OPERATIONS AND MAINTENANCE MANUAL

Green Climber LV800

GREEN CLIMBER LV800

Dear Client,

Thank you for having purchased an MDB machine.

This Operations and Maintenance manual will enable you to fully appreciate the qualities of the machine. Please read the manual entirely before starting to use the machine. The manual contains important information, advice and warnings regarding the correct use of the machine, also allowing you to exploit the technology of this MDB machine. The manual includes essential information regarding the care, maintenance, operational safety, and conservation of the machine over time. Warnings and indications that require particular attention are called up by the following symbols:

 **DANGER:** This symbol indicates a situation of danger which, if not prohibited, will result in serious injury or death of the persons concerned.	 **WARNING:** This symbol indicates a situation of potential danger regarding the integrity of the machinery which, if not avoided, may cause damage to the machinery itself which, indirectly, could cause serious injury or death to the persons concerned	 **PLEASE NOTE:** This symbol indicates particularly important things to enable to work in the simplest and safest way with the machine.

We are sure that the accurate reading of this operations and maintenance manual will allow you to be in line with the MDB Green Climber LV800.

Pleasant reading.

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1 - DESCRIPTION OF THE MACHINE

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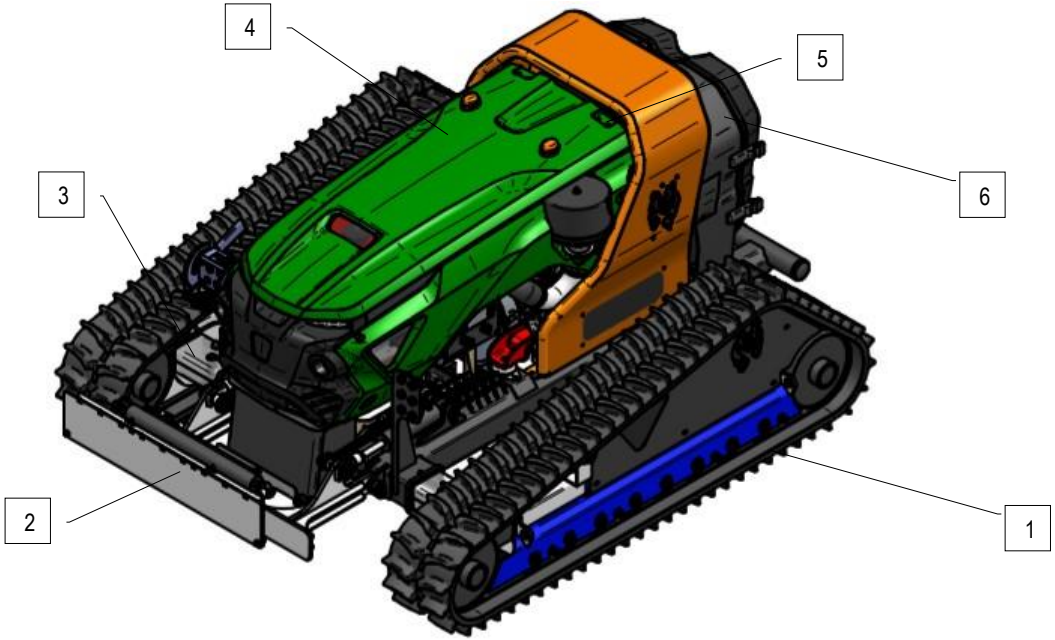
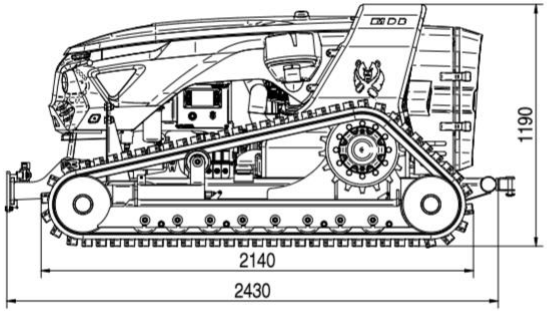
Brief indication of the parts

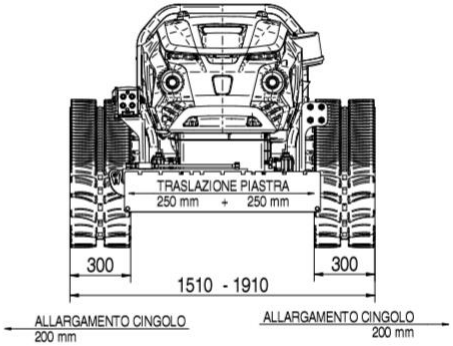


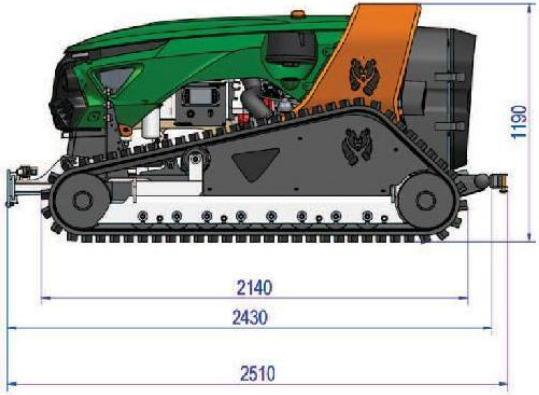
1 - Tracks
2 - Oscillation
3 - Structure
4 - Motor hood;
5 - Roll-bar
6 – Cover

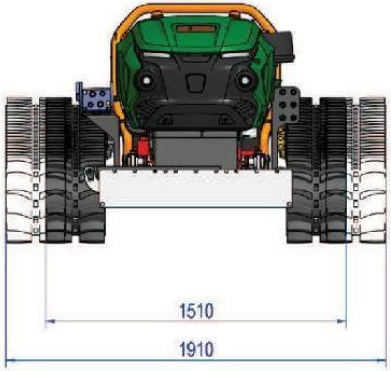
TECHNICAL DATA

The following images show the dimensions referring to the fully equipped machine in mm. Height refers to the work quota.









Slight changes in measurement are possible during construction

DIMENSIONS

Machine height	1190 mm
Min. machine width	1510 mm
Max. machine width	1910 mm
Machine length	2510 mm

WEIGHTS

Empty weight of the machine with all liquids and fuel tank at 90%	Kg 1750
Motor only weight	Kg 267
Machine only weight	Kg 680
Hydraulic pumps	Kg 56

ENGINE

Engine Code	KDI2504TCR/26°
Dimensions H x W x D (mm)	719.5 x 704.3 x 3.6
Operating temperatures	-40 +50
Cycle	Eight
Water cooling	
Number and position of cylinders	4 in-line
Bore (mm)	88
Run (mm)	102
Total displacement (cm3)	2482
Maximum power (CEE) (KW)	55.4
Matching capacity (rpm)	2400
Maximum torque (CEE) (Nm)	300
Matching capacity (rpm)	1500
Torque at 1000 giri/min (Nm)	226
Fuel	Diesel fuel for motor vehicles (Specification EN590)
Power	Common rail (2000 bar) electronically controlled

ADDITIONAL TECHNICAL DATA

Diesel tank capacity	45 l
Radiator capacity	12 l
Hydraulic oil tank capacity	32 l
Type and version of remote control	IRA Radiatori Engineering srl RC50553712C
Type and version of remote control	IMET M880 - THOR 2 X4N

GENERAL INFORMATION

This manual contains the information and what is deemed necessary for the knowledge, good use and normal maintenance of the 'Green Climber LV800' machine, also indicated as the machine, manufactured by MDB S.r.l. with headquarters in C.da S. Onofrio n. 6/A in Lanciano (Chieti) Italy, also indicated as the 'Manufacturing Company' or 'Manufacturer'. The following is a complete description of the various parts and a detailed presentation of their operation, along with what is normally useful to know for operations in safety and for the optimum conservation of the machine itself.

The document is an integral part of the machine and is issued by the Manufacturer, who therefore owns the copyright. This manual is intended for personnel assigned to use the LV800 machine and contains technical standards and drawings, which must not be reproduced (even in part), nor disclosed by any means, used for competitive purposes nor made available to third parties by virtue of the aforementioned rights.

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

WARRANTY

The warranty covers manufacturing defects. The manufacturer may not be held responsible for any damage that occurs during transport. The machine is transported 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 perform the fastening of the machine, assuming liability if transport is carried out with his own means.

If transport is performed 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 damage has been caused. 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 deemed appropriate by the customer. The accessories and documents that accompany the machine are located on board, duly protected to prevent any damage. 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.

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 other than that defined in this manual.
- Removing the guards installed on the machine: the guards must not be removed under any circumstances; moreover, they must be periodically inspected, and restored to their original condition if damaged;
- Failure to comply with the machine-related safety measures mentioned in the operations manual.

The warranty period is specified in the quotation and, in any case, shall not exceed 12 months from the shipping date.

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. For the warranty to be granted, the parts must be sent to MDB for examination and, once confirmed, replacement of the part will be authorised.

MANUFACTURER'S ID AND ASSISTANCE

Name : MDB S.r.l.
Head office : C.da Sant'Onofrio, 6/A – LANCIANO (CH) - ITALIA
Phone : +39 0872.50221
Fax : +39 0872.50231
E-mail : info@mdbsrl.com
VAT number : 01960690699
TECHNICAL ASSISTANCE
Technical assistance is always provided by the manufacturer. For further information call: +39 0872.50221

MACHINE ID

The LV 800 is identified by CE marking, prepared in accordance with specifications provided in the 2006/42/EC European Directive (so-called Machinery Directive), of Legislative Decree n. 17/2010 implementing the Machinery Directive in Italy and of Italian Legislative Decree 81/08 and subsequent amendments to the Consolidated Text on Safety in the Workplace implementing the
European directives concerning this matter. Essential data regarding marking can be found on the ID plate positioned in the lower part of the same machine (see the figure below: CE ID Plate).

PURPOSE OF THE MANUAL, CONSERVATION AND USE

Purpose

The purpose of the “Operations and Maintenance Manual” is to provide all those who will use the Green Climber LV800 with all the information necessary for its diligent use and maintenance in optimal conditions; particular attention has therefore been given to ensure that this occurs in the most extensive safety conditions for operators. The equipment is supplied to be used as specified in this manual. Operators are reminded to always be aware of safety aspects while operating the machine, to improve its safety.

Conservation

- The following instructions must be followed closely in order to keep the manual in perfect conditions:
- Use the manual so that it is not damaged in any way;
- Do not remove, add, change or write in any part of the manual; updates may be carried out only by MDB S.r.l.
- Keep 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.

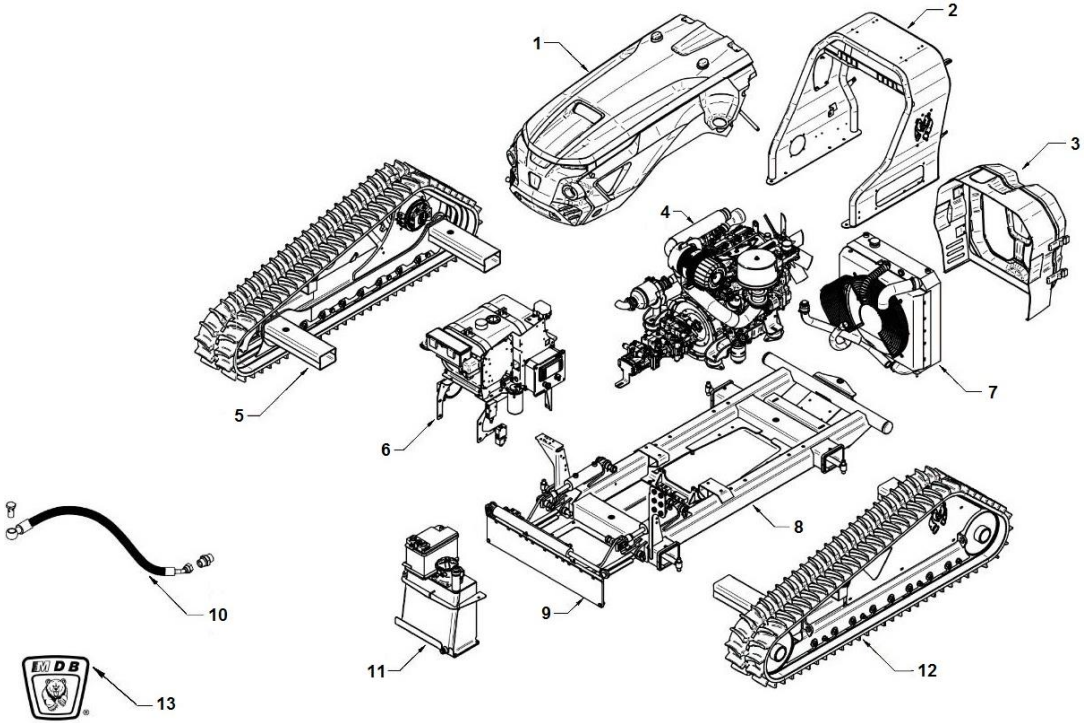
Operations

Get to know the equipment before starting to use it by reading this manual carefully. Operators must be properly and fully trained on the contents of Chapters 4 and 5 regarding machine operations and functions before using it for the first time.
The machine manufacturer may not be held responsible for damage to persons, animals, goods or the environment resulting from the use of the equipment by operators not meeting the requirements.

INFORMATION REGARDING THE MACHINE

The following graphic illustration shows the main parts that make up the body of the MDB branded machine called ‘Green Climber LV 800’ with numbers referring to the exploded view of the machine itself:

1. Hood kit
2. Roll-bar kit
3. Cover kit
4. 75 HP engine kit
5. Right undercarriage kit and track
6. Castle kit
7. Radiator kit
8. Structure kit
9. Oscillation kit
10. Hydraulic system
11. Oil tank kit
12. Left undercarriage kit and track
13. Stickers



LIST OF PARTS

The Green Climber LV 800 is mainly made up of:

1. S235JR steel base frame. Welded structure;
2. Tracks;
3. Hydraulic oil tank;
4. Diesel tank;
5. Hood;
6. Roll-bar;
7. Rear cover;
8. Air filter;
9. Exhaust assembly;
10. Engine;
11. Battery;
12. Remote control receiver;
13. Remote control transmitter;
14. Plate for quick coupling of equipment;
15. Control unit;
16. Headlights;
17. Flashing headlights;
18. Spare battery and battery charger for the remote control;
19. Cleanfix reversible fan;
20. Towing winch.

DEMOLITION AND DISPOSAL OF THE MACHINE

For normal disposal of machinery (after demolition), all parts must be delivered to a company specialized in the transport, disposal and/or recovery of waste.

The LV 800 is made up of components fixed to a welded steel frame. It is moved by rubber tracks. The machine track width is variable and can be set by means of the remote control system. The diesel engine drives the machine's hydraulic circuit by means of hydraulic pumps. The LV 800 is a self-propelled machine designed to be used in agriculture and forestry.

There is a quick coupling at the front, only to be used for connecting equipment designed and built by MDB. The type of equipment that can be applied to the LV 800, (only if authorized by the manufacturer), is as follows:

- Shredder;
- Cutter
- Atomiser;
- Grass cutter;
- Snow turbo;
- Snow removal blade;
- Glass shredder;
- Forestry shredder;
- Trunk cutter

Keys for machine operations

The keys that are delivered together with the machine must be used to start up the machine (for the start-up procedure see the relevant section of Chapter 5) to be inserted in the appropriate slot on the control panel (See photo below).

In the case of lost keys, contact the manufacturer to request copies.

SIGNALS AND ALARMS

Visual

Operators must be informed regarding visual and acoustic signals relating to the machine indicating malfunctions or failures before using the machine. Visual signals are indicated mainly by the LEDs on the remote control displays (description in the following Chapter 3 on the control system) and are those relating to the operations phase. There are also visual signals on the control panel, which are mainly related to the start-up phase.

Sound
The machine is equipped with two types of acoustic signals: the horn on the machine and the buzzer on the remote control. Both acoustic signals go off when errors occur.

On the remote control
As anticipated in the previous point, the remote control is equipped with both visual signals (LED on the display of the same) and acoustic signals in the case of errors (buzzer). The different types of signals are specifically described in chapter 5.

OPERATING CONDITIONS
Thanks to its extremely low centre of gravity, the LV 800 machine can easily work on any type of terrain, even on steep slopes. The recommended safe working angle is 44° with the tracks open and 40° with the tracks closed, values determined by calculations performed in accordance with EN ISO 16231-1: 2013 which specifies the principles for risk assessment with reference to the design and construction of self-propelled machines with operator on board used in agriculture. MDB has tested the machine on sandy terrain up to slopes of 55°; both with the tracks open and with the tracks closed the machine showed excellent stability in all configurations that can be reached. The technical specifications of the machine would allow use even on slopes greater than 55°, nevertheless, the inclinations indicated above resulting from the calculation report (40° and 44° depending on the configuration of the tracks) should not be exceeded to ensure safe use.
The remote control allows the operator to work with peace of mind even on the most uncomfortable and impractical terrain respecting some simple indications regarding the position of the operator with respect to the machine.

Caution!

The recommended inclination for working in safety, especially on soils with conformation other than sandy, should not be exceeded.
On steep terrain, never stand or manoeuvre the machine from a position in the area below it, as the machine could overturn in this area. Always stand or manoeuvre the machine from the area above it.

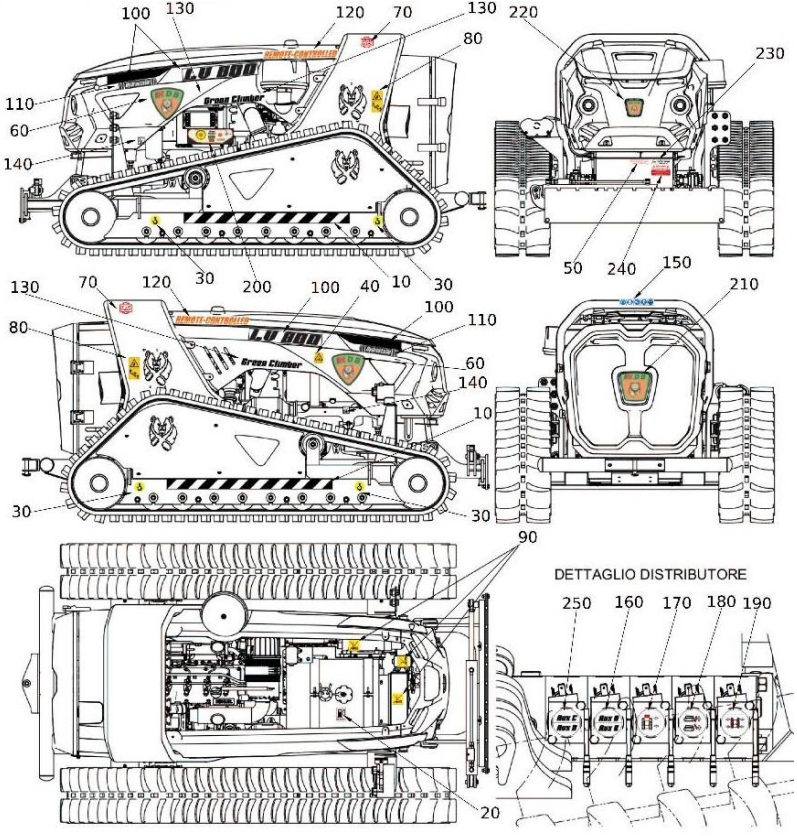
Danger!

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

The LV 800 was built in compliance with the applicable work safety regulations, directives and applicable European standards. Only the equipment indicated in Attachment B of this manual can be connected to it.
Before connecting equipment other than that indicated in the above indicated Attachment, the customer must request authorisation from MDB's technical department, which will perform the necessary checks and reply, confirming the possibility of connection or not. If any equipment not intended by MDB for use with the LV 800 is connected, without first requesting authorisation and receiving a formal reply, MDB is exempted from any constructional or functional liability 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.

STICKER LEGEND:

The following figures and table show the stickers on the machine and relative positions.



190 - 1 pz.			10 - 2 pz.
180 - 1 pz.	DIESEL 20 1 pz.	30 4 pz.	80 2 pz.
170 - 1 pz.	HOT 40 - 1 pz.		USARE OLIO AGIP-OSO46 USE AGIP-OSO46 OIL 50 - 1 pz.
Aux C Aux D 160 - 1 pz.	DB 60 - 2 pz.		PATENT PENDING 70 - 2 pz.
Aux A Aux B 250 - 1 pz.	DB 210 - 1 pz.		DB 220 - 1 pz.
200 - 1 pz.	Biologisch abbaubares Hydrauliköl PANOLIN HLP Synth 46		Hydrostatic 110 - 2 pz.
230 - 1 pz.	ACHTUNG Vermischungsverbot ausschließlich PANOLIN HLP SYNTH nachfüllen !!!		REMOTE-CONTROLLED 120 - 2 pz.
240 - 1 pz.	LWA 100 dB		Green Climber 130 - 2 pz.
140 - 1 pz.	90 - 3 pz.		LV 800 LV 800 100 - 1 pz.
			150 - 1 pz.

INDICATION AND DANGER STICKERS:

The following illustration shows the details of the symbols concerning safety (according to law) and in particular those of danger (yellow) and those regarding indications (blue), the latter relating above all to PPE (personal protective equipment) to be worn during use of the machine.

	A protective helmet must be used		Protective footwear must be used
	A protective face mask must be used		Ear protection equipment must be used
	Protective work gloves must be used		Work clothing must be used
	Reference must be made to the operations and maintenance manual		Danger high temperature

	Danger of crushing Watch your hands		Danger of expelled objects
	Danger of crushing and collision Do not stand near the machine On steep terrain, never manoeuvre the machine from a position in the area below it, but always from the area above it.		Danger of contact with moving working parts Do not approach the shredder when the machine is moving. Avoid wearing loose, loose fitting clothes with the transmission engaged and the engine running.

3.2.4 RECOMMENDATIONS FOR THE SAFE USE OF THE MACHINE

In order to ensure the correct and safe use of the machine, certain rules, essential for safety at work, must be observed, described as follows:

The machine must only be used outdoors during the day, with sufficient visibility for the operator to see the work area for a radius of at least 100 m.

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 not allow unauthorized persons to enter the area.

The control and use of the machine take place exclusively by means of the remote control and must be allowed only to operators who are aware of the operation of the latter in relation to the machine itself.

It is forbidden to turn on the transmitter in places that do not allow complete visibility of the machine operated by remote control. Activating the transmitter indoors or away from the receiver, does not allow to have real awareness of the manoeuvres that are being carried out, resulting in a situation of danger. If work is suspended, even for short periods, the control unit must be switched off and the battery must be removed from the transmitter.

When the machine is in use, other persons must not be positioned and/or working near it or inside the marked out area unless authorised.

The operator controls the machine by means of a remote control device, and is therefore not near the area of danger of the machine. 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 range of action of the remote control is set at a distance of 100 m, which must be the minimum range of view of the working area.

The lighting system with which the machine is equipped, consisting of two lighting devices at the front, is also used to establish the visibility of the work area according to the above parameters and is not suitable for illuminating the work area at night, when visibility in those ranges is compromised and the machine must not be used.

GENERAL INFORMATION REGARDING RISK ANALYSIS

The risk analysis concerning the use of the Green Climber LV800 focuses on all the risks typical for machines of this type that operate in the same sector. Those indicated below, which are present during the use of the machine itself, concern the operator and any other person present during the use of the same.

VIBRATION RISK

It should be noted that the Green Climber LV800, compared to machines of the same type that do not have a remote control system, generates vibrations during use. Since it is operated from a distance by means of a remote control, these vibrations cannot harm the operator.

Caution!

NOISE RISK

Considering that the machine is intended to operate exclusively outdoors, noise measurements were carried out as required by directive 2000/14/EC concerning the environmental noise emission of machines and equipment intended to operate outdoors, by means of dynamic - static measurement with moving machinery, in accordance with procedure 2 Annex VI of the directive itself for machines of this type. The measured sound pressure level was 85 dB(A) (also given the tolerance for uncertainty). Therefore, **the use of hearing protection** is required by law (at least earplugs).

Caution!

DANGER OF EXPELLED OBJECTS

With equipment mounted on the machine, there is a danger for the operator regarding the expulsion of objects from the front of the machine. Always wear the PPE indicated in this manual and on the labels on the machine. **Always use as intended and follow safety indications, remaining behind the machine and NEVER in front of it. Do not fail to comply with this obligation for any reason.** In relation to this risk, therefore, the use of a protective helmet, face mask and work clothing according to the law is required.

Danger!

RISK OF OVERTURNING

On steep terrain, never stand or manoeuvre the machine from a position in the area below it, as the machine could overturn in this area. Always stand or manoeuvre the machine from the area above it. In the same way, make sure that no other person authorised to stay on site occupies the aforementioned area.

Caution!

RISKS CONNECTED TO THE USE OF THE REMOTE CONTROL

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 could be lost, which would block the machine and turn of the engine. To restore normal operation, follow the instructions in Chapters 4 and 5 of this manual. Any loss of communication between transmitter and receiver due to electromagnetic disturbances or interferences leads the radio control to stop automatically (clause 9.2.7.3 EN 60204-32) which implies a new machine start-up procedure.

Danger!

RISKS CONNECTED TO THE AREA OF WORK

Before starting work and manoeuvring the machine, make sure that there are no persons and/or animals in the work area. 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. In the case of authorised personnel on site, the operator must ensure that they are adequately informed of the risks related to the machinery referred to in this chapter and that they comply with them. The operator must, in any case, ensure that the personnel present on site are not exposed to the risks referred to in the previous paragraphs, and that they are never present in the dangerous areas described above, and who must wear the prescribed PPE.

PPE DURING USE OF THE MACHINE

The Personal Protective Equipment (PPE) to always be worn when using the machine, is that required according to the risks identified and described in the previous paragraph and more precisely the following:

- Protective helmet (Risk of expulsion of objects)
- Protective face mask (Risk of expulsion of objects);
- Protective earphones (Noise risk);
- Protective work gloves (Risk of crushing and expulsion of objects);
- Protective footwear (Risk of crushing and slipping);
- Work clothes (Risk of expulsion and entanglement).

The requirement signs for the use of PPE are those already illustrated in the tables on pages 15 and 16.

REFERENCE STANDARDS FOR MACHINE SAFETY

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 - Safety of Machinery - Electrical Equipment of Machines - 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 - Safety of Machinery — Minimum gaps to avoid crushing of parts of the human body;
- 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: Combined 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;
- EN ISO 5395 – 1.2013 - Gardening machinery - Safety requirements for lawnmowers with internal combustion engine.
- ISO 6395:1988 - Acoustics - Measurement of exterior noise emitted by earth-moving machinery - Dynamic test conditions.

EUROPEAN STANDARDS

- MACHINERY DIRECTIVE 2006/42/EC;
- ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2014/30/EU;
- LOW VOLTAGE DIRECTIVE 2014/35/EU;
- DIRECTIVES FOR THE IMPROVEMENT OF WORKER SAFETY AND HEALTH DURING WORK 80/1107/EEC, 82/605/EEC, 83/477/EEC, 86/188/EEC, 88/642/EEC, 89/391/EEC, 89/391/EEC, 89/654/EEC, 89/655/EEC, 89/656/EEC, 90/269/EEC, 90/270/EEC, 90/394/EEC, 90/679/EEC, 93/88/EEC, 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/EEC, 2002/44/CE, 2006/25/CE, as applicable;

- ENVIRONMENTAL ACOUSTIC EMISSION DIRECTIVE OF MACHINES AND EQUIPMENT INTENDED TO OPERATE OUTDOORS 2000/14/CE and 2005/88/CE;

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

3 – TRANSPORT AND EMERGENCIES

TRANSPORT OF THE MACHINE

The LV 800 machine is delivered to the purchaser adequately protected from impacts during transport and on arrival at its destination, the connection points specially prepared on the machine, positioned in the lateral areas inside the tracks and indicated by the special symbol (see image on the side), must be used to position the machine on the ground.

Transport to the work site

The same hooks must be used each time the agricultural machine is loaded onto the vehicles used to move it to the different work sites. (It should be noted that the LV 800 is a work machine and can only move within delimited sites and can never circulate on public roads for the normal movement of vehicles if not transported by dedicated means of transport used for normal road traffic).

EMERGENCIES

Possible emergencies are listed below, also concerning the faults that could occur to the machine during operations on site.

Transport during an emergency

In the event of breakdown or grounding of the machine, use the hook or the appropriate winch located at the rear of the machine itself.

Stopping the machine during an emergency

If, while using the machine, the operator needs to block the machine and is unable to do so using the normal remote control device and/or control panel, the machine is equipped with 2 emergency buttons, one on the bottom left side of the machine, on the control panel, and another on the remote control device. These are easily identifiable red mushroom-shaped buttons (See Figures).

When the emergency button is pressed, it remains down, and the machine 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;
- The button is now released. To start the engine and continue working, follow the instructions in Chapter 4 of this manual.

Remote control failure

As indicated previously, the remote control is the only control system of the machine. In the event of a remote control failure, try to 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. If the radio battery is flat, replace it with the spare one in the special container under the hood in the housing above the middle battery. See the following figures.

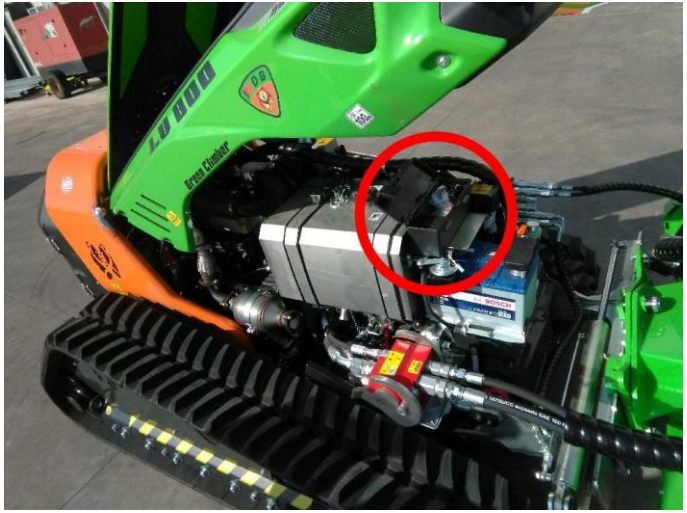


Fig. 3.1

Electrical failures:

This type of failure is detected when the machine as a whole or only one or more components fail. Excluding damage of the latter, the problem can be caused by the lack of power supply of the same, therefore discharged or damaged battery. In this case the battery should be replaced or recharged. If, on the other hand, the general power supply is present and one or more of the machine components do not function, check that the relative fuse that protects the components has not blown and therefore should be replaced (see specific position in the following figure). In this case, however, the reason must be investigated and if the fault recurs, specialised assistance must be contacted.

Fig. 3.2

4 – COMMISSIONING AND USE

WARNINGS

Before proceeding with commissioning, read the following indications carefully and carry out the operations following the instructions indicated accurately, in order to minimise the risk of damage and injury to people or objects, as well as to the machine itself.

Verify the simple conditions necessary for the correct use of the same and, in particular, the levels of engine oil, fuel and coolant (and refuel if necessary) before starting the machine.

REFUELLING

The main methods for safely carrying out the various types of refuelling are as follows, along with those necessary for the correct and safe use of the machine both as regards ordinary maintenance, which must be performed by the user of the machine and to whom it is entrusted, as well as the control of the levels to be operated also with respect to the times and intensity of the work carried out by the machine.

Refuelling

Fuelling must be carried out only with the engine turned off, and smoking and the use of naked flames are strictly forbidden while refuelling, to prevent explosions or fires. The fumes generated by the fuel are highly toxic, carry out the operations only outdoors or in well-ventilated areas being careful not to have your face too close to the cap so as not to inhale harmful fumes (do not disperse the fuel into the environment as it is highly polluting).

To refuel, use a funnel to avoid fuel spills, filtering is also recommended to prevent dust or dirt from entering the tank (do not fill the fuel tank completely to allow the fuel to expand).

N.B. when refuelling for the first time or if the tank remains empty, fill the fuel circuit (see engine manufacturer's operations manual).

Use only and exclusively fuels that are approved by the engine manufacturer as indicated in the table on the next page.

The following table indicates compatible fuels allowed for use by MDB and the engine manufacturer:

COMPATIBILITÀ CARBURANTI								
	Compatibile		Copertura garanzia		Deterioramento motore		Certificazione emissioni	
	si	no	si	no	si	no	si	no
EN 590, DIN 51628 - Military NATO fuel F-54 (S=10 ppm)								
Bio Fuels (EN14214)	(4)		(4)			(4)	(4)	
ARCTIC (EN 590/ASTM D 975)	(2)							
No 1 Diesel (US) - ASTM D 975 - Grade 1-D S 15 (S=15 ppm)								
No 1 Diesel (US) - ASTM D 975 - Grade 1-D S 500 (S=500 ppm)			(1)			(1)		
No 2 Diesel (US) - ASTM D 975 - Grade 2-D S 15								
No 2 Diesel (US) - ASTM D 975 - Grade 2-D S 1500			(1)			(1)		
High sulfur fuel < 5000 ppm (<0.5%)			(1)			(1)		
High sulfur fuel > 5000 ppm (>0.5%)			(3)			(3)		
High sulfur fuel > 10000 ppm (>1%)								
Civil Jet Fuels Jet A/A1								
Civil Jet Fuels Jet B								

Refuelling engine oil

Unscrew the oil refuelling cap “A” (Fig. 4.1) in the upper part or, if this is not accessible, the lateral part “C” and refuel with oil of the prescribed type (Viscosity SAE 5W-40 (≥-25°C); 0W-30 (<-25°C) and with API CJ4 and ACEA E6-E9 specifications.

Make sure that the machine is on a flat surface before checking the oil level.

Remove the dipstick to check the oil level and check that the level is near but not higher than the MAX. Top up if the level is not near MAX and reinsert the oil dipstick correctly.

Screw back on Cap “A” or “C”.

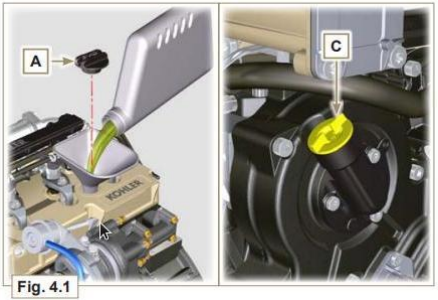


Fig. 4.1

Important

Do not use the engine if the oil level is below minimum. If the engine oil warning light comes on and if engine oil level checks have been carried out using the specific dipstick (as already described in the previous point), the oil level is lower than the minimum level according to the mark on the dipstick itself (see figure at the side), do not use the machine unless you have previously refuelled the engine oil as described in the previous point, and then double-checked the level again, making sure that the level itself is at least between the minimum and maximum marks on the engine oil level dipstick as shown in figure 4.2.

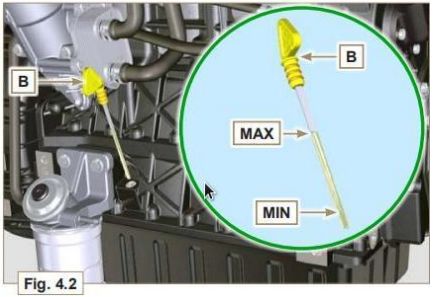


Fig. 4.2

Refuelling coolant

Unscrew cap “A” (Fig.4.3) and refill the radiator with the cooling liquid consisting of: 50% antifreeze and 50% decalcified water. The fluid must cover the pipes inside the radiator by about 5mm. Do not fill up the radiator completely but leave enough space for coolant fluid expansion. For engines equipped with expansion tank, fill the liquid up to the maximum level.

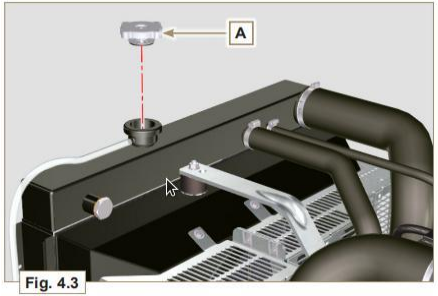


Fig. 4.3

Loosen screw "C" to let out any air present then screw back in screw "C" (tightening torque at 8 Nm). Screw cap “A” back on. After a few hours of operation, stop the engine, wait for the coolant to return to a temperature close to that of the environment and check the level again.


Fig. 5.4

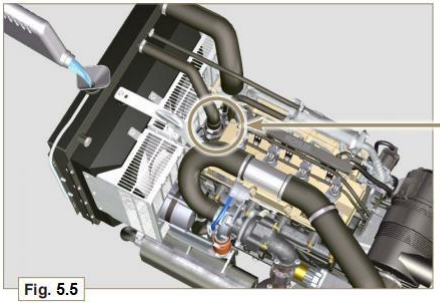


Fig. 5.5

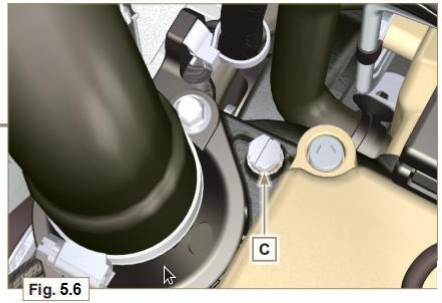


Fig. 5.6

Caution!

Do not continue to use the machine if a leak in the cooling system is detected or the liquid level is too low, as this could cause irreparable damage 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 must cover the pipes inside the radiator by about 5mm. Do not fill up the radiator completely but leave enough space for coolant fluid expansion.

START-UP

Turn the metal lever of the battery switch, located on the right side of the machine, clockwise bringing it to the position shown in Figure 4.7, and switch on the ignition by turning the key (figure 4.8) to position, "1"

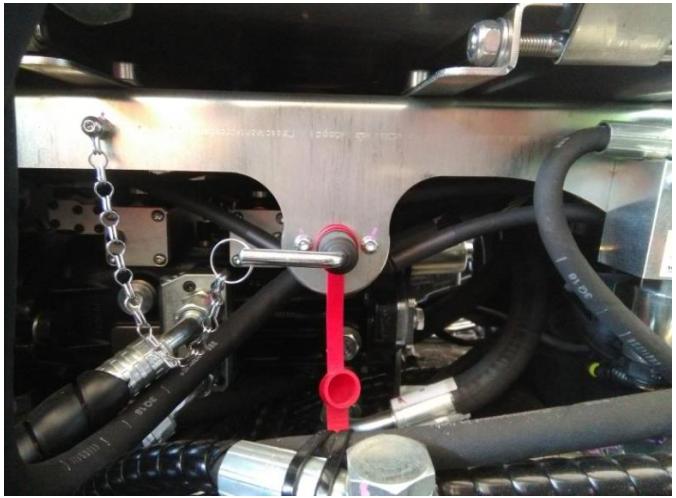


Fig. 4.7

Please remember that the Green Climber LV800 by MDB is controlled only by the remote control (IMET 880 - See chapter 5 regarding the control system).

Press button “E” to connect the transmitter and the receiver:

- once to switch on the transmitter. The blue “RX” LED and “TX” green LED will start to flash.
- once again to confirm the connection. The two LEDs stay on permanently and the WHITE RF Busy LED on the RX lights up.

N.B. Wait for the system to update if the YELLO LED stays on after having pressed the E button. This will take from 3 to 8 minutes, after which the LED will switch off.

The thermal engine of the machine (KOHLER Diesel KDI 55 kW) must be started to start up the machine. To this end, keep button A on the left side of the radio control pressed down (see figure on the side) in "RADIO" mode.

Alternatively, the engine can be started from the control panel located on the left side of the machine (fig. 4.8) by turning the key on the panel to "START" and releasing it immediately after starting (the key will return to position "1" automatically.

Fig. 4.8

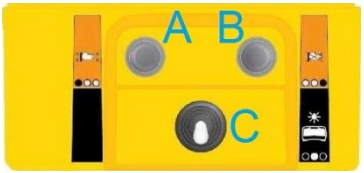
Caution!

If the machine does not start up in 15 seconds, wait 1 minute before repeating the start-up procedure.

Once the machine has started up, and after making sure that the transmitter and radio receiver have established contact at the pre-set frequency, (as described in this paragraph), the machine can be operated using the upper controls of the remote control as described in Chapter 5 below.

STOPPING THE MACHINE

The machine's engine can be stopped in two ways:
- Manually;
- With the remote control.



To turn off the engine manually, turn the key switch on the control panel to the switch-off position "0" (See figure on the previous page).
To turn off the engine in "RADIO" mode, press button B at the left of the remote control (see figure at the side).

With regards to stopping in emergency situations, see the relevant section in Chapter 3 on page 22.

EQUIPMENT TO BE USED

The LV 800 is made up of components fixed to a welded steel frame. It is moved by rubber tracks. The machine's gauge is variable and configurable by means of the
remote control system. The diesel engine drives the machine's hydraulic circuit through hydraulic pumps. The self-propelled Green Climber LV800 machine has been designed for use in the agricultural and forestry sector. There is a quick coupling at the front, only to be used for connecting equipment designed and built by MDB. The equipment authorised by MDB for use with the LV800 is listed in Chapter 1 (page 10).

5 - Control system

DESCRIPTION OF THE CONTROL SYSTEM

The control system is made up mainly of two parts: the transmitter (remote control), with which the user transmits the commands to the MDB Green Climber LV800, and the receiver (on the machine itself). The remote control console is practical, clear and user-friendly. It allows to control all functions of the machine, allowing to perform even the most difficult manoeuvres in the most favourable position in complete safety and freedom. The casings made of impact-resistant plastic material withstand the most severe conditions of use while maintaining the maximum reliability and functionality. Equipped with removable and rechargeable hermetic battery, the M880 portable transmitter (IMET) ensures continuous operation for long shifts even in harsh environmental and climatic conditions. *The automatic frequency change avoids the use of channels already occupied by other devices.* The operator can set the transmission on a fixed channel. The radio transmission is continuous and encoded: each receiver is able to recognize only the commands coming from its own transmitter, thus avoiding unwanted activation by other radio commands in the same area. Each remote control is designed and built in accordance with European industry directives and standards and meets the highest levels of safety.

CONTROL PANEL

The control panel installed on the left side of the machine is made up of the key start command, the emergency stop button and the "Murphy PowerView 450" type display (See Image at the side Fig. 5.1).

When the system starts, the presentation screen with the MDB logo will be displayed for a few seconds followed by the main work page, where all the normal information regarding the engine will be displayed (Temperature, engine oil level, fuel level, machine work hours, etc.).

Fig. 5.1

Pressing the button indicated in the previous image with the letter "W" will display the following screen, allowing to monitor the angle of the machine both horizontally and vertically. When a horizontal and/or vertical angle of 40° has been reached, the alarm signal superimposed on the machine images will appear (as in the figure at the side Fig. 5.2).
Press the “Q” button indicated in the figure on the previous page to leave the page.

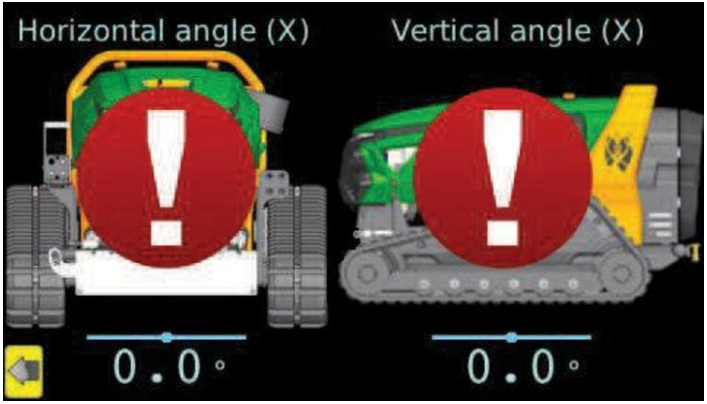


Fig. 5.2

Danger!

NEVER exceed 40° horizontal and/or vertical inclination with closed tracks and NEVER exceed 44° with the tracks open. The machine could overturn and cause serious harm to people or objects!

Alarm page

This page (“Alarm Page”) will automatically appear upon the occurrence of one or more conditions of engine alarm, the colour depends on the type of alarm:
GREEN LOW type alarm, self diagnosis of the control unit has detected anomalies which have been resolved automatically.
MEDIUM YELLOW alert, the system alerts with visual and acoustic signals that there are abnormalities that must be kept under control, the machine must be taken to a service centre as soon as possible.
RED: HIGH type alarm, the system warns with acoustic and visual signals that there are anomalies or serious situations, the error is saved.

Alarm descriptions

RED HIGH type alarm: 3 beeps are emitted, the error is stored, **the message with the red logo** remains on the display until manual reset is carried out by the operator.

This type of alarm is set for the following anomalies:

1) The engine has reached 110°;
2) Low engine oil pressure;
3) The machine has reached a vertical and/or horizontal inclination of 40°;
4) Presence of water in the fuel filter;
5) Engine rpm out of range;
6) High temperature of diesel fuel inside the pump;
7) Clogged air filter;

These **HIGH** types of alarms, excluding the control of horizontal and vertical inclination of the machine, have a direct effect on the engine, reducing its power to 60%.

Important!

If the engine reaches a temperature of 110°C, bring the rpm to a minimum and turn it off after a few minutes. Do not turn off the engine immediately to avoid causing serious damage!

YELLOW MEDIUM type alarm: 2 beeps are emitted and **the message with the timed yellow logo** appears on the display. The error message remains on the screen for a few seconds and then goes back to its normal size. This type of alarm is set for the following anomalies:

1) Alternator fault;
2) Low battery;
3) Scheduled maintenance due
- Hydraulic oil and filter replacement 1000 hours;

- Change the air filter 250 hours;
- Engine service 500 hours;
4) hydraulic oil pressure below 18 bar;
5) fuel level below 30%;

Display indications

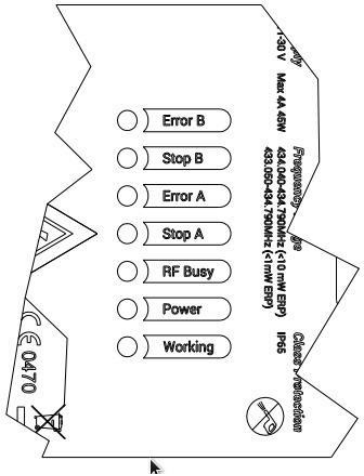
	Diesel reserve	The indicator shows the level of fuel in the tank.
	Working hours	The display shows the number of hours that the machine has worked.

REMOTE CONTROL SYSTEM

As already stated, the MDB Green Climber LV800 has a single control system, that is, by means of the IMET Model 880 remote control, the operation of which will be described in detail in the following paragraphs.

Powering up and starting the remote control

- 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.
- Power-up the machine (See Chapter 4 “Commissioning and Use” to start-up the Green Climber LV800) and receiver.
- Wait 2 seconds while the receiver runs the safety tests. If the test result is positive, the red "STOP A” and "STOP B" LEDs, and the green POWER LED (on the receiver itself) will remain on.
- Turn on the transmitter using the START button, waiting for the link to be established between the transmitter and the receiver (GREEN and BLUE LEDs on the TX flashing and RF Busy WHITE LEDs on the RX on).



P.S.: If the access code option (PIN CODE) is enabled, the green LED is activated continuously; after the continuous lighting of the LED proceed as follows:

1. Operate the joystick or the C.F.x1 selector for the same number of times as the first digit of the access code;
2. Confirm entry of the digit by pressing the START button;
3. Repeat the sequence for the remaining digits of the code.

- Activate the driving command for 1 second: correct operation will be indicated on the transmitter by the fixed light of the TX(GREEN) and RX(BLUE) LEDs, STOP A and B on the receiver will go from red to green, and the Working LED (BLUE) will light up. The desired commands can now be carried out.

STOP functions

Press the red mushroom-shaped button; this will open the STOP circuit on the receiver and prevents all commands. Reset the button (ISO 13850) and press the START button to resume operations. The EMERGENCY STOP button is located both on the remote control and on the command panel on the machine.

Switching off

The machine can be switched off in three different ways using the remote control:
- Press the STOP button, the remote control will switch off after 10 seconds.
- Turn the key switch (if present) anti-clockwise.
- Remove the battery.

The transmitter will switch off and the safety circuits opened, all commands will be prevented. The transmitter will, in any case, switch off when the battery is completely discharged.

Auto switch-off

The auto switch-off time can be sent on request up to a maximum of 60 minutes, in steps of 1 minute. The M880 transmitter unit on DIN rail switches off automatically after 20 hours for automatic failure checks on the safety systems required by the ISO 13849-1 standard.
The auto switch-off function on the M880 transmitter unit on DIN rail can be excluded as per request and responsibility of the customer, in this case the STOP circuit is classified in 3 Pld category.

REMOTE CONTROL LED INDICATORS

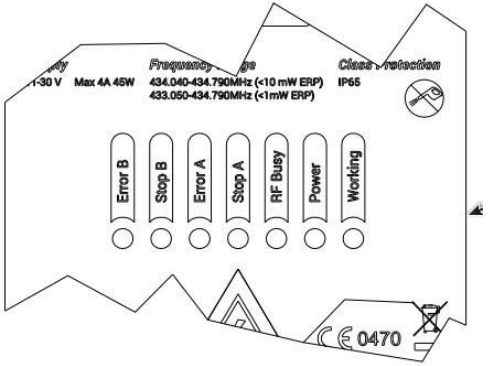
The transmitter is equipped with 5 LEDs informing the operator regarding:
- Operating status
- Malfunctions
- Type of failure and diagnostic functions
- Low battery

Transmitter	
TX LED (GREEN) status	***Indication***
Off	*The transmitter is off or faulty (see relative chapter)*
On	*The transmitter is working correctly*
Flashing	*The transmitter is turned on but is not operational*
LED status YELLOW ON BLACK BACKGROUND	***Multi-function indicator***
Low battery	*Two flashes every 20s.*
Joystick Calibration:	
Test phase	*Continuous access*
calibration of minimum	*Single flash followed by a long pause*
calibration of maximum	*Double flash followed by a short pause*
inverse calibration	*Continuous flashing*
Morse Code	*Indication of transmitter error*
LED status RX (BLUE)	***Indication***
Off	*The receiver is off or faulty*
Flashing	*Connection with the receiver established*
On	*The receiver is operational*
LED status YELLOW ON YELLOW BACKGROUND	***Indication***
On	*Equipment in operation*
LED status (ORANGE)	***Indication***
Flashing	*Low fuel level*
On	*Blocked air filter Scheduled maintenance required.*
LED status RED	
Flashing	*High engine temperature (95°C)*
On	*High engine temperature (105°C)* *Low oil pressure Other engine alarms*

INDICATIONS OF THE LEDS ON THE RECEIVER

The receiver is equipped with 7 LEDs informing the operator regarding:

- Operating status
- Malfunctions
- Type of failure and diagnostic functions
- Power supply status
- Connection status



Transmitter	
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 system B channel is in STOP status.*
"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 system A channel is in STOP status.*
RF Busy ***(White LED):***	- On indicates that the 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 fixed intervals in the case of control wire connection.*
Power Supply ***(green LED)***	*- On indicates that the power is on.* *- On indicates that the receiver has established the connection with the remote device together with* *the presence of voltage required for correct operations.*
Working ***(Blue LED)***	*- On indicates that the receiver has established the connection with the remote device together with* *the presence of voltage required for correct operations.*

LED indications during Joystick calibration :
Error A and Error B indicators have the same sequence as that of the yellow LEDs on the transmitter during joystick calibration.
***Joystick Calibration**: Error A e Error B **LED** (COLOUR)*
- test phases: *Light on continuously (GREEN)*
- calibration of minimum**:** *Single flash followed by a long pause (RED)*
- calibration of maximum: *Double flash followed by a short pause (RED)*
- inverse calibration *Continuous flashing (RED)*

MORSE CODE: Indication of transmitter error (RED)

Power supply of the unit
Remote controls with portable transmitter are supplied with two Ni-MH rechargeable batteries and dedicated battery charger.

Battery charge status
The YELLOW LED ON BLACK BACKGROUND indicates the battery charge status.
IIf the YELLOW LED is off, it 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.

Please note: The YELLOW LED flashes with specific sequences during the special configuration procedure, as well as in the case of system errors. Battery reserve can also be signalled by an intermittent acoustic signal, connecting a beeper to the appropriate relay output of the receiver which, in this phase, closes for 1s every 8s.

BATTERY REPLACING AND CHARGING
Switch off the transmitter, remove the battery from its housing, and place it in the battery charger. The battery should be used until it is completely exhausted so as to ensure better efficiency and battery life. The charger must be powered via a conventional voltage line, free from large fluctuations so as to not affect the intelligent charging process managed by the micro-controller.

CB36NIMH, CB3600AC and CB3600DC battery chargers for NiMH cells are equipped with a green LED which indicates the presence of power and a yellow LED which, when inserting the battery, flashes 4 times (pre-charge), then remaining on until charging is complete.
The battery charger can detect remaining battery charge and capacity. The average charging time of a properly discharged battery is 2-3 hours, depending on the residual charge and the capacity of the cells. The charging cycle ends when the yellow LED switches off.
The flashing phase of the yellow LED (pre-charge) may be prolonged for several minutes during the recharging of a completely discharged battery.
If the flashing continues, clean the golden contacts of the battery with a soft cloth, and replace the battery with a new one if the phenomenon still continues.
Charging should not be interrupted by removing the battery from the housing, or by turning off the charger when the yellow LED is still on.
Avoid recharging fully or partially charged batteries if possible, thus prolonging battery life.
Recharging should be carried out in rooms free from humidity and at a temperature between 5 and 35°C (values recommended by NiMH cell manufacturers), in order to preserve battery life.
CB37LION battery chargers for Lipo and Li-Ion cells are equipped with a green LED which indicates the presence of power, and a blue LED which, when the battery is inserted, remain on until the end of the charging if it has residual voltage lower than 4.2V.
The battery charger can detect remaining battery charge and capacity. The average charging time of a properly discharged battery is 3 hours, depending on the residual charge and the capacity of the cells. The charging cycle ends when the blue LED turns off.
Charging must be carried out in rooms free from humidity and at a temperature between 5 and 45°C (values recommended by the manufacturers of lithium cells), in order to preserve battery life.

Warning: The use of incorrect types of batteries can cause a risk of explosion: use only original batteries from the manufacturer of the remote control. Dispose of used batteries according to the instructions in the remote control operations manual.

USE OF THE REMOTE CONTROL AND THE MACHINE

Once the engine has been switched on and the transmitter and the receiver are connected (as shown in the previous paragraph) at the pre-set frequency, the machine can start to move using the remote control's front controls. The basic controls used to drive the machine and use the equipment, as well as other auxiliary controls, are all located in the upper part of the transmitter, including secondary controls relating to the fan and track movement.

The controls for use of the machine are those shown in the figure and described below.

The remote control must be used holding it with the control side and stop button towards the operator's body (also with the help of the relative adjustable shoulder straps).

Figure 5.3

Joystick 1: this is the main command to decide the direction of movement of the machine, the use of which is intuitive and described by the icons close to it, but which are also described for completeness. There are 8 transmissible commands, which are obtained by moving the Joystick according to the arrows shown next to the following figure.

⇧ ⇩ ⇖ ⇗ ⇙ ⇘ ⇦ ⇨

⇧ Moving the Joystick forward, the machine will move forward in the direction of the front of the machine, where the equipment chosen to work is positioned.

⇩ Moving the Joystick backwards, the machine will move backwards in the direction of the rear of the machine.

⇖ Moving the Joystick to the top left, the machine will make a left turn in forward gear.

Moving the Joystick to the top right, the machine will make a right turn in forward gear.

Moving the Joystick to the bottom left, the machine will make a left turn in backward gear.

Moving the Joystick to the bottom right, the machine will make a right turn in backward gear.

Counter-rotation movements

Always move the joystick lever to the neutral (central) position before carrying out counter-rotation commands.

Moving the Joystick to the left only, the machine will make a counter-rotation to the left.

Moving the Joystick to the right only, the machine will make a counter-rotation to the right.

Joystick 2: this is the command that decides the movement of the equipment installed at the front of the machine. Also in this case, the use of this command is intuitive and described by the icons close to it, but is also described for completeness. There are 4 transmissible commands, which are reached by moving the Joystick according to the arrows shown next to the figure at the side.

⇧ ⇩ ⇦ ⇨

⇧ Moving the Joystick forward, the equipment installed at the front of the machine will lift up.

⇩ Moving the Joystick backward, the equipment installed at the front of the machine will lower.

⇦ Moving the Joystick left only, the machine will move the operating axis of the equipment installed at the front of the machine towards the left of the machine itself.

⇨ Moving the Joystick right only, the machine will move the operating axis of the equipment installed at the front of the machine towards the right of the machine itself.

Speed control

The speed of movement of the machine is adjusted by means of the knob indicated in Fig. 5.3 and positioned exactly in the centre of the remote control as shown in detail in figure 5.4 below. This command allows to adjust the speed of movement of the machine with the maximum precision according to the needs of the operator. Also in this case, the use of this command is intuitive. Turning the knob clockwise, the speed of movement of the machine will increase until reaching the maximum limit. Turning the knob anti-clockwise, on the other hand, the the speed of movement of the machine will decrease until reaching the minimum speed limits with constant engine rpm.

Figure 5.4

Steering:

If the work surface does not affect the progress of the machine, the machine's movement axis (parallel to the tracks) will correspond to its forward movement line and there will be no need to change the position of the knob. The knob indicated in Figure 5.3 (shown in detail in Figure 5.4) allows the machine to always move in alignment with the forward direction, allowing the operator to compensate the traction of the two tracks with respect to each other when necessary and depending on the working conditions. The use of the command is, therefore, useful when the machine is moving along steep and inconsistent terrain, which influence the trend, which is varied by the characteristics of inclination and adhesion to the working surface. In these cases, the command allows the alignment between the direction moved along by the machine and the axis of the machine itself, by turning the knob clockwise or counter-clockwise. Once the machine has finished moving along that particular work surface, simply return the knob to its initial position.

Description of the commands in the lower part of the remote control: the following figure shows the position of the different sections where the controls are located in the lower part of the remote control as listed below:

Section A - Commands regarding the direction of rotation of the equipment;
Section B - Commands regarding the change in direction of the commands and that of the track step;
Section C - Mushroom shape safety stop button;
Section D - Commands regarding equipment and lights;
Section E - Commands regarding engine rpm and selection of auxiliary commands.

Figure 5.5

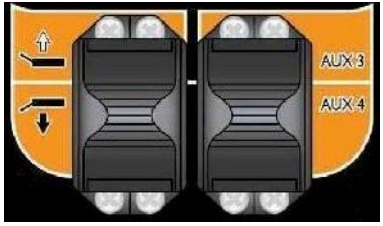
Section A : in this section the selector controls the direction of rotation of the equipment installed on the plate, while the knob is used to increase or decrease the rotation speed of the same.
Section B: there are two commands present in this section: the selector on the left which is used to invert the effect of the commands imparted with the remote control to the tracks symmetrically (from Joystick 1) useful when the operator changes its position with respect to the machine (rear/front control of the machine), while in the right part there is the selector to command the widening or narrowing of the space between the tracks: in close position (bottom position) or wide position (top position).
Section C: this section, at the centre of the commands, has only the mushroom-shaped button for emergency stop (already described in the specific paragraph of this chapter 5).
Section D: selector to insert floating or fixed movement of the tool holder plate and light control.

Section E: in this section there are two controls: a knob that allows to adjust engine rpm, (turning it anticlockwise to lower the rpm to minimum and clockwise to raise it to maximum), as well as a selector for any auxiliary electric commands (AUX 1 or AUX 2).

AUXILIARY EQUIPMENT COMMANDS

Control of the equipment installed on the front plate is obtained, as shown in the previous paragraph, by means of the commands present in Section A for rotation, and the selector in Section D to make it fixed or floating. The auxiliary commands related to the installed tool consist of the two levers at the centre of the remote control (as in the figure) and their function varies from tool to tool and should be consulted in the appropriate attachment.

With regards to the shredder, the auxiliary left command adjusts the opening or closing of the flap while the second one remains free.



COMMANDS AT THE SIDES OF THE REMOTE CONTROL

the following is a list of the commands in the lateral areas of the remote control as indicated in the relative images.

Left side of the remote control:
A - Switching on the machine
B - Switching off the machine
C - ON/OFF, remote control back-lighting

Left side of the remote control
D - Fan flow command and inversion (for cleaning)
E - Horn command

F - Cable connection for the machine's remote control (necessary only in case of strong interference on the radio signal).

6 - MAINTENANCE AND ASSISTANCE

GENERAL INFORMATION

A machine’s reliability, safety and service life depend on its maintenance and technical assistance. Performing maintenance and technical assistance is not a recommendation, but something that the machine's owner is obliged to do. 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 does not assume any liability for damage to the machine or for accidents due to using non-original parts.

Opening the hood

Most maintenance and assistance operations can be carried out only after having opened the engine hood. Opening can be carried out partially or completely, using the elastic pins highlighted in the images below.

Fig. 6.1 Pin for partial opening of the hood


Fig. 6.2 Pin for complete opening of the hood

Please note!

Observe the maintenance and technical assistance instructions and intervals prescribed by MDB. Lack of doing so will void any liability and warranty rights.

RESPONSIBILITIES AND TASKS

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

		MDB technical assistance centre

Working time counter
The operating time counter located in the bottom right of the display shown in figure 5.1 (the value is indicated on a green background) must be monitored to better manage and monitor the times for all the essential care and maintenance operations of the Green Climber LV800.
When the hours shown in the tables in the following paragraphs have been reached, maintenance and/or technical assistance operations referred to in the table above must be carried out, while machinery must be taken to the nearest service centre to undergo the foreseen operations by qualified personnel.

Important!

Observing the indicated maintenance and technical assistance frequency increases the machine's service life and prevents the onset of unpredictable faults during operations. Failure to observe technical assistance frequency or if it is not carried out by an MDB authorised technical assistance centre, will void warranty rights.

General cleaning of the machine
List of types of maintenance operations to be carried out on the machine:

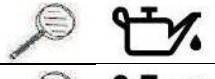
1. Cleaning;
2. Visual inspection;
3. Lubrication and fluid level checks;

4. Control and regulation of mechanical components;
5. Replacements.

Service maintenance symbols:

Functional test	
Replacement	
Visual inspection	
Restoring the Level of Liquids	
Cleaning	

At the end of each working day

Inspection	Action
Cooling fluid	
Control panel display and remote control LEDs	
Engine oil	
Hydraulic oil	
Regulator and engine speed lever	

Fuel level	
Engine	
All safety devices	
Fuel filter/water separator	

Every 50 hours of operation or at least once every 6 months

Inspection	Action
Radiator fins	

Every 250 hours of operation or at least once every 6 months

Inspection	Action
Air filter	

Cleaning the machine

Only clean the device when it is not connected to the power supply, every day or at least after each use. Only use only environmentally friendly, pH-neutral detergents that do not irritate the skin. This will enable to respect the environment, prevent oxidation of the device and avoid causing irritation and/or injury to maintenance technicians. Only clean in places that are suitable for washing (with oil separators). Do not use rags that could scratch or scrape.

Important!

Correct cleaning increases the device's reliability and durability.

Caution!

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

Instructions for high pressure cleaning

Caution!

Failure to follow these instruction could damage the device.

- The water/detergent temperature must not exceed 60°.
- The nozzle must always be kept at a sufficient distance from the machine.
- The water jet must never be aimed at:
    - Electrical or electronic components (to avoid water entry).
    - Plastic components (to avoid deforming or breakage);
    - Bearings or support points (the dirt and lubricant must, in any case, be removed).
    - Labels (they could be removed or become illegible).

ENGINE MAINTENANCE

Preliminary useful information regarding the control and maintenance of the engine

This section of the manual indicates the operations that can be performed directly by a skilled operator. Routine checks and maintenance operations must be carried out at the frequency and methods indicated in this manual, and are the responsibility of the user.

Failure to comply with standards and maintenance times will jeopardize the proper functioning of the engine and its duration and, consequently, cause the manufacturer's warranty to lapse.

The following warnings must be read carefully before working on the engine in order to prevent damage to people and objects.

Warnings:

- All maintenance and control operations must be carried out with the engine switched off and at room temperature, while refuelling and checking the levels must always be performed in a horizontal position.

- Make sure that the oil dipstick is inserted correctly and that the oil drain and filler caps are properly tightened before each start, to avoid oil leaks,

Checking and cleaning the engine
Engine oil
Checking: every 10 hours of operation
Unscrew the upper oil filler cap “A”. If it is not accessible, unscrew the side cap "C". Remove the oil level check dipstick “B” and check that the level is close to Max. Top up if the level is not close to Max. Reinsert the dipstick “B” correctly.
Screw back on the upper oil filler cap “A” and/or side cap "C” (See figures 5.1 and 5.2).
Replacement: every 500 hours of operation

Please note!

MDB recommends using 10 W 40 oil.

Caution!

If the oil level is too low or the oil pressure warning light comes on, the cause must be identified and solved. Continuing to use the machine if the problem is not solved could cause irreparable machine damage.

Cooling fluid
Checking: every 10 hours of operation
Replacement: every 1000 hours of operation
Start the engine without the cap on the radiator and make sure that the liquid covers the pipes inside the radiator by about 5 mm, topping up if necessary. Do not fill up the radiator completely but leave enough space for coolant fluid expansion. Screw back on the radiator cap once the operation is concluded.
Check that the level of the cooling fluid is near max. for engines equipped with expansion tank.

Make sure that the cap on the radiator or expansion tank, if any, is properly fitted before starting up the vehicle, to prevent liquid or steam from escaping at high temperatures.
(See figures 5.3, 5.4, 5.5 and 5.6)

Control and cleaning the air filter
– Every 10 hours of operation

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 signal clogging of the engine air filter. To clean the filter, remove the cover by releasing the two hooks "F" and "A" of the cover (See Fig. 7.2). Remove cartridges "B" and "G". Clean components "A" and "D" internally using a damp cloth. Do not use compressed air, beat the front side "E" over a flat surface slightly and repeatedly. When "G" cartridge is dirty, do not clean it but replace cartridges "B" and "G". After checking/cleaning, reassemble the cartridges "G" and "B" and the cover "A" checking that the hooks "F" are properly sealed.

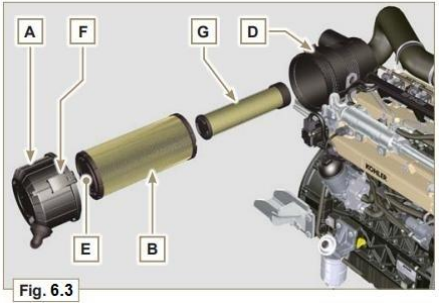


Fig. 6.3

Checking and maintenance of the radiator - exchange surface
- Every 50 hours of operation

The engine manufacturer foresees 250 hours of normal use. In particularly dusty work environments of the machine, this frequency is reduced to 50 hours.

Caution!

1) Wear protective goggles if using compressed air.
2) The radiator exchange surface must be cleaned on both sides.

Check the exchange surfaces of the radiator and clean the surfaces with a brush soaked in a suitable detergent if they are clogged.

Oil or water side cleaning

After having removed the exchanger, clean by circulating nitro thinner oil inside the radiator, taking care to circulate the solvent from the bottom up. Clean the inside of water radiators with abundant water. This operation can take from 10 to 30 minutes according to the requirements encountered during the inspection of the exchanger. After carrying out this operation, expel the detergent remaining inside the radiator by means of compressed air.

Air side cleaning

Carry out this operation using compressed air or water. Make sure that the air jet is aimed parallel to the fins to avoid damaging them. Using a detergent product will enable to achieve better results during this type of intervention. If the clogging of the exchanger is caused by an accumulation of oil or grease, cleaning can be carried out using a jet of steam or hot water. The electric motor must be protected during cleaning operations.

Caution!

Be careful not to damage the fins with compressed air.

Caution!

if the fins are very dirty, clean thoroughly using detergent and rinse with tap water.

Caution!

NEVER use high pressure water or compressed air with pressure above 28 psi (193 kPa; 19686 mm Water) or a wire brush to clean the radiator fins.

Caution!

The Green Climber LV800 is equipped with a reversible fan (Cleanfix), which facilitates maintenance and cleaning of the radiator, also during use of the machine on site. By inverting the air flow with respect to the normal direction of use, the radiator can be easily and quickly freed from dirt that can accumulate especially when working in environments with dust and debris in which MDB machines must normally operate. Do not stay in the area behind the machine (recommended area for normal use of the machine), and make sure that other workers are not in the area when using the machine, to avoid being hit by any debris ejected by the radiator.

Caution!

Do not clean by reversing the flow of the fan when the motor itself is above the critical temperature range (red range) to avoid overheating of the motor.

Maintenance of other mechanical engine components: For maintenance and replacement of other engine components, (such as: alternator belt, fuel hoses and sleeves, starter motor, alternator, filter cartridges), please refer to the two tables below (Table 1. Checking and cleaning, Table 2 Replacement) and possibly directly to the manual of operations and maintenance of the engine manufacturer (Kohler).

CONTROLLO E PULIZIA						
DESCRIZIONE OPERAZIONE	FREQUENZA DI INTERVENTO (ORE)					
	10	250	500	1000	1500	5000
Livello olio motore	■					
Livello liquido di raffreddamento/ controllo radiatore (2)	■					
Cartuccia filtro aria a secco (2)	■					
Superfice di scambio radiatore e Intercooler (2)		■				
Tensione cinghia alternatore (5)		■				
Manicotti in gomma (asp. aria/liquido di raffreddamento)			■			
Tubi carburante			■			
Motorino di avviamento (6)						■
Alternatore (6)						■

SOSTITUZIONE							
DESCRIZIONE OPERAZIONE		FREQUENZA DI INTERVENTO (ORE)					
		10	250	500	1000	1500	5000
Olio motore [1]				■			
Cartuccia filtro olio [1]				■			
Cartuccia filtro carburante [1]				■			
Liquido di raffreddamento [6]					■		
Manicotti di aspirazione (filtro aria coll. asp.) [6]					■		
Manicotti liquido di refrigerante [6]					■		
Tubi carburante [6]						■	
Cinghia alternatore	Standard (trapezoidale) [3] [6]			■			
	Poly-V in condizioni gravose [6]					■	
	Poly-V in condizioni normale [6]						■
Cartuccia filtro aria a secco [2]		Dopo 6 controlli con pulizia					

Daily visual checks:
The checks and associated maintenance or replacement measures referred to in this paragraph must be carried out daily and, in any case, before each use.

Please note!

Missing, damaged or worn components must be replaced immediately.

The following list regards the daily checks to be carried out on the different parts of the machine 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 any missing or damaged fastening components immediately.

Steel components:

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

Hydraulic system:

- Complete hydraulic system (cables, pipes, cylinders, etc.) to check for leaks.
- 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 assembly, damage, etc.

Labels

- Check completeness and legibility.

Safety device checks

- Check operation of the emergency stop buttons.

Danger!

If the machine does not stop when the emergency button is pressed, there is a high risk of fatal accidents.

Working with a defective emergency stop switch is ***gross negligence***. Do not use the machine if the emergency button(s) ***does not work***, contacting the MDB support centre immediately.

Check command operation:
- Press any control lever on the 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, and the engine switch off when the emergency button is pressed.
- Press any control lever again. The machine must not move.
- Release the emergency stop button. Operate the levers on the remote control and on the ground: the machine must not move.
- Carry out the steps indicated in chapter 3 of this manual: operating the control levers on the remote control or on the ground, the machine must move.

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.

Greasing of mechanical parts
Grease every 8 hours and in any case after each wash.

Important!

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 respect maintenance schedules, improper or lack of lubrication can damage the device and lead to high repair costs and downtime.

Danger!

The machine must not be operated in any way during lubrication as it would cause fatal danger. Do not keep the keys inserted in the control panel and keep the battery release lever in the safety position during this process.

Lubrication:

 Clean and remove the used grease and impurities accumulated with use and over time carefully before lubrication. The dirt present in the old grease would otherwise be pressed on the surface of the devices increasing wear.

Caution!

The presence of dirt in the lubricants can quickly lead to wear, machine downtime and high repair costs.

 Press the grease onto the support point.
 After lubricating, remove any excess grease.
 The excess grease cannot be reused.
 Dispose of the excess grease in accordance with the applicable national laws.

Caution!

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

Checking and refuelling the hydraulic oil level

The hydraulic oil level must be refuelled and checked with the machine not on a slope and with the engine stopped. Lift the hood of the machine using the flexible pin as shown in Figures 6.1 and 6.2 at the end of each working day. Look for the hydraulic oil tank and cap, and to refuel the oil, remove the cap, pour the oil until reaching the maximum level indicated, screw the cap back on.

To change the hydraulic oil completely, the tanks should be emptied when the engine is warm, but not running, in order to drain the fluid quickly and completely.

Caution!

Always wear protective gloves to protect the skin when performing these operations. To choose the right kind of gloves, refer to the safety data sheet for the fluid being used. The manufacturer recommends using ENI OSO 46 or PANOLIN HLP SYNTH 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.

Replacing the 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.

Important!

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

Important!

Annual oil maintenance greatly extends oil change frequency. This means reducing user costs and those for the disposal of used oils, as well as reducing pollution. Maintenance of the hydraulic system must be carried out at least once a year by MDB's authorised service centre and, in any case, taking into account the hours of use of the machine.

Maintenance of the hydraulic system includes the following:
- Filtering the oil.
- Eliminating the water.
- Checking oil purity.
- Replacing the filter.
- Replacing the hydraulic oil.

Important!

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

Important!

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

TRACK MAINTENANCE

Daily maintenance:
- Check track tension (see the following paragraph).
- Check that the gear motors function properly.
- Check track wear and condition.

Caution!

Replace the tracks when there is 10 mm of tread left, or even earlier earlier if there are cuts or cracks on it.

 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 roll mountings.
 Check for any play in the bearings.
Checking the tracks:
If there is track movement, remove the covers of the undercarriage, then bring the tracks to the correct tension. Tightening of the screws and nuts must be 20 N; to perform correct tightening, loosen the locking nut and once adjustment has been made, tighten the nut again. 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).

TECHNICAL ASSISTANCE

Important!

Technical assistance can only be carried out by MDB authorised assistance centres. Otherwise, any form of warranty is void.

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 the machine's maintenance. Keep a log book of the maintenance carried out. All maintenance and repairs must be recorded in the log book and must be signed and stamped by the MDB authorised support centre.

Technical assistance symbols

Functional test	
Replacement	
Visual inspection	
Check the tightening of screws	
Cleaning	

First technical assistance after 10 hours of operation or in any case after 6 months.

Maintenance	Action
Engine oil level	
Coolant liquid level and radiator control	
Dry air filter cartridge	
Rubber pipes	
Check the tightening of screws and nuts	
Check the track tension	

Every 50 hours of operation or at least once a year.

Maintenance	Action
Fuel filter/water separator: empty	
Battery check	
Check and clean the radiator fins	

Every 125 hours of operation or at least once a year.

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

Every 250 hours of operation or at least once a year.

Maintenance	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	

Every 500 hours of operation or at least once a year.

Maintenance	Action
Engine oil	
Engine oil filter cartridge	
Fuel filter cartridge	
Track Alternator	
Hydraulic oil	
Hydraulic oil filter cartridge	
Remote control	
All safety devices	
Pump capacity - rpm	
Electrical lines/hydraulic pipes, tightening of screw clamps	
Control levers, control bars	
Rubber sleeves (air/coolant intake)	
Fuel pipes	

Every 1000 hours of operation

Maintenance	Action
Fuel tank	
Rubber sleeves (air/coolant intake)	
Hydraulic piping	
Hydraulic oil filter cartridge	
Coolant liquid	
Coolant sleeves	

Every 1500 hours of operation

Maintenance	Action
Fuel pipes	
Track Alternator (in the case of hard work)	

Every 2000 hours of operation or in any case every 2 years

Maintenance	Action
Hydraulic oil	
Hydraulic oil tank	

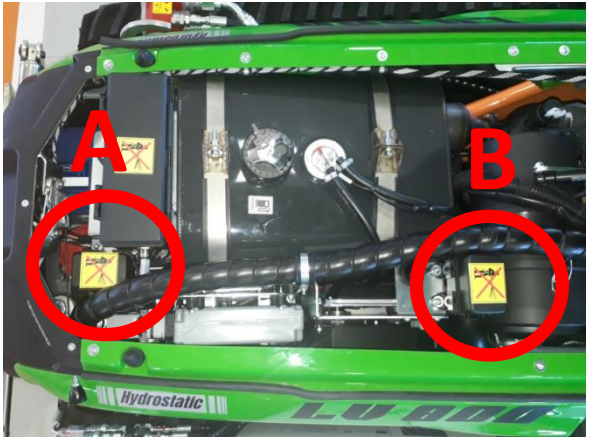
Every 5000 hours of operation

Maintenance	Action
Starter motor	
Alternator	
Track Alternator (in the case of normal working)	

Track tread height ≤ 10 mm

Maintenance	Action
Tracks	

RELAY AND FUSE POSITIONING:



Positioning of Boxes “A” and “B”

Box “A”: relay and auxiliary function fuses

Legend of Box “A” fuses and relays:

F1 – Display

F2 – Horn

F3 – Clearance lights

F4 – Battery charger

F5 – Cleaner

F6 – Lights

R1 – Lights (OPT); R2 – Extraction (OPT)

F7 – Extraction

R3 - Lights

Box “B”: control unit fuses and relays

F1 – Display

F2 – Horn

F3 – Clearance lights

F4 – Battery charger

F5 – Cleaner

F6 – Lights

R4 – Main; R5 – Starter

F8 – Main

R6 – A.C. Pump

Legend of Box "B” fuses and relays

Positioning of Box “C”: Power supply fuses

F1 – Starter motor

F2 – Power supply of Lombardini system

F3 – Power supply of electric system

Legend of box "C” fuses

PROBLEM SOLVING GUIDE

ENGINE		
PROBLEM	CAUSE	SOLUTION
1. Machine does not start	Emergency button pressed	Disengage emergency button
	Battery contact key not inserted/connected	Insert/connect battery contact key
	Out of fuel	Fill the tank
	Fuse blown	Replace damaged fuse
2. The engine starts but the machine does not move	Brakes locked / hydraulic oil cold	Move backward and forward repeatedly until unlocked
	Pump or motor problem	Contact the dealer
	Speed potentiometer on the remote control set at zero	Turn the potentiometer until until reaching the desired speed
3. The engine starts but the machine does not go straight.	Steering potentiometer not positioned centrally	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
4. Engine starts, machine does not move - warning light on transmitter off	Remote control connection not carried out	Connect transmitter and receiver
5. The engine turns off	Faulty electro-stop	Contact the dealer
	Out of fuel	Fill the tank
	Emergency button pressed	Disengage emergency button
	Lack of radio signal	Connect transmitter and receiver

REMOTE CONTROL		
PROBLEM	CAUSE	SOLUTION
6. Radio remote control not working	Flat battery	Recharge the battery
	Remote control connection not carried out	Connect transmitter and receiver
	Emergency button pressed	Disengage emergency button
	Transmitter with serial number different from that of the receiver	Use a transmitter with the same serial number as the receiver
7. Remote control not working: RF busy LED flashing or off	Lack of radio signal	Check aerial connection
	Interference from other radio signal	Use only one machine at a time
	Interference from other radio signal	Use emergency electrical cable
8. Remote control not working: Battery LED off	Fuse blown	Replace the receiver fuse
	Flat battery	Recharge the battery
9. Remote control not working: battery LED flashes intermittently	Shredder command on	Turn off the shredder
	Aux 2 activated	Turn Aux 2 off
10. Remote control battery on the machine does not charge	Battery charger cables disconnected	Connect the battery charger cables

TRACKS		
PROBLEM	CAUSE	SOLUTION
11. Track has come off	Tracks excessively worn	Replace the tracks
	Mechanical track structure failure	
	Poor track tension	Tighten the tracks
12. Tracks loose	Rubber worn	Tighten the tracks
	Poor track tension	
	Track tension system failure	Contact the dealer

BEEPER / HORN		
PROBLEM	CAUSE	SOLUTION
13. Intermittent signal while moving	Fuel running out	Fill the tank
	Alternator problem	Contact the dealer
	Routine maintenance expired	Carry out maintenance as indicated by the operations and maintenance manual
14. 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	

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

Dichiarazione n. _____ del _____

FAC-SIMILE DICHIARAZIONE CONFORMITÀ CE

Il sottoscritto Mario Di Biase legale rappresentante della ditta MDB srl con sede legale in Lanciano (Ch), loc. C.da Sant'Onofrio 6/A a – Italia, costruttrice della seguente macchina: Apripista Multifunzione Radiocomandato

DESIGNAZIONE	TRATTRICE SEMOVENTE
SERIE	GREEN CLIMBER
MODELLO	LV800
MATRICOLA	----------
POTENZA MOTORE – Kohler KDI 2504TCR26/26A	55.4 kW
RADIOCOMANDO IMET	M880 THOR 2 X4N LDC 11015-00
ANNO COSTRUZIONE	2019

Equipaggiata con la seguente attrezzatura:

TIPO / MODELLO		MATRICOLA	

DICHIARA sotto la propria personale responsabilità
CHE ESSA è conforme alle seguenti direttive:
2006/42/CE (Direttiva Macchine), 2006/95/CE (Bassa Tensione), 2004/108/CE (EMS),
2000/14/CE art. 12 All. I n.16 e 2005/88/CE (Emissione Acustica Ambientale)
ED ALLE NORME ARMONIZZATE:
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 6395:1988 (per quanto applicabili)

La procedura 2 di valutazione è conforme all'allegato VI della direttiva 2000/14/CE ed è stata effettuata dal seguente Organismo Notificato:

VERICERT s.r.l. – Organismo Notificato Europeo n. 1878
Via L. Masotti n. 5 – 48124 Fornace Zarattini – Ravenna – Italia

Valore del livello di potenza sonora misurato: LWA _____ dB (A)
Valore del livello di potenza sonora garantito: LWA _____ dB (A)

Persona autorizzata a costituire il fascicolo tecnico è il Sig. Mario Di Biase, residente a Lanciano (Ch) alla C.da Sant'Onofrio 6/A.

Le attrezzature applicabili al Green Climber LV800 autorizzate dalla MDB s.r.l. e ognuna coperta dalla relativa dichiarazione di conformità del produttore sono:
TRINCIA SERIE UTD-130; TRINCIA SERIE UT-125; FRESA CS-135; ATOMIZZATORE BV300; TOSAERBA SRM-180; TOSAERBA SRM-215; TURBO NEVE BASIC HY L 1400; LAMA SGOMBRANEVE TSBM1600; TRINCIA FORESTALE TF 130 MDB; TRINCIA FORESTALE TF 150 MDB; FRESA TRONCHI ST27H.

Sono escluse dalla presente dichiarazione le attrezzature non espressamente specificate. Con la presente si DECLINA
ogni responsabilità per danni a persone o cose derivanti da manomissione o modifiche da parte di terzi e/o di carenza di manutenzione o riparazione alla macchina ed ai relativi attrezzi.

Lanciano li __/__/2019

Il Responsabile Legale MDB S.r.l.
Sig. Mario Di Biase

HOW TO USE THE SHREDDER

FOREWORD

As described in this manual, the Green Climber LV 800 has been designed mainly as a multi-purpose bulldozer to allow the use of different equipment installed on the front axle of the machine by means of the special plate with quick coupling (displacement). The SHREDDER equipment (see attachment B) is one of these. The user must note that only equipment approved and authorised by the manufacturer can be applied to the Green Climber LV 800.

MDB declines any liability if equipment other than that listed in this manual, or in any case not authorised by MDB, is applied to the LV 800. The Green Climber LV 800 can be delivered to the purchaser with the SHREDDER already installed. In this case, use the machine's lifting points, located in the areas identified in the photos, to place it on the ground, as described at the beginning of Chapter 3.

INSTALLATION OF THE "SHREDDER" ON THE MACHINE

If the Green Climber machine is delivered without the shredder equipment installed on the front plate, or if it needs to be reinstalled after using other equipment, proceed as described below after removing said equipment.

Foreword:

All operations described in this chapter must be carried out only with the machine switched off. To carry out the operations described, the shredding equipment must be correctly connected to the appropriate supports (supplied at the same time as the equipment referred to in this attachment) fixed correctly on the ground and, if possible, in a protected and dry place, making sure to leave the necessary space for the machine to connect.

Procedure:

Align the Green Climber LV 800 machine to the shredder by inserting the plate at the bottom so that the equipment can rest with the two upper hooks on the guide at the top of the hydraulic plate (see figure A below).

Figure A

Figure B

Align the machine with the equipment by lifting the latter from the supports and fixing the equipment to the plate using the appropriate locking stops by inserting them in the holes in the lower central part between the shredder and the plate.
The shredder must now be connected to the hydraulic system in order to power up and operate the equipment itself. The two connections must be carried out by means of the quick connection systems on the front right and front left sides of the machine.
Connection 1: there are two pairs (M/F) of systems for the rapid coupling (AUX1 and AUX2) in the left front area of the machine, placed horizontally (as shown in Figure B), where the hydraulic pipes coming from the minor section corrugated pipe must be connected to the AUX1 connection.
This connection is useful to control the auxiliary control of the shredder, i.e. the opening/closing command of the front flap, which, if connected as described above, will respond to the commands given with the central lever 1 on the remote control (See relative paragraph and Figure on Page 48 of Chapter 5).
Connection 2: To complete the connection of the equipment to the hydraulic system correctly, the three hydraulic pipes deriving from the corrugated pipe of greater section must be connected to the relative end plate by inserting the latter

against the plate shown in Figure C, connecting to the system located on the right side of the machine as shown in figure E. The connection to the plate also takes place this time by pressure, but to ensure its fixing and complete the operation it is necessary, after completing the three couplings on the plate, secure the connection by lifting the lever at the side of the plate itself and precisely by turning it anticlockwise until the red button on the opposite side of the lever, and located on the left side of the connection block to the hydraulic system shown in figures C and D, clicks. The lever will now no longer be in the unlocked position shown in figure E but in the lock position shown in Figure F.
Once the work is finished, turn the machine off and after waiting for a reasonable time for it to cool down, release the shown system by turning the appropriate lever clockwise (after pressing the red button on the side of the connection plate), moving it from the position in figure F to that in figure E.

Figure C

Figure D

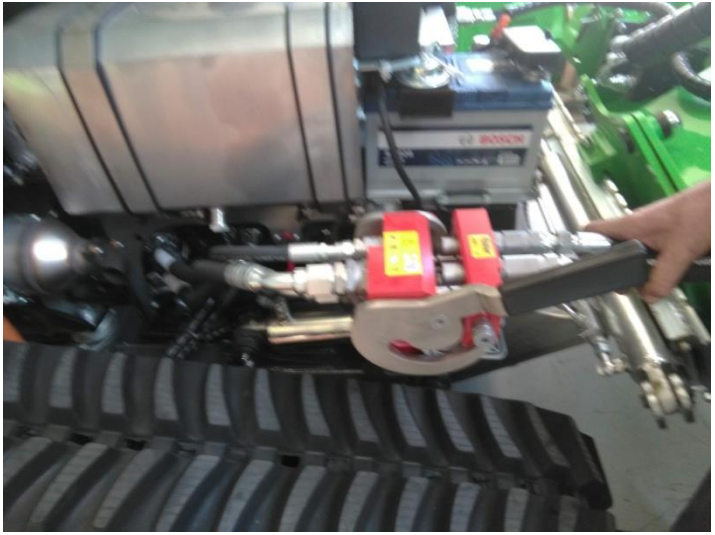


Figure E

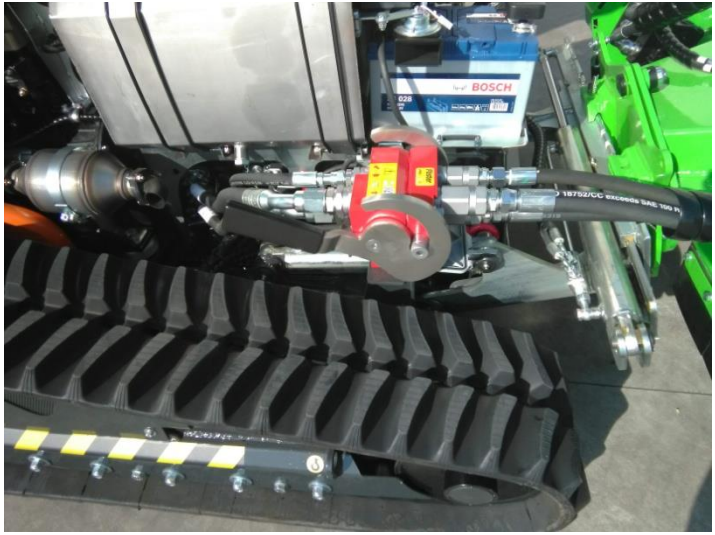
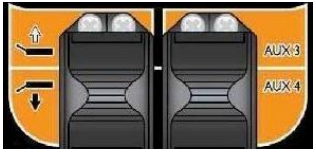


Figure F

Shredder commands:

Once the two different connections described in the previous pages have been carried out, the shredder will respond correctly to the commands given by the operator via the remote control as described on pages 47 and 48 of this operations and maintenance manual (of which Attachment B forms an integral part). The summary of the main commands concerning the use of this tool is shown below for quick reference.

Joystick 1: lateral movement and mode (fixed or floating)



Lever 1 (left): opening and closing of the flap

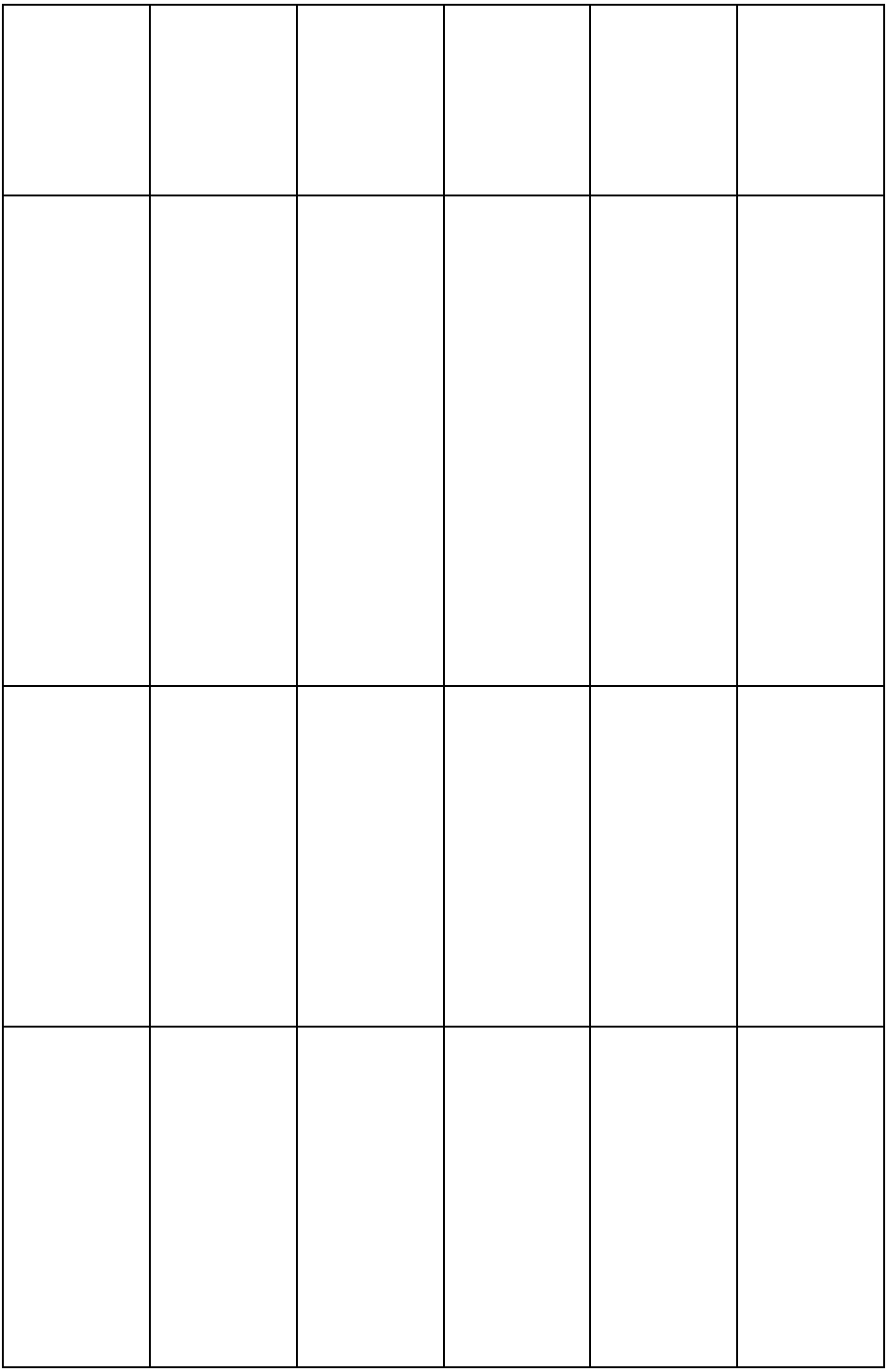
Commands: speed and direction of rotation of the tool

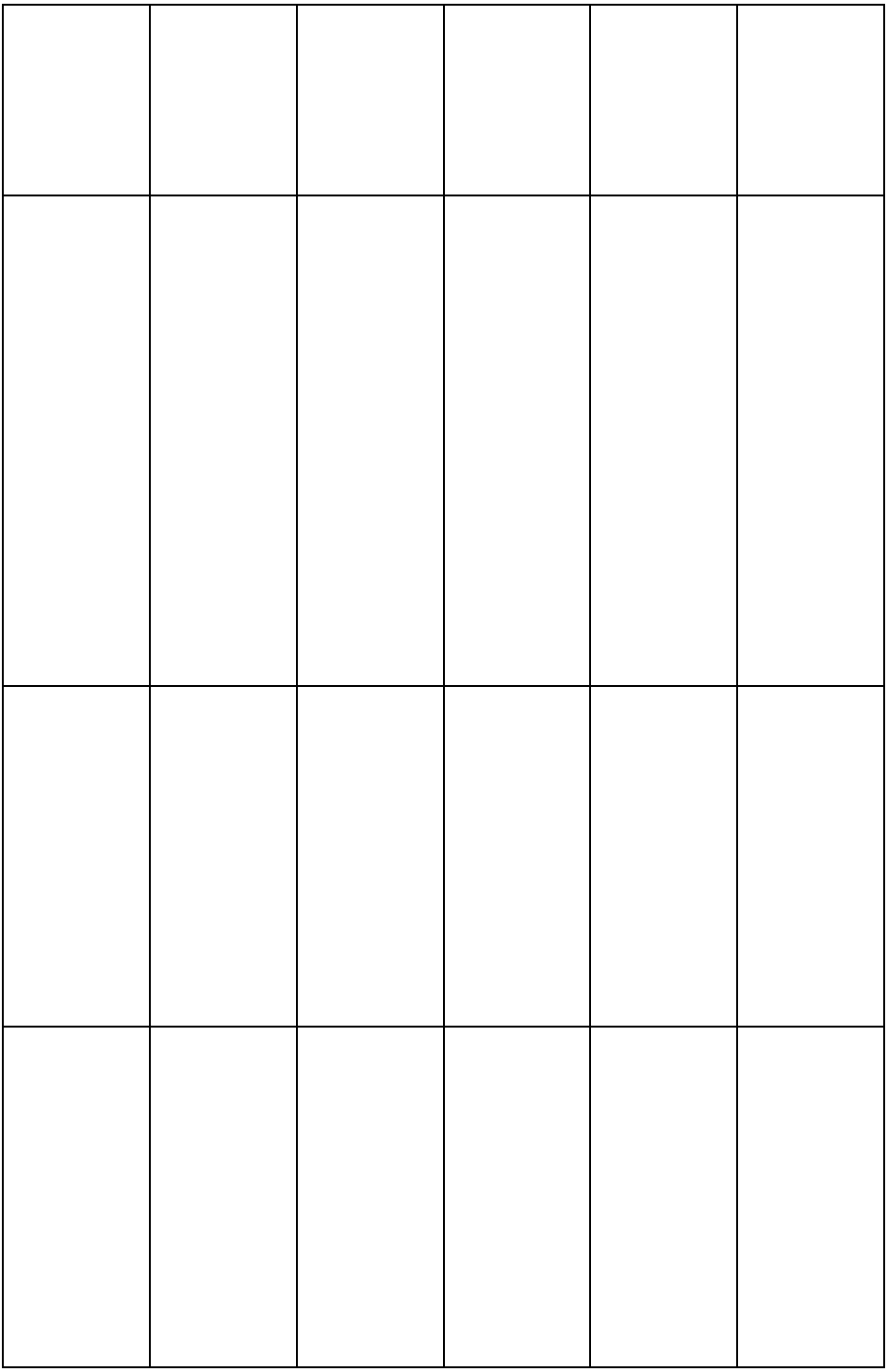
LOG BOOK

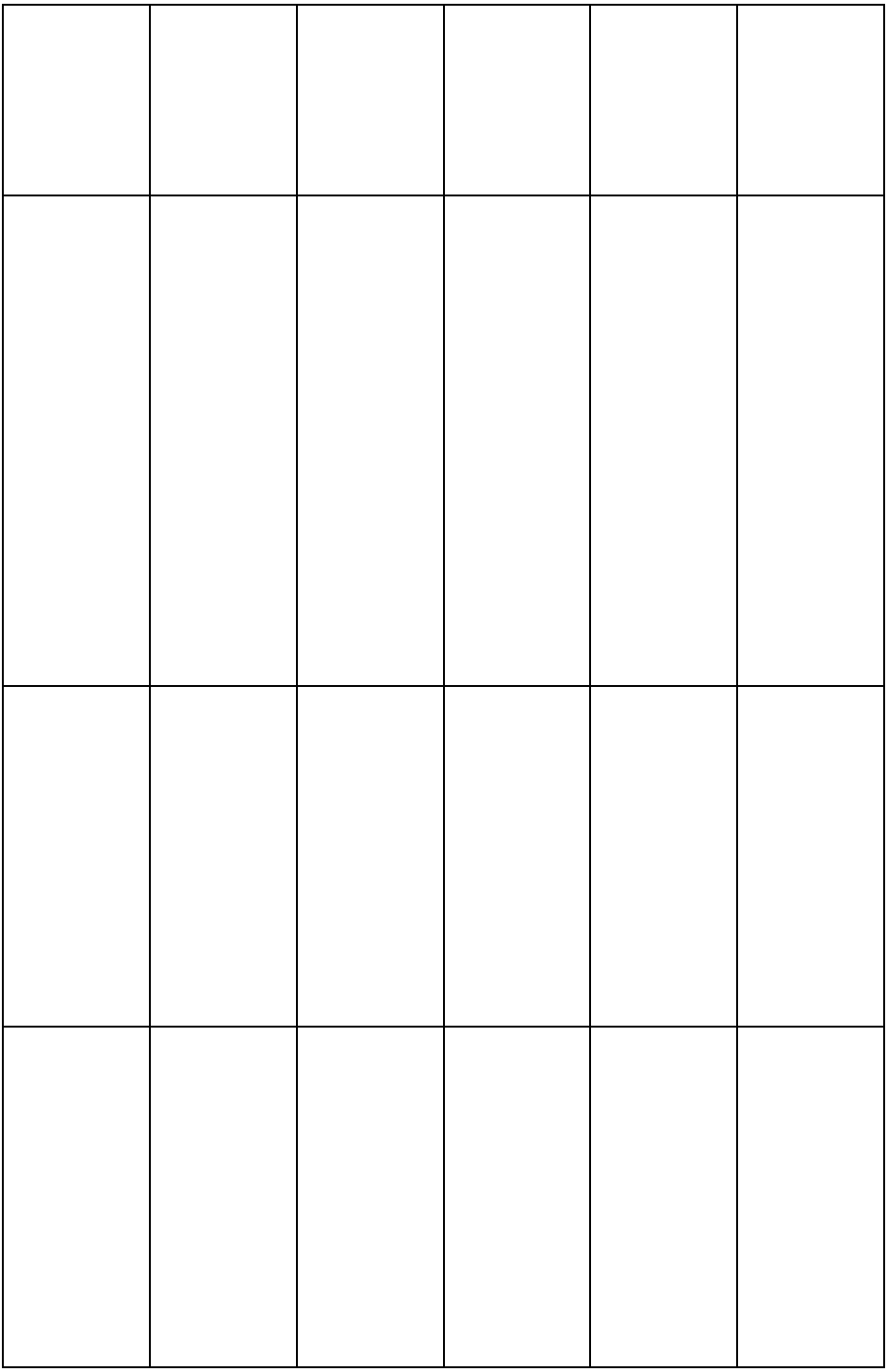
Routine maintenance

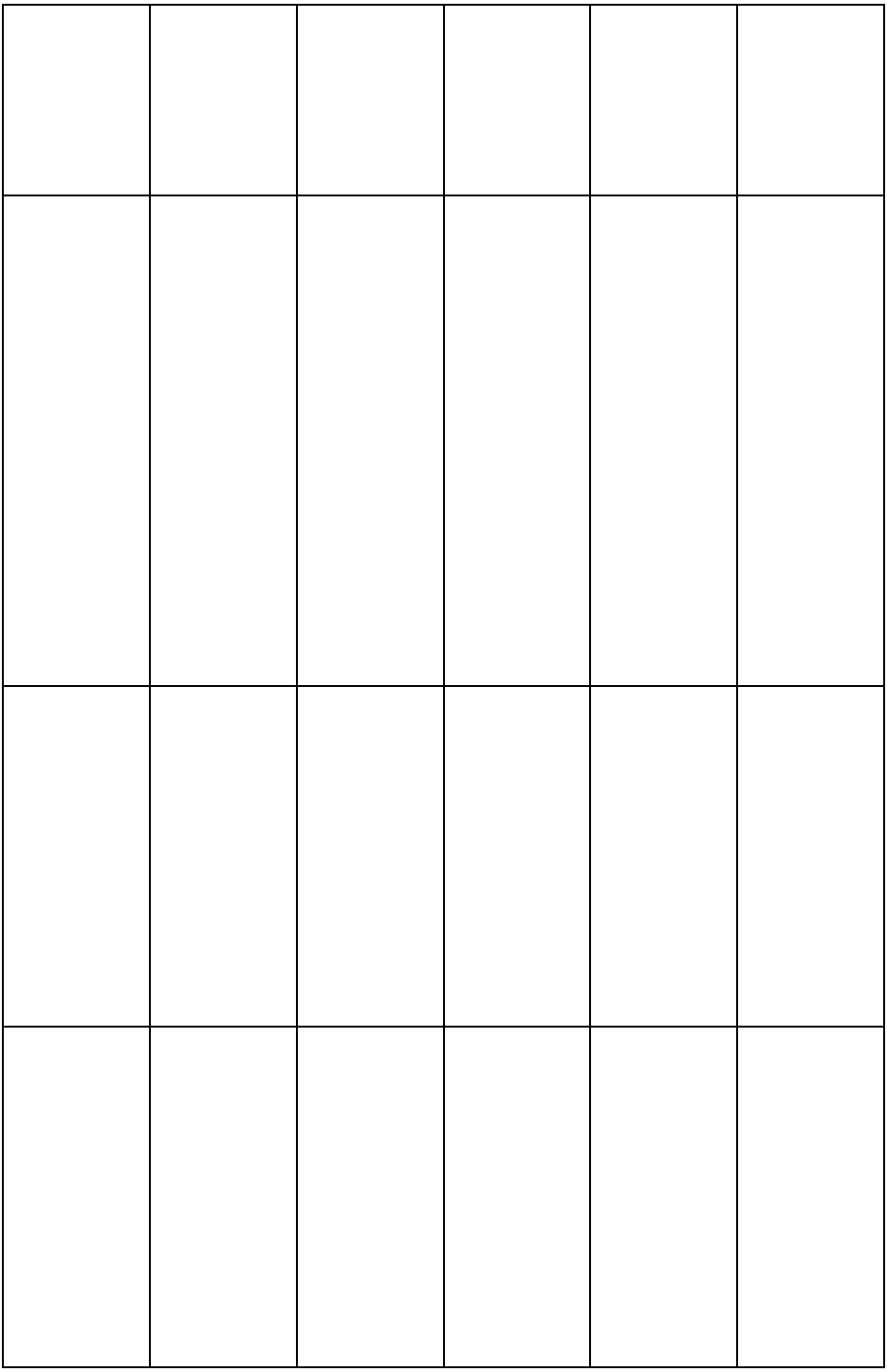
NAME OF THE MACHINE	Green Climber LV 800
SERIAL NUMBER	
YEAR OF MANUFACTURE	

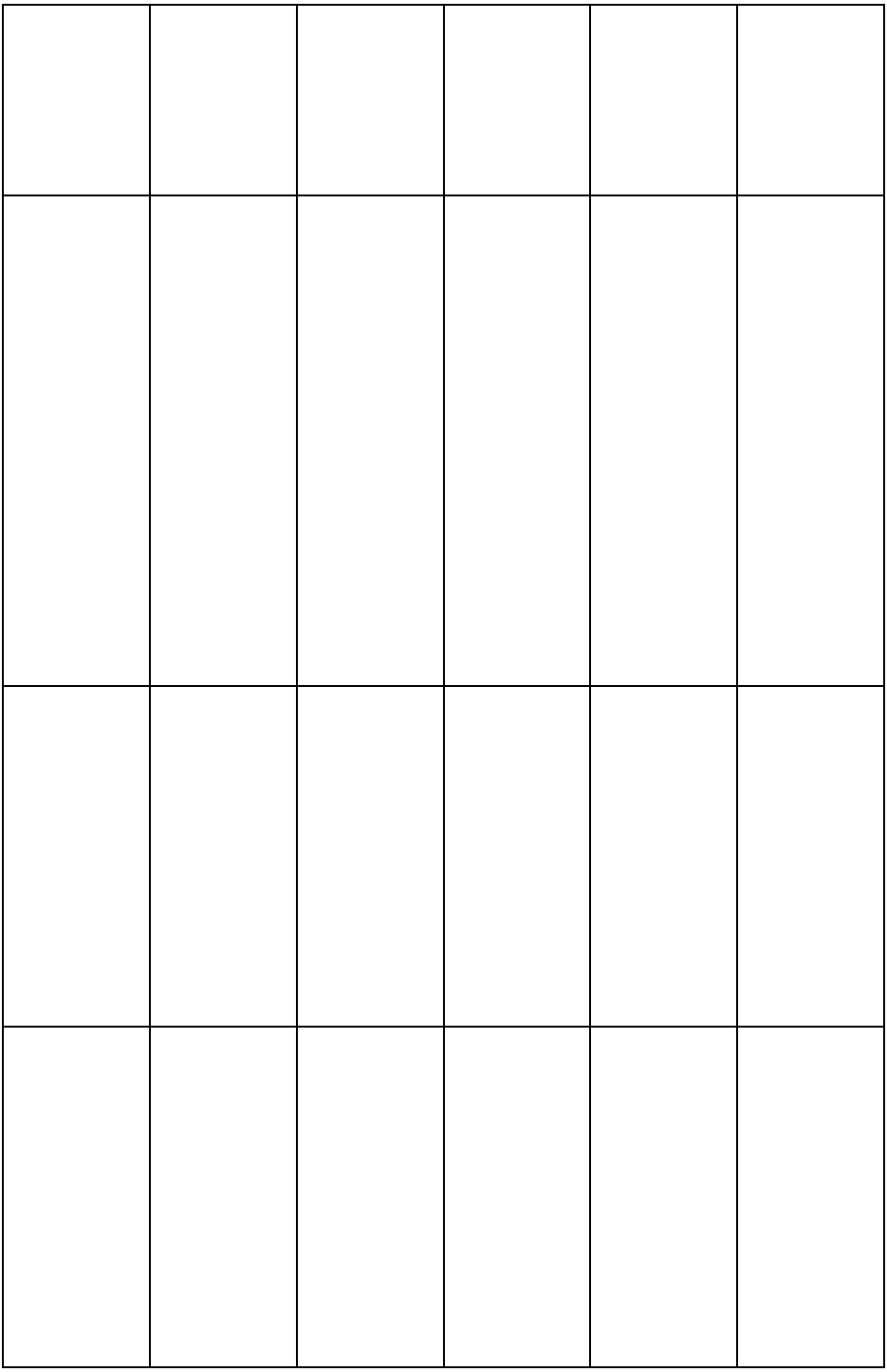
Date	Maintenance after 10 hours of operation	Person in charge	Stamp and signature



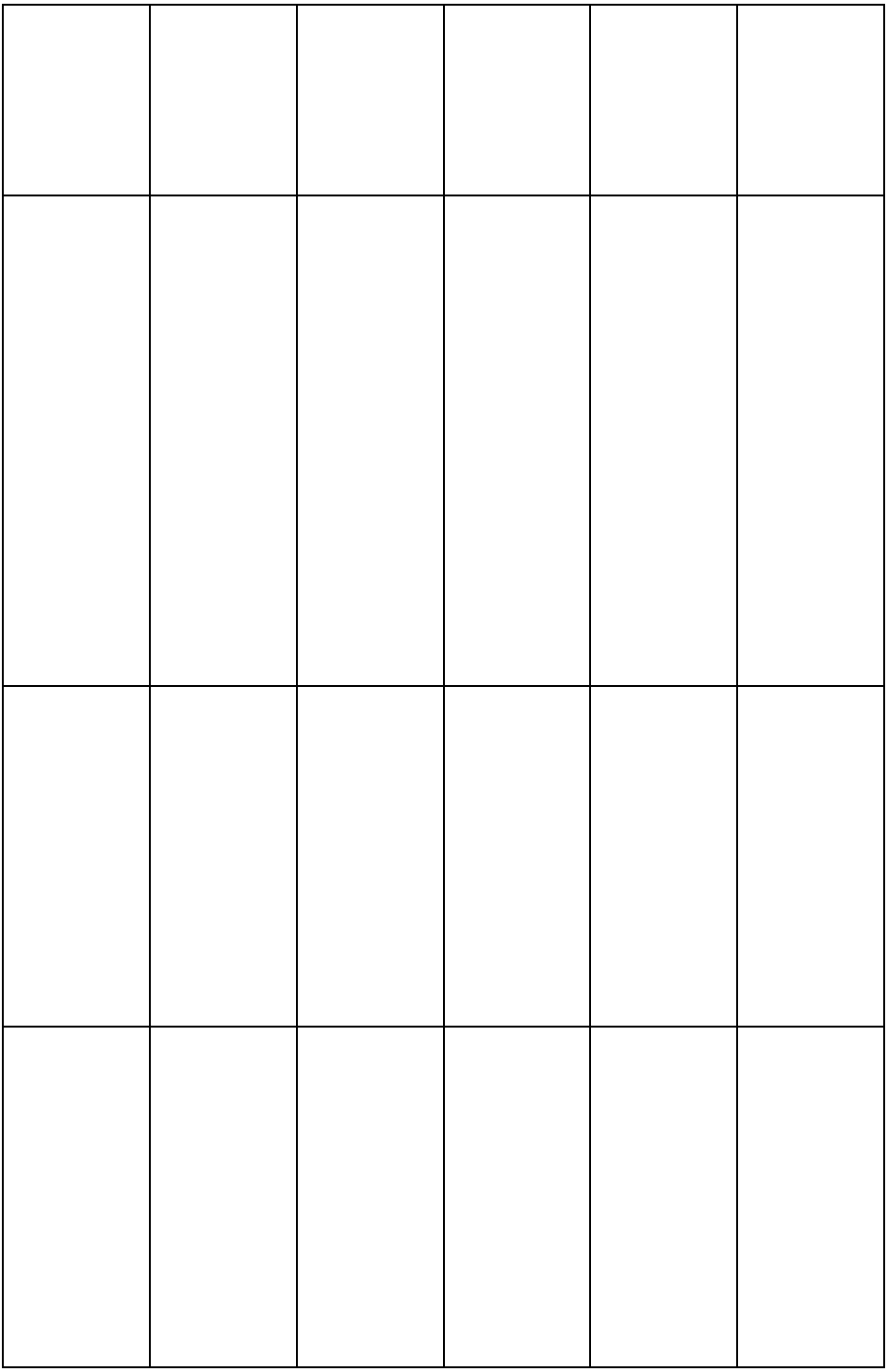




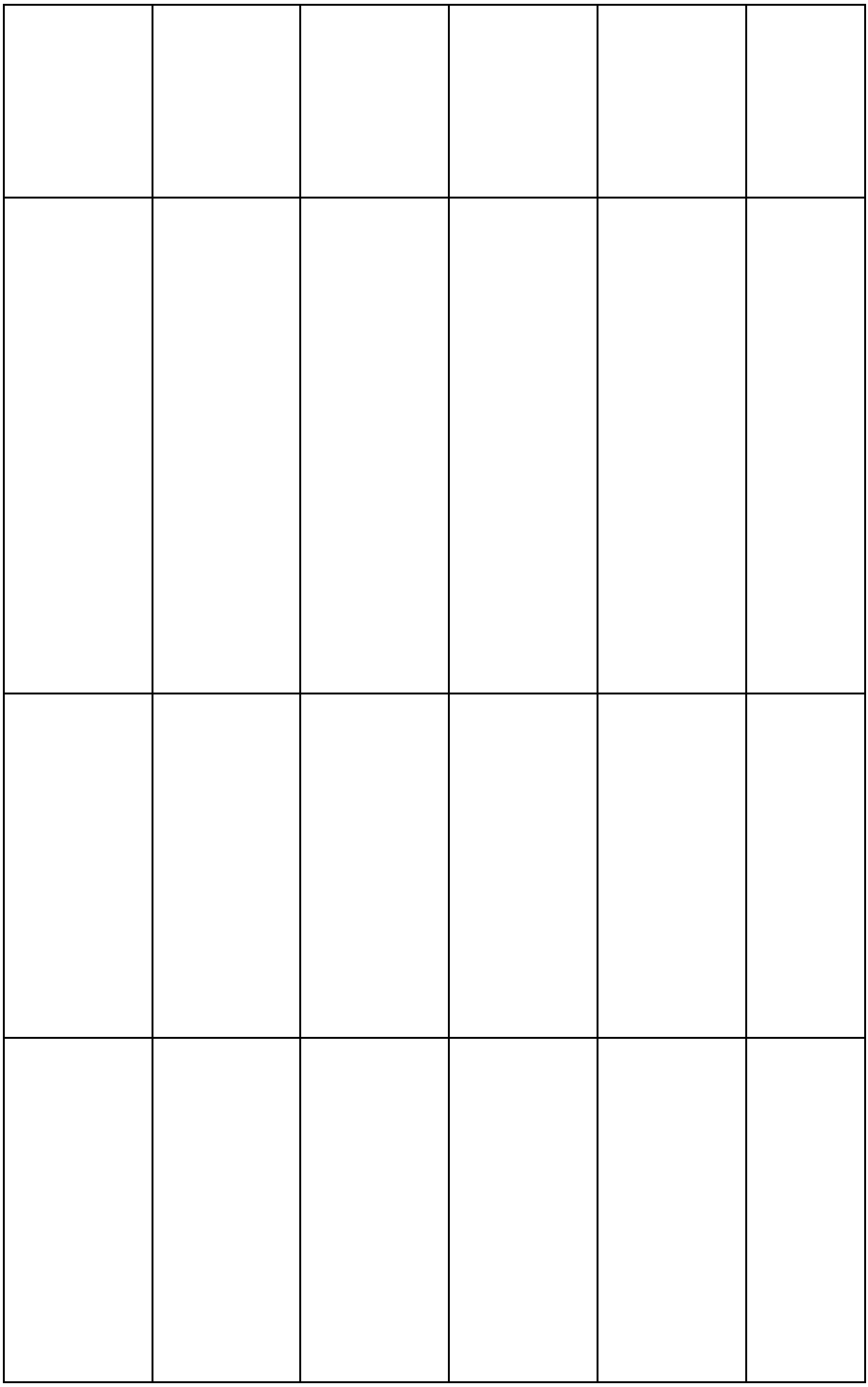




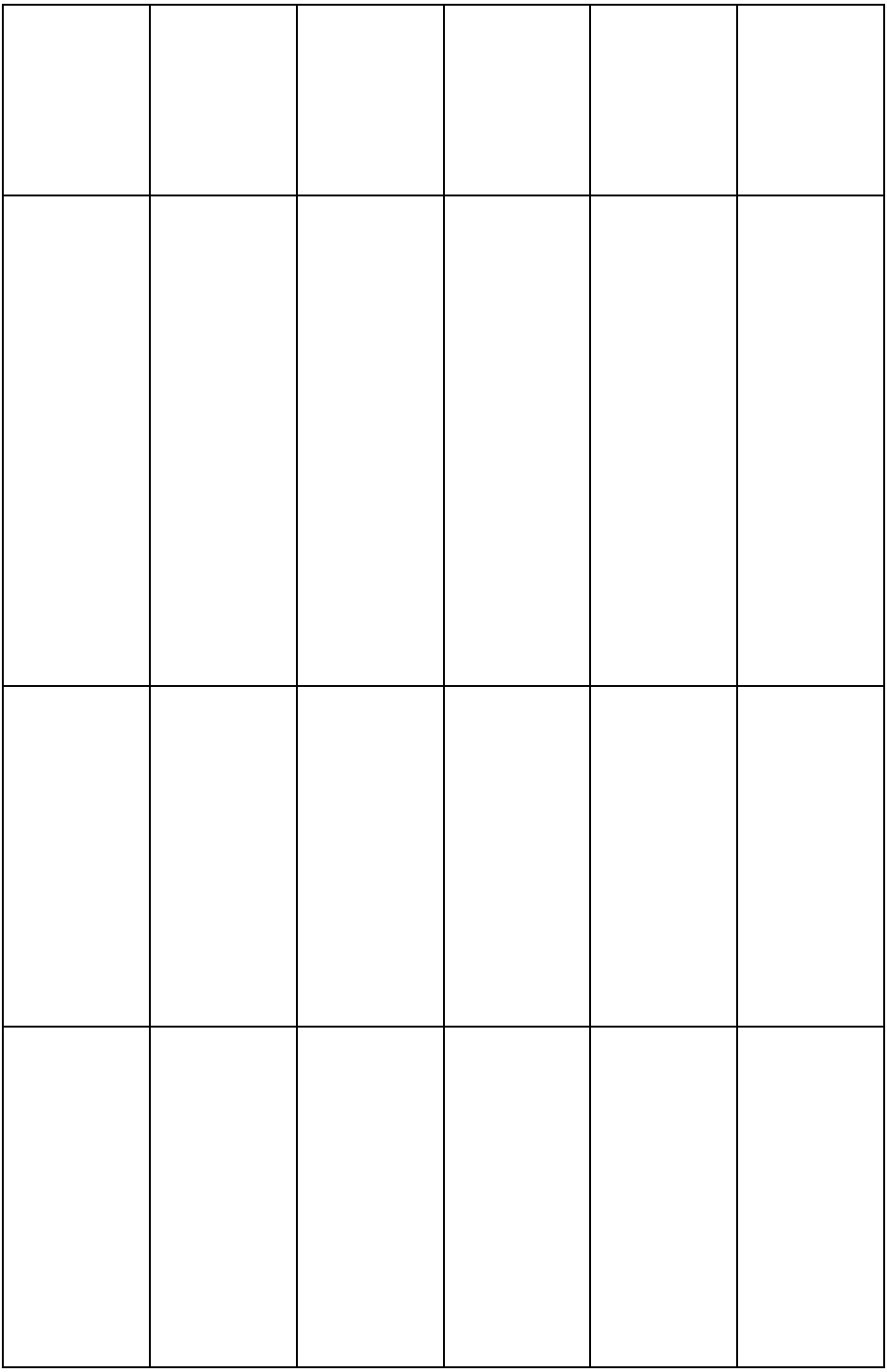
Date	Maintenance after 50 hours of operation	Person in charge	Stamp and signature

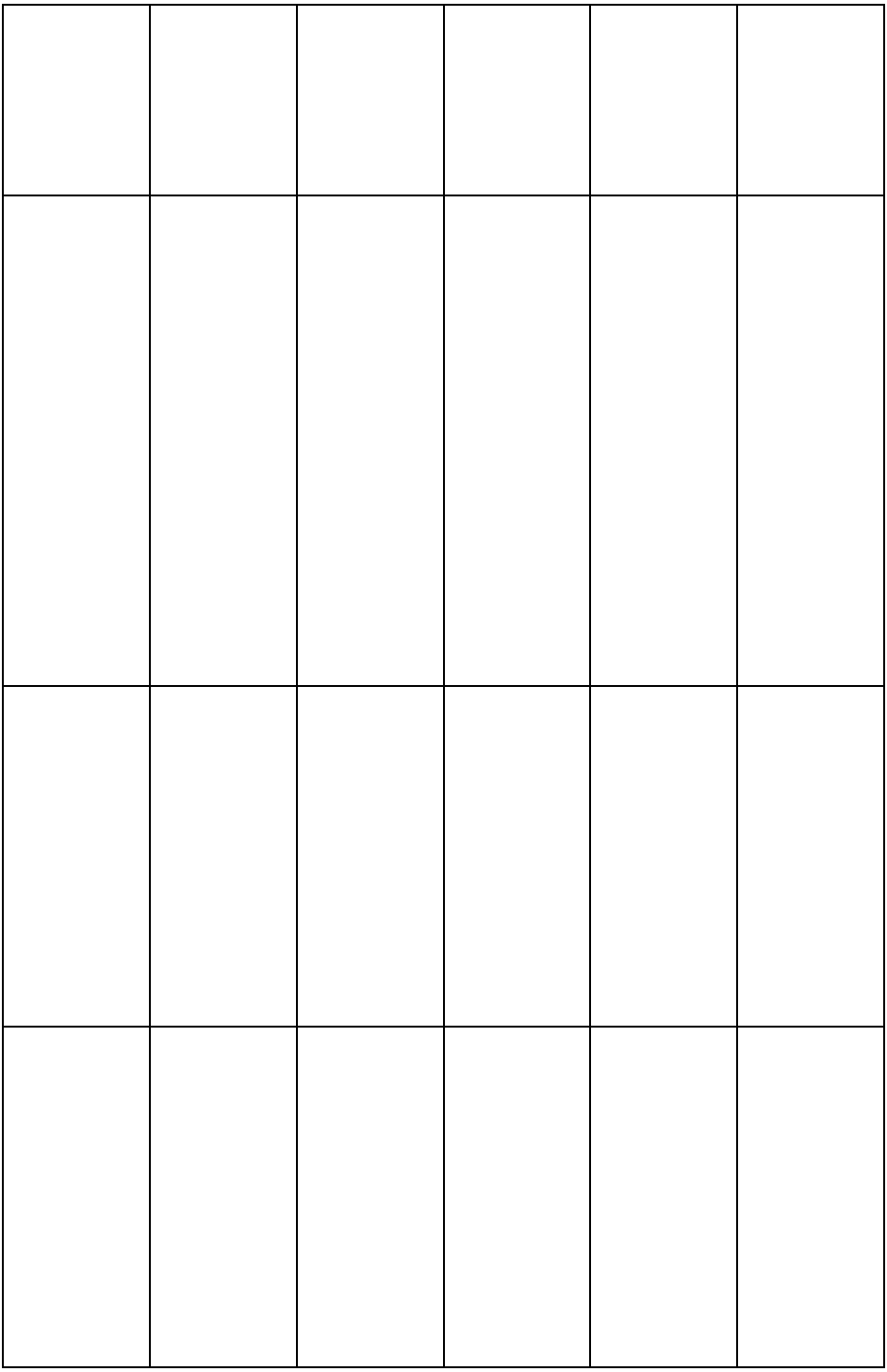


Date	Maintenance after 125 hours of operation	Person in charge	Stamp and signature



Date	Maintenance after 250 hours of operation	Person in charge	Stamp and signature





Date	Maintenance after 500 hours of operation	Person in charge	Stamp and signature

Date	Maintenance after 1000 hours of operation	Person in charge	Stamp and signature

Date	Maintenance after 2000 hours of operation	Person in charge	Stamp and signature

Date	Maintenance after 2500 hours of operation	Person in charge	Stamp and signature

Special unscheduled maintenance

Date	Reason for the maintenance	Person in charge	Stamp and signature

Date	Reason for the maintenance	Person in charge	Stamp and signature

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