. 12.



Fig. 11

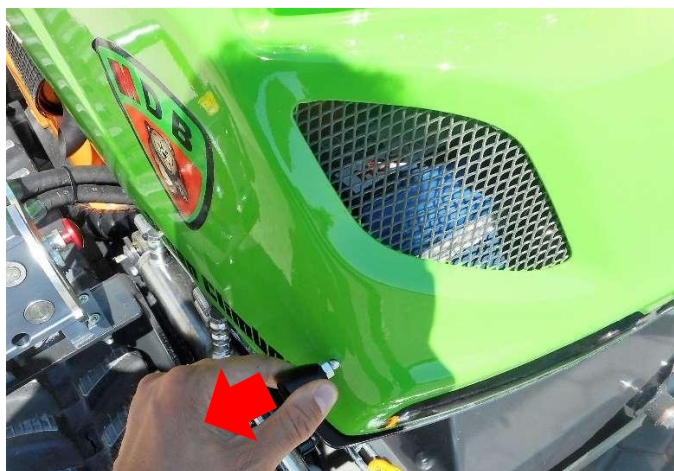


Fig. 12



## Operations and Maintenance



### LV300 PRO

Once the fuel tank has been located (detail n. 4, page 16) here in fig. 13, open the cap and top up with fuel using a funnel if necessary so as to avoid spills of liquid during refuelling.



Fig. 13



**Caution!**

Do not wait for the tank to empty completely, which would cause the engine to stop. This could damage the engine and make subsequent starting difficult.



**Caution!**

Do not smoke or use naked flames while refuelling, to prevent explosions or fires. Fuel vapours are highly toxic. Only refuel outdoors or in well ventilated environments



**Caution!**

Do not dispose of the fuel in the environment as it is highly polluting.



## LV300 PRO

---

### LEGEND OF STICKERS ON THE MACHINE



WEAR PROTECTIVE WORK GLOVES



REFER TO THE OPERATION AND MAINTENANCE  
MANUAL



USE PROTECTIVE FOOTWEAR



USE EAR PROTECTION EQUIPMENT



USE A HARD HAT



USE A PROTECTIVE FACEMASK/VISOR



USE WORK CLOTHING



## LV300 PRO



CAUTION DANGER FOR HANDS



ALTA TEMPERATURA

DANGER OF HIGH



DANGER OF CRUSHING AND COLLISION DO NOT REMAIN NEAR THE MACHINE.

DO NOT MANOEUVRE THE MACHINE FROM THE AREA BELOW IT ON STEEP SLOPES, ALWAYS STAY ABOVE IT.



DANGER OF CONTACT WITH MOVING WORKING PARTS. DO NOT APPROACH MOVING SHREDDING PARTS WITH TRANSMISSION INSERTED AND MOTOR RUNNING. AVOID WEARING LOOSE CLOTHING.





## LV300 PRO

### 3. MAINTENANCE AND TECHNICAL ASSISTANCE

The reliability, safety and working life of a machine depend on maintenance and technical assistance. Performing maintenance and technical assistance is not a recommendation, but something that the machine owner is obliged to carry out.

The manager must make sure that the all maintenance is carried out according to the instructions in this manual, and in compliance with the applicable laws in force.

MDB does not assume any liability for damage to the machine or for accidents due to inadequate maintenance, inadequate technical assistance or failure to comply with the laws in force.

If components need to be replaced during repair or technical assistance, only MDB spare parts or parts authorised by MDB may be used. MDB may not be held responsible for damage to the machine, or accidents caused by the use of non-original spare parts.



#### **Important!**

Observe the maintenance and technical assistance instructions and frequency indicated by MDB. Failure to do so will void all liability and warranty rights.

#### RESPONSIBILITIES AND DUTIES

TYPE OF OPERATION	REQUEST	CARRIED OUT BY
Maintenance	Owner	Owner/Operator/ MDB technical assistance centre
Technical Assistance	Owner	MDB technical assistance centre

Only use original MDB lubricants or lubricants compliant with the lubricant specifications given in this chapter.



## LV300 PRO

### WORKING TIME COUNTER

The MDB control unit has a working time counter. The machine must be taken to the nearest technical assistance centre (\*) to undergo routine maintenance.

(\*) Assistance centres authorized by MDB S.r.l. are listed at the end of this manual..



**Please note!**

Compliance with the required maintenance and technical support frequency increases the useful life of the machine and prevents the occurrence of unforeseeable failures during operation.

Failure to observe the technical assistance frequency or if it is not carried out by an MDB authorised technical assistance centre, will void warranty rights.

### 3.1 MAINTENANCE MANUAL

Sequence of maintenance work: 1. Cleaning.

2. Visual inspection.

3. Lubrication and fluid level checks. 4.

Track maintenance.

Maintenance service symbols

Functional test	
Replacement	
Visual inspection	
Topping up	
Cleaning	



# Operations and Maintenance



## LV300 PRO

### AT THE END OF EVERY WORK DAY

Name	Action
Cooling fluid	
Electrical system warning lights	
Engine oil	
Hydraulic oil	
Regulator and engine speed lever	
Fuel level	
Motor	
All safety devices	
Fuel filter/water separator	

### EVERY 50 HOURS OF OPERATION OR AT LEAST ONCE EVERY 6 MONTHS

Name	Action
Radiator fins	

### EVERY 250 HOURS OF OPERATION OR AT LEAST ONCE EVERY 6 MONTHS

Name	Action
Air filter	



**Please note!**

Maintenance work must be carried out only by skilled personnel.



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## LV300 PRO

---

### 3.1.1 CLEANING



**Important note!**

Proper cleaning increases the device's reliability and durability.

Use only environmentally friendly, pH-neutral detergents that do not irritate the skin. This allows to protect the environment and prevent oxidation of the device. Only clean in places that are suitable for washing (with oil separators). Do not use rags that could scratch or scrape.

#### CLEANING TASKS



**Caution!**

Wet or damp electrical components can cause the device to malfunction or create short circuits in the electronic systems.

Cleaning operations must be carried out every day, or at least after every use, only with the device disconnected from the power supply.

#### High pressure cleaning:



**Caution!**

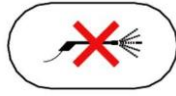
Failure to follow these instruction could damage the device.

- Instructions for the use of the high pressure cleaner.
- The water/detergent temperature must not exceed 60°.



## LV300 PRO

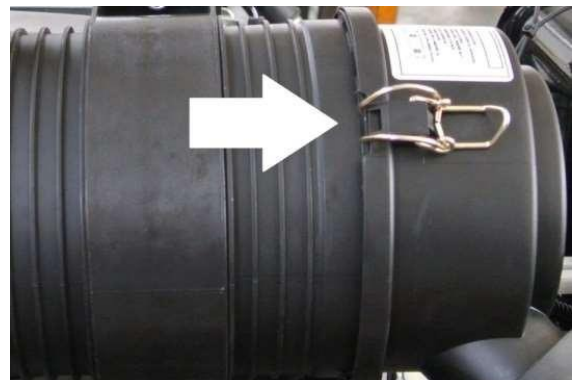
- The nozzle must always be kept at a sufficient distance from the equipment.



- The water jet must never be pointed towards:
  - ⇒ Electrical or electronic components (water entry).
  - ⇒ Plastic components (deformation, fracturing).
  - ⇒ Bearing or support points (dirt and lubricant must be removed from the bearing).
  - ⇒ Labels (they could be removed or become illegible).

### 3.1.1.1 CLEANING AIR ENGINE FILTER

The engine air filter must be checked every 250 working hours, or at least every 6 months. The warning lights and buzzers of the control panel display signal clogging of the engine air filter. To clean the filter, remove the cover by unhooking it from the two metal clips in fig. 15, extract the filtering body and remove the impurities by means of compressed air at a pressure of 42-71 psi (0.29-0.49 MPa, 3.0-5.0 kgf / cm<sup>2</sup>). Once it is clean, refit the filter element and close the protection cover with the two metal clips.





## LV300 PRO

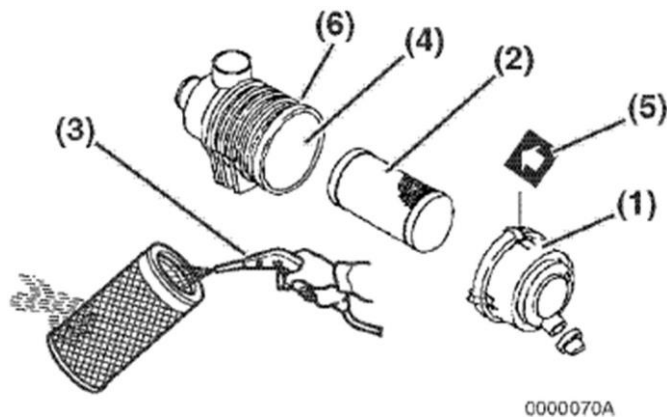
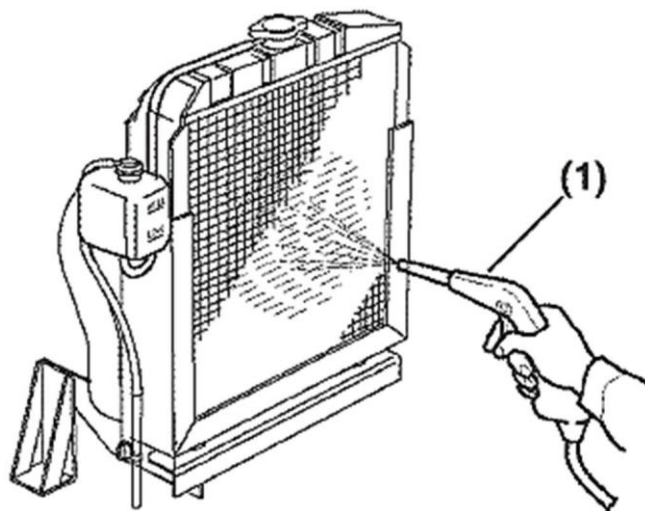


Fig. 15

### 3.1.1.2 CLEANING OF RADIATOR FLAPS

Dirt and dust that adhere to the radiator fins can reduce its cooling capacity, causing overheating. Check the radiator fins every 50 hours of work or at least every 6 months and, if necessary, clean them using compressed air (1) at 28 psi (0.19 Mpa, 2 kgf/cm<sup>2</sup>) or lower.



**Caution!**

Pay attention to avoid damaging the fins with compressed air!





## LV300 PRO

---



### Caution!

Clean the fins thoroughly using detergent and rinse with tap water if they are very dirty.



### Caution!

NEVER use high-pressure water or compressed air with pressure greater than 28 psi (193 kPa; 19686 mmWater) or a metal brush to clean the radiator fins.

### 3.1.2 VISUAL INSPECTION



### Please note!

Missing, damaged or worn components must be replaced immediately.

Carry out the following checks daily before each use:

#### Clamping elements

- Check the safety systems, the working condition of the screws, deformation of the bolts and the necessary safety conditions.
- Tighten any loose screws/nuts.

Replace missing or damaged fasteners immediately. Steel components

- Cracks on the components, in particular in the welds and curved edges.
- Deformations.
- Corrosion\_

#### Hydraulic system

- Entire hydraulic system (cables, pipes, cylinders, etc.) to identify possible leaks.



## Operations and Maintenance



### LV300 PRO

- 
- Hydraulic lines for impacts, cracks, deformations.
  - Leaking pipes, grease, dents, splits, porosity, etc.
  - Hydraulic oil level.

#### Electrical system

- Cable integrity, dents, splits, porosity, etc.
- Sheathing for completeness, damage, etc.
- Control unit, switches, display, sensors for correct installation, damage, etc.

etc. Labels

Check completeness and legibility.

#### Safety device checks

- Check emergency stop buttons operations.



#### **Danger!**

**If the machine does not stop after pressing the emergency stop button, there is high risk of fatal accidents.**

Working with a defective emergency stop switch is gross negligence. Do not operate the machine if the emergency button does not work; contact MDB assistance centre immediately.

#### OPERATIONAL CHECK:

- Press any control lever on the radio remote control or on the control panel. The machine must move without problems.
- Press the emergency stop button with the machine in motion. First the one on board the machine, then perform the same check on the one on the radio remote control. The machine must stop with the engine off when the emergency button is pressed.
- Press any control lever again. The machine must not move.



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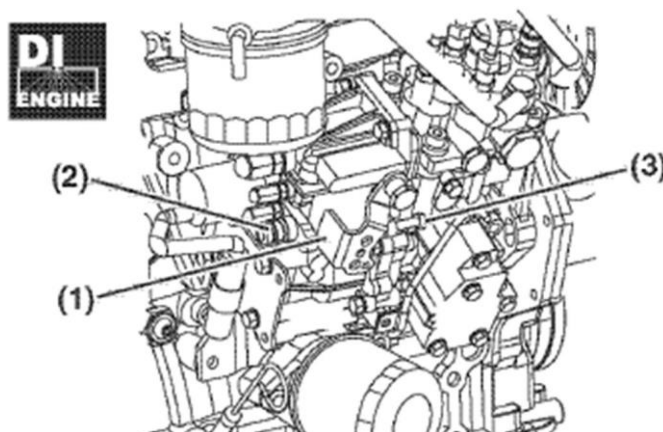


## LV300 PRO

- Release the emergency stop button. Operate the levers on the radio remote control and on the control panel: the machine must not move.
- Carry out the steps indicated in paragraph 2.2.1 of this manual: operating the control levers on the radio remote control or on the control panel, the machine should move.

### 3.1.2.1 CHECK OF REGULATOR LEVER AND ENGINE SPEED CONTROL

The regulator lever and engine speed control (gas lever, pedal, of the accelerator, and so on) are interconnected by means of a cable or a linkage. If the cable stretches or the linkage wears out or loosens, the regulator lever may no longer respond to changes in the position of the engine speed control. Check that the regulator lever (1) is firmly in contact with the maximum speed stop (2) and minimum speed limit screw (3) when engine speed control is in maximum or minimum positions.



#### **Caution!**

Do not force the movement of the cable or accelerator lever. This could damage the regulator lever, cable or accelerator lever, also leading to irregular engine speed control operations.





## LV300 PRO

### 3.1.3 LUBRICATION AND LIQUID LEVEL CONTROL

Grease every 8 hours and in any case after each wash.



**Please note!**

MDB recommends using biodegradable lubricants.  
Do not mix different lubricants together.  
Even biodegradable greases must not be released into the environment.  
Lubricants must be free from solid residues. Do not use graphite based lubricants.



**Caution!**

Failure to observe maintenance schedules, improper or lack of lubrication can cause damage to the device, high repair costs and downtime.



**Danger!**

The machine must not be turned on for any reason during lubrication, this could cause danger to life.

Lubrication process:

- Thoroughly clean any old parts or parts covered in grease or impurities. Failure to do this would allow dirt from the old grease to be pressed onto the device's surfaces.



**Caution!**

In this application, the presence of dirt can quickly lead to wear, machine downtime and high repair costs.

- Compress the grease onto the support point.
- After lubricating, remove any excess grease.
- Excess grease cannot be re-used.
- Dispose of the excess grease in accordance with the applicable national laws.



## LV300 PRO



### Caution!

If lubricant comes into contact with your eyes, rinse immediately with clean water and contact a doctor or go to the hospital! If lubricant comes into contact with your skin, clean the affected area with clean water.

### 3.1.4 LEVEL CHECK, TOPPING UP HYDRAULIC OIL

The hydraulic oil level must be topped up and checked with the vehicle not on a slope and with the engine stopped. At the end of each working day, lift the hood of the machine using the flexible pin as shown in Figures 11 and 12. Once located the tank and the hydraulic oil cap in fig. 14, for simple topping up, remove the cap, pour the oil by checking the maximum level indicator located on the right side of the machine near the tank itself, screw the cap back on.



Fig. 14



## Operations and Maintenance



### LV300 PRO

For the complete replacement of the hydraulic oil, the tank must be emptied with the engine warm but off, in order to obtain the rapid and complete drainage of the oil.



#### **Caution!**

Always wear protective gloves to protect the skin when performing these operations. Refer to the safety data sheet for the fluid being used to choose the right kind of gloves. The manufacturer recommends using AGIP OSO 46 oil.



#### **Caution!**

Do not disperse used oil in the environment as it is highly pollutant. Before restarting, make sure that the drain plug and the refuelling cap have been tightened properly to avoid spilling lubricant.

#### REPLACEMENT OF HYDRAULIC OIL

The hydraulic oil must be changed after the first 500 hours of operation, and then every 2000 hours of operation or at least once a year.



Please note!

We recommend that the oil be replaced by an authorised service centre.

#### Hydraulic oil maintenance



#### **Please note!**

Annual oil maintenance greatly extends oil replacement frequency.

This means a reduction in costs for the user company, but also a reduction in costs for the disposal of waste oils, as well as a reduction in pollution.

Oil maintenance must be carried out each year by the MDB authorised support centre.



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## LV300 PRO

Oil maintenance consists of the following:

- Filtering the oil.
- Eliminating the water.
- Checking the oil's purity.
- Replacing the filter.

Hydraulic oil



**Please note!**

MDB recommends the use of ENIOSO 46 or PANOLIN HLP SYNTH 46 oil.

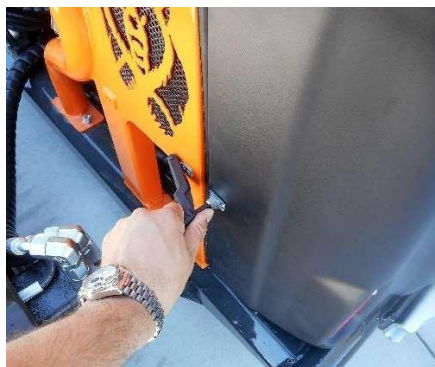


Please note!

Maintenance and oil changes must be carried out as described in paragraph 3.1.4 of this manual.

### 3.1.5 CHECKING AND TOPPING UP COOLANT

Checking and topping up the coolant should be carried out with the machine on a flat even surface, not sloping, and with the engine off and cold. At the end of each work day, locate the opening of the rear crankcase of the machine in fig. 15, open and locate the coolant cap.





## Operations and Maintenance



### LV300 PRO



Fig. 15

To top up, unscrew the plug, pour the coolant up to the maximum level, screw the plug back on.



**Caution!**

Do not continue to use the machine if there is a leak in the cooling circuit or the liquid level is too low, as it could create irreparable failures to the machine. Locate the cause and repair the fault immediately before using the machine.

**Caution!**

The cooling fluid must be made up of: 50% ANTIFREEZE and 50% decalcified water.

**Caution!**

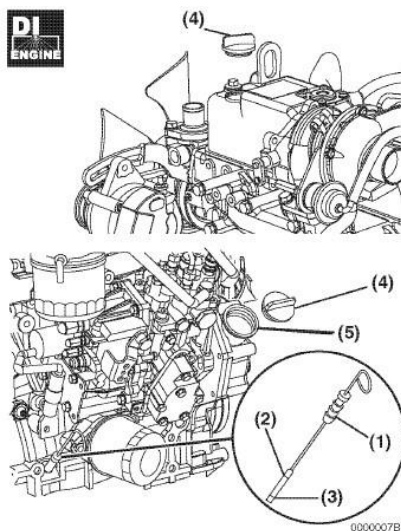
The fluid should cover the pipes inside the radiator by about 5 mm. Do not fill the radiator completely but leave sufficient free space for the expansion of the coolant.



## LV300 PRO

### 3.1.6 CHECKING AND TOPPING UP ENGINE OIL

Check the engine oil level by means of the appropriate dipstick (1) at the end of each working day. Carry out this check with the engine warm, the machine must be in a perfectly flat horizontal position, never tilted, wait at least 10 minutes after turning it off, check that the oil level is between the upper (2) and lower (3) lines of the dipstick (1). If necessary, top up the oil by unscrewing the yellow cap (4) and using a funnel or container suitable for transferring liquids.



(2) upper limit: 5.5 litres

(3) lower limit: 3.6 litres



**Please note!**

MDB recommends using 10 W 40 oil.



## LV300 PRO



### Caution!

If the oil level is too low or the oil pressure warning light comes on (see paragraph 2.2.3 of this manual), locate the cause and solve it.

The machine must not be used until the problem is solved, failure to do so could risk irreparable damage to the engine.

### 3.1.4 TRACK MAINTENANCE

#### DAILY MAINTENANCE

- Check the track tension (see the following paragraphs).
- Check that the gear motors function properly.
- Check the wear and status of the tracks.



### Caution!

Replace the tracks when there is 10 mm of tread left, or before if there are cuts.

- Check that there are no foreign bodies between the rolls and the tracks, between the idle wheels and the tracks, or between the drive wheels and the tracks.

#### MONTHLY MAINTENANCE

- Visually check the roller mountings.
- Check for any play in the bearings.





## Operations and Maintenance



### LV300 PRO

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#### TENSIONING THE TRACKS

Remove the casing of the undercarriage:



The tracks must be tensioned if there is movement. Clamping must be carried out at 20 Nm as shown in the Figure. To carry out correct tightening, loosen the locking nut and tighten it again once the adjustment has been made



This check must be carried out daily, especially when the tracks are new and the rubber covering the ground chain starts to wear (pay particular attention during the first 10 hours of operation).



## LV300 PRO

### 3.2 TECHNICAL ASSISTANCE



**Important note!**

Technical assistance may be carried out only by authorised MDB assistance centres. Failure to follow this indication will void all forms of warranty.

See the machine's operating time on the control unit display to programme technical assistance.

When the counter shows a use of 0 to 10 hours, the machine owner must start to plan machine maintenance. Keep a log book of the maintenance carried out. All maintenance and repair operations must be recorded in the log book and must be signed and stamped by the authorized MDB service centre.

Technical assistance symbols

Functional test	
Replacement	
Visual inspection	
Screw tightness check	
Cleaning	



# Operations and Maintenance



## LV300 PRO

FIRST TECHNICAL ASSISTANCE AFTER 50 HOURS OF OPERATION OR 6 MONTHS

Name	Action
Check and adjust the V-belt of the cooling system fan	
Engine oil	

EVERY 50 HOURS OF OPERATION OR AT LEAST ONCE A YEAR

Name	Action
Checking and adjusting the V-belt of the radiator of the cooling system	
Motor oil	
Replace the engine oil filter	
Check and adjust governor lever and check engine speed	
Replace the air filter	
Replace the fuel filter	

EVERY 125 HOURS OF OPERATION OR AT LEAST ONCE A YEAR

Name	Action
Tracks: wear, link condition, pinions, lower rollers	
Tighten the track screws	
Alternator belt	
Reversible radiator fan compressor filter	



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## Operations and Maintenance



### LV300 PRO

EVERY 250 HOURS OF OPERATION OR AT LEAST ONCE A YEAR

Name	Action
Check and adjust the V-belt of the cooling system fan	
Engine oil	
Check and adjust the regulator lever and engine speed control.	
Empty the fuel tank	
Replace the air filter	



# Operations and Maintenance



## LV300 PRO

EVERY 500 HOURS OF OPERATION OR AT LEAST ONCE A YEAR

Name	Action
Remote control	
Electrical lines/hydraulic pipes, tighten the screw clamps	
Control levers, control bars	
Alternator belt	
Fuel filter	
Fuel filter/water separator	
Air filter	

EVERY 1000 HOURS OF OPERATION OR AT LEAST ONCE A YEAR

Name	Action
Radiator fluid	
Hydraulic piping	
Hydraulic oil filter cartridge	
Adjust the engine intake/exhaust valve clearance	



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# Operations and Maintenance



## LV300 PRO

EVERY 1500 HOURS OF OPERATION OR AT LEAST ONCE EVERY 2 YEARS

Name	Action
Hydraulic oil	
Hydraulic oil tank	
Fuel injectors	
Crankcase ventilation system	

EVERY 2000 HOURS OF OPERATION OR AT LEAST ONCE EVERY TWO YEARS

Name	Action
Lap the valves and seats	
Alternator check	
Starter motor check	
Fuel pipes	
Cooling pipes	

TRACK TREAD HEIGHT  $\leq$  10 mm

Description	Action
Tracks	



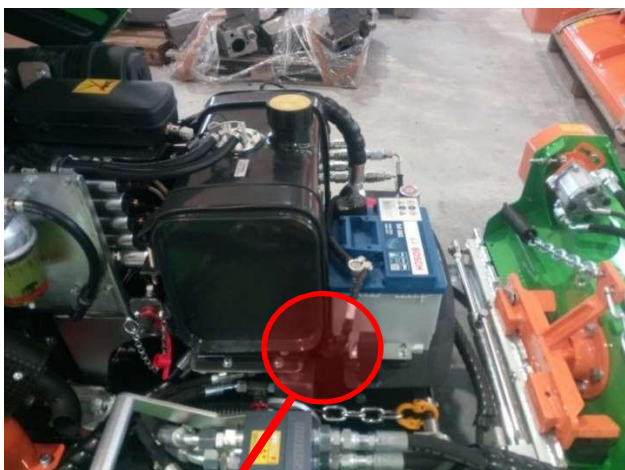
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## LV300 PRO

### 3.2.1 RELAY AND FUSE POSITIONING DIAGRAM

The "MidiVal" fuse upstream of the entire electrical system protects the vehicle's electrical network:



The 70 A power relay that powers the spark plugs during ignition.





## Operations and Maintenance



### LV300 PRO

The accelerator outward and return fuses (linear actuator). They are located downstream of the relays that manage them:



The two relays that manage the accelerator:





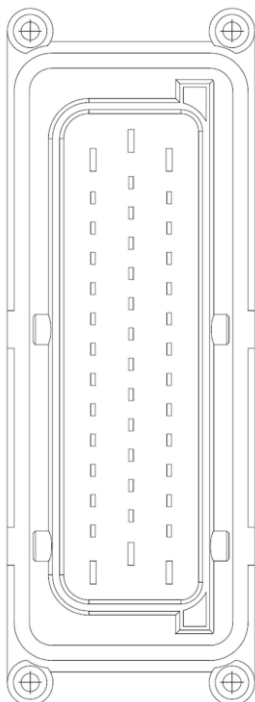


## Operations and Maintenance



### LV300 PRO

#### ATS25-MDB CONTROL UNIT 40 POLES CONNECTOR



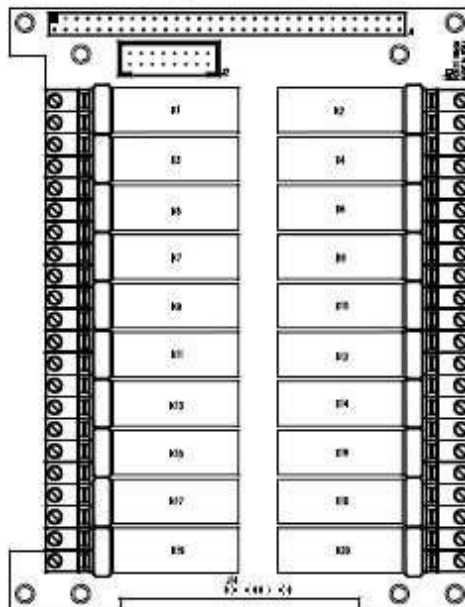
1. Positive output under panel
2. Spark plug output (2A)
3. CAN H
4. CAN L
5. Horn command input (+)
6. Not connected
7. Motor start command input (+)
8. Oil pressure switch input (-)
9. Analogue input for engine temperature
10. Analogue input for fuel level
11. Digital input for fuel reserve (-)
12. Not connected
13. Solenoid valve cleaner output (15 A)
14. Active electrostop pulse output 1 second (15 A)
15. Positive battery
16. Electrostop withholding output (2 A)
17. Not connected
18. Not connected
19. Not connected
20. Digital input for signalling lights (+)
21. 10A key protected output for battery charger
22. Digital input for air filter (-)
23. Not connected
24. Not connected
25. Not connected
26. Input for cleaner (+)
27. Buzzer input (+)
28. Motor start output (8 A)
29. Positive battery
30. 10A key protected output for bonnet lights
31. Horn output (15 A)
32. Not connected
33. Not connected
34. Negative battery
35. Engine stop input (+)
36. Diesel pump output
37. Not connected
38. Not connected
39. Not connected
40. Alternator input D + (with pre-excitation resistance)
41. W alternator input
42. Compressor cleaner output (15 A)



## LV300 PRO

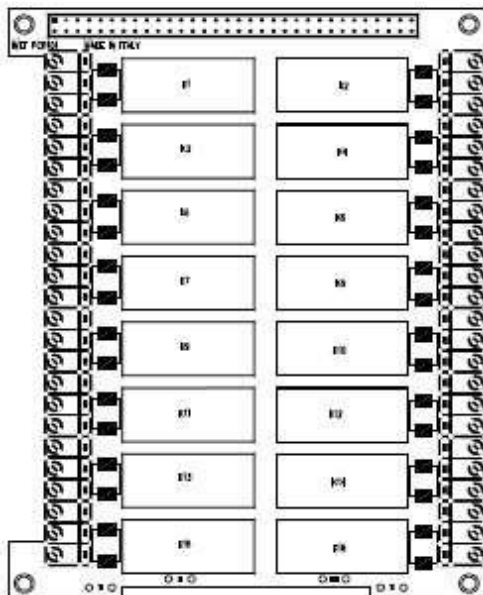
### IMET REMOTE CONTROL

Card with 20 relays for LAC (PCB131) receivers

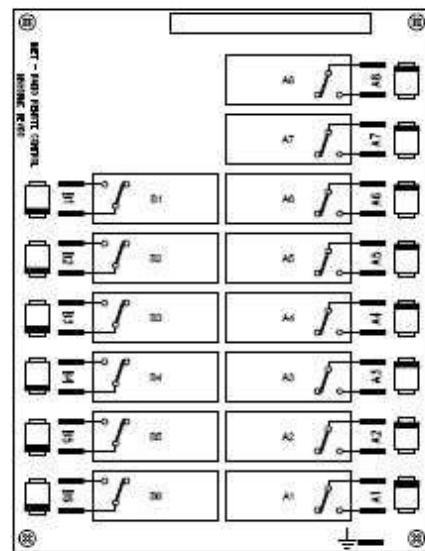


The C3 and C4 relays can be configured as Horn and flashing lights by closing the contacts on the specific bridges

Card with 16 relays for LDC (PCB101) receivers



Card with 14 relays for LDC receivers





## LV300 PRO

### 3.2.2 PROBLEM SOLVING GUIDE

START		
PROBLEM	CAUSE	SOLUTION
1 Machine does not start	Emergency button pressed	Release the emergency button
	Battery contact key not inserted/connected	Insert/connect battery contact key
	Out of fuel	Fill the tank
	Fuse blown	Replace damaged fuse
1.1 The engine starts but the machine does not move	Brakes locked / hydraulic oil cold	Go forward and backward repeatedly until unlocked
	Pump or engine problem	Contact the dealer
	Speed potentiometer on the radio remote control set at zero	Turn the potentiometer to the desired speed
1.2 The engine starts but the machine does not go straight.	Steering potentiometer not set at centre	Turn the potentiometer to the centre
	Pump solenoid valve dirty or ruined	Contact the dealer
	Hydraulic pump or motor damaged	Contact the dealer
	RC fuse blown	Contact the dealer
1.3 Engine starts, machine does not move - warning light on transmitter off	Radio remote control connection not made	Connect transmitter - receiver
1.4 The engine turns off	Faulty electro-stop	Contact the dealer
	Out of fuel	Fill the tank
	Emergency button pressed	Release the emergency button
	Lack of radio signal	Connect transmitter - receiver



# Operations and Maintenance



## LV300 PRO

REMOTE CONTROL		
PROBLEM	CAUSE	SOLUTION
2 Radio remote control not working	Flat battery	Recharge the battery
	Radio remote control connection not made	Connect transmitter - receiver
	Emergency button pressed	Release the emergency button
	Transmitter with different serial number from receiver	Use a transmitter with the same serial number as the receiver
2.1 Radio remote control not working: RF busy LED flashing or off	Lack of radio signal	Check aerial connection
	Interference from another radio signal	Use only one machine at a time
	Interference from another radio signal	Use emergency electrical cable
2.2 Remote control does not work: battery LED off	Fuse blown	Replace the receiver fuse
	Flat battery	Recharge the battery
2.3 Remote control does not work: battery LED flashes intermittently	Shredder command on	Turn off flail mower
	Aux 2 activated	Turn Aux 2 off
2.4 RADIO REMOTE CONTROL battery on the machine does not charge	Battery charger cables disconnected	Connect the battery charger cables

TRACKS		
PROBLEM	CAUSE	SOLUTION
3 Track has come off	Tracks excessively worn	Replace the tracks
	Metal track structure broken	
	Insufficient track tension	Tension the tracks
3.1 Tracks loose	Rubber worn	Tension the tracks
	Insufficient track tension	
	Tensioning system broken	Contact the dealer



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## Operations and Maintenance



### LV300 PRO

BEEPER / HORN		
PROBLEM	CAUSE	SOLUTION
4 Intermittent signal while driving	Fuel running out	Fill the tank
	Alternator problem	Contact the dealer
	Routine maintenance expired	Carry out maintenance according to the operations and maintenance manual
4.1 Intermittent signal and machine turns off	Low oil level	Do not use the machine until the cause of the problem is found as there is a risk of causing greater damage. Contact the dealer
	High engine temperature	



## Operations and Maintenance



### LV300 PRO

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#### 3.2.3 MDB AUTHORISED WORKSHOPS

**AUSTRALIA**

*S.M.E pty ltd*

mstead@smemowers.com.au

**AUSTRIA**

*Vogt gmbh*

service@vogtgmbh.com

**BELGIUM**

*Maaiers verschueren bvbaul*

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**CANADA**

*Industrial Machine Inc*

Jasong@IndustrialMachine.ca

**CARIBBEAN**

*Socamat sarl*

gfachancel@wanadoo.fr

*Eastern Farm Machinery Ltd.*

rsefm@sentex.net

**CHILE**

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pgonzalez@robotika.cl

**CHINA**

*Qingdao Jiannuo Trading Co. Ltd*

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**SOUTH KOREA**

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**GREECE**

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**IRELAND**

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*Sofim Spa*

renzodeluca@sofimspa.it

**LITHUANIA**

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**MEXICO**

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## Operations and Maintenance

### LV300 PRO



#### NORWAY

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msw@omc.net.nz  
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#### THE NETHERLANDS

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#### PORTUGAL

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#### ENGLAND

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#### CZECH REPUBLIC

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#### HUNGARY

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Operations and Maintenance



## **LV300 PRO**

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# Operations and Maintenance



## LV300 PRO

### ATTACHMENT A

## FACSIMILE DECLARATION OF CE CONFORMITY

Declaration n. ....../....



### DECLARATION OF CE COMPLIANCE **CE**

(according to the attachment, item A of Directive 2006/42/CE)  
the undersigned Mario Di Biase, legal representative of MDB S.R.L., with registered offices in Lanciano (CH), in C.da S. Onofrio 6/A - Italy, manufacturer of the following machine: MULTI-FUNCTIONAL REMOTE CONTROL TRACTOR

NAME	SELF-PROPELLED TRACTOR
SERIES	GREEN CLIMBER
MODEL	LV300 PRO
SERIAL NUMBER	---
YANMAR 3TNV80F ENGINE POWER	23 kW
IMET REMOTE CONTROL	M880 ZEUS2 B1N-10711-00
YEAR OF CONSTRUCTION	---

Equipped with the following tools:

TYPE/MODEL:	---	SERIAL NUMBER:	---
-------------	-----	----------------	-----

DECLARES under his own responsibility  
THAT THE MACHINE IS COMPLIANT WITH THE DIRECTIVES:

2006/42/CE (Machinery) implemented in Italy by means of Legal Decree n. 17/10, 2014/35/CE (Low Voltage) implemented in Italy by means of Legal Decree n. 86/16, 2014/30/UE (EMC) implemented in Italy by means of Legal Decree n. 80/16, 2000/14/CE art. 12, Attachment I n. 16 and 2005/88/CE (Environmental Acoustic Emission) implemented in Italy by means of Legal Decree n. 262/02

AND WITH THE HARMONISED STANDARDS:

EN ISO 12100:2010, EN 60204-1:2006 + AC:2010, EN 349:1993+A1:2008, EN ISO 13857:2008;  
EN ISO 4254-1:2013, EN ISO 16231-1:2013, EN ISO 4254-7:2010, EN ISO 4254-12:2012, EN ISO 5395-1:2013, EN ISO 3744:1995, ISO 6395:1998 (as far as applicable)  
procedure n. 2 is compliant with Attachment VI of Directive 2000/14/CS and was carried out by the notified body:

VERICERT S.r.l. - EUROPEAN NOTIFIED BODY n. 1878

Via L. Masotti, 5 - 48124 Farnace Zarattini - Ravenna - ITALIA

which issued the CE test certificate n. 1878EA072CT1118, on 30/11/2018

Measure noise level: LWA = 98 dB(A)  
Guaranteed noise level: LWA = 101 dB(A)

The person authorized to compile the technical file is Mr. Mario Di Biase, resident in Lanciano (CH), C.da S. Onofrio, 6/A. The tools installed on the Green Climber LV300 PRO, authorised by MDB S.r.l., covered by the following declaration of CE compliance, are:

3TXL/D SHREDDER - UT/100 F SHREDDER - CS/135 MILL - BV300 ATOMISER - FTR400 TRUNK MILL - CR/11 SNOW TURBINE - FM/120 GRASS CUTTER

Equipment not expressly specified is excluded from the scope of this declaration.

DECLINES

all responsibility for accidents to people or damage to goods caused by manipulation of the machine by third parties, or from lack of maintenance or repair.

Lanciano, / /

MDB S.r.l. Legal Representative  
Mr. Mario Di Biase

MDB s.r.l.  
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66034 LANCIANO (CH)  
Partita IVA 01960690899

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MDB SRL  
Production unit:  
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COMPANY WITH QUALITY  
MANAGEMENT SYSTEM CERTIFIED  
BY DNV GL = ISO 9001 =



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Operations and Maintenance

**LV300 PRO**



**ATTACHMENT B**

# HOW TO USE THE SHREDDER



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## Operations and Maintenance



# LV300 PRO

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### B.1 FOREWORD

As described on p. 16,17 and 18 of this manual, the LV 300 PRO has been designed for use with equipment applied to the front of the machine by means of a plate and quick coupling. The SHREDDER is one of these. The user must remember that only the equipment listed on p. 17 and p. 18 can be applied to the LV 300 PRO. MDB S.r.l. may not be held responsible if equipment other than that listed and contained in this manual or in any case not authorized by MDB is applied to the LV 300 PRO.

The LV 300 PRO can be delivered to the client with the SHREDDER already attached. Once arrived at destination, the attachment points on the machine must be used to position it, which are located in the areas indicated in the photos below.





## LV300 PRO

### B.2 HOW TO FIX THE EQUIPMENT TO THE MACHINE

If the LV 300 PRO machine is delivered with the SHREDDER disconnected from the machine, proceed as follows to apply the SHREDDER to the LV 300 PRO:

- 1- align the LV 300 PRO with the shredder;
- 2- press the red button (fig. 15);



Fig. 15





## LV300 PRO

3- attach the hydraulic pipes as shown in Fig. 16;

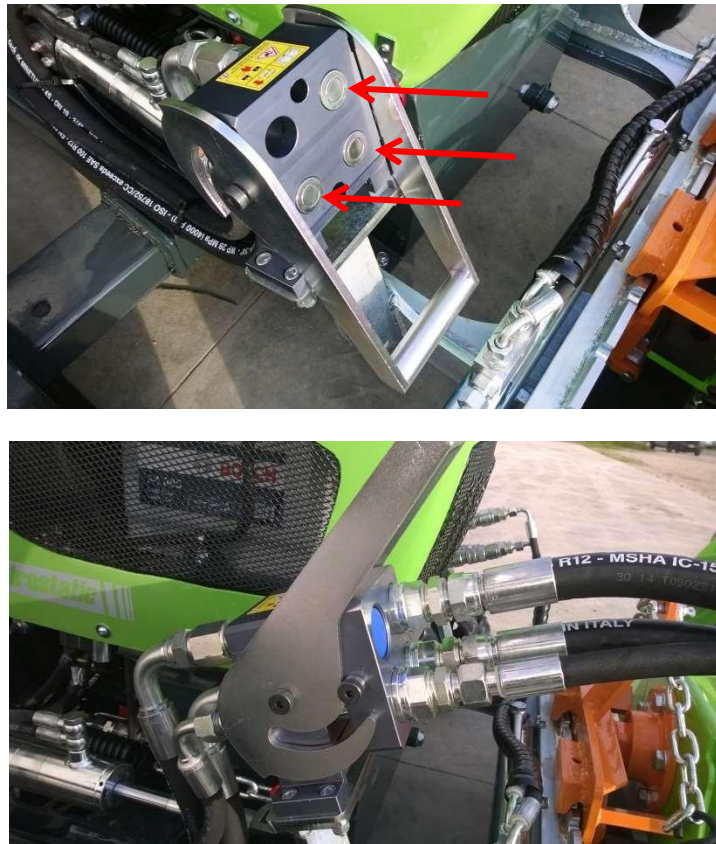
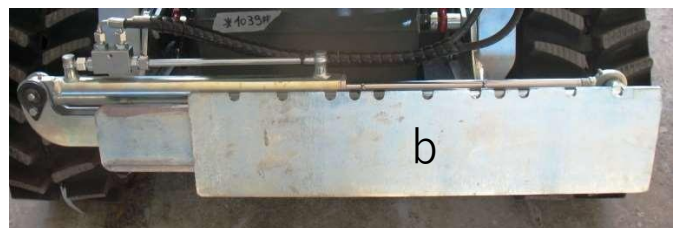


Fig. 16

4- position the plate of the orange-coloured shredder (a) against the plate of the LV 300 PRO (b), resting the guides of the plate of the shredder (c), on the upper part of the plate of the LV 300 PRO (Fig. 17);





## LV300 PRO



Fig. 17

5- lift the lever so as to allow complete locking of the SHREDDER to the LV 300 PRO plate (fig. 18);



Fig. 18

The LV 300 PRO SHREDDER is now ready for use.



## Operations and Maintenance



### LV300 PRO

Follow the operations described above for coupling in reverse order to unhook the equipment from the LV 300 PRO.

#### B.3 USE OF THE LV 300 PRO WITH SHREDDER

The controls and use of the LV 300 PRO machine with Shredder are those described for the basic machine, see Chapter 2.2 of the following manual.

Command - 8 - of the radio remote control (paragraph 2.2 of this manual), auxiliary for the equipment applicable to the LV 300 PRO, cannot be used with the TRINCIA equipment inserted.



**Danger!**

Operating the machine with equipment inserted from the front is forbidden. Operations must always be carried out from behind the machine.



**Danger!**

Before using the machine with the shredder, always check the area where it will be used. Remove unauthorized people and/or animals, mark out the work area with special structures, so as to persons not connected or authorized from entering the work area. Persons, animals and vehicles must not remain and/or transit near the machine while it is in operation.



**Caution!**

With equipment inserted, there is a danger of expulsion of blunt objects towards the operator's body and face from the front area of the machine. Always use the PPE indicated in this manual and on the labels on the machine. Always use as intended and follow safe practices, remaining behind the machine and **NEVER** in front of it. Do not fail to comply with this obligation for any reason.





## Operations and Maintenance



### LV300 PRO



#### **Danger!**

Never stand or manoeuvre the machine from below it on sloping terrain as the machine could overturn. Always stand or manoeuvre the machine from above.



#### **Caution!**

With the equipment attached, there is danger of contact with moving parts at the front of the machine.

Do not approach the machine's shredding parts when they are moving, with the transmission connected and the engine running.

Do not wear loose clothing that could get entangled in the moving parts.







# Operations and Maintenance

## LV300



# LOG BOOK

## ROUTINE MAINTENANCE

MACHINE MODEL	LV 300 PRO
SERIAL NUMBER	
YEAR OF MANUFACTURE	

<i>Date</i>	<i>Maintenance after 10 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>

<i>Date</i>	<i>Maintenance after 50 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>

<i>Date</i>	<i>Maintenance after 500 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance

## LV300



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<i>Date</i>	<i>Maintenance every 10 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance

## LV300



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# Operations and Maintenance

## LV300



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# Operations and Maintenance



## LV300

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<i>Date</i>	<i>Maintenance every 50 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance

## **LV300**



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# Operations and Maintenance



## LV300

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# Operations and Maintenance

## LV300



<i>Date</i>	<i>Maintenance every 125 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>





# Operations and Maintenance

## LV300



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<i>Date</i>	<i>Maintenance every 250 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance



## LV300

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# Operations and Maintenance

## LV300



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<i>Date</i>	<i>Maintenance every 500 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance

## LV300



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<i>Date</i>	<i>Maintenance every 1000 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance



## LV300

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<i>Date</i>	<i>Maintenance every 2000 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>





# Operations and Maintenance

## LV300



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<i>Date</i>	<i>Maintenance every 2500 hours of operation</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance

## LV300



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### UNSCHEDULED MAINTENANCE

<i>Date</i>	<i>Reason for the maintenance</i>	<i>Performed by</i>	<i>Signature and Stamp</i>



# Operations and Maintenance

## LV300



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<i>Date</i>	<i>Reason for the maintenance</i>	<i>Performed by</i>	<i>Signature and Stamp</i>