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CPL Head 2015



Pre-Pruning Vine Cane Remover Head Instructions for use and maintenance

The following instructions must be read carefully prior to using the machine.



In accordance with article 2006/42/CE
and subsequent modifications

SERIAL	
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In regards to safety and reliability this machine was designed in accordance with the provisions and subsequent revisions set out in the EEC “machines article”.

The manufacturer therefore cannot be held responsible for machine use where modifications have been made without prior manufacturer’s consent, replacement parts used are not those stated by the manufacturer and use by untrained persons. For safety issues not covered in this text please refer to general standards concerning the prevention of accidents.

Below is a list of definitions, descriptions and abbreviated terms most frequently used in the text.

Mass. =	weight of object or machine
A.P.	high pressure
B.P.	low pressure
min.	Minimum
max.	Maximum
l'	minutes
h	hours
L	width
P	depth (length)
H	height
Fig.	figure
Pag.	page
Autom.	Automatic
Man.	Manual
Rif.	Reference
Hp	Horsepower
°C	centigrade
kg.	kilograms
m.	meters
cm.	centimeters
mm.	millimeters
CEE	European Economic Community

ATTENTION

**THE PURPOSE OF THIS TEXT IS
TO INTRODUCE YOU TO THE
BASIC STANDARDS AND
CRITERIA YOU HAVE TO
FOLLOW IN ORDER TO USE AND
MAINTAIN THIS MACHINE AND
THUS IT HAS TO BE READ
BEFORE USING THE MACHINE.**



This manual has to be considered as an integral part of the machine and must be passed on with the machine if resold. If you loose it or if it is not readable, it is important that you ask for a new copy to the producer, to the dealer or to the importer. If you think that some themes are not very good illustrated, return to the producer, the dealer or the importer to have the needed information.

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INTRODUCTION

Dear Customer,

the purpose of this text is to introduce you to the basic standards and criteria you have to follow in order to use and maintain this machine and thus it must be read before using the machine.

If any part of this publication is not understandable please consult your retailer as this is a necessary precondition to using this machine safely.

Your safety depends on your careful and rational observation of the standards laid out in the text as well as the proper functioning and durability of your machine.

This manual must be considered as an integral part of the machine and must be passed on with the machine if resold.

This publication contains all the general specifications needed to have a working knowledge of the machine without regards to specific types, models and the numerous characteristic modes and settings.

GENERAL INFORMATION

INSTRUCTION MANUAL

Verify that this manual is in good condition and all pages are readable.

If damaged or missing pages on receipt, please return to the retailer who will provide a replacement copy.

PRESERVATION AND CARE OF MANUAL

This manual must be kept for the entire life of the machine.

If lost or destroyed please ask the manufacturer for another copy quoting the type of machine, serial number and year of production.

IN HOUSE TESTING

The machine has been tested on the manufacturer's premises to verify that all components function correctly according to standards laid out by the standards in force.

DELIVERY

Responsibility for goods in travel lie solely with the transporter and recipient.

In cases of delayed delivery or accident and the manufacturer cannot be held responsible.

Transportation of goods has to be carried out by suitable companies who comply to regulations in force and legislation concerning weights and bulks.

INSPECTION

On receiving the machine check the condition.

Should you come across any damages don't install the machine, instead inform the supplier and transporter immediately.

Make sure the machine is in good condition.

Check you have all components, the overall condition of the machine is good and there are no breakage or dents.

In cases of damages or missing components inform the retailer immediately after taking legal proceedings against the transporter, if necessary.

PACKAGING

Packaging material and maintenance waste must be disposed of separately at authorized depots and not left in reach of children or animals or to litter the environment.

MACHINE DETAILS

An exact model description, identification code, serial number and any installed accessories will help the manufacturer or call centre deal with any enquiries quickly and efficiently.

Always refer to the machine model and production dates every time you contact the call centre, retailer or manufacturer.

For quick reference fill in your machine details in the box below.

MODEL		SERIAL NUMBER	
CODE		YEAR OF PRODUCTION	

RECOMMENDATIONS

Before use please read the instructions carefully, in particular the RECOMMENDATIONS, SAFETY REGULATIONS and PRECAUTIONS.

We remind you that some machines mechanical parts have linear or rotatory movement and can cause serious damage or injury to people, animals and things.

It is forbidden to remove or tamper with the safeguards of the machine.

It is obligatory to wear the correct protective clothing and safety equipment.

It is necessary to keep the machine clean and in working order especially the nameplates, couplings and controls.

For the safety of you and others and the proper functioning of the machine don't use the machine for uses other than those specified or intended by the manufacturer.

Before using the machine make sure that any dangers to your safety or others have been removed. Pay attention to the type of oil of used in cases where the equipment is used with different types of tractors.

VERY IMPORTANT

For all operations use proper working clothes and/or suitable safety apparel like glasses, shoes, gloves, and working cloth in accordance with the safety standards in force in the working area.

The working area must be kept completely clear, so pay the utmost attention that there aren't any people or animals in the immediate area.

Nobody else apart from the operator must be within the working zone other than collaborators which for safety should be no less than 50 mtrs.

Maintenance of the equipment must be carried out by only one operator with the machine off and tractor at a standstill (off) with the ignition key removed.

DESCRIPTION OF THE MACHINE

The CPL head is used for the cutting and removal of the shoots in spurred cordon and Guyot system vineyards, and surely represents one of the most economical solutions for this agricultural job.

It must be fixed to the relevant multi-purpose support, which can be installed on the front part of most driving vehicles by the manufacturer, the dealer or authorised technician.

The equipment can be realised and/or configured to meet the specific necessities of each customer.

The machine in question is driven by hydraulic motors, which make disc rotation possible. The afore-mentioned motors are driven by the oil of the agricultural vehicle (in the event of insufficient oil, a suitable additional control unit can be supplied, made up from a tank that can hold 50 litres of oil, a pump, the oil filter and the relative piping) and commanded by an electric command unit, which must be located in proximity of the driver position, in an accessible position and especially not to be an obstruction while the vehicle is being run.



Pre-pruning machine

One or several fixed guards protect the rear part of the cutting tower.

These devices are very important for safety and must be installed when the machine is parked (i.e. not being used for work) and during transfer to the place of work.

The protections must never be removed.

Depending on the type of cultivation, the machine can be configured in a way to optimise the job; there are four tower versions with 4, 6, 8 and 10 discs with working height from 30 to 90 cm.

The pre-pruning machine has two towers with discs, on which it is possible to mount a sawing disc for lower finishing, instead of the final disc.

Movement is given by the oil sent from the vehicle pump by an eventual control unit applied to the PTO and controlled via the electric or manual command unit, or of the tool-holder tower to which it is applied.

The two towers have different rotation speed. This speed difference allows the shoots to be broken and also to be removed from the wire to which they are attached.

The best rotation speed for the discs is assessed at approx. 200/300 rpm for the internal tower, 400/600 rpm for the external tower, adjusted by the distributor flow regulator, to which the machine is supplied.

TECHNICAL SPECIFICATIONS

Type	PRE-PRUNING MACHINE
Model	Uncovered disc cutting tower
Hydraulic motors	100 cc / 50 cc
Structure	in painted steel

TECHNICAL FEATURES

The machine, manufactured in compliance with the safety regulations, is applied to the tool-holder frame B1, Vision 1 and tower 1 or on any other tool-holder.

It is fitted with a semi-automatic hydraulic opening system and includes a quick-coupling to facilitate and make installation, disassembly or replacement operations of the equipment easier and safer.


The driving vehicle or the agricultural vehicle must not weigh less than 2 TONS.

The connection is made by the installation company depending on the type of vehicle.

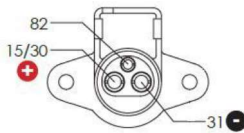
COMMISSIONING

If the driving vehicle is not fitted with three-pin outlets, adapt the plant of the same with the three-pin outlets provided with the machine, taking the wiring diagram at the side as a reference.

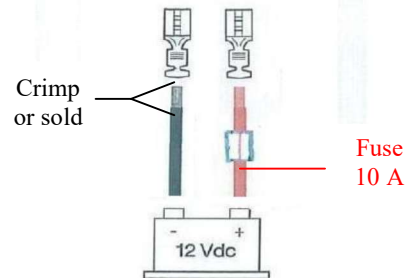
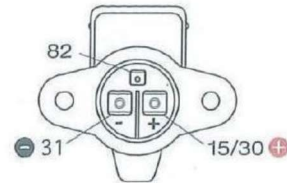
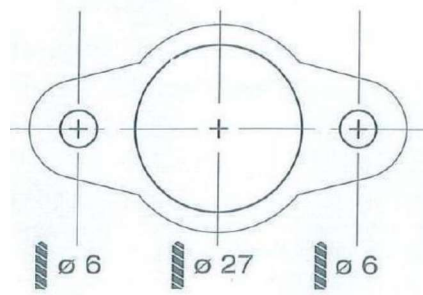
Connect a group cables with 4 mm² section and max. impedance of 18 A, directly to the driving vehicle 12 V battery, for every three-pin coupling to be added to the existing plant.

For every group, insert a 12 A fuse  into the red current wire.

Fix every three-pin attachment to the driving vehicle using the perforation template printed on the blister, then couple the wires in the three-pin couplings, making sure polarity is respected.



Three-pin outlet



SYSTEMS

Hydraulic system adjustment

The machine hydraulic system is made up from an additional valve to be coupled with the hydraulic or main electro-hydraulic system of the tool-holder tower.

By operating on the number of revs. on the tower block, adjusts the rotation speed of the conveying parts.

HYDRAULIC LAYOUT

RECOMMENDATION: the rotating speed must be proportional to the amount of timber to be cut and the advancement speed of the driving vehicle. The rotation speed must always be higher than the advancement speed of the driving vehicle so that the wire is always taught and possible cutting of the same is prevented.

ATTENTION:

Before performing any tests on the machine, connect the return coupling to the driving vehicle and the pressurised piping in the correct coupling.

If the driving vehicle does not have the return coupling, do not start the machine because it would cause serious damage; contact the area dealer.

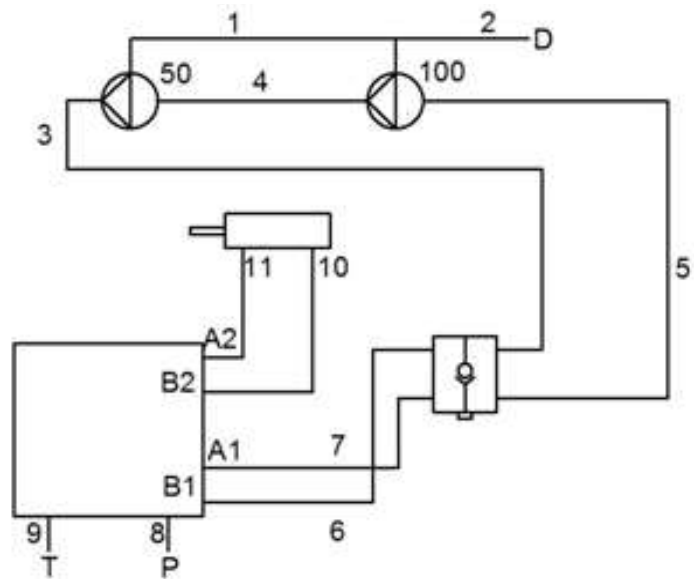
D connection to drainage

P pressure

T discharge

1,2,3,4,5,6,7,8,9,10,11 hydraulic pipes

50, 100 hydraulic motors



COMMANDS

In order to function, the machine requires an oil flow rate that can be sent via the joystick-controlled electrovalve or via the manual hydraulic distributor in the frame B1, Tower 1 and Vision 1 or via a distributor of the driving vehicle in the case of direct assembly.

By introducing the 12 V max 25 A **three-pin plug** into the driving vehicle, the emergency command box is powered and the **green indicator light** switches on.

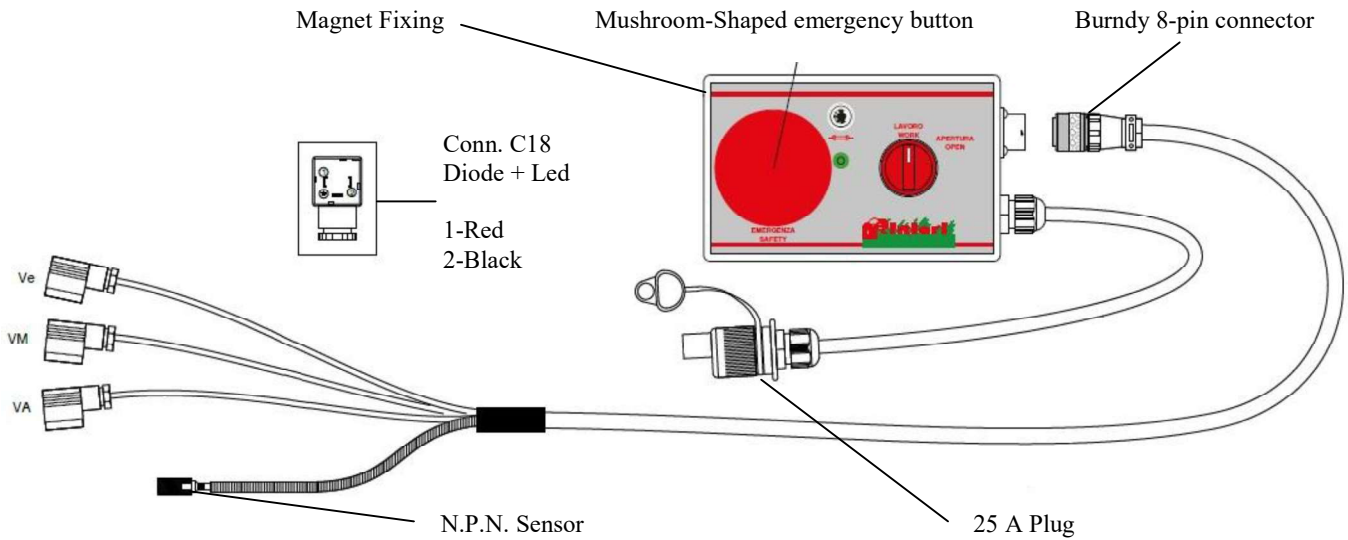
If the indicator light does not switch on, it may depend on:

- no power supply or polarity inverted in the three-pin outlet, which has been added to the driving vehicle system.

- fuse burned in the push button panel or the plant of the three-pin outlet on the driving vehicle.

The driving vehicle positioning command has a two-position **selector**: LAVORO/WORK, APERTURA/OPENING. In the work position, the machine cages close and the conveyors can be rotated. If the selector switch is taken to the open position, the machine cages open and conveyors rotation is blocked; status to use in manoeuvres or to block the machine in open position until the selector is taken back to work position.

By pressing the **red mushroom shaped button** on the emergency command box, the machine opens leaving conveyor rotation free at a slower speed, and remains open while the button is pressed.
 The **fuse-holder** houses a 5x20WF 10A 250V glass fuse.



IDENTIFICATION DATA

ATTENTION

CHECK YOUR MACHINE: if you don't find an identification tag, ask immediately for it to your retailer.

Machines without identification tag **mustn't be used**. **Our factory doesn't recognise them**, so consider them as anonymous and potentially dangerous.

Identification tag should always be attached on the machine and should be well readable, so, if it deteriorates or if you loose it, please ask the manufacturer or your vendor buy a new one.



Identification tag of the machine			
The identification tags are little plates fixed to the machine frame and it supplies the following information:			
A	Manufacturer	3	Serial
1	Model	4	Bulk
2	Code	5	Year of construction


ADHESIVES


The following safety adhesives are placed on the machine for your safety and the safety of others.


Go through the manual taking note of the meaning of every warning or danger sign.


This procedure has to be done together with your fellow operators and anyone using this equipment.


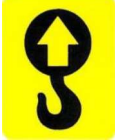
If in the event that one of these adhesives goes missing or becomes illegible you must get an immediate replacement by contacting your retailer, or the manufacturer.


	Indicates the equipment's place of origin; built or assembled in a country that belongs to the European Economic Community.
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	<p style="text-align: center;">CAUTION</p> Read and refer to the "use and maintenance" instruction manual carefully before using the equipment or performing any kind of work on it.
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	<p style="text-align: center;">CAUTION Rotating parts on the machine. Wait for all parts to have completely stopped before proceeding to checking or intervening on the machine.</p>
--	---

	<p style="text-align: center;">CAUTION Suitable safety individual equipment must be worn.</p>
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	<p style="text-align: center;">CAUTION Danger: machinery may suddenly shift laterally. Keep safety distance.</p>		<p style="text-align: center;">Hook for hoisting and handling the machinery.</p>
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	<p style="text-align: center;">Indicates the areas that require grease injections.</p>
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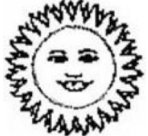
SAFETY REGULATIONS

The use of this machine is for skilled and specialized persons with appropriate abilities and competence in carrying out operations. The must have a good knowledge of this manual and are informed in general safety procedures. Follow with the utmost care and attention instructions for your safety, the safety of others and of environment.

SYMBOLS TO REMEMBER



Danger for people
Danger of serious damage to the machine
General danger



Protect the environment



The operator must always stay in the drivers seat and never abandon it when the equipment is on and the engine is on.

The operator must never leave the drivers seat with the aim of making adjustments or other reasons as it could create a dangerous situation.

The operator must always stay in the seat alone and not carry other people animals or things.

The operator must wear appropriate work overalls / clothes and not loose clothing which could get caught in moving parts of the vehicle or equipment causing serious injury.

It's necessary to wear personal protective devices for eyes (face mask, goggles) and protective headphones for acoustic pressure in places of work it is greater than 85 db.

Don't wear rings, wrist watches, loose articles of clothing or hanging things, torn clothes, shoes, unbuttoned jackets or blouses which can get caught in moving parts. We advise you to use approved articles of clothing for accident prevention for example sturdy gripped boots, safety goggles and face mask, above all if the vehicle is automatic without a cabin.

We advise you to consult the appropriate public authority concerning the acquirement of accident prevention devices and vineyard safety.

The operator must have suitable abilities and psychophysical conditions in order to understand how to apply correctly all the instructions specified in this manual and all the symbols and captions on the machine.

Do not use the machine if you are under the influence of medicines, alcohol, or other substances that could compromise your normal level of attention, perception and reaction.

When on the streets, respect meticulously the provisions in force, in particular as far as lighting, safety devices, maximum dimensions, juts etc are concerned.

Drive very carefully because the equipment limits visibility.



When you have to drive on streets to reach the work place, make sure that the machine is in line with the moving vehicle and that it does not cover possible lighting and signal systems; if this is not possible, put the machine on a type-tested tow.

Before leaving the driver's seat, disconnect the power source, switch off the engine, take out the ignition key and put on the handbrake.

Do not allow the machine to be used by any operator ignoring the risks and instructions reported in this manual.

Keep the equipment clean and in order.

Do not use any equipment with faulty components.

Additional safeguards have been placed by the manufacturer for the safety of the operator during his work; their removal or tampering is therefore absolutely forbidden; instead, always make sure that safeguards and safety devices are in place and work properly.

For the operator's safety and the equipment's integrity, do not modify anything without the written authorization of the manufacturer.

Make sure that no one is in the working area of the machine when in use, (minimum distance to respect: at least 10 meters), pay much attention to children and animals.

Verify the stability of the machine on a flat while the machine is working.

Do not work on soft ground, on too extreme slopes or that can compromise the machine's stability.

Remove possible obstacles as wood, tree trunks, scraps which could damage the machine and its stability.

Clean your shoes' soles before getting up the machine and using the pedals.

Do not try to take out material with tools or with hands or feet while the machine is working: stop the tractor, switch off the PTO, take off the key and wait some minutes that the machine stops before repairing it.

If you have to stop while working, stop the machine on a flat with operated hand brake and first speed, disconnect the PTO, turn off the motor and take out the key.

Be always sure that every part of the hydraulic kit is well closed.

Do not tamper the security system.

The security of your machine depends on its efficiency, so respect the instructions and the maintenance. On its efficiency, so respect the instructions and the maintenance.

IMPROPER USE

By improper use we mean:

- using the machines for operations they were not designed for or for usages that do not appear in the chapter "Machine's Description and End Use" of this manual;
- use of the machine by people under the age of 18, and/or people not trained to use this kind of equipment.

INCORRECT USE

By incorrect use we mean using the machines without respecting the instructions of the manual.

Not respecting these instructions could risk injury to the operator or third parties, and cause damage to the machine.

Incorrect use can thus mean:

- incorrect installation and/or use of the components or optional accessories.
- incorrect preparation of the machine.
- not using the manufacturer's spare parts.
- repairs by non-authorized people.
- maintenance by non-qualified people.
- uses the machine is not designed for (see above), lack of maintenance.

WARNING: the manufacturer cannot be held responsible for any injury to people, animals or damages to things resulting from improper or irresponsible use, as mentioned above.

METHOD OF USE

Users

Users are divided into two categories:

- OPERATOR: a person without technical knowledge but trained to use the machine and carry out simple maintenance and adjustments.
- QUALIFIED TECHNICIAN: a person who works on behalf of the manufacturer and/or retailer and can carry out complex maintenance and repairs.

Indications before using

Before starting the machine, you should read this manual carefully.

Check that everything has been installed and checked by a qualified technician.

Send away everybody from the working area before starting work, then proceed slowly checking your machine.

Start the motor and keep it ticking over, activate oil delivery to the command unit and then test all machine movements, up to limit switch.

Remember that the movements must always be performed slowly and evenly.

Pay attention never to switch tool rotation on during movement.

Make sure that the disc towers turn freely, that there are no abnormal noises or vibrations and there are no leaks in the hydraulic system.

If everything is satisfactory, start working by approaching the wire row slowly, adopt the height, inclination and distance between the cutters and vegetation by operating on the command unit levers.

Activate motors start-up, press the machine opening button and take the driving vehicle to an ideal number of revs. (depending on the type of vehicle used and the job to be performed).

Proceed at an appropriate speed, always paying close attention and do not be distracted at all.

If you realise that someone or an animal is approaching, stop and make them move away.

Connecting the hydraulic system:

Connect the quick-coupling B with the delivery P coming from the hydraulic distributor referring to the engines delivery.

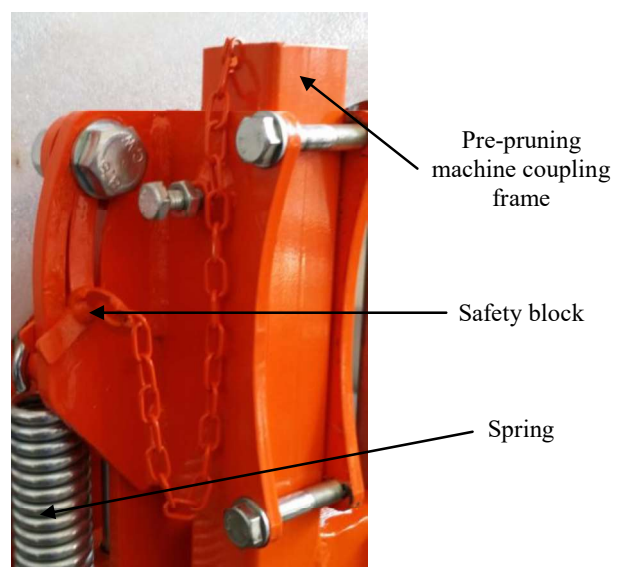
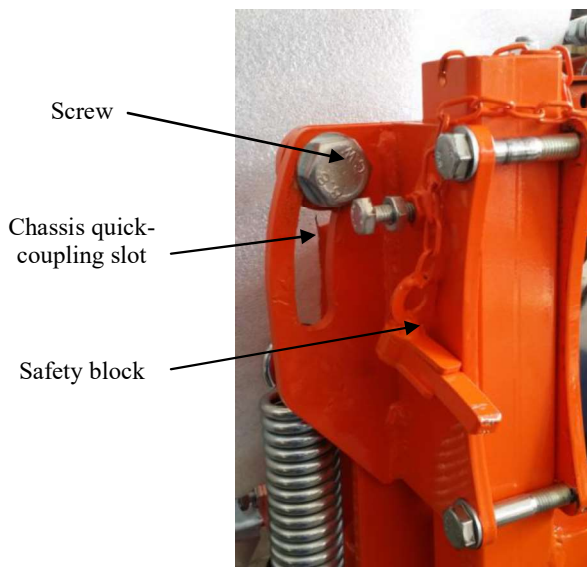
Connect the return of the oil to the driving vehicle to A.

Connect C onto the driving vehicle free discharge



Bar/Pre-Pruning Head Safety Block

- When using the pruning machines with cutting bar, leave the screw free to run along the slot of the frame quick-coupling, so that it can move in the event of accidental blows and successively go back to position thanks to its tension spring.



- When using the pruner with the pre-pruning head, to prevent the pre-pruning head from becoming misaligned due to its own weight, run the screw along the slot of the frame quick-coupling, overcoming the resistance of the tension spring, insert the safety block into the slot of the frame quick-coupling and take the safety tab into the block position. Remove it when the pruner is to be used again with the cutting bar.

SAFETY MEASURES

Before working

Check the stratification, the ground type to work out the method of work, the adjustment and the speed of the machine. Always check that the safeguards are well installed and that no one is in the immediate area (100mtrs minimum). Only use the machine if it is in perfect working order.

During work

Do not let anyone come within the working area; they must respect the minimum safe distance of 50 mtrs; cordon off the working area and put warning signs up if necessary.

While working, keep other people far from the machine, and in particular from the sides of the machine **NEVER STAY BETWEEN TRACTOR AND MACHINE.**

Use the tractor's power take-off at **460 r.p.m.** IN THE 540 R.P.M. MODE, never for any reason whatsoever, set it to a 1000 r.p.m. If you stop working; disconnect the power source, take out the ignition key and put on the handbrake before getting out of the tractor. Maintain an appropriate speed in order to avoid dangers to you, others and the equipment itself.

While working or during the machine's moving, do not carry on the machine hanged or seated people.

When moving on inclined grounds avoid swerving which could cause sliding and overturning.

On uneven grounds or those with obstacles go as slow as possible.

When using the equipment after a long time of inactivity, we advise to check the functioning of the hydraulic system.

The way the equipment (when present) is used, must take into account the "equipment / vehicle" stability ratio; while working continually check the stability. During work always be alert.

When stopping or stationary pay attention to the ground where you have stopped making sure there are no bumps that could compromise stability.

Stop your vehicle and block the equipment in a way that it is secure and does not put you or others at risk.

NOTE

Do not repair the machine with bad or improvised adjustment because it could cause a bad quality of the work.

For this reason be sure that your tools are not consumed, pay attention to the working speed, elements which are linked together.

RISKS

Every machine can cause a risks so this very dangerous let somebody be near the machine if not authorized.

In order to eliminate risks, REMEMBER to take of the key and to mount again the security devices in good and sure position.

REMINDER:

- to take out the key from the control board.
- to put back into position the protection devices, making sure they are fixed stably and safely.

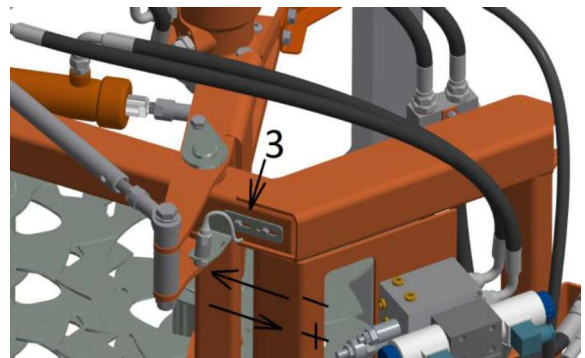
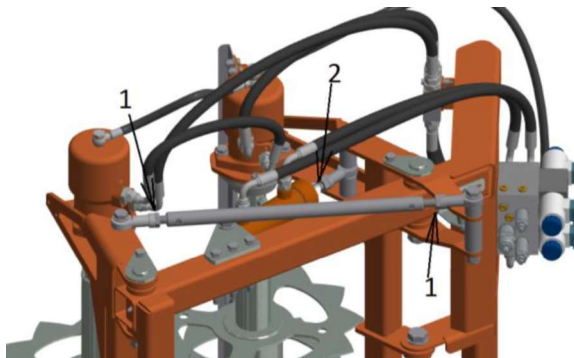
ADJUSTMENT

Machine opening adjustment

To adjust the distance between the towers, loosen the lock-nuts on rod 1, screw or unscrew the rod adjusting the distance between the towers.

The shoot removing work depends on many factors, one of which is the distance between cutting tower and the conveyor.

For the closing run, adjust the head at the top of the closing jack by previously loosening the nut 2.



To adjust the position in closure, move the sensor towards the – position to leave the machine more open, towards + to close it more; always pay attention never to reach the jack closing limit switch.

IT IS RECOMMENDED NOT TO ADJUST THE POSITION OF THE ELECTRIC LIMIT SWITCH UNLESS IT IS NECESSARY.

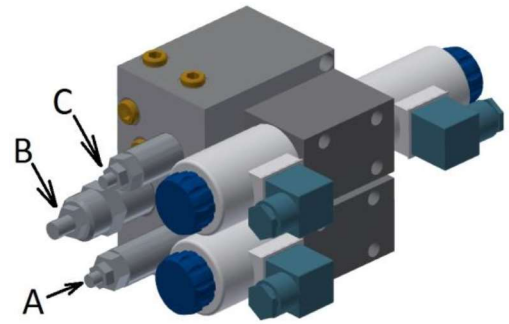
Pressure adjustments on the machine:

Valve: A V max standard calibration 120 Bar adjusts the pressure on the conveyor motors

B Flow adjuster max 10 l/min adjusts the delivery oil flow rate at the opening jack, we adjust the opening speed of the cages.

C V max on jack maximum opening pressure at 30 Bar

It is recommended to operate on the valves only if necessary and using relevant manometers for reading the pressures.



General adjustments

If wobbling or play is noted during use, eliminate them by operating on the relevant play recovery screws.

STANDARD MAINTAINANCE

Maintaining the machine in a perfect condition means it has a longer life expectancy and retains optimum performance; thus regular small checks are necessary.

This allows for a perfect working order and good reliability.

Cleaning, lubrication and adjustment of the machine must be carried out when it has been turned off.

General safety measures



Do not allow unauthorized people to interfere with the machine.

Before carrying out checks or maintenance, verify that the machine is completely off.

Never put your fingers in the machine openings without protection.

Never align holes or with your fingers but only with the appropriate centering tools.

Do not touch tools without wearing the correct protective gloves.

Never use petrol, solvents or other inflammable liquids as detergents but use recommended non-flammable and non-toxic commercial detergents to clean the machine.

While using compressed air to clean and/or dry machine parts protect your eyes with goggles and limit the pressure.

Keep the machine clean and in order.

Replace immediately any warning or instruction adhesives, which are no longer visible or missing.

Do not solder near the hydraulic tubes in order to prevent fires.

Pay close attention to losses from the hydraulic system; leakages from small holes can be almost invisible but are able to penetrate beneath the skin: in these cases use face and hand protection.

Never carry out checks to identify leakages with bare hands.

CLEANING

Wash only with neutral products and water to remove traces of corrosive fluids; dry carefully making sure there are no pockets of water.

If traces of dirt remain, we recommend using specific products following the instructions carefully.

WARNING: DO NOT USE products containing perfumed solvents, methanol or hydrocarbons to clean painted parts.

HYDRAULIC SYSTEM

Control regularly all the tubes of the hydraulic system are fitted properly and there are no leakages; verify that tubes are intact.

Always take the necessary action, whether by repairing or replacing, every tube which is loose or which shows signs of abrasion, tear, defective mounting, or oil loss even from the connections.

Check the connections and ensure that they have been properly joined in relation to each other before pressurising the hydraulic circuits.

Avoid bending, or scratching tubes of the hydraulic system with sharp or abrasive objects.

Replace tubes which show any signs of damage caused by crushing, cracking, use, or with defective connections and avoid using them again.

They could explode during use.



The hydraulic circuits are under pressure and therefore, before adding or removing hydraulic oil, inspect the circuit, place the equipment on the ground and completely discharge the remaining pressure in the system, operating the control lever several times, having first switched off the tractor motor.

The hydraulic oil in the system is hot, even when use is no longer being made of the machine. wait for the oil to cool down before carrying out any work on hydraulic lines.

The jet of oil which small losses from the tubes under pressure can generate is dangerous: it can pierce the skin or damage the eyes.

Always wear thick gloves and safety goggles.

To avoid damage, always use the same oil.



Remember that disposal and law regulates collection of used oil.
 Take the aforementioned residues to the appropriate disposal center or keep them in tanks and call specialized companies to dispose of them.
 It's absolutely forbidden to take them to illegal dumps or to dump them in rivers or sewers.

HYDRAULIC SYSTEM MAINTENANCE

The standard machine can work with the mineral oil of the tractor, like Mobil Multivariax/35 HP with viscosity grade ISO VG 68, with the following limitations.

If the machine has got an hydraulic kit, we are used to employ an hydraulic oil such as Mobil DTE 25 with viscosity 46 and a working duration of 5.000 hours in constant conditions, with hydraulic oil level at 3/4 of the tank capacity, that is, about 45 litres for the model 50 and 75 litres for the model 90.

Variable working conditions, such as :variation in effort, heating/cooling of the daily temperature,(with the consequent creation of condensation and pollution) decrease the working duration that we can evaluate in about 1200/1500 hours of work.

During this period you have to check periodically the oil level in the tank and if necessary fill it up with oil which has the same viscosity.

When the oil has been completely replaced, we suggest to replace the filters at the inner of the tank too.

Periodically

Check the structure.

Remember that it is strictly forbidden to make holes or modify the structure.

WARNING: for the maintenance we recommend that the machine is disassembled from the tractor.

WARNING: we recommend to contact the retailer or authorized technician for specific maintenance, repairs and/or setting up the machine.

At the start of **every working day**, perform a general visual check, a functional check (lever, movement tests, etc.) and check the conditions of the rubber and iron piping.

Check the fittings and correct connection of all couplings before pressurising the hydraulic circuits.

After the first two hours of working, tighten the tools and fittings of the hydraulic system piping and inject some Mobilux EP 004 type industrial grade NLGI 00 lithium-based semi-fluid grease for gear transmission through the greasers; clean the cutting discs.

The moving parts that are not accessible and without greasers are lubricated for life at the time of assembly.

It is recommended to clean the greasers and grease gun before performing lubrication; the lubrication points are indicated on the machine by stickers.

Check the status of wear of the tools **every 8 working hours**, grease the lower bearings of the cutting tower arms via the greasers (Fig.37 Tab.3/A and Fig.38 Tab.4/A), the bushings of the arm joints and the jack attachment via the greasers (Fig.24 Tab.5/A) and the rotary joints.

Every 16 hours of work grease the safety device and any ball quick coupling.

Check the state of wear of the tools.

Check that there are no broken or almost broken cutters and, in these cases, replace them immediately.

To perform these operations, use thick work gloves only.

It is also recommended to use original tools only, requesting them from our company or authorised dealer.

Check the existence and legibility of the plates and all stickers and replace them with new ones, if necessary.

Weekly, perform a visual check of every mechanism and any lubricant leaks, movements and, if necessary, grease the sliding surfaces of the mobile elements, in order to guarantee regular functioning and to limit wear; control rubber and iron piping.

For the model with proximity sensors, **at the start of every working season** for correct machine functioning, it is good practice to check the arms closing proximity sensor, with machine at a standstill and current on.

The sensor support (Fig.2 Tab.7/A) mounts a magnetic proximity sensor, which has a luminous indicator light, which demonstrates its functioning.

With the arms in open position, the sensor is off; with the arms in closed position, the sensor is on.

TROUBLESHOOTING

If the following problems are detected, perform the necessary counter-measures with reference to the instructions contained in the manual.

Problem	Cause	Solution
Powered by the driving vehicle, the hydraulic jack and the motors do not move and/or move slowly	The driving vehicle engine is off and/or there is no pressure or the pressure is too low in the driving vehicle hydraulic system.	Switch the driving vehicle engine on and/or check the hydraulic system
	The quick-couplings at the driving vehicle are not connected properly	Connect the quick-couplings to the driving vehicle
	The oil flow rate is insufficient	Use a correct number of revs on the driving vehicle to guarantee suitable flow rate of oil to the machine

Problem	Cause	Solution
The part between the wires does not close towards the wire	The emergency command box selector is not in the work position	Take the selector to the work position (see commands chapter)
The emergency command does not function and the box green indicator light does not switch on	No power supply or polarity inverted in the three-pin outlet, which has been added to the driving vehicle system.	Restore the power supply by correctly connecting the plug and/or correct polarity in the socket of the driving vehicle system socket
	Fuse burned in the box with proximity sensors and/or in the three-pin coupling plant on the driving vehicle	Replace the damaged fuse
	The proximity sensor is damaged	Replace the damaged sensors
The equipment does not escape from the line quickly enough	The advancement speed of the driving vehicle is too fast	Reduce the speed of the driving vehicle, maintaining a correct number of revs.
	The jack VMP is adjusted too low	Adjust the VMP correctly (see adjustments chapter)
	The oil flow rate is insufficient	Use a correct number of revs on the driving vehicle to guarantee suitable flow rate of oil to the machine
Excessive vibrations or noise	A bearing is damaged	Replace the damaged bearing
	A disc or the disc-holder shaft is bent or damaged	Replace the damaged disc or shaft

TRANSPORT - HOISTING - MOVEMENT

When transporting the machine be careful to block it with ropes, straps or anything suitable to keep the machine stable and safe and to prevent accidental shifting that could cause injury or damage the machine.

If the machine has to be hoisted it must be hooked to the proper hoisting instruments by means of ropes or suitable equipment to secure its integrity.

Before hoisting make sure that hoisting means are suitable in that they have a higher weight capacity than the weight of the equipment.

The machine mounted on the centre of the tractor is not homologated for the transfers on common roads. So they have to be disassemble and loaded on implements on issue and transfered by homologated trailers.

Also the machines which are more than 2.5 m. width have to be transfered by homologated trailers and longitudinal positioned to avoid projecting parts.

The hoisting equipment must be adequate and comply with safety standards in effect at the time governing these operations.

Verify that the instruments used are in sound condition and not worn or unsafe in anyway and above all the joints and connections are robust, in good condition and can bear the estimated burden.

Remember that it is absolutely forbidden to remain under or in the immediate vicinity of the object whilst it is being hoisted.

Always use thick protective gloves when carrying out these operations.

The points on the machine which are safe to attach the hoisting hooks to are indicated so by means of appropriate adhesives.

UNINSTALLATION OF MACHINE

Dismount the machine from the tractor and be careful to clean it well.

Park the vehicle on a level surface and in a safe stable way.

Store away from atmospheric agents (inside) and out of the reach of children.

DESTRUCTION AND DISPOSAL OF MACHINE

If you decide to destroy and dispose of the machine it's recommended to render it inoperative by cutting the tubing, disassembling knives and breaking the hydraulic motor.

Also remove identification nameplate of the machine.



Deliver the parts, packaging and replacement parts to the collection center.
It's absolutely forbidden to leave any materials to litter the environment.

SPARE PARTS

When ordering spare parts, you only need to mention the code number of the part and, if desired, give a further description.

If the part belongs to the gear-box, besides the part code and description, please mention the machine roll number, which can be found on its small plate and on the first pages of this manual.

Available on the market are parts such as screws, bearings, cardans, washers, and so on, which, besides our factory, can be bought in specialized shops, just using the same denomination found in this manual.

CONDITIONS OF GUARANTEE

This machine is guaranteed for 12 months from the date of purchase.

The guarantee covers the replacement of parts agreed as initially defective and for errant assembly operations.

The guarantee doesn't cover:

breakage caused by negligence or non observance of the standards outlined in this manual.

Use or maintenance carried out by untrained or unskilled persons.

Pieces or parts which have been tampered with.

For damages sustained during transport, for incorrect installation, for carelessness or inability to use it.

The guarantee also doesn't cover:

Everything considered materials of consumption.

As well as the necessary labour costs for repairs and the delivery expenses.

The parts which are deemed defective which must be repaired or replaced and are under guarantee will be returned to the manufacturer free port and redelivered to you carriage on delivery with transportation costs and risks wholly with the customer.

If the request is urgent the manufacturer will supply the parts with a standard invoice and reserving the acceptance of the guarantee until after receiving the faulty part.

THE MANUFACTURER reserves the right to modify the machines for commercial or technical motives, therefore descriptions and illustrations of this publication are up to date until printing.

If illustrations of tools or parts of the machine are different from this book, please refer to code number written in the spare parts catalogue.

As above said, this machine was designed in accordance with the provisions and subsequent revisions set out in the EEC "machines article", therefore it is safe and reliable and the manufacturer cannot be held responsible for improper use.

Where modifications have been made without prior written consent, replacement of used parts different from those stated by the manufacturer and use of the machine by untrained persons, the manufacturer cannot be held responsible.

For safety issues not covered in this text please refer to general standards concerning the prevention of accidents.

All disputes and controversies lie exclusively with the territorial competence of the judicial authority of the place of production.

Edited by the manufacturer

January 2015