



MANUFACTURERS OF AGRICULTURAL MACHINERY

41012 MIGLIARINA OF CARPI (MODENA) - ITALY

Telephone 0522 - 91640 (10 lines) RIO SALICETO (Reggio Emilia)

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Telex 51323 GOLDONI

motor cultivator EXPORT



OPERATION AND MAINTENANCE MANUAL

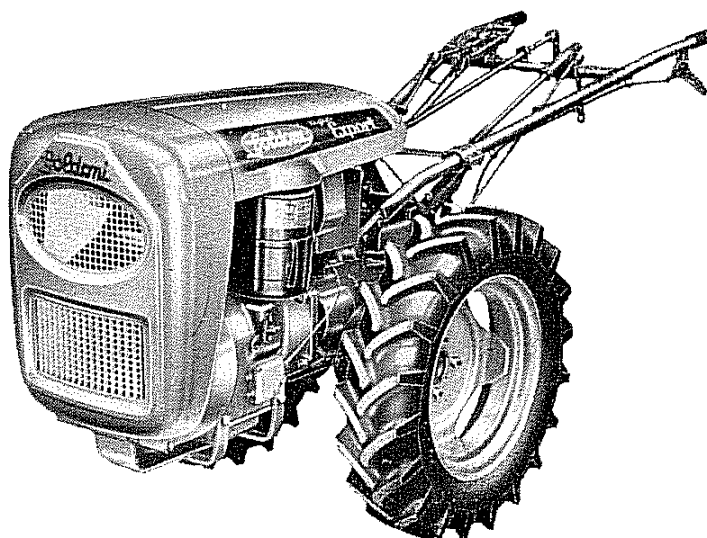
FREE :

- 1 Set of Engine Accessories with Instructions Manual.**
- 1 Set of Machine Accessories with Instructions Manual.**



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OPERATION AND MAINTENANCE MANUAL

Edited by the TECHNICAL PUBLICATIONS OFFICE

Mod. CG5 - 4-1971 - 1st Edition

N.B. - The pictures, descriptions and characteristics herein contained are not binding. While maintaining the main characteristics, the GOLDONI Company reserves the right of making at any time modifications made necessary by technical or commercial requirements.

GOLDONI «EXPORT» MOTOR CULTIVATOR

FOREWORD

In thanking you for having chosen our **EXPORT** motor cultivator, we are sure that it will perform superbly in all your farming jobs.

Knowing that you will want to keep it in perfect working order, we have prepared this maintenance manual.

If it is true that the motor cultivator will save you time and money, it is truer that its right maintenance will make you save even more time and money.

We recommend that you get acquainted with the instructions and carry them out exactly as specified every time you use your motor cultivator.

SERVICING

In order to obtain from the machine a flawless operation, remember that spare parts must be **GOLDONI ORIGINALS**.

Remember that spare parts that are not originals might cause serious trouble. Therefore, we would advise you always to contact our Sales Centers (see page 33).

I N D E X

Technical Data	Page	9
Operating Instructions (Control levers)	»	12
Gear Shifting	»	13
Differential Locking	»	15
Power Take Off	»	16
Power Take Off Automatic Release Provision In Slow Reverse Gear	»	18
Brakes	»	19
Handle Bars	»	20
Maintenance - Lubrication	»	21
Electrical System	»	23
Attachments	»	25
Spare Parts	»	33



WAREHOUSE

TECHNICAL DATA

ENGINE: See engine shop manual.

MOTOR CULTIVATOR:

Clutch: Dry single-plate.

Transmission: 6-speed, 4 forward and 2 reverse with accident prevention device for automatic rotavator release in slow reverse.

(Meeting the standards of the Accident Prevention Law).

Differential: Special locking provision which can be connected during machine operation through handle bar controls.

Power take off: 2 independent speeds (568-882 r.p.m.) and 6 synchronized with all differential speeds.

Brakes: Mechanical, independent or simultaneous action on both wheels.

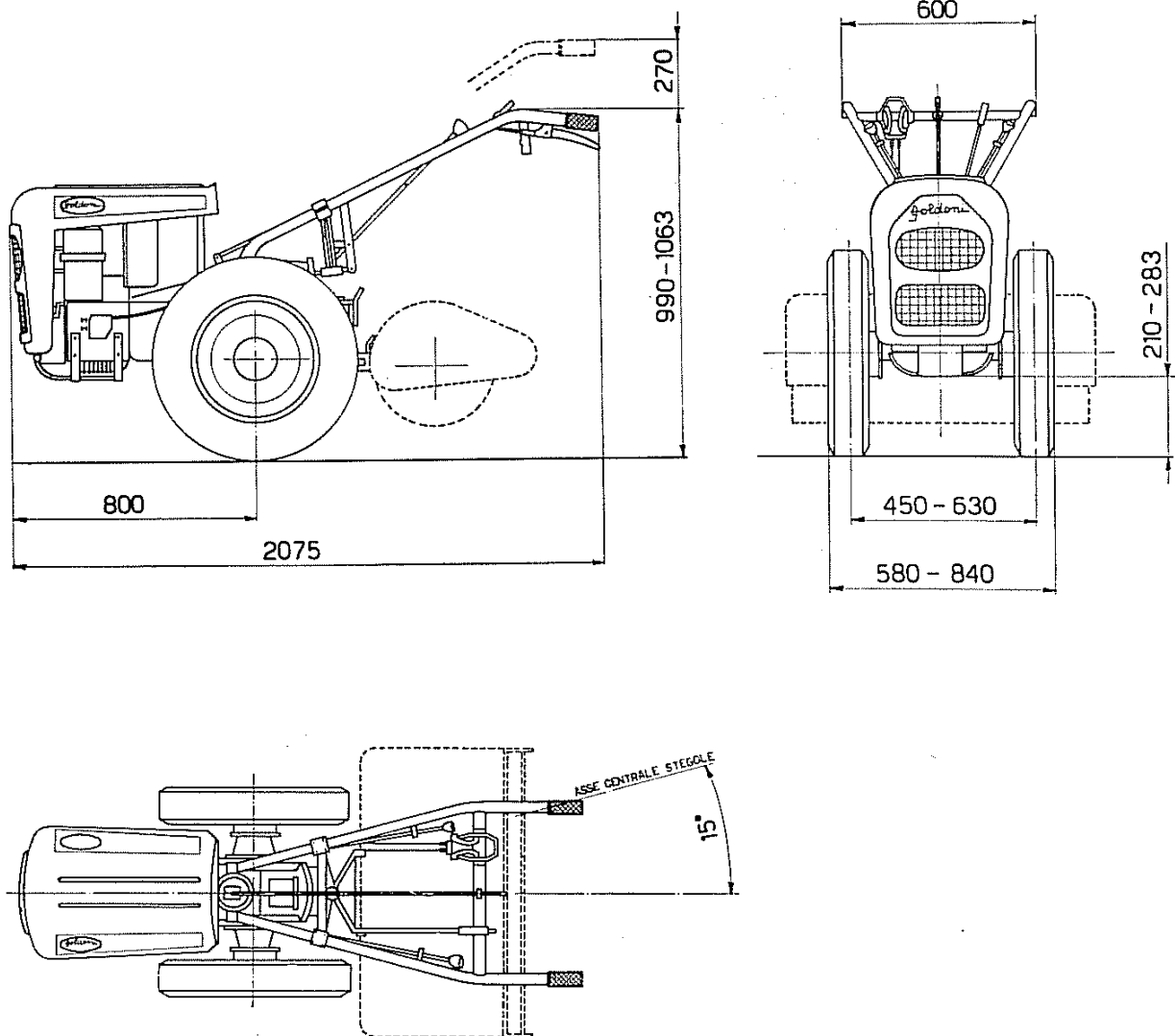
Wheels: Steel or with tires: 5.00-15, 6.00-16, 7.50-16 which give following speeds with engine at full power:

SPEED IN Km/h (Indicative Data):

Speed	Tires Used		
	5.00-15	6.00-16	7.50-16
1st Gear	1.39	1.53	1.65
2nd Gear	2.42	2.68	2.89
3rd Gear	5.47	6.04	6.52
4th Gear	12.55	13.86	14.95
1st Reverse (RM1)	1.39	1.53	1.65
2nd Reverse (RM2)	5.47	6.04	6.52

Motor Cultivator Handle Bars: Adjustable in height and sideways.

Dimensions:

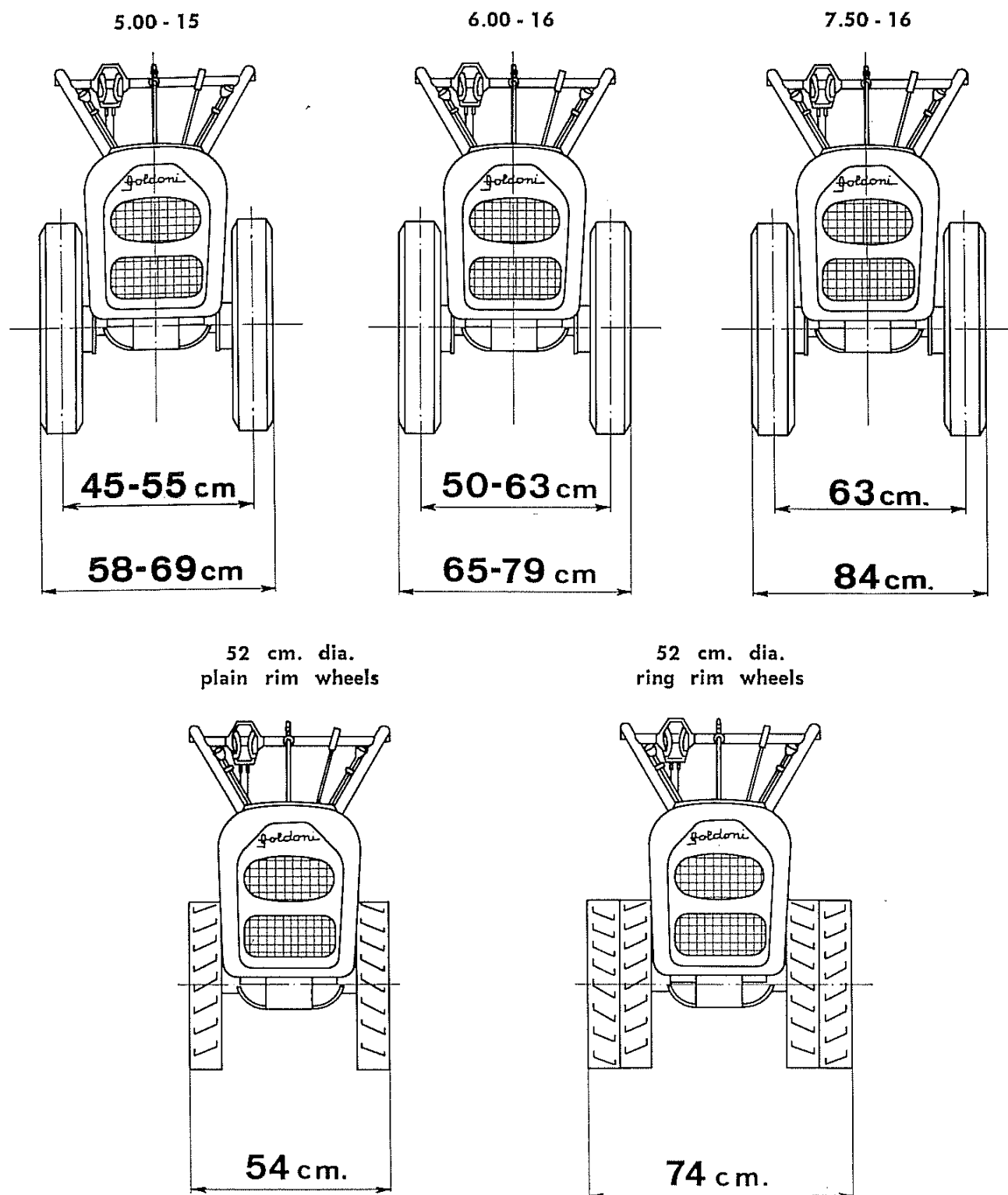


Packing Dimensions: Length 227 cm. - Width 82 cm. - Height 86 cm.

Weight: From 236 to 353 Kg. depending on models.

GOLDONI «EXPORT» MOTOR CULTIVATOR

Width and Track (with different types of wheels):



N.B. - To have minimum track with 6.00-16 wheels, 6 cm. spacers must be mounted on axle shafts and wheels must be turned inwards.

Tire Pressures: 5.00-15 (1 Atm.) - 6.00-16 (1 Atm.) - 7.50-16 (1.2 Atm.).

GOLDONI «EXPORT» MOTOR CULTIVATOR

OPERATING INSTRUCTIONS

CONTROL LEVERS:

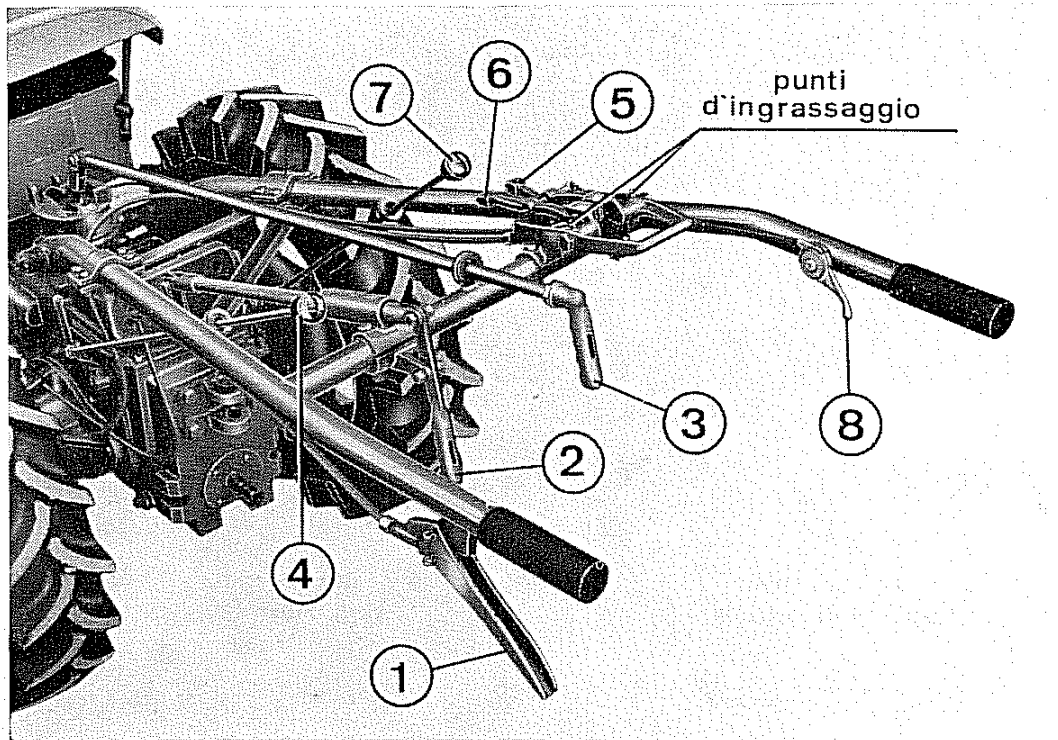


Fig. 1 - Control Levers

The handle bars of Goldoni's Motorcultivator « Export » carry the following easy to reach control levers:

- 1) - Clutch Throw Out Control Lever
- 2) - Handle Bar Position Control Lever
- 3) - Gear Shifting Control Lever
- 4) - Differential Locking Control Lever
- 5) - Right Brake Control Lever
- 6) - Left Brake Control Lever
- 7) - P.T.O. Speed Control Lever
- 8) - Engine Throttle Control Lever

GOLDONI «EXPORT» MOTOR CULTIVATOR

GEAR SHIFTING:

Release clutch through lever 1. Then with lever 3 throw in gear required, according to following diagram:

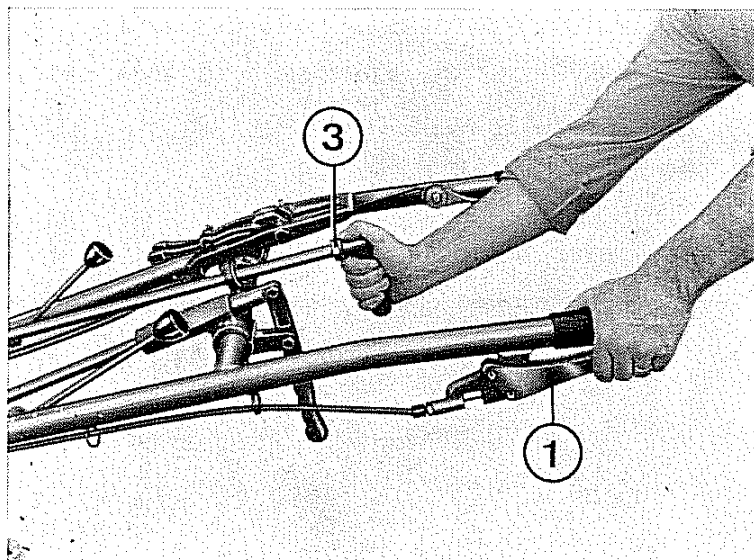


Fig. 2 - Shifting Gears

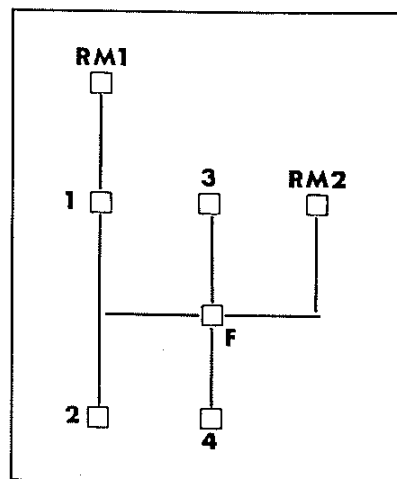


Fig. 3 - Gear Shifting Diagram

When the machine is new, gear shifting will require a pretty strong pressure on control lever. This because the shift gears will first have to smoothen out after initial matching period.

N.B. - Before shifting gears, always release clutch first.

A prolonged clutch disengagement will cause early wear of thrust bearing. Therefore, avoid keeping clutch disengaged too long.

SHIFTING REVERSE GEARS (Warning):

The motor cultivator has two reverse gears: a slow one (RM1) and a fast one (RM2).

Their use depends on motor cultivator operation. That is, when the operator walks behind the machine, use RM1 (slow reverse); **in this case, insert special anti-fast-reverse-gear pin (RM2)** as shown in Fig. 4 below (application of anti-reverse device required by law).

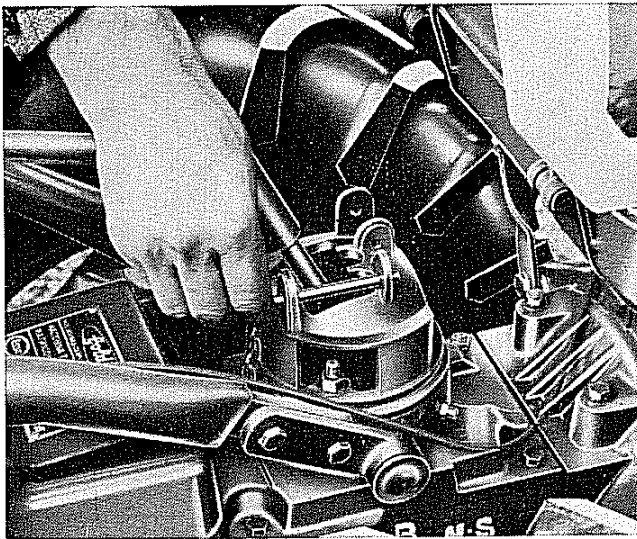


Fig. 4 - Anti RM2 Device

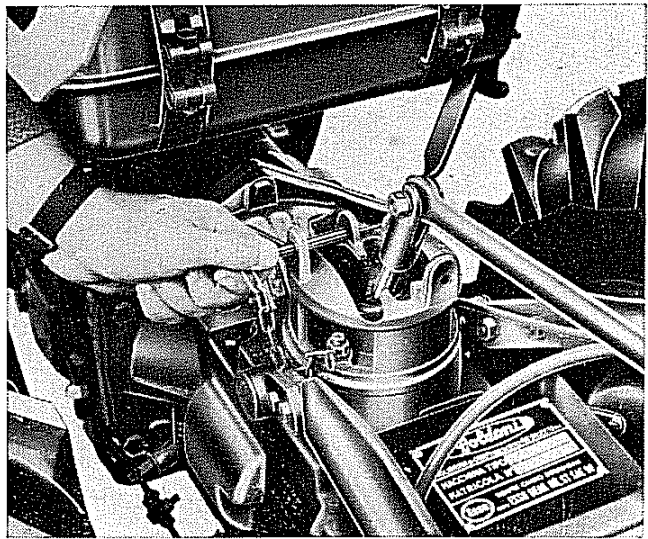


Fig. 5 - Anti RM1 Device

When the motor cultivator is used with a trailer, a seat or its rear unit, the fast reverse gear (RM2) may be used freely by removing anti-fast-reverse-gear pin (Fig. 4).

When operating the motor cultivator on hilly or mountainous ground, engage anti RM1 device (Fig. 5). This will prevent engaging said reverse gear should you push in stick too much while looking for 1st gear.

LOCKING DIFFERENTIAL

The differential provides a slow and dependable drive and a full machine performance.

The differential should be locked when going over slippery ground, when one wheel slips, or when doing a rotavating job and a constant course is required.

Differential is locked by operating control lever 4 on left handle bar as shown in Fig. 6.

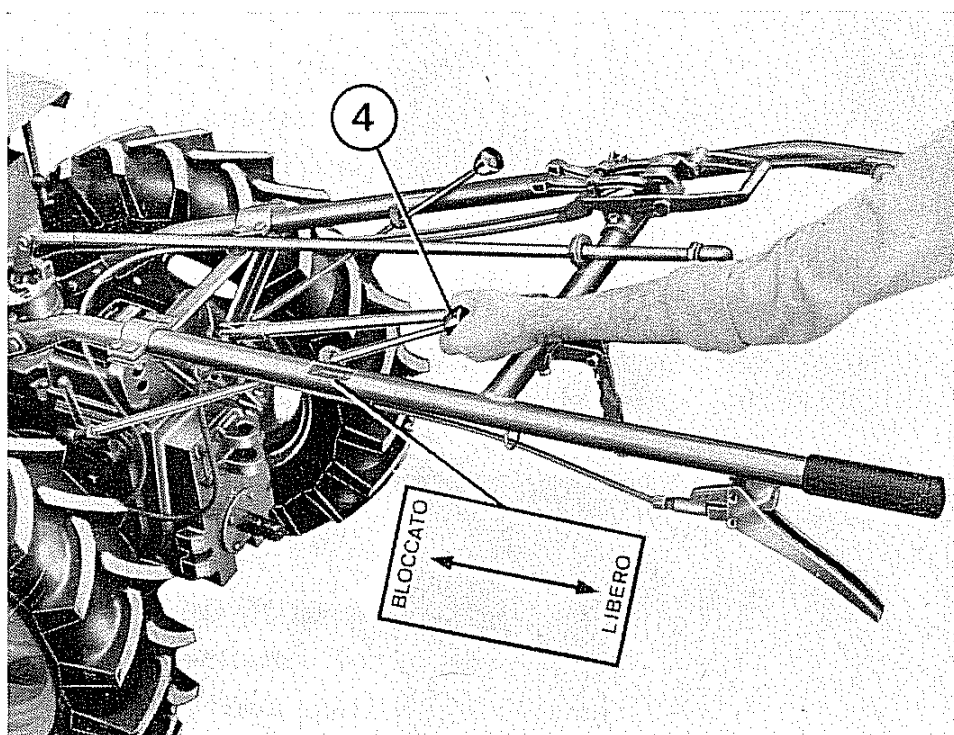


Fig. 6 - Locking the Differential

Differential can be locked (bloccato) or unlocked (libero) without throwing out clutch and without stopping machine. However, if one wheel should slip, it would be better to stop the slipping wheel by throwing out clutch, thus preventing any possible damage to locking system.

POWER TAKE OFF

The Goldoni « Export » Motor Cultivator has 2 transmission-independent power take offs for driving rotating tools (rotavators, pumps, disc saws and others).

Release clutch (lever 1), then move lever 7 on right handle bar according to following Figs. 7 and 8:

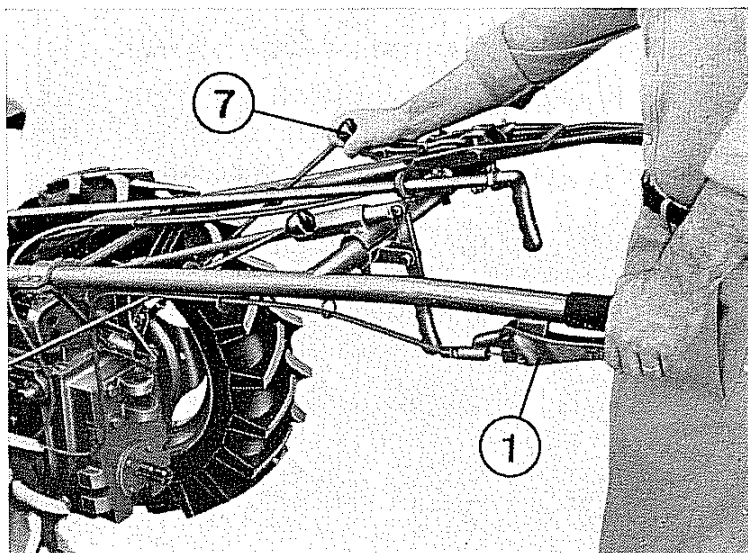


Fig. 7 - Connecting P.T.O.

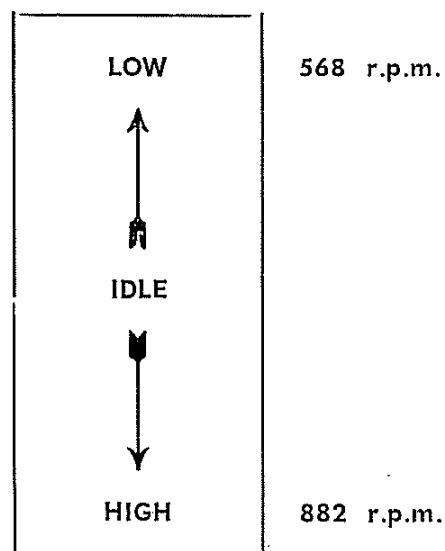


Fig. 8 - P.T.O. Speed Diagram

To have the above speeds, lever 13 on crankcase (controlling power take off synchronization) must always be in position « N » (Fig. 9).

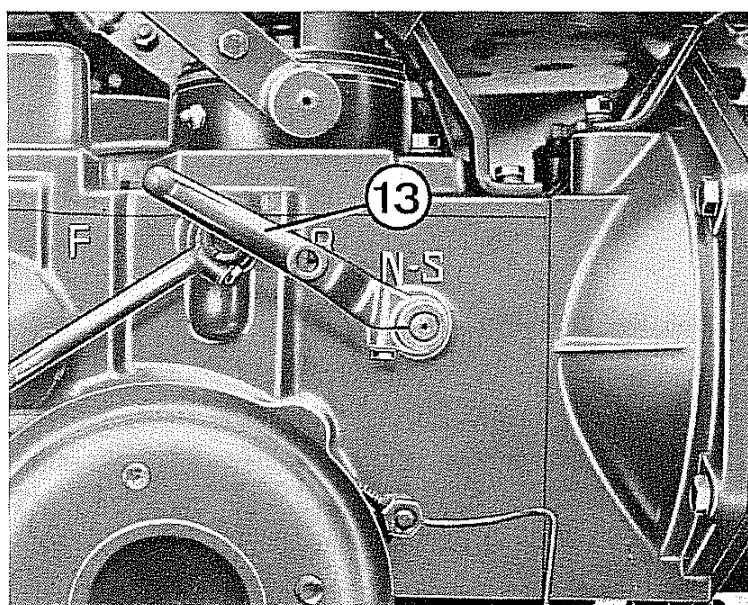
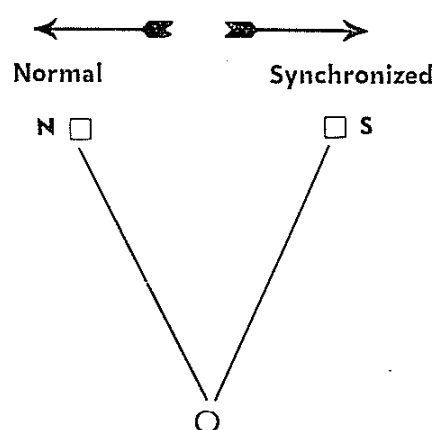


Fig. 9 - Normal or Synchronized Power Take Off Control Lever



POWER TAKE OFF SYNCHRONIZATION:

The power take off can be synchronized with all gears (including reverse gears) when coupling the motor cultivator to trailer with driving wheels.

This synchronizing operation is done by bringing lever 13 (Fig. 9) to position « S » on crankcase, after releasing clutch.

After this operation, you can also have the LOW p.t.o speeds and FAST p.t.o. speeds by operating control lever 7.

To have again normal p.t.o. speeds, lever 13 must be brought back to position « N ».

Important: The synchronized p.t.o. should be used only when operating a trailer with driving wheels. In any other case, lever 13 shall always be on position « N ».

When using Goldoni trailers with driving wheels, after synchronizing p.t.o. « S » always use it at a low speed.

N.B. - The power take off rotates counterclockwise. Therefore, if a clockwise rotation is necessary for driving special tools, the motor cultivator can be fitted with a special Goldoni reverse gear. The p.t.o. revolutions would remain constant.

The p.t.o. has a Type 26 UNI 220 profile but a sleeve with a standardized joint for tractors can be installed on the same p.t.o..

POWER TAKE OFF AUTOMATIC RELEASE PROVISION IN SLOW REVERSE (RM1)

When the motor cultivator is used with a rotavator and with the operator following the machine, **use the slow reverse gear (RM1)**. So, slip in the anti-fast-reverse-gear (RM2) pin.

To prevent accidents, the Goldoni EXPORT Motor Cultivator has a special device (required by law) **for the automatic p.t.o. release in slow reverse gear (RM1)**.

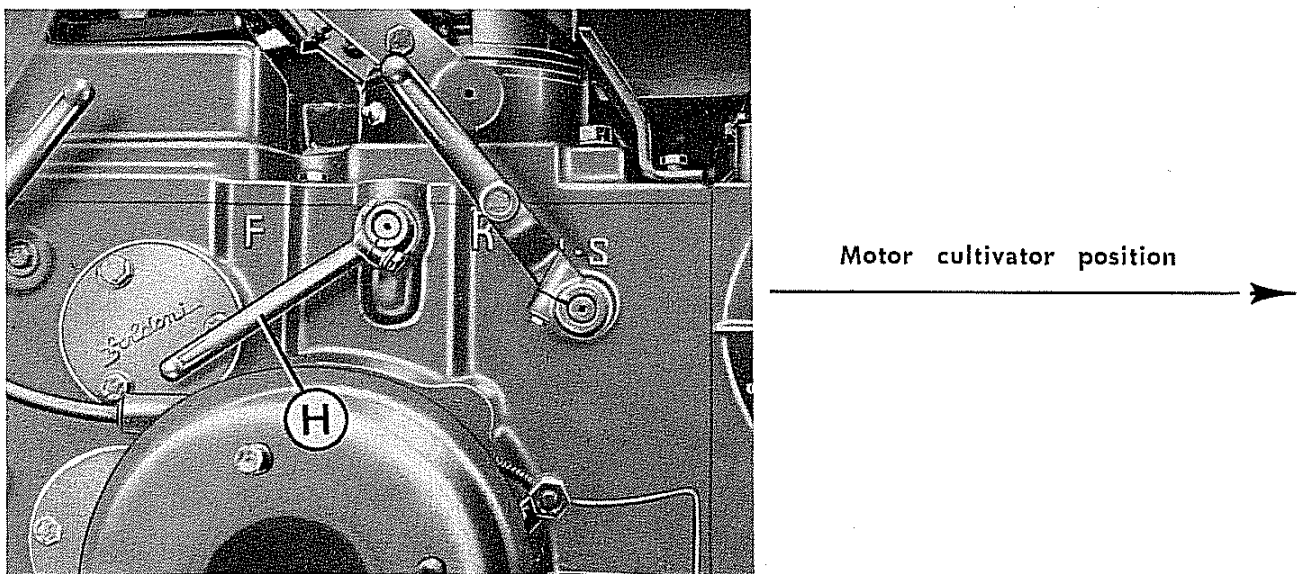


Fig. 10 - Control Lever for Automatic P.T.O. Release in Slow Reverse Gear (RM1)

The release, as shown in Fig. 10, is actuated from the outside through lever « H » which has two positions:

Lever H in position « F » = Automatic release « In »

Lever H in position « R » = Automatic release « Out »

Therefore, when the operator follows the motor cultivator the automatic release device must be « In » (Lever H in position « F »), whereas when the motor cultivator is coupled to a trailer with driving wheels the release device should be « Out » (Lever H in position « R »).

BRAKES

The Goldoni EXPORT Motor Cultivator has a mechanical braking device on both wheels.

The controls are independent for each wheel and they can be operated to facilitate steering the machine one way or the other, especially when doing a ground breaking job (Figs. 11 and 12).

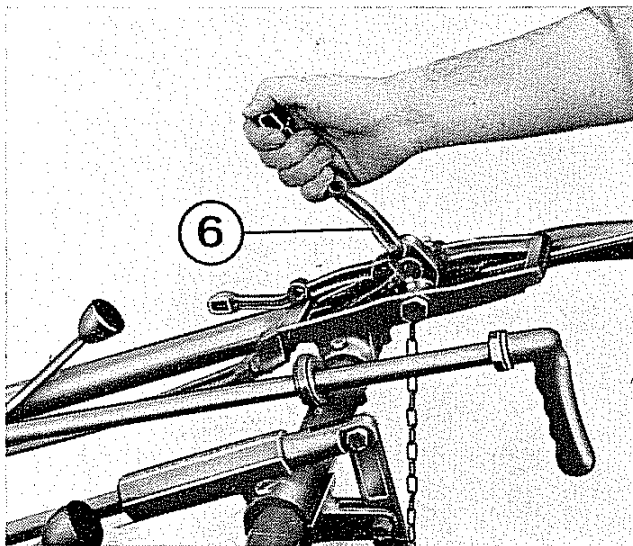


Fig. 11 - Braking Left Wheel

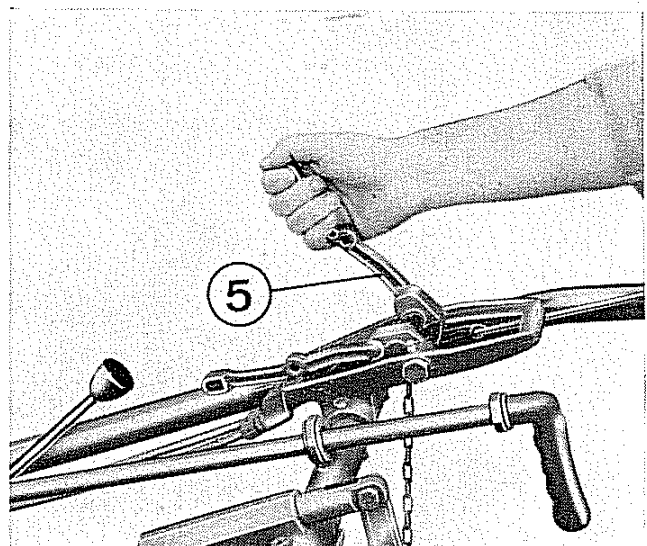


Fig. 12 - Braking Right Wheel

By locking one of the two levers the machine pivots on the braked wheel.

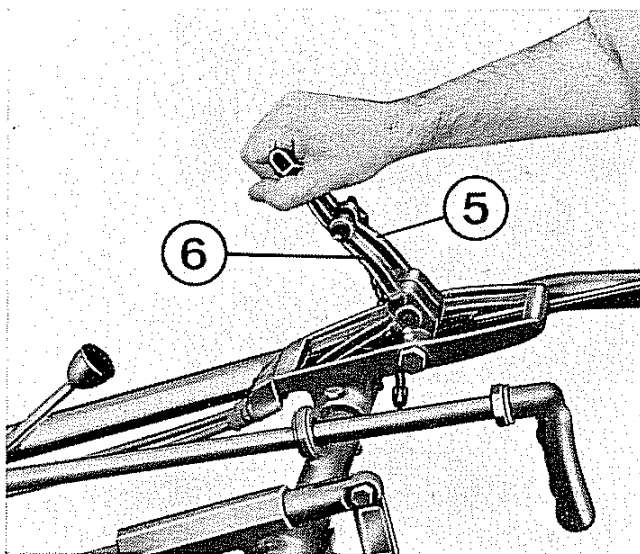


Fig. 13 - Complete Braking

IMPORTANT: When driving the machine on the road, the two levers must be held together with a cotter pin in order to have complete braking (Fig. 13). This will prevent braking one wheel and any danger of going off the road.

HANDLE BARS

They can be set in height and sideways with 7 different positions depending on the job requirements.

This means that the operator will not have to walk on the rotavated ground or damage the surrounding vegetation.

The handle bars can be shifted through lever 2 (Fig. 14).

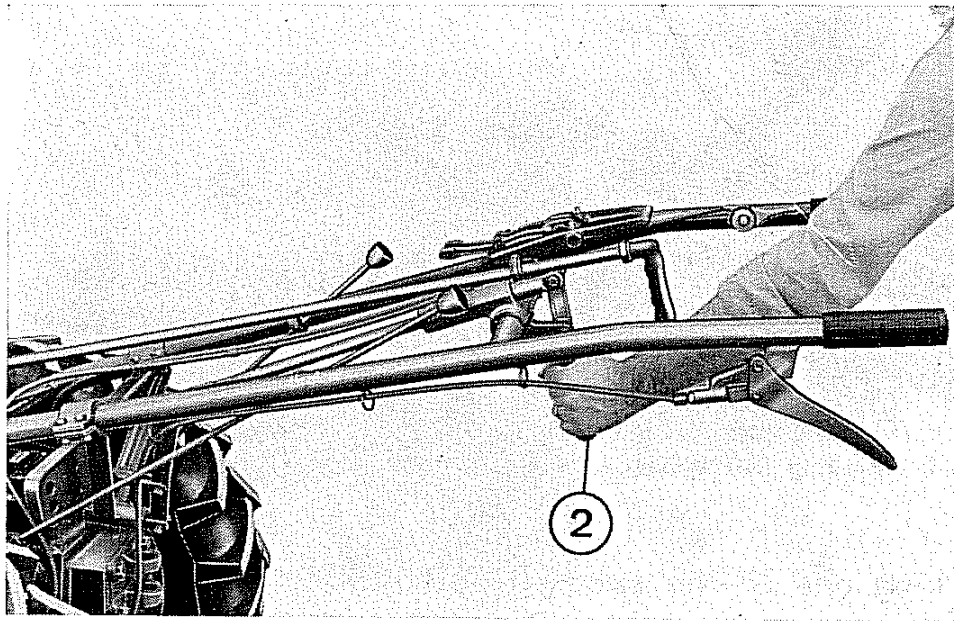


Fig. 14 - Positioning the Handle Bars

MAINTENANCE - CLEANING - LUBRICATION

ENGINE: See engine shop manual.

MOTOR CULTIVATOR: Every time the cultivator is used on dusty or muddy ground, it should be cleaned thoroughly. It can be completely washed with water with no risk of damage to any part.

After each washing, lubricate with a few drops of oil all rods, joints, cable guides and external supports.

With a grease gun grease all greasing points (punti d'ingrassaggio) (Fig. 1 and 15).

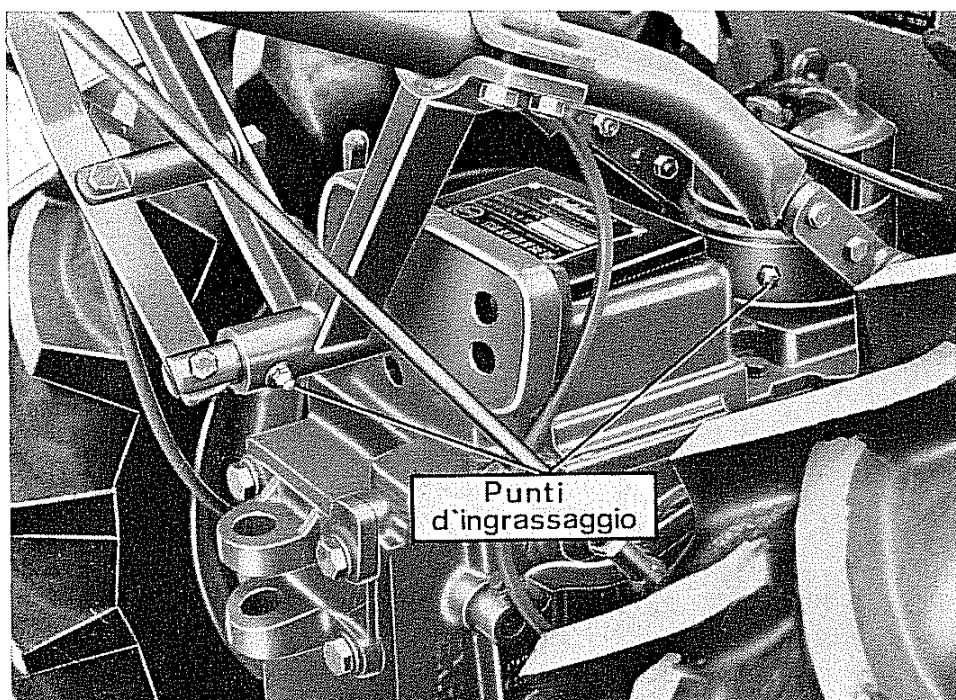


Fig. 15 - Greasing Points

OIL CHANGE

First oil change must be made after approximately **50-60** working hours, so as to remove all impurities due to moving parts matching. Thereafter, change oil about every **1000** working hours.

GEAR BOX OIL CHANGE AND OIL LEVEL

Oil change must be made when engine is hot. Old oil will come out from drain holes located on gear box side (Drain plugs A and B in Fig. 16).

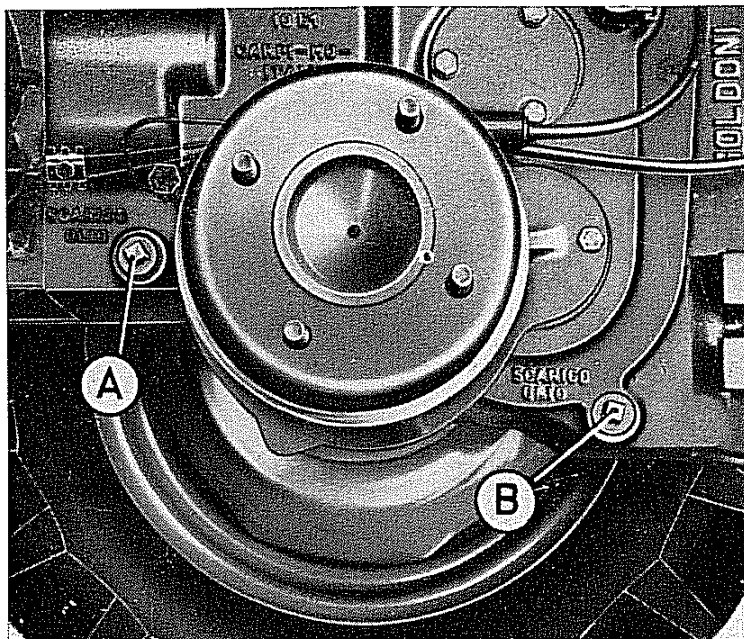


Fig. 16 - Gear Box Drain Holes

After fully draining used oil, put in through filling point C (Fig. 17) located on gear box upper part 6 Kgs. of fresh ESSO GEAR OIL CZ 90.

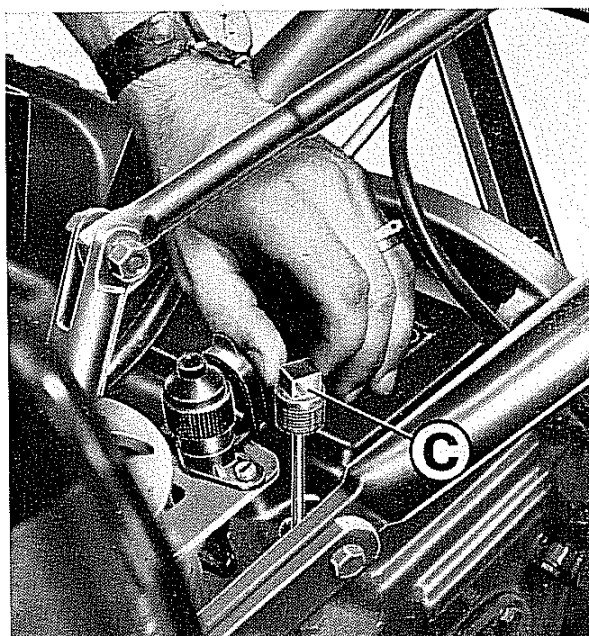


Fig. 17 - Filler Cap and Oil Level

Check oil level with dipstick filler cap after oil change and periodically.

ELECTRICAL SYSTEM

HEAD LIGHTS

It would be a good rule to remember that the head light bulbs should never be replaced with more powerful bulbs as this would alter the power equilibrium between generator and battery.

SAFETY FUSES

The electrical system safety fuses are enclosed in a box mounted behind the instrument board.

When replacing burned out fuses, install fuses not over 8 Amperes.

Always investigate and eliminate short circuit cause before replacing fuse.

BATTERY

Check battery level (Fig. 18) every week and add distilled water if necessary.

This operation should be done with engine still, battery cold and tractor standing on level ground.

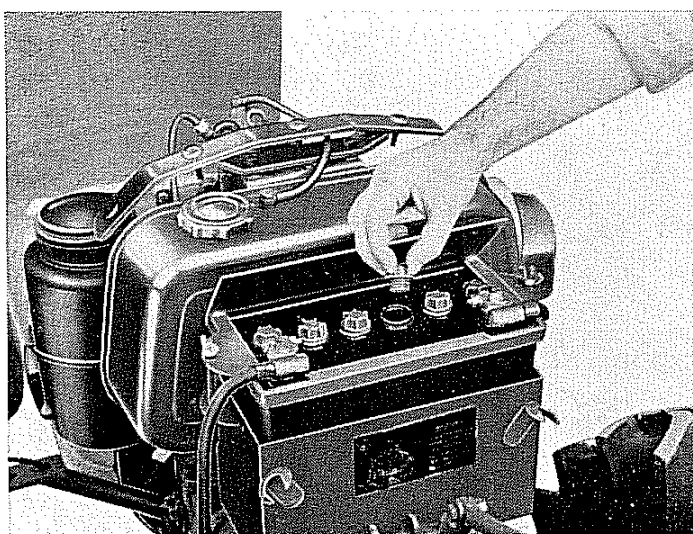


Fig. 18 - Checking Battery Level

Advice to User:

Battery will remain in good working condition only by following these rules:

- 1 - Keep it clean, especially on top part. If necessary, clean it with pure water and dry it with clean cloth.
- 2 - When battery level is low, restore level only with distilled water.
- 3 - Check that cable terminals are fastened to battery poles.
- 4 - Always use a wrench when loosening or tightening terminal bolts. Never use pliers.
- 5 - If battery frequently uses up more distilled water than expected, have it checked by a qualified Electrical Service Station.
- 6 - Never allow battery to discharge completely.

N.B. - Should the machine stay idle for more than two months, restore battery level to prevent possible sulphation, that is, the formation of a stable lead sulphate layer on the plates of battery elements.

This condition would make recharging impossible, therefore putting battery out of order.

ATTACHMENTS

To make our motor cultivator versatile to diversified farming jobs, we have developed several attachments. Following is a list of tools mostly used:

For ground breaking jobs (rotavating), the motor cultivator can be fitted with Rotavator Type 28 (Fig. 19) having a working width ranging from 67 cm. to 82 cm. up to a maximum of 100 cm.

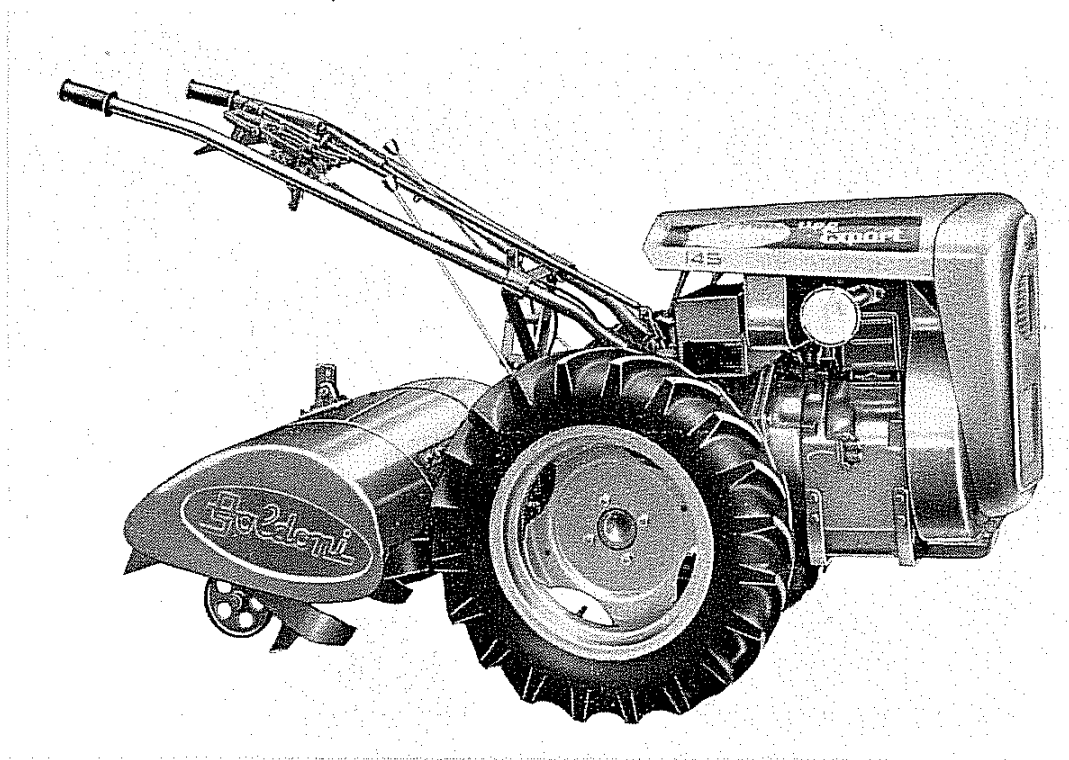


Fig. 19

A lister (Fig. 20) can be attached behind the Type 28 Rotavator for pushing the soil on the sides of the two rows of cultivated plants.

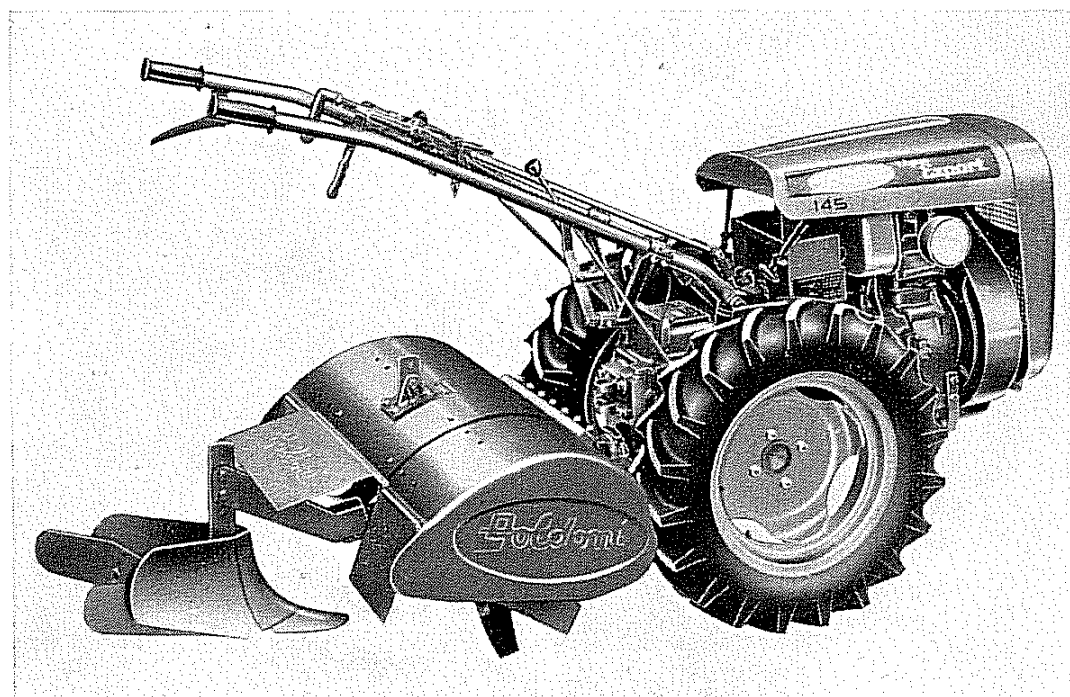


Fig. 20

Beet Rotavator Type 26 (Fig. 21) is perfectly suitable for loosening the soil between sown rows 40/50 cm. wide, the rotavator being adjustable.

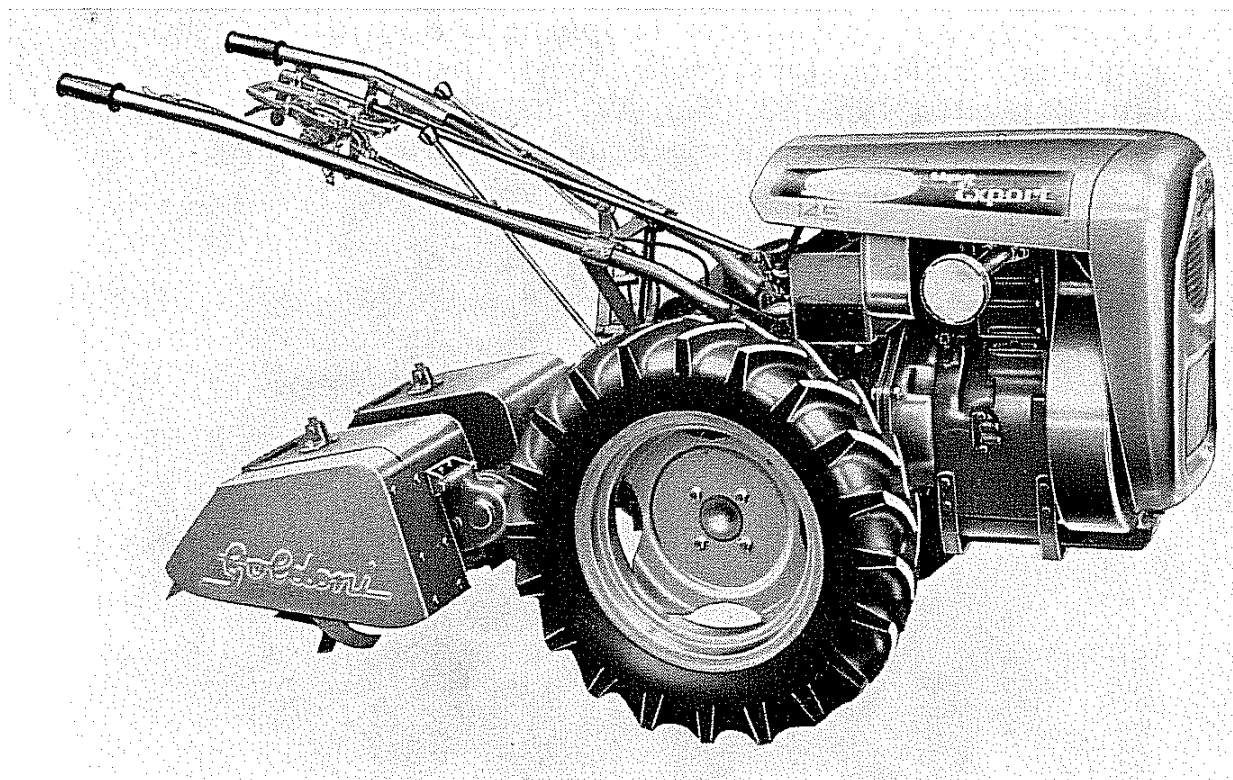


Fig. 21

A one-wheel driver's seat can be installed on the motor cultivator with the rotavator already mounted (Fig. 22). Driving the machine on the road will be very comfortable.

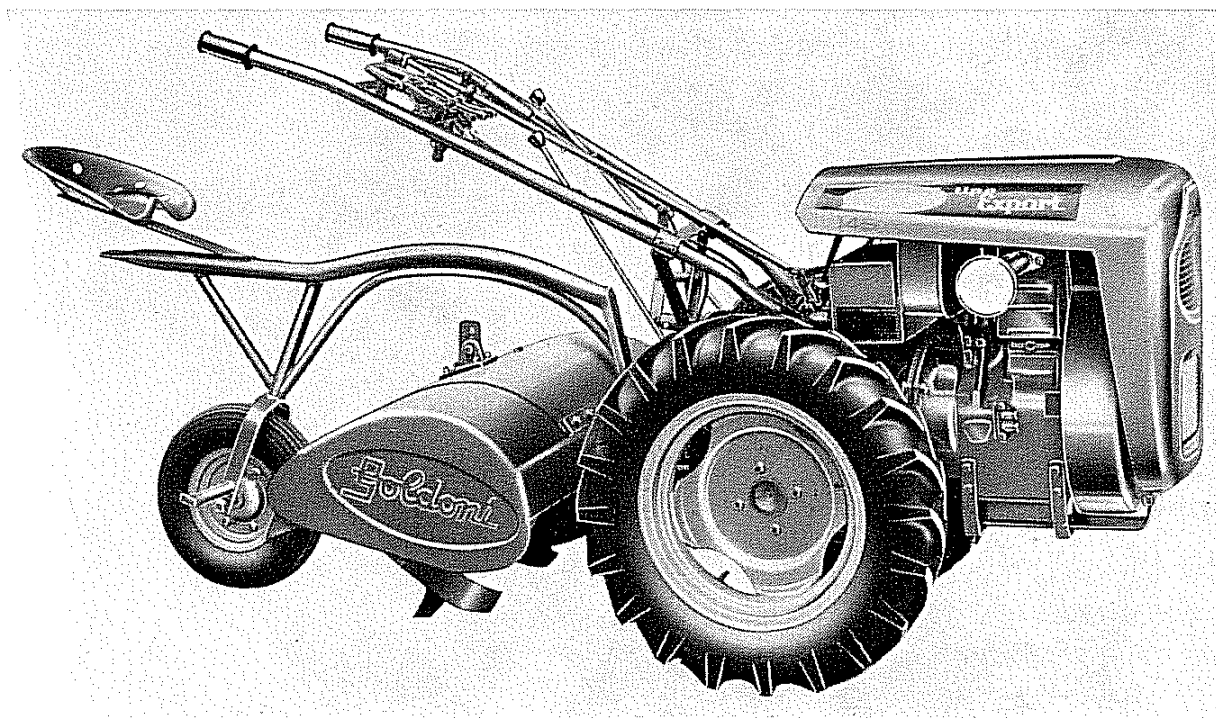


Fig. 22

GOLDONI «EXPORT» MOTOR CULTIVATOR

By coupling the motor cultivator to the 2-wheel drive Model C30 Tractor you can create the Export Farm Motor Trailer with handle bars.

Trailer Model C30 has the following characteristics: Back tipping - back p.t.o. - 6.00-16 tires - 1300 Kg. load capacity - mechanical pedal control brakes - 1.85 x 1.40 m. platform.

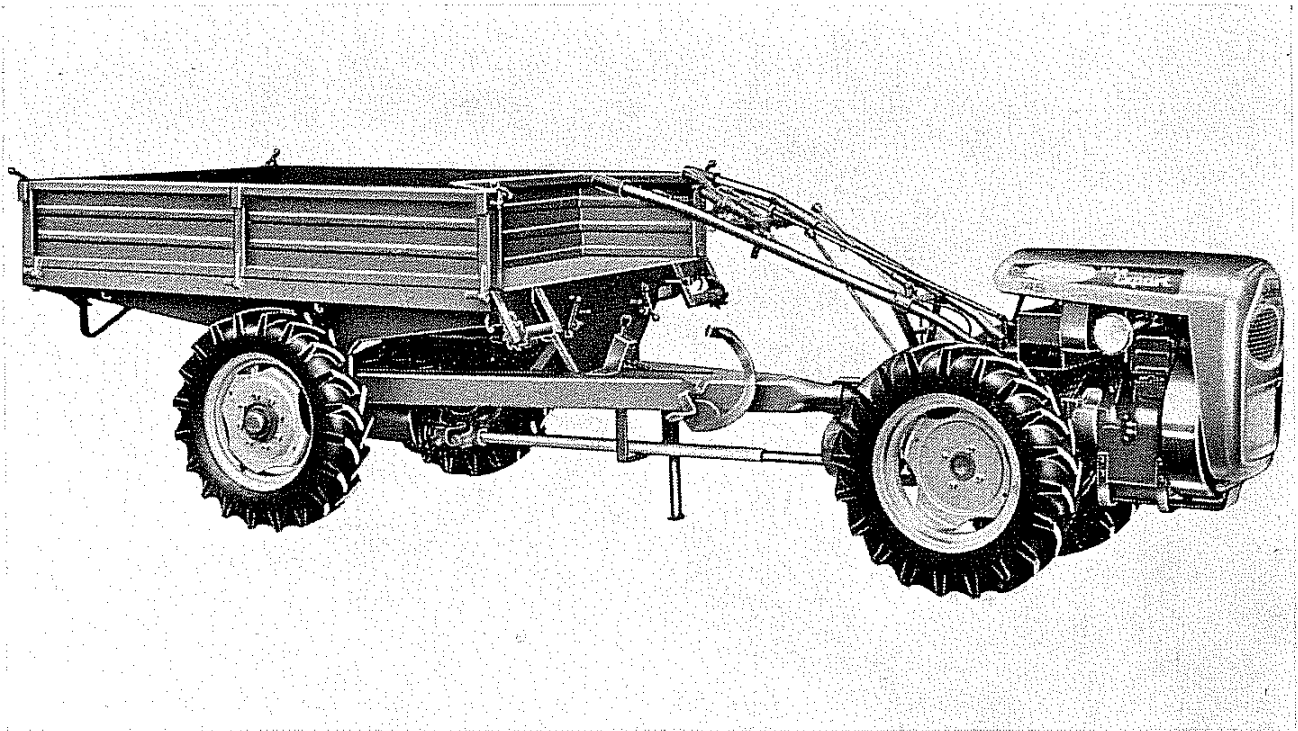


Fig. 23

The motor cultivator can also be equipped with the plain Model C27 Trailer having the following characteristics: 6.00-16 tires - 1400 Kg. capacity - mechanical pedal control brakes - 1.85 x 1.40 m. platform.

Small Model C65 Trailer can be hitched to the motor cultivator towing hook even if the rotavator is already mounted on the cultivator.

By coupling the motor cultivator to the Model C20 Trailer with driving wheels (our special steering unit will be required for this job), you can create the Export Farm Motor Trailer with steering wheel (Fig. 24).

Model C20 Trailer has the following characteristics: Back tipping - back p.t.o. - 6.00-16 tires - 1600 Kg. loading capacity - mechanical pedal control brakes - 2.14 x 1.50 m. platform.

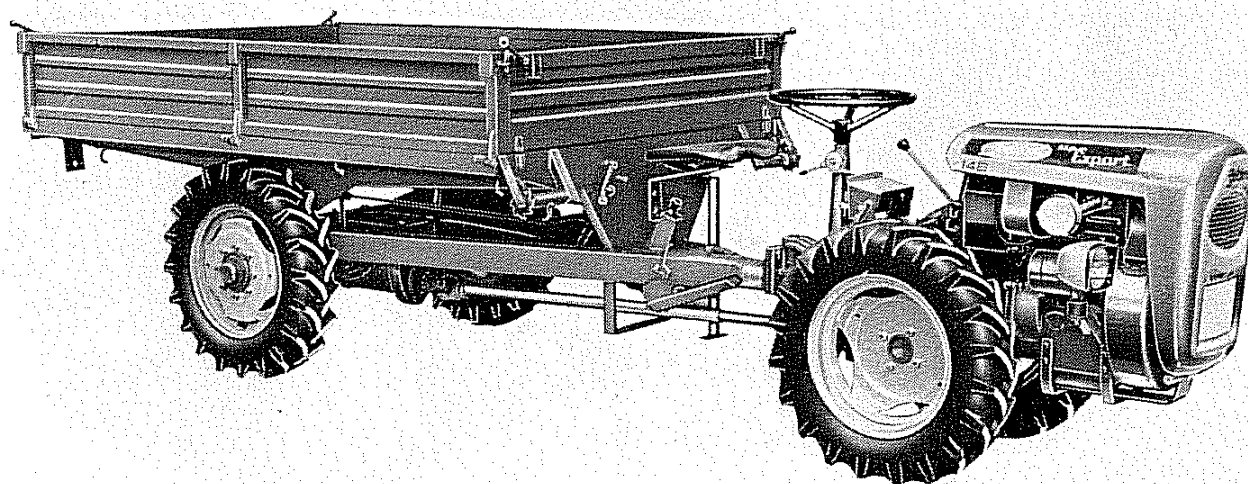


Fig. 24

Different types of simple and multi-stage centrifugal pumps can be installed on the motor cultivator for land irrigation (Fig. 25).

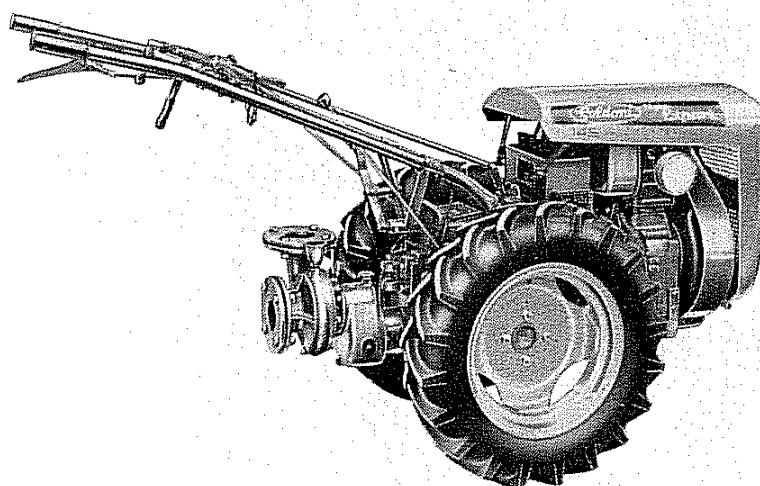


Fig. 25

GOLDONI «EXPORT» MOTOR CULTIVATOR

A special spraying unit can be attached to the motor cultivator for spraying vineyards and orchards (Fig. 26).

The unit consists of:

- 1 - Flanged spraying pump (Series AR20 - 20 Atm. - 20 liters)
(Series Duplex - 40 Atm. - 40 liters)
(Series AR75 - 50 Atm. - 75 liters)
- 2 - 400-liter fiber glass container (or 200-liter container) mounted on two wheels - tubes and filters.
- 3 - Adjustable two-arch spraying bar with 3 directional jets for each arch.

For weed killing spray jobs it is only necessary to replace the spraying rod with a special 6-meter triple-hinged rod complete with jets.

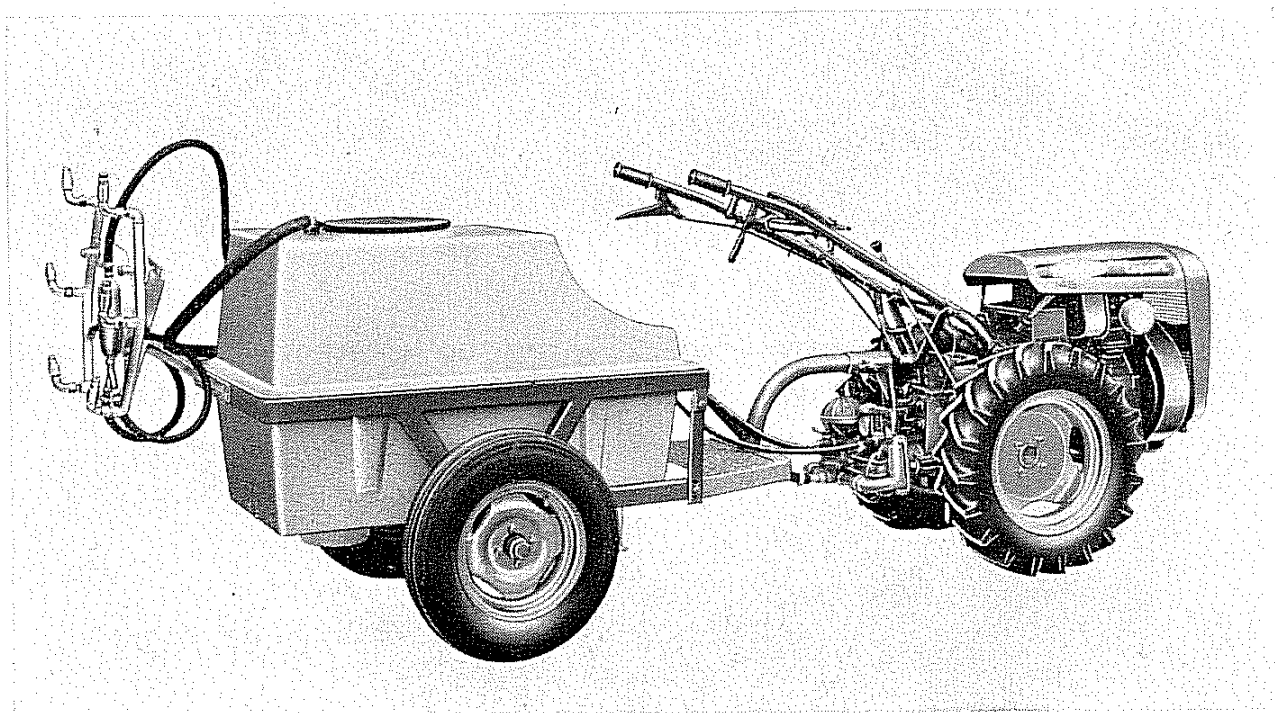


Fig. 26

The motor cultivator can be coupled to Model Universal/S side mower (Fig. 27) complete with a 2-wheel carriage and a 122 cm. mowing bar.

Model Universal/V has same characteristics. It only needs the special steering unit which we supply.

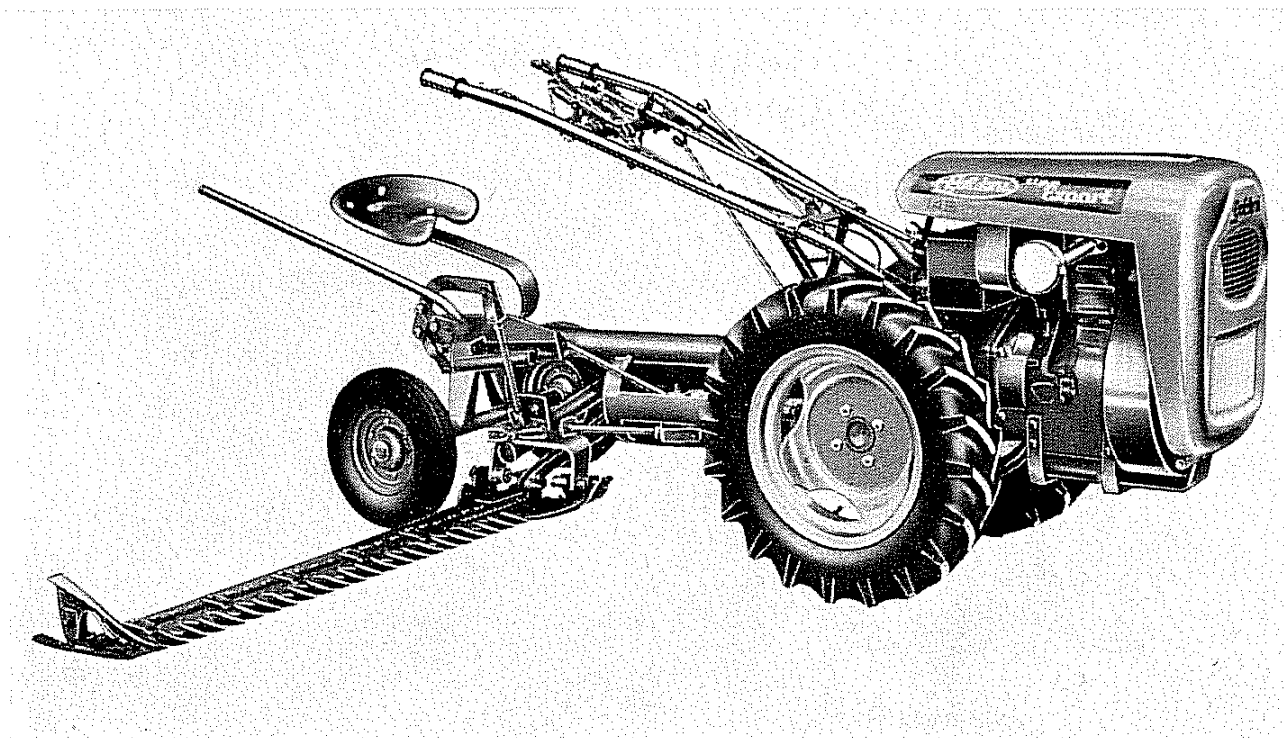


Fig. 27

A 450-mm.-dia. disc saw (Fig. 28) can be attached to the motor cultivator for wood cutting jobs.

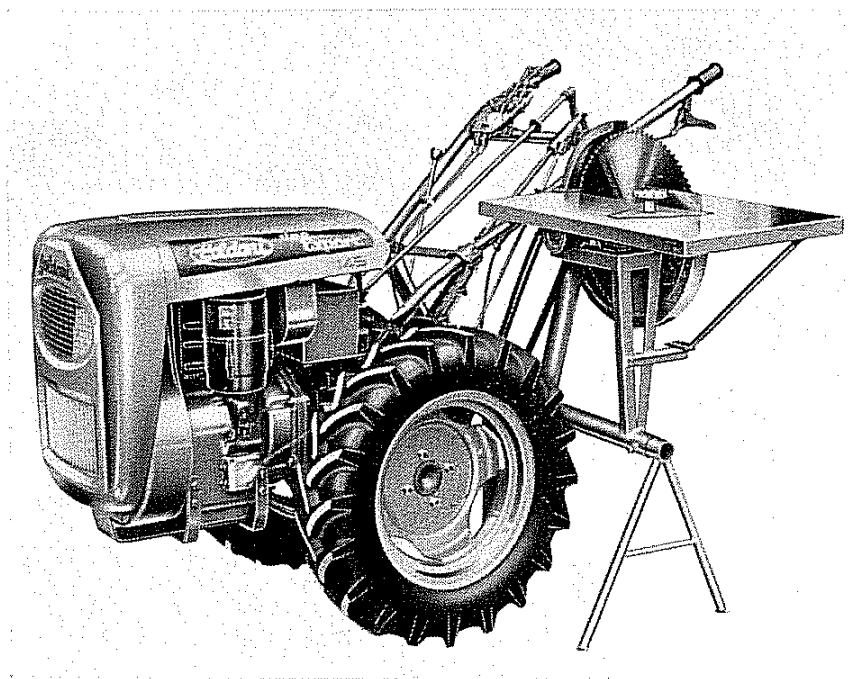


Fig. 28

GOLDONI «EXPORT» MOTOR CULTIVATOR

With special tool carrier P7 different types of plows and listers can be mounted on the motor cultivator Fig. 29 shows a single-furrow type plow and Fig. 30 shows a 180° swivel-type plow.

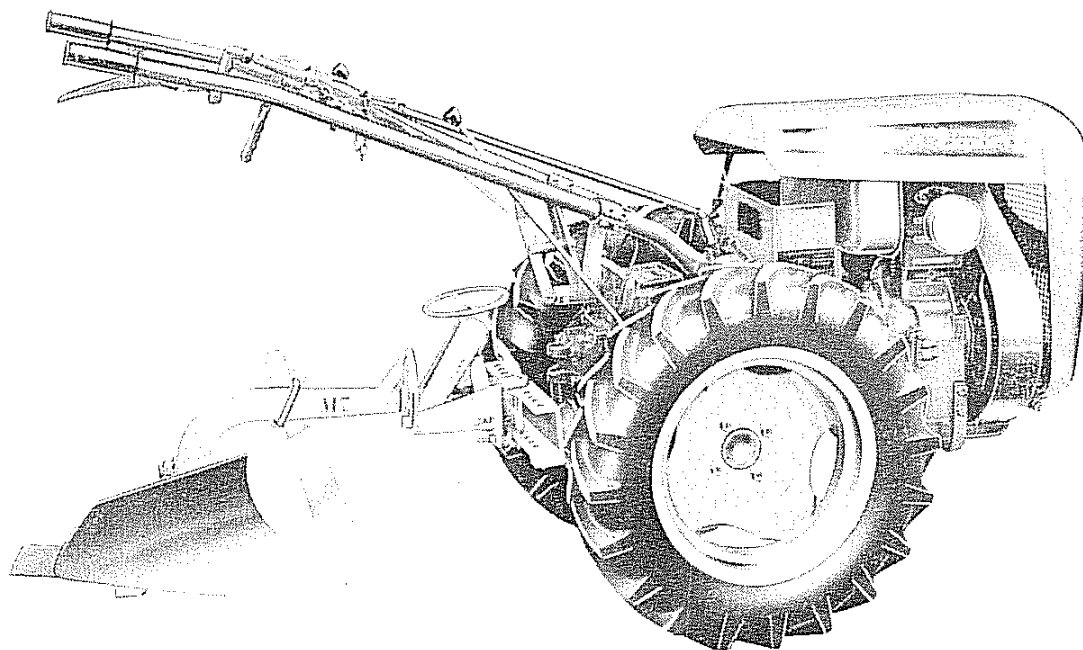


Fig. 29

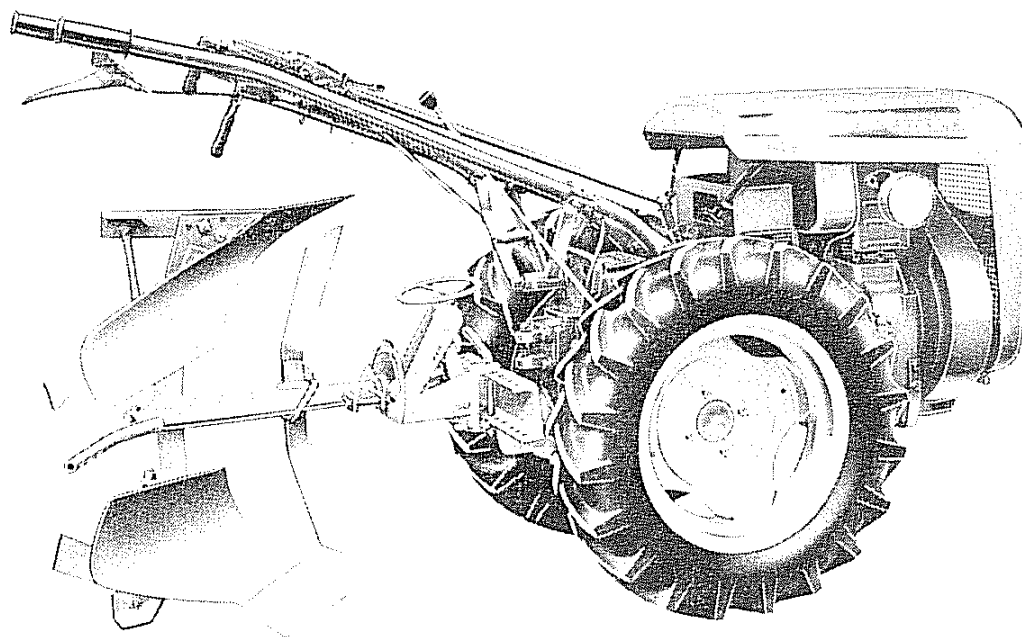


Fig. 30

By coupling a back driving unit to the motor cultivator (this job requires the special steering unit supplied by us) the whole thing turns into a tractor (Fig. 31).

The back driving unit has the following characteristics: Incorporated hydraulic lift - 2 p.t.o. with independent speeds and 6 speeds synchronized with all motor cultivator gear box speeds - mechanical pedal control brakes.

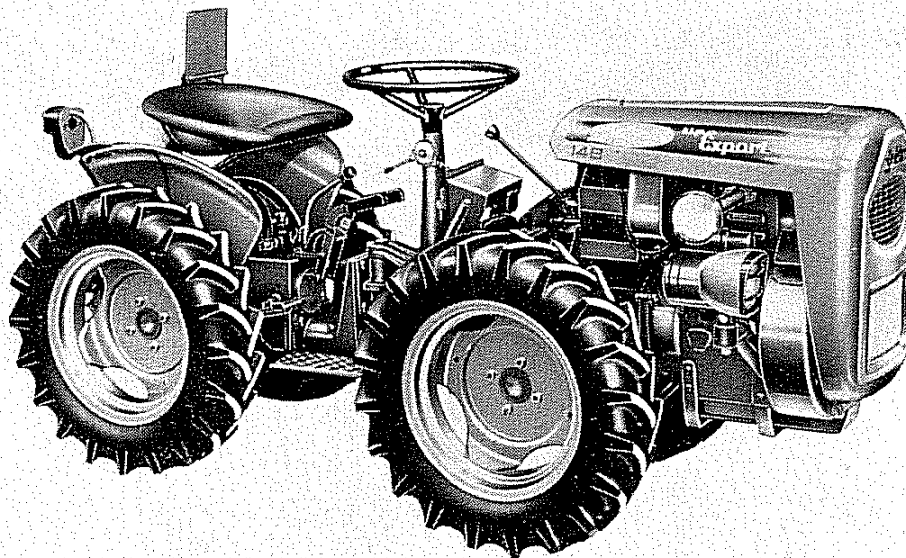


Fig. 31

By coupling a plain rear driving unit (this job requires the special steering unit supplied by us) to the motor cultivator, you have the EXPORT 2-wheel drive tractor (Fig. 32).

The plain rear driving unit has the following characteristics: Power lift - fixed towing hook - back p.t.o. connected to motor cultivator p.t.o through universal joint.

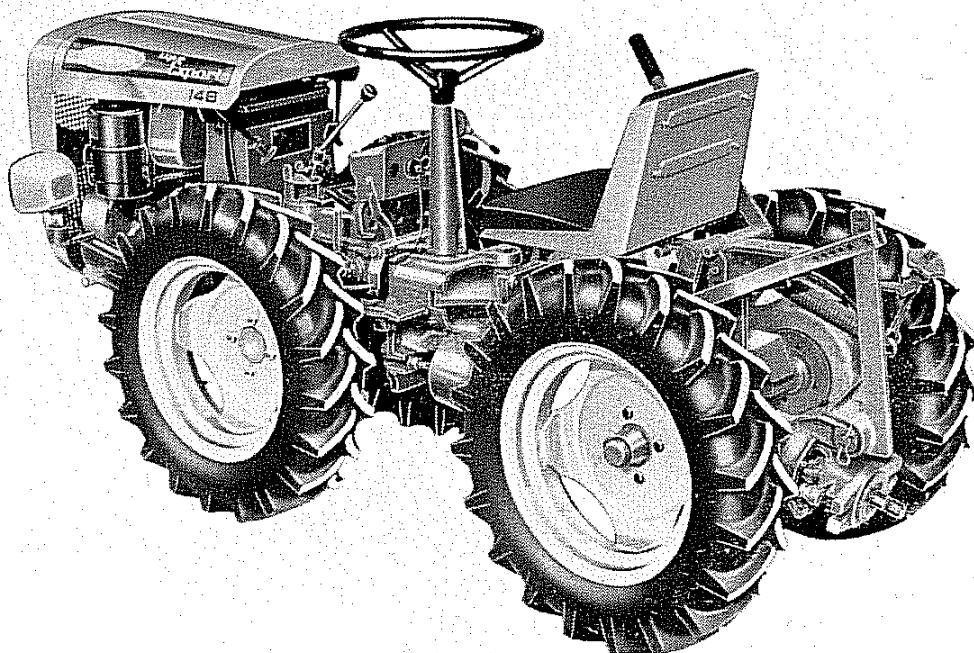


Fig. 32

GOLDONI «EXPORT» MOTOR CULTIVATOR

SPARE PARTS

TIME PERIOD COVERING WARRANTED SPARE PARTS:

ENGINE: Terms and conditions set by manufacturer.

MOTOR CULTIVATOR: Time period set by our Warranty.

Definition: Warranty means the replacement of those parts recognized by our Technical Department to be faulty in manufacture.

N.B. - Electrical parts (battery , electrical bulbs, head and tail lights, etc.) installed on motor cultivator are not covered by our Warranty.

HOW TO ORDER:

When asking our Sales Offices for technical information or for spare parts, always specify:

- 1 - Motor Cultivator Model or Type.
- 2 - Motor Cultivator Serial Number

Example:

— EXPORT « XH », No. 20100 —

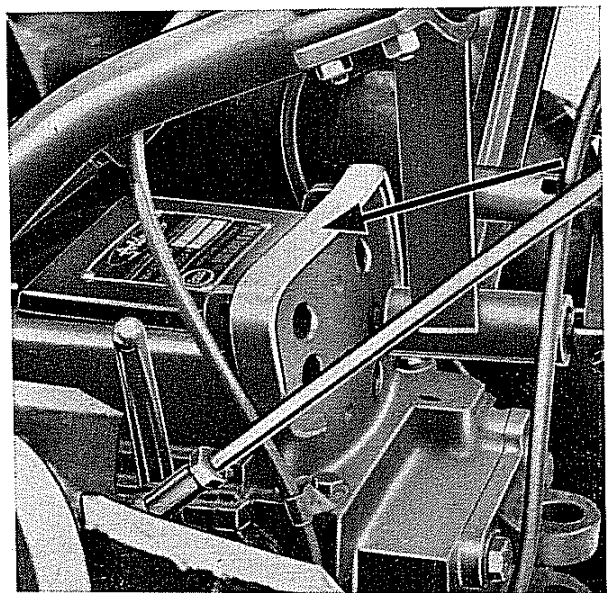


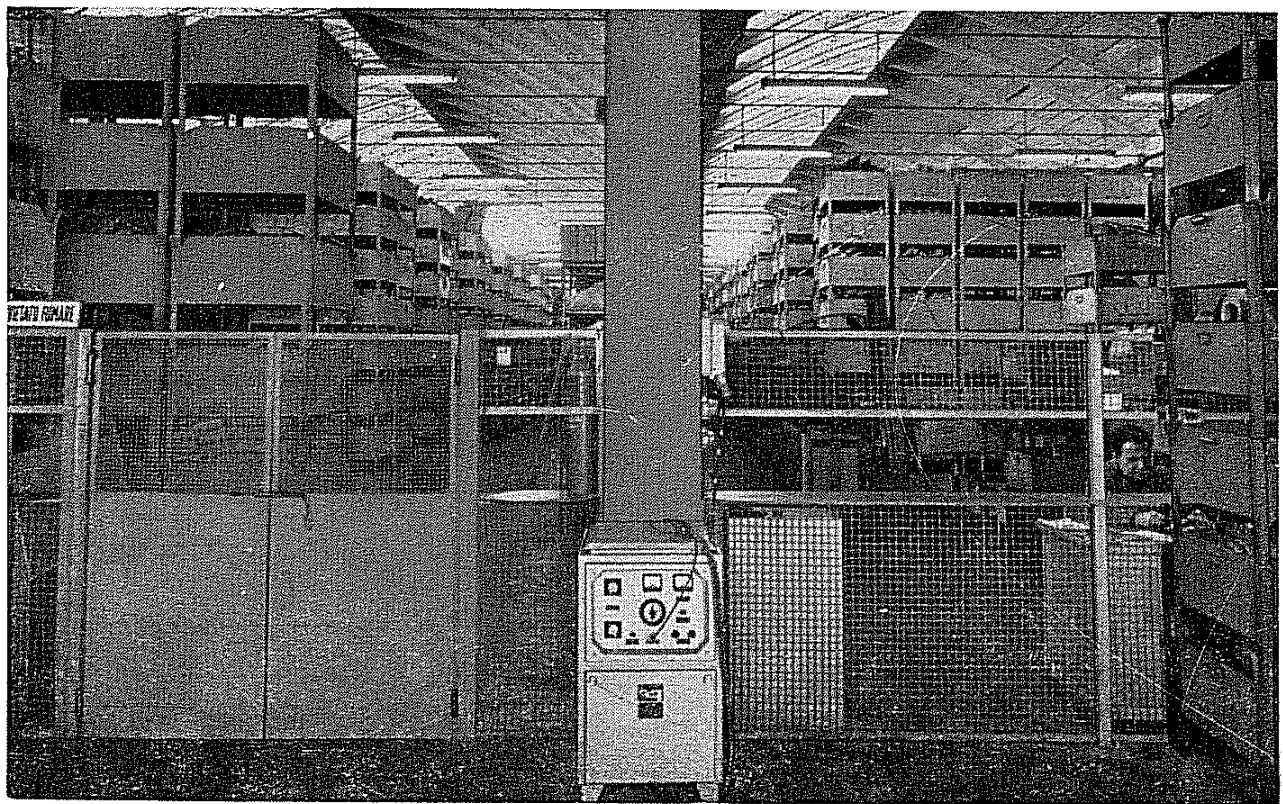
Fig. 33 - Identifying Motor Cultivator Model and Serial Number.

N.B. - Motor Cultivator Model and Serial Number are printed on metal plate shown by arrow in Fig. 33.

Greater savings will not be obtained by postponing the replacement of a damaged or worn part, but by replacing it with a new one at the right time.



Assembly Line



Tool Machine Department

GOLDONI «EXPORT» MOTOR CULTIVATOR
