AGRICULTURAL MACHINERY

enorossi

# EASY RAKE 10 - 12 - 14

## Pull type V-Rake


TRANSLATION
OF THE ORIGINAL
INSTRUCTIONS

## USE AND MAINTENANCE MANUAL

issue 4a – 11/2020

**ENOAGRICOLA ROSSI s.r.l. -** Via Cortonese, 36 - Calzolaro di Umbertide 06019 - Pg Italia Tel. (39) 075-930 22 22 Telefax (39) 075-930 23 28

# EC DECLARATION OF CONFORMITY

(All.IIA Direttiva Macchine 2006/42/CE)

The Manufacturer **ENOAGRICOLA ROSSI s.r.l.**
Headquartered at via Cortonese, 36 - 06019
Calzolaro di Umbertide (PG) - Italy

**Declares under its sole responsibility that the machine**

**EASY RAKE**

……
*Generic denomination and commercial name*

| ER | ……. | 20.. |
|---|---|---|
| ……. | …… | …… |
| *Series/Model* | *Serial number* | *Construction year* |

the functions of which are described in this manual

is conform to the Essential Requirements of Safety and Health Protection, as per Machinery Directive EC/2006/42 and to the Directive EC/94/20 relating to the mechanical coupling devices of motor vehicles and their trailers and their attachment to those vehicles

**EN 13854:2020** - **EN 4413:2012**
**EN ISO 4254-1:2013** - **EN ISO 4254-10:2010** - **ISO 11684** (1995)
**EN 12100:2010 - EN ISO 12965:2020 - EN ISO 13857:2020** - **ISO 3600:2015**

**We hereby authorize** Enorossi
Via Cortonese, 36 - 06019 Calzolaro di Umbertide (PG) - Italy

**to draw up the respective Technical Dossier**

Calzolaro di Umbertide, ……..

GIOVANNINI ADELMO
……
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## Machine Directive and harmonized standards

The EASY RAKE pull-type are designed in accordance with the provisions of Machine Directive **2006/42/EC** and in Directive **94/20/EC** and particularly it satisfies the following Harmonized norms::

**EN 13854:2020** Safety of Machinery – Minimum gaps to avoid crushing parts of the body

**EN ISO 4413:2012** Pneumatic fluid power - General rules and safety requirements for systems and their components

**EN ISO 4254-1:2015** Agricultural machinery - Safety - Part 1: General requirements

**EN ISO 4254-10:2010** Agricultural machinery - Safety - Part 10: Rotary tedders and rakes

**ISO 11684:** Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Safety signs and hazard pictorials – General principles (1995)

**EN 12100:2010** Safety of Machinery - General principles of design - Risk assessment and risk reduction

**EN 12965:2020** Tractors and machinery for agriculture and forestry. Power take-off (PTO) drive shafts and their guards. Safety

**EN 13857:20208** Safety of machinery – Safety distances to prevent hazard zones being reached by lower limbs

**ISO 3600:2015** Tractors, machinery for agriculture and forestry, powered lawn and garden equipment - Operator's manuals -- Content and presentation

## INDEX

## INTRODUCTION

### A1 About hay rakes

The hay rake is an agricultural device used to collect cut forage. The "**Easy Rake**" models produced by our company, all trailer-type, comprise a flexible, sturdy frame enabling use on any type of land, even if extremely irregular or on a slope. The main component is the rake wheel, 14 of which make up the device. Each wheel is separate from the other and comprises a shock absorbing spring for the wheel to perfectly follow the surface of the land.

The hay rake has to be attached to an agricultural tractor for it to work. The arms and stars move hydraulically and the entire rake is trailed by the tractor to which it is attached. Operation and use of the rake is described in greater detail in the relative chapter.

### A2 About the manual

The **ENOROSSI** firm (the "Manufacturer") designed and created the device in accordance with the relative safety standards to ensure the safety of personnel and the entire operating system.

Each rake is supplied with a copy of this manual, which the operator must read in full before using the equipment. The manual contains all information relating to transportation, use and maintenance of the equipment, as well as relative safety instructions.

Poor knowledge of the operating system can lead to accidents and therefore damage to the equipment. Although the Manufacturer provides the Customer with all information relating to the rake's operation, use and maintenance, the Customer is still expected to read this manual and take note of all the instructions herein.

The manual provides all basic instructions on how to ensure optimum working and safety conditions, but the most important factors to ensure the device's good working order are the operator's experience and common sense.

The manual was drawn up on the basis of both the rake models' current technical and structural characteristics and does not take previous similar models into account. The Manufacturer therefore reserves the right to modify models in production in the interest of improving the product or in accordance with any new legislation (Machinery Directive) without obligation for adapting previous models.

This manual is integral to the rake and must therefore be kept intact, clean and in good condition, and stored in a container, either on the frame of the equipment or in the tractor cabin, where it can be readily accessed for consultation.

The manual must be kept in its container if the rake is placed out of service. Ask the Manufacturer for a duplicate copy if the original manual is lost.

Please contact the Manufacturer for any clarifications relating to the instructions in this manual. If the translated copy of this manual is unclear in any way, the valid text of reference is the original one in Italian.

Symbols used in this manual:

- **WARNING**, with associated pictogram, indicates potential danger and therefore the need for the operator to exercise caution and common sense;
- **IMPORTANT** indicates that the operator must be aware of the matter referred to;
- **Note** indicates that the information referred to can facilitate the operator's work.

### A3 Warranty

The Manufacturer's warranty guarantees that all parts of the rake are free of defects as they are all tested before delivery to the Customer. The warranty is valid for a year (or for whatever duration is stipulated in the purchase contract) from the date specified in the fiscal delivery document, but is not valid during transportation as the Customer is responsible for its shipment. The warranty does not cover commercial components that are covered by the warranty of their original manufacturer.

The Customer, upon receipt of the shipment, must check the entire structure for any signs of damage and that the components are intact and none are missing. Any claims must be made to the Manufacturer in writing within 8 (eight) days of receiving the rake. Any components found to be defective within the period of the warranty will be replaced by the Manufacturer free of charge. Only the Manufacturer or technician employed by the Manufacturer is entitled to check the defect. Spare parts remain the property of the Manufacturer. The warranty does not however cover faults caused by improper use of the rake, the operator's negligence, accidents or normal wear and tear

**The warranty is forfeited when:**

- The manual's instructions are not followed;
- The necessary maintenance is not carried out;
- The Customer modifies the equipment without the Manufacturer's prior written consent;
- The spare parts used are not type approved.

## A4 EC certification and identification

An identification plate is affixed to each machine. Details on the plate are:

- The rake's model (and/or version);
- Serial number;
- Tractor's power capacity (kw);
- Overall weight (kg);
- Year of manufacture.

You must have this information at hand when requesting assistance and spare parts.

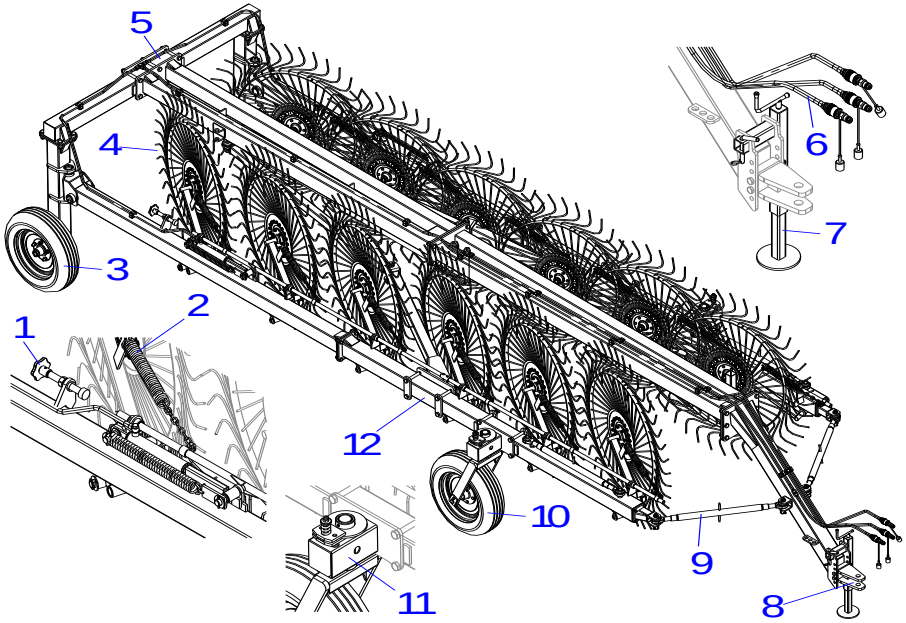
**IMPORTANT**

It is strictly forbidden to alter and/or erase the data on the serial plate. The operator must check legibility of the data on a regular basis and inform the Manufacturer if it becomes in any way illegible. The Manufacturer will then replace the old plate with a new one bearing the same data.


The EC mark indicates that the Manufacturer has complied with the health and safety regulations, adopted by the EU countries, and known as the "**Machinery Directive**". This means that the Manufacturer designed and created the equipment in full compliance with all the requisites on use of the rake and avoidance of all possible risks and hazards associated with the same. The rake can therefore be freely distributed throughout Europe providing it features this mark and relative declaration of conformity.

## A5 Main components and technical specifications

1. Mechanical end stop (to adjust the rake wheel to the ground)
2. Shock absorbing spring
3. Rear wheel
4. Rake wheel
5. Frame
6. Hydraulic quick couplings
7. Supporting foot
8. Tractor coupling device
9. Tie rod (for road circulation)
10. Front wheel
11. Device to limit pivoting of the front wheel
12. Side arm




| Model | Stars | | | Width | | Wheels | | HP | Weight |
|---|---|---|---|---|---|---|---|---|---|
| | N° | Teeth | Ø cm | Working config cm | Transport config cm | Type | N° | | Kg |
| ER 10 | 10 | 40 | 140 | 680 | 244 | 205/70.15 | 4 | 60 | 1300 |
| ER 12 | 12 | 40 | 140 | 765 | 244 | 205/70.15 | 4 | 70 | 1380 |
| ER 14 | 14 | 40 | 140 | 945 | 244 | 205/70.15 | 6 | 80 | 1680 |
| | | | | | | | | | |
| ER 10 ST | 10 | 40 | 140 | 730 | 244 | 205/70.15 | 4 | 60 | 1350 |
| ER 12 ST | 12 | 40 | 140 | 815 | 244 | 205/70.15 | 4 | 70 | 1430 |
| ER 14 ST | 14 | 40 | 140 | 995 | 244 | 205/70.15 | 4 | 80 | 1730 |

## SAFETY

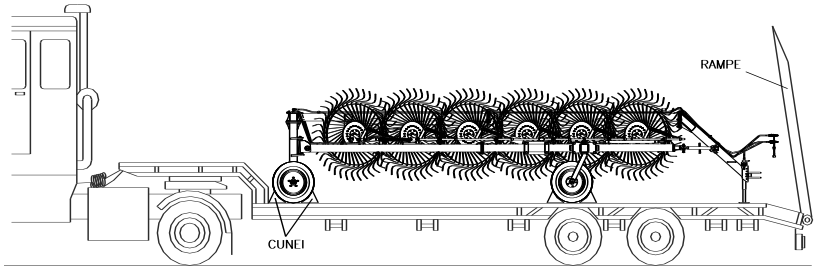
### B1 General regulations

This manual describes the safety regulations to be followed when using the rake. As most work-related accidents occur due to non-compliance with the most basic of safety regulations, **it is obligatory** to read this manual before carrying out any work with the rake and to follow all the instructions.

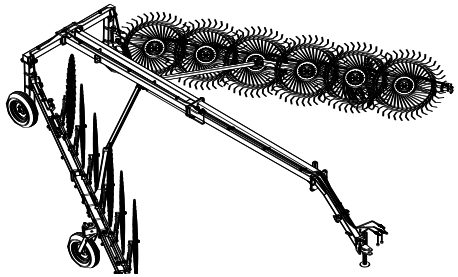
The equipment must be used by qualified adult personnel trained in its use. **The Manufacturer therefore does not cover accidents caused by the operator's negligence and/or non-compliance with the safety instructions. This also forfeits the Manufacturer's responsibility and the rake's warranty.**

### B2 Handling and transportation

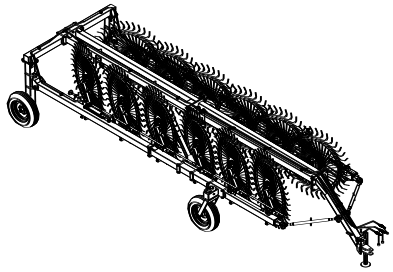
- **Transportation** (delivery)**:** the device is fully dismounted and placed in a crate for transportation. The Customer can then re-assemble the parts quickly and easily on receipt, following the well detailed instructions. If the rake is sold or transferred to another user, the rake can be dismantled by following the instructions in reverse order, although it can also be delivered fully assembled. The rake can also be easily transported by road on a suitable means of transport, as illustrated below.




The rake is loaded or unloaded via a ramp attached to the vehicle. The equipment, when ready for transportation, is reversed onto the vehicle, then harnessed in place and fitted with all necessary safety devices for transportation.



WORKING CONFIGURATION



TRANSPORTATION CONFIGURATION

**WARNING**

**Loading and unloading must always be carried out with all due precautions as they can entail a certain element of risk.**

**Always take the following precautions**:

- Loading/unloading must be carried out on a flat surface and at a safe distance from slopes or ditches;
- Always ensure the ramps are strong enough to withstand the rake's weight (given on the identification plate), are firmly attached to the vehicle and are parallel to each other and perpendicular with the edge of the vehicle;
- Ensure the ramps are clean, without any traces of oil, grease or ice;
- Never change direction when moving the rake onto or off the vehicle. If this does become necessary, bring the rake back down to change its trajectory.

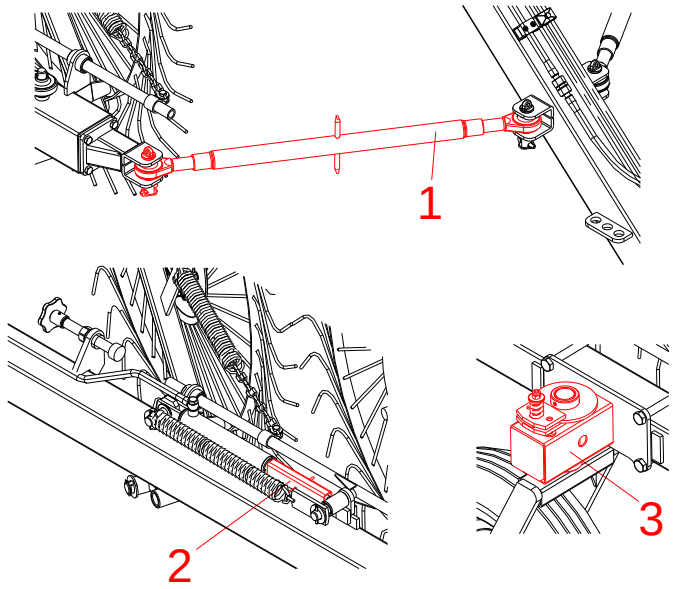
- **Transportation (by road):** as this is a trailer-type device, it can only be transported if attached to an agricultural tractor. In this case, the device must always be in **its transportation configuration for transportation** either by road or in the fields, as illustrated below. This configuration is necessary as the device can be up to 10 metres in width in its working configuration.

You must remember that the transportation configuration entails closing the side arms and fitting the equipment with the following safety devices:

- Tie rods (**1**) to be fitted in position on the arms and frame, and locked in place with their relative safety pins;

- End stop device (**2**) to be inserted on the rod of the jack (to prevent it from retracting) and blocked with its respective safety pin;

- Device (3) on the front wheels to limit their movement;




You must also comply with your national road regulations.

- **Installation:** the device must only be installed on agricultural tractors with universal three-point hitch system at the back and with hydraulic lift.

**IMPORTANT**

The tractor must also, by law, be fitted with a protective roll-bar or ROPS or FOPS cabin. **It is strictly forbidden to install the rake device on a tractor without the required protection.**

Prior to installation, however, the Customer must check the tractor's operating and maintenance manual to ensure the tractor is suited for use and operation of the rake, and whether ballasts are needed to prevent unbalancing that could cause it to tip over.

Instructions on installing the tiller and making the hydraulic connections are given below.

**Use:** the rake must only be put to the use for which it was intended: to rake up cut forage. **Any other use is therefore improper and forbidden.** The rake's technical characteristics must also not be altered in any way to modify performance **otherwise the warranty will be forfeited immediately and the Manufacturer will refuse all responsibility.**

The rake must be used in conditions ensuring good light and visibility. We recommend you do not work when light and visibility is poor as this can compromise normal levels of safety. Recommence work only when light and visibility is good again.

The rake does not require special attention during use as it is not operated directly, being trailed by the tractor; the operator must, however, ensure that no persons or animals come too close in the interest of their safety.

In any case, the rake must only be operated by qualified and well trained adult personnel who have read the instructions in this manual. Safety is of paramount importance for personnel operating, repairing or maintaining the device. As the instructions given in this manual cannot cover all possible working situations and related risks, personnel must always act with caution and with common sense.

The operator must take the following precautions when using the rake device:

- The tractor must not be left running or unguarded, not even for short periods. The operator must always switch off the tractor's engine and take the key with him;

- The rake device is relatively quiet and does not require use of acoustic protection (ear plugs, ear muffs, etc), although this may not be the case with the tractor. We therefore recommend you check this in the tractor's operation and maintenance manual.

## B3 Operator's responsibilities and safety

Safety is of primary importance to personnel operating the rake device and therefore each operator is directly responsible for controlling the rake's operation, maintenance, repairs and/or use of spare parts or consumable materials. This means the aforementioned personnel must never delegate their work to operators without the necessary requisites.

**The Manufacturer assumes no liability for:**

- Improper or incorrect use of the rake device that can cause harm to persons and animals or damage to objects and the actual rake;

- Employment of personnel who have not received proper training and/or has not read and understood the instructions in this manual;

- Lack of or insufficient maintenance;

- Use of spare parts that are not type approved or not compatible with the rake model;

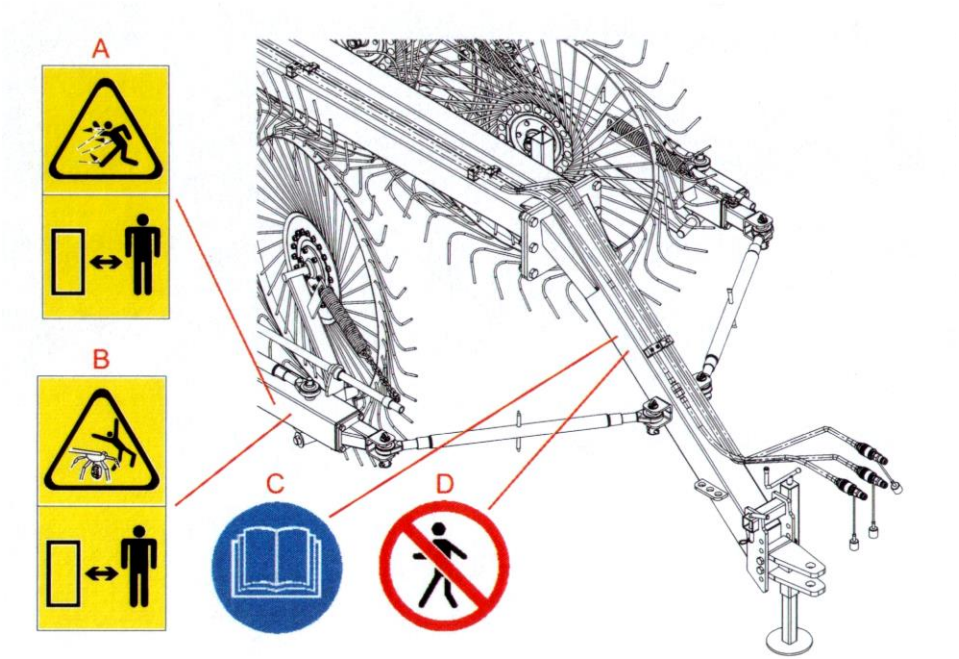
In addition to the instructions in this manual, personnel are given visual aids in the form of labels (shown in the illustration) attached to the front of the rake device indicating the necessary safety precautions. These labels are designed to attract the operator's attention and indicate the level of risk.

These labels, however, differ in shape and colour according to the instructions. Personnel must therefore know that a circular label indicates an **obligation** (blue and white) or a **prohibition** (red, white and black), and a triangular label indicates a **hazard** (yellow and black). Rectangular labels feature the hazard or prohibition symbol but also indicate the safety precautions to be taken.

Warnings given on the labels:

**a.** **Risk of flying objects.** Objects in the field of operation may be caught and thrown by the teeth of the rotating rake wheels;

**b.** **Risk of snagging.** As the rake wheel rotates, there is a risk that the teeth snag on the operator's clothes or other objects on the operator's body.




**c.** **Obligation** to read the user and maintenance manual;

**d.** **Prohibition** for unauthorized persons to stand or move in the rake's field of operation when the rake is being used. Persons must keep at a safe distance and should they need to move in the rake's field of operation, they must do taking all due precautions;

**IMPORTANT**

Warning labels and pictograms must be replaced if they become faded and risk becoming illegible. In this case, the operator must not use the rake until any faded labels are replaced with new ones. It is also strictly forbidden to remove the pictograms and labels from the equipment. Should this occur, the Manufacturer assumes no liability as the rake no longer meets the safety requirements for which it was designed and created.

## INSTALLATION

### C1 Rake assembly

As mentioned above, the equipment is fully dismantled for delivery to the Customer. The rake can be assembled quickly and easily following the user-friendly instructions (see Page 18). Assembly must be carried out on a flat surface prepared especially for the purpose. Assembly operators must be knowledgeable of installation safety regulations and work with all due care and attention.

The rake, once it has been assembled, can be installed or hitched to a tractor.

### C2 Hitching to the tractor

The rake can be hitched to the attachment of any agricultural tractor. To do so, the operator must move the rake slowly to a position where the joints can be easily aligned (**1**).

**IMPORTANT**

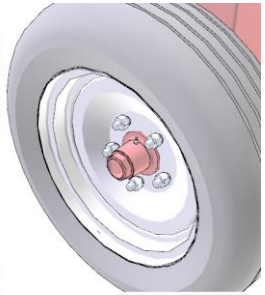
The holes in the tractor's attachment must be aligned with those on the rake's attachment with maximum care and attention.

When the tractor is near the rake's attachment (type 1 or 2 – see picture), the operator turns the lever on the foot support (**2**) to lift or lower the rake's attachment and insert it in the tractor's attachment. The operator can then insert the locking pin (**3**) through the attachment holes, as illustrated below, and secure it in place with the relative safety pin (**4**).

Next, the operator turns the lever (**5**) to lift the foot support off the ground, completing the tractor-rake attachment procedure. The foot support can then be removed from its housing and inserted in the housing on the frame.

The operator therefore has to extract pin (**6**) to free pin (**7**), extract the latter from the holes of the foot support and remove the foot support from its housing (**8**). The foot support can then be placed in the housing on the frame **(9)** and fastened with pin **(7)** and its relative safety pin.

ANTERIORE - FRONT

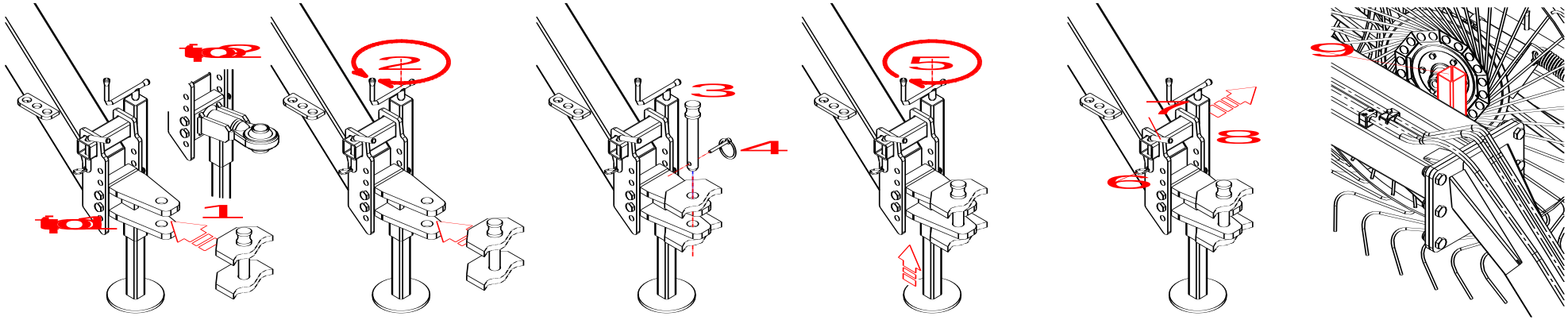


POSTERIORE - REAR

**WARNING**

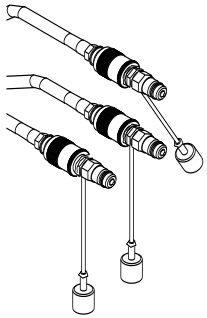
**After the first installation to the tractor, verify that the wheel hubs result greased and, if necessary, do it.**

**After the first installation to the tractor, grease the wheel hubs in accordance with the task times and methods indicated in the chap. Maintenance.**



**C3 Hydraulic connections**

- The rake wheels are lowered and lifted by retracting and extending a jack, while the side arms are opened and closed hydraulically by another jack. Both jacks are powered by the tractor's auxiliary circuit and therefore commanded by their respective levers in the cabin. As a result, these functions can only be carried out if the jack connections are made (quick couplings, as illustrated) to their corresponding attachments on the tractor's auxiliary circuits.



**C4 Removal**

To remove the rake from the tractor, follow the above instructions in reverse order. The hydraulic connections have to be removed before the actual rake.

**C5 Storing the rake**

The Customer must set aside a large and easily accessible area on his premises where the rake can be stored. How to store the rake:

- Park the rake in a safe area set apart for the purpose. The area must be flat and even;
- Install the foot support supplied with the rake and stored in its relative housing on the frame, near the attachment;
- Detach the rake from the tractor, following the instructions in paragraph C2 and C3 in reverse order;
- Chock the wheels;
- Place protective material over the rake.

## OPERATION and USE

### D1 Preliminary information

Suitable and optimal use of the rake not only helps avoid accidents but is also the only way to ensure high yield and make use of the rake's full potential and performance.

The rake must be used by trained adult personnel knowledgeable of the instructions in this manual and on the labels. Safety is of paramount importance for the personnel that operate, repair and maintain the equipment. As the instructions given cannot possibly cover all possible working situations, personnel must always exercise caution and common sense.

Before the tractor can transport the rake to the work area, it is advisable to carry out the following preliminary checks:

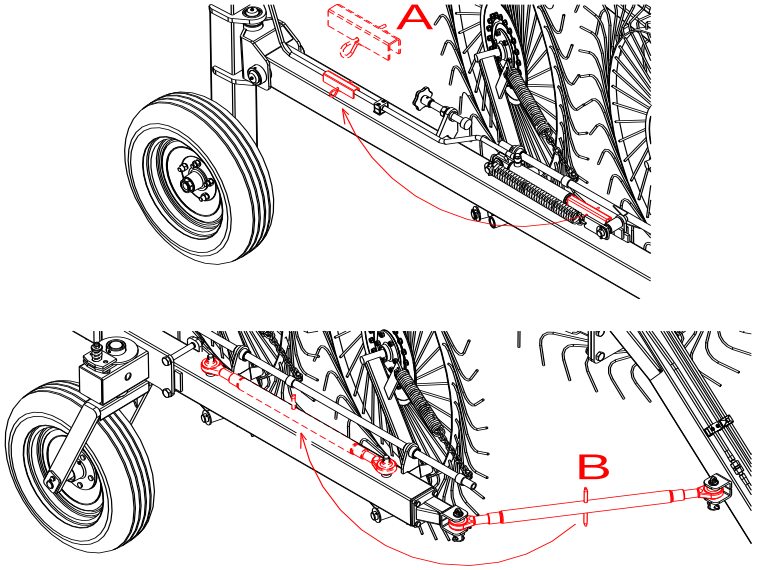
- Ensure all the parts of the rake are in their intended position and are securely fitted;
- Ensure the rake is fitted properly to the tractor;
- Check efficiency of all the protection devices;
- Carry out the daily maintenance checks described in the relative paragraph. **Note**: *should the rake be returned to service after a long period of inactivity, ensure it has been properly maintained and that it has not been damaged in any way by poor weather or storage conditions.*

### D2 Operation and use

The rake must be taken to the work area in keeping with the instructions in paragraph B2 “Handling and Transportation”.

The tractor driver is personally responsible for the general procedure of conveying the rake and must therefore prepare the rake for transportation as follows:

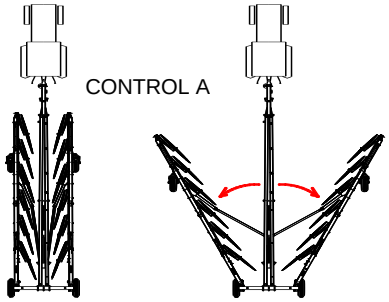
- Firstly, the operator must remove any safety devices that need to be removed for transportation, i.e. The jacks' end stop devices (**B**) and the arms' tie rods (**A**):

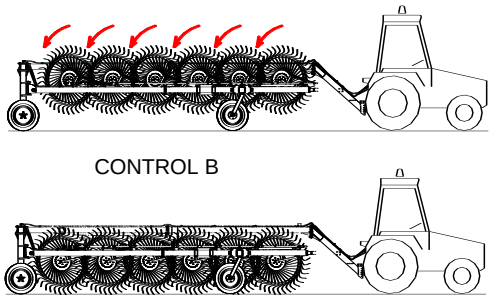



- **End stop device:** remove the safety pin to free the device, lift the latter from the jack rod and move it further back, as shown in the illustration. Re-fasten the device with the safety pin (do one side at a time);

- **Arms' tie rods:** remove the safety pin from the locating pin and remove the latter from its housing. Repeat the same procedure on the other side of the tie rod and then remove it from the rake's pinned supports. Move the tie rod to the points on the frame shown in the illustration. Screw the body of the tie rod into place at the new points.

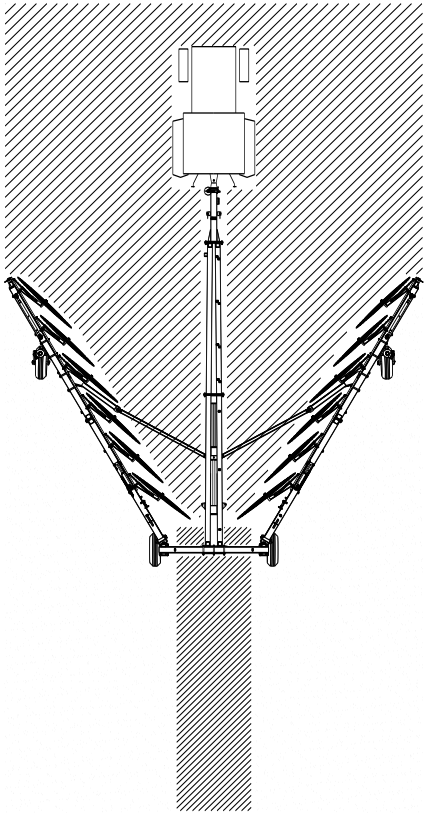
- After removing the safety devices, the operator uses the respective controls in the cabin to fully open the rake’s arms (**control A**) into the working configuration, and then lower the rake wheels (**control B**), which all move together, as shown in the illustration.




The rake is now ready for use. It is extremely easy to operate as it just has to be hitched to the tractor which trails it in the required direction. The rake wheels, which have been adjusted according to the type of ground, turn as they are pulled along and the teeth collect the cut forage.

The rake's working configuration, as illustrated, allows the cut forage to be collected and conveyed into a single central swath. This configuration, which can reach 10 metres for some models, considerably simplifies the process thereby reducing end costs.



**IMPORTANT**

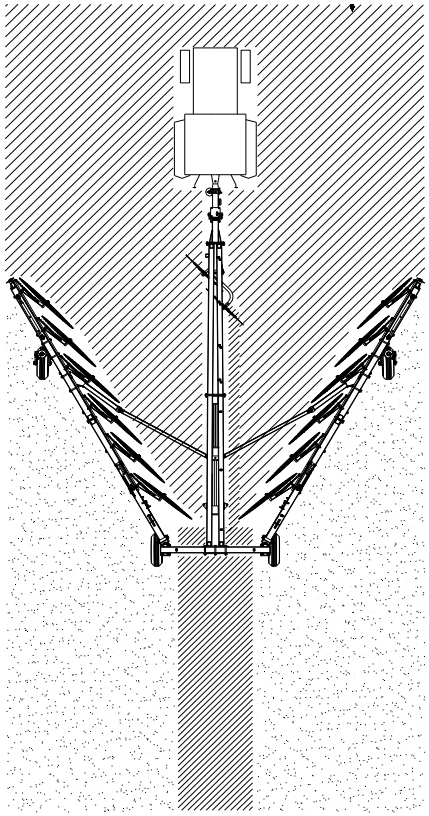
You must remember that the tractor must drive in a more or less straight line. To **change direction** a few metres before the end of the field, the driver needs to apply the command to lift the rake wheels and close the side arms.

Only after the rake wheels have been lifted and the arms are closed can the operator change the tractor's direction, which requires several maneuvers.

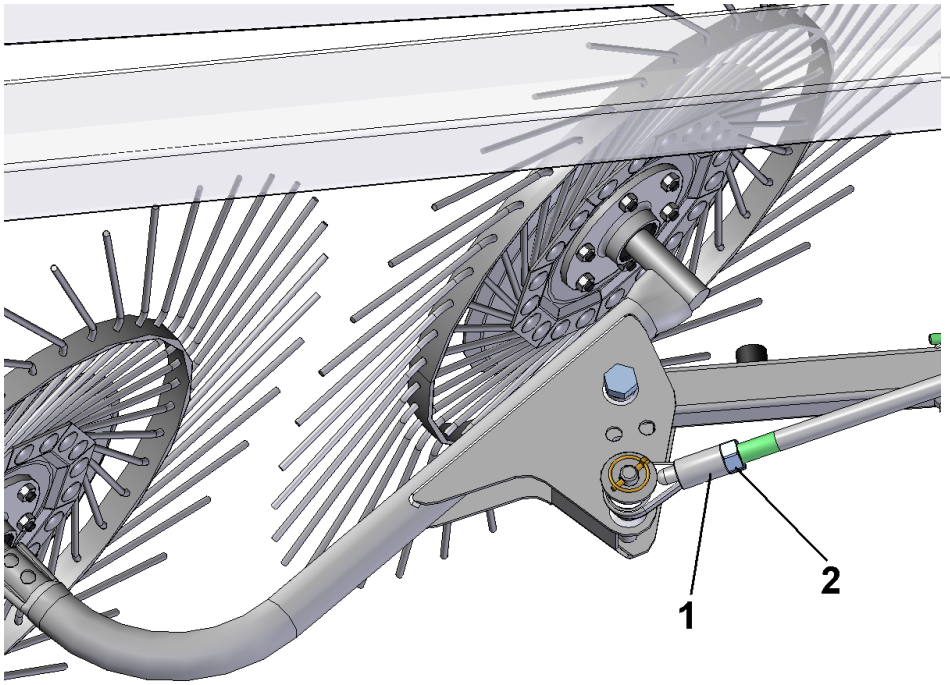
Once the operator has turned the tractor, he can apply the command to re-open the side arms and then lower the rake wheels to continue the work.

To move the forage in the central swath, one or more additional rake wheels need to be installed at the centre of the frame. A set of additional rake wheels can be supplied with the Easy Rake series (the set, shown in the illustration, is called **Kicker wheel** and is available on request).

**Swath adjustment:** the swath can be narrowed by moving the two rear rake wheel arms, as indicated in the illustration by the arrow.



Easy Rake with Kicker wheel




KICKER WHEEL

**Kicker wheel adjustment**

After installing the kicker wheel (assembly instructions on page 40), the rake wheels can be better adapted to the ground by adjusting their inclination in relation to the direction in which they move:

- Loosen the counter nut (pos 2) and screw or unscrew the bushing (pos 3) to increase or decrease inclination of the two rake wheels;

- decreased inclination FIG.1: hay is discharged better from the rake wheels, but the ground isn't cleared as efficiently;

- Increased inclination FIG.2: hay isn't discharged as efficiently from the rake wheels, but the ground is cleared better.

**Figure 1**

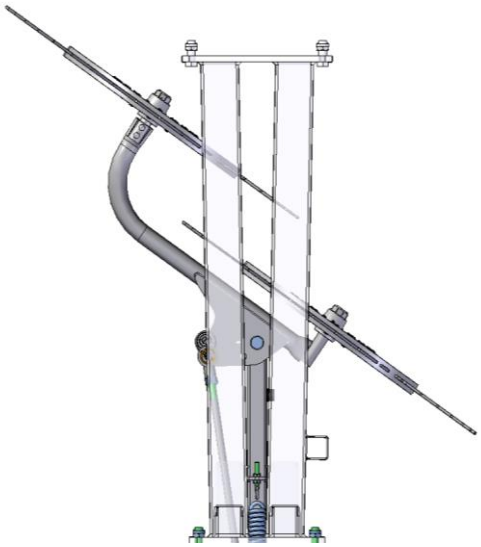


**Figure 2**

Prior to work breaks (even short ones) the operator must always:

- **Switch off the tractor's engine**
- **Apply the parking brake**
- **Place the gear stick in neutral**
- **Remove the keys from the ignition;**

When the operator has finished work for the day, he must place the rake back in its transportation configuration before returning the tractor to its parking area.

Rake storage instructions are given in paragraph C5.

# MAINTENANCE

## E1 Maintenance instructions

The Manufacturer has drawn up a rake maintenance schedule based on functional tests. This schedule, if followed assiduously by the Customer, can maintain the rake's working efficiency and capacity without risk of damage. The operator, who must be a qualified technician of working age, must follow these rules:

- All maintenance and repairs must never be left unfinished or postponed;
- The operator must never rely on his memory alone, but always read and follow the instructions in this manual without fail;
- The operator must install a "**Maintenance in progress**" sign in a prominent position on the tractor's dashboard before starting work. This ensures the operator's safety and can prevent damage to the rake.
- All maintenance must be carried out on a flat and well lit surface, with the rake standing in a stable position and the tractor at standstill, with the parking brake applied, the engine off and the keys removed from the ignition;
- Tools for maintenance must be used in accordance with relative accident prevention regulations. Equipment must not, therefore, be put to improper use, e.g. do not use petrol instead of detergent, or pliers instead of a wrench;
- Only use spare parts that are type approved or recommended by the Manufacturer.

After maintenance or repairs, always clear the area of any water, oil, grease, dirty cloths, tools and any other material.

**IMPORTANT**

Take extra care when checking for leaks of pressurized fluid as the fluid can leak out of tiny, virtually invisible holes, burn through skin and cause serious infections. You must therefore use safety glasses with side protection and a piece of cardboard or wood to look for leaks.

## E2 Scheduled maintenance

Scheduled maintenance is purely informative and depends on normal operating conditions. It may therefore differ in relation to the type of service, working environment (which may be dusty), the season, etc. Maintenance should be stepped up the tougher the machine's operating conditions.

### E2.1 Checks on a daily basis

Checks to be carried out on a daily basis:

- Check condition of all the labels;
- Check condition of all the fittings (tightness of connections, condition of sleeves and leaks or overflowing of hydraulic oil);
- Use a grease pump to re-fill all the greasers on the equipment, or apply grease with a brush where necessary;
- Ensure all the nuts and bolts are properly fastened.

### E2.2 Checks on a monthly basis or per 50 hours' operation

Checks to be carried out on a monthly basis or per 50 hours' operation:

- Check condition of all the labels;
- Check condition of all the fittings (tightness of connections, condition of sleeves and leaks or overflowing of hydraulic oil);
- Check presence and condition of fasteners and safety devices;
- Ensure all the nuts and bolts are properly fastened;
- Check condition of the entire structure.

### E2.3 Checks on an annual basis or per 500 hours' operation

Checks to be carried out on an annual basis or per 500 hours' operation:

- Check condition of all the fittings (tightness of connections, condition of sleeves and leaks or overflowing of hydraulic oil);
- Check presence and condition of fasteners and safety devices;
- Ensure all the nuts and bolts are properly fastened;
- Check condition of the entire structure.

## E3 Lubrication

To top up the greasers, remove their protection caps (if present), remove all traces of dust and then use the pump to inject the grease. Afterwards, use a cloth to remove any excess grease on the greasers. Use a brush to apply grease wherever there aren't any greasers.


All grease top-up points on the rake are indicated by labels like the one shown in the illustration.


**IMPORTANT**

To avoid pollution, it is strictly forbidden to dispose of oil, lubricants, filter cartridges or other noxious materials in the environment. Comply with all regulations in force on disposal of liquid and solid substances.

## E4 Troubleshooting

| | | |
|---|---|---|
| The jack activation command does not respond | Hydraulic oil level low | Top up oil level |
| | Hydraulic system piping is damaged | Replace piping |
| | Hydraulic pump is damaged | Replace pump |
| | Filter is clogged | Replace filter |
| The jacks only move intermittently | Air in the hydraulic circuit | Operate the pump at no load for a few minutes, using the jacks, to expel any air in the hydraulic circuit. |
| The jacks move even when the command isn't given | Jack seals are worn out | Replace seals |
| Overheated oil | Filter is clogged | Replace filter |
| | Pipes are crushed | Check and replace pipes |
| | Oil level low | Top up oil level |
| Oil loss | Slow connection | Squeeze the pipe |
| | Worn out seal | Replace the seal |

**Note:** *contact the Manufacturer about any faults or trouble not mentioned in the table.*

## E5 Machine demolition: disposal of materials

When the rake is placed out of service, you must make harmless all parts that could pose a safety risk to persons, animals and the environment when sent for disposal. Materials that make up the rake and should be set aside for segregated disposal are:

- Iron
- Hydraulic oil
- Rubber
- Plastics

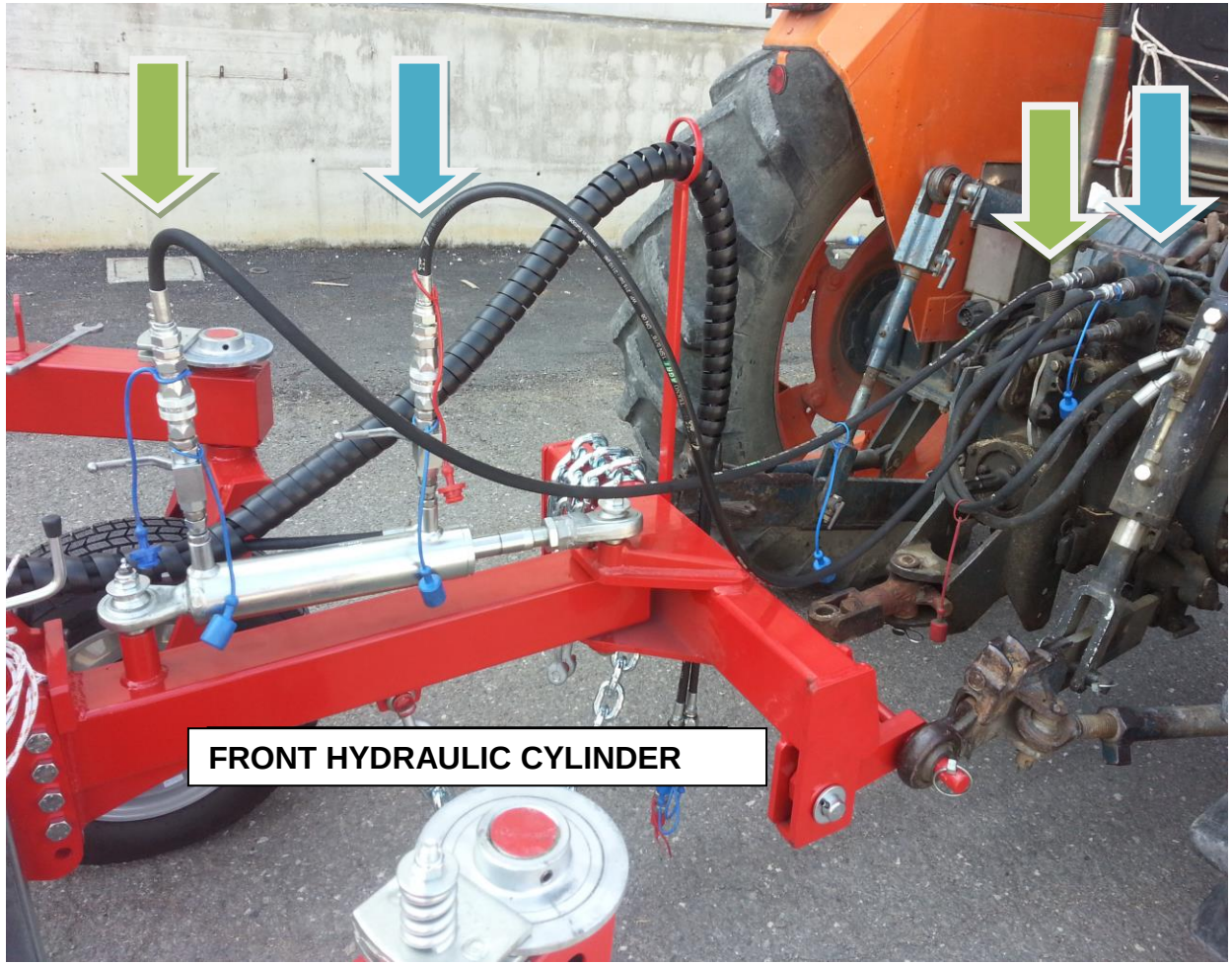
These materials must be disposed of in compliance with relative national legislation in force.

# PROCEDURES FOR MODELS EQUIPPED WITH STEERING SYSTEM ONLY

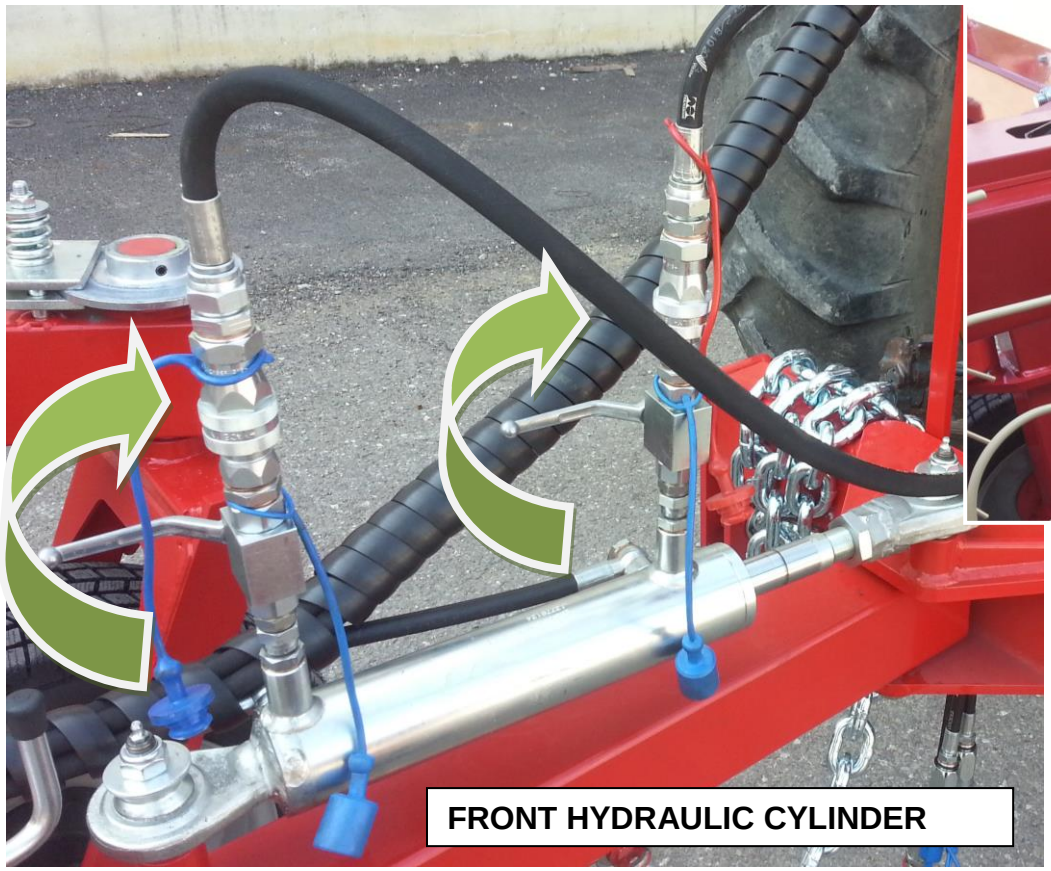
## 1 - OIL FILLER ON HYDRAULIC CIRCUIT

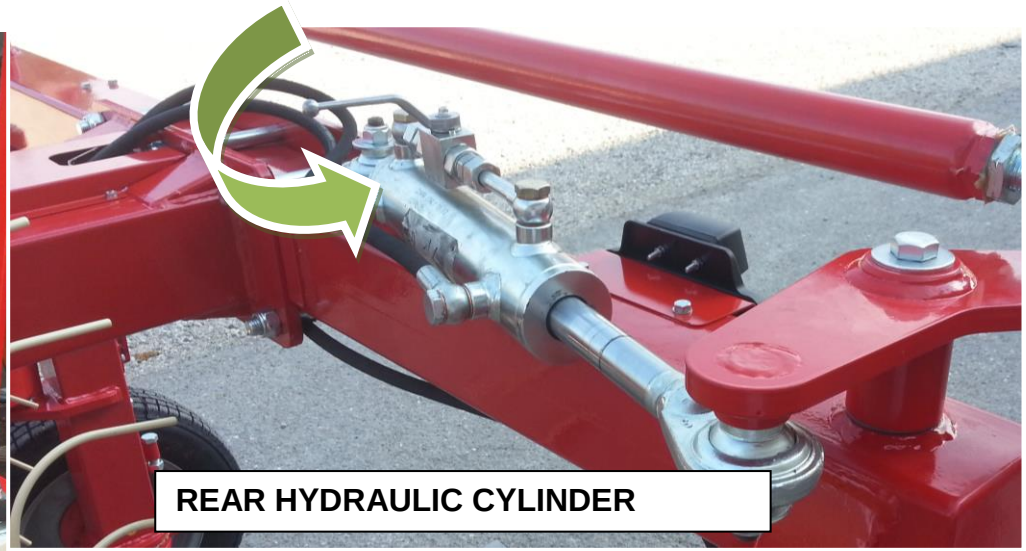
**PERFORM THE OPERATION ONLY IN CASE OF HYDRAULIC OIL LEAKAGE OR REPLACEMENT OF HYDRAULIC CIRCUIT COMPONENTS.**

**STEP 1:** Connect the cylinder to the tractor hydraulic connections by using the two hoses included with the machine, as shown in figure.



**STEP 2:** Open the two valves of the front hydraulic cylinder and the valve of the rear hydraulic cylinder, as shown in figure.



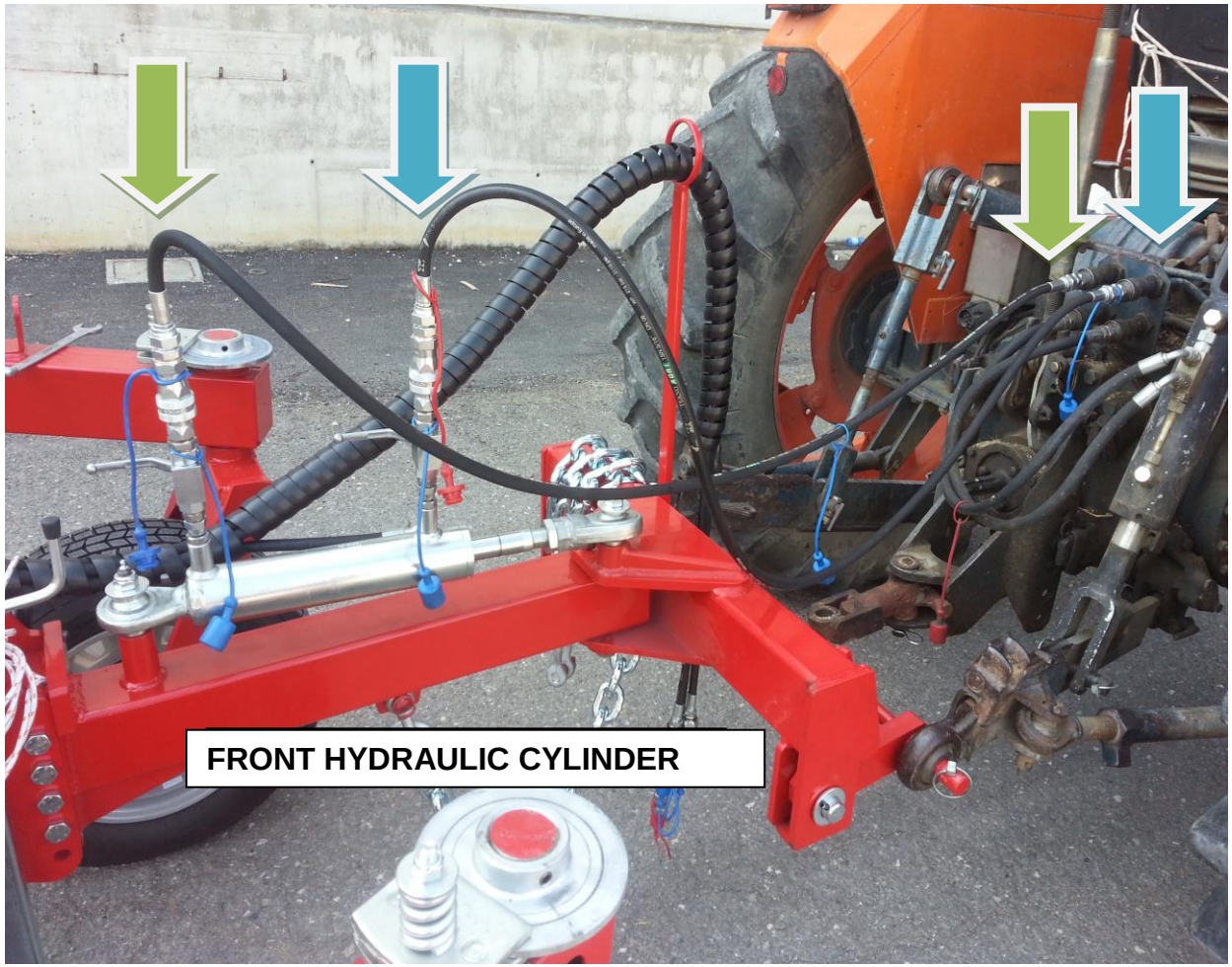

**STEP 3:** Activate the tractor hydraulic connection in order to send oil through the two cylinder for a few minutes. This way any air left inside the circuit is removed..

**STEP 4: Close the three valves previously opened and disconnect the hydraulic hoses.**

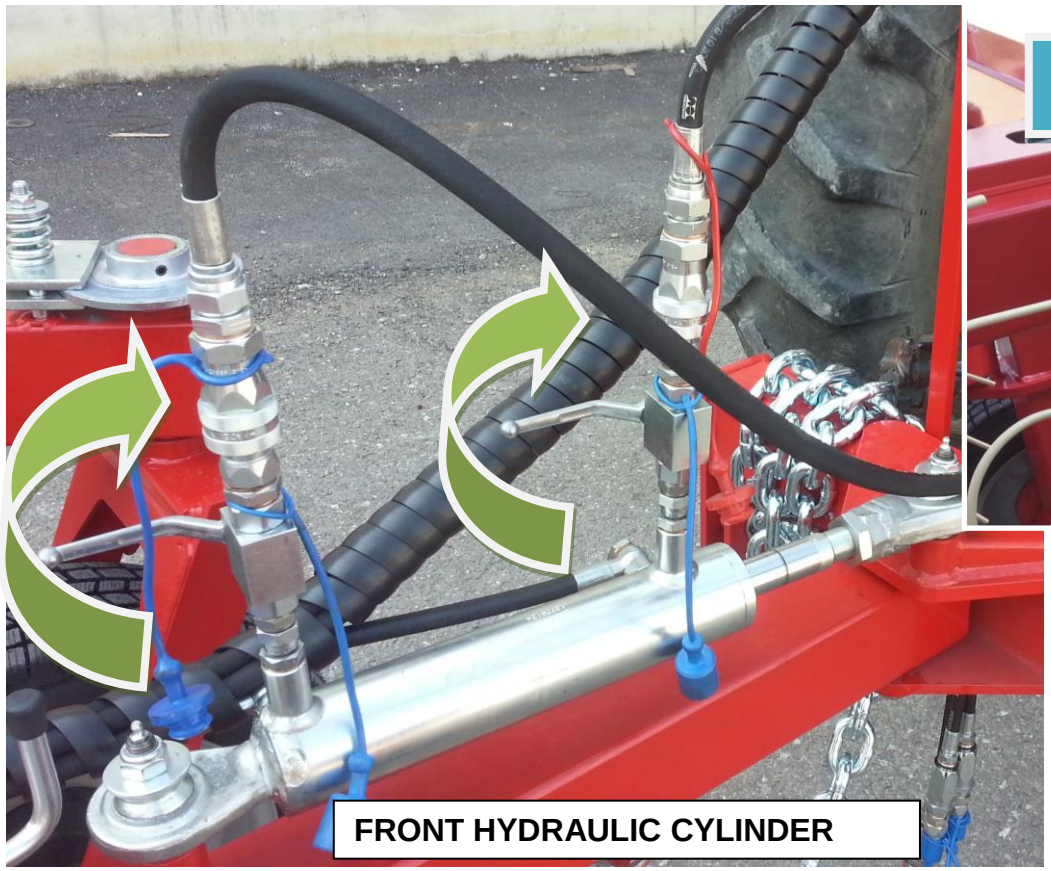
# 2 - SETTING THE STEERING SYSTEM

## PERFORM THE OPERATION ONLY IF THE SETTING OF THE HYDRAULIC CIRCUIT IS NEEDED (IF WHEELS ARE NOT PARALLEL TO THE TRACTOR AXIS)

**STEP 1 )** Connect the cylinder to the tractor hydraulic connections by using the two hoses included with the machine, as shown in figure.



**STEP 2:** Open the two valves of the front hydraulic cylinder and keep the valve of the rear hydraulic cylinder closed, as shown in figure.




**STEP 3:** Activate the tractor hydraulic connection causing the displacement of the rear wheels, until the parallelism of the wheels to the machine axis is obtained.

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**STEP 4:** Close the two valves of the front cylinder previously opened and disconnect the hydraulic hoses.

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