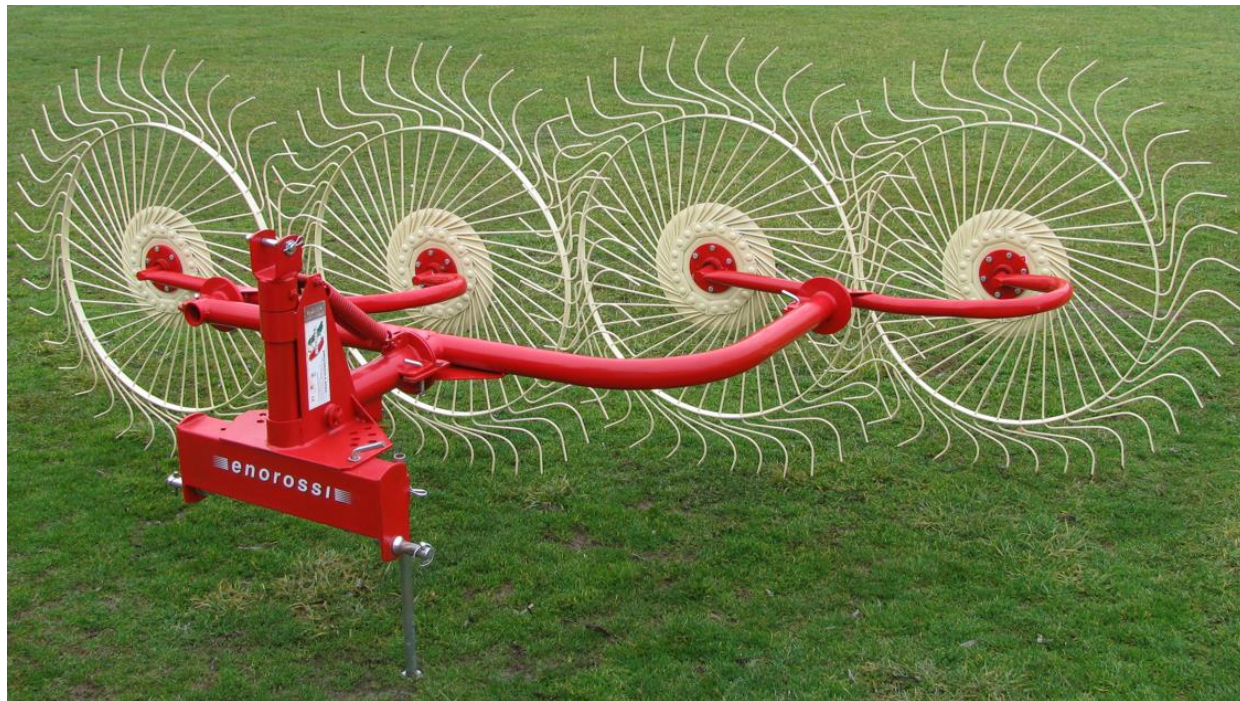




RP 2C - 3 - 3C - 4 - 5BS - 6BS

Hay Rake



TRANSLATION
OF THE ORIGINAL
INSTRUCTIONS

USE AND MAINTENANCE MANUAL

Issue 4a - 7/2025



EC DECLARATION OF CONFORMITY

(Att.IIA Machinery Directive 2006/42/CE)

The Manufacturer **ENOAGRICOLA ROSSI s.r.l.** with office in
via Cortonese, 36 – 06019 Calzolaro di Umbertide (PG) - Italy

declares under its responsibility that the machine

HAY RAKE

.....
Name (general and commercial)

RP	2010
..... Series/Model	 Serial n.
	 Manuf. year

which functions are described in this manual

us conform with the essential Health and Safety Protection requisites
of which in Machinery Directive 2006/42/CE

To verify Conformity of the above Directives,
the following EN Harmonised Standards have been consulted:

EN 13854:2020 - EN ISO 4254-1:2022
EN ISO 4254-10:2010 - ISO 11684:2023 - EN 12100:2010
EN ISO 12965:2020 - EN ISO 13857:2020 - ISO 3600:2022

And authorises Enorossi
Via Cortonese, 36 - 06019 Calzolaro di Umbertide (PG) - Italy
to constitute the Technical File on its behalf

Calzolaro di Umbertide,

ADELMO GIOVANNINI
.....
Legal representative

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Machinery Directive and Harmonised Standards

The "RP" series hay rakes have been designed according to the Standards described in Machinery Directive **2006/42/CE** and in particular, satisfy the following harmonised Standards:

EN 13854:2020 Safety of machinery - Minimum gaps to avoid crushing of parts of the human body (1993) + **A1** (2008)

EN ISO 4254-1:2022 Agricultural machinery - Safety - Part 1: General requirements

EN ISO 4254-10:2010 Agricultural machinery - Safety - Part 10: Rakes and Hay tedder

ISO 11684:2023 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment - Safety signs and hazard pictorials - General principles

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.

EN 13857:2020 Safety of machinery - Safety distances to prevent hazard zones being reached by lower limbs (2008)

ISO 3600:2022 Tractors, machinery for agriculture and forestry, powered lawn and garden equipment - Operator's manuals - Content and presentation.

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INTRODUCTION

A1 Information on the hay rakes

The hay rake is an agricultural equipment used to collect, turn or spread any other type of previously cut forage. This equipment can work only if installed on any agricultural tractor as long as provided with 3-point universal coupling and hydraulic lift. Its functioning is obtained for effect of its dragging by the machine towing it. The consequent rotary movement of the raking wheels (the main element of the equipment and that can contain up to a maximum of 5), allows forming even and well ventilated windrows. Our models of the “**RP**” series, all of mounted type, are equipped with flexible and robust frame, allowing them to work on any ground, even sloping or irregular and to perfectly follow its profile.

More detailed information on the functioning and use of the hay rake is described further down in the relative chapter.

A2 Information on the manual

ENOROSI (hereinafter called “Manufacturer”) has designed and manufactured the equipment, in compliance with the safety regulations with the precise intention of protecting personnel working near-by and the entire operational system.

Every rake is supplied with a copy of this manual that must be carefully read before the same is used. The manual contains information necessary for transport, use and maintenance of the equipment, as well as the relative safety regulations.

The lacking in knowledge of the operational system may cause accidents, with consequent damages to the same equipment. Therefore, even if upon delivery the Manufacturer supplies the Customer all information relating to the hay rake (functioning, use and maintenance), the Customer must read this manual and observe the instructions therein.

The manual supplies the basic information for obtaining the best work and safety conditions but it remains the experience and good sense of the operator the most important factor for the equipment functioning.

This manual was edited based on the current technical and constructive features of the hay rake and does not take into account similar products,

produced previously. However, the Manufacturer reserves the right to make modifications to the models in production, in order to improve its product or in case new relative dispositions are issued (Machinery Directive), without the obligation of adjusting the previously manufactured models.

This manual constitutes integrating part of the hay rake and, therefore, it must be well preserved, clean and intact in all its parts and kept in appropriate container, placed on the equipment frame or inside the tractor cabin, ready for consultation.

In case of transfer of the hay rake, it will be important to verify that the manual is present in its case. In case it is lost, request a duplicate from the Manufacturer.

If during reading of the manual the instructions should be incomprehensible, contact the Manufacturer for the opportune clarifications. Should the manual be translated in other language and part of its content present controversies, the valid text of reference remains that written in the Italian language.

Signals contained in the manual:

IMPORTANT

To signal the information must be known by the operator;



To signal a probably dangerous situation regarding the health of the operator and others (slight injuries or accidents) or the efficiency of the rake;

The word **Note** indicates that the subject in question can facilitate the work carried out by the operator.

A3 Identification and CE certificates

Every equipment is provided with an identification plate applied on the frame and clearly visible, on which the following data is reported:

- the model (and/or version) of the rake;
- serial number;
- minimum power of the tractor (kw);
- total weight (kg);
- year of manufacture.

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RANGHINATORE STELLARE RP

CE ANNO Kg MADE IN ITALY

MODELLO MATRICOLA Kw

This data must be quoted every time requesting assistance and spare parts.

IMPORTANT

It is strictly forbidden to alter and/or delete the data on the identification plate. However, the operator must often verify legibility of the data and, when precarious, inform the Manufacturer. The manufacturer will place the data on a new plate and replace the previous one.

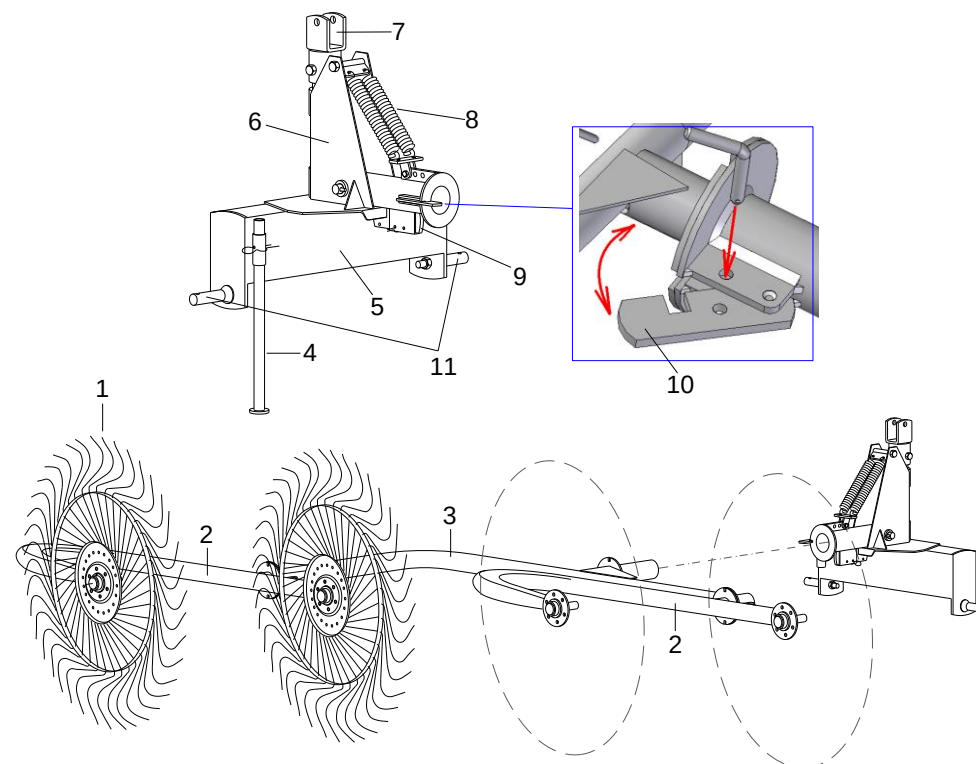
The **CE** mark indicates the manufacturer has complied with the dispositions the Member states of the European Community has adopted on the health and safety and that is known as "**Machinery Directive**". This means the manufacturer has designed and manufactured the equipment in the full respect of all requisites for its use and to avoid all possible deriving risks and dangers. Therefore, the hay rank can freely circulate on the European territory only if provided with this mark and relative declaration of conformity.

A4 Main components and technical data

1. Raked wheel
2. Arm with hubs
3. Arms support
4. Support foot
5. Fixed frame
6. Mobile frame
7. Upper coupling point (3rd point)
8. Shock absorbing springs
9. Frame blocking device
10. Blocking and hooking device

11. Lower coupling points

Model	Raking wheels			Width		Power	Weight
	N.	Teeth	Ø cm	Work cm	Trav. cm	Hp	Kg
RP 2	2	40	140	131	230	30	90
RP 3	3	40	140	195	280	30	146
RP 4	4	40	140	260	235	30	178
RP 5	5	40	140	340	235	30	210
RP 6	6	40	140	410	235	30	250



A5 Warranty

Enorossi (called Manufacturer) warrants the rake is without defects each every component, as it subjects it to test before delivering it to the Customer. **The warranty has a 1 year validity starting from the date indicated on the tax delivery document, save different agreements underwritten with the Customer.** However, upon receipt of the rake, they must verify the same is intact and complete in its every part. Any claims must reach the Manufacturer in writing within 8 days from receipt of the equipment.

Enorossi commits to replace under warranty and free of charge at its establishment, the components that for manufacturing or material defects, cause a fault in the functioning. - Should it not be possible to replace at own establishment, the Manufacturer commits to sending the faulty pieces at the establishment of the Customer. With regard to these replacements, Enorossi does not waiver the warranty period during the time which the hay rake remains still, or recognises any damage or indemnity to the Customer, for direct and indirect expenses or damages. - Should the intervention of our technician be required, the relative labour, travel and overnight expenses will be the full responsibility of the Customer. - Only the Manufacturer or technician personnel entrusted by the same can ascertain the fault.

However, it must be taken into consideration that:

- the faulty pieces remain the property of the Manufacturer;
- should replacement be carried out at the Customer's establishment, the faulty pieces must be returned and, therefore, sent to the Manufacturer, for subjecting to technical review, integrates without tampering, without tampering and **carriage paid**;
- in case faulty pieces cannot be returned to the Manufacturer within 30 days, from date of receiving the new ones and with the methods described in previous point, the Manufacturer reserves the right to sending an invoice for the new sent pieces.

The warranty is not recognised:

- during transport as the rake travels under Customer responsibility;
- when the faults derive from improper or incorrect use of the rake or operator negligence;
- when the faults are caused by normal wear, even with the rake not working;
- in case of late signalling of the manufacturing defects;
- in case of accidents or fortuitous cases of *force majeure*.

The warranty becomes void in case:

- the rake is used by inadequately trained personnel;
- the indications and/or regulations in these instructions have not been followed or complied with;
- the envisioned maintenance interventions have not been carried out;
- the Customer makes modifications to the rake without the written authorisation by the Manufacturer or the same tampers with the components;
- non-original spare parts are used or non-conform with those recommended by the Manufacturer.

However, the warranty period recognised for the rake is not valid for all components not manufactured by the Manufacturer and for which that reported in the relative purchase notes remains valid.

IMPORTANT

The Manufacturer does not guarantee conformity of the rake with the legal dispositions in force and, in particular, with those relating to accident-prevention and pollution in the non-E.U. countries. The adjustment of the hay rake to the respective regulations will be the full responsibility and at the expense of the Customer. The Manufacturer is lifted from every responsibility if the compliance with the same regulations should give rise to controversies or cause any type of damage.

SAFETY

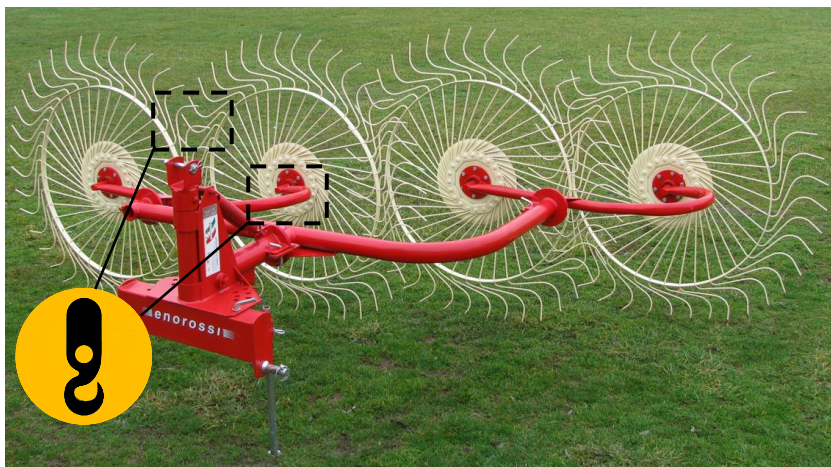
B1 Main regulations

This manual describes the safety regulations to observe in using the hay rake. As most of the accidents at work occur because the most basic safety regulations are not complied with, **it is compulsory**, before activating any function, to read this manual and scrupulously follow the instructions herein.

The equipment must be used by adult personnel, qualified and trained on its use. **Therefore, the Manufacturer does not answer for accidents caused by operator negligence and/or non-compliance with the safety regulations. Also, both the Manufacturer responsibility and warranty of the hay rake would immediately become void.**

B2 Safety relating to transport, installation, movements and use

- **Transport:** this intervention is carried out by means of adequate vehicle on which the equipment is loaded. It is necessary for the hoisting mean to have suitable slings and features to support the load to be lifted, the hay rake, which total weight is indicated on the identification plate. Personnel trained for the intervention will carry it out by holding the equipment in the points marked on the frame (see following note) and envisioned for this purpose.



Note: to protect the integrity of the frame it is advised not to support the rake with metal chains, but use approved belts. However, an adhesive label has been applied to the points where it should be fixed or sling should pass through, containing a hook (as in figure), to highlight its use.

ATTENZIONE

The load and unload operations always entail dangerous situations, thus requiring the operators in charge to be very careful.

Finally, tighten the equipment to the vehicle's structure to avoid it slipping during transfer.

- **Installation:** the hay rake must be installed only on agricultural tractors provided with 3 point rear universal coupling and hydraulic lift.

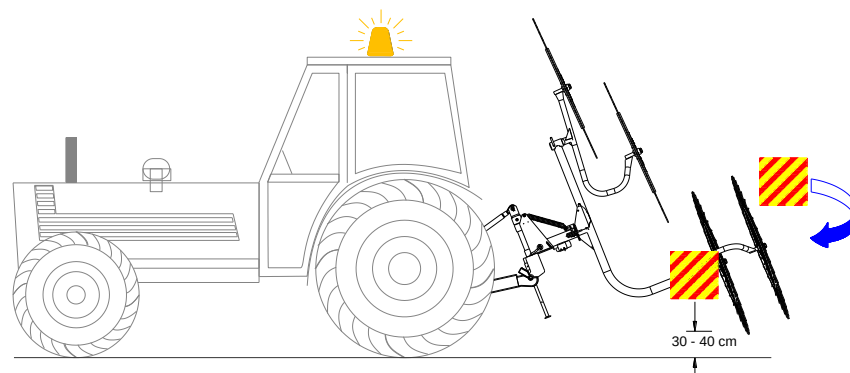
IMPORTANT

The tractors must, in turn, be provided with protective roll-bar or ROPS or FOPS approved cabins, as indicated by the current Standards. **It is strictly forbidden to install the equipment on tractors without these protections.**

However, before installing, the Customer must consult the relative use and maintenance manual to ascertain the tractor has the necessary requisites to use and function the hay rake and/or ballasts are required to eliminate any unbalances that might cause it to overturn.

For instructions relating to the installation of the hay rake consult the relative paragraph described below.

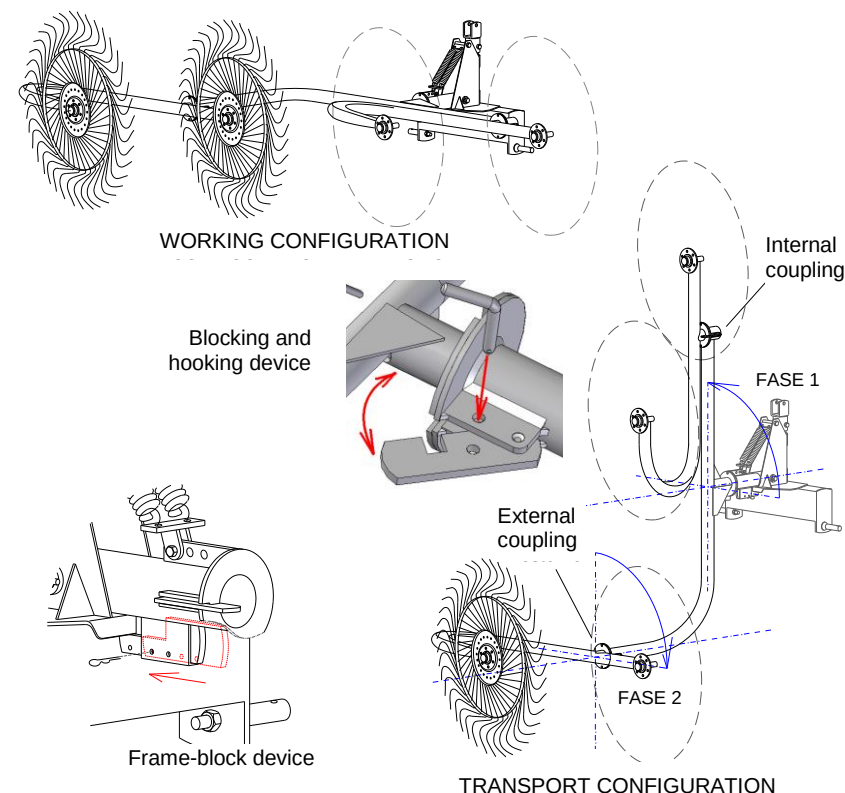
- **Movements:** when the hay rake is installed to the tractor, it must be lifted using hydraulic lift so that the lowest point is at least 30÷40 cm from the ground and then block the lifting device lever. To move within the cultivated fields, the operational machine (tractor with hay rake) must not activate any luminous signal or buzzer or display any type of panel. If movements take place on the road, the following obligations must be complied with:



- **rear encumbrance:** the operator must apply appropriate panels to the rake to highlight the rear encumbrance of the tractor. In this regard, remember that the panels must be applied on the three visible sides and be retro-reflecting and fluorescent with yellow and red stripes, and be approved. Also, the transversal encumbrance of the equipment must never be greater than the tractor shape and, therefore, must always assume a precise **transport configuration**, as in figure.

To bring the hay rake in this configuration, if still in work configuration, it is necessary:

- to start the tractor and after a few minutes, through its hydraulic lift, sufficiently lift the equipment and then block the lever of the lift;
- hooking and blocking device on the frame: remove the R pin to assure the handle pin and extract the latter from its seat (seal hole);
- release the hooking and blocking device and rotate the entire support including the arms and the raking wheels by 90° anti-clockwise, as in figure (**PHASE 1**);
- block the support again by means of the hooking and blocking device, insert the handle pin in appropriate seal hole and assure it with relative R pin;



- hooking and blocking device on the external coupling of the arms support: remove the R pin to assure the handle pin and extract the latter from its seat (seal hole);
- release the hooking and blocking device and rotate the external arm including the raking wheels by 90° clockwise, as in figure (**PHASE 2**);
- block the arm again by means of the hooking and blocking device, insert the handle pin in appropriate seal hole and assure it with relative R pin;
- frame-block device (see figure): remove the R pin assuring the device and push the latter until it reaches the stop. By means of inserting the relative R pin assure the device. This will prevent

any upward movement of the hay rake and damage it and/or the tractor.

- by means of the tractor's hydraulic lift, lower the equipment so that the lowest point is at least 30÷40 cm from the ground and then block the lift lever.
- **signs:** the tractor must always have the device with light flashing according to function, and move at average speed, in particular on the disconnected roads, as the rear weight may cause difficulty in driving;
- **weight:** the total mass of the operational machine (tractor with rake) must not exceed 30% above the normal for the tractor reported on its circulation paper;
- **regulations:** however, it is necessary to know and comply with road circulation regulations in force in each country.

During moving of the operational machine (tractor with rake) and its subsequent use, the operator in the cabin must observe the following precautions:

- must not take passengers on the tractor;
- must not transport persons or animals on the equipment;
- must not interpose himself, because forbidden, between the hay rake and the tractor, even if the latter has the parking brake engaged and wedges underneath the wheels;
- before reversing with the tractor, check that the rake is not in work position and that the same is lifted from the ground. If these precautions should not be taken, the equipment may be seriously damaged;
- **Use:** the hay rake must only perform the operations for which it was designed and manufactured that it to collect, turn and expand any type of previously cut forage. **Therefore, a different use from this is to be considered improper and forbidden.**
Furthermore, its technical features must not, in any way, be altered to modify its performances. **Should this happen, the equipment warranty and the Manufacturer responsibility would immediately become void.**

Before starting the tractor and work, it is important to verify the correct installation of the rake on to the tractor and that all relative blocking and safety devices are present and intact;

The use of the rake is admitted in good visibility and lighting conditions. Should these conditions lack, even partially, it is advised to interrupt work as the normal safe conditions would also lack. Work should only be re-started if the good visibility and lighting conditions are restored.

B3 Operator safety and responsibility

Safety is of primary importance for the personnel working around the equipment and this is why each operator is directly responsible for the operational control of the rake, its maintenance and execution of repairs and/or replacement of spare or consumption parts. This means the operator cannot delegate to another operator, without his requisites, to replace him in own functions.

The use of the rake does not require particular attention by the operator as it is not an operational machine but only equipment that, applied to the tractor, is dragged. However, even if the primary task of the operator is that to drive, he must always verify persons do not near the equipment when this is working, as not aware of possible dangers.

However, only qualified, trained, adult and aware of the instructions in this manual personnel must work on the hay rake. As these cannot include all possible work situations and their dangerousness, personnel must always be cautious and use good sense.

During equipment use the operator must observe the following precautions:

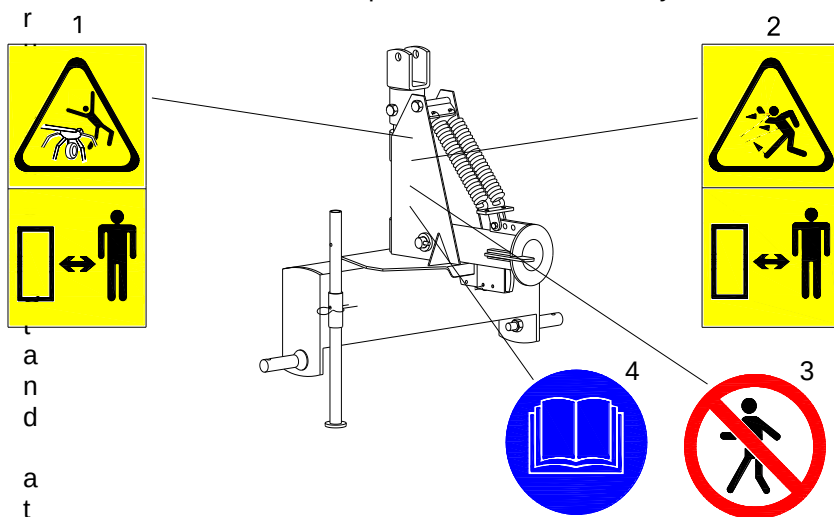
- never abandon or leave the running tractor unattended, even for short stops. Always stop the tractor and remove the keys from the dashboard;
- the functioning of the hay rake does not produce noise such to admit the use of acoustic protections (plugs, headphones, etc.) but the tractor may produce it. In this regard, consult the use and maintenance manual of the tractor.

In addition to the indications in this manual, there are adhesive labels or pictograms to help the operators, applied in various parts of the equipment

illustrating the safety regulations to respect. Depending on the regulation, the labels vary in form and colour. Therefore, who work must know that the round signals indicate an **obligation** (blue and white) or a **prohibition** (red, white and black), whereas the triangular ones indicate a **danger** (yellow and black). Other labels of rectangular shape, as well as contain the danger or prohibition sign, supply further information on the safety regulation to respect.

The regulations illustrated by the labels on the line are:

1. **danger of hooking or entanglement.** With the rotating of the raked wheels, their teeth may hook on to clothes or other objects worn by personnel in charge;
2. **danger launch of objects.** With the rotating of the raked wheels, objects found on the place of use may be launched by the teeth;
3. **prohibition to stand or transit.** It is forbidden for persons not in charge to stand or move inside the operational area of the hay rake, when this is



a safe distance and should it be necessary to move inside the operational area, be very cautious;

4. **obligation** to read the use and maintenance manual;

IMPORTANT

The warning labels and pictograms must be replaced before they become illegible. Should one of them become illegible, the operator cannot use the hay rake until a new label is applied. It is also strictly forbidden to remove the pictograms or labels from the equipment. Should this happen, the Manufacturer declines every responsibility this might entail, as the hay rake would not longer have the safety requisites with which it was designed and manufactured.

B4 Noise

Not having its own motor, the noise produced by the equipment is due only to the mechanical movements of its parts therefore being neglectful compared to that produced by the tractor dragging it. It is therefore not necessary for the operator to use acoustic protections (plugs, headphones, etc.). With regard to the noise produced by the tractor, it is opportune to consult the relative use and maintenance manual.

INSTALLATION

C1 Preliminary information

The hay rake can be installed on any tractor by means of three point universal coupling, as long as equipped with hydraulic lift. For the intervention this must be placed inside an area with flat surface, arranged for the installation. The operator performing the intervention must be aware of the relative safety regulations and must work with the utmost attention and caution.

C2 Installation to tractor

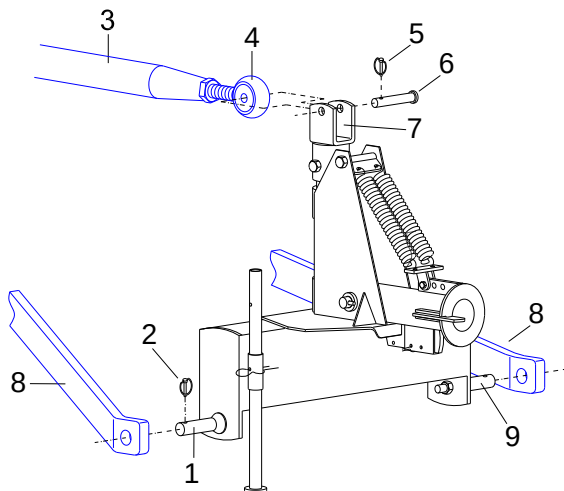
The equipment is installed to the three point universal coupling of the hydraulic lift of the tractor. To do this, the operator must slowly near the mean to the rake, positioning it in a way to facilitate centring.

IMPORTANT

The alignment of the holes of the tractor's coupling with those of the hay rake (operation defined **centring**), must be carefully and cautiously carried out.

Once manoeuvre is completed, the operator stops the tractor, leaves the lift in low position blocking its activation lever, engages the parking brake, eventually disconnects the controlled pull and removes the keys from the dashboard.

The operator now inserts the lift arms (8) in the relative seats (low pins 1 and 9) on the rake's frame (6) and blocks them one at a time with relative safety pins (2). Then inserts the adjustable tie-rod (3) in appropriate seat in 3rd point on the tractor ("heavy pull" hole) and fastens it to the tractor using the provided pin. Loosens or tightens the tie-rod body of the rake, leaving the volute free (4), until the same coincides with the housing on the equipment frame (7). Fasten the tie-rod with the pin (6), subsequently blocked with the safety pin (5).



Once this is done, adjust the tie-rod (acting on its body) until the rake's frame is perfectly vertical, then tighten the lock nut. Finally, block the arms of the hydraulic lift with the tie-rods or chains, they are equipped with.

C3 Removal

To remove the hay rake from the tractor, carry out the instructions in this chapter, in reverse order.

C4 Storing the hay rake

The Customer must set-up the equipment deposit area, within its company, assuring it has a wide and comfortable access. The following interventions are required for storing the rake:

- park the equipment in a safe and isolated place, on a flat and consistent surface;
- if not already done, have the rake assume the work configuration;
- using the tractor's hydraulic lift, rest the equipment on the ground;
- adequately position the support foot;
- remove the hay rake from the tractor;
- protect it with a sheet.

OPERATING AND USE

D1 Preliminary information

An adequate and optimal use of the hay rake is not only to prevent accidents, but also to obtain high yield and discover its real potential and performance.

Before each tractor start-up, check the rake is perfectly installed on it and complete in its every part. After having observed the precautions described in paragraph B2 "Use", carry out the daily maintenance checks described in the relative paragraph.

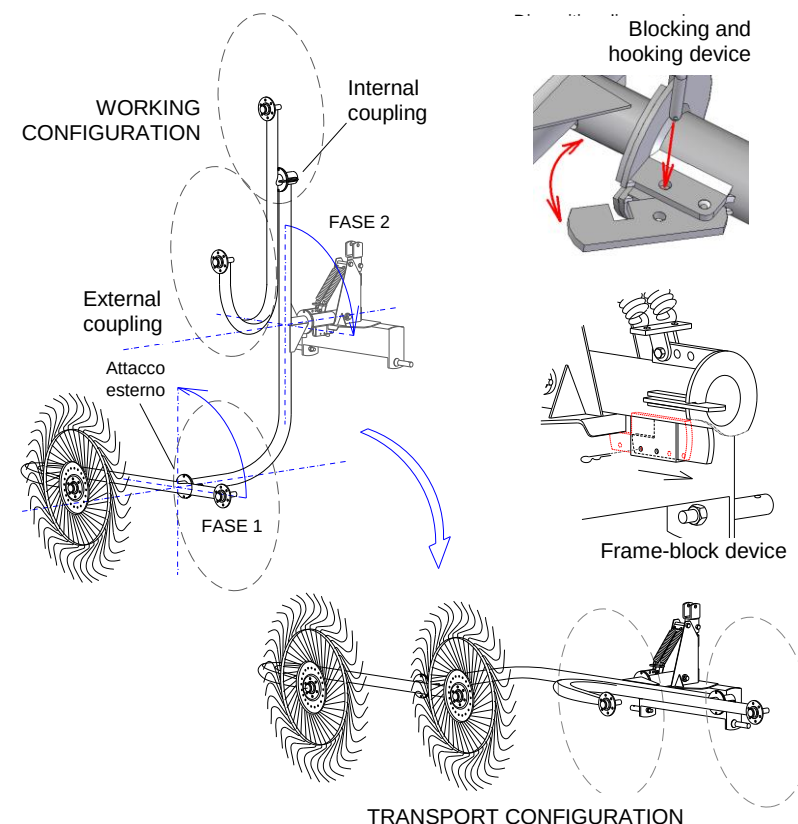
As often said, the hay rake must be used by a qualified, adult and trained on its use and functioning operator. Consequently, he must perfectly know the instructions in this manual, those on all adhesive plates and all safety regulations, for his and others safety and protection of the same equipment.

D2 Operating and Use

D2.1 Work configuration

The hay rake will be driven on to the work place according the Standards described in paragraph B2 "Movements" and once in place and before using the equipment, the operator will carry out the following interventions:

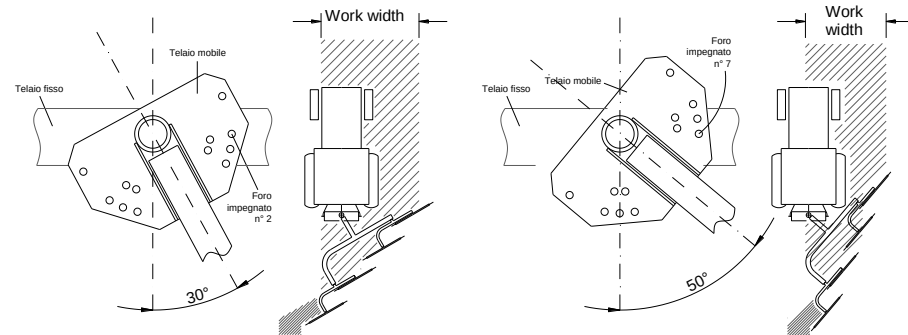
- reverse the tractor, engage the parking brake, remove the keys from the dashboard and climb down the tractor;
- work configure the equipment:
 - a. hooking and blocking device on the external coupling of the arms support: remove the R pin to assure the handle pin and extract the latter from its seat (seal hole);
 - b. release the hooking and blocking device and rotate the external arm including the raking wheels by 90° anti-clockwise, as in figure (**PHASE 1**);
 - c. block the arm again by means of the hooking and blocking device, insert the handle pin in appropriate seal hole and assure it with relative R pin;



- d. h
 - hooking and blocking device on the frame: remove the R pin to assure the handle pin and extract the latter from its seat (seal hole);
- e. release the hooking and blocking device and rotate the entire support including the arms and the raking wheels by 90° clockwise, as in figure (**PHASE 2**);
- f. block the support again by means of the hooking and blocking device, insert the handle pin in appropriate seal hole and assure it with relative R pin;
- g. acting on the relative lever, lower the tractor's hydraulic lift until the teeth of the raked wheels of the rake brush against the ground;

h. frame-block device (see figure): remove the R pin assuring the device and pull the latter until it releases the frame from appropriate stop. In this way the raked wheels can adjust to the configuration of the ground and follow its profile. Block the device in the new position by inserting the R pin.

- To collect, spread or turn forage, or other similar product, the raked wheels must have a certain inclination, compared to the forward direction of the tractor, and the arms be opportunely turned compared to own axis. See instructions successive paragraphs.

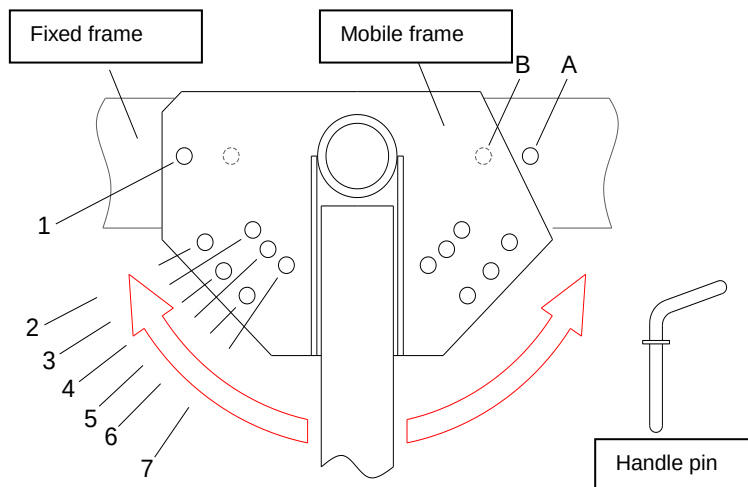


D2.3 Work processes

The rake's functioning is very simple because, as it is installed on the tractor, it is by this dragged in its forward direction. In this way, the windrow teeth of the raked wheels brush against the ground for the dragging effect and, therefore, the rotary movement of the same raked wheels produce windrows or turn or spread the cut forage.

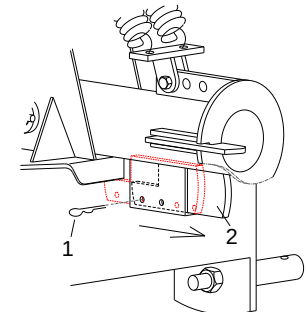
D2.2 Raked wheels inclination adjustment

The inclination of the raked wheels is obtained by turning the mobile frame (see figure), including the arms and the raked wheels, compared to the fixed one. During transport of the rake, the mobile frame must be in the position shown in figure and the handle pin inserted in hole 1 (and A below). Whereas, for the work processes, the mobile frame is turned in one direction or the other, until the hole corresponding to the wanted inclination (2, 3, 4, 5, 6 and 7) coincides with one of the two present on the fixed frame (A and B) and blocked in that position by inserting the handle pin. The higher the number of the used hole (from 2 to 7), the lower the inclination of the raked wheel and the tighter will the forming of the windrow be.



IMPORTANT

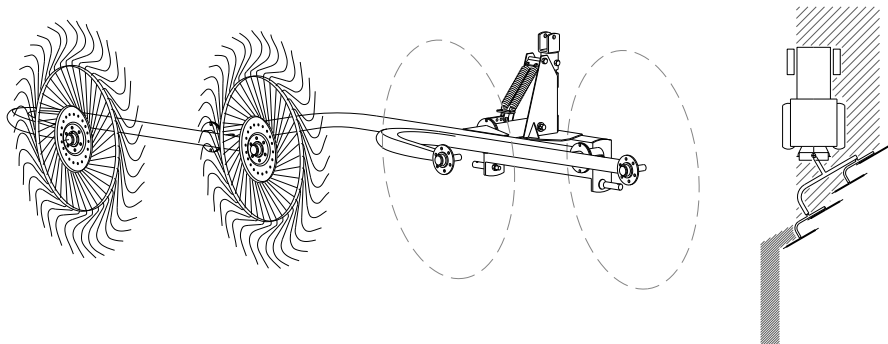
Before starting to work, verify the mobile frame has been released. If still blocked, remove the R pin (1) assuring the frame-block device (2) and pull the latter until the mobile frame is released from the stop. Block the device in the new position by inserting the R pin.



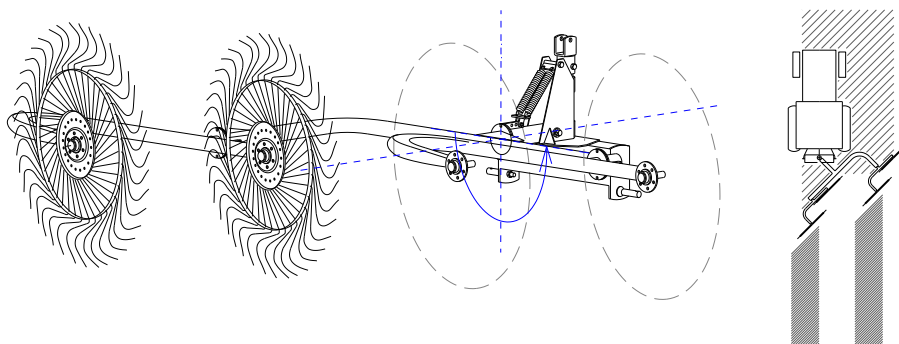
Dispositivo blocca-telaio

- **Collect (windrowing):** the position of the support of the arms and the same arms are shown in the figures. In this configuration, the rake forms regular and even left side windrows, as shown in figure.

Before climbing on to the tractor, ensure there are no persons or animals within the action range of the equipment, otherwise move them away. Then climb on to the tractor, start-it, disengage the parking brake and start the work process.



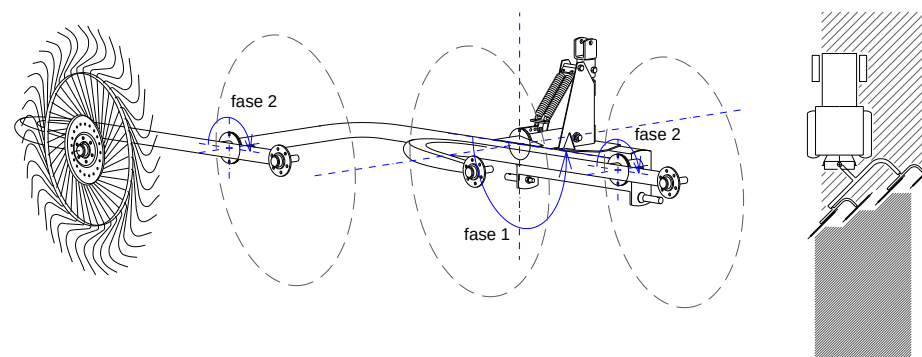
- **Spreading:** this type of work allows spreading and, simultaneously turning, the previously formed windrows, as shown in figure.
 - hooking and blocking device on the frame: remove the R pin to assure the handle pin and extract the latter from its seat (seal hole);
 - release the hooking and blocking device and rotate the entire support including the arms and the raking wheels by 180° clockwise, as in figure;
 - block the support again by means of the hooking and blocking device, insert the handle pin in appropriate seal hole and assure it with relative R pin;



Before climbing on to the tractor, ensure there are no persons or animals within the action range of the equipment, otherwise move them away. Then climb on to the tractor, start-it, disengage the parking brake and start the work process.

- **Turn:** this type of work allows turning the previously formed windrows, as shown in figure. Firstly turn the support of the arms as described in previous point "spread" (**phase 1**) and then turn the arms (**phase 2**) as described below:

- hooking and blocking device on the external coupling of the arms support: remove the R pin to assure the handle pin and extract the latter from its seat (seal hole);



- release the hooking and blocking device and rotate the external arm including the raking wheels by 180°, as in figure (**PHASE 2**);
- block the arm again by means of the hooking and blocking device, insert the handle pin in appropriate seal hole and assure it with relative R pin;
- repeat the same rotation procedure for the internal arm also.

Before climbing on to the tractor, ensure there are no persons or animals within the action range of the equipment, otherwise move them away. Then climb on to the tractor, start-it, disengage the parking brake and start the work process.

• Observations on the work

IMPORTANT

It must be remembered that the trend of the tractor must be almost straight. A few metres before the end of the field, to set-up the rake for **direction change**, the operator controls the rake's lifting by means of the tractor's hydraulic lift.

Once simultaneous equipment lifting and collection are completed, the operator performs the direction change, that may request more manoeuvres.

Once changed direction, the operator will again lower the rake to re-start work.

For work breaks, even short, the operator must always:

- stop the tractor's engine;
- engage the parking brake;
- bring the gear lever in neutral or "idle" position;
- remove the keys from the dashboard.

Whereas, once work is completed and the tractor must return in its normal parking, set the hay rake for transport configuration before moving.

To store the equipment, follow instructions described in paragraph C4.

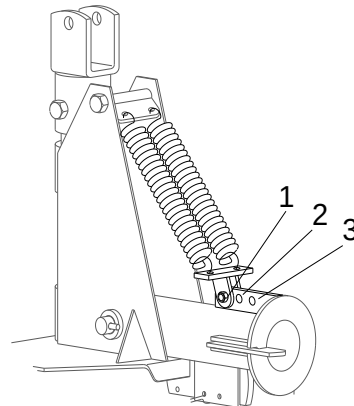
D2.4 Springs adjustment

The adapting of the raked wheels to the ground and, consequently of their teeth, is given by the pressure the springs exercise on the arms support and on the same arms.

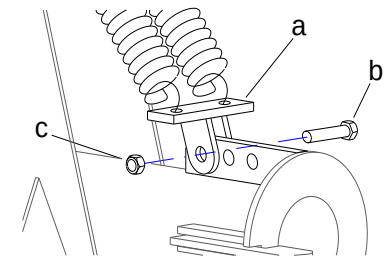
A plate containing different holes (see figure) for adequately adjusting the pressure of the springs is placed on the mobile frame, at the base of the springs.

So that if the springs are applied to hole **1**, they appear less tensioned and exercise greater pressure on the arms support, determining greater adherence of the raked wheels to the ground. Vice-versa, if the springs are applied to hole **3**, they are more tensioned, exercising minor pressure on the support and less adherence of the raked wheels to the ground.

To change the pressure of the springs, release them from their lower coupling support (a), completely loosen the nut (c) and remove the support's fixing screw (b) from its seat.



Position the coupling support on the wanted hole, insert the fixing screw in the new seat and block it by tightening the relative nut. Tighten the springs to the coupling support by lifting the support with the arms and raked wheels to facilitate operation.



MAINTENANCE

E1 Warnings during maintenance

The hay rake is an agricultural equipment that does not require particular maintenance, or relative programs. However, a periodical intervention is envisioned (described below) that, if scrupulously carried out by the Customer, will maintain the efficiency and work ability of the equipment unaltered, preserving it from every functioning damage.

The times of intervention are merely for informative purposes and relate to normal conditions of use. They can therefore vary in relation to the type of service, the work environment (more or less dusty), seasonal factors, etc. The harder the functioning conditions of the equipment, more interventions are required.

The operator, who must be an adult, qualified and trained for these interventions, must observe the following:

- the interventions, maintenance and repair, once started must always be completed and never postponed;
- he must not work on memory, but always read the instructions in this manual and accurately follow them;
- for his safety and prevent damages to the hay rake, before working he must apply a clearly visible sign on the tractor indicating **"Machine under maintenance"**;
- any type of intervention must be carried out on a flat and sufficiently lit surface, the equipment stable on the ground, the tractor blocked, the parking brake engaged, the engine off and the keys removed from the board;
- the use of equipment to carry out maintenance interventions is subject to the relative accident-prevention regulations. However, do not use the equipment improperly like, for example, using petrol to cleanse or pliers instead of an adjustable wrench;

Once maintenance or repair has been completed, clean the area from water, oil, grease, oily cloths, tools or other material.

E2 Maintenance interventions

The other maintenance interventions to be carried out weekly (or after about 40 hours of functioning) are:

- grease top-up, using appropriate pump, in all greasers present on the equipment and identifiable by means of the adhesive labels, as shown at the side, applied near-by;

IMPORTANT

To avoid polluting, it is forbidden to disperse oil, lubricants, filtering cartridges or other toxic materials in the environment. Scrupulously comply with the current dispositions for the disposal of liquid and solid substances.



- check the fastening of nuts and screws blocking the various equipment parts;
- check the presence of the various safety pins and R pins blocking the various equipment parts;
- check the structural integrity of all equipment parts, in particular those subject to wear like, for example, the raked wheels' teeth.

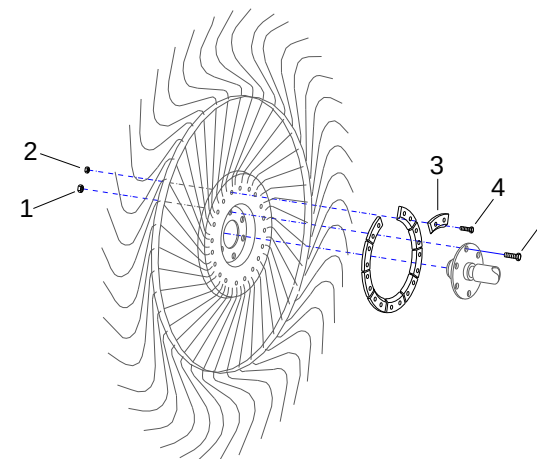


E3 Raked wheel and/or teeth replacement

Raked wheel: should it be necessary to replace a raked wheel, completely loosen the six lock nuts (1), remove the relative fixing screws from their seat (5) and remove the raked wheel from its coupling (or hub).

Apply a new raked wheel, insert the six fixing screws and block them by tightening the relative nuts.

Teeth: should it be necessary to replace one or



more teeth (worn or broken), remove the associated fixing plate **(3)**. To do this, completely loosen the six lock nuts **(2)**, remove the relative fixing screws from their seat **(4)**, and remove the plate and teeth.

Position the new teeth, apply the relative plate, insert the two fixing screws and block them by tightening the relative nuts.

E4 Materials disposal in case of scrapping

When the hay rake is placed out of service, the parts that might become dangerous for persons, animals and the environment, if dispersed, must be made safe. The equipment is almost fully made of iron as only the teeth are made of steel.

The disposal of the above materials must be carried out respecting the legal dispositions in force in each individual country.



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