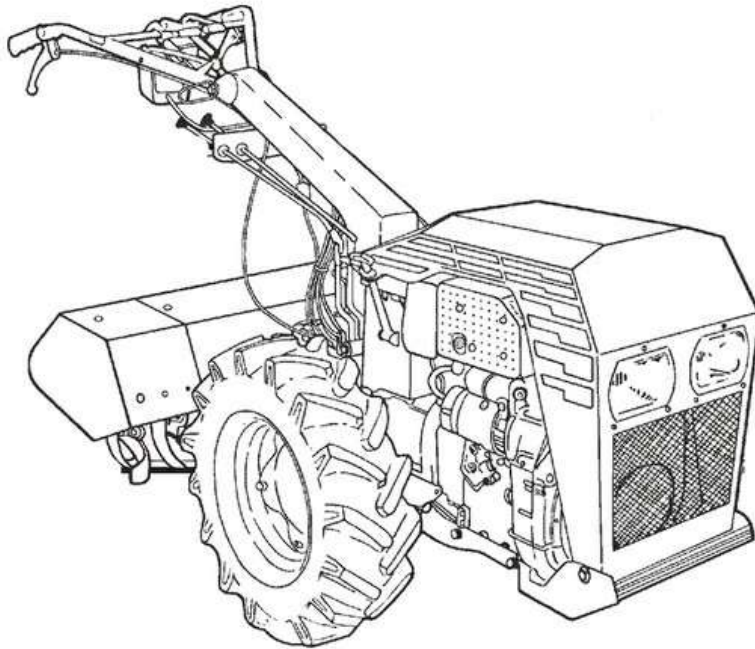


FORT CENTAURO GEBRAUCH UND WARTUNG

Pdf-Herunterladen



Verfügbare Sprachen



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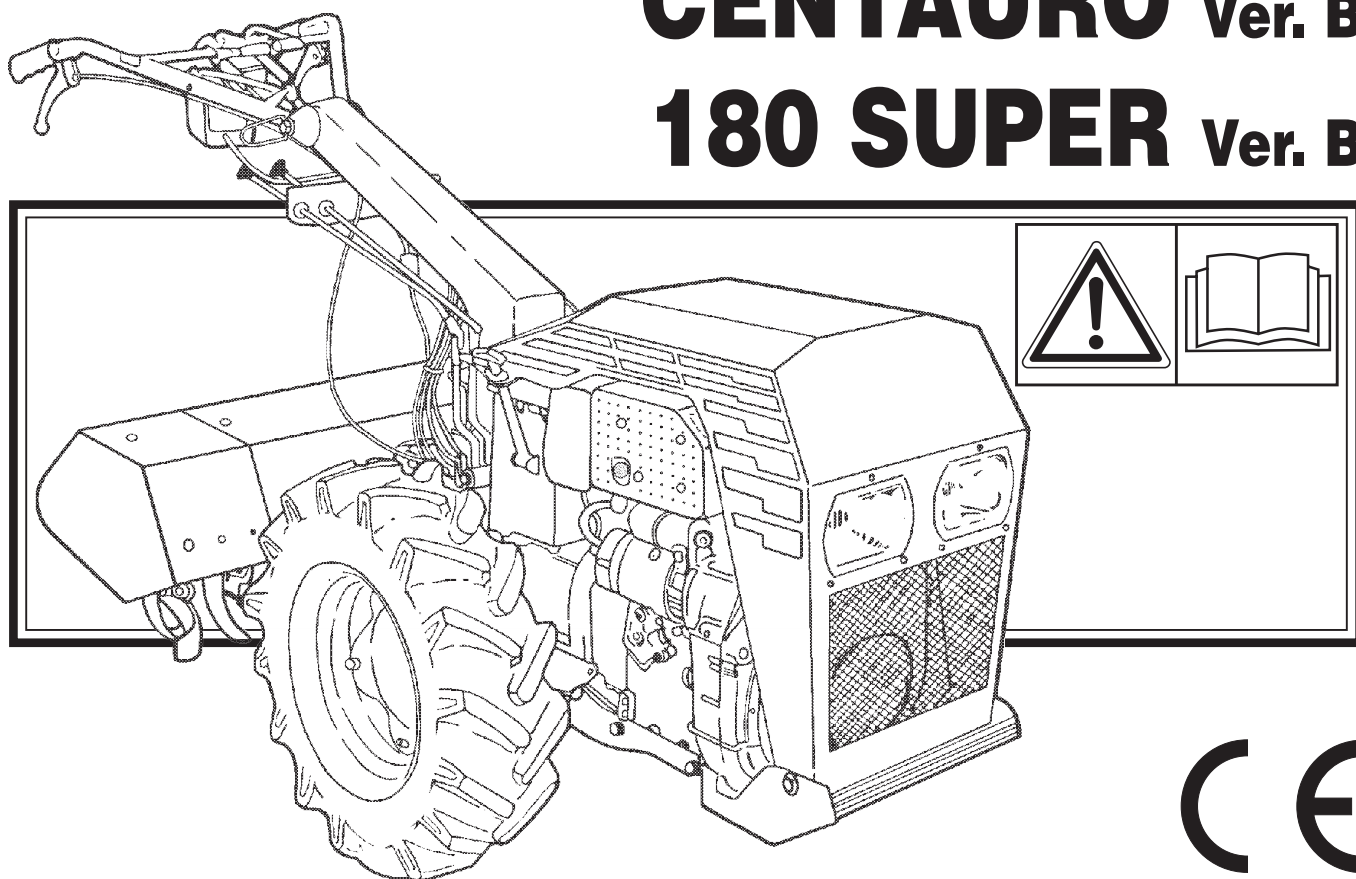


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Motocoltivatore **CENTAURO** Ver. B **180 SUPER** Ver. B



ISTRUZIONI ORIGINALI
con traduzioni delle istruzioni originali

IT USO E MANUTENZIONE

DE GEBRAUCH UND WARTUNG

EN USE AND MAINTENANCE

ES USO Y MANUTENCION

FR EMPLOI ET ENTRETIEN

PT USO E MANUTENÇÃO

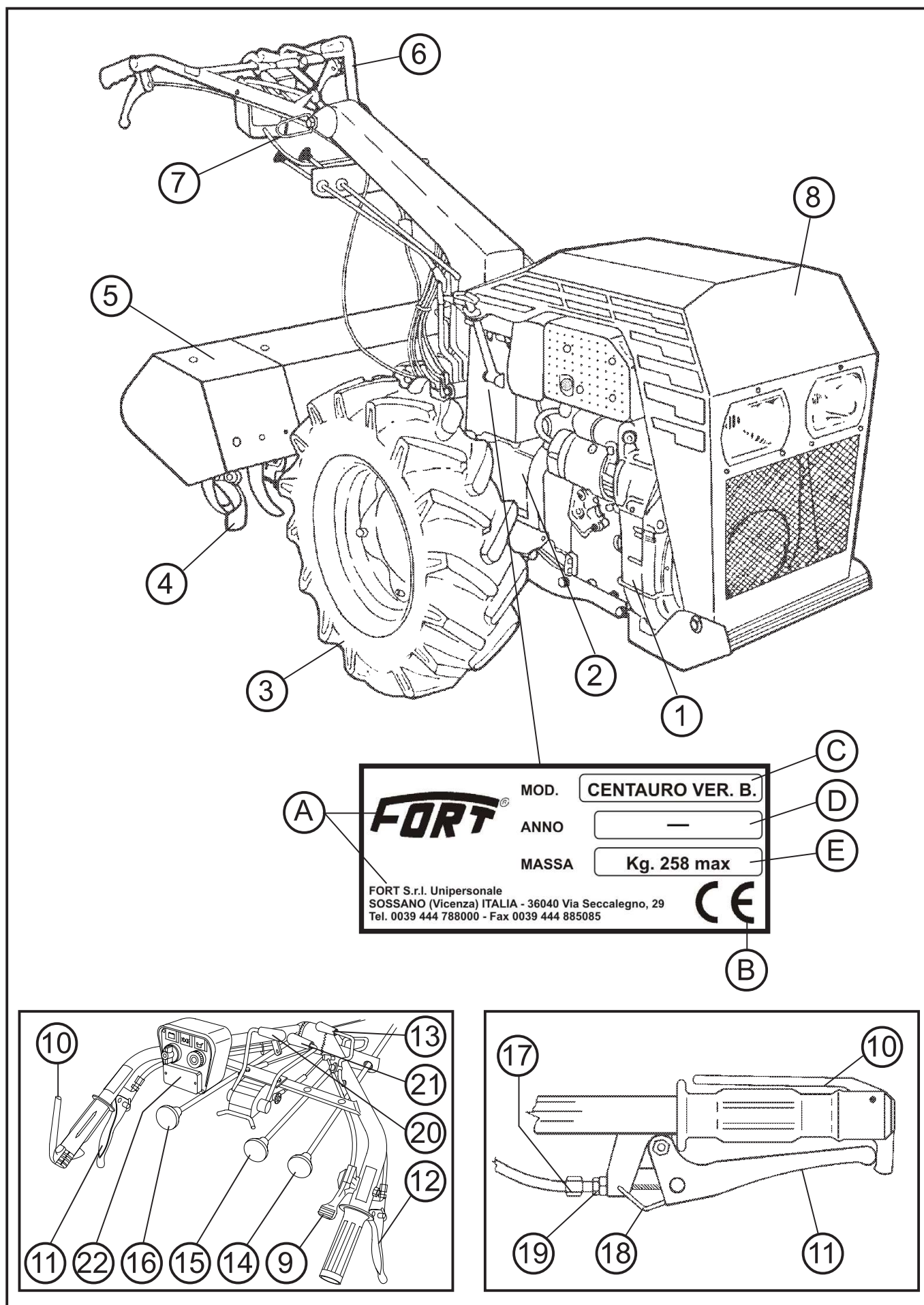


Fig. 1

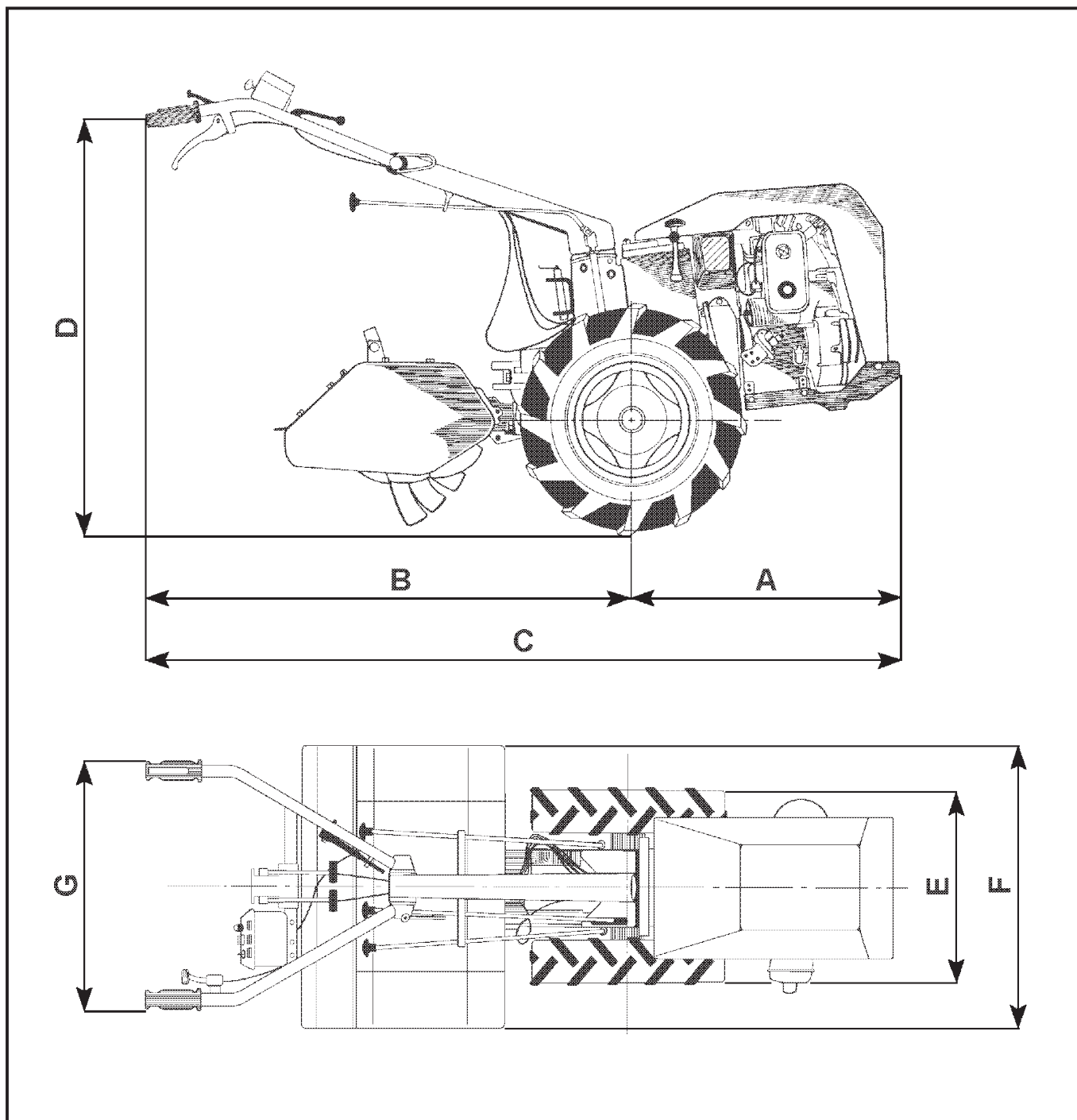


Fig. 2

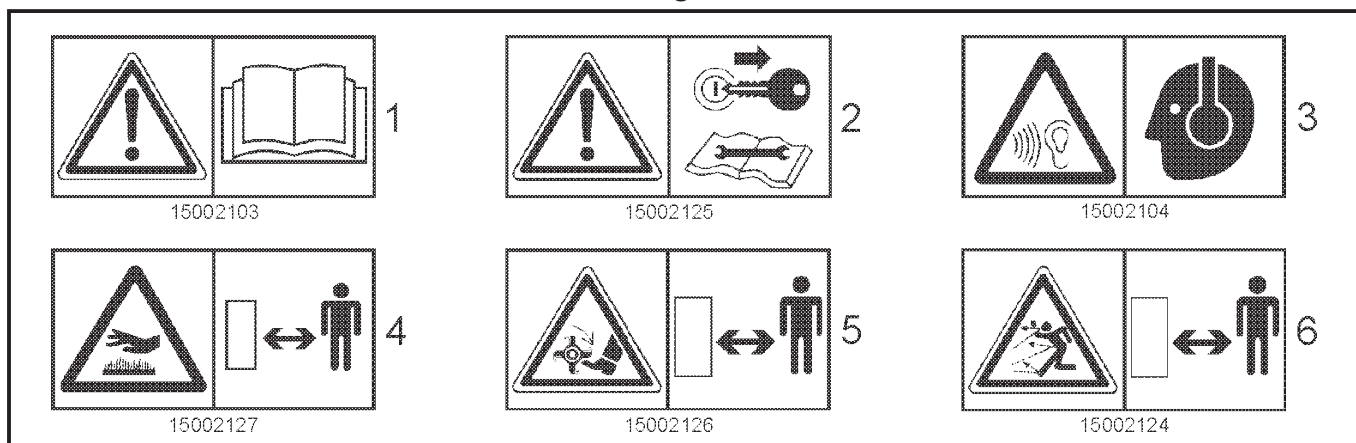


Fig. 3

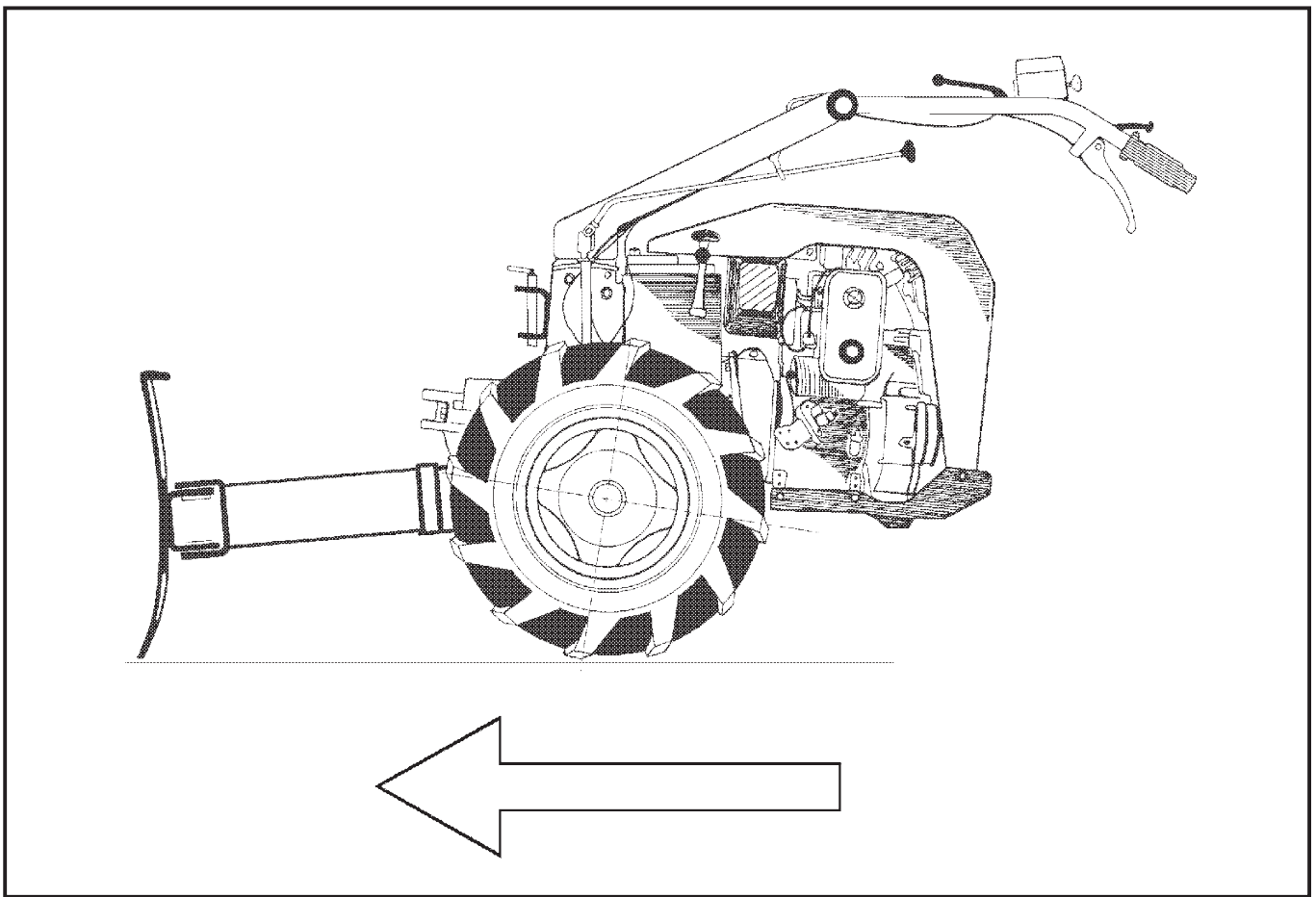


Fig. 4

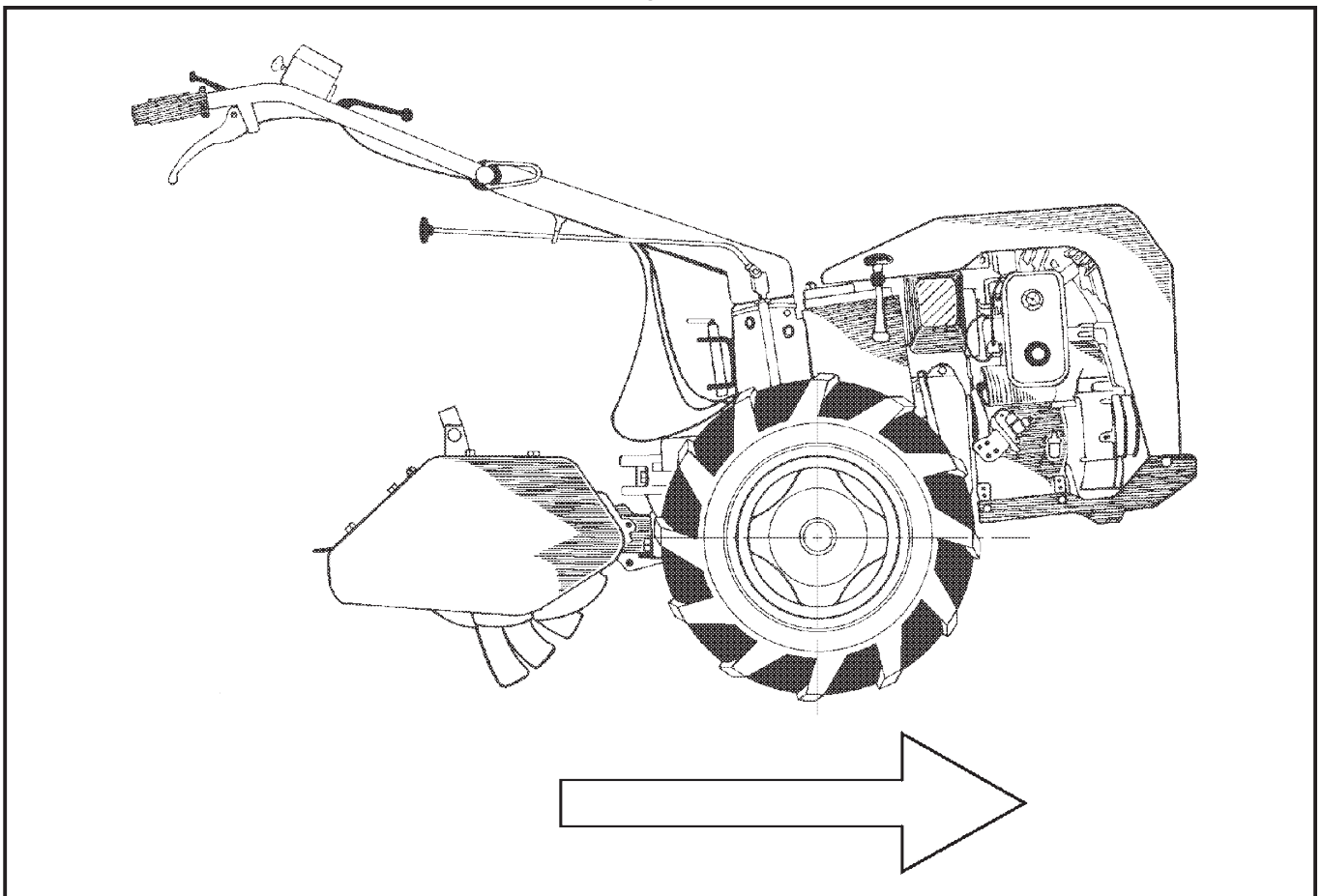


Fig. 5

VELOCITA' / SPEED / VITESSE / GESCHWINDIGKEIT / VELOCIDADES / VELOCIDADE ΤΑΧΥΤΗΤΑ / ΣΕΛΗΕΙΑ / ΗΑΣΤΙΓΗΕΔ / ΗΑΣΤΙΓΗΕΤ / ΠΥΛΡΙΕΝ ΝΟΠΕΥΣ / ΗΑΣΤΙΓΗΕΤ						
RUOTE / WHEELS ROUES / RADER RUEDAS / RODAS ΤΡΟΧΟΙ / QIEAEN H9YA / H9YA ПУВР0Т / H9YA 	AVANTI / FRONT ROUES AVANT / VORWÄRTSGANG ADELANTE / PRA FRENTE ΤΡΟΧΟΙ ΕΜΠΡΟΣ / ζΟΟΡΥΙΤ ΦΡΕΜ / ΦΡΑΜΑΤ ETEENPIAIN / ΦΡΕΜΟζΕΡ (Κμ/η)				RETROMARCIA / REVERSE GEAR MARCHE ARRIÈR / RÜCKWÄRTSGANG MARCHAATRÁS / MARCHA-ATRÁS PM / ACHTERUIT BAK / BAKAT PERUUTUS / BAKOVER (Km/h)	
	1L	2L	1V	2V	RL	RV
500x12	1,16	5,1	2,8	12,4	2,38	5,8
6.50/80x12	1,2	5,28	2,92	12,8	2,46	6
6.50/80x15	1,4	6,11	3,4	14,85	2,86	6,95

Fig. 6

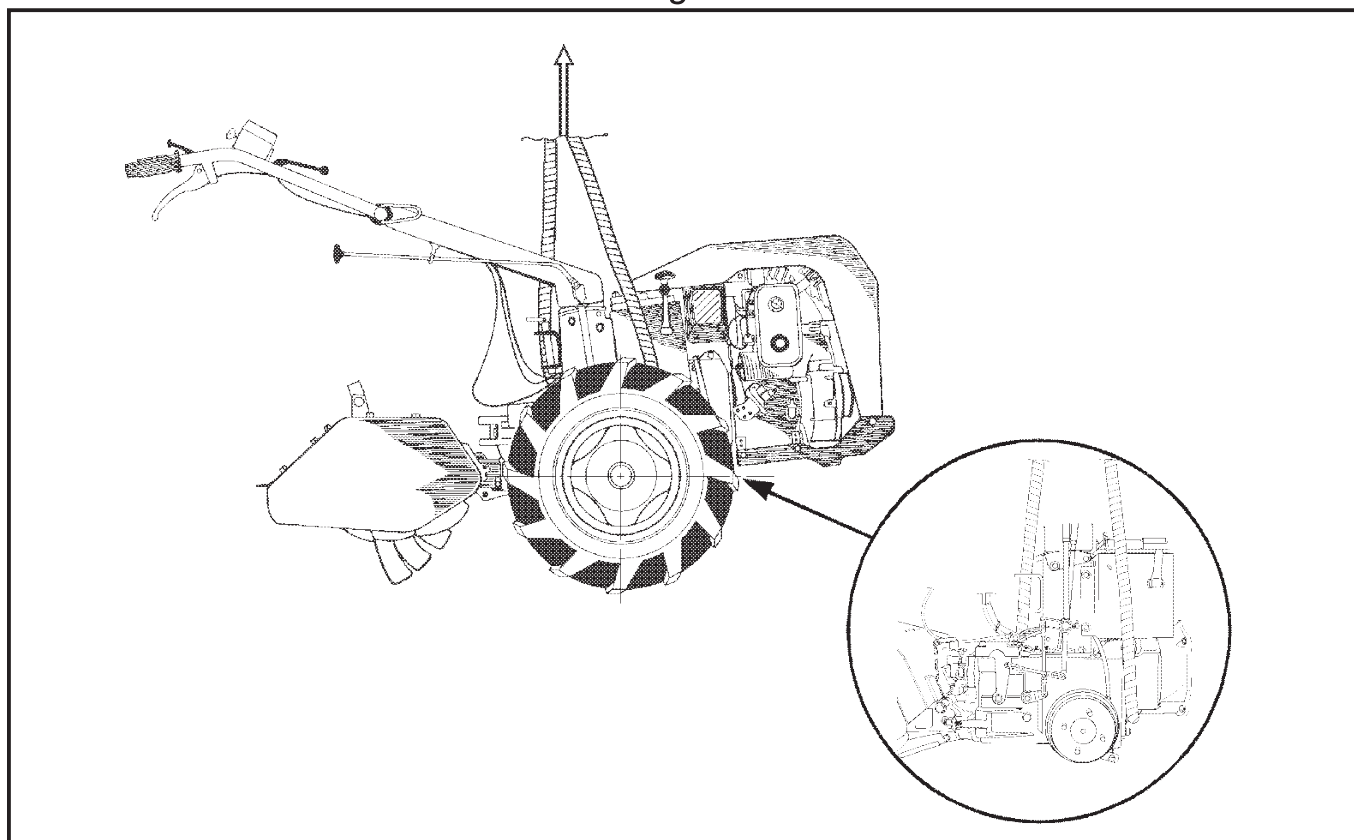


Fig. 7

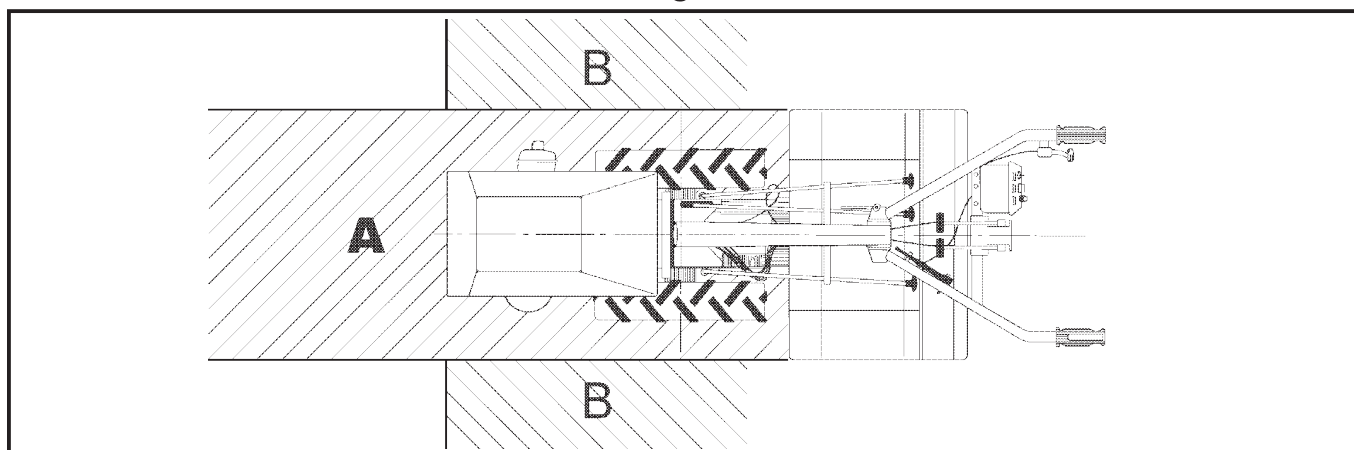


Fig. 8

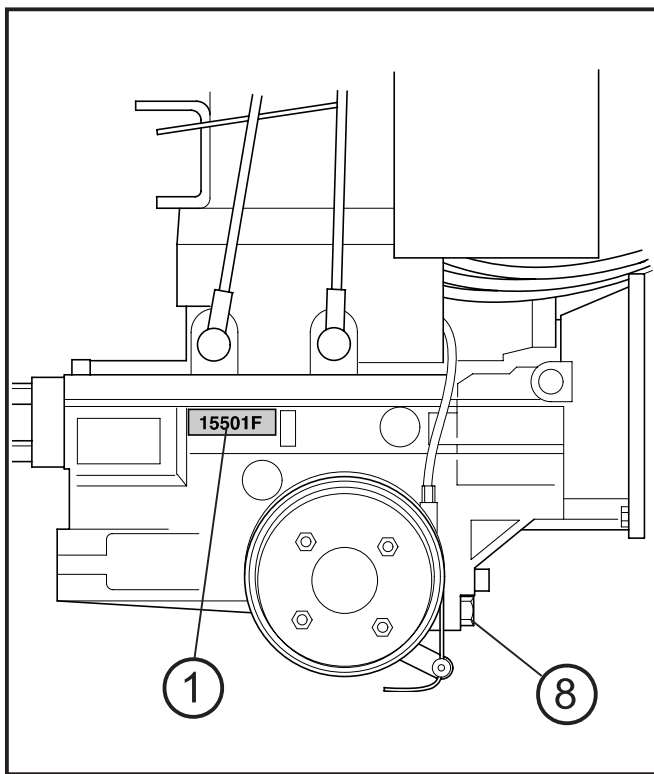


Fig. 9

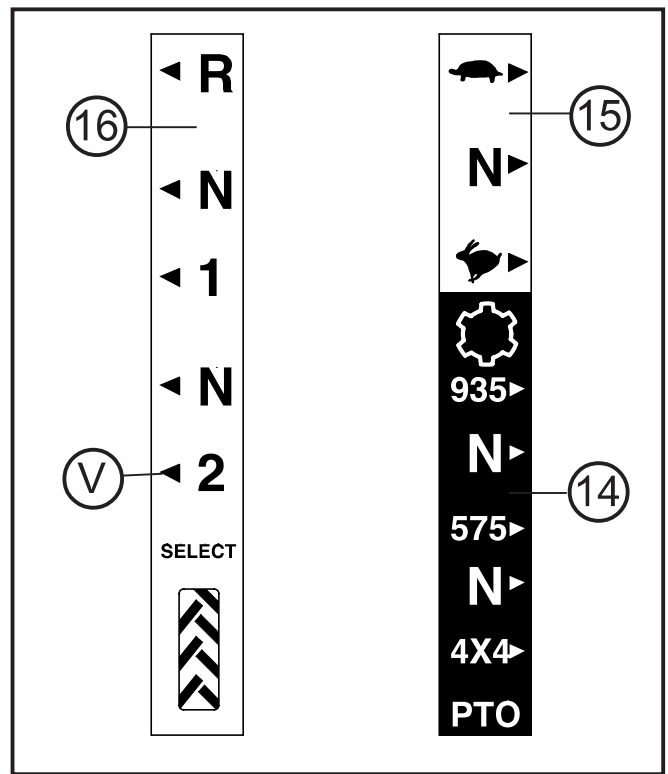


Fig. 10

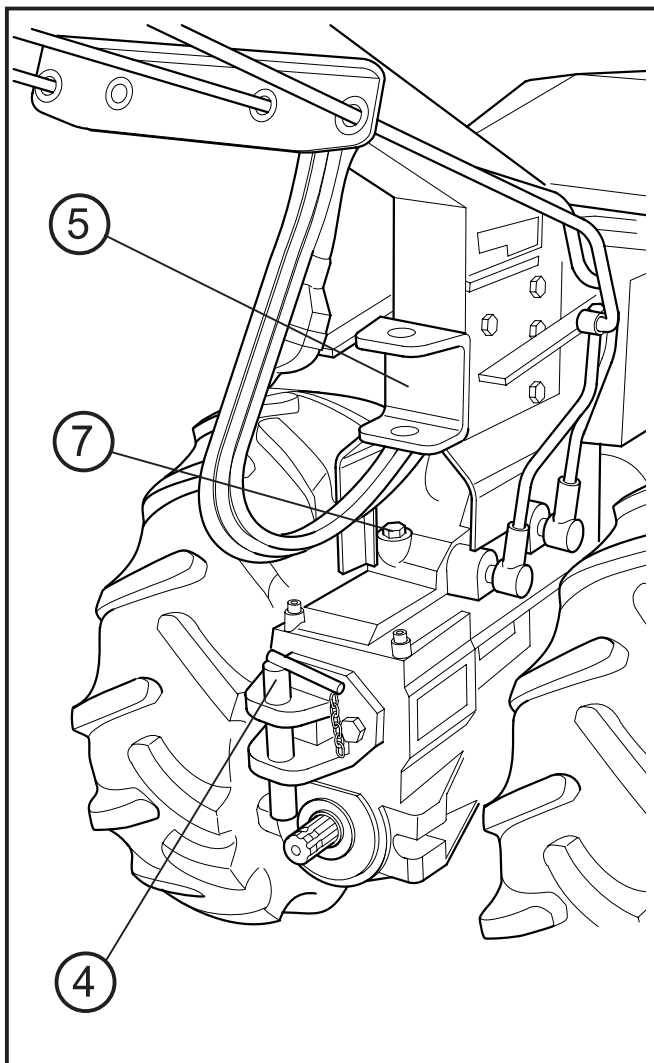


Fig. 11

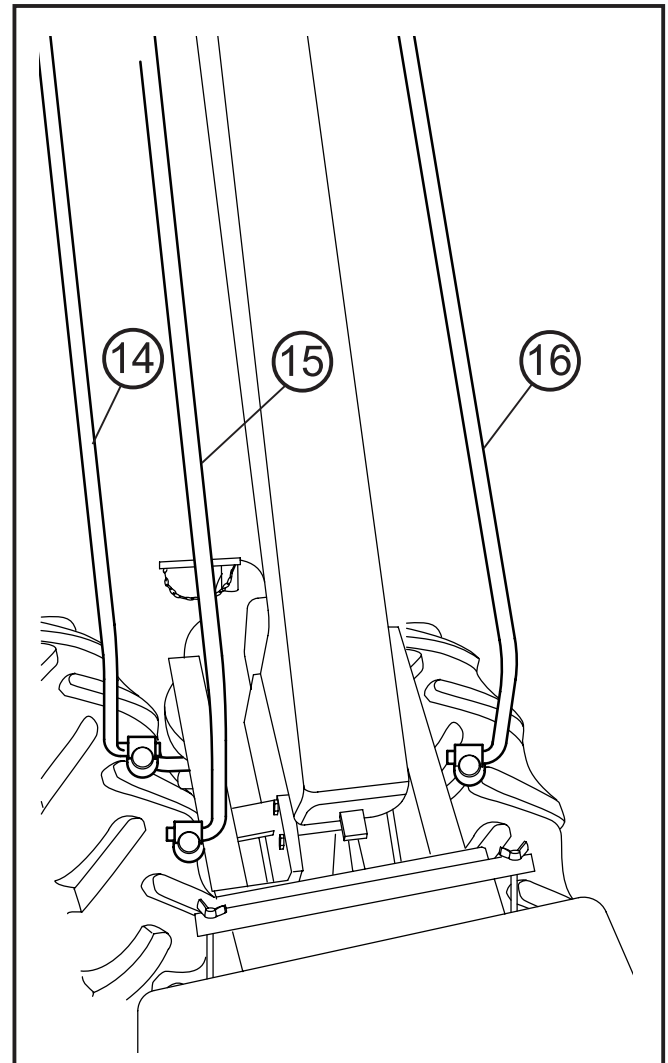


Fig. 12

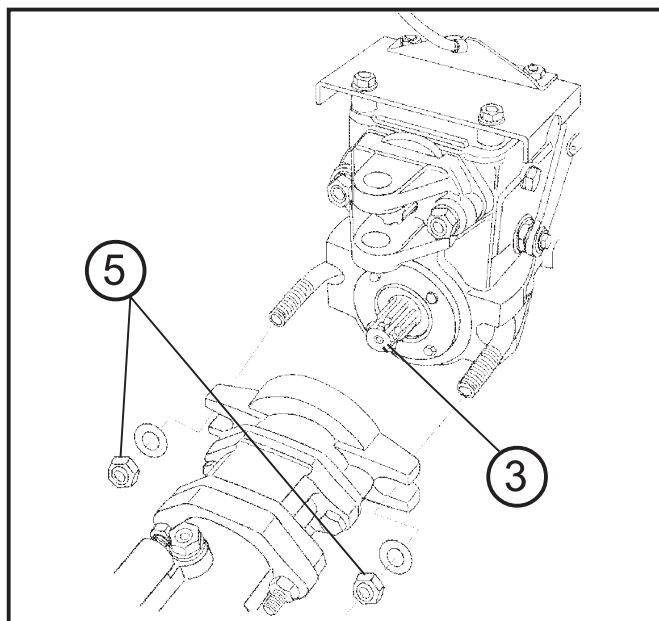


Fig. 13

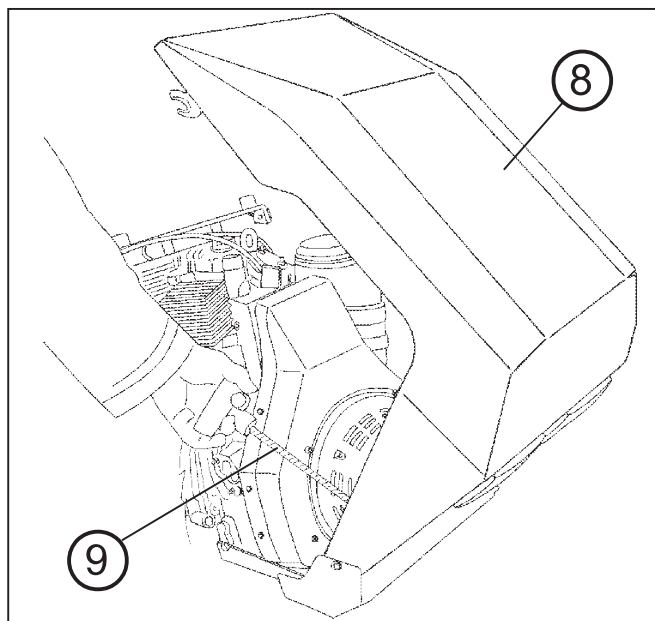


Fig. 14

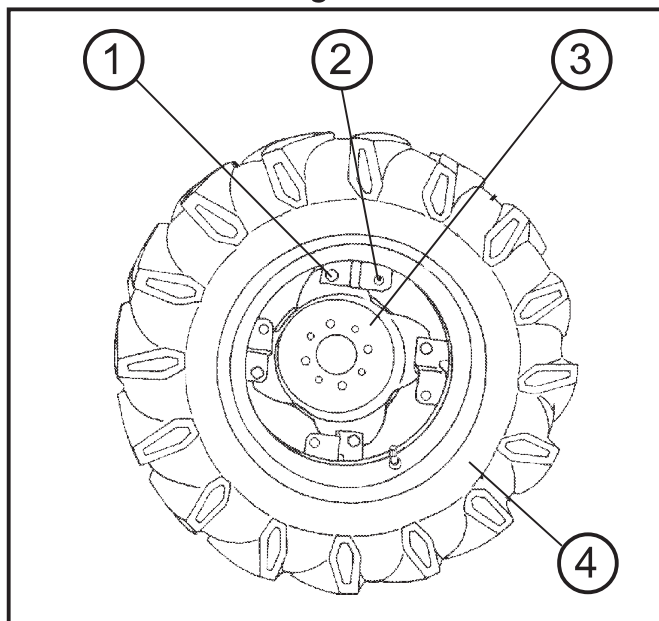


Fig. 15

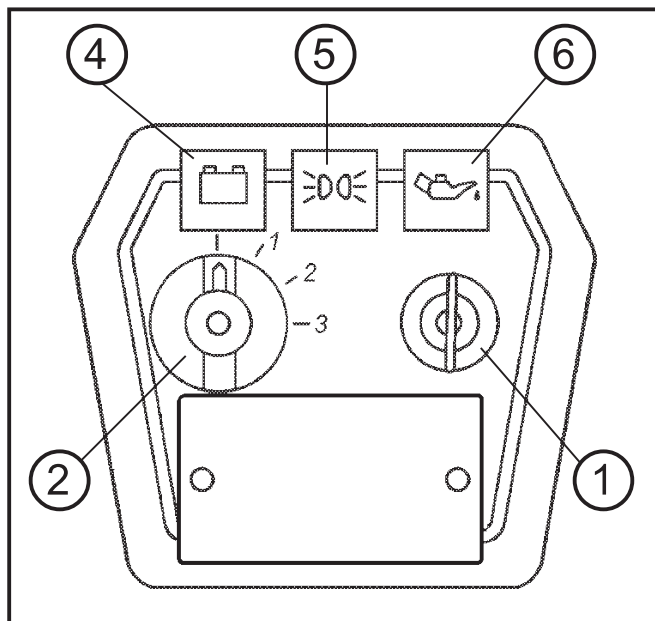


Fig. 16

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SECTION 1

Description and specifications of the machine

1.1 FOREWORD

This instruction manual describes the instructions to be followed for the use and the maintenance of the motor hoe.

The engine handbook is attached to this manual. Both manuals are an integral part of the machine and they shall be made reference to before carrying out any intervention on the machine or before using it (also before unpacking it).

1.2 WARRANTY

The engine is warranted according to the Manufacturer's conditions and terms.

When you purchase it, we suggest you to check that the machine is not damaged by informing of any anomaly or defect within eight days after the delivery of the machine. The machine is covered by a 12-month warranty starting from the delivery date. Such warranty includes only the replacement of those parts which, after a careful inspection by the Technical Department of the Manufacturer, are defective. The warranty does not cover those parts which are not manufactured by the Company and the tools. You shall agree with the Manufacturer before returning any goods, and you shall ship them back ex works. The purchaser, anyhow, shall bear the transport costs, the costs for the lubricants, the VAT and the customs duties, if any. Anyhow, the repairs or the replacement of the parts shall not extend the warranty terms. The purchaser, anyhow, will be entitled to claim the warranty only if he has complied with the terms listed in the supply contract.

1.2.1 WARRANTY EXCLUSIONS

The warranty, anyhow, shall not be valid:

- if the damage is due to an improper use of the machine.
- if the damage is due to a poor maintenance of the machine
- if you exceed the max. permissible power
- if the trouble is due to unskillfulness, negligence or improper use of the machine.
- if, after the user has carried out the repair without the Manufacturer's prior consent, or because non-original spare parts have been assembled on it, the machine has been modified and the damage is attributable to such changes.
- if the instructions of this manual have not been complied with.

1.3 DESCRIPTION OF THE MACHINE

The Motor hoe is a machine «EC» marked in compliance with the regulations of the European Union listed in the Directive 2006/42/EC, 2004/108/EC, as described in the declaration of conformity attached to each machine.

It is designed to be controlled by a standing operator and it may be used for different agricultural purposes (hoeing, plowing, grass mowing, etc.).



The Manufacturer shall not be held responsible for direct or indirect damages due to an improper use of the machine or for a different use of it which does not comply with what is provided for in this manual.

The motor hoe includes (fig. 1):

- 1) Engine. For its specifications please make reference to the enclosed handbook;
- 2) Change gear with four forward gears and three reverse gears (with rotary hoe);
- 3) Driving wheels;
- 4) Rotary hoe unit;
- 5) Casing;
- 6) Spur rod;
- 7) Handlebar locking and adjusting devices;
- 8) Engine casing;
- 9) Accelerator lever;
- 10) «Motorstop» device. The motorstop device allows to stop the engine immediately in case of an emergency when the operator does not hold the handlebar firmly and it does not allow to start the engine unless the clutch is engaged. During the operation, if the operator removes his hand from the handlebar, the machine stops immediately. This device is used also to stop the engine.
- 11) Clutch lever. It allows to engage and to disengage the clutch;
- 12) Lever to adjust the handlebars horizontally
- 13) Clutch differential locking;
- 14) Lower power takeoff lever;
- 15) Gear lever (slow/fast gears);
- 16) Gear lever;
- 17) Screw for adjusting the clutch travel;
- 18) Clutch locking device. It allows to lock the clutch lever;
- 20) Left wheel brake lever;
- 21) Right wheel brake lever.

The motor hoe is equipped with:

- EC brand
- EC declaration of conformity
- engine handbook
- instruction manual of the machine
- 13-17 mm non-adjustable spanner
- 17-19 mm non-adjustable spanner
- 22-24 mm non-adjustable spanner
- Grease gun

1.3.1 INTERCHANGEABLE ATTACHMENTS AND OPTIONAL ACCESSORIES

Upon request, the Manufacturer may supply a set of interchangeable accessories and attachments in addition to the standard equipment of the machine which include:

Front interchangeable attachments (fig. 4):

- Cutter bar;
- Grass and brushwood chopper;
- Front scraper;

Rear interchangeable attachments (fig. 5):

- Adjustable rotary hoe;
- Adjustable furrow opener to be assembled on the rotary hoe back;
- Adjustable furrow opener;
- Single-bottom plow;
- Swivel plow;
- Rotary harrow;
- Trailer with driving wheels, handlebars and lighting system;
- Trailer with brakes;
- Two-wheel seat with brakes;

Multipurpose accessories:

- Cage wheels;
- Flanged spraying pump;
- Tanker;
- Furrow or spray irrigation pump;
- Power takeoff synchronized with the wheels of the trailer equipped with driving wheels;

1.3.2 IDENTIFICATION

ENGINE: it is necessary to refer to the handbook of the specific engine in order to identify it and to compare the data of the name plate of the engine.
MACHINE. Each machine has a name plate (fig. 1) with the following data:

A-Trademark, name and address of the Manufacturer

B- EC brand

C- model of the machine

D- year of manufacture

E- Max weight of the machine in kg

ENGLISH

The code no. of the machine, which shall always be quoted when spare parts are ordered, is shown on the right side of the gearbox casing near the engine connector (1 fig. 9).

1.3.3 TECHNICAL SPECIFICATIONS

The machine may be equipped with one of the following engines:

- Lombardini 6LD 400: diesel
6,5 kW 8,8 Hp
- Lombardini 3LD 510: diesel
9 kW 12,2 Hp
- Ruggerini MD150: diesel
10 kW 13,6 Hp

Safety devices: - «Mot

Start up: - rope starter with automatic rope;
- electric starter.

Accelerator: - lever control on the handlebars.

Clutch: - Single-disk dry clutch with handlebars control.
- Multiple-disk dry clutch (Lombardini 6LD 400 engine) with handlebars control.

Drive: - oil-bath gear drive.

Change gear: - 4 forward gears + 2 reverse gears (with rotary hoe)
- 2 forward gears + 2 reverse gears (with cutter bar)

Power takeoff: - 1 upper independent power take off with 3 different speeds (3000/ 1393/740 rpm)
- 1 lower power takeoff with 2 different speeds (575/934 rpm) + 6 speeds synchronized with the wheels.

Safety devices: - «Motorstop» device combined with the clutch.

- Safety device to disengage the rotary hoe in the reverse gear.

Handlebars: - adjustable vertically and horizontally. 180° reversible.

Dimensions of wheels: 5.00x12 - 6.50/80x12
6.50/80x15 (all with adjustable disk)

Wheel inflation pressure: 2,2 bar.

Brakes: drum brakes with one independent control for each wheel (upon request).

Rotary hoe unit: - 80 cm rotary hoe with possibility to reduce the casing.

Weight: 230 - 258 kg (depending on the type of engine).

1.3.4 OVERALL DIMENSIONS

Please make reference to fig.2.

DIMENSIONS (with wheels 5.00 - 10) in mm.	
A	750
B	1210
C	1960
D	960
E	650
F	700 - 800
G	560

The following table shows the dimensions of the track of the motor hoe, according to the adjustment of the wheels:

WHEELS	E (mm)	
	min.	max.
500 x 12	550	680
6,50/80 x12	640	750
6,50/80 x15	640	750

1.3.5 TYRES

Periodically check the conditions of the tyres; if they are worn out, torn or broken, replace them in the following way:

- 1) Stop the engine;
- 2) Remove the attachment, if any, from the power takeoff;
- 3) Slightly loosen the nuts locking the wheels;
- 4) Lift the machine (make reference to par. 1.4 «Machine handling»);
- 5) Unloose the nuts completely and replace the wheel.

N.B. Periodically check the tyre inflation pressure, which shall always be of 2.2 bar.

1.3.6 NOISE LEVEL

The noise level was taken while the attachment (rotary hoe) was idling; we here below list the results:

Lombardini 6LD 400 engine (diesel)

with muffler draw 9996.952.0

- Level of acoustic radiation pressure (LpAm) dB 92,3
- Level of acoustic power (LwA) dB 107

Lombardini 3LD 510 engine (diesel)

with muffler draw 9972.001.0

- Level of acoustic radiation pressure (LpAm) dB 91,5
- Level of acoustic power (LwA) dB 106

1.3.7 VIBRATIONS LEVEL

The vibrations level was taken while the machine was running at 3060 rpm (85% of the rated speed of 3600 rpm) and we here below list the results:

- Lombardini 6LD 400 3,25 m/s²
- Lombardini 3LD 510 3,15 m/s²

1.3.8 SPEED Make reference to the table of fig.6.

The speed values were taken while the motor was running at 3000 rpm.

1.3.9 REFUELLING

For the type of fuel to be used, please make reference to the engine handbook and check the identification data on the name plate of the engine. The fuel tank is under the engine casing.

1.4 MACHINE HANDLING

The machine is packed in cartons. Because of transport needs, when the machine is delivered, the handlebars may be turned 180° (above the engine casing) and the lower power takeoff lever (14 fig. 1), the slow/fast gear lever (15 fig. 1) and the gear lever (16 fig. 1) are partially disassembled. In order to assemble them, please make reference to the specific paragraphs listed further on. We remind you that the packing materials are recyclable and therefore, after using them, they shall be delivered to special centres in compliance with the law in force in the country where the machine will be used. During the transport, the machine shall be firmly secured by means of special locks.

During the loading and the unloading of the machine to and from the vehicle, whether it is a truck or a trailer, we suggest to always use loading ramps and skids suitable to the weight of the machine and to the operator in charge of this. For a manual handling of the machine, the loading and the unloading of the packing or of the unpacked machine shall be made by two people. In case you need to use a lifting equipment, the machine shall be lifted by using a special belt only, by putting it around the gearbox casing (fig. 7), without moving it abruptly and by balancing it and the handlebars as shown in fig. 7.

SECTION 2

General safety regulations



Pay attention to the warning sign in this instruction manual. It signals a situation of potential hazard.

Therefore, we suggest to read this manual very carefully and especially to read the safety regulations, by paying attention to those operations which are particularly dangerous.



The Manufacturer disclaims all and any responsibility for damages due to the non-compliance with the safety and the accident prevention regulations here below described.

Moreover, he shall not be held responsible for damages due to an improper use of the machine or to changes which were carried out without the Manufacturer's prior approval.

2.1 SAFETY SIGNS (fig.3)



The machine has adhesive labels with brief instructions on them in order to avoid incorrect operations and possible accidents.

The transfer printings concerning safety shall be always clear and clean and they shall be replaced when they are not legible:

- 1) Before starting the machine, carefully read the instruction manual (this symbol is placed on the front cover of the instruction manual)
- 2) Before carrying out any maintenance, stop the engine and read the handbook
- 3) Loud noise. Wear adequate hearing protection, e.g. headphones.
- 4) Scald hazard. Do not touch the engine hot parts.
- 5) Shearing hazard of lower limbs. While the machine is working keep at a safe distance from the moving parts.
- 6) Hazard due to the possible flinging of blunt instruments. Make sure that the casing (5 Fig. 1) is installed properly and that there are no people or pets around the working area which could be hit by the blunt instruments.

2.2 CLOTHES



- Do not wear loose-fitting and fluttering clothes as well as necklaces, scarves and ties: they could get entangled in the moving parts.
- Long hair shall be tied with a ribbon.
- **We recommend to wear suitable shoes; do not work with bare feet or with sandals or slippers.**

2.3 ECOLOGY AND POLLUTION



- Keep the lubricants out of the children's reach. Read the warnings and the precautions marked on the containers of the lubricants carefully. After using them, wash your hands with plenty of water. Dispose of the used lubricants in compliance with the anti-pollution regulations in force.
- Comply with the laws in force in the country where the machine is used concerning the use and disposal of the products used to clean and maintain the machine.
- If the machine is dismantled, comply with the anti-pollution regulations in force in the country where the machine is used.

2.4 SAFE OPERATION



- It is strictly forbidden to start the machine or to have it started by anyone who has not read and understood what is described in this manual, as well as by unskilled people, by people who are not in good health or who are less than 16 years old.
- Before starting the operations, familiarize with the controls and their functions.
- Before starting the machine, make sure that the safety devices and the machine are in good conditions.
- Before starting the machine, make sure that no people or animals are near the machine.
- Do not touch the moving parts and do not go between them: keep at a safe distance.
- It is strictly forbidden to stand in the operating range of the machine.
- If any part clogs or stops, stop the engine and then remove the foreign body.
- In case of a soft ground, slope, ditch or steep ground, be very careful to prevent the machine from turning over.
- This machine is not homologated for road circulation. Upon request, it is possible to homologate only the machines with trailer with driving wheels and equipped with LOMBARDINI 3LD 510 engines.
- Do not position the machine on a sloping ground.
- Do not touch the hot parts of the engine.
- During the maintenance operations, operate the machine in airy rooms: the exhaust gas is harmful to the health.
- Before turning, disengage the differential lock.

Never lock the differential before turning or when the fourth gear is engaged.

2.5 MAINTENANCE OPERATIONS UNDER SAFETY CONDITIONS



- Periodically check that all the machine parts and the safety devices are in good conditions.
- Periodically check that the screws and the nuts are tightened and that the pipe fittings, if any, do not leak.
- Use the suggested oils and lubricants.
- The spare parts shall comply with the needs of the manufacturer. **Use original spare parts only.**
- It is strictly forbidden to remove or tamper the safety devices.
- The maintenance of the machine shall be carried out only when the machine is off, by skilled personnel and according to the instructions listed in this manual.
- The refuelling and the topping up of oil shall be carried out only when the engine is off and cool. During refuelling do not smoke and keep away from free flames. If some fuel is spilled, absorb it immediately before starting the machine. Store the fuels and the lubricants in suitable rooms where authorized personnel only are admitted; keep them out of the children's reach.
- The safety signs on the machine give brief instructions to avoid accidents. Clean them when they are dirty and replace them immediately if they come off or they are damaged.
- This instruction manual must be read, memorized and kept for the whole life of the machine until it is completely dismantled. If it gets lost, contact the manufacturer immediately and ask for a new copy.

SECTION 3

Use of the machine

3.1 BEFORE USING THE MACHINE

The machine is partially disassembled before packing it. Therefore, it is necessary to assemble it according to the following instructions:

3.1.1 ADJUSTMENT OF THE HANDLEBARS

If the machine is packed, the handlebars are on the engine casing. Otherwise they are positioned as shown in fig. 5.

ENGLISH

Before using the machine, adjust the height of the handlebars and position them according to the type of attachment.

Adjustment of height:

Loosen the screw (7 fig. 1) and position the handlebars to the desired height, then tighten the screw.

Horizontal adjustment:

It is possible to adjust the handlebars horizontally only when the motor hoe handlebars are positioned as shown in fig. 5.

Carry out the following operations: pull the lever (12 fig. 1) completely; move the handlebars towards right or left until the hole coincides with the check pin. Then release the lever (12) again.

180° Handlebars rotation (fig. 4)

Before connecting the front interchangeable attachments (e.g. cutter bar, snowblower, etc.), it is necessary to turn the handlebars 180° **anti clockwise** and to position them on the engine casing as follows:

- 1) Remove the elastic pins securing the relevant rods;
- 2) Remove the control rods (14, 15 and 16) and put them aside;
- 3) Press the lever (12 fig. 1) completely and turn the handlebar support **anti clockwise** until it fits in properly. Then lift the lever (12 fig. 1) again.
- 4) Before turning handlebars 180° into motor mowers position, or coming back to motor cultivator position, make sure that speed selection's lever (16 fig. 1) is in position 2 (position V fig. 10);
- 5) Reassemble the control rods (15 and 16) and secure them with the elastic pins.
- 6) **Make sure that the wheels are assembled properly and that the arrow on the tyre sides corresponds to the forward movement of the machine, otherwise exchange them.**

3.1.2 ADJUSTMENT OF THE TRACKS

In order to increase or decrease the motor hoe tracks, carry out the following operations (fig. 15):

- Lift the machine (as described in par. 1.4 «Machine handling»)
- Remove the locking bolts (1)
- Change the position of the internal disk (3)
- Insert the bolts again and tighten them.

There are 3 different positions:

- 1) As shown in fig. 15
- 2) By moving the disk (3) from (1) to (2).
- 3) By turning the wheel external (4) member upside down in relation to the internal disk (3).

Check that the wheels are assembled in the correct direction. Otherwise exchange them.

3.1.3 ASSEMBLY: LOWER P.T.O. LEVER, SLOW/FAST GEAR LEVER AND GEAR LEVER (FIG. 12)

When the machine is packed, sometimes the above mentioned levers are detached from the control rods (14), (15) and (16). In order to assemble them, put them in their slots (1) and (2) and secure them with the elastic pins.

3.1.4 REPLACEMENT OF THE INTERCHANGEABLE ATTACHMENTS (fig. 13)

In order to replace the interchangeable attachments, it is necessary to unscrew the two nuts (5) connecting the attachment to the power takeoff (3), to remove the two washers, then remove the attachment by paying attention not to damage the thread of the fastening screws.

Then take the attachment to be connected to the machine, make the slots coincide, then connect it to the power takeoff.

This operations must be carried out by two people wearing strong gloves.

Insert the two washers and tighten the nuts securing the attachment.

When you true up the attachment on the union sleeve of the power takeoff, pay attention not to damage it.

Some attachments, such as the seat and the tanker, must be connected to the connector (4 fig. 11) of the motor hoe; the trailer, instead, must be connected to the connector (5 fig. 11) only.

Some other attachments, such as the furrow opener and the single-bottom plow, must be connected to the connector shown in fig. 15 even if it is not necessary to connect them to the power takeoff.

N.B. It is strictly forbidden to connect any interchangeable attachment not in compliance with the safety and health regulations in force and therefore without the «EC» («CE») brand.

3.1.5 PRELIMINARY CHECKS

- Make sure that there is the oil in the change gear and check its level (please make reference to section 4.1.3 - Maintenance of the machine 7 fig.11).

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- Make sure that the clutch travel is correct (please make reference to par. 4.1.3 - Adjustment of the clutch control).
- Before starting, check that all the screws, in particular those of the rotary hoe unit, are tightened.
- Make sure that the wheels are assembled properly and that the arrow on the tyre sides corresponds to the forward movement of the machine, otherwise exchange them.



WARNING: There is no lubricant in the engine. Before starting it, it is necessary to make reference to the instructions of the engine handbook and to fill it with the type and quantity of oil required.

3.2 START-UP

Before starting the machine, you should always check:

- the engine oil level (make reference to the engine handbook) and the oil level of the change gear.
- that the air filter of the engine is clean.
- the level of fuel in the tank.



WARNING: Do not refuel the motor hoe when the engine is still hot, near free flames, or while you are smoking a cigarette or in an airless room. Immediately clean the parts where fuel has been spilled.

When no people or animals are within the operating range of the machine, you may start the machine as follows (Fig. 1):

- 1) Lower the lever (10), pull the clutch lever (11) and lock it with the special locking device (18).
- 2) Position the accelerator lever (9) as shown in the handbook of the engine of your machine.
- 3) Keep at a safe distance («B» Fig. 8, in case of machines with rope starter) and, according to the type of starter, carry out one of the following operations:

3.2.1 ROPE STARTER WITH AUTOMATIC WINDING

After having carried out the operations listed in par. 3.2 START-UP:

- 1) Lift the engine casing (8 fig. 14);
- 2) Pull the starting rope (9 fig. 14) until it makes some resistance. Now pull it hard and quickly. The engine is equipped with a rope starter with

automatic winding which allows to pull the rope but which, when the engine starts, is disconnected to avoid jerks and recoils to the operator.

- 3) Let the rope go as it winds up. If the engine does not start, repeat this operation.
- 4) Lower the engine casing and secure it with the special elastic hook.

3.2.2 ELECTRIC STARTER (fig. 16)

After having carried out the operations listed in par. 3.2 START-UP:

- 1) Insert the key in the starting switch (1).
- 2) Turn the key clockwise until the pilot lamps of the battery charge (4) and of the engine oil pressure (6) are on.
- 3) Turn the key again and let it go as soon as the engine starts. If the engine does not start immediately, try again after a few seconds.

If, after several attempts, the engine does not start, contact the After-Sales Service.

3.2.3 AFTER THE START-UP

- Let the engine idle for a few minutes.
- During the first working hours, do not use the machine at top speed.
- Do not force the engine.



WARNING: While you are working, hold the handlebars firmly to prevent the motor hoe from slipping from your hands and always check that no people or animals are within the operating range of the machine.

3.3 BEAMS SWITCH

(only with electric starter - fig. 16)

The switch for selecting the beams (2) is on the dashboard and it has 4 positions:

0) off

- 1) switching on of the parking lights
- 2) switching on of the low beams
- 3) switching on of the high beams

On the dashboard there are also some other pilot lamps of:

- 4) battery charge
- 5) switching on of lights
- 6) engine oil pressure

3.4 FORWARD MOVEMENT - SHIFTING

Model with rear attachments (4 forward gears + 2 reverse gears).

Model with front attachments (2 forward gears + 2 reverse gears).

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In order to engage the gears and to move the machine forward, carry out the following operations (fig. 1):

- Let the engine idle by moving the lever (9).
- Choose if you want slow or fast gears, then pull the clutch lever (11) completely.
- Select one of the gears by means of the gear lever (16) (make reference to the pointer and pictograph in Fig.10), according to the type of ground, to the engine power and to the type of work.

Remember that each position of the change gear (gear or neutral position) corresponds to one click of the selection lever).

- Release the clutch lever slowly and accelerate up to the desired speed.
- In order to stop the machine, pull the clutch lever and put the gear lever (16) in the neutral position.

3.4.1 REVERSE MOVEMENT

When you are working with front attachments (ex. cutting bar, front brush, snow thrower etc.) **2nd speed (V fig. 10) CAN NOT be used for reverse. With handlebars in motor cultivator position (fig. 5) it is not possible to engage reverse motion when PTO engaged, or with engaged PTO you can not engage reverse motion. A safety device prevent any incidental PTO engagement when reverse engaged, or the contrary, In case this device would not function, please get in touch immediately with manufacturer.**

In order to put the machine into reverse, carry out the following operations (fig. 1):

- Let the engine idle by moving the lever (9).
- Pull the clutch lever (11) completely.
- Pull or push the "SLOW-FAST" gear lever (15) according to the type of operation.
- Pull or push the gear lever (16) until the desired gear is engaged, as shown by the pictograph of fig. 10.
- Release the clutch lever slowly and accelerate.
- In order to stop the machine when the reverse gear is engaged, pull the clutch lever (11) and put the gear lever (16) in the neutral position.

3.5 DIFFERENTIAL LOCKING

We suggest to lock the differential when you are working on slippery ground, when either wheel skids or when you intend to move always in the same direction.

The differential is locked by letting the engine idle and by shifting the lever (13 fig. 1) to «BLOCCATO» (locked).

N.B. In order not to damage the machine, we suggest to lock the differential only when the clutch is pulled and the wheels are not moving.

- Do not lock the differential before turning or when the fourth gear is engaged.

Before turning, always disengage the differential lock, by shifting the lever (13 fig. 1) to «SBLOCCATO» (unlocked) without pulling the clutch.

3.6 BRAKES

The motor hoe is equipped with drum brakes on the two wheels with independent controls to the handlebars (levers 20 and 21 fig. 1).

It is possible to lock the wheels if the brake levers are pulled towards the operator completely.

3.7 POWER UPPER TAKEOFF

The upper P.T.O. may work at three different speeds, both when the motor hoe is running and not.

- Select the speed of rotation first by pulling the clutch lever (11 fig. 1) completely and then by shifting the lever (16 fig. 12).
- In order to engage the power takeoff when the motor hoe is not running, shift the SLOW-FAST gear lever (15 fig. 12) to the neutral position (N) and then, to select the gears, shift the lever (16 fig. 12) as above mentioned.



WARNING! When the speed of rotation is 3000 rpm or 740 rpm, the power takeoff runs in a counterclockwise direction of rotation. If the speed of rotation is 1390 rpm, instead, the power takeoff runs in a clockwise direction of rotation (looking at the P.T.O. front).

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3.8 POWER TAKEOFF

It may work at two speeds which are independent of the change gear (575 - 935 rpm) to operate rotary attachments, or at 6 speeds which are synchronized with the wheels; in this way, it is possible to connect it to the trailer equipped with driving wheels.

It is possible to select the speed of rotation of the P.T.O. by means of the lever (14 fig. 12), after pulling the clutch lever completely.

The adhesive label on the control rod shows the correct position of the lever according to the desired speed.

- DIRECTION OF ROTATION: Counterclockwise (looking at the P.T.O. front).
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The synchronized speed must be selected only when the trailer with driving wheels is connected.

The change gear and the two power takeoffs must be selected in the following ways (fig. 12):

- Make sure that, when the attachment connected to the P.T.O. is running, it is not dangerous for people or animals, if any.
- Before shifting the gear lever (14) and the P.T.O. lever (16), pull the clutch lever (11 fig. 1) completely.
- Release the clutch lever (11 fig. 1) slowly and, at the same time, accelerate the engine up to the desired speed of rotation. Do not work with the engine at max. speed for a long time.
- When you finish working, put the P.T.O. lever (16) to the neutral position, according to the above mentioned instructions.
- Do not let the lower P.T.O. run when it is not necessary.



WARNING! The motor hoe is equipped with a safety device preventing the operator from engaging the reverse gear when, in the model with rotary hoe, the power takeoff is engaged. In this case, it is necessary to disengage the P.T.O. before engaging the reverse gear.



WARNING! The motor hoe with cutter bar works in the best way when the peak r.p.m. of the motor are 1700/2200 (corresponding to 1/4 - 1/3 of the throttle lever). At this speed there is the best ratio of motor rpm to strokes of the knife.

3.9 STOPPING OF THE ENGINE (fig. 1)

In order to stop the engine, carry out the following operations:

- Position the accelerator lever to the minimum
- Disengage the clutch (11)
- Release the motorstop lever (10)

Before storing the machine for a certain period of time, we suggest to pull the clutch lever and to lock it by means of the special device (18), to prevent the clutch from jamming.

SECTION 4

Routine maintenance

4.1 MAINTENANCE

We here below describe the maintenance and adjustment operations. A low operating cost and a long life of the machine depends also on a methodical and constant compliance with these instructions.



The operations of maintenance, adjustment and preparation for working shall be carried out when the engine is off and when the machine is locked.

4.1.1 ENGINE

Please make reference to the engine handbook. Check the oil level and, if necessary, top it up **every 8 working hours** approximately.

Check and, if necessary, clean the air filter of the engine.

After the first 50 working hours, change the engine oil completely; afterwards, make reference to the instructions of the engine handbook.

4.1.2 MACHINE

Periodically wash the machine completely and clean each single part carefully. If a high-pressure washing system is used, make sure that water does not go inside the fuel tank and that the members are not damaged. After each washing it is necessary to lubricate all the moving parts with some drops of oil. Check oil level control with cap screw (7 fig. 11) with machine on plan. Oil dipstick should be nearly 5 mm on oil.

Every 200 working hours change the oil completely as follows:

- For your convenience, we suggest to disassemble the rotary hoe unit (4 Fig. 1) or any other attachment from the machine.
- Lift the machine (please make reference to the specific chapter) so that an oil drain tray may be put under the gearbox casing and secure it.
- Remove the oil drain plug (8 Fig. 9) and the oil filler cap (7 Fig. 11).
- Drain all the used oil into the drain tray.
- Put the oil drain plug again and pay attention not to damage the seal.
- Pour 5 Kg. of new oil through the oil filler cap and check the oil level (make reference to the specific chapter). Use SAE 20-40 OIL only.
- Then close the oil filler cap (7 Fig. 11).

4.1.3 ADJUSTMENT OF THE CLUTCH

CONTROL (fig. 1)

Check the travel of the clutch lever (11) periodically. When it is excessive, i.e. when the lever is near the end of its travel, adjust it as follows:

- Loosen the nut and the lock nut (18).
- Act on the adjusting screw (17) until the travel is about 7-8 mm. when the clutch is disengaged.
- Then tighten the nut and the lock nut again (19).

4.1.4 ADJUSTMENT OF THE ACCELERATOR CONTROL

It is strictly forbidden to change the limits set by the manufacturer. If it is necessary to adjust the accelerator, apply to an authorized After-Sales Service Center.

4.2 STORAGE

If you do not intend to use the motor hoe for a certain period of time, we suggest to follow the here below listed instructions so that the machine will be efficient when you use it again.

- Clean the machine carefully.
- Check that the motor hoe is in very good conditions, otherwise replace the damaged or worn parts.
- Empty the fuel tank completely.
- Lubricate the wearing parts.
- **Pull the clutch lever and lock it.**
- Cover the machine with a cloth and store it in a covered area, sheltered from bad weather, from frost and from moisture.

4.3 DISMANTLING

If the machine is dismantled, recover as many components as possible. Dispose of the remaining parts in compliance with the anti-pollution regulations of your country.

4.4 SPARE PARTS

The spare parts of the engine unit shall be ordered directly to the manufacturer of the engine or to its concessionary agent. If you want to order the spare parts of the machine, contact the area dealer.