

REMOTE CONTROLLED HIGH GRASS FLAIL MOWER



BARBIERI GROUP
MADE IN ITALY



Operator's Manual

BARBIERI GROUP
MADE IN ITALY



BARBIERI SRL – Power Product

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MODEL: X-Flail 80 Evo



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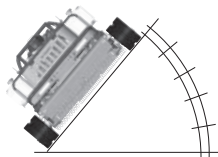
ENGLISH

THANK YOU FOR CHOOSING OUR PRODUCT!

With this product you have chosen unique features, the value of which you can immediately appreciate and evaluate over time:

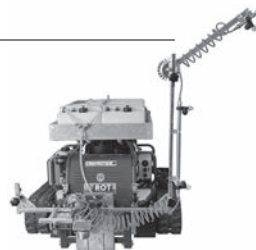
- The lightness of the machine allows it to work on slopes that are impossible for other machines

PRODUCTIVITY



- The available accessories increase the work opportunities

PRODUCTIVITY



- With the COMPASS Servo Drive you can work more efficiently and safely

PRODUCTIVITY



- The BeaConNet is a beacon on the machine that changes color to inform you of all dangerous situations and the status of the vehicle

PRODUCTIVITY



- The vibration of the radio control warns the operator of dangerous situations and alarms on the machine

PRODUCTIVITY



- The telematic connection of the machine to the web enables remote control of the machine parameters, fast remote diagnosis and automatic software updates.

PRODUCTIVITY

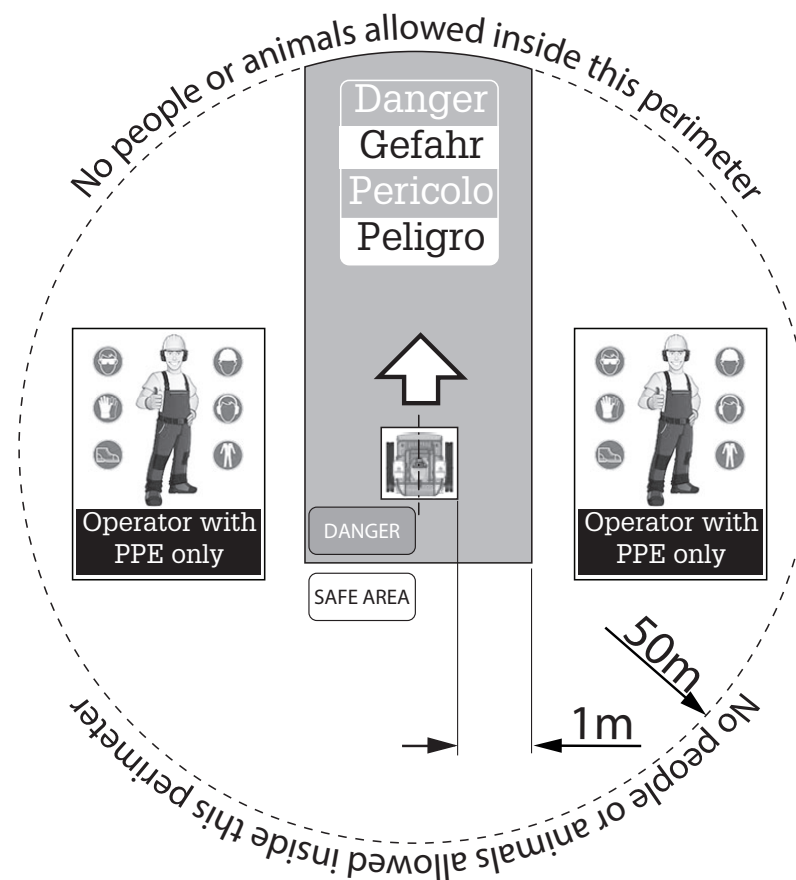


HAVE A GOOD WORK !

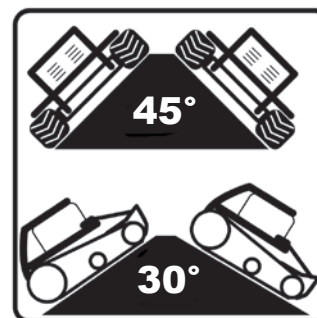
SAFETY HIGHLIGHTS

SAFETY QUICK REMIND

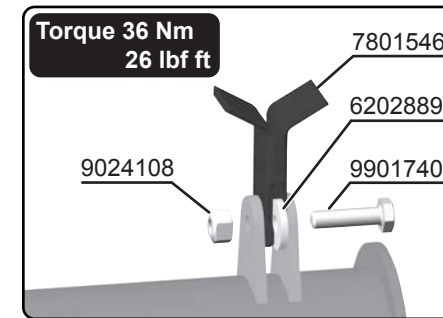
SAFE AND DANGER AREA



SLOPE LIMITATION



REPLACE SAFETY PARTS



A - INTRODUCTION

A - INTRODUCTION

INTRODUCTION

This handbook must be considered as part of the machine. The seller of new and second-hand machines must record in the selling document that this booklet has been given along with the machine..

PICTURES USED IN THE HANDBOOK

Before starting use this machine, it is necessary to read carefully this hand-book, learn and observe all the safety rules indicated with the following symbols.



DANGER:

This symbol is used to highlight an important safety information. If this information is ignored, people are in danger either of possible injuries - even serious ones - or death.

In these messages are also described the normal precautions which have to be taken to avoid the danger. Ignoring these precautions can cause serious damages to the machine.



ATTENTION:

This warning is used in the handbook safety messages when the danger can cause minor or moderate damages and injuries.

The message can be used also for dangers which can cause damages to the machine or its components.



IMPORTANT:

It is used for precautions which have to be taken to avoid operations which can shorten the life of the machine or of its component.

NOTE: *This word is used to highlight information which refers to operations in progress.*

Any time you see these symbols, whether on the machine or on the following of this manual you must pay attention to avoid danger to yourself and to other people.

Following some rules suggested by the common sense, you will avoid any break risk and your machine will function longer and more efficiently.

B - CONDITIONS AND USE RESTRICTION

B - CONDITIONS AND PROPER USE

DEFINITION OF PROPER USE

- This machine have been designed for grass cutting and weed control in agriculture and public green, flat and sloped areas.
- The exact observance of use conditions, maintenance and reparation are the essential element for a correct use.
- The machine should be used, maintained and repaired only by people who have knowledge of the security rules.
- The general rules about accident prevention and public road circulation rules should be respected

IMPROPER USES

- Any other use is not allowed. The manufacturer is not responsible for damages caused by any use than the intended one. The user is fully responsible for any possible risk.
- Each arbitrary modification carried out on the machine could release the manufacturer from the responsibility for any damage or accident derived by the machine.

ONLY ONE OPERATOR

The machine was designed to be used by one operator only. The presence of other people in the closeness could be dangerous for the safety of both user and people. (see danger area in paragraph 5.12)

ACCESSORIES ON THE MARKET (ONLY IF AUTHORIZED)

Any use of accessories different from the authorized ones by the manufacturer is not allowed. For further applications different from the authorized one or in case of misunderstanding of this handbook, please contact the technical department of the manufacturer.

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Descriptions, figures and technical features mentioned herein are non-binding for the Manufacturer. These are mentioned as mere information. The Manufacturer reserves the right to make any change at any time without notice, to improve the quality of the products without being bound to update this publication.

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D - IDENTIFICATION NUMBER

In the event of a problem, before contacting the dealer for repairs or to order spare parts, the following identification numbers of the machine must be noted:

- Model and chassis number
- Engine type and serial number

Chassis number Type



Write down the serial numbers here
machine identifiers

Serial number RC63K000

Fig. 1

Number of the engine (Briggs & Stratton)

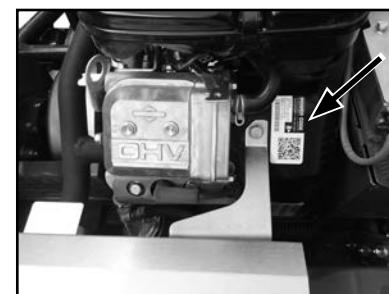


Fig. 2

DIMENSIONS (mm)

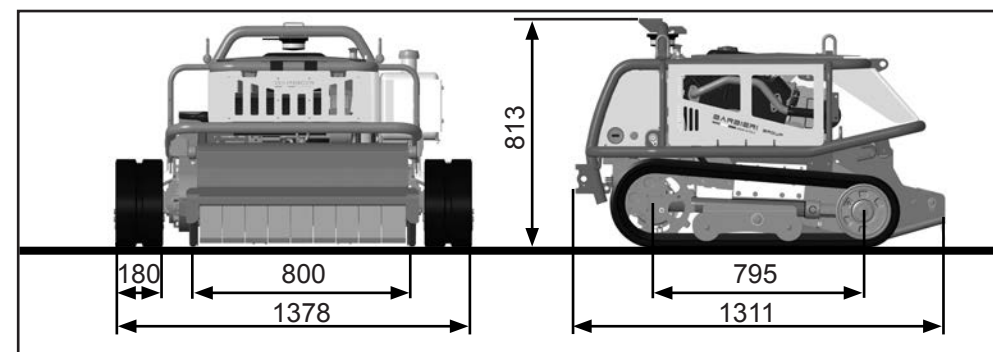


Fig. 3

SECTION 1 - TECHNICAL DATA

1 - TECHNICAL DATA

1.1 Technical data

ENGINE		GENERATOR	
Manufacturer	BRIGGS & STRATTON	Generator 1	3 phases 34VAC - 80A
Model	VANGUARD 3864 elec. start	Generator 2	monophase 13VAC - 10A
Engine type	Air cooling 4S OHV petrol	CUTTING SYSTEM	
	Forced lubrication	Type	Flail rear discharge
Net power	17 kW (23 HP) / 3600 rpm	Blades	40 "Y" blades - 2200 rpm
Max. torque	24.2 Nm/2.47 Kgfm / 2500 rpm	Working width	80 cm
Displacement	627 cm ³ (2 cylinders)	Height regulation	30-150 mm by Radiocontroller
Diameter x stroke	73 x 72 mm	Transmission	By belt EM-Clutch
Spark control	Electric ignition		
Start system	Electric START	RADIOCONTROLLER 2.4 GHz	
Air filter	Sponge	Radio Technology	AFA (Autom. Frequency Agility)
Fuel capacity	16 Lt	Joystick	Optic
Fuel consumption	2.5 L/h - 3000 rpm	Reach	200 m
Engine oil capacity	2 Lt	Norms	Directive R&TTE 1999/5/CE 2006/42/CE PLE categoria 4 /SIL 3 ISO 13849-1:2008 /EN62061:2005
Comm. Protocol	CAN SAE J1939	Weight	1,3 Kg.
Alternator	12V - 30A	DIMENSIONS	
TRANSMISSION		Overall dimensions	1378 x 1311 x 813
Type	Hybrid engine 48V	Weight	450 Kg
	w/ reducers and brakes	Soil pressure	166 g/cm ²
Control	Electronic	Soil contact area	(17,5x80x2) = 2800 cm ²
Speed	0-8 Km/h		
Slope	30° Front. - Later. 45°		
Degree/Gravity centre	65° / 15 cm		
E-Motor type	Brushless Magnete perm.		
	3 phases		
E-Motor power	1 kW		
Electronic control	BHV - 48V 100A		
Servodrive	Compass Servo Drive		

SECTION 1 - TECHNICAL DATA

1.2 Noise

The noise level was obtained during the equipment in action, in neutral position and the results are the following:

- Engine Briggs&Stratton VANGUARD. (4 strokes)
- Acoustic pressure level (LpAm) 90,4 dB(A)
 - Acoustic power level (LwA).....101,9 dB(A)

1.3 Vibrations

The vibrations level was obtained with the machine at work at 3060 rpm (85% of the nominal condition of 3600 rpm) and the results are the following:

- Not applicable

LABELS AND WARNINGS POSITION



Fig. 4

SECTION 2 - SAFETY NORMS

2 - SAFETY NORMS

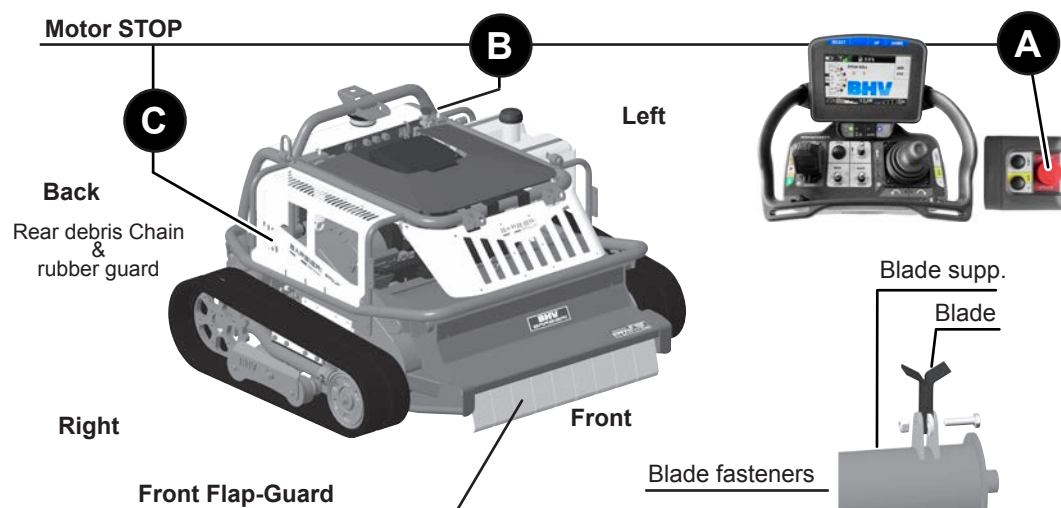


Fig. 5

2.1 SAFETY DEVICES

The terms "FRONT" - "REAR" - "RIGHT" - "LEFT" used in this handbook and in the spare parts catalogue, are referred to the machine as shown in Fig. 5

SAFETY PARTS

The machine is equipped with a series of safety devices to comply with the Machinery Directive. All safety devices are necessary for the safe use of the machine and in case some of them are missing, damaged or worn it is mandatory to replace them with genuine spare parts. Do not attempt to repair a safety component.



DANGER:

Do not use for any reason the machine with a wear, damaged, or missing safety element. Replace the safety component with genuine parts before to use the machine. The use of the machine without efficient safety element can cause injury or death.

In detail, the following devices are provided for safety:

- 1 - Engine-Stop devices (A) (B) and (C)(Fig.5)
- 2 - Automatic brake system in case of engine stop
- 3 - Front and rear shield to stop the objects thrown by the blade (Fig. 5)
- 4 - Blade and blade fasteners (Fig. 5)
- 5 - Engine stop in case of loss of the RadioControl signal
- 6 - Transmission belt's cover
- 7 - Warning labels
- 8 - Transmission belt protection

SECTION 2 - SAFETY NORMS

2 - SAFETY NORMS

2.2 WARNING LABELS AND SAFETY ADVICES

The most important warning labels are placed near to the danger around the machine. Be sure to understand the meaning of the labels in order to use a proper behavior to avoid any danger action. These labels are very important for the safe use of the machine along the time. Keep these labels clean and in a good condition. In case of damage or lack of such a label it is mandatory to replace them with original ones.

WARNING: SERVICING

Read the technical instructions in the operation manual before servicing the machine.

WARNING: RISK OF INJURY

Stay away of the discharge opening of the mower deck because stones or other hard objects ejected from the mower may hit you. Use visor to protect from flying object

WARNING: RISK OF ENTRAPMENT

Stay away from the moving belt.

DANGER FOR HANDS AND FEET:

Cutting blade: keep hands and feet away.

WARNING:

Radio controlled machine.
Keep yourself at safe distance.

WARNING:

Danger of crushing hands.

WARNING:

Exhaust gas is poisonous!
Do not start the engine in a not ventilated room.

WARNING:

Petrol vapors are explosive.
Do not refuel near free flames, sparks or smoking person.



SECTION 2 - SAFETY NORMS

2 - SAFETY NORMS

WARNING:

Do not work in slopes over the limits. Stability and engine lubric. can be lost

DANGER : RISK OF INJURY

On a slope, stay below never above the machine.



CONDITIONS AND PROPER USE

- 1) Before starting the engine, be sure that the SAFETY DEVICES are well working and fitting. Without these cares the operator might work in a danger situation.
- 2) This machine has been designed and manufactured for being used by one operator only who hold the Radiocontrol. Any other use is not permitted!
- 3) It is important to ensure a safe distance between the operator and the machine in the Work Field (see cap.5.12)
- 4) Before the machine is operating, read the Use and Maintenance manual thoroughly, so that you are fully aware of all the operating controls and safety aspects of the machine.
- 5) No modification to the machine or use of not genuine spare parts can be done without the Manufacturer consent. This praxis can lead to very dangerous and unpredictable situation and will anyway nullify the warranty.
- 6) Do not under any circumstances transport people or objects on the machine.
- 7) Before use, check that all the controls and safety components are assembled and in good condition (see chapter 2.1)
- 8) Move the controls gradually; sudden engagement could cause the loose of stability of the machine.
- 9) Check anytime that all the parts all well fixed
- 10) This machine have not to be used by children or inexperienced persons. Operators that are not duly trained of people that are under effect of alcohol or other substances.
- 11) Before operating the machine, check that the area is clear and free of debris and that there are no people within the Work Field. The operator will be held responsible for the safety of third parties, if these are found within the Work Field. Stop work in these cases.

SECTION 2 - SAFETY NORMS

2 - SAFETY NORMS

- 12) Do not use the machine when you are tired
 - 13) Keep away from cutting blades at all times while the machine is in operation. Observe carefully to avoid the danger area (See chap. 5.12).
 - 14) Use only genuine spare parts and accessories especially the safety parts (chap.2.1) to guarantee the safety and the function of the machine.
 - 15) Stop engine before refuelling
 - 16) Handle the fuel with care to avoid spilling on the machine; clean any spillage immediately.
 - 17) Avoid overfilling the fuel tank
 - 18) Plan well your work before starting
 - 19) The area next to the engine exhaust will most likely reach temperatures above 80°.
-  **ATTENTION: Danger of scalding.**
- 20) Keep the area of work clear and clean.
 - 21) Only use the machine in clear visibility.
 - 22) If you hit any objects during the work, stop the machine and check for any damage immediately. For the blade and blade's fasteners integrity refer to par.7.1.6
 - 23) It is advisable to keep a first aid kit handy.
 - 24) The speed of the machine must be convenient to the environment conditions
 - 25) Never do maintenance or cleaning works when the engine running.
 - 26) When possible, avoid working up or down-hill. Always travel across the slope.
 - 27) Do not work on very steep slopes more than 100% (max.45°).
 - 28) During use, keep the hot sections of the engine (i.e. cylinder head, exhaust, etc.) clean to avoid a stack-up of debris that will overheat the engine.

SECTION 2 - SAFETY NORMS

2 - SAFETY NORMS

- 29) Whenever possible, stop the machine on a flat ground.
- 30) Park the machine in an unaccessible place for children or unauthorized persons: stop the machine and remove the Start key from the dashboard.
- 31) Do not stop and leave the machine with the engine running. Reach a flat ground and stop the engine.
- 32) Follow carefully the maintenance instruction and replace always the damaged and worn parts with genuine spare part, if necessary.
- 33) Storage the machine after cleaning it, only.
- 34) If any, it is necessary to take heed of the specific safety norms in force in the Country where the machine is operating.
- 35) Never refuel in confined places, in vicinity of open flames or near the source of sparks. No smoking during fuel handling!
- 36) Never start the engine in a closed place. Exhaust fumes contain poisonous carbon monoxide, so sufficient ventilation should be provided when starting the engine indoors.
- 37) After storage of the machine for a long period, make a deep cleaning and lubricate the machine according to the lubrication program.
- 38) Pay particular attention to all safety screens (front and rear bulkheads). Damage or lack of them can cause serious accidents and even death.



DANGER:

Do not attempt to use the machine if some safety protections are missing or damaged. Immediately restore these protections with original spare parts, before starting work.

SECTION 3 - MACHINE PREPARATION

3 - MACHINE PREPARATION

3.1 Endowment and unpacking



Fig. 6

The machine is supply with:

- 1 x Basic Unit X-Rot*
- 1 x Radio Control*
- 2 x Lithium battery for Radio control*
- 1 x Battery charger*
- 1 x Radio control's hanging belt*
- 1 x User Manual & Engine user manual*
- 1 x Keys Kit*

Before operating the machine, check the fuel and engine oil levels and carefully read the operating instructions for safety regulations and procedures for starting and controlling the machine.

3.2 PRELIMINARY TESTS

Before to use the machine for the first time, it is necessary to verify:

- Engine oil level (see Cap. 7.1.1)
- Fuel level in the tank (see Cap. 7.1.3)
- Battery charge on the Radio receiver (see Cap. 7.1.5)
- The engine oil should be always on the mark of the upper level. Lack of oil will decrease the engine performance on the slope.
- The fuel level should be near to the max but not reaching the collar of the tank. In case of slope the fuel can spill out and create a danger of fire.
- The 2 battery set have to be charged before to start any work. One battery should be enough for one day operation but the 2nd one is required in case of need.

SECTION 4 - CONTROL COMPONENTS

4 - CONTROL COMPONENTS

4.1 NAME OF MAJOR COMPONENTS (Fig.7)

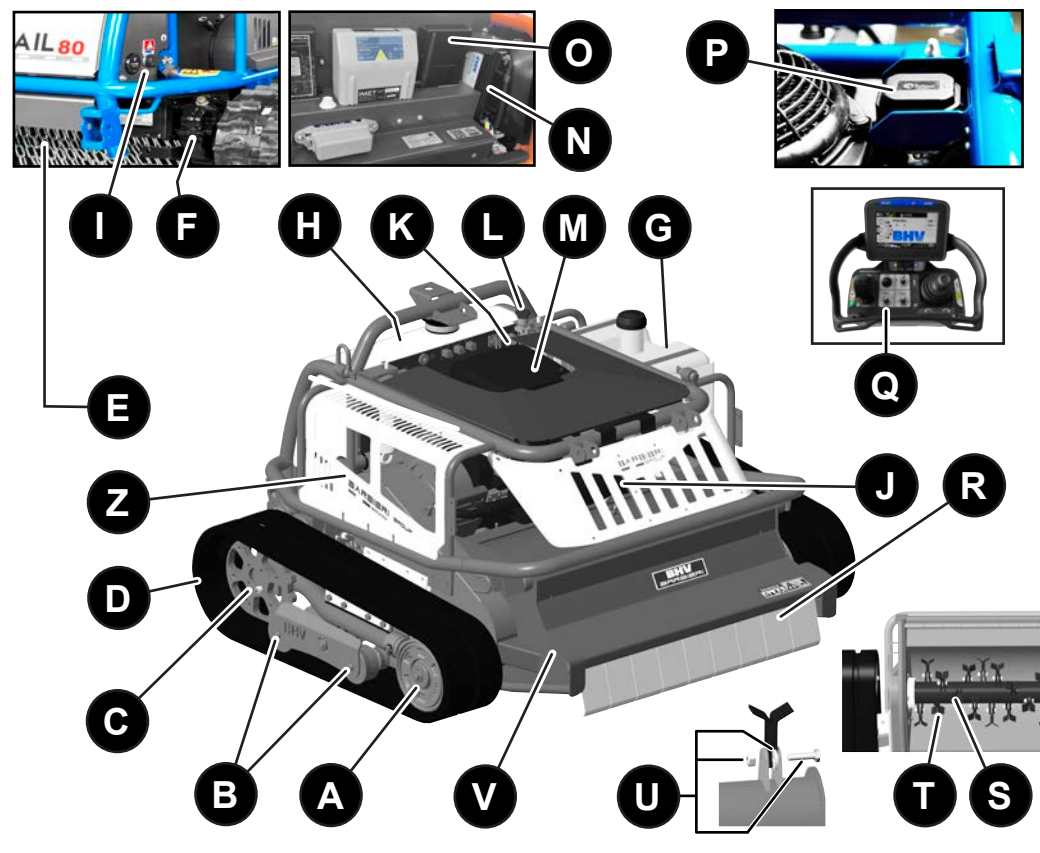


Fig. 7

Basic Unit: Identification of the main components.

- | | | |
|------------------------|-------------------------|-------------------------|
| A) Tensor wheels | H) Electric cabinet | O) Servodrive |
| B) Crawler's roller | I) Power key | P) Antenna |
| C) Drive wheel | J) Engine - Air inlet | Q) Remote control |
| D) Crawler Belt | K) Oil deepstick | R) Front Flap-guard (*) |
| E) Rear Flap-guard (*) | L) Emergency switch (*) | S) Blade support |
| F) Drive motors | M) Air filter | T) Blade* |
| G) Fuel tank | N) Battery | U) Blade Fasteners (*) |
| | | V) Mower deck |
| | | Z) Belt covering bonnet |

(*) Safety Parts

SECTION 4 - CONTROL COMPONENTS

4 - CONTROL COMPONENTS

4.2 ENGINE

The machine is equipped with a high-quality petrol engine from the USA, which guarantees the product a long service life. The engine is equipped with an innovative electronic control system (ECU) that constantly monitors the environmental conditions and engine performance in order to always offer the best and most economical performance. To start the engine, see chap. 5.2. Although the engine is equipped with forced lubrication in order to work on slopes, it is advisable not to exceed 35°. The working limit angles are displayed on the machine and in the lower part of the remote control.

IMPORTANT:

Do not leave the machine on a slope with the engine running. Lubrication without shaking can be insufficient and cause the engine to break. Also, avoid parking the machines on a slope to prevent engine fluids from spilling. Always drive the machine on level ground when parking and switching off the engine.

The first 50 working hours represent the run-in of the engine. During this first period we recommend not to use the machine at the full power. It is also necessary to leave the engine running for few minutes at the idle speed for warming after starting. A sudden use at the max power just after starting cause a thermal shock to the engine components.

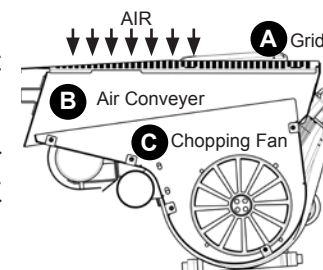
4.2.1 AIR FILTER

The engine is equipped for a filter for the inlet air. In the case of dry grass and congested areas, the air filter must be cleaned very often (every 2 hours). If dry blades of grass stick to the automatic openings of the engine's power generator (Fig. 7 - J), it is very likely that they are also in the air filter, which must be cleaned. (see Section 7.1.2). A clogging of the air filter can lead to a loss of engine performance. The filter should be cleaned daily under normal conditions.



4.2.2 ENGINE COOLING SYSTEM

The engine is equipped with a special air intake system that avoid grass clippings to get stuck in the cylinder heads. The upper external grid (A) stops the bigger size clippings that remain on the external top side. The air with smaller size debris is conveyed through the air conveyer (B) to the engine fan. The engine fan (C) is equipped with multiple blades that shred the particles into powder so the air can pass through the cylinder head.



IMPORTANT: The operator must keep the intake grid as clean as possible. Clogged grid can damage the engine due to overheating.

WARNING: Do not open the grid while the engine is running. Rotating blades can cause severe injuries.

4.2.3 FUEL TANK

The tank holds 16 litres of petrol, which should guarantee 4 hours of work. Before starting work, remember to refuel. The reserve fuel level in the tank is indicated by an indicator light on the remote control, which indicates that it is time to refuel. Interrupt the work and bring the machine to fill on level ground.

SECTION 4 - CONTROL COMPONENTS

4 - CONTROL COMPONENTS



DANGER:

Be careful when refuelling: petrol is highly explosive. Do not attempt to refuel if anyone is smoking or standing near sparks or open flames.

4.3 MOWER DECK

The cutting deck has a special shape to reduce the power requirement. The knife is driven directly from the motor via a belt that is connected to an electromagnetic (EM) clutch. The knives are activated with a button on the remote control and electronically controlled depending on the engine status. (see chapter 5.7). The blades used are a compromise between cutting results and impact resistance to enable heavier work. **The knives and knife fastening screws as well as the chains and rubber guards on the mower deck are SAFETY COMPONENTS and must be checked regularly (see maintenance program in section 7.2.1.)** The cutting height can be set directly via the remote control and is indicated by the display on the right-hand side of the machine (see Figure 8). For maintenance of EM coupling, knives and belts see chapter 7.2.7.



Fig. 8

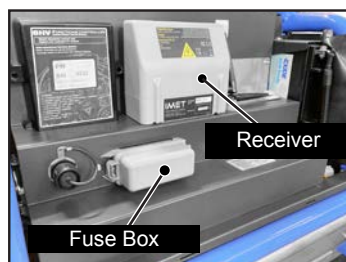


Fig. 9

4.4 ELECTRICAL SYSTEM

The machine is driven electrically. 4 microprocessors control the functions of the machine to ensure maximum safety at all times. A motor-driven alternator generates a voltage of 48 V (Extra Low Voltage - ELV), which is safe from electrical hazards for people. The caterpillars are driven by 2 brushless motors that are electronically controlled by 2 inverters that run sophisticated software that makes the machine easy to use and flexible. The radio receiver and the fuse and relay box are easily accessible via the switch cabinet on the back of the machine (Fig. 9). The electrical system has protection class **IP 54**.



4.5 BEACONNET

The machine is equipped with a colored flashing light that can easily tell the operator the status of the machine: on, off, alarm, danger, PTO on, power steering, etc. This simple tool is very effective and convenient for the operator who receives information simply by watching the machine in motion. (See Section 5)



SECTION 4 - CONTROL COMPONENTS

4 - CONTROL COMPONENTS

4.6 TRANSMISSION

The power is transmitted to the tracks via two robust and low-noise spur gears. The portal shape of the drive enables a very low center of gravity, which is only 15 cm from the ground. The design technology of the motors ensures a high torque even at standstill. These two properties make the machine suitable for steep inclines, and in the event of a power failure, a passive braking system prevents the machine from being out of control and descend uncontrollably.

4.7 RADIO CONTROL

The remote control has robust and reliable electronics that allow the control of all movements of the machine. It works with a frequency of 2.4 GHz and AFA technology (Automatic Frequency Adjustment), which automatically searches for the freest transmission frequency in the event of interference.

Special Functions

The radio control is equipped with a display that allows the visualization of alarm messages with a code indicating the type of anomaly. In the event of an alarm, vibration attracts the operator's attention.

RADIO TRANSMITTER CONTROLS

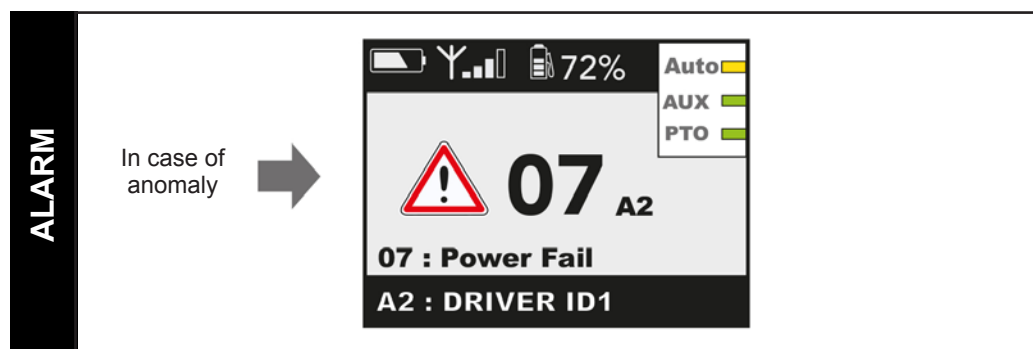
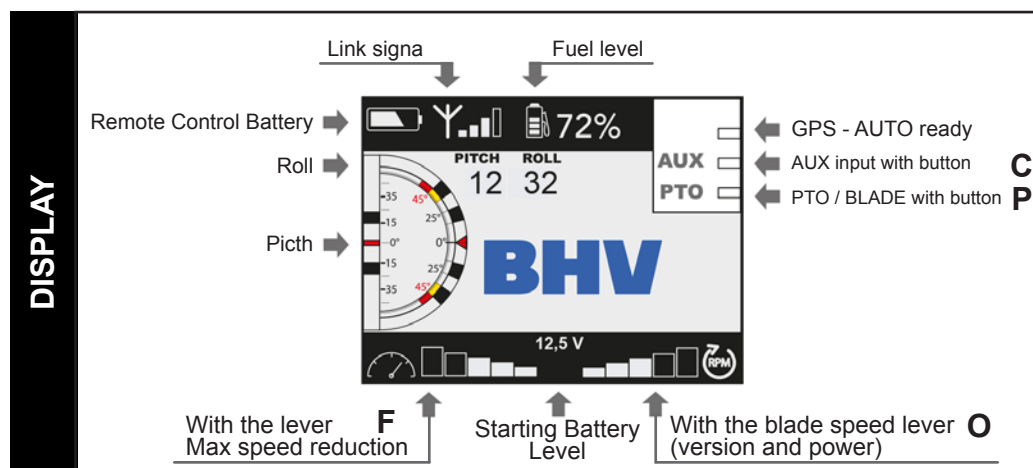


Fig. 10

- | | | | |
|---|---------------------------------|-------|--|
| A | Radio connect button | I | "Autopilot" ready |
| B | Engine start button (with (A)) | L | Reception connected control light |
| C | Auxiliary socket switch | M | Setting lever for the auxiliary cylinder |
| D | D Button | N | Reference switch for the drive direction |
| E | Max Speed limiter | O | Alarm switch (engine stop) |
| F | Cutting height adjustment lever | P | PTO switch |
| G | Drive control F./R. - L/R | Q | engine throttle |
| H | Radio connection control light | SHIFT | 2° Function |
| K | Low battery | j | Backlight |

SECTION 4 - CONTROL COMPONENTS

4 - CONTROL COMPONENTS



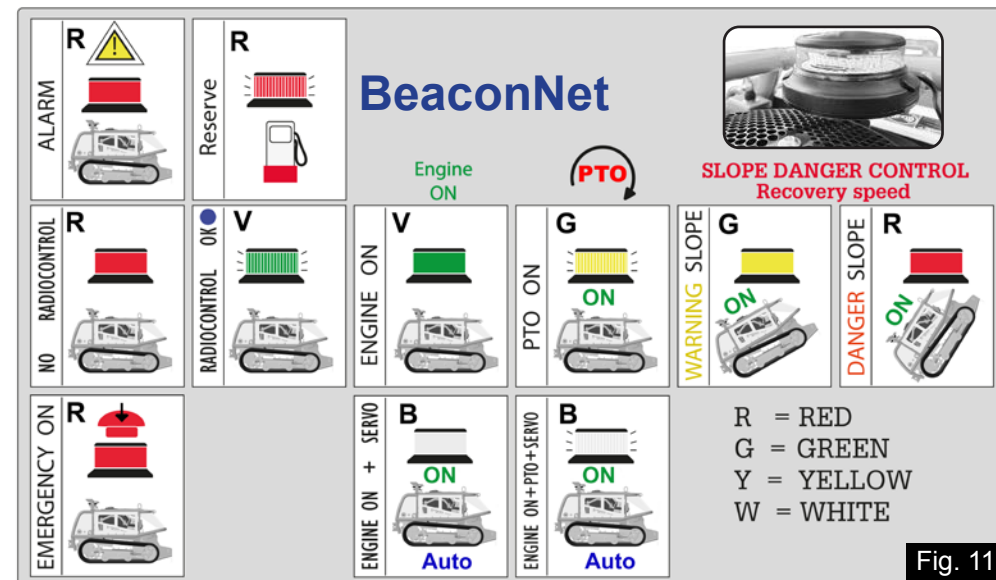
SECTION 5 - INSTRUCTIONS FOR A SAFE USE

5 - SAFE USE

This section explains the various devices in the machine and shows the dangers or misuse that must be avoided. We recommend that you carefully read and become familiar with the procedures that will result in correct use of the machine in order to obtain maximum performance while minimizing intrinsic risks.

Beacon-net

The flashing light provides various information about the status of the machine. It will be useful to learn the key information presented in the diagram below.



5.1 CONNECTION OF THE RADIO CONTROL

Turn the ignition key to "ON". An acoustic signal and the continuous red light from Beacon-net warn that the radio control is not connected.

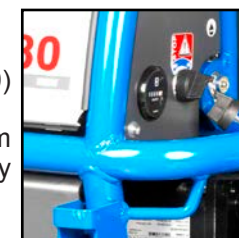
To connect the radio control, press the green button A (Fig. 10) on the left and wait for the green light (H) and the blue light (L) to start flashing. When both lamps flash, press the green button A (Fig. 10) again for one second and then release it. Both lights stop flashing and the acoustic signal stops and the light turns green flashing: the radio control is connected. In the event of an error, repeat the process.

5.2 ENGINE START (Fig. 10 - 11)

Move the throttle lever up (Fig. 10 (Q)) to the maximum.

Keep pressed the button (A) and then press the button (B) (Fig. 10) until the engine starts.

Lower the throttle control to idle speed and allow the engine to warm up. The engine speed can now be set and the value is displayed by the bar chart (Fig. 12 (bottom-right)).

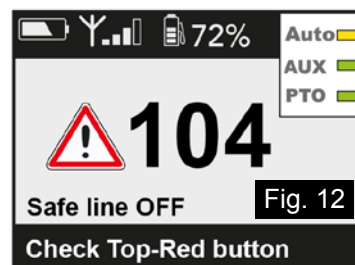


SECTION 5 - INSTRUCTIONS FOR A SAFE USE

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5.3 ENGINE STOP (Fig. 10)

To switch off the engine, press the red alarm button at any time (Fig. 10 (O)). The engine suddenly stops. Shortly after stopping, remember to release the alarm switch in its normal position. The engine can also be switched off by the alarm button on top of the machine (Fig. 7 (L)), by turning off the star key (Fig. 7 (I)) or anytime the radio connection with the remote control is interrupted



NOTE: If the connection to the radio control is lost, the engine switches off.

NOTE: It is recommended that the machine be moved on level ground, whenever possible, before stopping the engine. In the event of an emergency stop, restart the engine as soon as possible and place the machine on a flat surface suitable for parking.

5.4 DRIVE (Fig. 13)

Check that the lever (8) is set in the UPPER position.

This lever reverse the motion. Move the Joystick (G Fig.10) FORWARD gradually and continuously. The machine will move ahead. The machine can be easily controlled by a finger that controls both speed and direction. It is possible to reverse the Joystick function when the machine moves forward and towards you (Fig. 13).

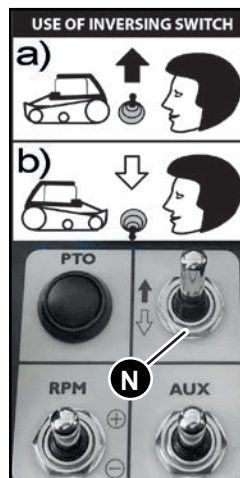


Fig. 13

5.5 WORK IN THE SLOPE

It is advisable to work in the longitudinal way on slopes. At the end of the way there is no need to turn as the machine works in both directions. We therefore recommend the route shown in Fig. 14 on the right. If it is necessary to work with the path shown on the left in Figure 14, the transmission components will overheat and the working speed will be significantly lower.

IMPORTANT: When working on a slope, it is necessary to lock the track tensioner according to Chapter 7.2.9.

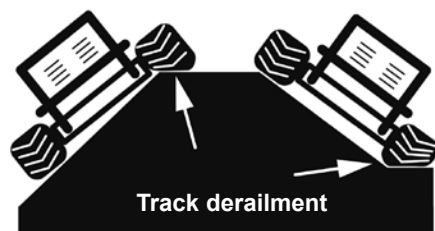
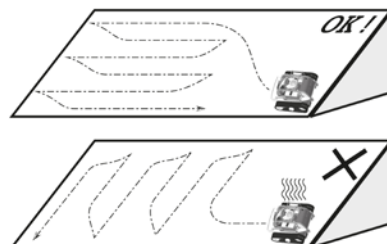


Fig. 14



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ATTENTION: Do not exceed the 45° when drive longitudinally and the 30° when drive downhill.

The machine is equipped with a tilt control that reduces the maximum speed. The driving speed is reduced on inclines of more than 35°. The operator is warned by the vibration of the remote control and by the BeaconNet changing from flashing yellow to constant yellow. A further reduction takes place at angles over 45°, which are displayed by the BeaconNet with a continuous red light. The normal driving speed can be restored with the lever button (E) of Fig. 10.

5.6 BRAKE SYSTEM AND PARKING

The machine is equipped with a passive brake which brakes the machine when it is stationary. This brake works even when the engine is off. The brake can hold the machine in extreme slopes, but it is advisable to stop the engine only after moving the machine on a flat ground. If this was not possible, stop across the slope so that the machine cannot move in the event of a brake fault.

5.7 PTO (Mowing Blade - Switching ON) (Fig. 15)

When the machine is ready to drive, the power take-off (PTO) can be switched on, which activate the cutting knife. The knife rotation requires a lot of energy, so that an electronic control prevents the knife start if the engine speed drop abnormally. To start the PTO, press the button (P). The message PTO "ON" appears on the display, indicating that the knife is rotating. The BeaconNet also changes color from green to flashing yellow (warns that the machine is working). The knife electronic control can switch off the PTO if the knife is overloaded, which prevents abrupt stops of the engine.



DANGER: Before starting the PTO make sure you have taken all the precautions referred to in paragraph 5.10 in particular:

- the blade must be free (not in contact with the ground)
- There are no objects in the work area that the blade can hit
- there are no people or animals in the DANGEROUS AREA (see paragraph 5.12).



Fig. 15

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5 - SAFE USE

5.8 CUTTING HEIGHT ADJUSTMENT (Fig. 15)

It is possible at any time to control the cutting height from the remote control. In thick, tall grass, it is recommended that the cutting deck be set 100mm from the ground to allow the grass to come out. If necessary, perform a second stage with a lower height setting. To raise the knife, move the control lever (F) up. To lower the mowing deck, move the control lever (F) down

5.9 AUXILIARY SOCKET (Fig. 15a)

The machine can be equipped with external devices such as spray pump, LED lights, rear power lift, etc. This accessory can be controlled from the remote control. Such a device must be plugged into the socket (2) and (3) in the rear wall of the engine compartment (Fig. 15a).

From the left to the right in the Fig. 15-a the socket are:

- 1 - Battery 12V stabilized
- 2 - 12 V plug controlled by Radio Control (Aux) Fig.10 (C)
- 3 - Plug with switching polarity for electric actuator Fig.10 (M)

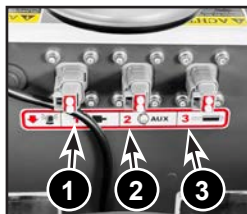


Fig. 15 a

5.10 CHECKS DURING USE

The electric drive transmission have been design to be maintenance free. Nevertheless as the machine is equipped by one engine it is necessary to mantein it and to make some controls everytime you use it. These maintenance operations include safety devices which are crucial to assure the safety. Moreover this machine normally works in a inaccessible areas and in case of undesired stop it can be hard to rescue and restore the machine.

Before to start any work, check:

- Anything that was abnormal in the previous operations.
- the level of the Fuel. Replenish it every time
- the level of the oil of the engine: (near to MAX)
- clean the cartridge of the air filter
- the charge of the battery of the remote control
- the condition of the blades (see par.7.1.6), the blade bolts and the protection devices
- Oil leakage from mower gear case
- Loosen, broken or lost parts (especially safety shield on mower deck), pins and clips
- deposits of grass and mud on the crawler's wheels.
- to reduce the fire hazard, and improve the cooling capacity, keep the engine, muffler (silencer), battery area, and fuel tank area free of debris
- After starting the engine confirm the operation of safety switches

5.11 ACCESS TO AND FROM THE WORK FIELD

Particular attention should be paid to transport and access to the work area. Every loading, transporting, unloading, crossing of streets, steps, stairs and bridges carries a risk of its own, to which special attention must be paid.

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5.11.1 LOADING ONTO OR UNLOADING FROM A TRUCK

When loading the front mower onto a truck, turn off the truck's engine, apply the truck's parking brakes, and chock the wheels to avoid unexpected moving of the truck or trailer. To load the machine onto a truck, fully lift up the mower deck and move straight forward at low speed. Drive on reverse when unloading it from the truck or trailer. Use ramps with the same or better specifications mentioned below.

Specifications of the ramps

- | | |
|---------------------------|---|
| - Length | more than 4 times the height of the platform of the truck |
| - Width (effective width) | more than 30 cm |
| - Required quantity | 2 ramps |
| - Capacity (one ramp) | more than 250 kg |
| - Ramps should have | anti-skid surfaces. |

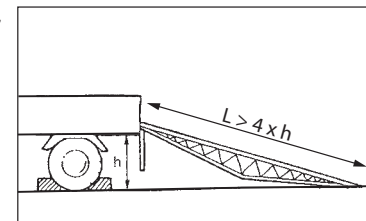


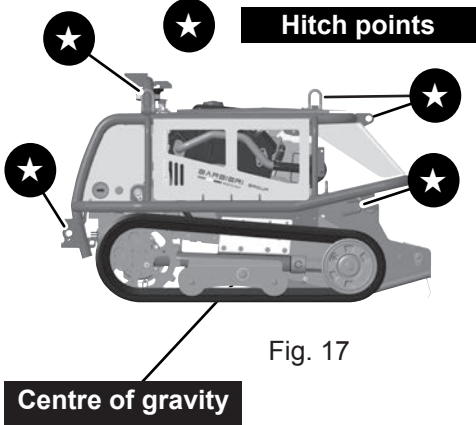
Fig. 16

Bind the machine to the truck or trailer using the hitch points shown in the picture Fig 17. The machine is provided by hanging hook to be placed on the working ground by a truck crane. The machine weight is more than 480 Kg. Be sure to use belts and hook with a proper loading capacity.

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5.12 SAFETY IN THE WORK FIELD



It is mandatory to follow these rules to not create danger for the operator and for people, pets or things around the operation area.

- a) Operate if you have a perfect control at your sight of the area of 50m radius around the machine, only. If the machine's moving area is not visible, change your position.
- b) Do not allow any people or animal to approach the machine. A miscontrol of the drive can cause severe injury to the people or some object can be thrown out from the mower blade and hit somebody. The danger area is shown in Fig 19. Only the operator is allowed to stay inside the perimeter of 50 m Radius inside the white area only if it wear the Personal Protective Equipment prescribed.



DANGER:

Do not allow for any reason the people to enter into the DANGER AREA. This recommendation include also the operator. Launched objects can cause severe injury.

- c) Check the working area to remove any object that can be danger for the machine.
- d) Place some warning tape or sign to alert people not to enter into the working area.
- e) Check the slopes and the soil conformation to identify some danger areas. Select the position to operate in order to have the best visibility and safer place.
- f) Avoid to perform maintenance in the work field because it is a dusty place. Moreover you get the risk to do excessive efforts and you don't have the necessary tools.

SECTION 5 - INSTRUCTIONS FOR A SAFE USE

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FIG 19 - DANGER AREA

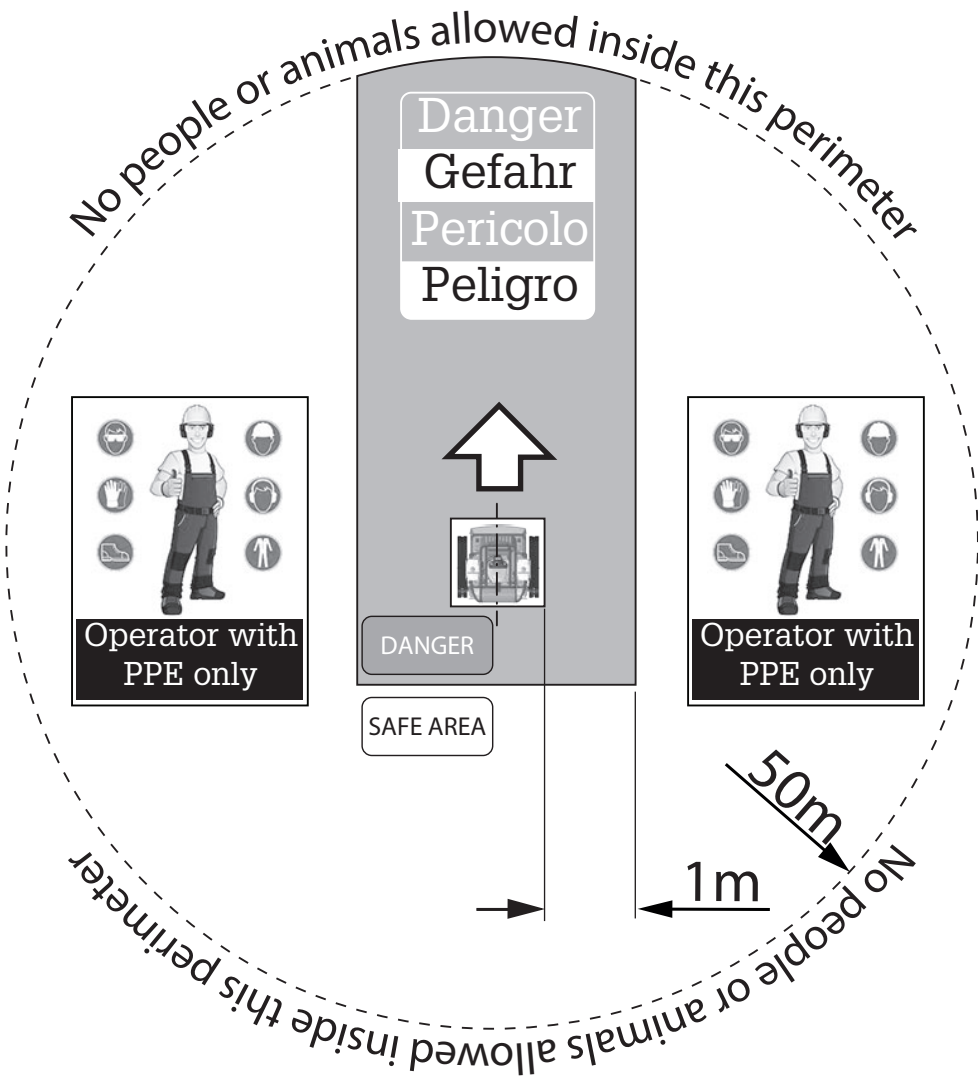


Fig. 19

SECTION 5 - INSTRUCTIONS FOR A SAFE USE

5 - SAFE USE

5.13 USE OF Compass Servo Drive (Optional)

The machine is equipped with a driver assistant, which makes the work much easier:

- increases the safety of the operator considerably, who is not forced to be near the machine and to work with it precisely.
- enables a minimal overlap of the passages, maximizes the effective cutting width and thus the productivity of the machine
- enables precise work even over large distances

The basic functions are explained below. Please refer to the Compass Servo Drive manual for advanced functions.

How to start the servo drive

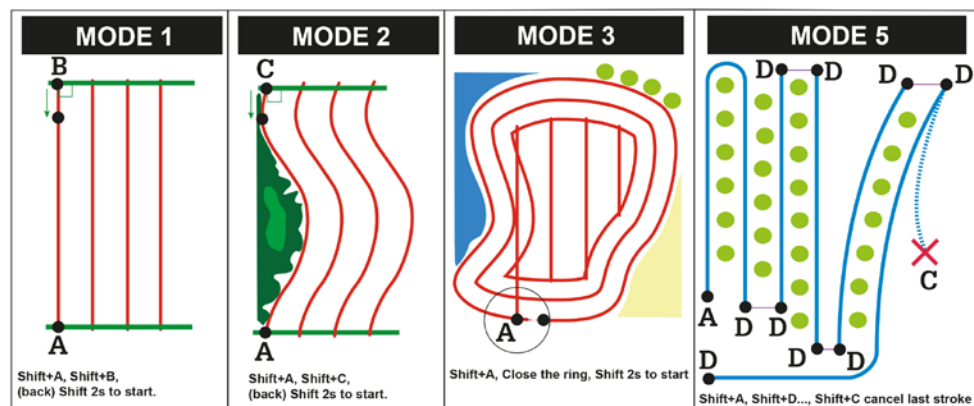
To be able to work with the ServoDrive please follows these steps:

- Define a valid path (see next section). When the route is defined, the yellow light on the radio control lights up and the message "AUTO" appears on the display
- Move the machine inside the defined path.
- Press the "SHIFT" button (Fig.10) for 2 seconds. The machine begins to follow the defined path
- If the remote control joystick is touched, the ServoDrive disengages automatically and the operator regains control of the machine.
- By moving the machine back in the defined path (the LED and the word "AUTO" reappear) and pressing the SHIFT key for 2 seconds, the machine resumes the work it had previously interrupted.

How to define a valid path (Fig. 10)

It is necessary to determine the appropriate mode for the work to be performed and to press the buttons in the order shown. The Shift, A, B and C keys are those shown in Figure 10.

Example



For a rectangular field I choose mode 1.

I place the mower in the first left corner of the field. I press SHIFT + A. The yellow LED flashes to indicate that learning has started. I move the machine to the end left corner of the field and press **SHIFT + B**. The LED stops flashing and shows that we have defined a **VALID ROUTE**.

SECTION 6 - TROUBLESHOOTING

6 - FAILURE AND FIX

GROUP	PROBLEM	CAUSE	REMEDY
Remote control	It is not possible to connect	The key on the machine is turned OFF The mushroom emergency switch is not armed The remote control's battery is low	Turn the key ON Arm the switch in the Remote control Replace the battery and charge this one.
Power supply	No Bip tune on switch key turn ON	If leds on receiver don't light on, check internal fuse Battery fuse is burned out Fuse 1 in Fuse case is burned out Machine Battery is low	Replace the internal fuse Replace Battery fuse inside Battery Box Replace Fuse 1 in Fuse Box Charge the battery
Engine	The engine doesn't start	The starter motor do not work: The Logicboard is not working Fuse of starter (FUSE 1) is burned out	Replace the Logicboard Replace the Fuse 1 Check Fuel level
		The starter motor turn but engine do not start	Check the spark on the spark plug Check fuel circuit Check the engine's oil level Check and clean the Air filter
		No petrol in the circuit	Defective fuel pump Crushed fuel pipeline Check injection pump and filter Fuel tap in wrong position
		Tension stabilizer is not working Problem in the fuel Oil level too high	Replace the stabilizer or the Logic card Check the fuel type or cleanness Check the oil level and in case drain oil out
		One driver can't connect to the other Drivers or E-Motor defective Main Fuse (big ones) are melted The E-Motor brakes are not connected	Turn the key OFF and restart Check the Failure code Replace the big Fuse in the lower part of electric cabinet Connect the Brake cable plugs
Drive	The machine do not move at all	Actuator is not working	Check the cable XC1 Check fuse 3 and 4 Actuator is defective (check input tension) Check the connecting fork
Height Adjustment	The Height adjustment doesn't work	Actuator is moving	Check the mechanical connection of the Actuator
Cutting system	High vibration and noise in the machine	A blade is broken or bended	Stop the machine and replace the blade and fasteners (See part 7.1.6)

SECTION 6.1 - RADIOCONTROLLER ERRORS LIST

6.1 - ERRORS

ERROR CODE	DESCRIPTION	WHAT TO DO
101	CAN1 error (RC)	Switch off - Switch back on
102	CAN2 error (Driver)	Switch off - Switch back on
103	CAN3 error (RC)	Switch off - Switch back on
104	Emergency Line interrupted	Check Emergency mushroom
105	DRIVE1 disconnected	Switch off - Switch back on
106	Motor Oil Warning	Check Motor Oil
107	Machine upside-down	Turn the machine the right way up
108	Low oil pressure (XRot 95)	Check oil level
109	Low 12V pressure	Charge 12V battery
110	PTO overcurrent, short circuit EM clutch	Check EM clutch
111	Heat limiter (ERot 70)	Cool down the machine
112	Blade overload	Reduce the workload on the blades
113	Blade stucked	Check the blades
114	Blade jumbed	Check the blades
120	CAN2 DRV1 absent	Switch off - Switch back on
121	CAN2 DRV1 absent	Switch off - Switch back on
130	CAN2 DRV2 absent	Switch off - Switch back on
131	CAN2 DRV2 absent	Switch off - Switch back on
140	CAN3 ECU absent	Switch off - Switch back on
999	ADJUSTMENT mode	Off at the end

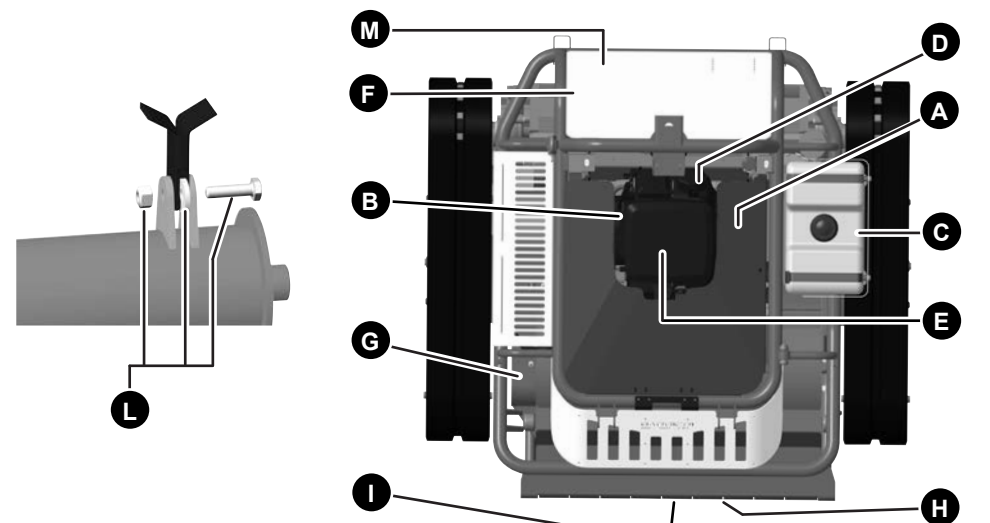
MOTOR DRIVE

Driver1	Driver2	Driver3	DESCRIPTION	WHAT TO DO
200	300	400	Flash memory fault	Contact Service
201	301	401	Parameters Corrupted	Contact Service
202	302	402	Internal Parameters Corrupted	Contact Service
203	303	403	Reserved	Contact Service
204	304	404	Overload	Reduce the speed
205	305	405	Overvoltage	Check the Resistor
206	306	406	Voltage too low	Check the Supply voltage
207	307	407	Power circuit problem	Serious Drive Fault
208	308	408	Drive Temperature	Reduce the speed
209	309	409	Motor temperature	Reduce the speed
210	310	410	Resistor Overload	Drive more Smoothly
211	311	411	Internal temperature	Cool circuits
212	312	412	Regeneration Circuit Overcurrent	
213	313	413	Overvoltage 12V	Check Battery
214	314	414	Voltage too low 12V	Check Battery
216	316	416	Electromechanical Brake error	Contact Service
219	319	419	Motor Sensor	
220	320	420	Sensor initialisation error	Switch off - Switch back on
221	321	421	Excessive current	
222	322	422	Sin-Cos error	Check Motor Wiring
223	323	423	Uncontrolled motor operation	Contact Service
224	324	424	Generic Problem	
226	326	426	FieldBus Error	Check Driver Communication
229	329	429	External error	
240	340	440	Motor disconnected	Check wiring

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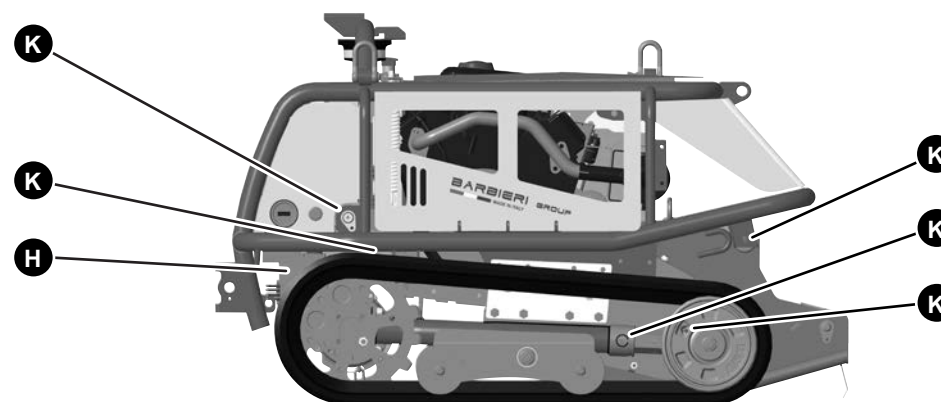
7 - MAINTENANCE

Main Maintenance points



- A) Engine oil drain cap
- B) Fuel filter
- C) Fuel tank
- D) Engine oil filling cap
- E) Air filter
- F) Battery
- G) Belt
- H) Mower deck protection Fr.& Rear
- I) Blade
- L) Blade fasteners
- M) Electric cabinet

Lubrication point



K = Grease nipple H = Reductor gear oil cap

Fig. 21

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7.1 CHECKS BEFORE USE

7.1.1 Check of the engine oil (Fig 20 (D))

To check the engine oil it is necessary that the machine is on a flat hard ground. Remove the oil dipstick (D) and check that the oil level is near the upper mark. For more detail about engine lubrication please refer to the engine manual.

IMPORTANT:

The oil level should never be under the MIN mark and not exceed the MAX level on the dipstick. The oil over the max quantity can damage the engine.

7.1.2 Engine's air filter (Fig. 20 (E))

For the engine to function properly, it is important to check that the engine's air filter or cooling elements are free from clogged stubble in the airflow. Clean these items frequently if there are dry grass and fluttering debris.

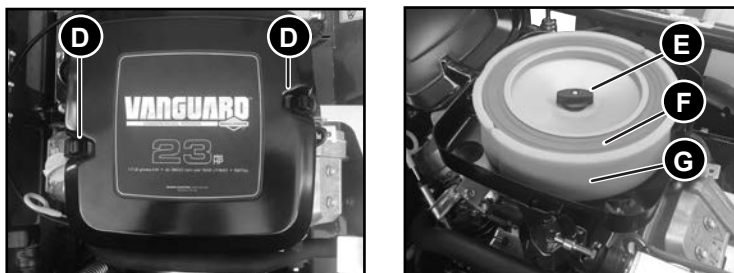
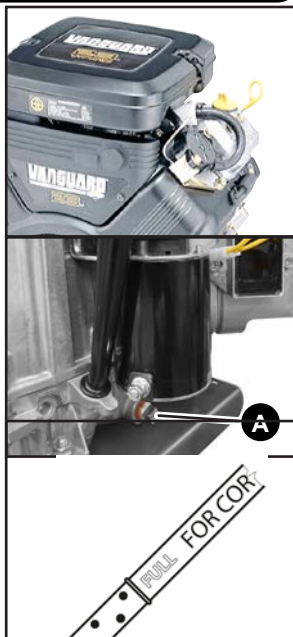


Fig. 23

To access the filter, open the suction compartment by turning the flaps (D) through 90°. If it is dirty, loosen the clamp (E) and take the filter out from the pipe. Then wash the sponge (G) and blow out the paper filter (F). If these items are damaged, replace them immediately. If the engine's suction air is not filtered, the engine can be irreversibly damaged.



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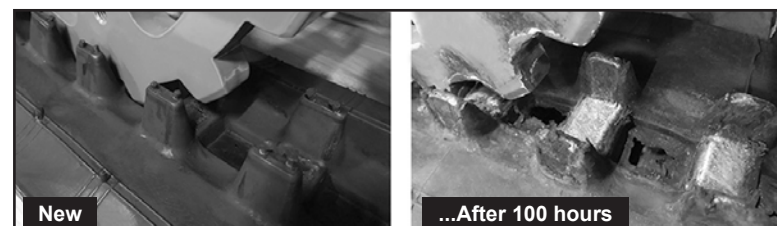
7 - MAINTENANCE

7.1.3 Fuel tank (For safety warnings see Part 4.22)

Refuelling is often not an easy and safe operation in the work area, so it is advisable to check the fuel level before starting the operation. A full tank allows 4 hours of autonomy, so fill the tank by turning the tap to the correct position. See Pic. (24) The reserve sensor is on the tank and it's signaled on the Radiocontroller.

7.1.4 Check the crawler tension and their conditions

It is important to check the condition of the tracks to prevent them from coming out of the guides while you are working.



If their tension is not sufficient upon inspection, check that the tracks are not damaged or worn. A loose track can easily come out from its seat.

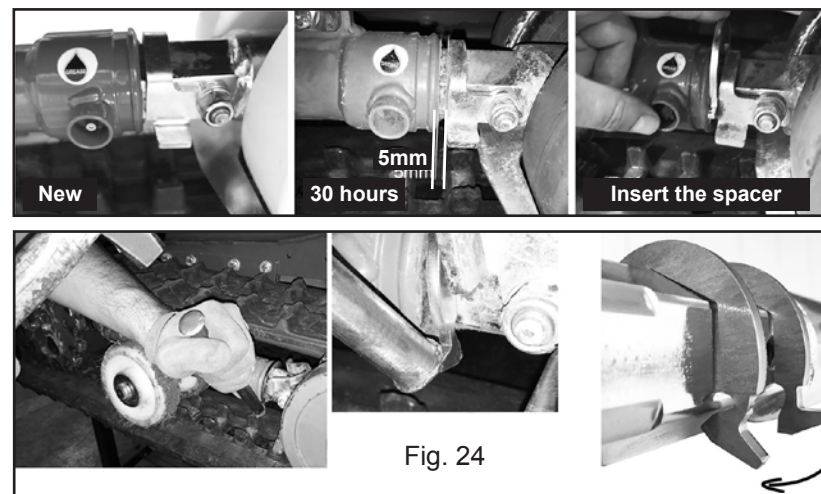


Fig. 24

If the play between the frame and the tensor lock is higher than 4mm it has to be compensated by the Compensating washer. Compensating washers are supplied with the machine, which enable the clamping lock to compensate for the play and to perform its function again. It is very easy to assemble and is shown in Fig. 25

SECTION 7 - MAINTENANCE

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7.1.5 Radio control's Battery charge

The radio control battery is a critical part of the machine. If the battery is weakly charged, the machine cannot be controlled. For this reason, 2 batteries are provided for safety. It is strongly recommended to charge both batteries before use



ATTENTION:

If the battery have low charge the engine will stop



7.1.6 Check the cutting blades

The blade rotates at high speed, so abnormal wear or damage to a blade can cause the machine to vibrate excessively. In addition, hitting a stone or other hard object lying in the field can make the blade lose its sharpness. For this reason, it is necessary to check the condition of the knife and especially the fasteners (screws, washers and bushings) before use. The reorder codes for the individual components are displayed to facilitate replacement.

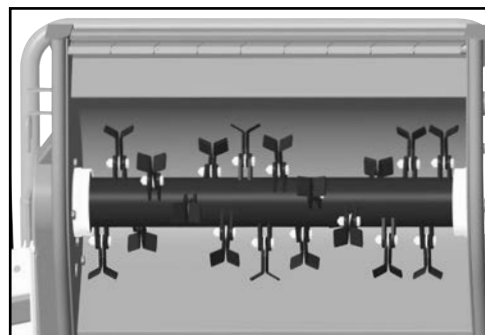
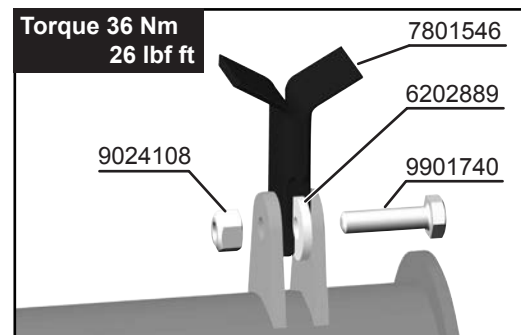


Fig. 25

How to check the blades

The knife rotates at high speed, so abnormal wear or damage to a knife can cause severe vibrations to the machine. To check the knife, Park the machine in a flat ground; stop the engine and remove the starting key. Lift and secure the front of the machine in order to accede easily to the blades. Avoid a precarious and unsafe position. If the machine falls, it could crush you and cause you serious injuries.

- Check that the blade rest is straight and not bent.
- Check that the blades are regular and not deformed
- Check whether the fastening screws are properly tightened (do not exceed the maximum tightening torque of 36 Nm)
- Check that the blades are sharp enough

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To sharpen the blades, follow the instructions in section 7.2.7.

If the screws are loose, replace the knife fastening screws on both sides. If the knives are deformed, replace the knives and fastening screws immediately. If the blade holder is deformed, replace it with a new holder.



DANGER:

Do not try to use the machine if the blade is not in good working order: Structural failure of the blades or their fastening systems can lead to serious and even fatal accidents

7.2 MAINTENANCE AND ADJUSTMENT

7.2.1 MAINTENANCE AND ADJUSTMENT

See the Periodic Maintenance table on the next page.

7.2.2 Maintenance schedule and lubrication program

For the engine oil, always observe the operating instructions of the engine manufacturer. The first oil change must take place after the first 50 hours of operation, which is the engine break-in time. This change removes the floating metallic particles created by the rotating parts. Let the engine run for a few minutes to warm up.

Before you start checking the level or changing the oil, carefully clean the area around the oil cap to prevent foreign bodies from getting into the housing.

Remove the plug with the dipstick (A) and remove the drain plug (C) if you do not have an oil suction pump. Collect the used oil in a pan. Put exhausted oil in a suitable container for disposal. Close the drain plug and add fresh oil to the correct level from the screw (A). For the general temperature, SAE 10W-30 is recommended.

Other viscosities shown in the table can be used if the average temperature in your area is within the stated range.

The engine oil type is (Agip Rotra MP) (SAE 10W / 30). The oil quantity is 2.2 Lt.

Check the oil level as described in chap. 7.1.1.

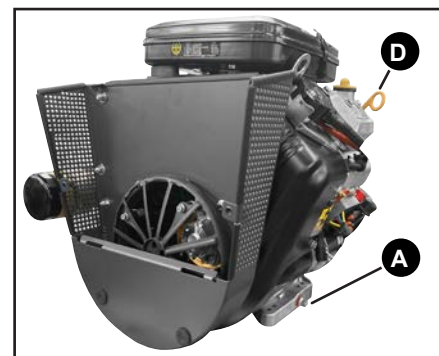
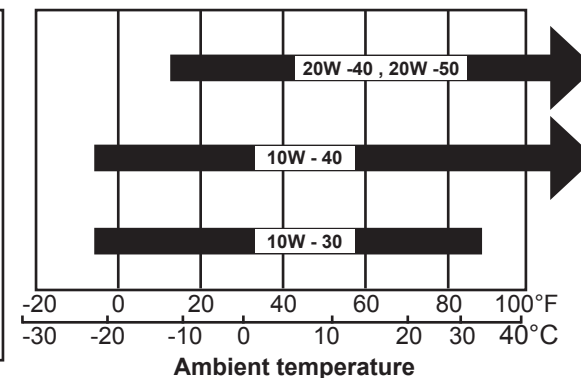


Fig. 26



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Periodic Maintenance schedule	Replacement or servicing at authorized service facility recommended						Remarks
	Before operation	First 50 hours	Every 50 hours	Every 200 hours	Every 500 hours	Before a long break	
	☀	▲	○	●	●	●	
	▲	▲	○	●	●	▲	
	○	○	○	○	○	○	
Engine oil	○	●		●		●	Maintain specific level
Air filter	▲	▲		●		▲	Keep fuel tank always full
Fuel	○					○	No dust or water inside
Fuel filter							
Battery condition			○	○		○	
Rubber pipe				○		○	
Radio controller's battery	○					○	Charge every time
Cutting blade belt		○		○	●	○	Adjust tension
Cutting blade condition	○		●	●		○	See part 7.1.6
Cutting blade fasteners	○		●				See part 7.1.6
Front/rear flap guards	○		○	○		○	See part 7.2.11
Transmission drive oil					☀		
Crawler condition	○			○		○	
Grease up		○				○	
Bolts and nuts	○	○	○			○	Generic bolt fastening
Electrical apparatus			○	▲		▲	
Safety switches	○			○		○	

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7.2.3 Checking and replacement of gear oil

The transmission oil must be replaced after 500 hours of operation, unless oil leaks occur in the transmission. In this case, the damaged seal must be repaired and the oil replaced. This repair must be done by an authorized dealer.

7.2.4 Lubrication of Joints and connections

According to the lubrication program, grease the joints and connection marked in Fig. 21 every 50 hours.

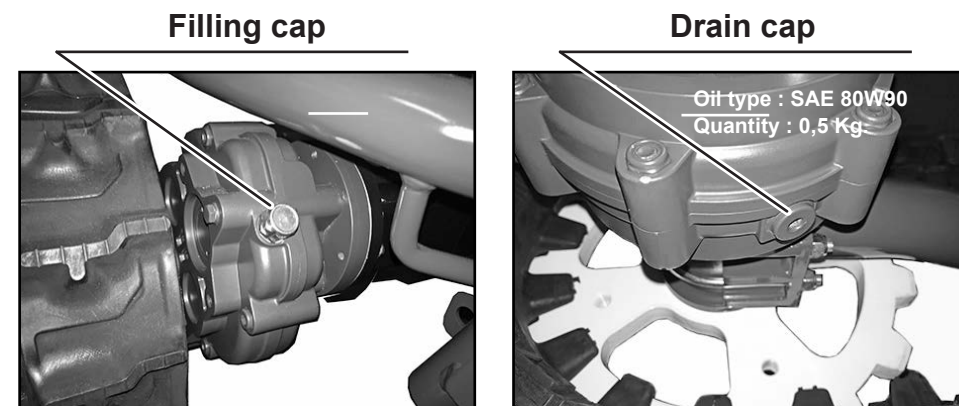


Fig. 27

7.2.5 Cleaning of the air filter (See section. 4.2.1)

Always clean the engine air filter and air intake. This measure protects the service life of the engine and ensures greater efficiency and lower fuel consumption. For cleaning the filter, see chapter 7.1.2. Use compressed air to clean the paper filter while gently holding it. Apply compressed air from the inside out. After cleaning, reinsert the element in the reverse order of disassembling.

👉 IMPORTANT:

Never hit the filter cartridge against a hard object such as a concrete wall. A Filter that has already been washed five times or is damaged should be replaced with a new one. Never attempt to start the engine without the air cleaner element. Such operation causes engine malfunction.

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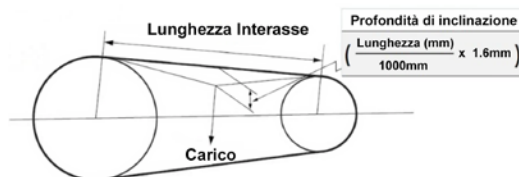
7.2.6 Adjustment of the Blade transmission belt

The knife V-belt can change its dimensions after a few hours, so it is recommended to adjust the belt tension according to the maintenance schedule in chap. 7.2.1 to set.

To adjust the belt, remove the belt cover (Fig.7 (U)). Check the tension with a force of 5 kg on the belt. The bending depth of the belt should not be more than 5 mm.

If necessary, adjust the belt tension according to these instructions (Fig. 29).

- Loosen the nuts (A) on the engine slides
- Loosen the lock nuts (B)
- Adjust the tension with the screws (C)
- lock the position with the nuts (B)
- Fix the position of the engine slides (A)



If the belt needs to be replaced, the sheet metal cover under the cutting deck must be removed (see Fig. 30).

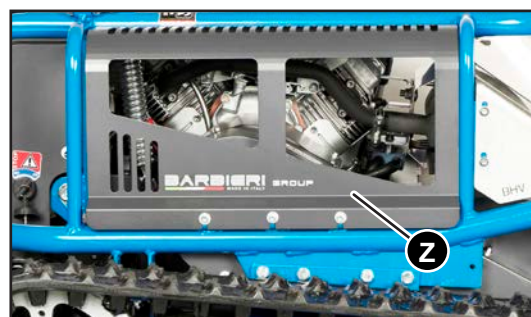
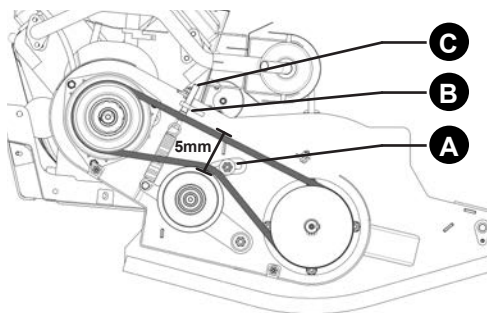


Fig. 28



7.2.7 Blade sharpening and replacing

The blade of this mulching machine is turning very fast so that a small damage in one single blade can create an imbalance which turn in a strong noise and vibration. Anytime there is a un-normal noise it is recommend to verify the condition of the blades. (see par. 7.1.6).

To check and remove the blade, Park the machine in a flat ground; stop the engine and remove the starting key. Lift by a crane the front of the machine in upright position. Secure the machine by a prop. in order to accede and remove easily the blades. Avoid a precarious and unsafe position. If the machine falls, it could crush you and cause you serious injuries.

Unscrew the center bolt to remove the blade support. If possible use a pneumatic tool or percussion screwdriver. Once you have removed the whole blade set, avoid to disassemble the blade from the blade support.

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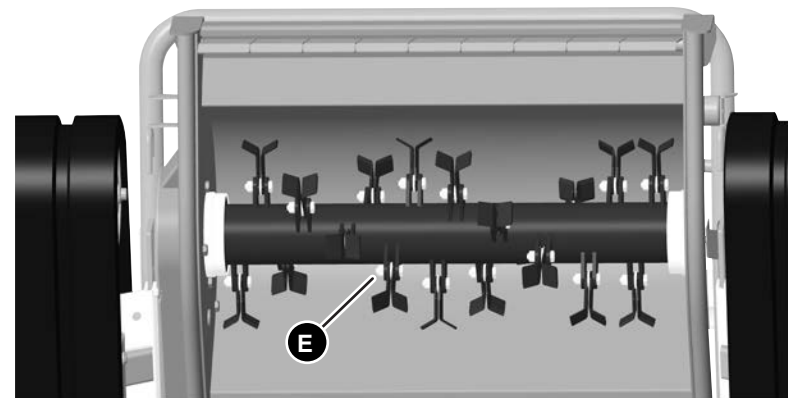


Fig. 29

IMPORTANT:

Whenever you hear unusual noises, it is mandatory to check the Condition of the blades. (See 7.1.6).

Loosen the screw (E) to remove the blade holder.

- Make sure that the blade can be turned easily in the support.
- Sharpen the blade in the same way. Max sharpening 5mm - 30°
- Refit the blade holder (Tightening torque 160Nm).

Carefully lay the machine on the floor.



DANGER:

If the blades are removed from the blade support, the fastening screws must be replaced (tightening torque 36Nm).



DANGER:

The fastening screws of the blades are safety elements, so they must always be checked and if damaged, they must be replaced within the prescribed intervals (every 50 hours).

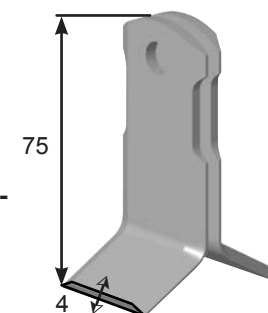


Fig. 30

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7.2.8 REPLACEMENT OF TRACKS

The tracks are consumable parts and their life depends on the conditions of the environment in which the machine operated.

To replace them, the tensioning block must be removed (see next paragraph), the machine must be raised and with 4 supports placed under the deck to keep it raised. To inhibit the tensioner block, take a 22 mm socket wrench and loosen the lock nut screwed to the pin. Once loosened, unscrew the pin with a 12mm Allen key. To facilitate the exit of the track it is recommended to completely unscrew the pin inside the track. Once the track tension is released, remove the wheel and remove the track. (See Fig. 31)

To reassemble the track, repeat the above steps in reverse.

Note: the track tension must be 3,06 Kgm. (22 Nm) which can be calculated with the aid of a torque wrench. Once the track has been tensioned, secure the locknut to prevent the pin and, consequently, the track from coming out.

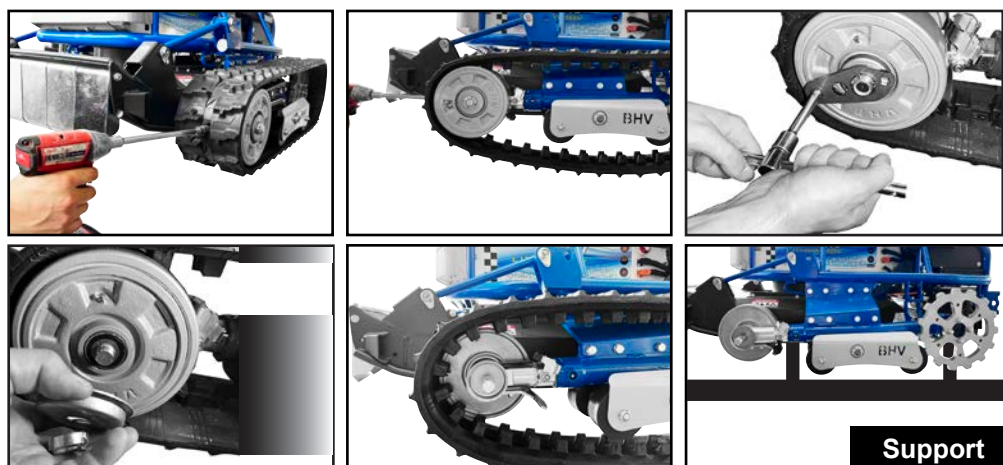
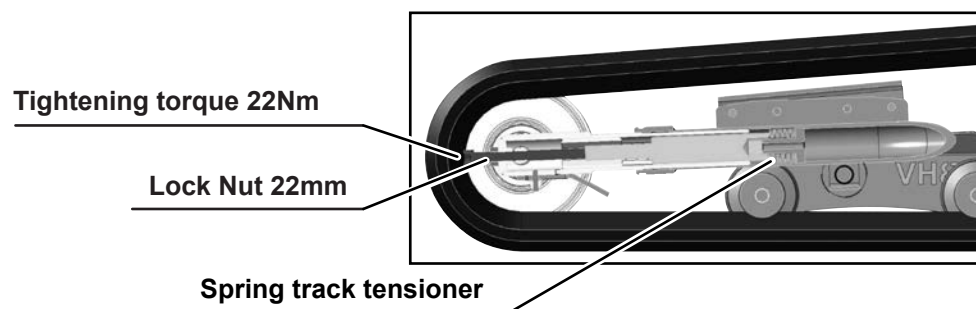


Fig. 31



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7.2.9 Use of the tensioner

It is very important to use the chain tensioner correctly. The tensioner must be adjusted according to the working conditions.

IMPORTANT:

Incorrect adjustment of the tensioner can result in the machine stops while working, either due to the track block or from jumping out of their rail.

On the left, the work condition is on level ground, but with obstacles that can be trapped in the track which causes a drive stop.

In this situation, it is advisable to release the tensor by lifting the locking bracket. If an obstacle occurs between the track belt and the wheels, the wheel can slide and leave the obstacle to pass.

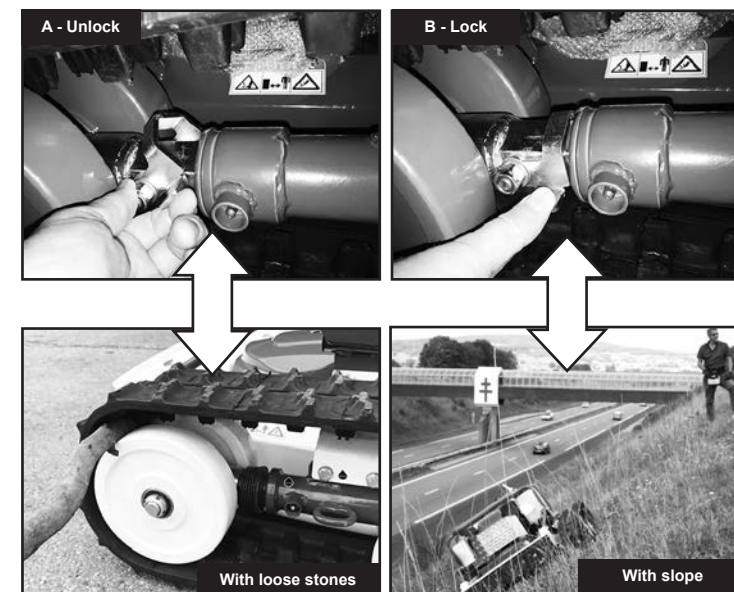


Fig. 32

On the right is a steeply sloping job on a grassy floor. The rails are heavily pushed on the sides and tend to come out of the guides.

In this condition, it is advisable to insert the tensor lock by lowering the locking bracket. With a strong side-shift, the block does not leave any space between the rail and the wheels and does not allow the rail to come out of the guides.

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7.2.10 Protection chain, rubber protection

The debris chains as well as the Rubber and Metal flap-guards which are in the front and rear side of the mower deck are **safety components**. They must be always efficient to assure the safety around the mower. They should be checked before starting the daily operations and in any case every 50 hours as recommended by the maintenance schedule. If any of those are bent or missing, they should be restored by the new original part before start working



DANGER:

Do not attempt to start working without Chain, Rubber, and Metal flap-guards. The object launched by the blade could hit somebody and cause severe injuries and even death.

7.2.11 Battery and remote control

The radio transmitter is supplied with 2 Li-MH batteries. Even if one battery is enough for a day, it is recommended to charge both batteries before starting work. A battery charger is supplied with the radio control to charge the battery.

Charger technical data

- | | |
|----------------------------|---------------------------|
| • Power supply voltage | 230V AC |
| • Power demand | 35mA AC/250mA |
| DC (during charge) | |
| • Charging current | 1160 mA |
| • Battery | Li-on-/Minh 3.6V 4100 MAh |
| • Max. charging time | 3 hours |
| • Type of charge | PVD |
| • Casing protection degree | IP30 |
| • Operating t° (charge) | 0°C ÷ +35°C |

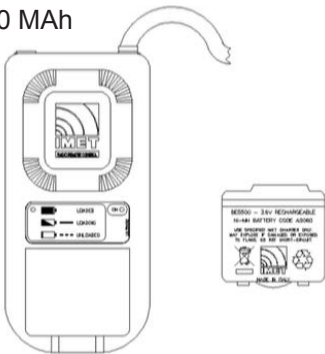


Fig. 33

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Notice for disposal



Li-NH Battery
The symbol of the crossed-out waste container on the device means that it must be handled separately from normal waste. The owner is responsible for handing over scrapped equipment to the designated points of collection for the recycling of electric or electronic waste material. Waste separation contributes to protecting the environment and facilitates recycling.



Pb Battery
Dispose the battery properly because the lead included in a battery is highly polluting.
Exhausted batteries should be disposed of at the specific points of collection, as required by law.



Exhaust oil
Never disperse the waste oil it is highly polluting. few drops can pollute high quantity of water. Gather the waste oil in suitable container and deliver to the recycling service.

WARRANTY CLAIMS

SECTION 8 – COMPLAINTS AND WARRANTY

The basic principle of the guarantee provisions is compliance with and observance of the relevant operating instructions.

Never attempt unauthorized modification of the mower as this could be very hazardous. Damaged or worn parts should be replaced with manufacturer genuine spare parts. Unauthorized parts may cause breakdown of the mower, accidents, and manufacturer warranty to expire.

If in doubt on causes and possible solutions for a certain trouble, please, call our authorized dealer.

This should be absolutely done during the warranty period, since any repair made by non-authorized workshops makes this warranty null and void.

Bear always in mind that the authorized dealer has all special tools, technical specifications and spare parts necessary for properly fixing the machine.

The guarantee can be applied only to devices which are properly used as defined in the first pages of this manual, and are handled according to the operating instructions and the maintenance instructions contained therein. The guarantee refers to the elimination of design defects, material or manufacturing failure that have occurred within the warranty period.

Parts which have become unusable as a result of improper repair work or which are subject to natural wear and tear (see instructions in the operating instructions) are excluded from the guarantee.

The warranty will be void if the device is repaired outside an authorized workshop if it has been resold if no original spare parts are used, and if unauthorized changes have been made to the device.

In the case of justified warranty claims, the Manufacturer grants a claim for free replacement, as well as removal and installation of the defective parts. Without prejudice to the statutory warranty claims, further guarantees can not be claimed. Work under the guarantee does not trigger a new beginning of the guarantee period.

8.1 DEFINITION

For guarantee it intends the substitution of any machine's component for whom is ascertained the defect, after a test executed by our Technical Department. The transport cost are expressly excluded from the guarantee and are on client's charge. Are also excluded trouble caused by carelessness and incompetence as well as bearing to external causes (atmospherics agent, fire); last but not list are out the elements which are in contact with the ground (blades, knives, bumper, tyres). The guarantee decays if on the machine there are accessories and spare parts not furnished or authorized by the manufacturer.

8.2 WARRANTY STARTS

The warranty period starts on the date the vehicle is delivered to the first retail purchaser or put in service by an authorized Dealer.

WARRANTY CLAIMS

8.3 DURATION

The period of warranty is:

- 24 months for private utilization of the machine;
- 12 months for commercial - municipality or renting operation.

In this period value the guarantee terms as specified on paragraph 8.1.

8.4 ENGINE WARRANTY

The conditions and the terms of warranty are those conceded by the engine's manufacturer; the on guarantee assistance will have to be strictly executed in the Authorized service centres. For further information see the engine manual delivered with the machine

8.5 CLAIM FORM

It is always necessary indicate always:

- 1- Machine's type
- 2- Machine serial number
- 3- Parts name and code number
- 4- Quantity required
- 5- Circumstances of failure
- 6- Working time

We recommend to write here below these data for future communication.

EC-Certificate of Conformity



This declaration of conformity is issued under the sole responsibility of the manufacturer and issued on a voluntary basis according to the European Directive 2006/42/CE ann.2A

Manufacturer and depositary BARBIERI Srl - P.le Luigi Sturzo, 15 - 00144 Roma (RM) Italia w/
of the **technical file**: production site in Via Seccalegno, 23 - 36040 Sossano (VI) Italia.

Product: Radio controlled flail mower

Model:	X Flail 80 EVO
ID Number:	RC63*****
Year of production:	2025
Engine:	B&S Vanguard 23 HP
Power:	17 kW
Mass (Kg):	450

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

MACHINERY DIRECTIVE (MD) 2006/42/EC
ELECTROMAGNETIC COMPATIBILITY DIRECTIVE (EMC) 2014/30/EU,
RADIO EQUIPMENT DIRECTIVE (RED) 2014/53/EU
RESTRICTION OF HAZARDOUS SUBSTANCES (RoHS) Directive 2011/65/EU and amendment

Tested according to:

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:

(MD)EN ISO 12100 , EN 12733:2018 Agric. and forestry mach. - Motor mowers - Safety
(EMC)EN ISO 14982:2009 Agric. and forestry machinery - Electromagnetic compatibility
((RED 3.1.A) EN 60950-1, EN 60950-22, EN 62311, EN 62209, EN 50566, EN 60529
EN 61000-6-2, ISO13849-1* - ISO 13849-2
(RED 3.1.B) EN 301 489-1, EN 301 489-17
(RED 3.1.B.2) EN 62209, EN 50566, EN 300 328
(RoHS) EN 50581:2012 CEI EN IEC 63000:2019

Director product services operations:



Date: 14/07/2024



POWER PRODUCT

