

Dear Customer,

Thanking and congratulations on choosing our machine.

This manual was thought for you in order to answer any request during the use of machine. We recommend reading the instruction very carefully before the use of the machine, as it will provide you with all the instructions you require to ensure its right use and maintenance and the feature of machines.

There are also further information on people and machinery safety.

We are sure that this manual allow to use the machine in the best way, so you could confirm your choose.

We have written very carefully this manual, but it's possible that you find some mistakes.

In this case we invite you to communicate with us, so we can improve our product quality and customer service.

Your faithfully
De Masi Costruzioni S.r.l.

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Introduction

This manual contains the instructions, the features and the technical information necessary for the correct use, the knowledge and the maintenance of the machines, both on basic version and on strengthened ones.

This instruction manual doesn't give a complete description of the parts, but you can find the necessary information how to use the machine and how to preserve some of its parts.

These instructions are referred to a normal use of the machines however it can change if they are used under different conditions. Following this instruction book you will obtain a very good performance of the machine.

In case of an incorrect use of the machines the De Masi warranty will become void.

For more complex repairs and revisions, it is necessary contact to De Masi Service Agent who have qualified personnel to assist you and ensure immediate and accurate technical support to obtain an efficient machine use.

The De Masi Costruzioni Service Agent is at your service to assure a ready and accurate technical support to guarantee a good machine performance.

You can find the engine features on its own handbook enclosed in this manual.

The De Masi Costruzioni s.r.l. reserve the right to make change on the machine without adjourning this publication. These descriptions, illustrations and data have the only purpose to indicate.

Moreover, the De Masi Costruzioni s.r.l. declines every responsibility for some possible mistakes for clerical error or misprint.

To have the maximum of duration and good working machine guarantee is necessary to use exclusively Original Spares Partes.

De Masi Costruzioni Srl

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DATE OF THE MACHINE

Type Serial number..... Year of manufacture.....

PRELIMINARY INFORMATION

The manual describes both the basic machine and the strengthened one. The only difference between the two machines depend on the attachments put on them. In the manual the difference is underlined with explicit references; when there isn't any explicit reference means that the information interest both the machines. This section includes general information about who is the machine address, which is the use of the machine, the operator and factory responsibilities, the routine and special maintenance formalities.

TARGET OF THE MANUAL

The manual has been prepared for the following professional figures:

- Agricultural operator, person who will use the machine;
- Mechanical operator, person authorized by the De Masi Costruzioni srl to make routine and/or special maintenance and/or reparations on the machine.

THE OPERATOR CHARACTERISTICS

Who use the machine, agricultural or mechanical operator, has to have the following requirements:

AGRICULTURAL OPERATOR

The agricultural operator must have the following characteristics in order to use the machine:

- Over 18 years old;
- To be a responsible person;
- To have good psycho-physic conditions;
- Don't be under the influence of alcohol or drugs that can alter the normal psycho-physic characteristics;
- Carefully read the manual;
- Know where the controls are and how the machine works;
- Become familiar with the joystick;

MECHANICAL OPERATOR

The mechanical operator must be authorized by the De Masi Costruzioni srl to make maintenance, reparation and/or substitution of possible parts of the machine, he must have the following characteristics:

- Over 18 years old;
- To be a responsible person;
- Carefully read the instruction's manual and the assistance manual;
- Must have qualifications, such as electro-mechanical to operate in complete autonomy, safety and seriousness on the machine;

The De Masi Constructions srl, by his Service Agent are at your service for a timely assistance.

USE

This is an agricultural operative machine that has been designed and realized only for an agricultural use. The machine function depends on the attachment put on it.

Never drive on the road with this vehicle.

EVERY OTHER USE IS FORBIDDEN. The De Masi Costruzioni s.r.l., therefore, declines all responsibility for an improper use of the machinery which can damage things or people.

An improper use of the machine also involves the decadence of the guarantee; for details on the decadence guarantee conditions see the specific paragraph.

DRIVING THE MACHINE

It isn't avoid to drive on the road with this vehicle, it must be transported with some suitable means. During his use a person must be seated on driving seat and it isn't avoid to carry on other people or animals.

RESPONSABILITY

The manual instructions, summarize, don't replace the legislation of the safety rules and accident prevention in force in the country where the machine is used.

The De Masi Costruzioni s.r.l. and the authorized concessionaires decline every responsibility for accidents to people or things that are verified for one of the followings conditions:

1. non-observance of the safety rules and accident prevention in force in the country where the machine is used.
2. non-observance of the safety rules and accident prevention described in the manual.
3. non-observance of the instructions and maintenance manual.
4. improper use of the machine.
5. use of the machine by personnel not qualified.
6. changes any parts of the machine without De Masi Costruzioni S.r.l authorization.
7. partial or total removal of the devices protection and of the transfers on the machine.
8. improper or wrong manoeuvres in the driving of the machine.
9. any extraneous condition to the normal and correct use of the machine.

FREE SERVICING

(you must service it between the first 100 hours using and however within the period of guarantee)

The free Service includes a series of maintenance and control operations to guarantee the good performance of the machine after the normal use of it.

In order to not loss the free service, it is advisable to book preventively in one of our concessionaire of your zone or in an authorized workshops.

CONDITIONS FOR THE FREE SERVICING

The essential conditions to preserve the right for the free service are the followings:

1. the free car service must be performed between the first 100 hours using the machine and however within the guarantee period, penalty the decadence of the same guarantee;
2. for free car service intend only the labour; you must pay the substitution of consumption materials as lubricants, oils, etc., and those subjects to the wear of time as gaskets, belts, etc.;
3. the reparation and/or substitution of defective parts is subject to the conditions of guarantee, as described in the specific paragraph;
4. the car service must be performed by the Concessionaire De Masi Costruzioni s.r.l. who has sold the machine or by its authorized workshops.

COUPON

(perform it by payment following the expiry in the instruction and maintenance manual)

The coupons booklet servicing are the regular and constant maintenance to perform on the machine to prevent possible damages caused by the carelessness and by the wear to guarantee the correct work of the machine.

The coupons booklet servicing must be performed by the Concessionaires authorized by De Masi Costruzioni s.r.l., that provide to advice the possible reparations and/or substitutions to the customer.

DELIVERY OF THE MACHINE

During the delivery, the authorized Concessionaire effects a general control of the machine that includes a series of control operations and verifications.

During the delivery, the concessionaire will furnish the following information to the client about the machine:

1. correct use of the machine;
2. safety conditions where operate;
3. technical feature of the machine;
4. coupons free;
5. payment services;
6. guarantee with relative conditions;
7. documentation of outfit of the machine, including:
 - Instruction and maintenance manual;
 - Guarantee certified;
 - Conformity certified;
 - Origin certified.

SIGNALS IN THE MANUAL

The signals present in this page are very important: they underline the points most important in the manual where you must stop and read carefully.

Each triangular signal has its own colour which represent a specific potential danger

The triangular signals are of three different colours:

CAUTION AND WARNING SIGN

The red triangle means that a potential hazard to your personal safety or a danger of machine and attachments damages could occur if procedures are executed incorrectly.



CAUTION SIGN

The yellow triangle means that a danger of attachment damages could occur if procedures are executed incorrectly.



INDICATION SIGN

The blue triangle means the basic safety for the maintenance.



**READ CAREFULLY THIS MANUAL BEFORE USING
THE MACHINE**

**The De Masi Costruzioni s.r.l. declines every responsibility for the miss compliance of the safety rules and accident prevention following described.
It declines every responsibility for damages caused by an improper use of the machine or by changes performed without authorization.**

MACHINE IDENTIFICATION

DEFINITION

The machines described on the manual are defined operative agricultural. To avoid errors of interpretation in the manual we intend for "Anterior" the part where put on the attachments and "Rear" the part where is the engine.



IDENTIFICATION PLATE OF THE MACHINE

The machine is countersigned by a summary plate where there is:

- MANUFACTURER NAME
- CE APPROVED
- MODEL
- TYPE
- SERIAL NUMBER
- YEAR OF MANUFACTURE
- WEIGHT (Kg)



Caution: the data on the identification plate must be copied in the space provided in the introduction page of this manual.

CHASSIS NUMBER

The chassis number is on the back part of the machine, has letters and numbers that identify every machine. The same number is stamped on the appropriate identification plate under the name serial number.



MOTOR SERIAL NUMBER

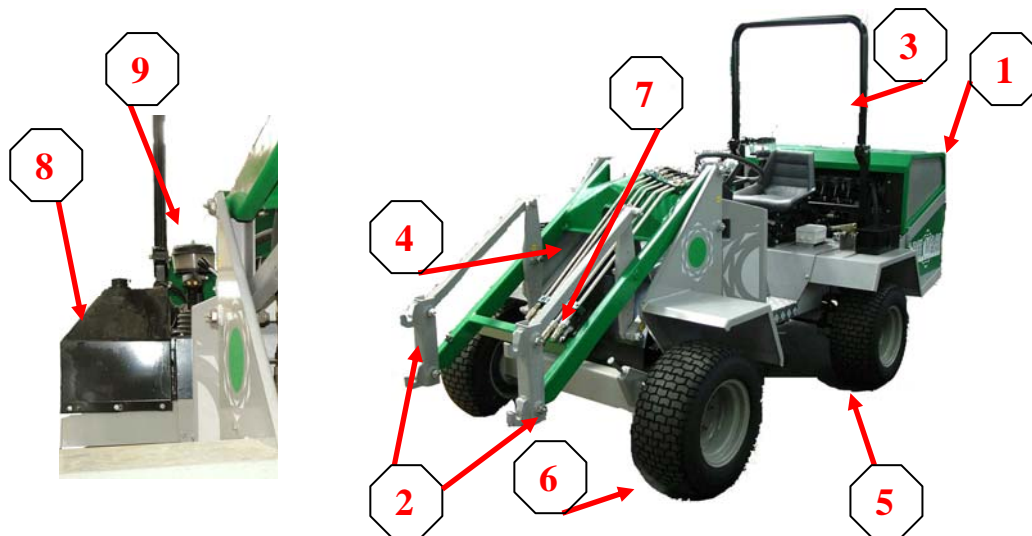
The engine serial number is stamped on the appropriate name plate (see the engine's manual)

IGNITION LOCK KEY

Each machine is equipped with two ignition lock keys.



MACHINE DESCRIPTION BASIC VERSION



GENERAL DESCRIPTION

1. Bonnet

The bonnet contains the engine and other components such as the radiator, the battery, etc. For the feature of each component see the specific paragraphs.

2. Hitch for attachment

In the picture there is the vehicle without any attachment, which can be interchangeable.

3. Roll bar

The roll bar (arc of protection) is overturning, its function is to protect the operator from possible dangers, delimiting the drive space. To lower the roll bar following the description:

1. remove the shear pin and withdraw the pivots;
2. pivot the roll bar 90° toward the bonnet;
3. reinsert the pivots in the holes and the locking pin.

To replace the roll bar in vertical position proceeding at the contrary.



4. Forklift

The machine is equipped with an anterior forklift with an hydraulic jack and four attachment points to hitch agricultural attachments which is inside the forklift group.

An hydraulic system which also supply oil to the auxiliary distributors by the hydraulics plugs. The circuit is fed by a gear pump that is moved directly by the engine.

- Swept volume: 14cm³/revolutions.
- Nominal capacity motor to 3000 revolutions /min: 42 dm³/min.
- Induction the oil from tank.
- Setting of the distributor 180 bar.

5. Rear wheels

The machine is equipped with two rear wheels. For wheels features see the tyres paragraph.

6. Front wheels

The machine is equipped with two front wheels. For the wheels features see the tyres paragraph.

7. Rapid docking

The rapid docking connect the different accessories hydraulic connection which are climbing on the machine.

8. Fuel tank

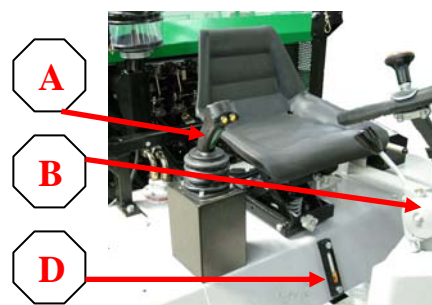
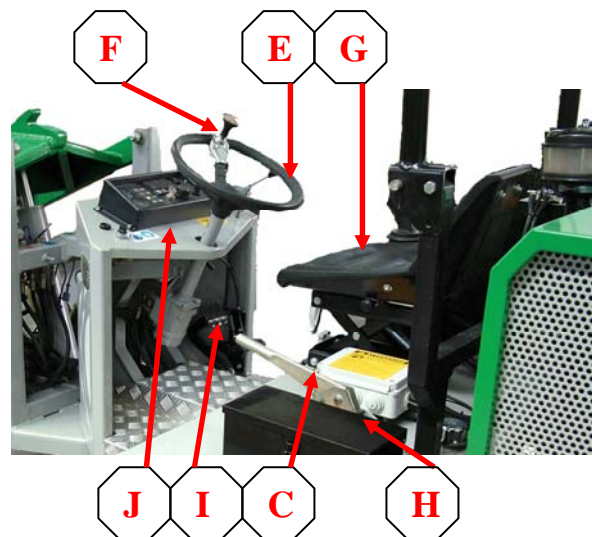
The fuel tank made of metal and situated on the right of the driving seat.

9. Air pre-filter

The air pre-filter is located behind the seat and it is connected to the air filter which is inside the bonnet. The air filter cartridge made of paper needs an accurate cleaning.

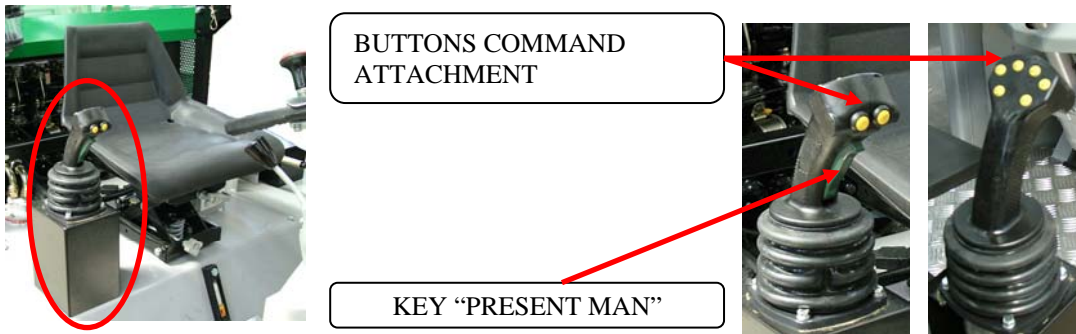
COMMANDS AND INSTRUMENTS OF CONTROL

- A. Joystick
- B. Hand accelerator
- C. Parking brake lever
- D. Hydraulic oil indicator
- E. Steering wheel
- F. Steering wheel knob
- G. Seat
- H. Utensil box
- I. Food accelerator
- J. Console



JOYSTICK

The joystick is one of the most important components of the machine, in fact, it is the element that allow to regulate the speed, the hydraulic braking of the machine and move the lifting arm as well as the machine. The joystick is on the right side of the seat. It is composed of a set of buttons on the both parts front and back ones. In the back part there is a green button, called **Present man** because it is necessary an operator to perform particular operations: if the key **Present man** is pressed the machine can be moved, otherwise it is stopped. For details on the joystick performance see the specific paragraph in the section **features and technical date**.



HAND ACCELERATOR

The hand accelerator is situated on the console on the right of the seat and it regulates the revolutions of the engine. For details on the hand accelerator see the specific paragraph in **Features and technical date** section.

PARKING BRAKE LEVER

The function of the parking brake is to lock the machine when it is stopped. Called also emergency brake in order to assure the braking in case of failure and/or breakdown of the parking brake. The parking brake is a mechanic lever and it is on the left of the seat, it acts on the rear wheels.

HYDRAULIC OIL LEVEL INDICATOR

The indicator is on the bodywork under the seat. It indicates the oil level.



STEERING WHEEL

The steering wheel is on the console. It is an hydrostatic type with two jacks.

The machine is equipped with an hydraulic system with a priority valve, hydraulic wheel and auxiliary command. The circuit is fed by a pump gears working directly from the engine.

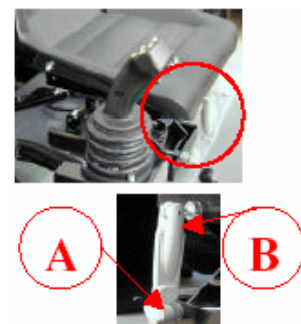
STEERING WHEEL KNOB

The steering wheel is equipped with a knob for helping the driver in the manoeuvres.

SEAT

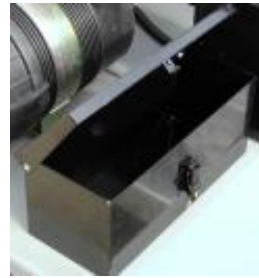
In order to guarantee a comfortable drive and manoeuvre position and the safety of the operator there is a comfortable seat. It is amortized with suspension and it can be regulated both in a longitudinal and in height direction.

The seat regulation is done by two hand grip which are under the seat. To regulate the seat forward or backward swing the handle grip A in a clockwise or anticlockwise direction; to lift or to lower the seat swing the handle grip B.



UTENSIL BOX

The utensil box is positioned on the right of the driver. It is opened by the hook.



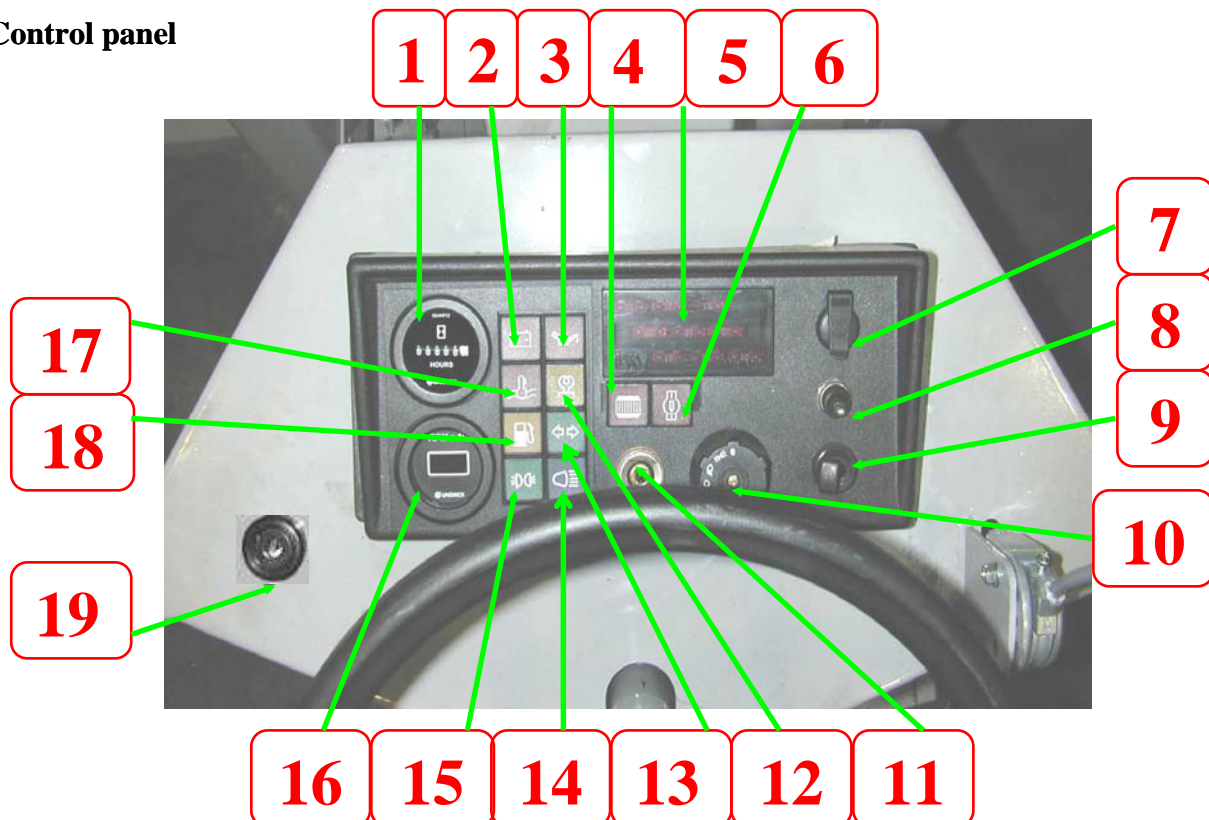
FOOD BRAKE

The food brake is positioned below, on the right of the seat and under the console.



CONSOLE

Control panel





1 Hour meter

It indicates how many hours the machinery works.



2 Insufficient battery recharge pilot light (red):

This light is on until the motor started. During the normal use this light must be off. In case the light remains on while you are driving the regulator and the alternator must be checked by skilled personnel.



3 Insufficient pressure oil motor pilot light (red):

This light is on when the motor is stopped. During the normal use this light must be off. In case the light remains on while you are working please switch the machine off immediately, check the level of oil in the cap and eventually ask for the intervention of skilled personnel.

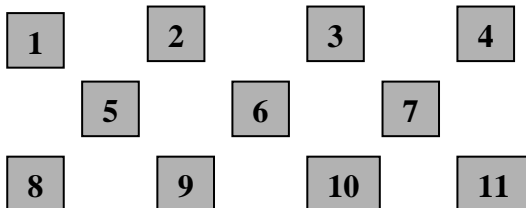


4 Obstruction air filter pilot light (red):

During the normal use it must be off. In case it lights you have to clean or replace the cartridge of the air filter.

5 Representative fuses' scheme:

for the characteristics see the specific paragraph.



6 Temperature hydraulic oil pilot light (red):

During the normal use it must be off. In case it lights you have to check the hydraulic oil cooling system.



7 Optional flashing pin

It is possible to connect a visual flashing light.



8 Flashing switch

This switch operates the flashing light if it is connected.

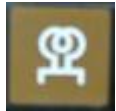


9 Direction indicator ignition lever :

The direction indicator is an optional.

**10 Electric horn:**

It signals the presence of the machine by an acoustic sound when it is pressed.
If you rotated it has the function of interrupter lights, on the machine the lights are optional.

**11 Ignition machine block:** it is at the centre of the console, you have to insert the key for starting the machine**12 Ignition pre-heater signalling pilot light (red):**
on this model it is not active**13 Direction indicator light (green) (optional)****14 High beams light (blue) (optional)****15 Low beams light (green) (optional)****16 Revolution counter.**

It indicates the engine revolution numbers.

**17 The motor cooling liquid temperature light (red).**

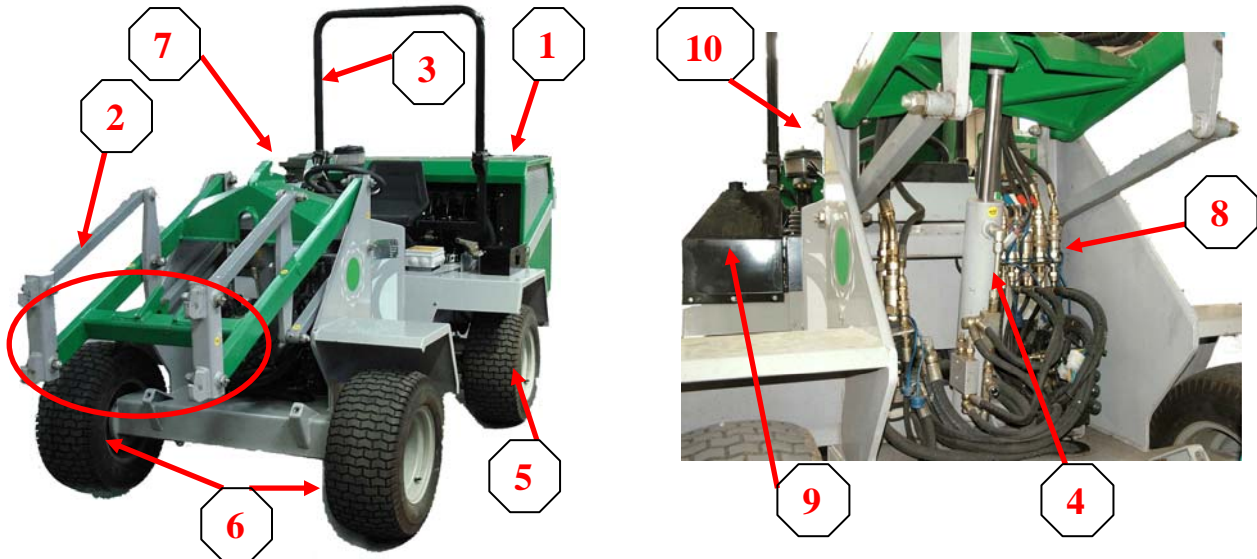
During the normal use it must be off. In case it lights, switch the motor off immediately and check the cooling radiator system .

**18 Petrol reserve light (yellow):**

It signals the scarce presence of fuel in the tank.

**19 Signalling preheating ignition light (red) – Heating of filaments, there is a small resistance inside. In the phase of starting these filaments remain off for a few seconds. When the pilot light became on, the engine can be started.**

MACHINE DESCRIPTION STRENGTHEN VERSION



MACHINE DESCRIPTION STRENGTHEN VERSION

1. Bonnet

The bonnet contain the engine and others components such as radiator, battery, etc. For the component features see its own paragraph.

2. Hitch for attachment

In the picture there is the strengthen machine without attachments, they can be interchangeable.

3. Roll bar

The roll bar (arc of protection) is overturning its function is to protect the operator from possible dangers delimiting the drive space. To lower the roll bar following the descriptions:

1. remove the locking pin and withdraw the pivots;
2. pivot the roll bar 90° toward the bonnet;
3. reinsert the pivots in the correspondent holes and the locking pin.

To replace the roll bar in vertical position proceeding at the contrary



4. Forklift

The machine is equipped with an anterior forklift, an hydraulic jack and four attachment points to hitch agricultural attachments which is inside the forklift group.

An hydraulic system which also supply oil to the auxiliary distributors for the hydraulics plugs. The circuit is fed by a gear pump that is moved directly by the engine.

- Swept volume: 14cm³/revolutions.
- Nominal capacity motor to 3000 revolutions /min: 42 dm³/min.
- Induction the oil from tank.
- Setting of the distributor 180 bar.

5. Rear wheels

The machine is equipped with two rear wheels. For the wheels features see the tyres paragraph.

6. Front wheels

The machine is equipped with two front wheels. For the wheels features see the tyres paragraph.

7. Telescopic arm docking (see its own instruction's book)

8. Rapid coupler

The rapid coupler connect the hydraulic attacks of different attachments which are climbing on the machine.

9. Tank

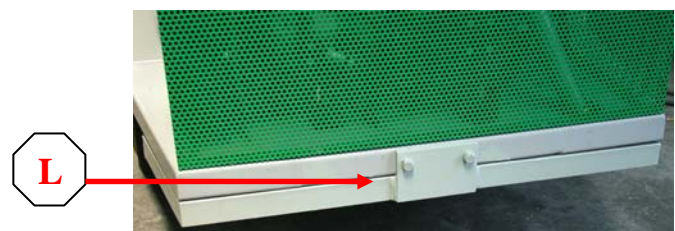
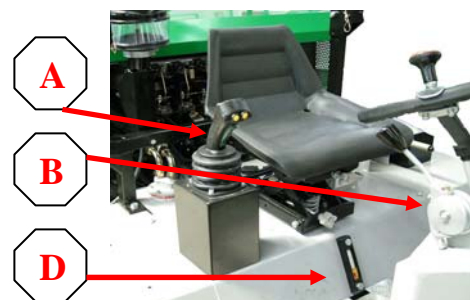
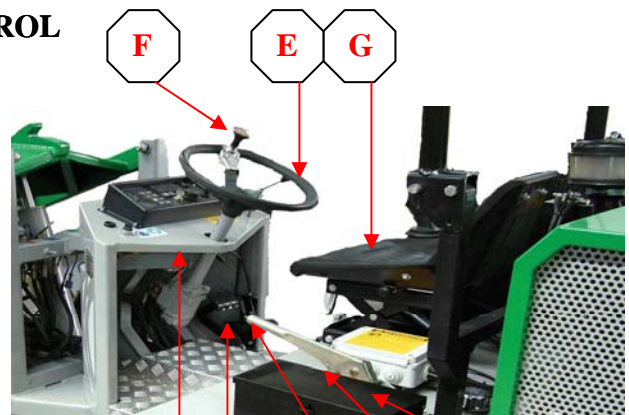
The fuel tank made of metal and situated on the right of the driving seat.

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The air pre-filter is located behind the seat and it is connected to the air filter which is inside the bonnet. The air filter cartridge made of paper needs an accurate cleaning.

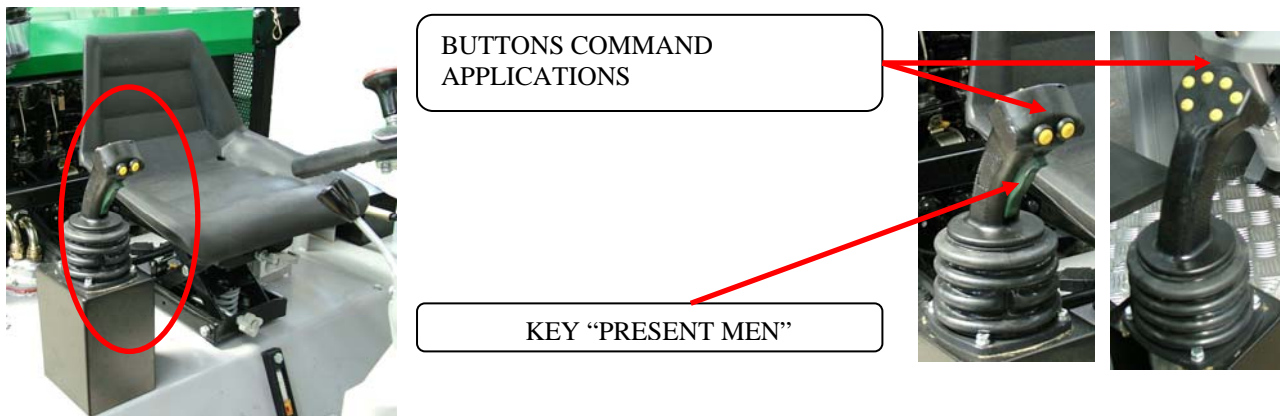
COMMANDS AND INSTRUMENTS OF CONTROL

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- C. Parking brake lever
- D. Hydraulic oil level indicator
- E. Steering wheel
- F. Steering wheel knob
- G. Seat
- H. Utensil box
- I. Foot brake
- J. Foot accelerator
- K. Console
- L. Ballast



JOYSTICK

The joystick is one of the most important components of the machine, in fact, it is the element that allow to regulate the speed, the hydraulic braking and move the forklift arm and the machine. The joystick is on the right side of the seat, it is composed of a set of buttons on the front and back sides. In the back side there is a green button, called **present man** because it is necessary an operator to perform particular operations: if the key **present man** is pressed the machine can be moved, otherwise it is stopped. For details of the joystick operations see the specific paragraphs in the section **features and technical date**



The hand accelerator is situated on the console on the right of the seat and it regulates the revolutions of the engine. For details on the hand accelerator see the specific paragraph in the section **features and technical date**.

PARKING BRAKE LEVER

The parking brake function is to lock the machine when it is stopped. Called also emergency brake in order to assure the braking in case parking brake failure and/or breakdown.

The parking brake is a mechanic lever and it is on the left of the seat, it acts on the rear wheel.

HYDRAULIC OIL LEVEL INDICATOR

The indicator is on the bodywork under the driver seat. It indicates the oil level.



STEERING WHEEL

The steering wheel is on the console. It is hydrostatic type with two jacks.

The machine is equipped with an hydraulic system with a priority valve, hydraulic wheel and auxiliary command. The circuit is fed by a pump gears working directly from the engine.

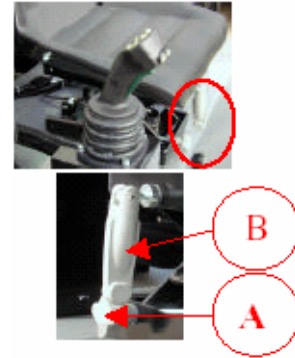
STEERING WHEEL KNOB

It is applied on the steering wheel and it serves to help the driver in his manoeuvres.

SEAT

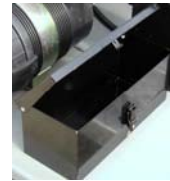
In order to guarantee a comfortable drive and manoeuvre position and the safety of the operator there is a comfortable seat. It is amortized with suspension and it can be regulated both in a longitudinal and in height direction.

The seat regulation is done by two hand grip which are under the seat. To regulate the seat forward or backward swing the handle grip in clockwise or anticlockwise direction; to lift or to lower the seat swing the handle grip B.



UTENSIL BOX

The utensil box is positioned on the right of the seat. It is opened by the hook.



FOOT BRAKE

The foot brake is positioned below, on the right of the seat and under the console.



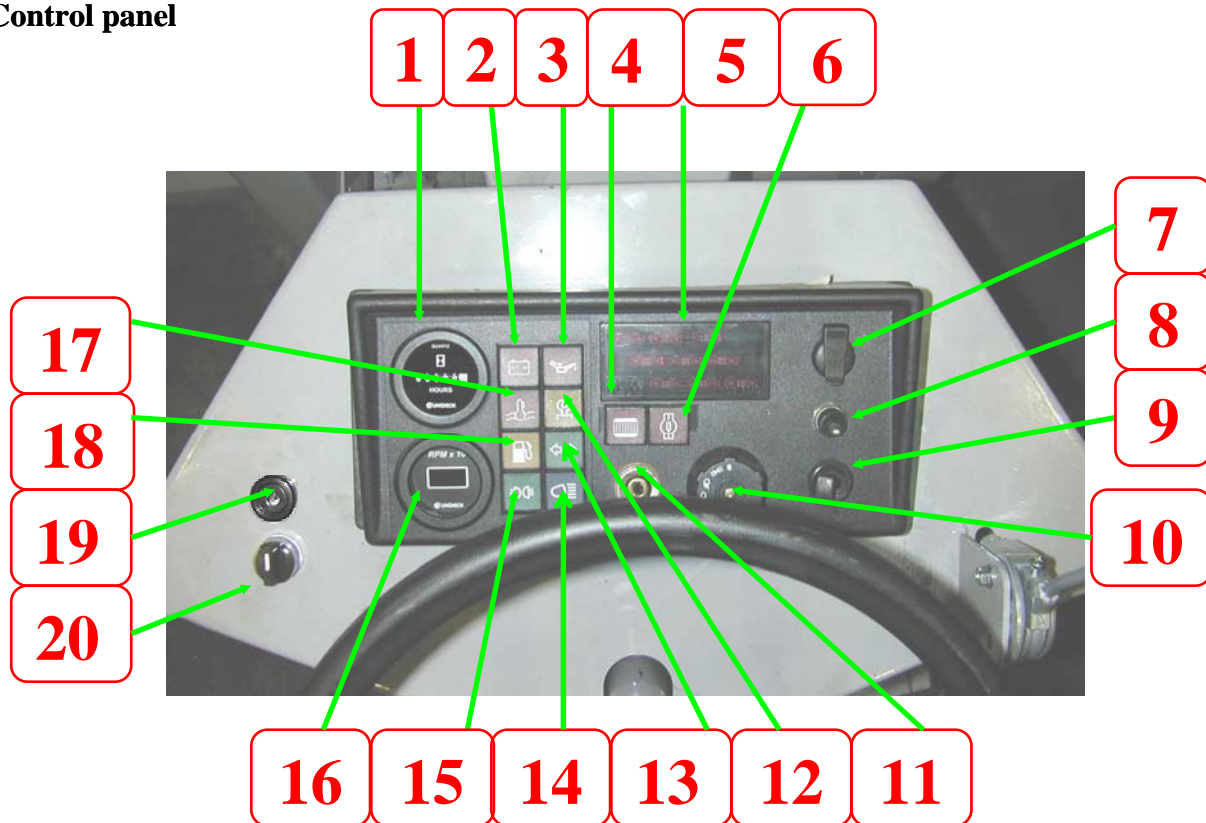
FOOT ACCELERATOR

The foot accelerator is below on the right of the seat and under the console, it has the same function of the hand accelerator.



CONSOLE

Control panel





1 Hour meter:

It indicates how many hours the machine works.



2 Insufficient battery recharge light (red):

This light is on until the motor started. During the normal use this light must be off. In case the light remain on while you are driving the regulator and the alternator must be checked by skilled personnel.



3 Insufficient pressure oil motor pilot light (red):

This light is on when the motor is stopped. During the normal use this light must be off. In case the light remains on while you are working please immediately switch the machine off, check the level of oil in the cap and eventually ask for the intervention of skilled personnel.

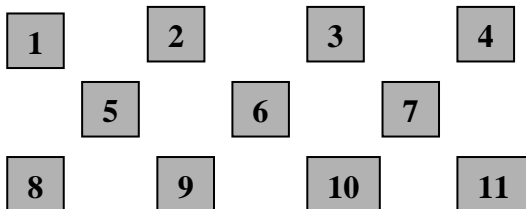


4 Obstruction air filter pilot light (red):

During the normal use it must be off. In case it lights you have to clean or replace the air filter cartridge.

5 Representative fuses scheme:

for the characteristics see the specific paragraph



6 Temperature hydraulic oil light (red):

During the normal use it must be off. In case it lights you have to check the hydraulic oil cooling system.



7 Optional flashing pin

It is possible to connect a visual flashing light.



8 Switch shaker version .

In the shaker version this switch put alternately in action the phalanges of the GD1. For the details on this attachment see the specific paragraph in the instruction and maintenance manual of the shaker.



9 Direction indicator ignition lever:

The direction indicator is an optional.

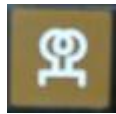


10 Electric horn:

It signals the presence of the machine by an acoustic sound when it is pressed. If you rotated it has the lighting switch function, on the machine the lights are optional.

**11 Ignition machine block:**

It is at the centre of the console, you have to insert the key for starting the machine

**12 Ignition pre-heater signalling pilot light (red):**

on this model it is not active

**13 Direction indicator light (green) (optional)****14 High beams light (blue) (optional)****15 Low beams light (green) (optional)****16 Revolution counter:**

It records the engine revolution number.

**17 The motor cooling liquid temperature light (red).**

During the normal use it must be off. In case it lights, switch the engine off immediately and check the cooling radiator system .

**18 Petrol reserve light (yellow):**

It signals the scarce presence of fuel in the tank.



19 Signalling preheating ignition light (red) – Heating of filaments, there is a small resistance inside. In the phase of starting these filaments remain off for a few seconds. When the pilot light became on, the engine can be started.

**20 Activation shaker circuit.**

This switch diverts the hydraulic oil from the translation circuit to the vibration one and it puts in action the shaker head.

BALLAST

The ballast is in the back part of the machine, it must be inserted in the external part under the bonnet.

The ballast must be always inserted when the shaker is hooked on the machine for counterbalance the weight of the same. The ballast weights 220 kg. The following paragraphs describe how to assemble and disassemble the ballast from the machine.

For further information see the instruction and maintenance manual of the shakers



Considering the weight of the ballast take care when assemble or disassemble it to avoid to be crushed.

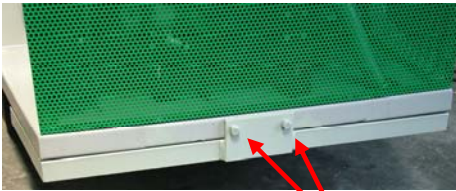
Never drive with the machine without the shaker and the ballast put on danger rollover

The ballast must be put on only with the shakers

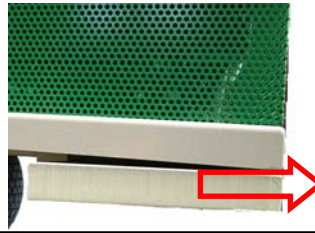
Disassembly of ballast

To get off the ballast following:

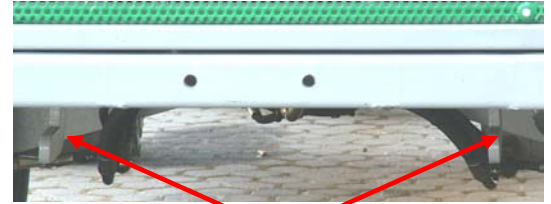
1. insert an hydraulic floor jack in the back part under the machine in closeness with the ballast barycentre;
2. lift the hydraulic floor jack until support the ballast;
3. completely unscrew and remove the two anchor bolts;
4. extract from the special hooks the ballast dragging the hydraulic floor jack back and put down it in a different place.



Anchor bolts ballast



Direction to extract the ballast with the hydraulic floor jack

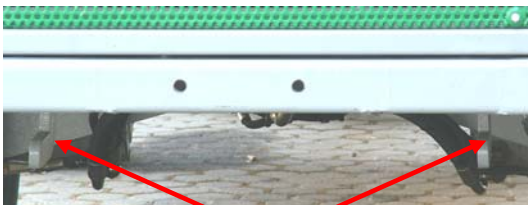


Anchor hook ballast

Assembly of ballast

To assemble the ballast following:

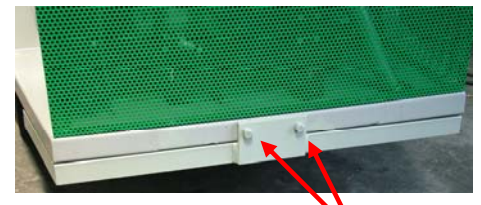
1. load the ballast on the hydraulic floor jack;
2. insert it in the special anchorage hooks ballast;
3. make to coincide the holes on the machine with the holes predisposed on the ballast;
4. screw the bolts and remove the hydraulic floor jack.



Anchor hooks ballast



Direction to extract the ballast with the hydraulic floor jack



Anchor bolts ballast



Considering the weight of the ballast take care when assemble and disassemble it, exist the risk of crash.



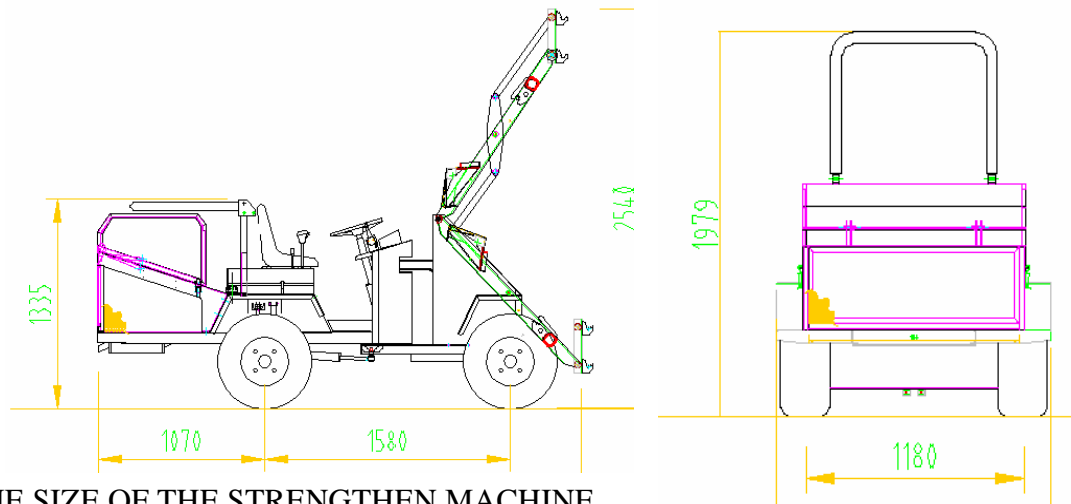
Never hook-up the ballasts without assembling the shaker before, following the shaker assembly instruction that you find on its own manual.

FEATURES AND TECHNICAL DATE

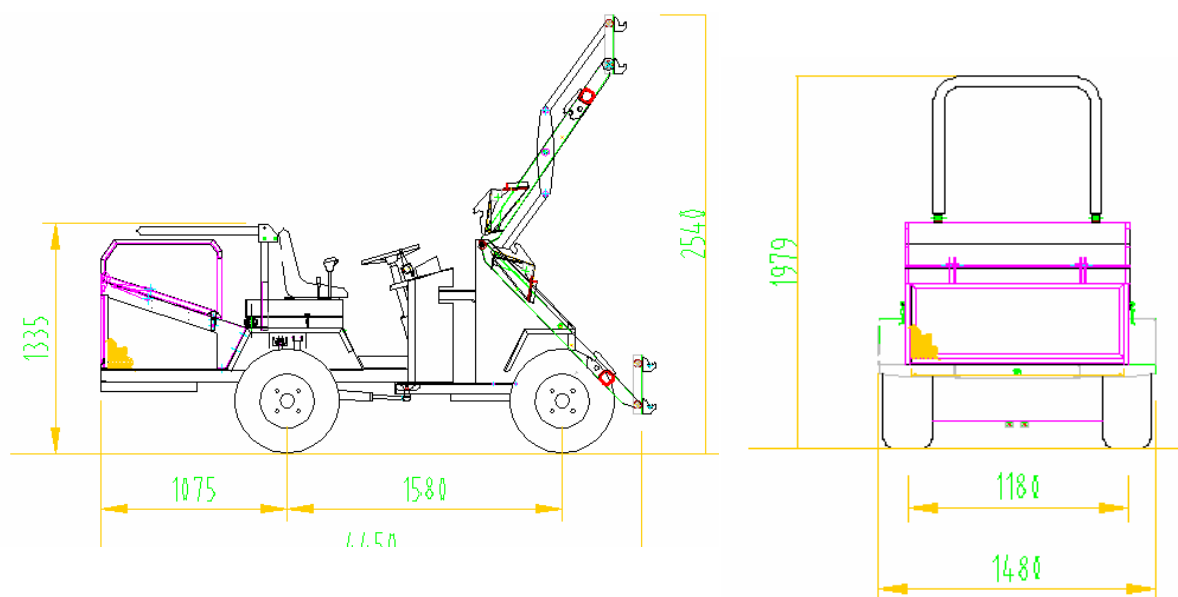
SIZE AND WEIGHTS

The size of the basic machine and of the strengthen one are shown in the picture, while in the table the weights of the machine are indicated without the attachments and the weights with a single attachment.

THE SIZE OF THE BASIC MACHINE



THE SIZE OF THE STRENGTHEN MACHINE



WEIGHTS IN MOVING WITHOUT THE DRIVER MACHINE WITHOUT EQUIPMENTS

	Weight Kg
Basic version	1260
Preset shaker version GD1-SHA 1	1480
MACHINE WITH EQUIPMENTS VERSION	
Harvesting machine	1510
Shaker GD1	1920
Shaker SHA 1	2220
Forklift	1470
Loading shovel	1410
Rowing machine	1460

ENGINE

For specific and technical information refer to the engine manual, included with the machine.

JOYSTICK

The joystick is a very important component of the machine, because it regulates the speed and the hydraulic braking of the machine and at the same time it moves the lifting arm and the same machine.

The joystick is on the right side of the driving seat and it is equipped with a series of buttons, both on the rear and back side. In the back side there is a green button, called “**present man**” because it is necessary an operator to perform specific operations: if the key “**present man**” is pressed the machine can be moved otherwise the machine doesn't move.

The joystick put in motion the machine and the lifting arm. Pushing the joystick forward the machine go ahead, pushing it back the machine moves in opposite way; if the joystick is moved toward right, the lifting arm is moved upward, if it is moved toward left, the lifting arm is moved downward.

On the anterior and back part of the joystick they are yellow buttons in order to move the attachments put on the machine from time to time. The function of the yellow buttons depends on the attachments hooked on the machine.

The joystick is a component very sensitive to sudden or unexpected movements for this reason, before using the machine, the operator **has** to have good familiarity with the joystick and to know the buttons and their functions.



TRACTION

The machine is equipped with four driving wheels.



Caution: in reference to the size prescribed for the safety drive the tyres of the machine must be the same for brand and for type.

SPEED

The maximum speed allowed for the machine is 15 Km/h.

The speed depends on the movements of the joystick in reference to the revolutions engine numbers, regulated by hand accelerator and/or foot accelerator. For further details of joystick movements and accelerators see the specific paragraphs *Movement the machine with the joystick* and *Accelerators* in the manual.

BRAKES

The system of braking is very important because it serves to stop the machine.

The machine is equipped with drum brakes to the back wheels, and hydraulic brake performed by joystick (see the specific paragraph in the manual).

The machine, both in the basic version and in the strengthened one, is equipped with the followings brakes:

1. hydraulic brake;
2. service brake;
3. parking brake or emergency brake.



The machine is stopped by the hydraulic brake which is performed by the joystick, while the foot brake is a further emergency brake. The foot brake serves to increase the braking in case the machine is not completely stopped, despite it was braked by the hydraulic system.

HYDRAULIC BRAKE

The hydraulic brake is operated by the joystick. To stop the machine with the hydraulic brake, you slowly bring the joystick in neutral position and leave the key presence man. In case of a sudden braking, hold in consideration that the machine has its own inertia: bring the joystick in neutral position, leave the key presence man and operate the foot brake if the machine doesn't completely stop. For further information see the manual on "joystick" and "brakes" paragraphs in the section "Features and technical date". Stop the machine with the joystick" in the section "rules of use", the sections "Description of the machine basic version and strengthened one", "Safety" and "Anomalies and Remedies".

SERVICE BRAKE ON THE BASIC MACHINE

The basic machine is equipped with the service brake that has the function to slow down and to stop the machine in movement. The service brake is a drum type; it is formed by a mechanical command pedal and it is found below on the right, under the steering wheel. The service brake pedal works on the back wheels and don't require adjustment.



To operate the service brake is enough to press gradually the pedal to the bottom.

SERVICE BRAKE ON THE STRENGTHEN MACHINE

The strengthen machine is equipped with the service brake that has the function to slow down and to stop the machine in movement. The service brake is a drum type; it is formed by a mechanical command pedal and it is found below on the right, under the steering wheel, above the foot accelerator. The service brake pedal works on the back wheels and don't require adjustment.

The functionalities and the instructions for the service brake use on the strengthened machine are the same of the basic one. The operator has to pay attention to distinguish the pedal of the brake from the accelerator, positioned like you can see in the following picture:

- in the first picture the service brake;
- the second picture the foot accelerator.



BRAKE AND EMERGENCY BRAKE

The parking brake has the function to stop the machine when it is stopped; the brake is called also emergency brake because it has the purpose to assure the braking in case of damage and/or the service brake breakup. The parking brake or emergency brake is a mechanic type lever and it is found on the left of the driving seat. The parking brake works on the back wheels.

To operate the parking brake you need to pull the lever upward.

To disconnect the parking brake proceed as following:

1. slightly lift it and then pressing the button place to its extremity;
2. with the pressed button lower the lever until reach an horizontal position



PNEUMATICS

The features of the tyres are as follows:

Size	23 x 10,50 – 12 /4Pr
Type	Tubeless
External diameter (mm)	585
Rolling circle(mm)	1737,5
Circle	7,0 x 12”
Inflation pressure (bar)	2,5



Caution: In the tyre tubeless type you never use an inner tube.

Also the tyres have to be the same in marks and type for all four wheels. Periodically you need to check the inflation pressure when they are cold and if necessary inflate it at least every two weeks.

ACCELERATORS

The basic machine is exclusively equipped with the hand accelerator.

The strengthened machine, is equipped with the following accelerators, they have the same function:

1. hand accelerator;
2. foot accelerator.

The two accelerators are connected between them from linkage. The foot accelerator is closely dependent on the hand accelerator, in the way that when the operator moves the hand accelerator forward or backward also the pedal accelerator automatically lowers or gets up. When the operator exclusively uses the pedal accelerator, the lever of the hand accelerator doesn't move.

The acceleration of the machine occurs in a progressive manner with an oil-pressure command.

The choice on using the accelerators is a discretion of the operator according to his needs.

Even if they have the same function, the operator has to take care when he uses one or the other accelerator because he cannot pass from an accelerator to other during the same operation.

HAND ACCELERATOR

The hand accelerator is present on the basic and strengthened machine. The accelerator lever is situated on the right of the driving seat, next to the steering wheel. To increase the engine revolution with the hand accelerator proceed as following:



1. After having started the machine, move the hand accelerator lever ahead.



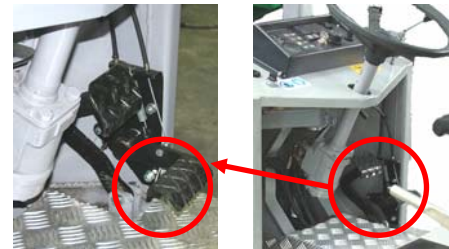
The maximum speed of the machine occurs when the hand accelerator and the joystick are completely pulled forward.

FOOT ACCELERATOR ONLY FOR STRENGTHEN VERSION

The foot accelerator is present in the strengthened version and has the same function of the hand accelerator. The foot accelerator is found below, under the service brake.

To increase the engine revolutions with the pedal accelerator proceed as described:

1. After having started the machine, slowly press the foot accelerator.

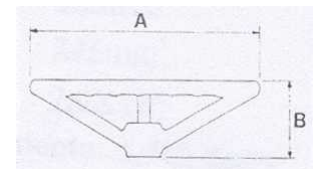


The maximum speed of the machine occurs when the hand accelerator and the joystick are completely pulled forward.

STEERING WHEEL

The steering wheel is an hydrostatic type with two jacks. There is a knob fixed on the steering wheel that has the function to help the operator during the difficult manoeuvres. The principal characteristics are listed in the table below.

	MM 19
External diameter A (mm)	365
Height cup B (mm)	150
Turning radius (m)	1,06



REFUELING

- Motor oil (see the instruction and maintenance manual of the motor)
- Tank (diesel) lt 40
- Coolant lt 6
- Hydraulil oil lt 60

BODYWORK

BONNET

The bonnet can be opened from the superior part and from the back part, as described in the following paragraphs.

Superior opening

The engine bonnet can be opened from the sideway, it's sufficient unhooking the hook set on the left back part of the machine and lift the bonnet toward the right where it will be anchored with a cable. To open the hook you need to lift the tongue upward and unthread the hook, to close proceed at the contrary.

Hook holding

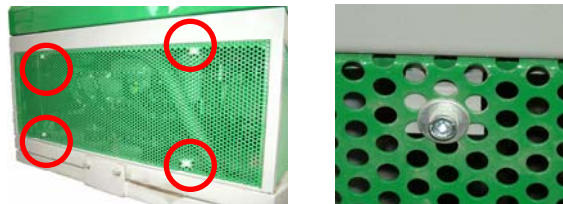


Caution: to avoid that the bonnet is closed on itself operate with the machine switched off, on the level ground, verify that the bonnet is completely opened and the metallic seal hook fixed.

Pay particular attention to the transfers printing on the machine.

Back opening

For a best maintenance of the engine the opening of the chest motor has been predisposed in the back part too. To open the back panel unscrew the four screws (In the pictures are pointed out the positions and the particular of the screws)



MUDGUARDS

On the machine there are mudguards both on the front wheels as well as on the rear wheels.



ELECTRIC SYSTEM

VOLTAGE

12 Volt Capacity 60 Ah

ALTERNATOR

With regulator of voltage maximum power: 12V – 50°

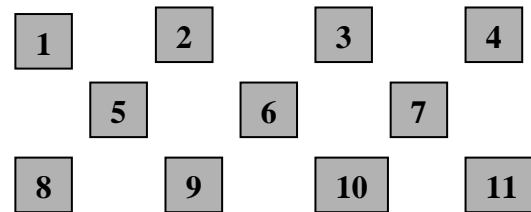
STARTER

With graft to electromagnet, power: 2,2 KW.

FUSES

In the picture there is the fuses scheme of the machine while on the table there is described the protected circuits.

Some fuses have the function to protect the circuits in accordance with the attachment put on the machine, the others are standard



	PROTECTED CICUIT	FUSES
1	Change in function to the equipment put on	10 A
2	Air filter stoppage relay	10 A
3	Hydraulic oil cooling fan relay	10 A
4	Electricity manipulator	30 A
5	Horn	10 A
6	Glow plugs current	10 A
7	(Not connected)	10 A
8	Hydraulic oil cooling fan	10 A
9	(Not connected)	10 A
10	(Not connected)	10 A
11	Electric flashing plug	10 A

BATTERY

The battery is situated inside the bonnet. The battery used for the machines is Pb (lead) with the following feature:

12V-80Ah-20Ah with positive pole on the right side.



AIR FILTER

It is situated inside the bonnet motor behind the driving seat, the filter is a filtering cartridge. There is a pre-filter that goes out from the engine bonnet on the right of the seat, the stoppage of the pre-filter is visible by the transparent mask. For maintenance refer to the manual.



Pre-filter

Filter

HYDRAULIC SYSTEM

The hydraulic system has two separate hydraulic pumps for two independent circuits.

1. The piston variable capacity tandem pumps operated directly by the engine.
2. The pump gears is directly operated by the engine with an aspiration method from the reservoir for hydraulic steering and electro-hydraulic commands.

WATER RADIATOR

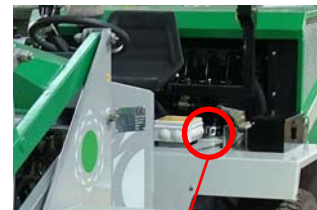
The group radiator is only one and has a radiator core that serves for cooling the water of the cooling circuit and of the oil-pressure circuit. From the cap (point out in the photo) it is possible to add water and antifreeze liquid.



It advise to use the antifreeze for its antioxidant and anticorrosive characteristics it is right for any season.

HYDRAULIC OIL TANK

The hydraulic oil tank is situated under the driving seat. It has 60 litres capability and the introduction cap of the oil is situated on the left of the driving seat near the parking brake. (in the picture is represented the position of the oil introduction cap).



Pay attention when you open the cap and use the suitable safety devices.

It is advises to use the oil recommended by the Manufacturer.

Moreover during the filling clean adequately the near zones and the introduction cap to avoid to contaminate the hydraulic circuit plant.



LUBRICANT FEATURE

De Masi Costruzioni uses for his machines “Api” products which are considered of good quality for the safety and the life of the machine.

COOLING HYDRAULIC CIRCUIT OIL

The feature of the oil are listed on the table:

api serie CIS 46	Data
Rating ISO VG (norma ISO 3448)	46
Density to 15°C Kg/lt	0.872
Inflammability C.O.C. °C	210
Kinematics viscosity to 40 °C, mm ² /s	31.5
Kinematics viscosity to 100 °C, mm ² /s	5.6
Viscosity index	110

MOTOR OIL

The feature of the oil are listed in the table:

apilupe Unimotor 40	Data
Rating SAE (J300/gen.00)	40
Density to 15°C Kg/lt	0.895
Inflammability C.O.C. °C	246
Kinematics viscosity to 40 °C, mm ² /s	160
Kinematics viscosity to 100 °C, mm ² /s	16
Viscosity index	107
Base Number Total, mgKOH/g	10

GREASE

The feature of the grease are listed on the table:

apigrease LT-S	Data
Classification NLGI	2
Soap type	Lithium
Aspect	Homogeneous
Colour	Brown, reddish
Dripping point °C	195
Anticorrosive test	Successful
Water resistance	1-90
Using temperature advice °C	-20/+130

The feature of the oil base

Inflammability C.O.C. °C	240
Kinematics viscosity to 40 °C, mm ² /s	110
Kinematics viscosity to 100 °C, mm ² /s	12
Specific weight Kg/lt	0.898

RULES OF USE

GENERAL NORMS

A good and alert operator has to follow fundamental and simple rules in order to guarantee the himself and others safety and also to preserve the machine from possible damages.

For this he has to perform with big attention every operation. He shouldn't use the machine if he didn't know the basic command and how to use it.



If the operator is authorized and has the competence and the skills, he can service following the instructions book. The maintenance operations more complex than the usual must be performed by a qualified personnel and it don't be paid by the operator who is however the responsible for the good maintenance of the machine.

The maintenance operations performed by the operator can produce deterioration or the normal wear of the machine during the use. For this it is necessary performed a suitable maintenance to avoid damages and to maintain in perfect condition the machine. It is important that the operator uses the machine with care and immediately signals the anomalies discovered.



Suggestion:

- 1- Became familiar with the machine to know every detail, in case of anomalies must be indicated quickly because if they were neglected they could produce elevated damages.
- 2- Constantly check if there are loosening in the various fastener.
- 3- Verify the pressure and the wear of the tyres.
- 4- Check the source of possible noises or unusual vibrations that if neglected could produce breakdowns or anomalies.
- 5- Immediately indicate the loss of oil, fuel or battery acid.
- 6- Don't perform reparation if you are not authorized and specifically prepared to do it.
- 7- Leave the engine warm up for some minutes to slow running before beginning the job.
- 8- During the first 50 hours working it is advisable not surpass half of the maximum engine power.

BEFORE USING



- I. All the commands must be operated from the seat;
- II. make sure that the commands are in neutral position before starting the engine.



Caution: before starting the machine, check:

- I. oil level in the engine (see engine instruction manual);
- II. liquid level in the radiator (see its paragraph);
- III. fuel level in the tank;
- IV. hydraulic oil level (see its paragraph);
- V. check the machine with particular attention that all protection devices are correctly installed;
- VI. check that people, children or animals are not around the working area.

STARTING THE MACHINE

To start the machine follow the descriptions and/or refer to the manual about the engine.

ENGINE STARTING

To start the engine, proceed in the following way:

1. Slightly move from the minimum position the accelerator lever.
2. Insert the key in the ignition lock and turn it toward left for one click, the pilot light "insufficient recharge battery", "insufficient pressure oil" and the numbers of the revolution counter must be light.
3. The glow plug pilot light is off, when it lights and becomes yellow, turn the key toward right until the engine starts.
4. When the engine is started, leave the key that returns automatically in the first position while the pilot light of the glow plug automatically will turn off and gradually bring the command accelerator lever to its initial position.

If the engine doesn't start quickly repeat the operation every 10 seconds.



STARTING AT LOW TEMPERATURE



Caution: When the temperature environment is below or next to 0°C, check and if it is necessary, restore the cooling circuit with the recommended antifreeze. It is advisable add an additive to the diesel to facilitate the starting, following the instructions on the products available in commerce.

To start the engine at low temperatures, repeat the same operations described for the normal starting procedure.

MOVE THE MACHINE BY JOYSTICK

The machine is moved by joystick. To move the machine with the joystick following the description:

1. To go on press the key **Man Present** and pull forward the joystick slowly until arrive at the speed wanted.
2. To go back press the key **Man Present** and pull slowly backward the joystick until arrive at the speed wanted.



STOPPING THE MACHINE WITH THE JOYSTICK

The machine can be stopped not only by joystick, which has the function of hydraulic brake but also by mechanical brakes. To stop the machine with the joystick following the description:

1. If the machine proceeds ahead bring slowly backward the joystick to the neutral position.
2. If the machine proceeds back bring slowly forward the joystick to the neutral position
3. Reached the neutral position leave the key **Man Present** to stop the machine.

For brakes explanations see the specific paragraph in the manual.



When the joystick is in a neutral position and the accelerators are to the minimum, even pressing the key Man Present the machine doesn't move.

STOPPING THE MACHINE

To stop the machine operate in the following way:

- I. shift the joystick to neutral position and leave the key Man present;
- II. bring the hand accelerator at the minimum running;
- III. pressing the foot brake;
- IV. lock the parking brake;
- V. lower movable attachment to the ground,
- VI. stop the engine.

SHUTDOWN OF THE ENGINE

To stop the machine operate in the following way:

- turn the key in the position where it was when the motor was off;
- remove the key.



Caution: Don't leave the machine without the hand brake; never leave the key inserted in the ignition switch because people not qualified could start imprudently the motor; if the machine is left on steep slants, you need to insert some stoppers under the wheels.



Danger: When the engine is running, it isn't avoid to remove the protections shields and to place yourself in the area where the shafts are positioned. Make sure that the working area is free from impediments and that there are no people, children or animals.



Danger: Before handling on an attachment, the machine must be stopped and locked with the hand brake, put the attachments down, remove the key and wait for few minutes before operating so that the equipments on, which have an inertia force also when the engine is shutdown, have been completely stopped.

MOVEMENT THE ARM

The joystick enlivens upward and downward the lifter arm of the machine. To enliven the lifter proceed in the following way:

1. To move upward the lifter bring slowly the joystick toward the right until the height wanted.
2. To move downward the lifter bring slowly the joystick toward the left to the height wanted.
3. Reached the height wanted release the joystick to stop the arm.



**FOR THE ATTACHMENTS THAT CAN BE
CONNECTED TO THE MACHINE ,
SEE THE INSTRUCTION AND MAINTENANCE
MANUAL
OF EACH ATTACHMENT**

**DON'T DO ANY OPERATION ON THE
ATTACHMENTS IF DON'T READ FIRST THEIR
INSTRUMENTS AND MAINTENANCE MANUALS**

SAFETY

GENERAL SAFETY RULES

The operator's safety was one of the prime consideration in the mind of engineers when they designed the machine. Manufacturer tried to make machine safe to foresee all the possible hazard. It's very high the number of accident due to imprudence and incorrect use of the machine. Therefore, we recommend to read carefully the manual, particularly the part on the safety rules, take care of the operations that result more dangerous than others.

The manual is an integral part of the machine; always keep it close to hand since you could need to refer to it in the future. In case the machine is sold or it is transferred make sure that the manual is delivered intact together with the machine.

**THE OPERATOR'S MANUAL IS AN INTEGRAL PART OF THE MACHINE.
DON'T USE THE MACHINE WITHOUT HAVING READ CAREFULLY IT**

**THE USE AND MAINTENANCE MANUAL MUST BE KEPT FOR THE LIFE OF THE MACHINE.
IN CASE OF LOSS AND/OR DETERIORATION ASK IMMEDIATELY FOR A COPY TO THE MANUFACTURER .
NEVER USE THE MACHINE WITHOUT THE MANUAL.**

THE RULES OF THIS SECTION DON'T EXCLUDE BUT INTEGRATE THE ONES INSIDE THIS MANUAL



Before starting the machine, check that all the covers, the protections and the safety devices are in place. Check also that every prudence pictograms are attached to the machine and readable otherwise please replace them.

**NEVER USE THE MACHINE WITHOUT THE ROLL BAR (ARC OF PROTECTION) IN VERTICAL POSITION WITH THE PIVOTS AND THE PINS INSERTED.
NEVER USE THE ROLLBAR TO THROW OR TO HAUL ANY OBJECT**

DO NOT CARRY PASSENGERS OR THINGS ON ANY POINT OF THE MACHINE OR ON THE ATTACHED APPLICATION

NEVER TOUCH THE MOVING PARTS UNTIL THEY HAVE COMPLETELY STOPPED MOVING BECAUSE THEY CAN CONTINUE TO SPIN ALSO AFTER THE POWER IS SHUT OFF

NEVER MAKE MAINTENANCE OPERATION ON THE MACHINE IN THE OVERHEATED ZONES, WAIT FOR THE NECESSARY TIME TO GET COLD

TRANSFER PRINTING

There are some symbols on the different place of the machine, they are used to call the attention of the agricultural operator. The stickers are very important for the operators safety and people who are near the working area. It's necessary maintain the stickers clean and intact; in case of deterioration and/or separation ask for a copy to the concessionaire of your area, indicating the stickers code which you find in this manual. Below are indicated the transfers of the machine:

PRELIMINARY INFORMATION

It is positioned on the console

Carefully read the operator's manual for a proper use of the machine. This machine must be operated only by a qualified person. Before any maintenance operation stop the engine, remove the key, lock the hand brake and look the instructions in the manual.



PRELIMINARY READING

It is positioned on the console

Carefully read the operator's manual, in case the machine is sold or transferred make sure that the book is delivered intact with the machine and recommend the operator to read it.



Code: D-02

EEC DIRECTIVE

It is positioned on the console

The agricultural machine conforms with the 89/336 EEC DIRECTIVE and subsequent modification.



Code: D-03

MANOEUVRE SIGNAL

It is positioned on the console and on all the points where is necessary make act of maintenance

This symbol indicate to remember to switched off the engine before performing maintenance and/or control operation.



RISK OF ELECTRICITY CURRENT

It is positioned on the battery and on the starter

Before proceeding maintenance or reparation work, remember to remove the battery to avoid electric shocks, a danger for the body.



Code: D-05

SAFETY OF THE PEOPLE

It is positioned on the console and where subsist danger

This is the safety alert symbol, don't follow the recommended precaution means possible serious personal injury.



Code: D-06

HEAR PROTECTION REQUIRED WHEN THIS EQUIPMENT OPERATING

It is positioned on the console

Wear a suitable hearing protective devise such as earplugs to protect against loud noise that can cause impairment or loss of hearing.



Code: D-07

AIR WAYS PROTECTION REQUIRED WHEN THIS EQUIPMENT OPERATING

It is positioned on the console

Always use protective masks to avoid the inhalation of chemical substances and exhaust gas.



Code: D-08

FEET PROTECTION REQUIRED

It is positioned on the console

Always use protective shoes, like boots, etc. Never use the machine without shoes or with inadequate footwear, like sandals, slippers, etc.



Code: D-13

HANDS PROTECTION REQUIRED

It is positioned on the console

Always put on your hands protective gloves appropriate to the job or maintenance.



Code: D-11

PROPER EYES PROTECTION REQUIRED

It is positioned on the console

Always use protective glasses appropriate to the job or maintenance.



Code: D-12

TOXIC FUMES

It is positioned on the battery

This symbol indicates to take care to avoid potentially toxic fumes and gas, use protective masks for the dangerous products used.



Code: D-09

CORROSIVE

It is positioned on the battery and on the cup of the oils tank

Use a big care to operate. Use the right precaution, wear safety gloves and safety glasses to protect the eyes from flying particles.



Code: D-10

DANGER OF DRAGGING

It is positioned on all the mudguards of the machine

It indicates the hazard to sit or stand near the mudguards and on any part of the machine and on his equipment.



Code: D-15

NEVER SMOKE OR TO USE FREE FLAMES

It is positioned on the fuel and oil reservoir

This symbol means it is forbidden to smoke or to use naked flames near fire place such as the diesel tank.



Code: D-14

SAFETY DISTANCE FROM MACHINE

It is positioned on the attacks on the equipments and on the applications

Don't allow any one to stand, stopped or stayed near the equipments when the machine is working or it is stopped. Exist a crash risk.



Code: D-16

DANGER PINCH POINT

It is positioned next to the fan of the radiator and on all the zones where there are parts in movement: belts, cardan shafts, pulleys

Never touch the moving parts of the machine with your body or any other object, could be entangled, in case of hazard stop immediately the machine. Don't remove the covers.



Code: D-18



Code: D-17

DANGER HOT SURFACE

It is positioned on the bodywork in proximity of the exhaust pipe and on the radiator

This signal is positioned near surfaces which became very hot. Don't touch risk of burning your body and don't use flammable substances to avoid fires. Keep clean the area.

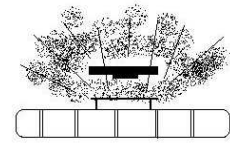


Code: D-19

RADIATOR CAP

It is positioned on the cap of the radiator

The radiator is under very high pressure when the machine is working; never open the radiator cap to avoid the spillage of possible vapour throws and warm water.



Code: D-20

GREASE UP AND LUBRICATE

It is positioned in any points where there is need to lubricate or grease up

This symbol is positioned on the parts of the machine that must be lubricated or greased up



Code: D-21

HEAD PROTECTION REQUIRED

It is positioned on the console and on the roll bar

Wear head protection such as fit helmet when the roll bar is lifted but especially when it is temporarily lowered.



Code: D-22

PROTECTION WITH THE ROLLBAR

It is positioned on the two vertical bars of the roll bar

The roll bar must be always lifted, in position of 90° in relation to the bonnet, the pivots and the safety pins correctly inserted. In case of working in a lower environments the operator can temporarily lower the roll bar and must proceed with a big care because the operator is not protected from turnovers or dangers derived from the impending environment. Restore the roll bar in vertical position when you finish working,



Code: D-23

USE IN SAFETY

The machine must be used in condition of maximum safety to avoid hazard at people, things and/or at the same machine. To the safety follow the instructions below:

STARTING THE MACHINE

1. Before starting the engine read carefully the instruction and maintenance manual.
2. Take care of the safety transfer printing on the machine, for further information read the paragraph on the transfer printing.
3. Don't use the machine if you don't know how to use the machine controls, particularly became familiar with the joystick.
4. During the machine use, remember to act with prudence to prevent possible injury.
5. If you believe that the machine is not sure during the use, ask for the assistance of a qualified personnel.


STOPPING THE MACHINE



1. Before stopping the machine lower the moving implements down
2. Lock the hand brake and remove the key.
3. In case the machine stopped on an uneven ground insert some stoppers under the wheels.

TO DRIVE THE MACHINE



1. Driving the machine on stable ground; in case of wet or slippery grounds proceed with extreme caution.
2. During disengagement from holes, ditches or uneven ground drive at low speed and without jolts.
3. Don't get on and get down during the machine is working.
4. Use the pedal or the joystick in a gradual way during the use of the brake.
5. Don't drive at high speed on the curves.
6. Use the suitable speed for the ground.
7. Proceed with attention when you work near holes or scarps.
8. Before making manoeuvres, make sure that there is enough space to do it and that people, children or animals not get too close to the machine; signal your present by the acoustic and light signals; keep in mind that the machine covers a different space that depend on the attachments put on it.
9. In case of few visibility, reduce speed and if it is necessary, ask for helping at people around you.
10. Border the work zone with the special ribbons of sign system. 
11. Choose the right speed working so the motor is not overloaded.
12. Don't leave the machine during engine running.
13. Wear fitting clothing to avoid remain entangled in moving machine parts.
14. Never leave the driving place when the engine is running or when the key is inserted.

MAINTENANCE OF THE MACHINE



Caution: When you must make maintenance operations always remember that:

1. Keep the machine on stable ground;
2. If the machine is on a slant ground, insert the stoppers under the wheels;
3. When performing adjustment or maintenance on the machine first turn off the engine, lock the hand brake and lower the implement to the ground;
4. Clean the machine remove any possible branches buckets and leaves fallen by the plant particularly near the engine zone, they can cause fire;
5. Never touch with any part of your body or with any object into moving machine parts, such as attachment, belts, movement parts;
6. Lock the hand brake;
7. Splashes of hydraulic oil under pressure can cause serious injury;
8. During the first 50 hours working it is advisable not to reach half of the maximum power of the engine;

9. A continue use of the machine provokes overheating of the exhaust pipe and of the engine; never touch these elements during and immediately after their use;
10. The overheated machine parts, if approached or put in contact with some solid, liquid or gas, could be cause of fires, scorches, deformations, explosions, etc;
11. Battery acids are very dangerous. Wear gloves and a protective mask for the eyes when you have contacted with them;
12. Immediately signal oil, fuel or battery acids loss;
13. Don't modified the engine performance established by Manufacturer;
14. Never act on the fuel tank or on the feeding pipelines when the engine is overheated or it is working;
15. Never act on the radiator when the engine is running;
16. Never act, touch or draw near the fan while is flowing;
17. Never open the radiator when the machine is warm, the hot liquid inside could come out and cause burns;
18. Before acting on an electric system component, shut the battery cable off;
19. Before acting on the hydraulic system take care that it is not in pressure; in any case wear gloves, glasses and any other protection to preserve from sudden oil come out;
20. Don't act on the hydraulic system when the hydraulic cylinders keep part of the machine raised even if the engine is switched off ;
21. Always use wheels or tyres recommended by the Manufacturer;
22. Maintain the tyres inflated to the correct pressure; replace them if worn, damaged or shredded;
23. Make sure that the hydraulic system haven't pressure before detaching any hydraulic pipe and in any case follow the individual suitable safety devices.
24. Constantly check that there aren't loosening in the attachment fixtures machine and particularly in the connection with the flexible pipes.
25. Check the noises or vibrations source which could develop breakdowns or anomalies if they were neglected.

DRIVING ON THE ROAD

THE MACHINE DOESN'T TYPE TEST TO BE DRIVEN ON THE ROAD



Caution: The machine is not allowed to be driven on the road, to drive the machine see its paragraph.

DRIVING PLACE

Caution: The machine has been projected to be driven by only one operator; the right position to drive is to be seated on the driving seat.

Danger:



1. Never drive the machine without the driver's licence, without experience, if you have bad health or are under the influence of alcohol.
2. Never drive the machine in different positions from the driving seat

3. Never carry on passengers or animals etc.
4. In case the machine rolls over, do not leave it but you must firmly hold on the steering wheel , firmly push the feet to the sub floor and keep your back pressed to the seat, bending yourself towards the opposite way in which the machine is turning over.
5. Before beginning the job, became familiar with the control devices and their functions.
6. If the machine has a safety belt, after it has been regulated you must fasten it
7. When finished to work, remove the ignition key.

USE ON THE SLANT AND UNEVEN GROUND

THE MACHINE HAS TO WORK ON LEVEL GROUND

Danger:



If you work on uneven ground you must remember the following :

1. Select the best roadway to work in order to have a good stability
2. Keep the minimum speed.
3. Avoid suddenly steering.
4. Take care when drive with four wheel drive on an uneven ground.
5. On the uneven ground avoid moving with the machine sideways.

NEVER GET THE SHAKER WORKS WITH THE EXTENSIVE ARM IN THE UNEVEN ZONES

NEVER EXTEND THE SHAKER ARM WITH THE MACHINE STEERED

REFUELING

Danger:



1. Keep a fire extinguisher handy.
2. Refuel in open air. During this operation don't smoke; don't spill fuel on the machine or closed it. If this happens, before starting, dry the machine and move it in a dry zone.

3. Don't fill up when you are working in a very warm days, the fuel could expand and come out; if it happens dry the stain.
4. Take care to the fuels and the lubricants storage, could be inflammable, explosive, toxic and corrosive; and therefore preserve them into its original container and wrapping away from the unauthorised personnel.
5. Consider that the reserve tanks, the pipelines can break-up and are subjects to the wear, even if they are empty.
6. Don't smoke and do not draw with flames or sparks near the fuel or to the tanks and reservoirs, even if empty.

SAFETY DEVICES

Danger:



1. Before working the machine, verify that all the shelters, the covers and the safety devices are correctly in place, particularly check the anti-turnover structure.
2. It is absolutely forbidden to tamper with or to climb on the safety devices.
3. Always use the devices of individual protection as glasses, gloves, etc.

CONNECTION OF EQUIPMENT

For specific safety of the various attachment that you can be climbed on the machine see their instruction and maintenance attachments books



Never assemble the ballast if first you haven't hoop up the shaker, and follow the assembling shaker instructions

**NEVER ASSEMBLE THE BALLAST IF FIRST YOU HAVEN'T
HOOP-UP THE SHAKER**

**NEVER REMOVE THE SHAKER IF YOU HAVEN'T TAKEN
DOWN THE BALLAST FIRST**

**DO NEVER MOVE WITH THE MACHINE IN ABSENCE OF THE
SHAKER AND WITH THE BALLAST CLIMBED ON THE
MACHINE RISK OF TURNOVER**

**ANY ATTACHMENT HAS ITS OWN INSTRUCTION AND
MAINTENANCE MANUAL
IT'S FORBIDDEN TO DO ANY OPERATION IF YOU HAVEN'T
READ THE MANUAL**

1. An additional attachment on the machine involves a different distribution of the weights on the axles.

2. It is advisable not overcome the maximum load of the machine.
3. Only assemble equipments suitable to the power of the machine and conforming to the norms.
4. Before hooking, unhook or using attachment consult their own instruction books.
5. Before detaching, hook or regulate the equipment, it is necessary put the equipments at ground level, shut down the engine, lock the hand brake and eventually insert stoppers under the wheels.
6. Those equipments must be equipped with the proper signal and suitable protections.
7. It is important to keep in mind that the road holding direction ability and braking, can be influenced, notably, by the presence of extra attachments on or hauling.
8. Pay attention on the curve to the centrifugal force practise in different directions, to the centre of gravity, with and without attachments.
9. It isn't allow to stay in the area where the machine works, to stay under or near the attachments when they are lifted and/or in movement.
10. Before leaving the machine:
 - lower the equipment hooked up
 - lock the hand brake
 - shut down the engine
 - remove the ignition key
 - if the ground is slant, put stoppers under the wheels.
11. It is absolutely forbidden to work between the machine and the equipments when:
 - the engine is on
 - the handbrake has not been locked
 - there are no stoppers under the wheels.
12. Don't stand close to any hooked equipments, for the inertial force may continue to roll the equipments after the engine is shut down.
13. Don't stand close to any hooked attachments, the equipments may continue to roll for the inertial force after the engine is shut down.
14. Take care when you work near the arms of lifting, it is a very dangerous area.
15. Remember that when the engine is on, the equipments can be in movement and some of them are dangerous for nature.
16. Don't clean, lubricate or repair the machine and the equipments hooked when they are in use; always shut down the engine and stop the machine.

RESPECT FOR THE ENVIRONMENT

1. Respect the norms and the local rules related to the acoustic pollution.
2. Replace the exhaust pipe of the motor if it is wormed out or it is very noisy, superior to the rules; the spare parts must be original.
3. The disposal of the lubricants and the dismantlement of the machine have to take place according to the rules in force in the Country where the machine is used.
4. Don't throw the batteries in the rubbish dumps, but deliver them to a special firms or a corporate body authorized for the disposal.
5. Don't switch the motor on in closed area, the gases of exhaust are harmful and they can be lethal.
6. Maintain the labels and the instructions of the products used in agriculture; in case of ingestion of fuels, insecticides, chemical substances etc., immediately contact the "Emergency Department" having available the labels of specified products above.

FITTING CLOTHING



Advice: Don't wear wide and fluttering clothes, they could remain entangled in the mobile parts of the machine or attachments, causing injury to the operator. Always use fitting clothing and protective footwear.

TRANSPORT AND MOVEMENT



Advice: load, move and unload the machine with the maximum caution, following the suggestions:

1. Move the machine driving from the driving seat.
2. In case of hauling use the back attachment, unscrew of two completes turns the screw situated on the transmission pump and connect the bars of hauling.
3. Haul the machine only for short space.
4. Use the special bars of hauling.
5. Don't use cables of the car for hauling.
6. On the transport vehicles, the machine must be braked and well anchored from special blocks.
7. In the phase of unloading from the transport vehicle, truck or towing, use ramps or slides suitable to the weight and to the roadway.
8. Finally remember when the motor is off, the hydro-guide is not activating; consequently, the steering must be moved with more strength.



MAINTENANCE

GENERAL MAINTENANCE

A periodically and exact maintenance in order to obtain a good performance of the machine. Maintenance rules have only an indicative character because they depend on the climatic conditions and the environment where the machine works; however they could change, so only the common sense and the operator experience are able to rectify. An accurate maintenance is one of the most important factors for the good performance of the machine. Neglect this factor can be dangerous for people and for the same machine. The periodic maintenance and the daily controls must be performed according to a program pre-arranged in line with the Manufacturer instructions. The major maintenance, the reparations and the particular adjustment must be performed by qualified and authorized personnel.

In the follow paragraphs are described the rules for a correct machine maintenance for further information see chapter Calendar maintenances.

PRELIMINARY OPERATIONS



Before delivering, the machine must be lubricated and greased in all of its parts; in order to guarantee the maximum performance and the long life of it, it's necessary a periodically maintenance following what is indicated in this manual.

For the engine you must observe the formalities and the intervention established in its own operator's manual. Before proceeding with the lubrication, carefully clean the parts that need to be greased and the connection of introduction from any encrustation, to avoid that dust and mud mix with the lubricant. All the checks oil level must be done with the machine on level ground and the engine shut off. The machine must be lubricated with the products recommended in the manual. When use a different lubrication, use products of the same specification. In any case do not mix different products. After every use of the machine on dusty or muddy ground, please clean accurately and lubricate the specific articulation joint and the various articulations of leverages by grease cup.



Caution: Before starting maintenance operations proceed as follow:

1. lock the hand brake; if the machine is found on a slant put some stoppers under the wheels;
2. always stop the engine and remove the key;
3. wear fitting clothing, otherwise can be dragged by moving machine parts;
4. pay attention to the transfers on the machine, for further information see the part on safety.

PERIOD OF RUN IN

The efficiency and the long duration of the machine are tightly correlated to the run-in of the machine, or rather to its initial period of use.

For the period of run-in observe the following indications:

1. the engine can be used to the maximum power since the beginning, provided that is not in condition of overload;
2. use the maximum power only when the motor has reached a temperature of 60° C after 5 minutes;
3. after every cold starting, the engine has to work for some minutes to low and neutral running;
4. often check that there are no losses of oil;
5. during the first 100 hours working replace the fuel filter at least once (during the free servicing) then following the maintenance calendar in this manual.

ELECTRIC SYSTEM

FUSES

Advice:

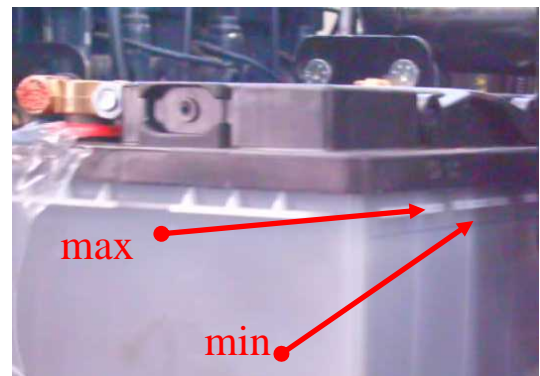


- **Never** replace a spoiled fuse with metallic wires or other material. Always use an entire and the same colour fuse
- Never replace a fuse with another of superior amperage.
- Before replacing a fuse, the consumer make sure that the key has been removed from the switch of starting.

BATTERY



Advice: the battery doesn't need frequent maintenance; periodically check, at least once a month, the level of the electrolytic liquid that has to be between the values min. and max. indicated on the side of the battery; the low liquid level of the battery will cause damages irreparably to the battery, and may cause breaking with the spillage of the contained acid.

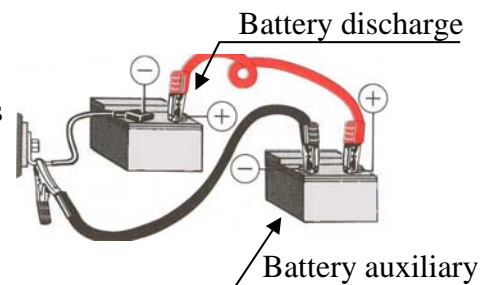


Danger: Handle the battery with caution. The liquid inside is poisonous and corrosive; if it comes in contact with the skin, with the eyes or it is swallowed can cause permanent damages. The battery also produces primer gas; it is important to keep away from sparks, fire and cigarettes; during the maintenance working in open air, see the safety paragraph on the manual.

STARTER WITH AUXILIARY BATTERY



In case the battery accidentally discharges, it is possible to start the engine of the machine with an auxiliary battery, provided that it has equivalent electric characteristics or few higher, proceeding as follow:



1. Have some fit cables right to use. First connect the two batteries positive terminal (+) with the cable.
2. Then connect a second cable to the negative terminal (-) of the auxiliary battery and to the metallic terminal of the machine mass cable with the discharge battery.
3. When the motor has been started, remove the connections starting from the pliers connected with the metallic terminal far from the battery.



For the electric part of the thermal motor gives, consult the use and maintenance manual of the Manufacturer.

BRAKES



Danger: The machine is equipped with hydraulic brakes controlled by the joystick, mechanical drum brakes controlled by pedal brake and by the parking brake which acts on the back wheels

Periodically check the effectiveness of the brakes in relation with the wear of the drum brake lining.

Periodically check also the linkage of the parking brake by an authorized centre.

If the operation of the brakes system is not regular, turn to an authorized workshop.

PNEUMATIC



Advice: never use inner tubes in the pneumatic tubeless type.

The four tyres have to be equal both in brand and type in conformity to the original ones climbed on the machine .

The correct maintenance of the tyres means a good machine stability and operator safety.

For a correct maintenance of the tyres proceed as follow:

1. check the wear state of the pneumatic, particularly the tread, which must have a regular consumption;
2. check that the tyres are not lacerated, worn out, and free of cuts on the sides.
3. in case of substitution, use pneumatic suitable to the effective use of the machine;
4. to facilitate the assembling and the disassembly of the tyres don't use grease but water and soap;
5. after the assembling of the tyres, verify the screwing of the bolts after three hours working; then periodically check the tightening;
6. after the assembling, to assure the correct adjustment of the tyres heel inflate them to 3,5 bar (kg/cm²), then bring it to 2,5 bar (kg/cm²) .



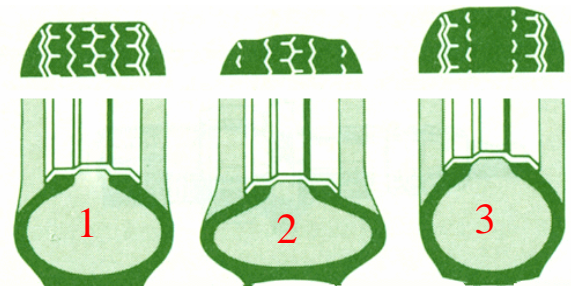
The tyres grow old even if they are used for few time or never. The tyres climbed on machine which aren't used for long time have the tendency to grow old more quickly than ones frequently used. In case the machine don't work for a long time, recommend to lift it from ground and not to expose the tyres to the direct sunlight.

PNEUMATIC PRESSURE

The correct pressure of the tyres is shown by the tyre Manufacturer.

For a correct maintenance of the tyres pressure proceed as follow:

1. periodically check the tyre pressure, at least every two weeks and every time that you think it is necessary;
2. the pressure of the tyres varies according to the tyre Manufacturer, to the conditions of use, etc.;
3. for particular use of the machine, particularly with elevated loads, consult the tyre Manufacturer.



PNEUMATIC PRESSURE

- 1 normal pressure wear uniformly**
2 insufficient pressure wear on the edges
3 excessive pressure wear on the centre

4. inflate the tyre pressure not inferior to the suitable values to avoid the overheating of the tyres, that could cause the break-up of the tyre, inside lesions and an irregular wear;
5. don't inflate the tyre pressure superior to the suitable values because risk to damage it easily in case of bumps and in serious cases there is the risk of burst of the tyre;
6. during the pressure control of the tyres not expose any part of the body in the trajectory of the inflation valve.

SUBSTITUTION WHEELS



For the substitution of the wheels, operate in the following way:

1. Stop the motor on ground and solid level to avoid that the hydraulic lifting jack sinks in the ground for the weight of the machine;
2. lock the hand brake and stop the wheels with some stoppers;
3. partially loosen the bolts which holds the wheel;
4. lift the machine using a lifting jack set under the chassis;
5. unscrew completely the bolts, proceed with the change of the wheel;
6. screw the bolts and remove the hydraulic lifting jack.



For lifting the machine use an hydraulic jack in order to support the weight of the machine and of the attachments put on it.

DIESEL TANK



Advice: Inside the tank it is necessary to introduce exclusively gasoline. Any other liquid of different nature or foreign body can cause damage to the machine.

The tank doesn't need any particular maintenance. It is advisable to observe the following indications:

1. in phase of refuelling, not mix gasoline with water, alcohol or other mixtures it can cause serious damages to the machine and/or to the people;
2. keep clean the zone around the cork of introduction to avoid the contamination of the fuel;
3. at the end of the day fill-up the tank to reduce the condensates night time.

RADIATOR

For a correct maintenance of the radiator to proceed as follow and refer to the calendar maintenance of the manual:

1. the fins of the radiator must not have clogged;
2. clean the fins more times a day, particularly if the machine works in a dusty place;
3. check once a day the level of the refrigerant liquid.

HYDRAULIC SYSTEM

PREVENT THE CONTAMINATION OF THE LUBRICATION SYSTEM

To avoid contaminations of the lubrication system observe the following precautions:

1. clean the zone around the components of the oil reservoir as the cork, the filters and the oil dipstick of control level;
2. before replacing the oil, make sure that is clean, that is not deteriorated and it is the prescribed type.

HYDRAULIC OIL



Advice: Check that the oil level is within 100 and 70 in the column "C", otherwise fill-up through the cap set on the left under the seat.

Replace the filters at every oil change. The first oil change must be done after 100 hours working and then every 500 hours.

The change of the oil must have effected by a De Masi Costruzioni s.r.l. authorized centre

COOLING CIRCUIT



Check the liquid level in the radiator, that must beat the level of the exhaust pipe, situated under the cap.

The antifreeze liquid prevents the frozen until -20°C temperature.

If it is necessary fill up only with water, for sudden losses, restore the liquid as soon as possible. Periodically check the cleaning condition of the radiator fins; if necessary clean them with an air compressor.



Danger: never open the radiator when the machine is warmed, the liquid temperature inside could come out and cause burns.

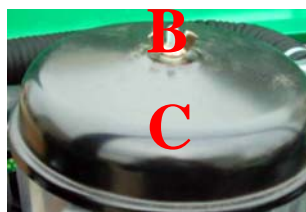
FILTERS

AIR FILTER



Advice: Clean the pre-filter (A) every time it needs, it is situated behind the seat, the blockage is visible through the transparent mask. The air filter must be cleaned at least once a day and every time it is necessary, and also when the light on the console is on; (nevertheless it is recommended to clean filter and pre-filter to avoid that the warning light comes on). In case of lighting clean the pre-filter and the cartridge of the air filter. The cartridge must be replaced after 100 hours working and must not go on 12 months.

To clean the pre-filter unscrew the screw (B) situated on the cover, remove the cover (C) upward, remove the transparent container (D) and empty it; reassemble in inverse way.





To make cleaning operation, proceed as follow:

1. first check that the rubber valve which is positioned at the extremity of the cover is free; let fall all dirty material out;
2. remove the filter cover from its centre opening the hooks;
3. pull the air filter out to remove following the picture (arrow 3);
4. to make cleaning operation use an air compressor, directing the flow of air along the whole inside surface of the filtering cartridge until the complete removal of the dust.

If you don't have an air compressor, it is enough to shake the cartridge on the palm of the hand (never to beat it with utensils or against the tyres of the machine).

However an accurate cleaning will be necessary as soon as possible. Before reassembling the filter check the condition of the cartridge, if lacerated or worn it must be replaced.

- | |
|---|
| <ol style="list-style-type: none"> 1. Rubber valve 2. Filter cover 3. Air filter |
|---|



HYDRAULIC OIL FILTER

During the cycles of maintenance avoid to contaminate the circuit of aspiration during the substitution of the filter cartridges. The filters must normally be replaced:

- after the first 50-100 hours working of the system;
- when the indicator signals that the filter is clogged;
- every 500 hours using.

MOTOR OIL FILTER

During the cycles of maintenance avoid to contaminate the circuit of aspiration during the substitution of the filter cartridges. The filters must normally be replaced:

- After the first 50-100 hours working of the system
- When the indicator signals that the filter is clogged
- Subsequently every 200 hours and follow the maintenance calendar of the manual.

FUEL FILTER

Calendar maintenance of the manual and the service have to do in Assistance.

ANOMALIES AND REMEDIES

In this section are grouped the possible breakdowns that can be verified during the machine's life. The following table informs briefly on the dysfunction, what to do, why it occurs, the solution and who is the appropriate worker that can operate. When you read **agricultural Operator** in the voice **Maintenance man** the maintenance can be effected by the operator following the manual instructions, instead if read **Service assistance** turn to the De Masi Costruzioni s.r.l. workshop

THE HYDRAULIC TRANSMISSION PROBLEMS

TRANSMISSION

Breakdown	What to do	Cause	Solution	Maintenance man
It doesn't work in both directions	Check level oil in the tank	Too much low	Restore the level of the reservoir hydraulic oil	Agricultural operator
	Check aspiration and filters	Clogged or breakdown	Replace cartridge oil filter	Service assistance
	Check pressure of feeding on the pump	There is no pressure on the pump	Repair or replace the pump	Service assistance
	Check hydraulic circuit	There is no pressure in the hydraulic circuit	Verify that the hydraulic pipes are entire	Service assistance
It doesn't work only in one direction	Check: <ul style="list-style-type: none"> • Linkage of command • Efficiency elettro-valves 	Problems of command	Repair or replace	Service assistance
	Check: <ul style="list-style-type: none"> • Relief valves • Exchange their position 	Defective badly positioned	Repair or replace	Service assistance
If the problem persists	To check the servo control	Breakdown	Repair or replace	Service assistance

INSUFFICIENT PERFORMANCE OF THE SYSTEM

Breakdown	What to do	Cause	Solution	Maintenance man
Performance not sufficient	Check pressure of feeding	Too much low	<ol style="list-style-type: none"> 1. low in capacity zero 2. low in maximum capacity without load 3. low in maximum capacity with load 	Assistance service
	Check setting and assemblage relief valves	Defective badly positioned	Repair or replace	Assistance service
High pressure	Check pressure of work	Too elevated	Reduce the load	Assistance service
Low pressure	Check temperature of oil in the circuit	Too elevated	See scheme	Assistance service
	To check the servo control	Breakdown	Repair or replace	Assistance service
Performance pump		Insufficient	Overhaul the pump	Assistance service
Performance engine		Insufficient	Overhaul the engine	Assistance service

EXCESSIVE TEMPERATURE OF THE SYSTEM

Breakdown	What to do	Cause	Solution	Maintenance man
Excessive temperature	Check level oil in the reservoir	Too low	Restore the level	Agricultural operator
	Check refrigerant level in the radiator	Too low	Restore the level	Agricultural operator
	Check radiator	Clogged	Clean	Agricultural operator
	Check radiator	Breakdown	Repair	Service assistance
	Check aspiration and filters	Clogged or breakdown	Replace the cartridge	Service assistance
	Check valve of exchange	Unsetting or breakdown	Resetting or replace	Service assistance
	Check pressure of work	Too elevated	Reduce the load	Service assistance

PROBLEMS WITH THE MOTOR

Breakdown	What to do	Solution	Maintenance man
Not starting of the engine or difficulty of starting	Procedure of starting was wrong	Repeat the procedures of starting in the correct way	Agricultural operator
	Absence of fuel	Check the level of the fuel and refuel	Agricultural operator
	Air in the system of feeding	Gate off the air from the system of feeding	Service assistance
	No proper fuel	Use the fuel suitable in the manual	Agricultural operator
	System of feeding contaminated	Clean the system of feeding	Service assistance
	The filter combustible clogged	Replace the element of the filter	Service assistance
	Starter damages	Replace the starter	Service assistance
	Key "Man present" damages	Check corresponding fuse	Agricultural operator
	Battery damages	Verify conditions battery clamps of connection and level of the liquid	Agricultural operator
The engine works badly and/or it switches off	Contamination of the fuel system	Clean the system of fuel	Service assistance
The engine doesn't generate the maximum power	Stoppage of the air filter	Clean the air filter	Agricultural operator
	No proper fuel	Use the fuel suitable in the manual	Agricultural operator
Anomalous slaps of the motor	Low level of the oil	Check the level of the oil	Agricultural operator
	Low pressure of the oil		Service assistance
Low pressure of the oil	Low level of the oil	Check the level of the oil	Agricultural operator
Excessive oil consumption	High- oil level in the motor	Reduce the oil level	Service assistance
	External losses of oil	Repair the losses	Service assistance
	Stoppage filter of breather	Replace the filter of breather	Service assistance

PROBLEMS WITH THE BRAKES AND WITH THE ACCELERATOR

Breakdown	What to do	Solution	Maintenance man
Don't work the foot brake	Wear of the brake lining	Replace the brakes	Service assistance
Don't work the hydraulic brake	Damage of the hydraulic system	Check section of the hydraulic system	Service assistance
Block of the steering wheel	Breakup of the pump of feeding / hydroguide	Check and replace the pump of hydroguide	Service assistance
If it doesn't accelerate	Breakup or anomaly of the cable of accelerator	Repair or replace the cable of accelerator	Service assistance
Don't work the hand brake	Breakup or anomaly of the cable	Repair or replace the cable	Service assistance

GENERAL PROBLEMS WITH THE MACHINE

Breakdown	What to do	Solution	Maintenance man
It doesn't move with motor on	Burnt fuse	Replace fuse "Man present"	Agricultural operator
	Parking brake not removed	Remove the parking brake	Agricultural operator
	Damages hydraulic system	Check section of the hydraulic system	Service assistance
	Brake of service pressed	Release the pedal of the service brake	Agricultural operator
	Key "Man present" not pressed	Press the key and move the machine with caution	Agricultural operator

PROBLEMS WITH THE ELECTRIC SYSTEM

Breakdown	What to do	Solution	Maintenance man
The whole electric system doesn't work	Terminal battery disconnected or corroded	Clean the terminals and screw the terminals	Agricultural operator
	Unloaded battery or broken	If necessary restore the level of the liquid in the battery. Replace battery	Agricultural operator
Excessive voltage of charge	Alternator broken	Replace alternator	Service assistance
The warning light of recharge battery remains on	Alternator broken	Replace alternator	Service assistance
A particular command doesn't work	Burnt corresponding fuse	Replace fuse	Agricultural operator
The problem persists			Service assistance

CALENDAR OF THE MAINTENANCES

The frequencies write on the table must be considered valid only when the machine works under normal exercise conditions; when the machine works in very dusty, muddy environments, at low temperatures, etc the times of maintenance must be reduced.

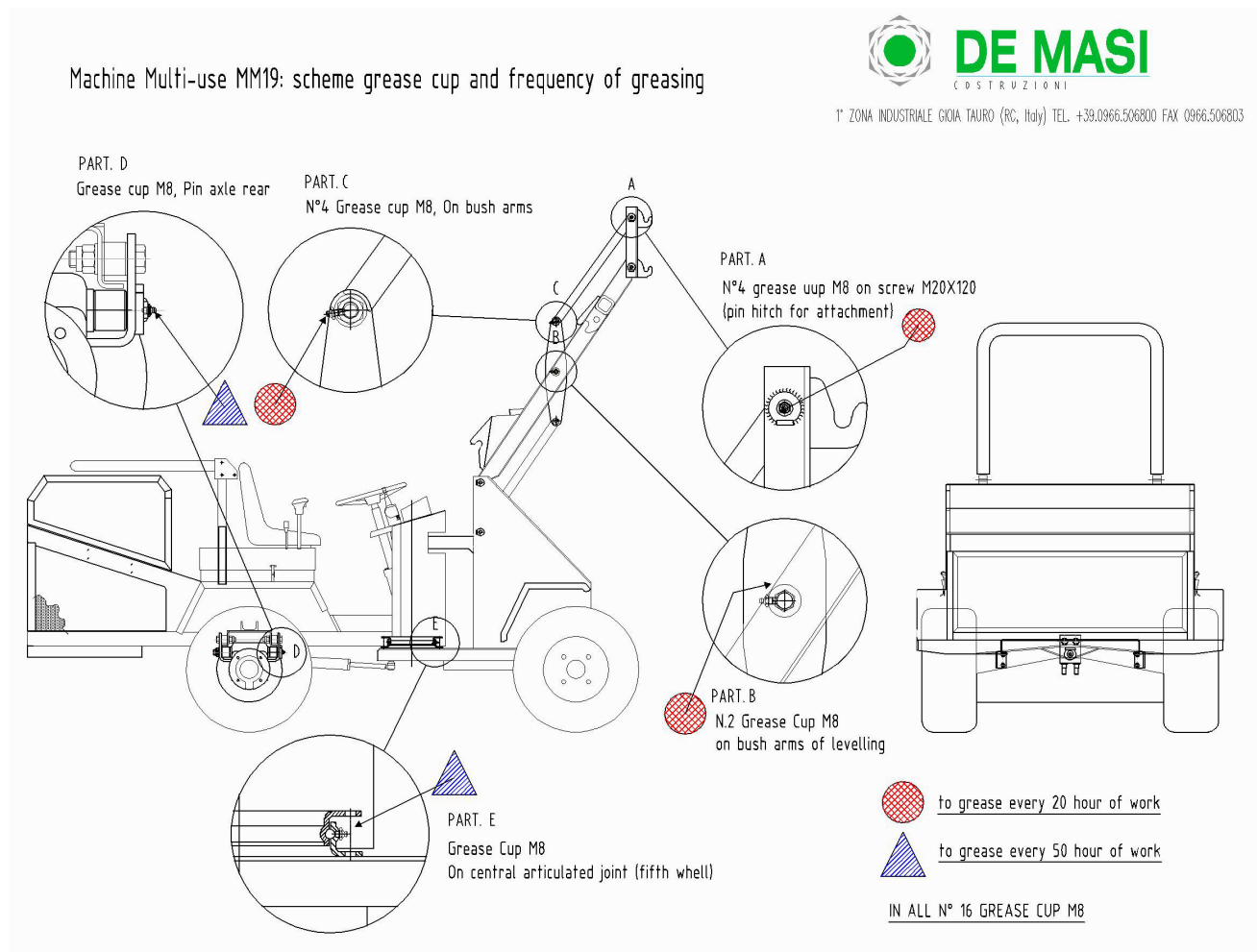
In the followed cases some operations must be done:

1. when one of the warning light located on the panel of control signals an anomaly; for the details see the specific paragraphs in the manual;
2. every time that the machine needs extraordinary maintenance;
3. every time that the operator holds opportune to increase the maintenance frequency put aside from the following table.

On the table are described a series of maintenance operations with the relative frequencies; to the voices **Who can do** near to **Frequency of cleaning or restoration level** and **Frequency substitution** it is suitable the person that the maintenance can effect: AO, Agricultural Operator, and SA, Service Assistance. Remember that the Service Assistance can do every type of maintenance. The formalities description that the agricultural operator has to follow in phase of maintenance are described in the instruction and maintenance manual on the specific paragraph.

OBJECT OF MAINTENANCE	FREQUENCY OF CLEANING OR RESTORATION LEVEL	WHO CAN DO	FREQUENCY SUBSTITUTION	WHO CAN DO
HYDRAULIC OIL FILTER	Within the first 100 hours and then every 200 hours	S.A.	First coupon then every 500 hours	S.A.
MOTOR OIL FILTER	Within the first 100 hours and then every 200 hours	S.A.	Within the first 100 hours and then every 200 hours	S.A.
FUEL FILTER	Within the first 100 hours and then every 200 hours	S.A.	Every 500 hours	S.A.
AIR FILTER	Every time that requires it during the daily work and at least once a day or when is signalled from the warning light on the panel control	A.O.	Every 100 hours or at least once a year	A.O.
AIR PRE-FILTRO	Every time that it is required during the daily work and at least once a day or when is signalled from the warning light on the panel control	A.O.		
LIQUID COOLING	Every time that it is requires during the daily work and at least once a day	A.O.	Every 500 hours	S.A.
HYDRAULIC OIL	Every time that it is required during the work and in every case every 100 hours or when it is signalled from the warning light on the panel control	A.O.	Every 500 hours	S.A.
MOTOR OIL	Every time that it is requires during the work and at least once a week	A.O.	Within the first 100 hours and after every 200 hours	S.A.
BATTERY LIQUID LEVEL	Once a week	A.O.	Every 100 hours	S.A.
PNEUMATIC PRESSURE	Once a day	A.O.		
SUBSTITUTION TYRES	When the outrider is inferior to 5 mm			A.O S.A.

OBJECT OF MAINTENANC	ADJUSTMENTS OR BREAKUPS	WHO IS ABLE TO DO IT
PEDAL BRAKE	Every time that requires it or within the first 100 hours And after every 200 hours	S.A.
PARKING BRAKE LEVER	Every time that it is required or within the first 100 hours and after every 200 hours	S.A.
PEDAL ACCELERATOR	Every time that it is required or within the first 100 hours and after every 200 hours	S.A.
HAND ACCELERATOR	Every time that it is required or within the first 100 hours and after every 200 hours	S.A.
VARIOUS CONTROLS	Every time that it is required or within the first 100 hours and after every 200 hours	S.A.
FINS OF RADIATOR	Every time that requires it during the day of work and however once a day	A.O.



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