TRINCIASARMENTI
TONDOBROYEUSE
SCHLEGLMAHER
FLAIR MOWER
TRITURADORA DE BARRAS
KOSIARKA BIJAKOWA

Our power, your passion

NTS 65 NTS 80



USE AND MAINTENANCE

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Section 1 Introduction and safety



CAUTION:

For your own safety, please read this manual carefully before using the machine, as well as the attached handbook on

general Norms. Keep these books for future reference.

The aim of this manual is to allow both the owner and the operator to safely use the flail mower and to obtain the best results.

Furthermore. the Sales when Representative or Dealer delivers the product, he will double check that these Use and Maintenance Instructions are understood correctly. However, if you should have any difficulty in understanding this booklet, please do not hesitate to consult your Dealer. It is important that these instructions are understood and followed up. You are encouraged to make the daily maintenance your routine and to keep a register with the working hours of the machine. When spare parts are needed, only ever use original ones. Authorized dealers supply original spare parts and are able to advise on how to assemble them and how they should be used. Assembly of spare parts of less quality can cause extensive damage. We advise our clients therefore to buy the necessary spare parts only through an authorized dealer. It is impossible for us to supply complete and perfectly up-to-date publications regarding the performance and working methods of



the machines we produce, because of the vast diversity of their working Therefore conditions. we cannot assume responsibility for leaks or damage as could derive from following up any published article, or error or omission. In case the machine has to be used under particularly heavy abnormal conditions (for example high groundwater or muddy terrain), we adviseyoutoconsultyourDealerinorder to obtain specific instruction in order not to invalidate the guarantee. The builder of the flail mower will not accept any responsibility for possible damage or ruptures caused by improper use of the machine, in which case the user will have to carry the risks exclusively. A substantial part of the expected use of the machine includes rigorously following up of the using conditions, as well as compliance with the assistance and specific repair as suggested by the builder. It is necessary to exactly know all the specific characteristics of this flail mower for its proper use, assistance and repair. Furthermore, it is necessary to be well informed about

Section 1 Introduction and safety

the appropriate security regulations (accident prevention). We advise our clients to contact an Official Dealer for any assistance for the machine or registration there of as may be needed. One of the main worries of whoever designs and develops a new walking tractor is the safety of the operator. Our design department, therefore, aim to offer as many safety devices as possible. However, every year we find that many accidents could have been avoided had the operator been less hurried and more careful when handling agricultural machineries and equipment. Please read and follow up carefully the safety instructions as offered in detail in this chapter of the manual. All data and information in this manual are applicable to all models, unless indicated otherwise.

The contents of this manual are conform the latest available technical information at the moment it was issued. The Building Company reserves the right to carry out modifications to the machine at any moment, without warning or incurring any sanction.

Every flail mower is supplied with a manual for use and maintenance for the engine as well as this instruction booklet. These form a complete documentation to be kept with the machine.

All rights reserved, this manual cannot be reproduced of copied, as a whole or in part, in any form, without written permission of Emak.

EC DECLARATION OF CONFORMITY

In the sense of Directive CEE 98/37 and subsequent amendments

The undersigning Company Emak, Via Fermi, 4 42011 Bagnolo in piano RE - Italy

Declares under its own responsibility that the FLAIL MOWER: TS 65 - TS 80 Series N°: see on the chassis of the machine

Conforms to the Essential Health and Safety Requisites of Directive 98/37/CEE and subsequent amendments. Safety, and Conforms to the directive on electromagnetic compatibility 2004/108/CE.

The following Harmonized Norms EN Studies have been consulted in order to verify the conformity to the above Directives:

EN 12733

Il Presidente Giacomo Ferretti

Section 2 Identification of the machine / engine

The flail mower can be identified with the data as on appropriate the identification label on the base of the chassis (Fig. 1.2).

It is important to write down those data for a quick and efficient service, when spare parts need to be ordered or when requesting information or technical clarifications.



The identification of the engine with the data pounded on the appropriate identification label on the side of the engine (Fig. 1.3).

It is important to write down those data for a quick and efficient service, when spare parts need to be ordered or when requesting information or technical clarifications.



Identification of the machine

Œ	42011	EMAK 42011 Bagnolo in Piano (RE) Italy				
TIPO			ANNO			
N. SERIE		PC	TENZA kW			
MASSA STANDARD			kg			

Section 3 Guarantee

All Emak products are covered by a guarantee that — under determinate conditions - includes material faults and construction errors. This booklet is issued for use worldwide, and therefore it is impossible to precisely describe in detail all the terms and conditions of the guarantee as appropriate for the specific Country where the product was sold. We suggest any buyer of a walking tractor to ask their Dealer where the product was sold for all appropriate details.

The Sales Representative or Dealer is obliged to furnish specific services when delivering a new walking tractor to a client. These services provide for an accurate preliminary check-up at time of the delivery, to make sure that the machine can be used immediately. They include also a demonstration of all instructions of the fundamental principles of use and maintenance of the machine. These instructions concern the instruments and control commands, the regular maintenance and the preventive safety measures. This instruction course should be done for all people using the machine or doing maintenance work to it.

1

WARNING:

The builder of the flail mower does not accept any responsibility in case parts should be assembled that are not approved, or when non-authorized modifications or alterations have been done.

Once the installation has been done correctly, a regular maintenance routine is useful to prevent faults. However, should functional problems occur during the guarantee cover period, we suggest the following procedure:

- inform the Dealer where you bought the walking tractor immediately, mentioning Model and Serial Number. It is important not to lose time because without a welltimed remedy to the anomaly, the guarantee will no longer be valid even if it covered the original fault;
- furnish vou Dealer as much information as possible. In this way, he can know the number of hours of active service, the kind of work that you were doing and the symptoms of the problem. We would like to remind you that neither the normal maintenance interventions, like for example the tuning and adjustment of the breaks/clutch, nor the provision of materials used for assistance (oil, filters, fuel and anti-freeze), are covered by the guarantee.

Section 3 Guarantee



WARNING:

The assembly of non-original parts may result in a lesser working quality of the spare part. The Builder of the flail mower will not assume any responsibility for whatever leak or damage as could derive from the installation of such parts and this will invalidate the guarantee, even if they should be assemble in the normal builder's guarantee period.

During the period of guarantee cover we advise you should have any repair or maintenance done by your Dealer. In such a way he will be able to keep the functioning and performance of your new flail mower painstakingly under control.

In order to obtain the best results of you flail mower, it is important not to interrupt the regular check-ups of maintenance and assistance, even when the guarantee cover period is finished. Turn to your Dealer for all the main assistance interventions: a specialized technician will bring an update from one intervention to the next.

Mechanics are regularly informed and updated on our products, whether the assistance techniques or the use of modern instrumentation or diagnostic equipment.

They receive regularly Assistance Journals, have all the Garage Manuals

and all other technical information necessary in order to guarantee a high standard of assistance for the repairs



WARNING:

In some images in this Operator Instruction Booklet we removed panels or protections for clarity. Never switch on a flail mower if these components are not put back in place. Whenever it is necessary to remove a panel or protection for a repair, this element should be put back into position before using the flail mower.

Section 1 Safety alarm: words, symbols and signs

The safety of the operator is one of the main worries or whoever designs and develops a new flail mower. Our design department, therefore, aim to offer as many safety devices as possible. However, every year we find that many accidents could have been avoided had the operator been less hurried and more careful when handling agricultural machineries and equipment.

This machine has been designed for cutting a/o chopping of high grass, hedges and underbush, to be used by one operator only. Any other (improper) use is forbidden.

The operator is responsible to keep a distance of at least ten meters from the machine clear of any people when using the machine.

Please read and follow the safety instructions in this chapter of the manual in detail.

In this instruction booklet you can find warnings for safety or damage to the flail mower. Please observe these warnings carefully in order to avoid the risk of injury or damage. There are three kinds of warnings in this booklet:



WARNING:

This symbol is a warning against a circumstance that could lead to damage to the flail mower or its components, when not observed. Please inform yourself to what you can or cannot do to avoid or reduce the risk ofdamage to the vehicle or its components.



CAUTION:

This alarm symbol identifies important safety warnings for the flail mower, or safety signals as in the booklet or elsewhere. When you see this symbol, please be very careful because there is the danger of serious injury or death. Follow the instructions as indicated in the safety warning!



STOP:

This symbol is used to prevent wrong manoeuvres or performances for the correct use and functioning of the machine. When you see this symbol, please be very careful because there is the danger of serious accidents or death, as well as the danger of damage to some components of the flail mower.

Section 2 Precautions for safety at work



CAUTION:

Before starting any activity, please consult this manual and the specific safety booklet: **General safety regulations**

This booklet is of fundamental importance because it describes all conditions and procedures that allow the operator to work in complete safety, avoiding risky manoeuvres that could harm the operator or anybody nearby.

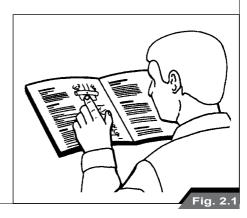
This booklet contains:

- · Precautions for safety at work
- · Check the equipment
- · Maintenance of the machine
- · Safety at work
- · Pay attention to others

It is **YOUR** responsibility to read and understand the manual and the booklet with the **General safety regulations**, as attached to the flail mower, before using it. You should follow these safety regulations as they will guide you through your work day.

Please, always remember that only **YOU** are responsible for your safety. Good safety regulations do not only protect you, but also the people around you.

PLEASE REMEMBER THAT SAFETY IS YOUR RESPONSIBILITY AND THAT YOU CAN PREVENT SERIOUS ACCIDENTS OR EVEN DEATH.



Section 2 Precautions for safety at work

Please observe the following precautions:

- NEVER allow children or nonqualified people to use your flail mower. Keep other people at a distance from your working area.
- Where possible avoid working your flail mower near ditches, digs or wholes. Reduce speed when changing direction, when on slopes, or when on irregular, slippery or muddy terrain.
- Keep away from slopes that are too steep to operate safely on.
- Look where you are going, especially at the end of a field, on the road or near trees.
- Use the flail mower calmly without swerving or abruptly stopping or accelerating.
- Never modify or remove any of its equipment, never combine it with parts that are not intended for you flail mower.

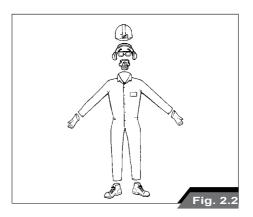
Protect yourself.

When at work, wear all protective gear (Fig. 2.2) and necessary personal security measures at your disposal.

Do not run any risk.

You will need the following protective gear:

- A protective helmet.
- Protective glasses or mask.





STOP:

The operator should not take alcohol or medication that could change or alter his alertness or his coordination. An operator who is under prescription of medication will need a medical authorization to certify that he is ready to use the flail mower safely.

- Protective ear muffs.
- Protective mask or mouth filter.
- Bad weather gear.
- Reflective safety clothing.
- Heavy work gloves (neoprene when using chemical products, leather for heavy duty).
- Protective safety shoes.

Do **NOT** wear loose clothes, jewels or similar, and tie long loose hair as it could get entangled to the commands or other parts of the flail mower.

Section 2 Precautions for safety at work

Individual means of protection against noise

These individual means of protection serve to lower the sound energy transmitted to the ear by air. They are used when it is not possible to avoid a damaging exposure in any other way. They exist in various types and with varying filtering capacity: helmets, muffs, plugs (Fig. 2.3).

The helmets and muffs offer a major decrease, but are bulky and cumbersome and therefore useful for exposure to high levels of noise, but short periods of time (two hours maximum).

Plugs are generally less annoying and are useful in case of prolonged exposure to noise of a lower noise level.

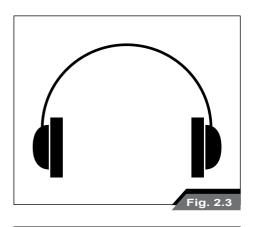
Whenever the level of personal daily exposure to noise is equal or superior to 85 dBA, we advise the use of appropriate means of individual ear protection.

Surveys of the machine

Surveys according to the following Harmonized Norms EN studies 12733:

Acoustic pressure **92 dBA**Acoustic power **106 dBA**Vibrations **9.3 m/s**

MAXIMUM VALUES DETECTED IN THE RANGE OF AVAILABLE ENGINES





CAUTION:

Your flail mower is designed to be used by one person only. Do NOT allow others to climb onto your machine. Do NOT allow children to handle it



CAUTION:

Make sure of having steady control of the speed and of the direction before moving the walking tractor. Move slowly until you are sure all functions correctly. Once started, please double check the steering bar devices to the right and to the left. Make sure that the steering clutch and the handle lock function properly.

Section 3 Risk operations

- Before starting the machine, always make sure that other people stand clear of the area around the rotor (Fig. 2.4).
 - During the use of the mower, make sure that other people keep a distance of at least 10 m. When working on a surface with stones or other objects, try to remove as many as possible before starting to cut. Despite of the safety protection, there still is the danger of stones and other objects being projected towards the operator or other people nearby.
- During the stationary use of the flail mower, always put the gear in neutral and block the wheels of the walking tractor with wooden wedges or blocks.



STOP:

Never attempt to undertake a registration while the engine is going. The registration of the machine, even with the safety measures on the machine, should always be done with the engine switched off in order to avoid potential accidents of even serious nature.

WHENADJUSTINGTHEMACHINE, DO NEVER TRY TO BLOK THE CLUTCH LEVERS OF THE VEHICLE AND THE MOVEMENT OF THE BLADES WHILE THE ENGINE IS GOING. THERE IS THE DANGER OF SERIOUS ACCIDENTS OR DEATH.





- The blade rotor clutch Lever has to be operated with two hands. Undo the safety lock of the blade rotor clutch Lever as illustrated (Fig. 2.5).
- Do not work on a slope with a lateral inclination of more than 15°.
- Reduce the speed when working on an irregular terrain or on slippery surfaces or when leaves and foliage reduce visibility.
- Do NOT turn quickly when at high speed.

Section 1 Weights and sizes

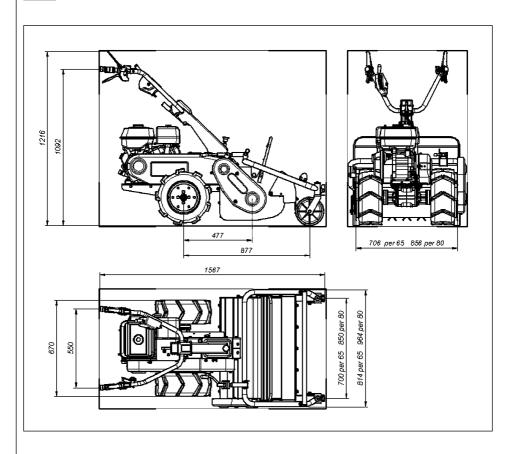
Version TS 65

Weight = 160 Kg

Version TS 80

Weight = 175 Kg

<u>Sizes</u>



Section 2 Engine

Honda Engine GX 270

Capacity 270 cc Power 6.6 - 9 KW

Honda Engine GX 340

Capacity 337 cc Power 8.1 - 11 KW

Kohler Engine CS 8,5

Capacity 251 cc Power 6.2 - 8.5 KW

Kohler Engine CS 10

Capacity 301 cc Power 7.3 - 10 KW

For further information please consult the instruction booklet of the Engine

Section 3 General Information

Mechanical gear box

Gear

3 gears forward + 1 reverse

Speed

1° 1,2 Km/h 2° 2,2 Km/h 3° 3,4 Km/h 1° R 2,2 Km/h



Mowing width

65 cm TS 65 80 cm TS 80

Cutting group

Rotor with 38 flails TS 65 Rotor with 46 flails TS 80

Steering

Independent steering clutches on the engine wheels + wheel lock



Break and service break Service

Automatically insertible when releasing the clutch

Tires

Rear 16x6.50-8 tractor

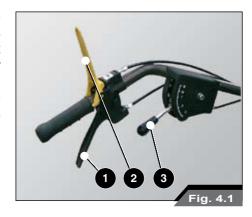


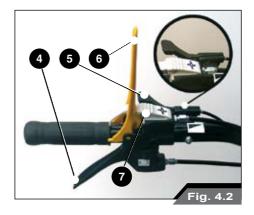
Section 1 Description of the commands

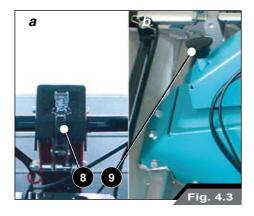
In this paragraph we offer a range of all instruments and commands as present on the flail mower. If not specified differently, these are valid for all versions.

Please read carefully Chapter 5 – Use – for the correct use of the commands as indicated below.

- 1 Unlock left wheel
- 2 Clutch lever vehicle
- 3 Gear lever
- 4 Unlock right wheel
- 5 Gas command stick
- 6 Rotor control
- 7 Safety lock rotor
- 8 Up-down lever for handle bar
- 9 Right-left lever for handle bar

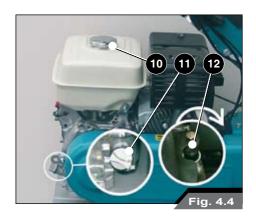




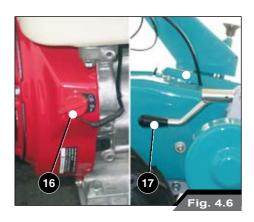


Section 1 Description of the commands

- 10 Fuel tank cap
- 11 Engine oil level bar
- 12 Gear oil cap
- 13 Start lever for gasoline engines
- 14 Fuel ON/OFF
- 15 Start engine
- 16 Engine ON/OFF
- 17 Cutting height control







Section 2 Regulation levers for the handle bar

Before using the flail mower at work, we advise you regulate the working height of the handle bar as most convenient for you and the nature of the terrain (flat or hilly). To move the handle bar up or down, use the lever (Fig. 4.7) positioned at the base of the handle.



CAUTION:

When working several hours at a time, regulate the handle bar in such a way that your back remains in an upright position and never under stress.

Furthermore you can regulate the handle bar sideways for when you work close to ditches or banks.



CAUTION:

Pay careful attention to avoid slipping and sliding when working near canals, embankments and river banks.

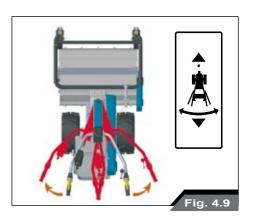
The handle bar has **five positions**:

- at the centre
- to the left
- to the right

Pull the knob upward (Fig. 4.8) to move the handle bar sideways, then move the handle bar either completely to the right or completely to the left. Release the knob in order to re-lock the handle bar, making sure it is well fixed.







Section 1 Start/stop engine

Before starting any work activity, check that there is enough fuel in the tank (10). Use a funnel with a net filter when topping up fuel, to prevent any impurities from entering the tank.



STOP:

Never top up the vehicle with fuel while the engine is going.

Successively, check the oil level of the engine using the appropriate bar (11) positioned at the rear end of the engine. When working on slopes, make sure the oil is at the maximum level in order to warrant a correct and optimal lubrification.

When topping up oil, only use ESSO UNIFARM 15-40 W oil. For further information, please consult the instruction booklet of the engine.



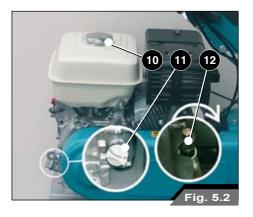
STOP:

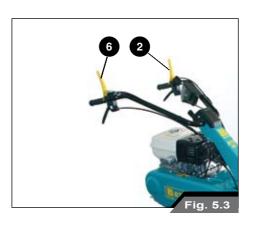
Do not mix different kinds of oil, or oils with different densities. Use only and exclusively the oil the builder of the engine suggests.

Before starting the flail mower make sure you:

- put the gear Lever in neutral (N, Fig. 5.1) for your own safety.
- put the vehicle (2) and blade rotor (6) levers in their vertical position, for your own safety.







Section 1 Start/stop engine

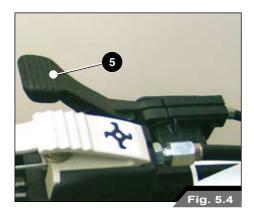
- Move the gas control (5) halfway.
- Predispose the flail mower for ignition by moving the Start Lever for gasoline engines (13). The Fuel ON/ OFF lever (14) should allow the fuel to pass (Fig. 5.5). Please consult the use and maintenance booklet of the engine.
- Set the engine ON/OFF switch on **ON** (Fig. 5.6).
- Hold the vehicle engine handle (15), pull it delicately in such a way to favour the linking up of the ratchet. Successively, give an energetic tug, if necessary put your foot on the wheel in order to be able to exercise more strength. Repeat this manoeuvre by giving short and decisive tugs until the engine starts.



CAUTION:

Do NOT use both hands to hold the handle as a possible blowback by the engine could harm the operator. For further information please consult the use and maintenance booklet of the engine.

- Once the engine is started, we advise you let it idle for a couple of moments, allowing the oil to reach all the moving organs.
- Positions the ON/OFF switch on OFF (Fig. 5.6) when you want to turn the engine off, the engine will stop in a few moments.







Section 2 Clutch levers vehicle and blades

At this point the gear belt will tighten when you lower the vehicle clutch Lever (Fig. 5.7). This lever allows your walking tractor to continue forward or backward, according to the chosen gear. The walking tractor will remain immobile, should the gear be in **N** (neutral).



CAUTION:

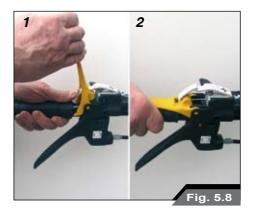
Please pay attention to what gear you have chosen, when you lower the vehicle clutch Lever.

Release this lever in case of difficulty, and your machine will stop immediately.

The blade rotor clutch Lever activates the blade rotor.

It is necessary to use two hands to unhook this lever, which is otherwise secured with a lock (Fig. 5.8). This lock is designed for your safety and prevents the operator from inserting the blade rotor while the flail mower is moving, in stead of standing still.







CAUTION:

When the blade rotor is working, please always make sure that nobody is near the blade rotor (Fig. 5.9). NEVER ATTEMPT TO UNDERTAKE A REGISTRATION WITH THE ENGINE GOING.



Section 3 Gear lever and wheel unlock levers

Your flail mower has three forward gears, one reverse gear and the neutral position. In order to change gear, all you need to do is move the gear Lever (Fig. 5.10) positioned at the left handle that steers your vehicle. When in third gear you can reach a maximum speed of 3.4 Km/h, while in reverse R the speed is 2.2 Km/h.





CAUTION:

Whenever changing gear, you should always release the vehicle clutch Lever. NEVER TRY TO CHANGE GEAR WITH THE VEHICLE CLUTCH LEVER LOWERED. THERE IS THE RISK OF SERIOUS DAMAGE TO THE GEARBOX

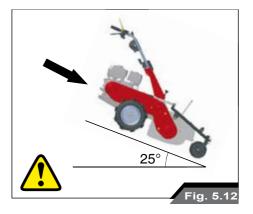
The right and left wheel unlockers (Fig. 5.11) help turning direction when working the flail mower.





CAUTION:

When working on a slope (Fig. 5.12) do NOT use the right and left wheel unlockers simultaneously, this would exclude the **service brake** and overturn its security function. Release the vehicle clutch Lever, and the wheels block immediately, and the service break will reactivate.



Section 4 Cutting height control.

The cutting height control (17). Turning the control one way or the other, the blade roller goes up or down. If the cutting height is too low, the following negative effects could occur:

If the cutting height is set too low you may experience the following effects:

- outward projection of foreign bodies like stones etc.
- building up of soil and mud inside the rotor protection carter. As a consequence, cut grass can not be fed through regularly.
- quick wearing down of the blades and the possibility of them breaking.

The front protection (Fig. 5.14) opens and closes in function of the volume of the grass to be cut.



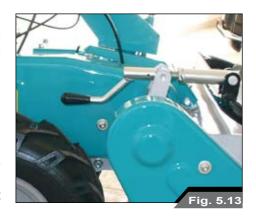
STOP:

You should NEVER use the machine with the protection cover left open. This could cause projection of objects. The protection can be fixed in the open position only during the substitution of the knives with the engine completely switched off.



CAUTION:

When the blade rotor is working, please always make sure that there is nobody near the blade rotor (Fig. 5.15).







Section 1 Topping up of the machine

Fuel requisites

The quality of the used fuel is an important factor for the resulting performance and for a satisfying life span of the engine. The fuel has to be clean, refined and non-corrosive to the parts of the feeding system. Please make sure to use fuel of good quality and of trustworthy origin.





CAUTION:

Mixing diesel and alcohol is not allowed, given the possibly insufficient lubrification of the fuel injection system.



CAUTION:

Clean around the tank cap and keep this area clean. Fill the tank at the end of every working day so that nightly condense is reduced.



DIVIETO:

Do never open the cap or fill up when the engine is going. While the tank is filling up, keep holding control of the filling pistol.



CAUTION:

Do not fill the tank completely. Leave space for an increase in volume. If the original cap of the tank should get lost, replace it with an original spare cap and screw it on properly.

Section 2 Regular and exceptional maintenance

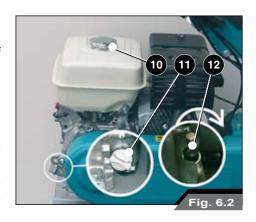
Engine

Check every day the oil level and if necessary fill up (Fig. 6.2).

Use only ESSO UNIFARM 15 - 40 W oil and ESSO MULTIPURPOSE grease.

Complete renewal of the engine oil needs to be done at intervals and in specific ways as established by the Builder of the engine.

For further information consult the use and maintenance booklet of the engine.



Adjustment of the levers

Should the machine not stop immediately when releasing the vehicle clutch Lever (Fig. 6.3), the clutch lever needs adjusting. The same goes for the rotor blade clutch lever, when the blade roller takes too much time to stop.

As for the clutch Lever, adjust the registers positioned on either side of the command levers (Fig. 6.3).

For the wheel unlock levers and the gear Lever (Fig. 6.4) you need to do the same. When you notice the levers are not well fixed, check that there is no more than 1÷2 mm movement.

Should these adjustments not be sufficient and your walking tractor present further problems, please do not hesitate to contact your Sales Representative or Dealer immediately.







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ATTENZIONE! - Questo manuale deve accompagnare la macchina durante tutta la sua vita.

ATTENTION! - Le manuel doit accompagner la machine pour toute sa vie.

ACHTUNG! - Dieses Anweisungsheft muß das Gerät während seiner gesamten Lebensdauer begleiten.

WARNING! - This owner's manual must stay with the machine for all its life.

¡ATENCION! - Este manual debe acompañar a la máquina durante toda su vida útil.

UWAGA! - Niniejsza instrukcja powinna towarzyszyc urzadzeniu przez caly okres jego eksploatacji.