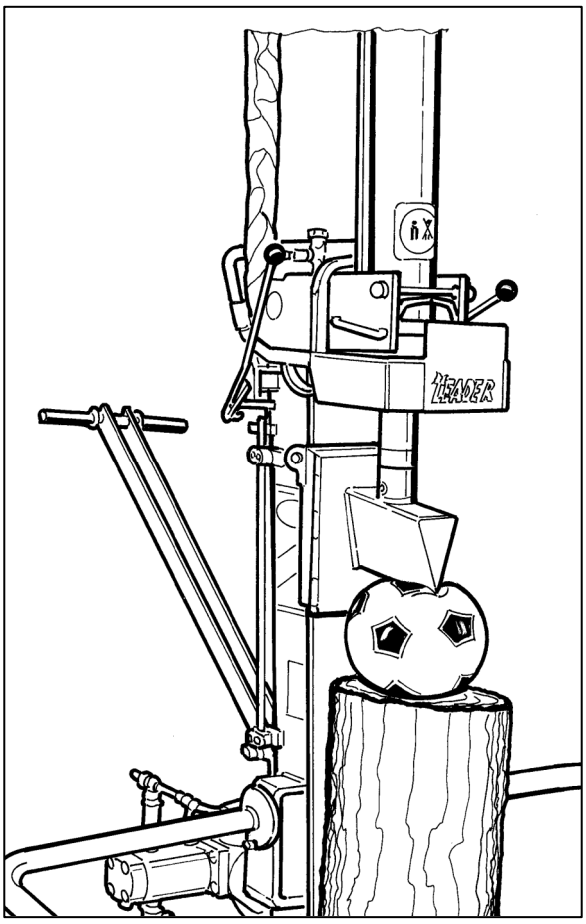
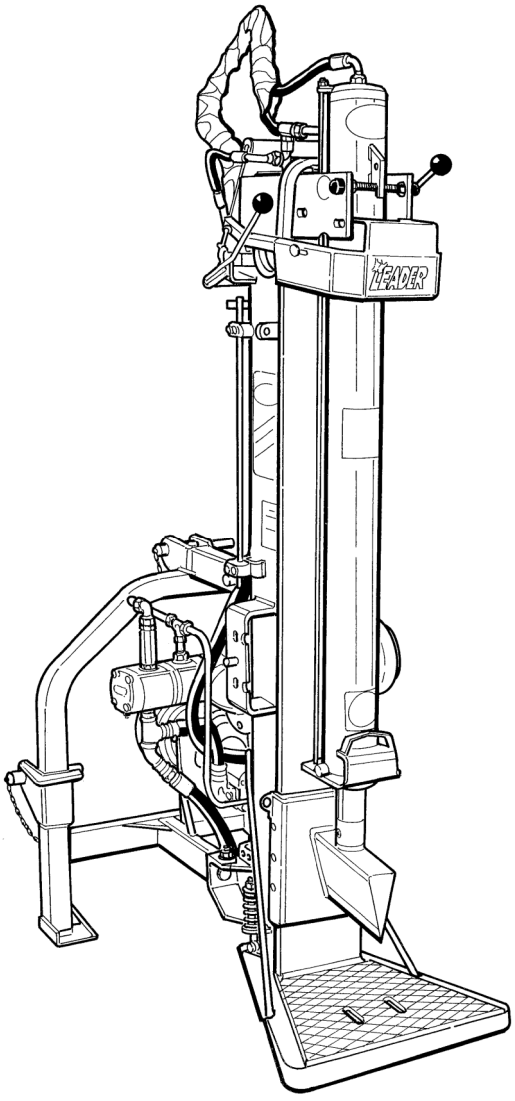


GB

Operator use and maintenance

"Contains CE conformity declaration"

Original instructions – April 2012



Serie:

34: Magik

36: Super Magik

Mod.:

13000 - 18000

EL/ V.PF/ KOMBI

HV/ HVP/ VS

Read this manual carefully before using the machine

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This manual provides you with all the necessary information for the use and maintenance of your machine. It will work well and last for a long time if it is maintained well and used carefully.

Before leaving the production plant, this specific model was subjected to rigorous testing so as to guarantee maximum reliability. However, it is necessary to check that the machine has not suffered any structural damage during transport that could jeopardize its functioning and safety.

This manual is to be considered an integral part of the machine and must accompany it until it is broken up.
If it is lost or damaged, ask **Ricca Andrea & Co.** for a replacement copy.

This manual was written in accordance with European Directive 2006/42/CE, a directive concerning machine safety, which substituted Machines Directive 98/37/CE and came into force in December 2009. These guidelines stipulate that the machine be equipped with all the necessary safety systems even in the planning phase, in order to avoid risky and dangerous situations for the users' health.

The technical information contained in this manual is the property of **Ricca Andrea & Co.** and must be considered confidential.
Reproduction of the graphics, text and diagrams, even in part, is forbidden by law.
Certain details shown in the diagrams in this manual could be different from those on your machine. Certain components might have been removed in order to make the diagrams clearer.
To make this manual easy to consult, it is divided into different sections, each one with a different symbol.

The topics discussed in this manual are those expressly required by the "EU Machine Directive 2006/42/CE" and subsequent modifications and the technical data given is that supplied by the manufacturer at the moment of writing.

This manual must be kept in a place which is accessible to all the staff in charge of operating and maintaining the machine.

In case of any dispute, the Cuneo Law Court in Italy will have jurisdiction.

In case of any problems, our technicians are at your complete disposal.

Tel. 0171.946709 - Fax 0171.946719

If the machine is sold to another party, this manual must be given with it !

CONDITIONS AND LIMITATIONS

All our machines have been subjected to careful testing and are covered by a 24-month warranty for private and DIY use and a 12-month warranty for industrial use or for hiring from the date of production against manufacturing defects.

The warranty starts from the purchase date indicated on the warranty card enclosed with the manual. When the card has been duly and completely filled in, it must be sent to the manufacturer within 10 days of the first use of the machine.

The warranty is not valid if the machine is repaired by unauthorized third parties or if equipment or accessories are used which have not been supplied by "**Ricca Andrea & Co.**", or which have not been recommended or approved by the above, or if the serial number has been removed or altered during the warranty period.

"**Ricca Andrea & Co.**" undertakes to repay or replace free of charge any parts which, within the warranty period, prove to have manufacturing defects.

Repairs are carried out exclusively in our factory or in a Technical Service Centre that we indicate and must arrive free port (with transport costs paid by the user unless agreed otherwise).

The warranty does not provide for any cleaning of working parts.

Defects which are not clearly attributable to the material or manufacture will be examined in our factory or in a Technical Service Centre that we indicate.

If the claim should prove to be unjustified, all repair and/or replacement costs of parts will be charged to the purchaser.

The fiscal purchase document must be shown to the technical personnel carrying out the repairs or must accompany the machine if sent for repair.

The following are excluded from the warranty: accidental damage caused by transport, by negligence or inadequate treatment, by improper use not corresponding to the directions given in the instruction book and any phenomenon nondependent on the normal operation or use of the machine.

"**Ricca Andrea & Co.**" declines all responsibility for any damage to persons or things caused by wrong or improper use of the machine.

For any dispute, the Cuneo Law Court in Italy will have jurisdiction.

Failure to send the card nullifies the warranty !!

DUPLICATION OF THE GUARANTEE CARD PROVIDED WITH THE MANUAL

PART (A)

GUARANTEE CERTIFIED TO BE KEPT AND SHOWN TO THE AUTHORIZED TECHNICAL CENTRE

This certificate, together with the sales receipt, must be shown to the technicians carrying out the repair or must accompany the machine when it is sent for repair.

The certificate must carry the dealer's stamp and the date of purchase.

N.B.: The guarantee is valid only if this card has been filled in completely.

MODEL:

NUMBER:

1st DATE OF SALE
(24 months)

2nd DATE OF SALE:

DEALER or FINAL USER

Name

Address Nr.

Post code Town

Country

Tel.

Fax

e-mail

PART (B)

GUARANTEE CERTIFICATE

All our machines have been subject to careful testing and are covered by a 24-month guarantee against manufacturing defects.
The guarantee starts from the Ricca Snc sales date after the card has been duly and completely filled in.
The sales date is that indicated on the back of this card.

"Ricca Andrea & Co." undertakes to repair and replace free of charge any parts which, within the guarantee period, prove to have manufacturing defects. Defect which are not clearly attributable to the material or to the manufacture, will be examined in our factory or in a Technical Service Centre that we indicate and charged according to the nature of the problem.

The following, however, are excluded from the warranty: accidental damage, damage caused by transport, carelessness or unsuitable treatment, improper use not complying with the warnings indicated in the manual and by phenomena not dependent on normal machine use and operation.

The warranty is void if the machine has been repaired or tampered with by unauthorized third parties. Repairs are to be carried out by one of our authorized Technical Assistance Centres, or in our production centre. Machines must be forwarded free port (the freight costs are to be paid by the user, unless agreed otherwise).

This warranty certificate **and the purchase receipt** must be exhibited to the technician who performs the repair, or must accompany the machine when it is sent for repair.
The warranty does not include the cleaning machine parts.

"Ricca Snc" declines any responsibility for any damage to objects or harm to people, caused by wrong or improper machine use and maintenance.

For any dispute, the Cuneo Law Court in Italy will have jurisdiction.

1.1 Machine description

This series of models, which could be described as professional, is ideal for those who use wood for heating (fireplaces, stoves, wood-fired boilers).
Thanks to their rear wheels (mod. EL and VS), they are easy to transport and have a simple and functional use.
Our firm has designed these models to guarantee maximum safety.
The **Magik and Super Magik** models, 13 and 18 tons, are described in this manual.
The various log-splitter models differ due to their power and feed-type which can be electrical (EL), with a piston motor (VS), with a cardan joint (V.PF), a hydraulic pump (HVP), combined (KOMBI) or with simple tractor hydraulic drives (HV).
Every model is supplied strictly following the regulations in force in the various international markets.

1.2 Manufacturer's identification data

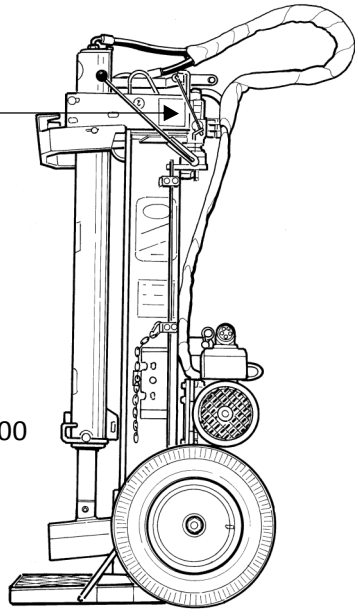
Ricca Andrea & C. Snc
Via Vecchia di Cuneo, 57
12022 BUSCA (CN) - ITALY
Tel. 0171.946709 - Fax 0171.946719

1.3 Machine identification plates

For any contact with the manufacturer it is always necessary to quote the data given on the machine identification plate.

Model:
Serie:
Serial number:
Pressure bar: P.s.i.
Absorbed nominal power:
Nominal electric current: 50 Hz
Nominal voltage: 230□400
Protection degree: IP 54 □ 44
PTO max. rpm.: 540 □1000
Weight: kg

Code 100.029



1.4 Designed use

These specific wood-splitter machine models have been designed, built and protected only for cutting fire-wood logs of various sizes depending on the model. (See technical data table page 34).
Furthermore the log splitter has been built only for breaking logs longitudinally with respect to the wood fibres.
Use of the machine other than that specified by the purchaser's order and/or by the manufacturer's technical specifications is considered to be IMPROPER.

"Ricca Andrea Snc" has 30 years' experience of the normal use of its machines. With this experience we have been able to identify certain common features of the wrong use of its machines.

In particular, improper use generally belongs to one of two different categories:

- The pieces of wood are cut crosswise and not parallel to the wood filaments
- Wrong cutter use, compared with the dimension of the log to be split.

The above represents a range of mistakes that could lead to serious hazards.

1.5 Permitted environmental conditions

So as to guarantee correct operation, the machine must be sheltered from atmospheric elements (rain, hail, snow, fog, suspended particles of dust, etc.) with a working environmental temperature between -15° and 45° and relative humidity no greater than 70%.
The working environment must be clean, sufficiently bright and in the absence of an explosive atmosphere.

1.6 Noise level

Noise meter trials carried out on these models show a continuous acoustic pressure of less than:
Lpa < 80 dB.

WARNING: For the VS models (with piston motor), however, it is advisable to use protective earplugs or headphones.

1.7 Qualitative characteristics

Approval by the most important European certification authorities.
Double-acting hydraulic cylinder with return safety block.
Return hydraulic cylinder.
Electric system with safety magnetothermal switch.
Long-lasting epoxy paint.
Interchangeable slide guides.
Anti-capsizing front and rear supports.
Very high quality materials and components.
Strict component and final quality testing.

1.8 Storage

Remove all foreign parts from the machine and clean the surfaces.
Using a brush, coat all the mechanical parts, including the fastening devices, with a protective lubricant to be removed in case of reinstallation with alkaline degreaser.
Lubricate the mechanical parts and coat the surfaces with a protective lubricant.
To move the machine follow the instructions written on page 25.
Chose a flat and horizontal surface to store the machine, preferably near a sheltered wall or a corner and protected from weather conditions in order to guarantee a temperature between 0° and 40° C.
Protect the parts from the build-up of dust by covering them with a sheet.

1.9 Scrapping

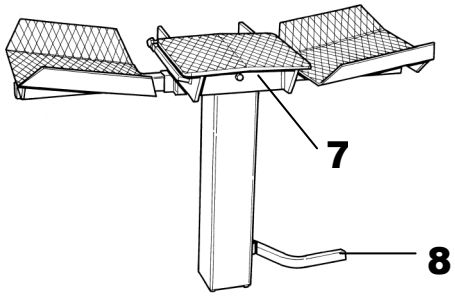
If the machine is to be scrapped, it must be disposed of in appropriate dumps, respecting the regulations in force.
Collect any used oil and dispose of it in the special oil collection centre. Do not dispose of the oil in the environment as, according to the laws in force, it is classified as dangerous refuse.
Before scrapping the machine, it is necessary to separate the plastic or rubber parts and the electric material.
Those parts made solely of plastic, aluminium and steel can be recycled if taken to special collection centres.

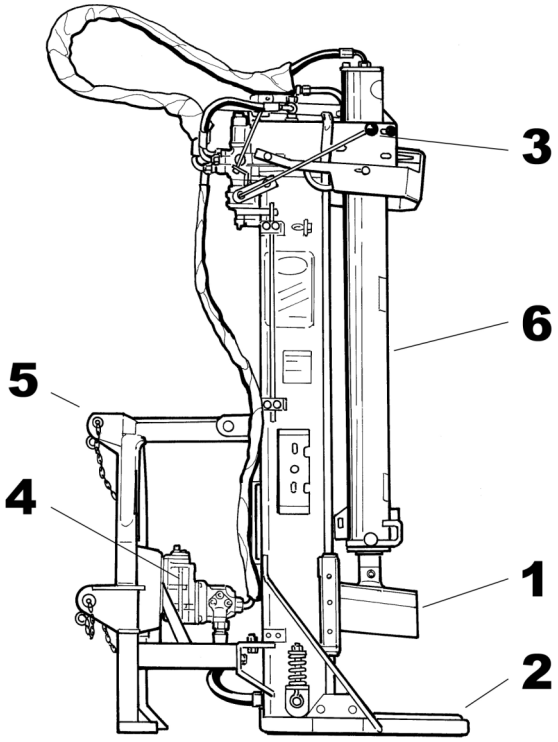
1.10 Overall dimensions / Technical data

Refer to the technical table enclosed for the overall dimensions and technical data (see page 34).

1.11 Identification of the main components

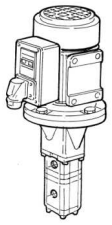
1) CUTTER
2) LOG SUPPORT BASE (cm 120)
3) LEVER CONTROLS
4) POWER UNIT
5) 3rd POINT 1st – 2nd CAT. JOINT
6) HYDRAULIC CYLINDER
7) LOG SUPPORT BASE (cm 50)
8) PEDAL CONTROL

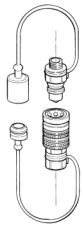


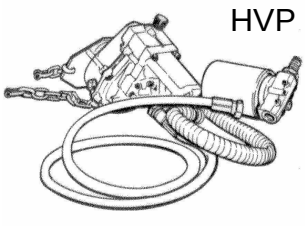


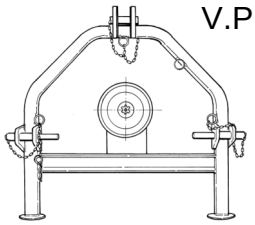
NB: this diagram represents the V.PF model.

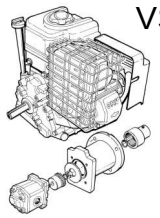
Power units:


EL

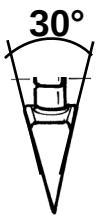

HV


HVP

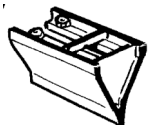

V.PF


VS

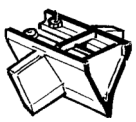
1.12 Optional accessories



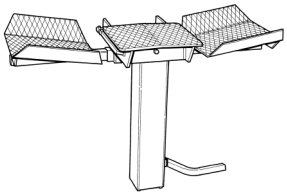
30° standard cutter



60° cutter
Code 845.056.K
for Magik



Cross cutter
Code 845.057.K for Magik
Code 845.086.K for Super Magik



Log support base (cm 50) with side extensions
Code 845.034.K
for Magik and Super Magik

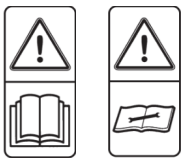
2. SAFETY PLATES and SYMBOLS

Self-sticking labels with safety symbols and/or messages are applied to the machine. The nature of the danger and the position of the labels on the machine are indicated in this chapter.

ATTENTION: Ensure that all safety messages are legible. Clean them using a cloth, soap and water. Do not use solvents, naphtha or petrol. Ask Ricca Andrea & C. Snc. for replacement labels if necessary and replace any damaged labels. If there is a label on a part which is to be replaced, ensure that a new label is affixed onto the new part.

NB: for reasons of space, the warning and attention pictograms have been grouped into one single self-sticking label positioned in point (A).

Plate (**A**)


Read the manual carefully before using the machine or before carrying out a maintenance operation.


Read the use and maintenance manual carefully before carrying out any operations on the hydraulic system.


Disconnect the power supply before carrying out any maintenance operation.


Electrocution hazard. Operate in dry places.


Shearing hazard. Do not approach the wedge when in motion.


Crushing hazard. Stand at safe distance.


Crushing hazard. Keep arms away.


Beware of hot surfaces (oil tank, engine, oil pump). Stand at safe distance.


Flying object hazard. Stand at a safe distance.


Power down the tractor before carrying out any maintenance operation.


Do not stand between the tractor and the machine.


Do not approach the PTO shaft if it is in motion.


Use safety gloves.


Use ear muffs.


Use safety glasses.


Use overalls.


Use safety shoes.


Plate (**B**)
CE-label.

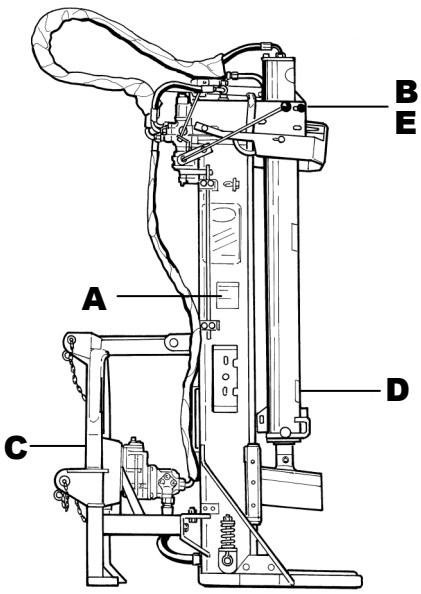
Plate (**C**)


(for EL or Kombi models)
Rotating sense for EL-models

(for HVP, V.PF or Kombi models)
Beware of the PTO rotating sense.


Plate (**D**)
Two persons must not work on this machine together.


Plate (**E**)
Coupler position for lifting.



According to the Safety-at-Work Unified Code 81/2008 (which replaced Law 626/94), the company safety manager is obliged to inform workers about the risks connected with the use of the machine. Furthermore, he/she is obliged to provide workers' training so that they are able to guarantee their own safety and that of others.

Failure to observe the basic safety standards or precautions could lead to accidents during machine operation, maintenance and repair. An accident can often be avoided by recognizing potentially dangerous situations before they occur. The operator must be careful about the potential dangers and must have the training, expertise and instruments necessary to carry out these duties correctly.

Ricca Andrea & Co. cannot in any case be held responsible for accidents or damage resulting from machine use by personnel not suitably trained or personnel that used the machine in an inappropriate way. Nor can it be held responsible for the failure, even partially, to observe the safety standards and intervention procedures in this manual.

The safety precautions and warnings are indicated in this manual and on the product itself.
If attention is not given to these danger warnings and information, the operator may incur accidents with serious consequences for himself and other people.

The safety messages are indicated with the following symbols:

ATTENTION:
If these messages are not observed, they could be harmful to the operator.

WARNING:
If these messages are not observed, they could cause damage to the machine.

The warnings in this manual and on the products regard dangerous situations which are reasonably predictable and do not take into account any deliberate modifications or alterations to the safety devices and the correct working procedures.
If equipment, procedures, work methods or working techniques not expressly recommended by **Ricca Andrea & Co.** are used, it is necessary to ascertain that here is no danger for the operator and for others.

Use original spare parts only
Ricca Andrea & C. declines every responsibility for the use of non-original spare parts.

Safety rules

ATTENTION:
The following indications cannot protect the operator from every danger that he can meet operating the machine. They must be supplemented by the operator's common sense and experience, the only indispensable measures for accident prevention.
Further safety rules specific to the various operations are listed in every section.

Read this manual carefully before operating the machine.
If any instruction should not be clear, contact the dealer or the manufacturer immediately.
If this manual is damaged or lost, ask the dealer for a replacement copy.

The log-splitter is designed only for normal use in agricultural, domestic or forestry work. Any other use of the machine is to be considered unsuitable.
The manufacturer will not answer for damage resulting from improper use.
Structural damage, modifications, alterations or improper repairs can alter the machine's protection capability thus annulling this certification.
Any modification operations must be carried out exclusively by technicians authorized by **Ricca Andrea & Co.**

Check that the machine is not damaged in any way.
Always keep the machine clean, and in particular the working board must always be clean and free from external materials, such as deposits from previous cutting operations.
Always stop the machine when cleaning, maintenance and transport operations are to be carried out. For electrical models, disconnect from the mains.
The log-splitter must not be left unattended whilst it is running.
The log-splitter must be used exclusively by expert operators who are aware of any possible dangers.

Strictly prevent under-age persons from using the machine.
Two persons must never carry out cutting operations simultaneously.
Sudden distractions could cause physical harm to the person helping.
Do not allow unauthorized personnel near the machine when it is being used.

Ensure that the operating area is well lit.
Do not use the machine in damp places or in adverse weather conditions (snow, rain, etc.).
Always use the log-splitter in places which are as level as possible and which are provided with appropriate safety footwear, working gloves and protective eye screens.
Do not wear loose-fitting clothing or protruding articles which might become entangled in the controls or moving parts of the machine.

For EL-Models
The EL 230-volt models are supplied with a condenser. Any operation on the machine can be carried out by a specialized technician only approximately 1 minute after disconnecting the plug from the mains supply, in order to give the condenser enough time to discharge the residual current.

Never open the electrical panel without first disconnecting the plug from the mains supply.

Check the electrical wires and the flexible pipes of the machine periodically and, if they are damaged, have them replaced by a specialized technician.
Check your extension cables periodically and, if they are damaged, replace them.
Ensure that the switch is off when the plug is inserted into the socket.
Always observe the safety rules in order to avoid fire hazards, electric shocks and personal injury.

For tractor-connectable models
Check that the cardan transmission shaft guards are in good condition.
In case of breakage or damage to the cardan shaft guards, replace them immediately.
When the machine is not coupled to the power unit, the cardan shaft must be positioned on the special support.
Detach the machine from the tractor only on a firm and level terrain and check that it is stationary and stable.
The cardan machine models can be used only if connected to the tractor's 3-point connector.
Make sure that the hydraulic tubes are connected correctly observing the IN-OUT direction arrows. It should be remembered that if the direction is reversed, this will cause actions opposite to those intended.

When the hydraulic tubes are disconnected from the tractor they must always be covered with their special protection.

For models powered by combustion motors

Read the enclosed motor-related manual carefully, following all the instructions indicated in it.
Remember:

- Not to leave inflammable materials such as petrol, oils, etc. near the motor when it is running.
- **If any petrol spills out, clean the area completely and ensure that the fumes have completely dissipated before starting the motor.**
- **To fill the tank in well-ventilated areas and when the motor is off and cold.**
- Never use the machine in closed or badly ventilated rooms as the exhaust gases of the engine emit carbon monoxide, a gas which has no smell, no colour and is poisonous.

The machine does not require special assembly operations.

- Remove any packaging and transport residue.
  Clean the machine.
- Check that the hydraulic pipes, the pipe fittings, the cables and electrical components are in a good state and have not been damaged during transport and handling.

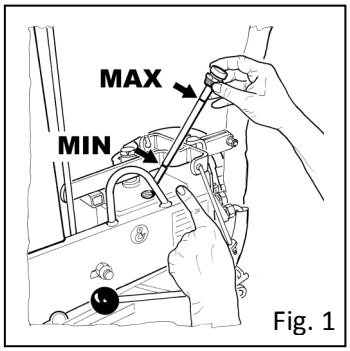


Fig. 1

- The oil tank is pre-filled by the manufacturer with Sae 46 hydraulic oil in the quantities shown in the technical data. Check the oil level periodically. (Fig. 1)

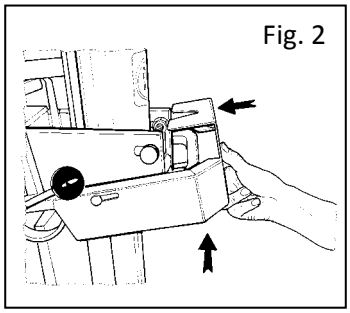


Fig. 2

- Before starting the oil flow into the system block the sensor as indicated in fig. 2, whatever the machine power supply: HV, HVP, V.PF, EL, Kombi and VS.

4.1 Electrical connections

Before making any electrical connection, make sure that the master switch is OFF.

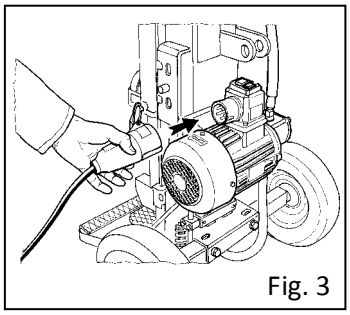


Fig. 3

First of all, ensure that the mains voltage corresponds to that indicated on the identification plate of the electric motor and the machine. Check that your electric system is fitted with an isolator (safety switch) and that the earth cable is functional.

The manufacturer supplies the machines already equipped with male connection plugs. It is necessary to connect an extension cable with a socket and then insert the plug into the socket. (Fig. 3)

The EL 230-volt models are supplied with a condenser. Any operation on the machine can be carried out by a specialized technician approximately 1 minute after disconnecting the plug from the mains supply, so as to give enough time to the condenser to get discharged.

ATTENTION:
All operations must strictly be carried out by an electrician.

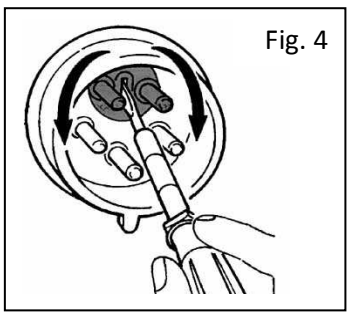


Fig. 4

For three-phase power supply (400 v), it is necessary to verify the exact rotation sense of the electric motor (see arrow on the motor) immediately.
If it rotates in the opposite sense to the sense indicated, it is necessary (**after disconnecting the power supply**) to invert the two power-supply phases using a screwdriver.
Push the housing inwards and rotate the poles. (Fig. 4)

WARNING:
The tests of motor rotation sense must be of short duration, otherwise the oil pump could get damaged.

4.2 Cardan model connections

(please observe the following instructions with great care).

4.2.1 Tractor lifting capability and stability check:

Before carrying out connection between the machine and the tractor it is obligatory to check the lifting capability and the stability of the tractor so as to avoid overturning and/or loss of grip of the wheels used for steering.
Check the tractor's lifting capability and the stability by using the formula on page 34 and, if necessary, apply ballast at the front.

4.2.2 Connections to the tractor's 3-point connector:

The HV, HVP and V.PF models can be used only if attached to the tractor's 3-point connector. The Kombi machines can be used even if disconnected from the tractor only if an electrical power supply is used.
There is a danger of injury from crushing and cutting in the tractor's rear power-lift arm linkage area.
Do not use the external control for equipment lifting.
In the transport position lock the side stop of the linkage.
Bring the tractor near to the log splitter until the power-lift bars coincide with the machine's 3-point connector and connect them using the pivots supplied. Insert and lock the safety pins in the hole of the pivots and make sure that they are locked.
Connect the third point to the upper connector and adjust the length so as to position the log splitter parallel to the ground.
Insert and lock the safety pins. Lock the anti-unscrewing device of the third point.

4.2.3 Cardan shaft installation:

After connecting the machine to the tractor, connect the cardan shaft to the tractor's power connector (this operation must be carried out when the engine is off and the key of the tractor is disconnected).
Before using the cardan shaft, read the accompanying use and maintenance booklet.
Should the cardan shaft supplied together with the machine not be used, check that the machine and tractor casings overlap the cardan shaft protection by at least the amount provided for by the laws in force (5 cm).
Clean and lubricate the power connector.
Grease the cardan shaft periodically following the instructions supplied by the cardan manufacturer. (See the cardan shaft manual).
Couple the anti-rotation chains.
Make sure that the anti-release safety lock (switch and ring nut) is correctly inserted and locked in its housing.
Check the rotation direction and that the tractor's power connector speed adjustment is at 540 rev/min as the machine is designed for this speed.
The cardan shaft must always be connected last to the tractor's power connector and disconnected first after use.
For correct and safe machine use, use exclusively cardan shafts with the CE mark. Only use cardan transmission shafts with protection intact.
The length of the cardan shaft must be suitable to the type of tractor used.
When the cardan shaft is detached from the tractor's power connector, it must always be placed so as to rest on the special support.
Ricca Andrea & C. accepts no liability for damage caused by an incorrect assembly and use of the cardan transmission.

4.2.4 Hydraulic connections:

Before connecting the hydraulic coupling (quick coupling) to the tractor's distributors, make sure that the circuits on the tractor side are not under pressure by operating the distributor levers in both directions when the engine is off.

Every time the machine is used, check that there are no cuts or abrasion on the hydraulic tubes. In the event of cuts and abrasion being discovered, replace the tubes with others supplied by the manufacturer.

Liquids under pressure, especially oil in a hydraulic circuit, can cause serious injury and lead to infection. In the event of injury, consult a doctor.

Before carrying out any operations on the hydraulic system, stop the engine and remove pressure from the circuit.

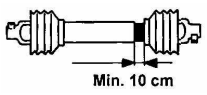
Make sure that the hydraulic tubes are coupled correctly observing the IN-OUT direction arrows. It should be remembered that if the direction is reversed, this will cause actions opposite to those intended.

Release the pressure in the hydraulic system of the tractor and the machine before carrying out coupling. When the hydraulic tubes are disconnected from the tractor, they must always be covered with their special protection.

4.2.5 Road transport:

Before transport from one place to another with the machine attached to the tractor, it is necessary to ensure that the power connector is disconnected.

WARNING:



- When the cardan shaft is inserted, it must have a minimum clearance of at least 1,5 cm in the shortest point of its articulation. In the longest point it must in any case have an overlap of at least 10 cm.
- Fix the external protection of the Cardan joint with the special chains and make sure the protection does not rotate together with the internal shaft.
- Make sure that during operation the Cardan joint does not exceed rotation angles of 30°.
- After operation, couple the cardan shaft to the third point (B) with with the special coupler so that the articulated connections do not touch the ground while parked.

HVP model connections (Fig. 5)

- Attach the log-splitter to the tractor at the hoist connection points and lock it using the locking split pins provided.
- Assemble the pump on the tractor's PTO shaft and fasten it to side points with the special chains provided.
- Ensure that the rotation sense is correct.

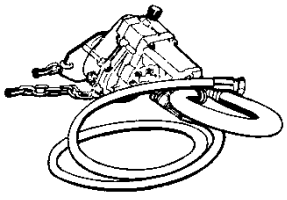


Fig. 5

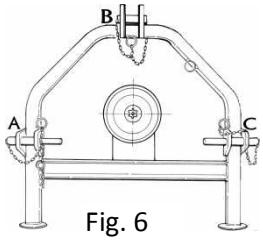


Fig. 6

V.PF model connections (Fig. 6)

- Attach the log-splitter to the tractor at points A, B and C and lock it using the locking split pins provided.
- Mount the cardan shaft and check its exact length.
- Ensure that the rotation sense is correct.

Max. recommended rotation speed 450 - 460 revs. /min.
(recommended MAX. 540 revs. /min.)

To insert the upper board carry out the following operations:
- raise the blade to the highest stop point;
- raise the board and fix it to the frame;
- first insert the two lower board slots in the base centring and fix the pedal under the vertical control rod; (Fig. 7)
- fix the board with the special screws supplied; (Fig. 8)
  N.B. it must be fixed very firmly so as to avoid damaging movements while under stress.
- ensure that the board stroke end is correctly shifted and blocked in front. (Fig. 9)

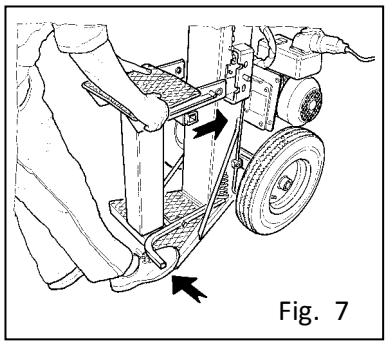


Fig. 7

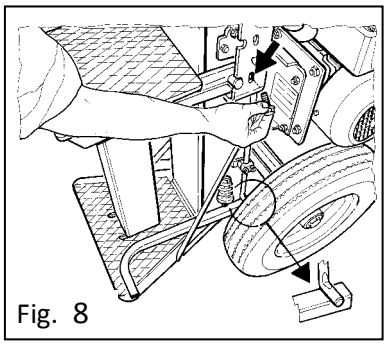


Fig. 8

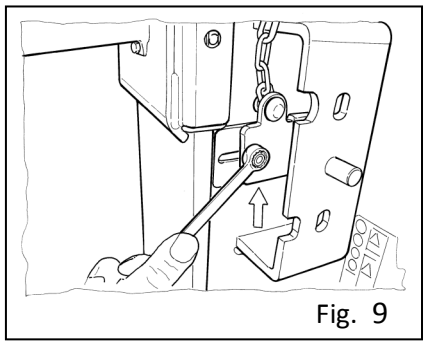


Fig. 9

5. BEFORE THE WORKING CYCLE

After winter storage, and so before the working cycle and before any subsequent machine usage, comply with the following procedures.

Before starting work, check every time that the flexible hydraulic pipes, the electrical wires and the extension cables are in a good state. If you are not sure about them, have them replaced by a specialized technician.

Besides before starting the working cycle, check the oil level using the special stick for the HVP, V.PF, EL, KOMBI and VS models. (See also the “Maintenance” section)

No oil reserve is scheduled for the HV models.

For the model powered by a piston motor (VS), check also that there is petrol and oil in the engine. Carry out also the periodical checks given in the motor manufacturer’s manual.

After carrying out the operations described in the “Installation” section, proceed as follows in order to start the log-splitter:
- Block the sensor as indicated in figure 13.
- For the electrical models (EL) and petrol engine models (VS) block the front and rear wheels with broken pieces of wood.
- In the case of the piston motor (VS), follow the ignition instructions given in the motor manual.
- For electrical versions (EL) or Kombi versions it is sufficient to press the ON button on the magnetothermal switch, keeping one control lever pressed down.
- For the HV, HVP and V.PF models, lock the tractor with the parking handbrake, position the tractor’s power take-off start lever at 540 revs./min. Run the machine for about a minute with the motor at half speed for function tests. Then take the motor revolutions to a higher speed using the hand accelerator.
  THE RECOMMENDED P.T.O. ROTATION SPEED IS 450 - 460 REVS./MIN.

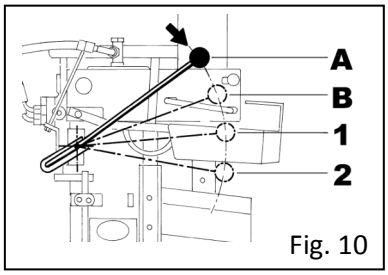


Fig. 10

Next press the two control levers down into the position **1** (fig. 10) until the blade presses against a piece of wood positioned transversely between the blade and the base of the frame in order subsequently to obtain the correct position of the hydraulic cylinder in its upper housing.

Whilst keeping a lever in the position **1** unblock the sensor and insert the blocking U-bar in its special housing. (Fig. 11)
Release the lever.

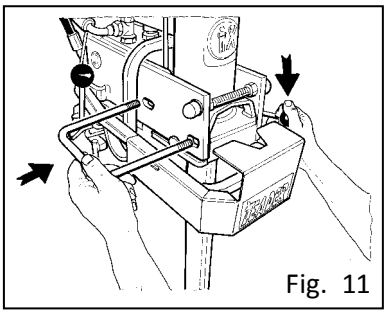


Fig. 11

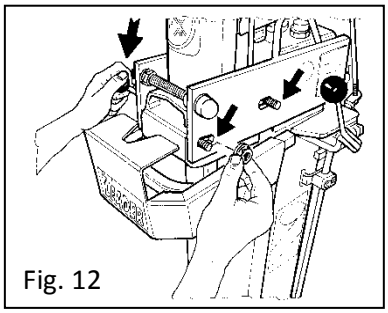


Fig. 12

Next block the hydraulic cylinder sideways with the special locking nuts using the spanners provided. (Fig. 12)
With this operation the hydraulic cylinder will position itself for the working phase.

ATTENTION:
IT IS ABSOLUTELY NECESSARY THAT THE HYDRAULIC CYLINDER IS BLOCKED FROM BOTH SIDES.

Before carrying out cutting operations, it is necessary to perform 4 – 5 cycles without any wooden log.

5.1 Preparing the log to be cut

As explained in paragraph 1.4, this machine is designed for cutting logs in a parallel way to the wood filaments. The logs should have a length of between 40/50 cm on the upper board and approximately 120 cm on the lower one.
Therefore, before starting to use the machine, make sure the wooden pieces fulfill the above requirements. Moreover, for safer and more efficient machine use, the log must have regularly and cleanly cut ends, with as cylindrical a shape as possible, in order to make log placing on the machine's support boards easier and safer.
In our experience, the most common mistakes are the shape and positioning of the logs on the machine boards. Pay great attention during this working phase.

However, in conformity with the requirements of Directive 2006/42/CE, this manual gives some instructions regarding what to do if you find yourself operating the machine in an improper manner.

5.1.1 Cutting the log crosswise to the direction of the wood filaments

This is the most common case of improper use among operators.
If you are operating this way (with the log not in a vertical position but lying on its side on the cutting board) you are in a dangerous situation, with a high risk of the log being thrown in your direction during the cutting phase, possibly resulting in severe personal injury. In this case it is advisable to stop the machine immediately by releasing the two control levers or the pedal.

5.1.2 Improper use of the cutting board

To cut small-sized cylindrical logs (approx. 50 cm) it is necessary to use the supplementary cutting board, which should be assembled above the lower base for long wood pieces, as described in the previous chapter. Cutting short logs on the long-wood base causes dangerous and tiring situations.
Therefore, in this case it is advisable to stop this improper operation and to operate in the proper manner.

5.1.3 Cutting of not perfectly cylindrical wooden pieces

This type of misuse leads to dangerous situations similar to those described in paragraph 5.1.2, with the risk of the log being propelled from the machine in a random direction with the consequent risk of it striking the operator or anybody in the vicinity.
In this case it is necessary to try to make the log more cylindrical or alternatively to discard it and chose a more regular log.

6. WORKING CYCLE

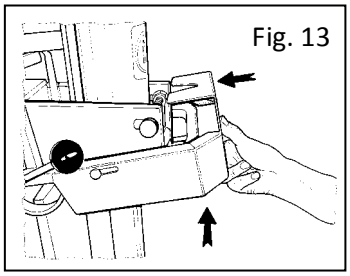


Fig. 13

To make it easier to start the electric (EL) models, the manufacturer recommends starting the machine by blocking the sensor (see fig. 13).

To cut the log it is necessary to rotate it on the base of the lower frame (point **A**) or raise it (a small piece) onto the upper working board (point **B**). (Fig. 14)
Position the side guards in the lower position when you using the machine to cut longer pieces; for short cuts using the board always use the side guards on both sides of the board to prevent pieces falling.
With one hand operate the lever or the pedal (fig. 14) and with the other hand hold the log for centering trying always to take maximum advantage of the direction of the filaments and the knots to make breaking easier and avoid excessive wearing out of the mechanical parts and of the flow guides.

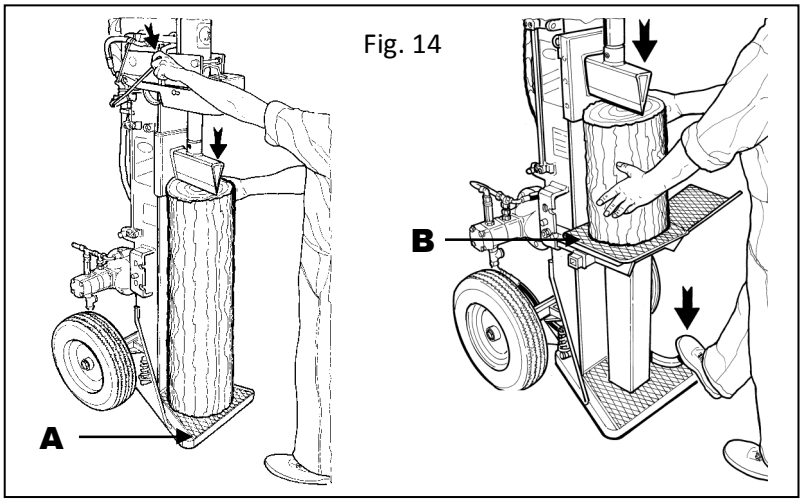


Fig. 14

At this point the cutter will start its downward and approach stage without any breaking force until the piece of wood is blocked in the required position.

ATTENTION:

- **It is recommended that the cross-blade cutter only be used for logs of <u>approximately one meter</u> in height and with straight-filament wood.**
- **Keep both hands on the sides of the log so as to avoid injury caused by the blade in the centering stage.**

Take your hands off the wooden log (which now is kept centered by the cutter) and, using the lever controls, operate the system for the breaking stage. (Fig. 15)

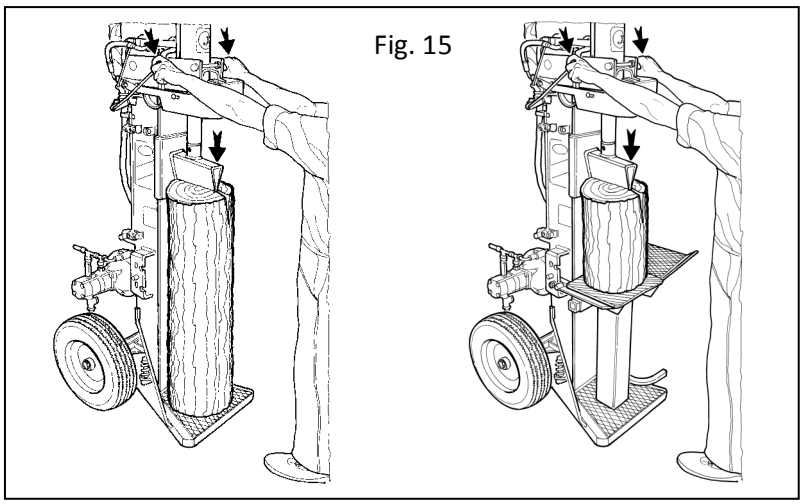


Fig. 15

The machine is pre-set with two cutting speeds and one return speed.
The second descent speed represents approximately half the cutting force of the first speed (see the technical data tables and fig. 16).

A = Return position;
B = Neutral rest position at stroke end;
1 = First cutting speed and MAX power;
2 = Second cutting speed and MIN power.

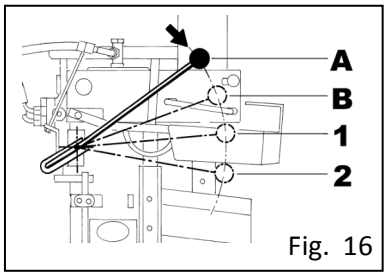
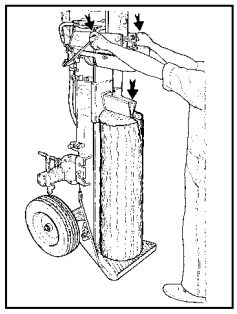


Fig. 16



Push the two levers downwards at the same time as far as the lower Max point of the stroke (position **2**). In this way the cutting blade will start its stroke quickly.
If the breaking force is sufficient in this position, keep the two levers down until the end of the log cutting operation.

Or

Release the pressure of both hands slightly on both levers so as to allow a small rising movement. In this way, the position of the oil flow will go to the **lower speed/MAX power** stage to transmit the effective power of 13 tons or 18 tons tons to the cutting blade according to your model.

For the end-of-cycle stage push both levers to position **A** and the blade will return to the highest end-stroke position.

Before positioning a new log to be cut, ensure the support base is clean. (Fig. 17)

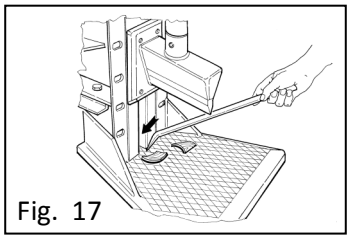


Fig. 17

The machine was designed and manufactured with a new patented control system (*System-LEADER* control).

Moreover, the machine was designed to be used by a single operator at a time, who should always be standing in front of the log splitter's two control levers. (Fig. 18)

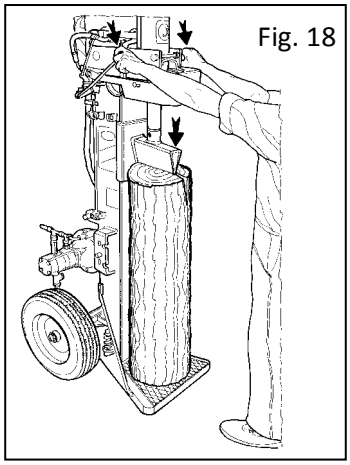


Fig. 18

Before starting any work operation, check carefully that the control devices work correctly.

The cutting cycle is divided into two different phases, called operations in this manual; the first operation deals with the correct placing of the log on the machine, the second deals with the cutting phase.

The log to be split can be placed under the cutter freely and without serious risk of injury to the operator regardless of the operation type, since during this operation the machine does not generate maximum power and all the movements it makes are slow and perfectly controllable.

7.1 First operation – log placing

This operation can be performed on logs of various sizes. Thus, depending on log length, the support board may or may not be necessary.
Therefore, if the log has a height of approximately 50 cm, it is necessary to fit the cutting board for short pieces. If the length is over 50 cm, operate using the lower base.

- If the short log board is fitted, place the log vertically in the centre of the board, use the pedal command and hold the piece of wood still with both hands on the sides until the blade touches the piece of wood and stops automatically. (Fig. 19)

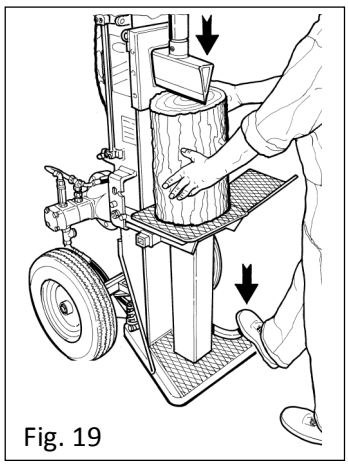


Fig. 19

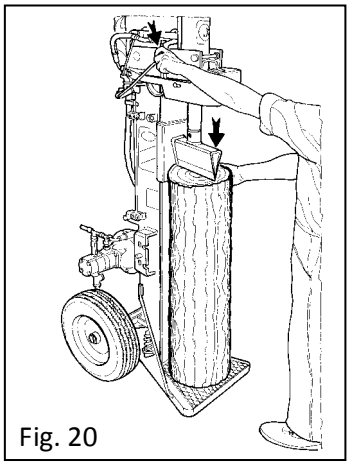


Fig. 20

- If the machine is set for cutting long pieces, the controls to be used are the two levers positioned on the upper part of the frame. Therefore, after positioning the log, push only one lever downwards (position 1) and hold the log still with one hand, until the blade touches the log and stops automatically. (Fig. 20)

7.2 Second operation - cutting

After performing the first operation, turn the two levers at the top of the frame at the same time and the machine will develop all its breaking force (Fig. 21) thus pushing the cutter through the log and splitting it into two parts until it reaches the lower end-of-stroke limit. Here the blade will stop automatically.

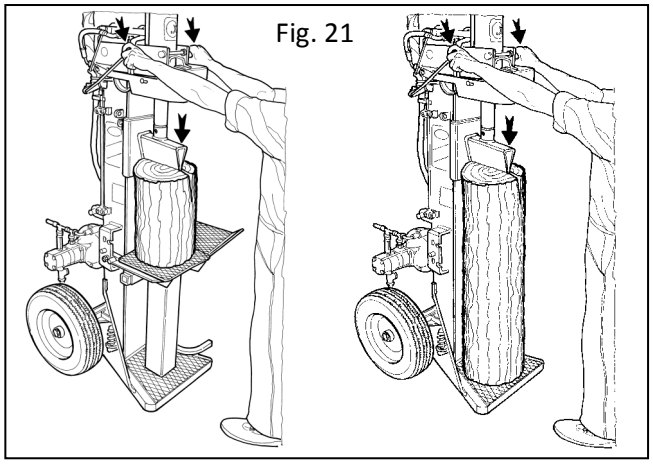


Fig. 21

ATTENTION:

To carry out the breaking cycle, the manual lever controls must both be held (operated) in position **1** and **2**. Releasing either leads to the blocking of the cutter blade in the position in which finds itself. Therefore, keep both controls held until the log breaking operation is finished or the blade reaches the bottom end-of-stroke.

ATTENTION:

Any tampering by third parties in the basic adjustment points of the various control lever mechanisms of the hydraulic system frees the manufacturing company of any responsibility in case of accident for the user!

ATTENTION:

In case of any emergency release one or both handles or the pedal, the blade will rise immediately to the highest point of the stroke end.

7.3 Return cycle

Once the breaking phase is finished and the broken pieces have been removed from the board, release all three controls. The cutter will then rise again automatically to the high position ready for a new working cycle.

NB:

If any of the three controls remains held (operated) down, the cutter cannot rise again and therefore remains blocked in its present position.

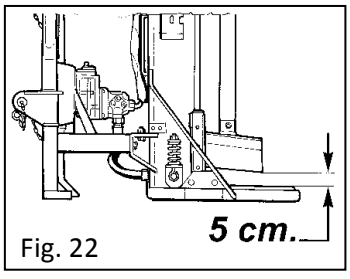


Fig. 22

For safety reasons, the lower end-of-stroke limit is 5 cm from the log support surface (fig. 22) and it is not possible to modify this automatic stop.

If certain accessories are assembled (60° or cross cutters) the distance is reduced to 2 – 3 cm.

The operator does not run any risk of injury.

The blade's cutting edge and the radius of the front corner are adjusted specifically for the required machine usage ensuring no risk for the operator.

Do NOT modify the edge and the outside spokes of the 30° fixed cutter (see Fig. 24) with any kind of tool (such as a flexible pipe, see Fig. 23).

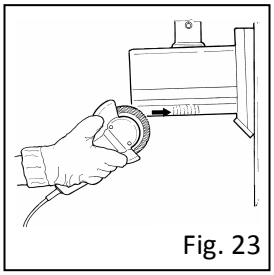


Fig. 23

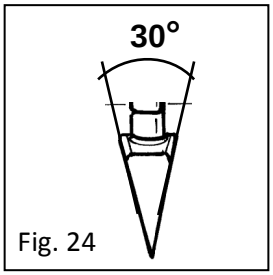


Fig. 24

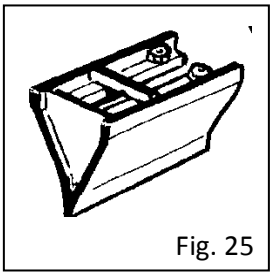


Fig. 25

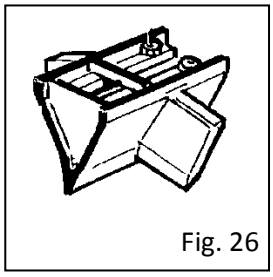


Fig. 26

The same applies for any optional cutters that may be supplied upon request, such as the 60° cutter (see Fig. 25) or the cross cutter (see Fig. 26).

The use of optional cutters (see page 8) must occur exclusively in situations of extreme necessity and they must be used by skilled and expert operators (especially the cross cutter).
The 60° cutter is of use exclusively for easily-opening and medium-sized wood.
The cross cutter is used exclusively for small-sized straight-filament wood.

8. WARNINGS

The different electrical models are equipped with a motor-protector temperature relay which operates if the motor overheats or if there is a sudden drop in input tension.

NB: **wait 3 - 5 minutes before resetting the ON button.**

If the safety device trips it's necessary to:

- in the case of a 400 volt three-phase motor, press the green button as shown in fig. 27.

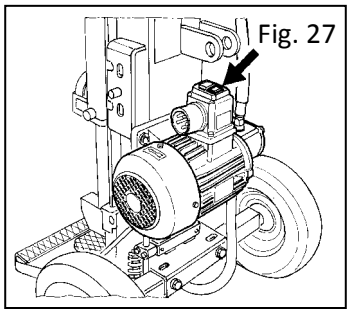


Fig. 27

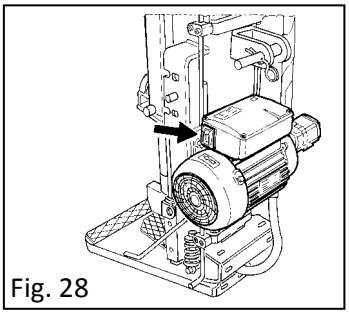


Fig. 28

- in the case of a 230 volt single-phase motor, press the white button as shown in fig. 28.

- THE MACHINE IN ITS VARIOUS VERSIONS WAS EQUIPPED DURING THE TESTING STAGE WITH A PRESSURE RELIEF VALVE, SEALED WITH LEAD, WHICH GUARANTEES THE OPERATOR AND THE HYDRAULIC SYSTEM AGAINST RISK OF EXPLOSION!
- **DO NOT TAMPER WITH THE SETTING OF THE LEAD-SEALED HYDRAULIC VALVE AND THE SETTING OF THE THERMAL SWITCHES ON THE EL AND KOMBI MODELS.**

- **DO NOT TAMPER WITH THE DOUBLE SAFETY CONTROL SYSTEMS AND THE END-OF-STROKE SYSTEMS.**
- **THE MACHINE MUST NEVER BE USED WITH JUST ONE LATERAL SET SCREW OF THE HYDRAULIC CYLINDER!!!**
- THE MACHINE IS FITTED WITH A DEVICE WHICH STOPS THE CUTTING BLADE IN THE LIFTING PHASE ALWAYS IN THE HIGH END-OF-STROKE POSITION, OR YOU CAN, FOR FURTHER WORKING COMFORT, ADJUST THE RETURN STROKE WITH THE CHAIN PROVIDED ON THE SIDE (see Fig. 29).

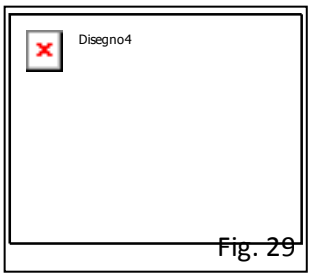


Fig. 29

- THE MACHINE IS EQUIPPED WITH A FURTHER SAFETY DEVICE (SENSOR) WHICH DETECTS IF THERE IS A PIECE OF WOOD STUCK ON THE BLADE DURING THE RETURN PHASE. CUTTER LIFTING IS BLOCKED AFTER CONTACT WITH THE SENSOR. (Fig. 30)

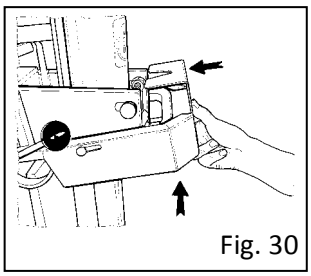


Fig. 30

- NEVER STOP THE MOTORS WHEN THEY ARE AT THEIR MAXIMUM FORCE. THIS COULD DAMAGE THE HYDRAULIC SYSTEM IRREPARABLY.
- WITH THE **KOMBI MODEL**, DO NOT USE THE ELECTRIC MOTOR AND THE CARDAN JOINT SIMULTANEOUSLY.
- WITH THE **HV MODELS** BE CAREFUL NOT TO INVERT THE DELIVERY PIPE AND DRAIN PIPE WHEN CARRYING OUT CONNECTIONS TO THE QUICK PLUGS OF THE TRACTOR; FOLLOW THE IN-OUT HYDRAULIC FLOW ARROWS. WITH THE HV MODELS NEVER DISCONNECT THE HYDRAULIC PLUGS WHEN THE SYSTEM UNDER PRESSURE!
- **WITH THE HVP AND V.PF MODELS: NEVER USE THE 1000-REVOLUTION POWER TAKE-OFF.**
- FOR FIRMNESS REASONS, NEVER USE **THE TRACTOR MODELS** WITHOUT ENSURING THAT THE MACHINE HAS BEEN ATTACHED TO THE THREE-POINTED CONNECTIONS CORRECTLY.
- PAY GREAT ATTENTION TO THE LINKS MATCHING THE TRACTOR'S PTO AND FOLLOW THE INSTRUCTIONS INDICATED ON PAGE 33.
- FOR ROAD TRANSPORT AND POSITIONING DURING THE WORKING PHASE, FOLLOW THE INSTRUCTIONS INDICATED ON PAGE 33.
- **CHECK PERIODICALLY THAT THE SCREWS AND HYDRAULIC PIPE FITTINGS ARE TIGHT AND THE FLEXIBLE HYDRAULIC PIPES ARE IN A GOOD STATE.**
- **THE FLEXIBLE HYDRAULIC PIPES MUST BE REPLACED EVERY 5 YEARS !**
- IF THE SELF-LUBRICATING CUTTER GUIDES ARE WORN, IT IS NECESSARY TO REPLACE THEM OTHERWISE THEY COULD WEAR OUT OR RUIN THE FRAME!!
- DO NOT LEAVE THE MACHINE IN UNCOVERED AREAS EXPOSED TO RAIN AND SNOW AFTER FINISHING WORK.
- ALWAYS WEAR SUITABLE SAFETY FOOTWEAR, WORK GLOVES, PROTECTIVE GLASSES. FOR VS MODELS WITH COMBUSTION ENGINES USE EAR-PROTECTION PLUGS OR CUFFS.

9. RECOMMENDATIONS IN CASE OF INCONVENIENTS

The machine is equipped with an anti-crush sensor in the return phase which acts also as a hydraulic flow block for machine installation starting and finishing operations in the work place (see fig. 31).

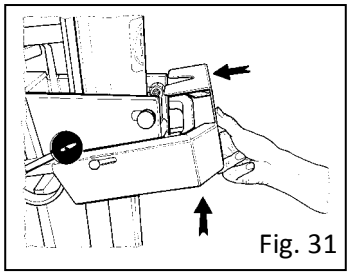


Fig. 31

9.1 How to free a trapped piece of wood

The log could be blocked in the cutter after or during the cutting operation.
During upward movement this will touch the sensor which will automatically block any movement.

In order to release the blocked wood, the following operations must be carried out:

- Using the two control levers bring the cutter to the lowest position and then release the controls;
- Stop the hydraulic flow by blocking the sensor (see fig. 31). At this point all cutter movements will be blocked;
- Use iron levers, sledges or hammers to release the log hitting hard downwards until it is completely freed.

9.2 Other useful tips to free a trapped piece of wood

- Being extremely careful, raise the blocked log together with the cutter by about 10 cm;
- Stop the feed source with the sensor;
- Insert one or more sturdy wooden boards between the base of the frame and the log!
- Use the two levers to lower the blade until the log is completely cut (fig. 32).
- Continue with normal work operations.

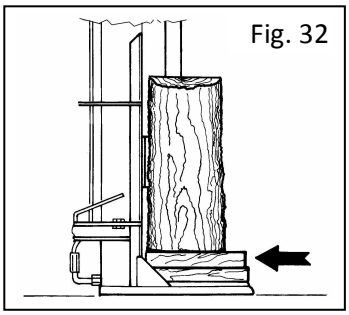


Fig. 32

WARNING:

The cross cutter or the 60° cutter might become trapped in the main cutter because of the stress it is subjected to. In this case, after loosening and removing the safety screw, strike the cutter (the cross cutter or the 60° cutter) with a piece of wood or with a hammer so as to release it from its original position.

10. OPERATIONS AND MANOEUVRES FOR END-OF-WORK AND TRANSPORT

Remove the intermediate board if this is positioned and also the end-of-stroke slot for the board. (Fig. 33, 34)

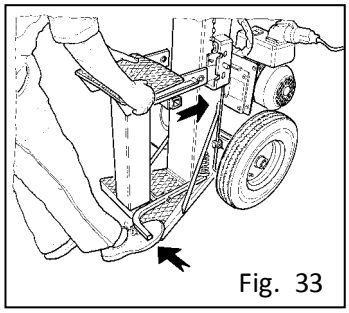


Fig. 33

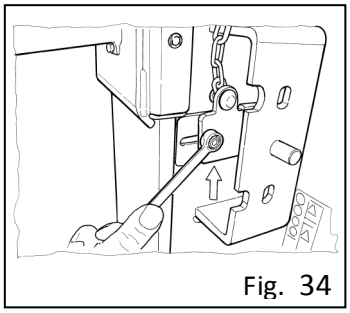


Fig. 34

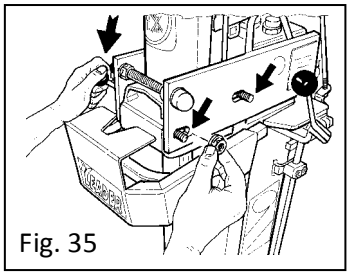


Fig. 35

Undo the locking nuts of the hydraulic cylinder without unscrewing the screws. (Fig. 35)

Lower the cutter to stroke end on the piece positioned crosswise between the blade and the base of the frame and put a slight pressure in the hydraulic system. (Fig. 36)

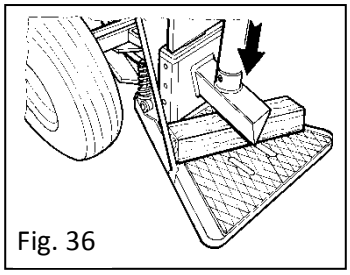


Fig. 36

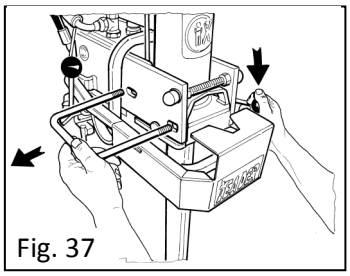


Fig. 37

Extract the U-bar supporting the hydraulic cylinder. (Fig. 37)

Lower all the hydraulic cylinder until it touches the front clamp. (Fig. 38)

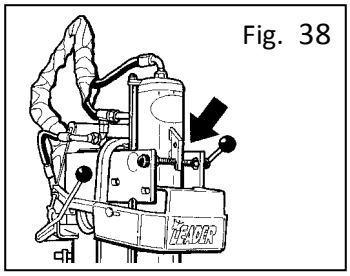


Fig. 38

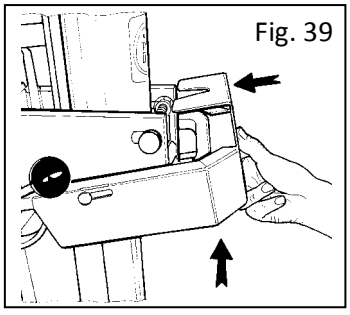


Fig. 39

So as to prevent the hydraulic system remaining under pressure carry out the following operation: raise the sensor with one hand and move the stamped plate inwards until it is clamped on the frame. (Fig. 39)

Release the control levers.

Stop the supply source EL, HV, HVP, V.PF or VS.

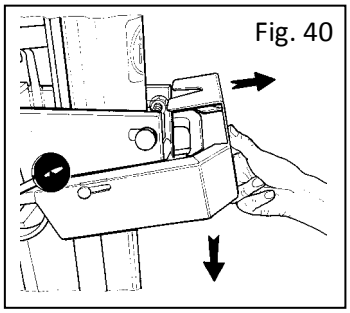


Fig. 40

When starting again the assembly work for a new installation and positioning these operations must be carried out in the opposite sense. (Fig. 40).

In order to prevent the hydraulic cylinder from being damaged during transport on bumpy roads and at high speed, it is necessary to move the **Magik** machine always with the hydraulic cylinder lowered and with the front clamp resting on the screws (see fig. 38).
Furthermore for small tractors it is necessary to apply the calculation formular on page 34 (see picture).

NB: **Recommendations for correct handling of the EL and VS models** which are equipped with wheels for short movement in level places.

- Before any movement, position the cutter at the low end-of-stroke position (see fig. 36).
- Remove the wheel blocks.
- Place one foot on the wheel axle for the EL model or on the plate for the VS modeland grip the handle.
- Incline the machine slightly and transport it by pushing it, being careful not to walk backwards. While moving the machine, do not tilt it excessively so as to avoid it overturning.
- All these operations must be carried out by two persons using UTMOST CARE.

ATTENTION:

Failure to respect the manoeuvres described above will release the manufacturing company from any commitment to replace parts under warranty and from any reimbursement for damage to persons and/or things.

11. MAINTENANCE

ATTENTION:

All maintenance operations must be carried out when the machine is off .
With the electrical model, disconnect from the mains supply also. Furthermore, for the 230-volt model wait approximately 1 minute for the residual current in the condenser to be discharged.

WARNING: For models with a piston motor, follow the instructions given in the manufacturer's manual also (supplied with the machine).

Due to its simplicity, the machine does not require special maintenance operations.

It is necessary periodically to:

- Grease the guide sliding surfaces periodically. (Fig. 41)
- Lubricate the articulated joints of the handles. (Fig. 41)

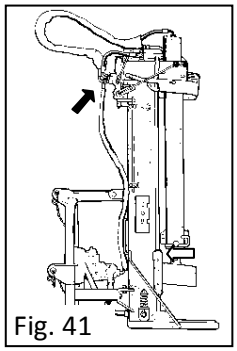


Fig. 41

- Before starting work on the PTO and KOMBI models grease the crosses of the cardan joint itself and the other moving members. Subsequently carry out this operation every two working hours.

- Check that the electrical power supply extensions are in a good state.

- Check the flexible pipes of the hydraulic system periodically and replace them every 5 years.

- It is advisable to place the machine in the shade after use as the strong sunlight in summer damages the surface layer of rubber of the flexible pipes and limits its working life.

- Clean the top magnetic filter the first time after 2 – 3 hours of work. After this clean it approximately every 50 hours of work.
  In order to clean the filters carry out the following operations:
  Unscrew the magnetic filter with a 22 spanner. (Fig. 42)
  Clean all the impurities on the central magnet with a cloth.

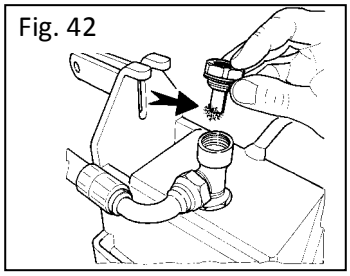


Fig. 42

- Put the filter back in its original position without ruining the gasket. (Fig. 42)

- Check the hydraulic oil level periodically using the special stick. (Fig. 43)
  NB: this operation must always be carried out when the blade (cutter) is at the lowest position. The oil level in this case must be near the lower minimum level about.

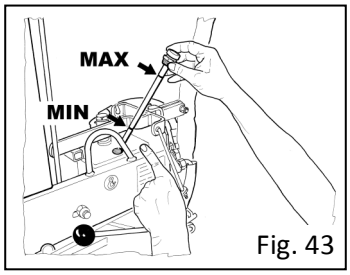


Fig. 43

- Discharge the oil from the plug **A** as shown in the fig. 44. Change the filter **B** every 500 hours.
  It is advisable to change the hydraulic oil after the first 100 working hours. Subsequently the hydraulic oil must be changed approximately every 300 working hours.

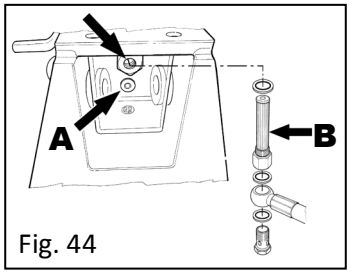


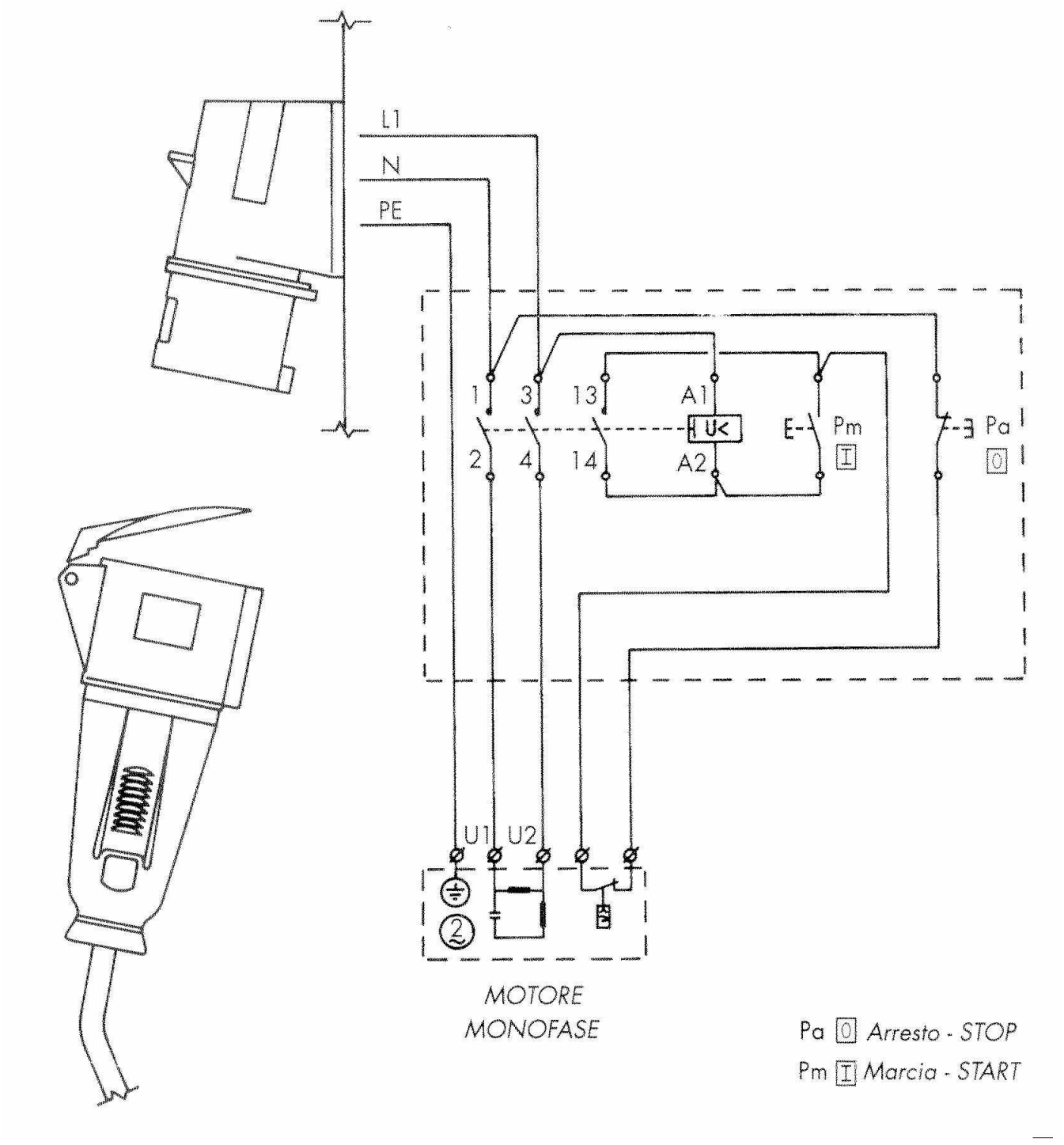
Fig. 44

- Also, replace the oil in the mechanical overdrive placed in front of the hydraulic pump approximately every 500 working hours. Use SAE 90 oil for the oil change. The capacity of this mechanical machine part is approximately 0.2 litres.

- After the first 2 to 3 working hours check the hydraulic union tension and thereafter every 100 - 150 hours approximately.

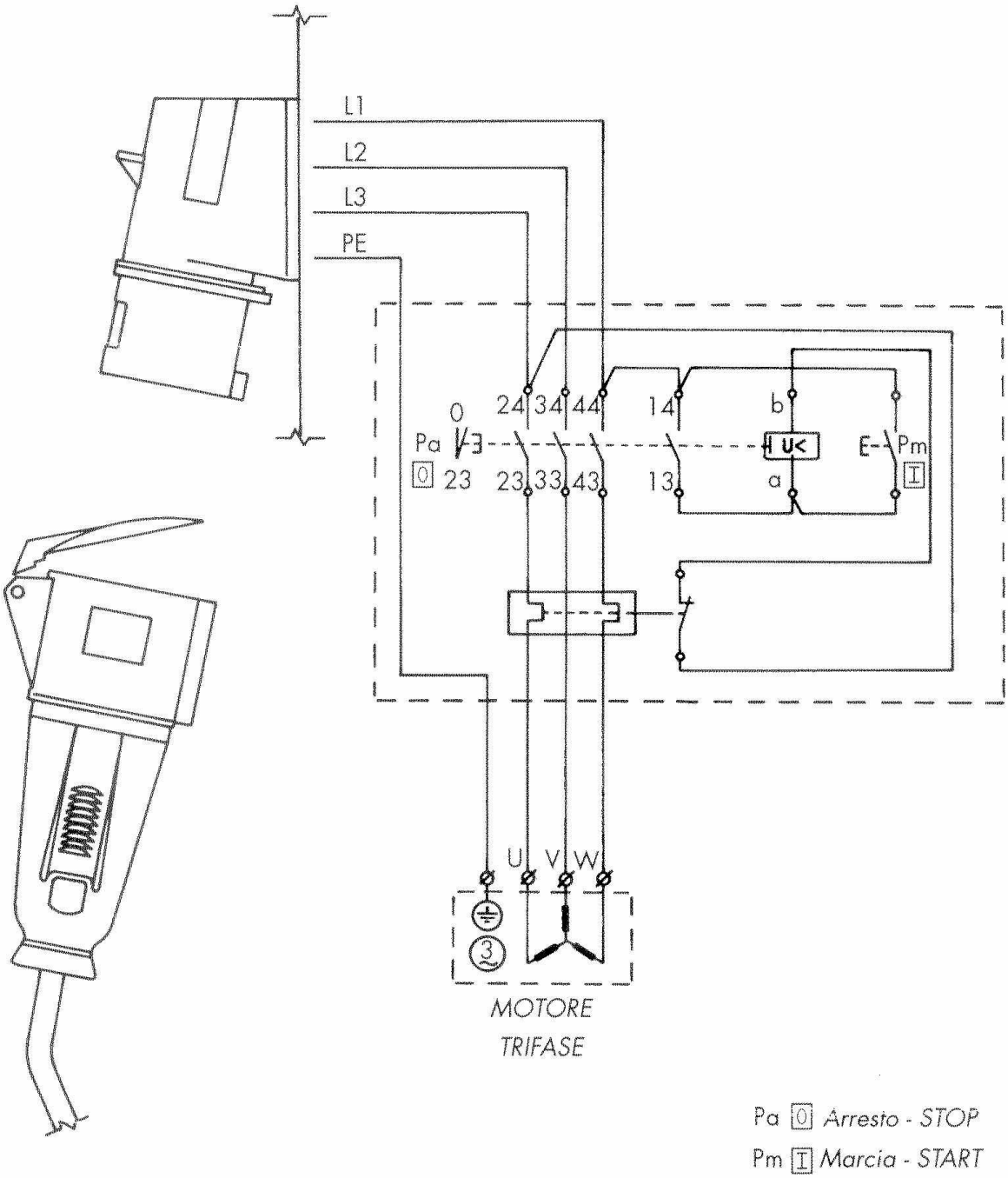
NB: for ecological reasons, dispose of used oil in special oil collection centres !!

CONNECTION DIAGRAM FOR SINGLE-PHASE MOTOR



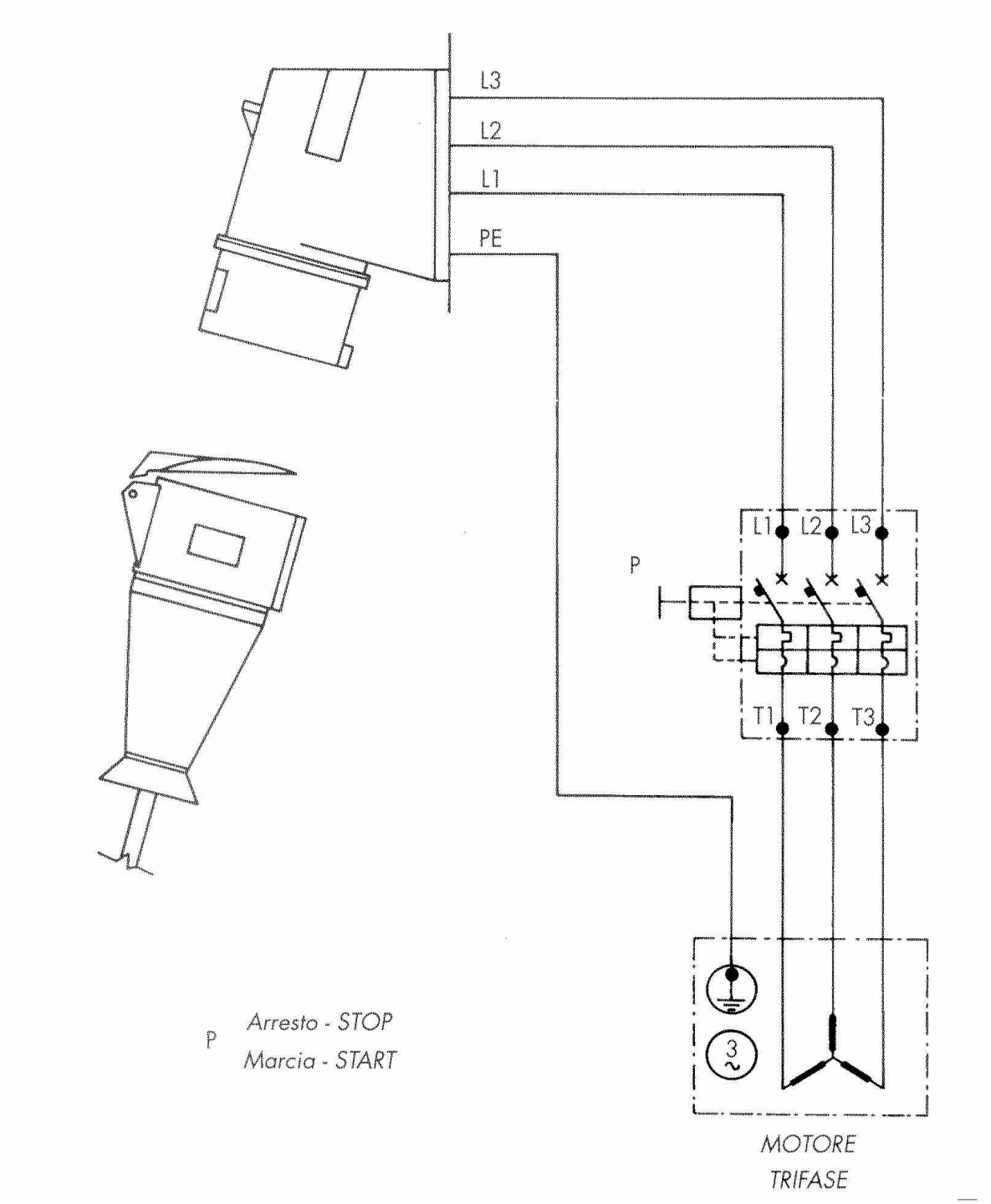
CONNECTION DIAGRAM FOR THREE-PHASE MOTOR

Diagram 1



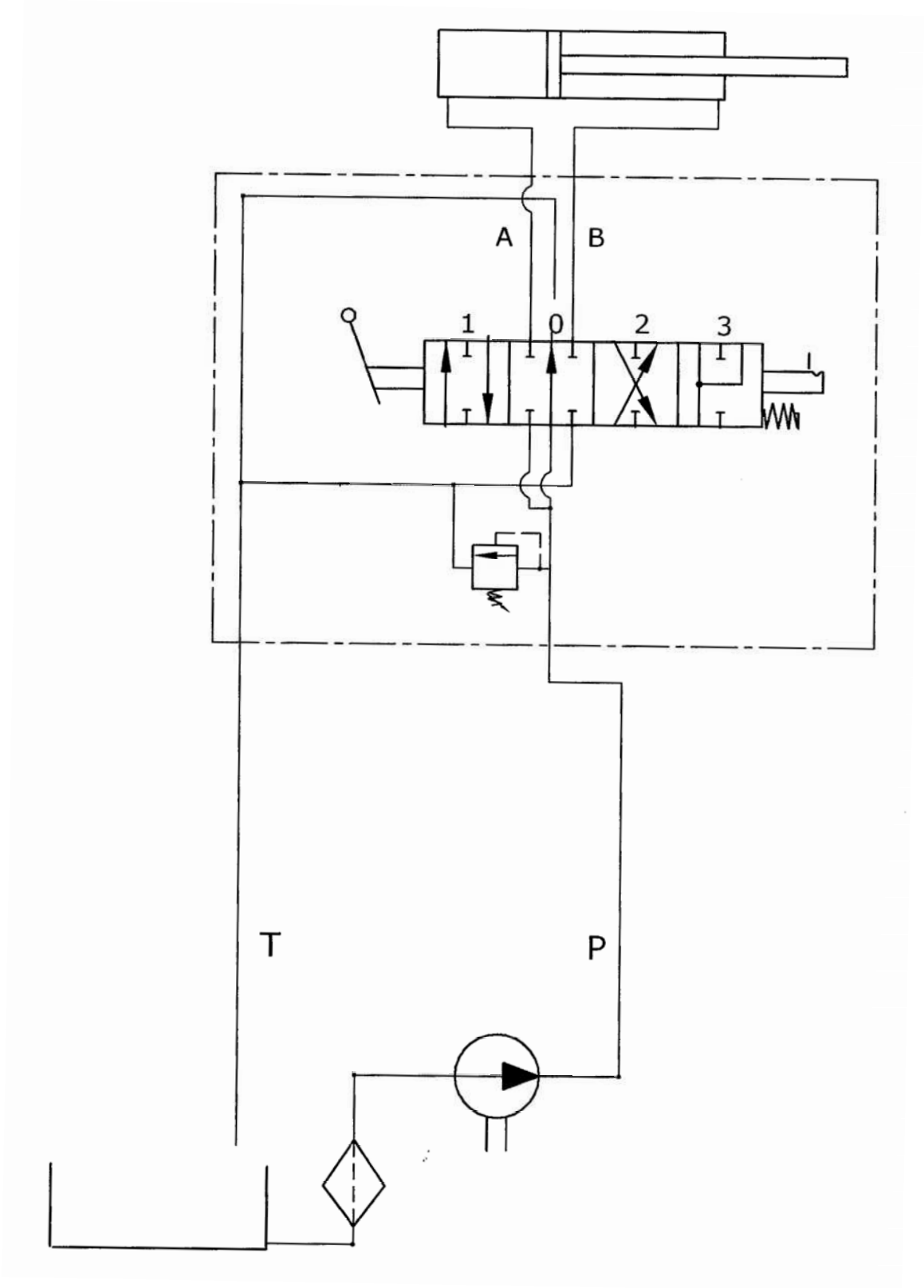
CONNECTION DIAGRAM FOR THREE-PHASE MOTOR

Diagram 2

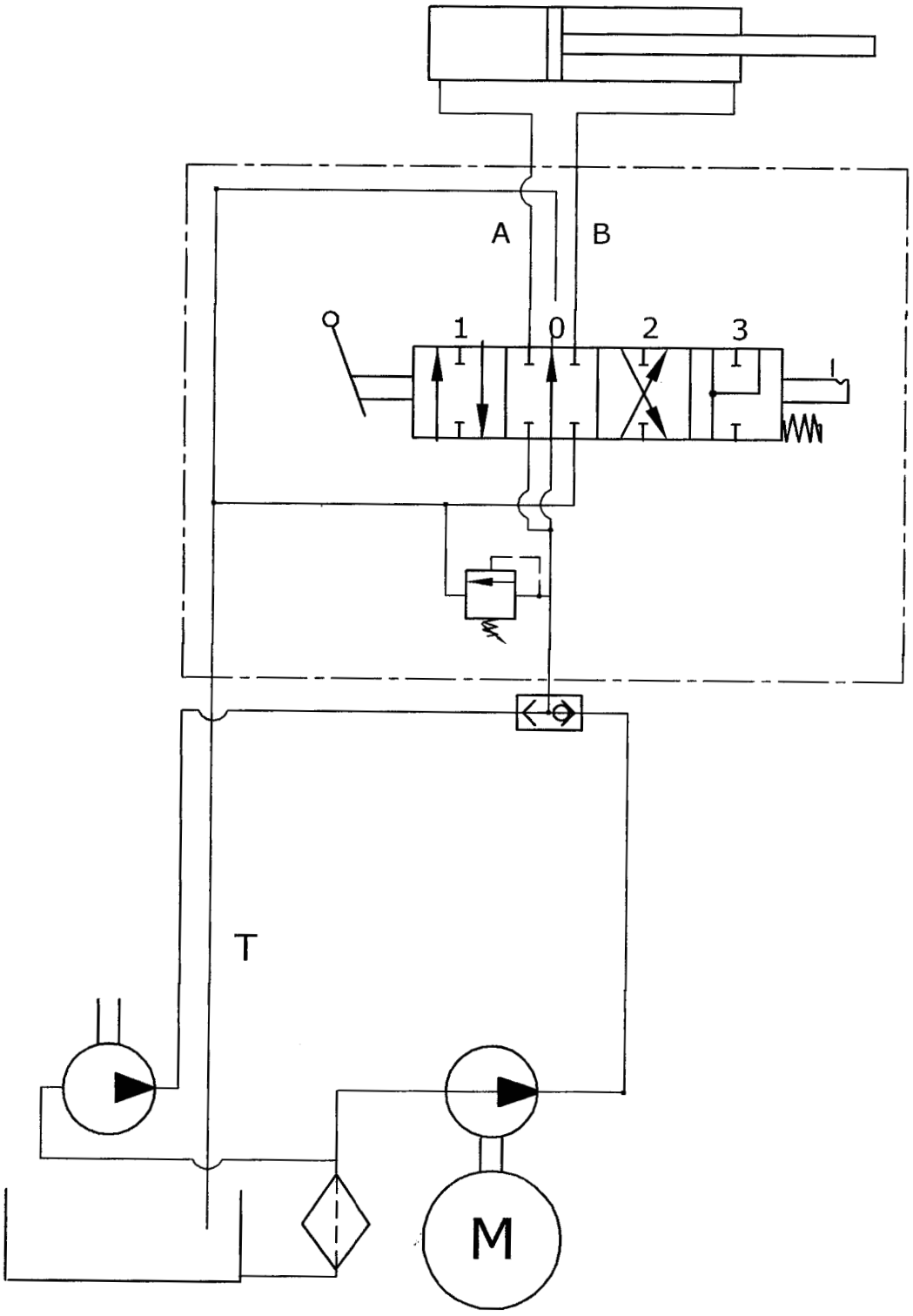


CONNECTION DIAGRAM FOR THREE-PHASE MOTOR

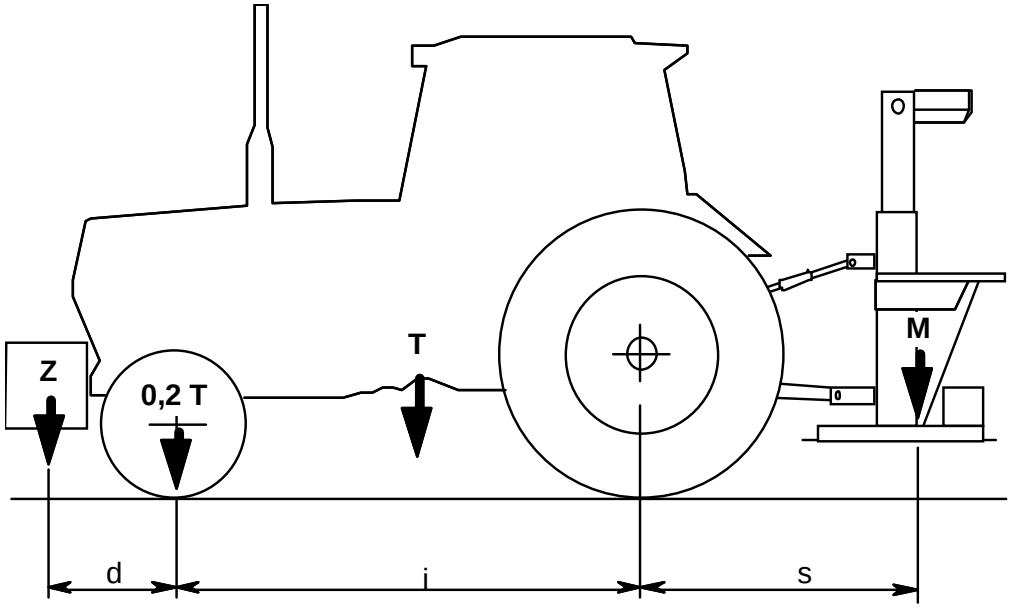
Models HVP, V.PF



Models EL PS + V.PF (Kombi)



Lifting capacity and stability check for tractor coupled to carrying equipment.



$$M \times s \leq 0{,}2 \times T \times i + Z \times (d + i)$$

If the equipment is mounted on farm tractors type-tested and registered before 6 May 1997, it is also necessary to respect the following condition:

$$M \leq 0{,}3 \times T$$

i = tractor wheel wheel-base

d = distance of the front axle from the ballast

s = overhang of the rear axle of the operating machine

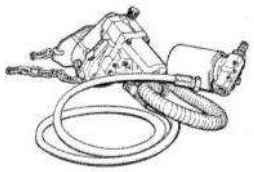
T = mass of the tractor + 75 kg (operator)

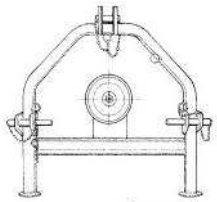
Z = mass of the ballast

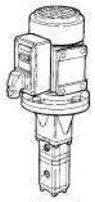
M = mass of the operating machine

341 MAGIK *N° Cod.*	EL VS PTO	Ps (HP)	kW	**TON**	cm.	1ª cm/ sec.	2ª cm/ sec.	lt.	cm. A	cm. B	cm. H	KG.
34.V.PF	V.PF	22	16	**13**	120	10,5	34	22	80	100	190	328
34.223.PD	EL PD	3	2,2	**13**	120	6,7	21,4	22	80	65	190	330
34.386	EL	5,5	4	**13**	120	6,1	19,5	22	80	65	190	330
34.223.PD.K	KOMBI	3/ 22	2,2/ 16	**13**	120	6,7/7,5	21,4/24	22	80	100	190	356
34.386.K	KOMBI	5,5/ 22	4/ 15	**13**	120	6,1/7,5	19,5/24	22	80	100	190	356
34.VS.10.PD	VS PD	9	6,7	**13**	120	8	25	22	80	100	190	340
36.HV	HV	?	?	**18**	120	?	?	---	80	65	190	212
36.V.PF	V.PF	24	18	**18**	120	8,5	19	22	80	100	190	357
36.388.PD	EL	7,5	5,5	**18**	120	7	15,7	22	80	100	190	365
36.388.PD.K	KOMBI	7,5/24	5,5/18	**18**	120	7/8,5	15,7/19	22	80	100	190	410


HV


HVP


V.PF


EL

EL = motore elettrico / electric motor; **PD** = pompa doppia / double pump;
VS = motore a benzina / petrol engine;
HV = tubi idraulici / hydraulic tractor;
HVP = pompa PTO staccata / pump PTO not fixed;
V.PF = pompa PTO fissa / pump PTO fixed;
KOMBI = motore elettrico + pompa PTO fissa / electric motor + pump PTO fixed.