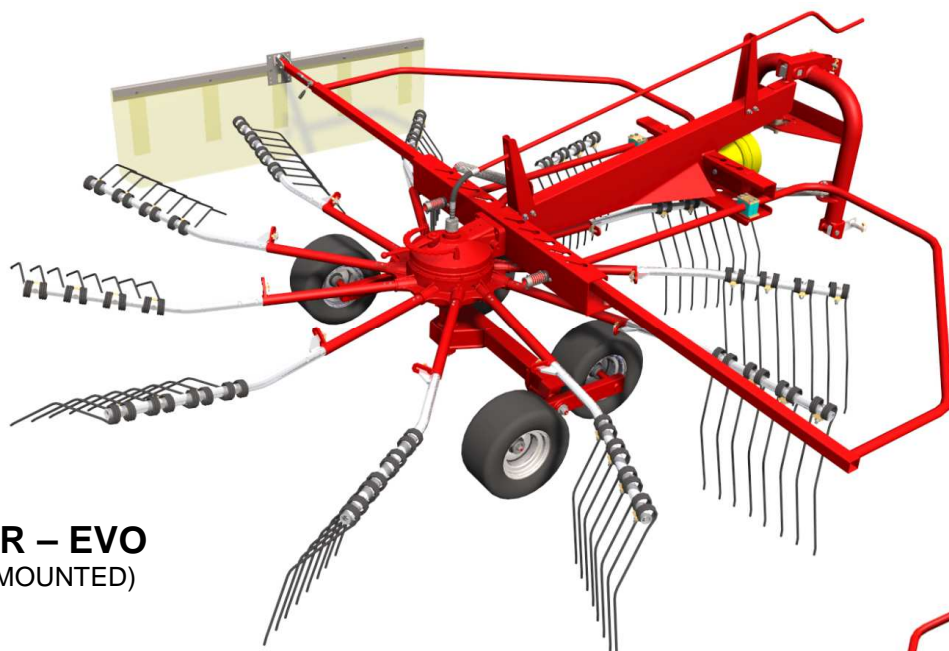




Importante: carefully read use and maintenance instructions indicated in this manual before starting any type of intervention (Machinery Directive 2006/42/EC).

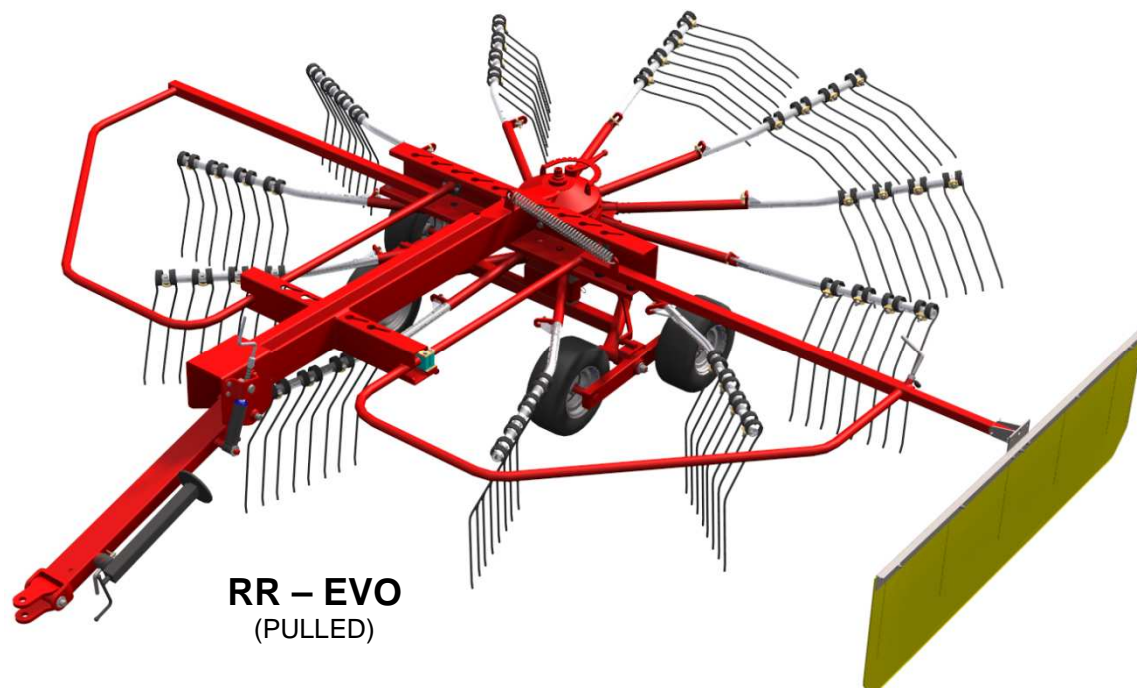


RR – EVO
(MOUNTED)

ISTRUZIONI
ORIGINALI

USE AND MAINTENANCE MANUAL

rev 0 - 04/11



RR – EVO
(PULLED)

WINDROW ROTARY RAKE

Series RR 400 / 450 EVO



EC DECLARATION OF CONFORMITY

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

The Manufacturer **ENOAGRICOLA ROSSI s.r.l.**
with office in via Cortonese s.n. - 06018
Calzolaro di Umbertide (PG) - Italy

declares under its responsibility that the machine

WINDROW ROTARY RAKE

.....
Name (general and commercial)

RR ... EVO		2011
..... <i>Series/Model</i> <i>Serial n.</i> <i>Manuf. year</i>

which functions are described in this manual

complies with the essential Health and Safety Protection Directive **2006/42/EC** and (for the pull type) to directive **94/20/EC** regarding mechanical coupling devices of engine vehicles, their trailers and their attachment to those vehicles

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

EN 349 (1993) + **A1** (2008) - **EN ISO 4254-1** (2008)
EN ISO 4254-10 (2010) - **EN 11684** (1995)
EN 12100-1 (2003) + **A1** (2009) - **EN 12100-2** (2003) + **A1** (2009)
EN ISO 12965 (2003) + **A1** (2004) + **A2** (2009)
EN ISO 13857 (2008) - **EN 14121-1** (2007)

And authorises Mr. Massimo Giovannini
Via Cortonese s.n. - 06018 Calzolaro di Umbertide (PG) - Italy

to issue the Technical File on its behalf

Calzolaro di Umbertide,

ADELMO GIOVANNINI
.....
Legal representative

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Machinery Directive and Harmonised Standards

Windrow rotary rakes series "RR 400 /450 EVO" have been designed by respecting the standards described in Machinery Directive **2006/42EC** and (for the pull type) in Directive **94/20/EC**. In particular, they comply with the following harmonised Standards:

EN 349: Safety of machinery - Minimum gaps to avoid crushing of human body parts (1993) + **A1** (2008)

EN ISO 4254-1: Agricultural machinery - Agricultural self-propelled, mounted, semi-mounted and trailed machines. Common safety requirements (2008)

EN ISO 4254-10: Agricultural machinery - Agricultural self-propelled, mounted, semi-mounted and trailed machines - Safety - Part 10: Rakes and Hay tedder (2010)

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

EN 12100-1: Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology (2003) + **A1** (2009)

EN 12100-2: Safety of machinery - Basic concepts, general principles for design - Part 2: Technical specifications (2003) + **A1** (2009)

EN 12965: Tractors and machinery for agriculture and forestry. Power take-off (PTO) drive shafts and their guards. Safety (2003) + **A1** (2004) + **A1** (2009)

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

EN 14121-1: Safety of machinery - Risk assessment (2007)

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INTRODUCTION

A1 Information on the hay rakes

The windrow rotary rake is agricultural equipment used to collect any other type of previously cut forage, with formation of windrows. This equipment can work only if installed on any agricultural tractor as long as provided with 3-point universal coupling and hydraulic lift. Fastened by a cardan shaft applied to the tractor PTO, its operation is obtained by effect of its dragging by the machine towing it. The rotary motion of its work unit allows forming even and well ventilated windrows. Our models, series “**RR 400 e 450 EVO**” (both mounted and pull type) are suitable for any kind of ground, either sloping or highly irregular.

More detailed information on the operation and use of the windrow rotary rake is described in the relative chapter.

A2 Information on the manual

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

Every windrow rotary rake is supplied with a copy of this manual that must be carefully read before its use. 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 equipment. Therefore, even if upon delivery the Manufacturer supplies the Customer all information relating to the windrow rotary rake (operation, 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 both windrow rotary rake models and does not take into account similar products, previously manufactured. 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 adapting models previously manufactured.

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

In case of transfer of the windrow rotary rake, verify 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 presents 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;



DANGER

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

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

A3 Identification and EC 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 windrow rotary rake;
- serial number;
- minimum power of the tractor (kw);
- total weight (kg);
- year of manufacture.

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.

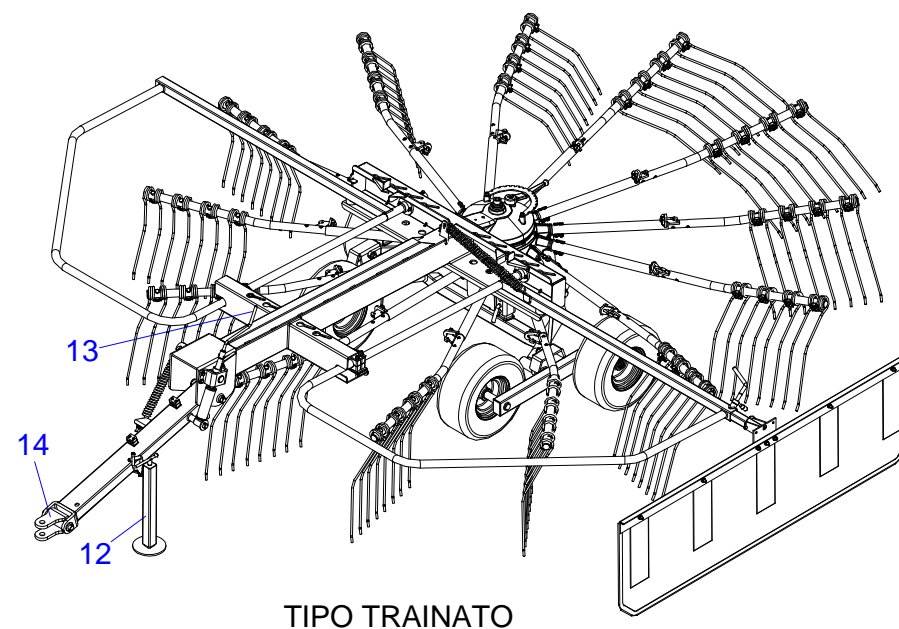
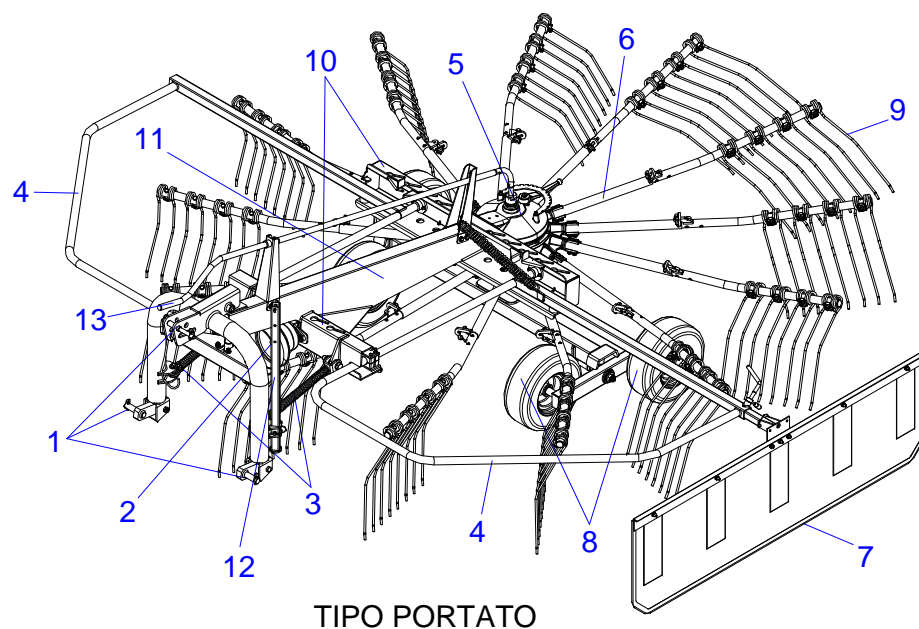
The **EC** mark indicates the manufacturer has complied with the dispositions adopted by the Member states of the European Community on health and safety, known as “**Machinery Directive**”. This means the manufacturer has designed and manufactured the equipment, fully respecting all requisites for its use and avoiding all possible deriving risks and dangers. Therefore, the windrow rotary rake can freely circulate on the European territory only if provided with this mark and relative declaration of conformity.

ENOAGRICOLA ROSSI s.r.l. CALZOLARO DI UMBERTIDE - PERUGIA - ITALIA Tel. +39 075.9302222 - Fax +39 075.9302328		
GIROANDANATORE		
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A4 Main components and technical data

1. Universal three point hitch
2. Cardan shaft coupling connection
3. Steering damper spring
4. Side protection screens
5. Work rotating unit
6. Teeth-holder arms
7. Side deflector
8. Wheels
9. Windrow teeth
10. Teeth-holder supports
11. Frame
12. Support foot
13. Teeth height adjustment lever
14. Towing connection

Technical features		RR 400 EVO PULL TYPE	RR 400 EVO MOUNTED	RR 450 EVO PULL TYPE	RR 400 EVO MOUNTED
Working width with windrow	m.	4.00	4.00	4.50	4.50
Actual work	m.	3.30	3.30	3.65	3.65
Windrow width	m.	0.80	0.80	0.80	0.80
Transport width	m.	1.70	1.70	1.70	1.70
Removable teeth-holder arms	nr.	11	11	13	13
Arm double teeth / total	nr.	4 / ..	4 / ..	4 / ..	4 / ..
PTO speed	rpm	540	540	540	540
Tractor power	kw/cv	22/30	22/30	22/30	22/30
Forward tractor speed	km/h	15	15	15	15
Cardan shaft with torque limiter	Nm	600	600	600	600
Tires mounted on wheels - Ballon 18" - 8.50"x 8"	nr.	4	4	4	4
Standard tandem axle		yes	yes	yes	yes
Work height adjustment control		Away	From the tractor	Away	From the tractor
Windrow deposit		left	left	left	left
Equipment weight	kg	625	600	640	614





A5 Warranty

Enorossi (called Manufacturer) guarantees every component of the windrow rotary rake is without defects, as they are tested before delivering the machine to the Customer. **The warranty has a 1 year validity starting from the date indicated on the tax delivery document, except different agreements underwritten with the Customer.**

However, upon receipt of the windrow rotary rake, they must verify that it 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 the components that, for manufacturing or material defects, cause a fault in the operation at its establishment, within the warranty period and free of charge. Should it not be possible such replacement at its own premises, the Manufacturer commits to sending the faulty pieces at the Customer's premises. With regard to these replacements, Enorossi does not waive the warranty period during the time which the windrow rotary 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 fully charged to the Customer. Only the Manufacturer or its technicians 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 the previous point, the Manufacturer reserves the right to sending an invoice for the new delivered pieces.

The warranty is not recognised:

- during transport as the windrow rotary rake travels under Customer responsibility;
- when faults derive from improper or incorrect use of the windrow rotary rake or operator negligence;
- when faults are caused by normal wear, even with the windrow rotary 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 windrow rotary rake is used by non- appropriately 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 windrow rotary rake without the written authorisation of the Manufacturer or tampers with the components;



- non-original spare parts are used or non-conform to those recommended by the Manufacturer.

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

IMPORTANT

The Manufacturer does not guarantee conformity of the windrow rotary 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 adaptation of the windrow rotary rake to the respective regulations will be the full responsibility and at the expense of the Customer. The Manufacturer is relieved from every responsibility, if the inobservance of these regulations raises controversies or causes any damage.

SAFETY

B1 Main regulations

This manual describes safety regulations to observe in using the windrow rotary 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's responsibility and the warranty of the windrow rotary rake would immediately become void.**

B2 Safety regarding transport, installation and displacement

- **Transport (delivery):** This operation is carried out by a vehicle with dimensions and weight suitable to the equipment. Load and unload operations from the vehicle can be done either by using a lifting device or by using appropriate ramps hooked to the vehicle:

- In the first case, the vehicle must have suitable features and slings to support the windrow rotary rake, which total weight is indicated in the identification plate. Trained personnel will carry out the operation by holding the equipment in the indicated sections on the frame, set for this purpose. - **Note:** *to protect the integrity of the frame, it is recommended to not handle the windrow rotary rake with metal chains, but to 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.*



- In the second case instead, by using a forklift truck or a tractor, the equipment is pushed in reverse to the vehicle loading surface.

In both cases, the equipment must be in compliance with the transport configuration (forward described) and, once placed on the vehicle, it must be fastened to its structure and provided with all the safety devices required for transportation.



DANGER

Load and unload operations always entail dangerous situations, thus requiring the operators in charge to be very careful. However, it is recommended to always observe the following **precautions**:

- Operations must always be carried out on an even surface and by respecting a safe distance from escarpment or ditch borders;
- Ensure ramps are robust enough to support the windrow rotary rake, that are firmly fastened to the vehicle structure, parallel between them and perpendicular to the vehicle side;
- Ensure ramps are clean, without any trace of oil, grease or ice;
- Do not change direction during ascent/descent operations of the windrow rotary rake on ramps. Should the path must be changed, take back the equipment and proceed with its correction.

For long distances, the equipment is transported dismantled inside a wooden box. Once the items are delivered, detailed instructions allow the Customer to easily and rapidly assemble the windrow rotary rake. So in the event the equipment is sold or transferred to another user, follow the instructions in the reverse order to dismantle it.

- **Installation:** The **pull type version** windrow rotary rake can be installed on any agricultural tractor, provided with a towing connection and rear auxiliary hydraulic jacks; whereas the **mounted type version** can be installed on any tractor provided with 3 point rear universal coupling and hydraulic lift.

IMPORTANT

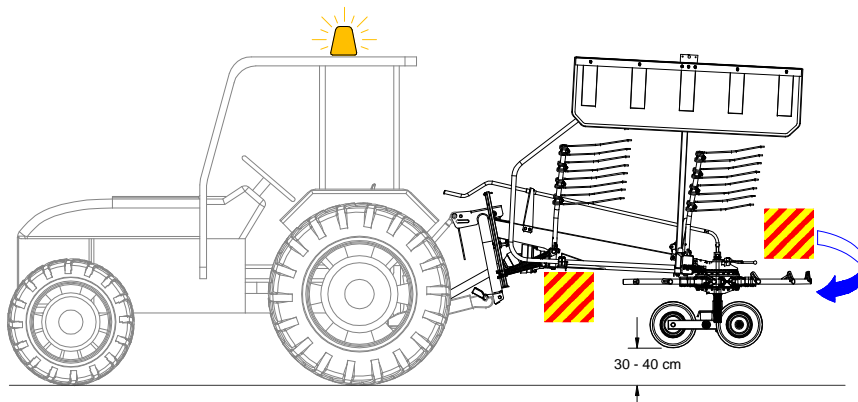
The tractors must, in turn, be provided with protective roll-bar or ROPS or FOPS approved cabins, as indicated by the current Standards. **It is strictly forbidden to install the equipment on tractors without these protection devices.**

However, before installing, the Customer must consult the relative use and maintenance manual to ensure the tractor has the necessary requisites for the windrow rotary rake use and function and/or is equipped with ballasts to eliminate any unbalances that might cause its overturn.

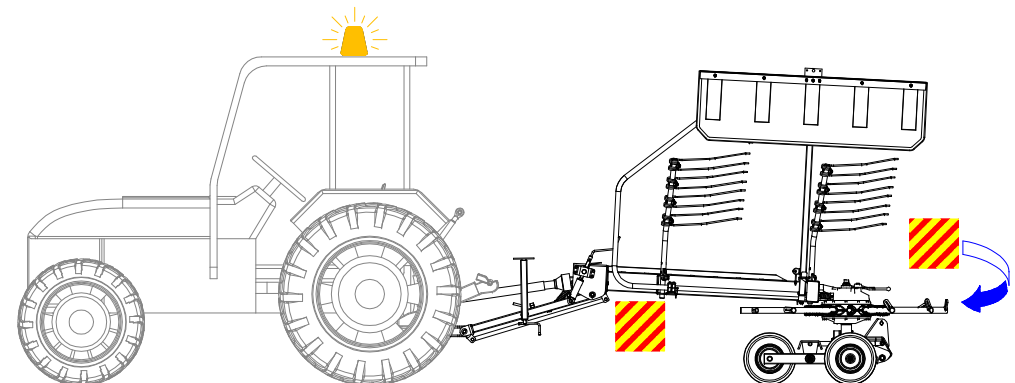
For instructions relating to the windrow rotary rake and any hydraulic connections, consult the relative paragraphs. For information relating to the cardan shaft, follow those attached to the accessory.

- **On-road displacement:** **Pull type** windrow rotary rake can be displaced on road only if it is connected to the towing hook; whereas the **mounted type** must be lifted by using the hydraulic lift, until the lowest section results at 30/40 cm from the ground and then block the hydraulic lift lever. In both cases, the following obligations must be complied with:
 - **rear dimension:** The operator must apply special panels to the windrow rotary rake (**either if it is pulled or mounted type**), to highlight the tractor rear dimensions. 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. Moreover, transversal dimensions of the equipment must never be higher than the tractor's shape and therefore, it must always assume the set **transport configuration** (with side protection screens closed and teeth-holder bar removed) as indicated in the figure.

MOUNTED TYPE VERSION



PULL TYPE VERSION

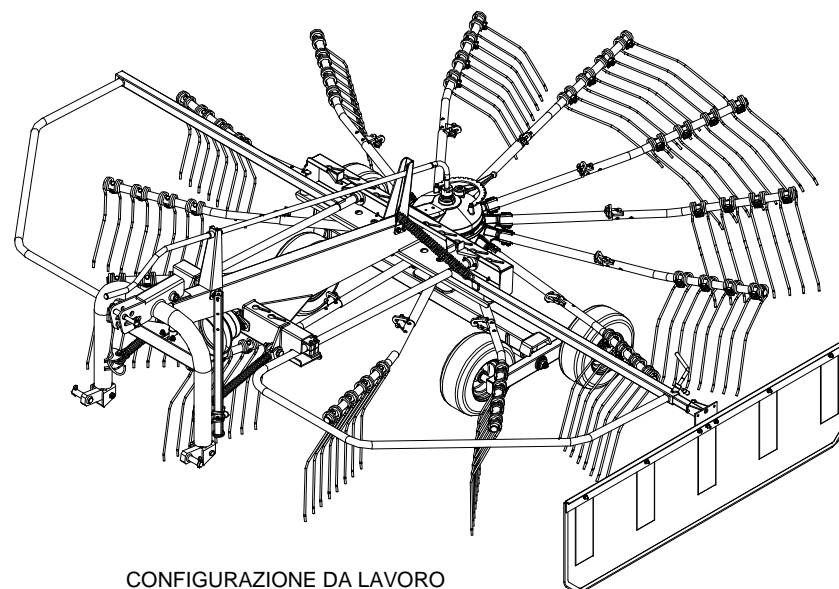
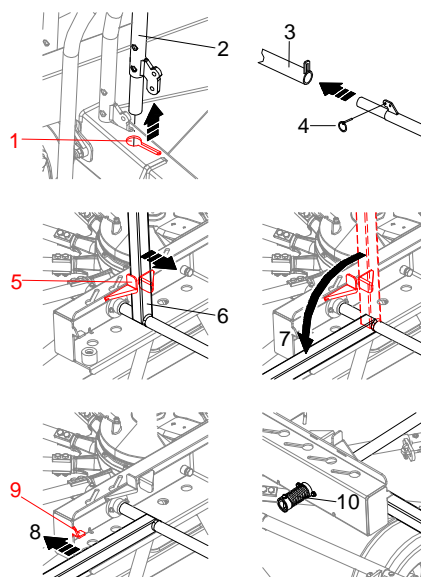
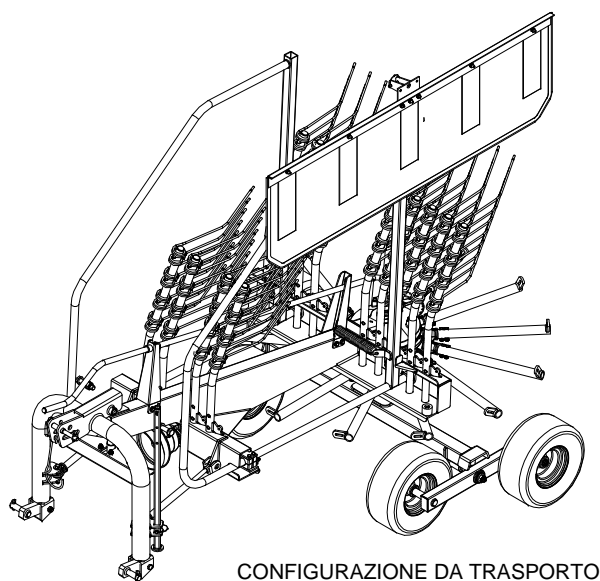


- **signs:** Visual signal devices and tractor lighting devices must be repeated or moved if dimensions of the windrow rotary rake do not allow visibility. Moreover, the tractor must be provided with the light flashing device (yellow or orange) always working;

- **weight:** the total mass of the operational machine (tractor with windrow rotary rake) must not exceed 30% above the normal mass of the tractor, indicated on its circulation paper; The tractor must always move at average speed, especially on disconnected roads, because the rear weight may cause difficulties when driving;
- **regulations:** however, it is recommended to know and comply with road circulation regulations in force in each country.

During the operational machine on-road displacement (tractor+windrow rotary rake), 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;
 - PTO must always be disconnected and with the lever blocked.
- **In field displacement:** To move within the cultivated fields, the operational machine (tractor with windrow rotary rake) must not activate any luminous signal or buzzer or display any type of panel. The windrow rotary rake must assume the work configuration only before operating.



Windrow rotary rake (either **mounted** or **pull type**) in **work configuration**:



- One at a time, remove teeth-holder arms (2) from its supports on frame (1) and place them in their housings on work rotating unit (3) to then block them by using safety pin (4);
- first from a side and then from the other: Pull forward the side protection screen towards tractor connection (6), so to unhook it from the mechanical block for transportation (5);
- always keeping it pulled, rotate it downwards, as indicated in figure (7), and release it only when it is placed on the frame so to be blocked by its relative work mechanical block (9). When screen (8) is released, appropriate spring (10) will take it back to the initial position. **Note:** on the left side of the windrow rotary rake, the mechanical block is not set. The side deflector weight keeps the side screen position during the process;
- for use and regulations of the process, refer to the subsequent paragraph.

B3 Use and warnings

The windrow rotary rake is agricultural equipment used to collect any other type of previously cut forage, with formation of windrows. The **mounted** type can work only if installed on any agricultural tractor provided with 3-point universal coupling and hydraulic lift. The **pull** type, instead, must be connected to the towing hook installed behind each tractor. The operation is common for both types and it is obtained either by effect of the tractor towing or by effect of the teeth-holder arm rotation, which is responsible of the processing, guaranteed by a cardan shaft mounted on the tractor PTO. Both the arm rotating motion and the teeth action allow to form even and well ventilated windrows.

On the **pull** type there are two jacks installed, which operation allows to adjust the teeth adaptation to the ground and to lift them for the tractor change of direction at the end of the field or in reverse. These jacks are powered by the tractor auxiliary hydraulic circuit, through quick coupling pipes and controlled by a special lever located inside the cabin.

The windrow rotary rake must be handled only by adult, qualified and trained personnel aware of the instructions contained in this manual. Safety is of primary importance for the personnel working around the equipment or that carries out repair or maintenance operations. As the provided instructions cannot include all work situations and their relative dangerousness, personnel must always be cautious and use common sense.

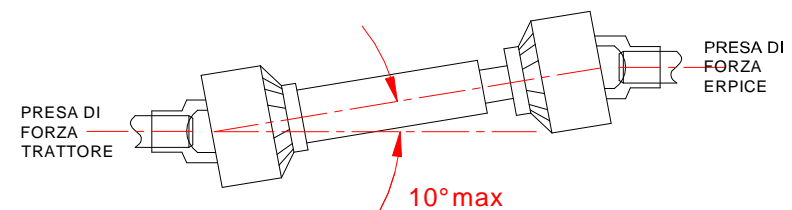
Warnings before use:

- Ensure the windrow rotary rake is mounted correctly on the tractor and if is equipped with all intact blocking and safety devices;
- Ensure the rpm is of **540** on the PTO and that it rotates clockwise. Moreover, ensure it is disconnected and with its lever blocked;

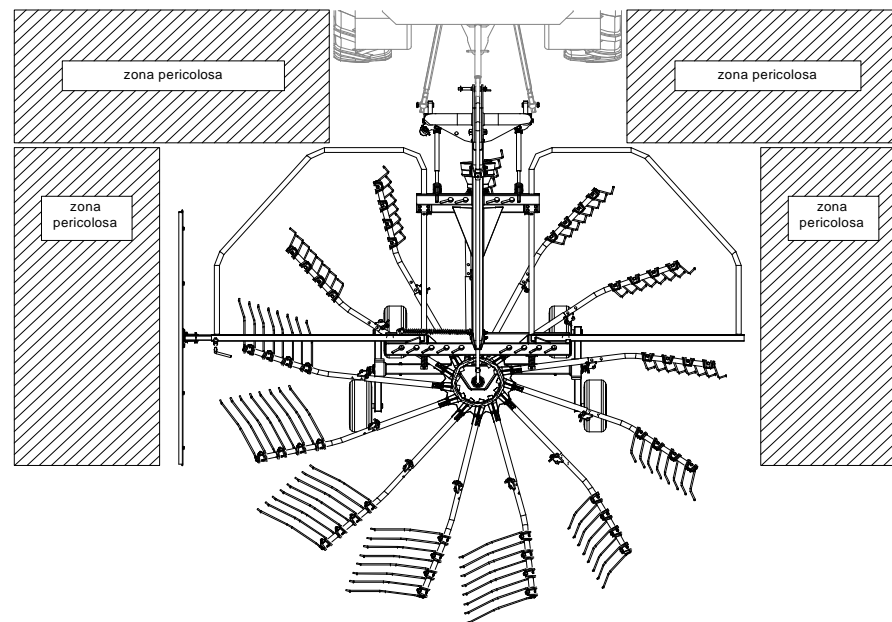
IMPORTANT

PTO must never be inserted with the engine off and with an inclination higher than 10° between joints of the two connections (tractor/ windrow rotary rake);

- Ensure the cardan shaft is correctly installed and all blocking and safety devices are present and intact. **Should one of these be not installed or non-approved devices be mounted, the Manufacturer warns the Customer to not use such shaft because it is forbidden;**



- do not use the machine if failures or damages are present especially on protective devices;
- **only for the mounted type** - lower slightly the equipment to the ground by using the tractor hydraulic lift. Avoid violent impacts, which may provoke damages to the structure or components;
- carry out daily maintenance operations (described in the relative paragraph). For such purpose, remind that any kind of intervention (verification, adjustment, maintenance, etc.) **must be carried out with the equipment stopped, PTO disconnected and the tractor engine off**;
- Verify the position of the side deflector and teeth in relation to the ground. Should their adjustment be required, consult the relative paragraphs;
- Ensure persons or animals do not stand in the equipment **dangerous areas** (indicated in figure), as not aware of possible dangers;
- the operation of the equipment is allowed in **good lighting** and **visibility conditions**. Should these conditions lack, even partially, it is recommended to interrupt work as normal safe conditions would not be respected. Work should only be restarted if the good visibility and lighting conditions are restored. Do not use the equipment if failures or damages are present;



Warnings during use:

- always keep a forwarding speed of the tractor lower than 15 km/h when working;
- even for short stops, **the operator must never abandon or leave the running tractor unattended**. Before getting down the tractor, the operator **must always disconnect the PTO, block the hydraulic lift lever, engage the parking brake, switch off the engine of the tractor and remove the key from the dashboard**;
- During work-breaks, the operator must never allow non-authorised/qualified personnel to replace him;
- Before reversing with the tractor or for changes of direction at the end of the field, the operator must always ensure the windrow rotary rake is not in work configuration and that its teeth are lifted at least 30 cm from the ground. For the **mounted type**, all the equipment must be lifted by using the tractor hydraulic lift, whereas for the **pull type** the entire frame must be lifted, by hydraulic drive, controlled by one of the tractor circuit levers from the cabin (see also paragraph D2.8 Change of direction or in reverse). The equipment may be seriously damaged if teeth are not lifted;
- the functioning of the windrow rotary rake does not produce noise so to use acoustic protection devices (plugs, headphones, etc.) but the tractor may produce it. In this regard, consult the use and maintenance manual of the tractor;
- vibrations produced by the equipment that reach the operator are of low intensity and have a frequency that result lower than levels tolerated by human body. **However, it is important to keep transmission bodies and gears always lubricated. It is also important to often ensure screws are always tighten to avoid excessive vibrations.**

**Stop immediately working if:**

- it is close to resistant objects, such as drains, wells, shafts, etc., as the contact may break the teeth, which pieces can be projected around at a very high speed;
- noisy vibrations that come from the equipment are felt. To avoid any damages, stop the tractor, disconnect the PTO, switch off the engine, and ,if feasible, detect and remove the inconvenient by observing the safety regulations;
- on the **pull type** version oil leakage is detected. Do not seek the leakage with bare hands, but by using a cloth or protection gloves. Under pressure oil may penetrate in the skin causing serious infections.

B4 Improper use and use limits

A different use of the windrow rotary rake from the one described in the previous paragraph is considered incorrect and so it is **forbidden**. Furthermore, its technical features must not be altered to modify its performances, in any way. **Should this happen, the equipment warranty and the Manufacturer responsibility would immediately become void..**

Visibility: in bad visibility conditions (fog, dust, smoke or other): It is recommended to stop unloading (stop the oven and unloader belt) and wait until fog, dust, smoke or other softens. Behave the same way in case of wind and/or rain.

Dangerous areas: should a person or an animal enter in one of the dangerous areas, during the process (see previous paragraph), the operator must immediately stop the operations (disconnect of the PTO and switch off the tractor) and send away the intruder. In the same way, when adjustment and/or maintenance operations are carried out, non-authorised persons must neither stand nor move nearby the equipment.

Do not use the equipment if:

- the material to cut is humid or wet. in these conditions, it becomes sticky and it easily gather on the teeth affecting the function;

**DANGER**

- **its operation must take place nearby masonries. In these cases, besides the possibility to damage the teeth, a dangerous projection of relative residuals may occur as well;**

For any doubt relative to the use of the windrow rotary rake and not mentioned in this manual contact directly the Manufacturer.

B5 Responsibilities of the operator

Safety is of primary importance for the personnel working around the equipment and this is why each operator must be qualified, trained and adult who is directly responsible for the operational control of the windrow rotary rake, its maintenance 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 his own functions. As the provided instructions cannot include all work situations and their relative dangerousness, personnel must always be cautious and use common sense. So, everyone is responsible for damages caused to third parties, himself, animals or objects if:

- he makes an incorrect or improper use of the equipment;



- he uses the equipment under the effect of alcohol, medicines, drugs or if tired or sick;
- wear unsuitable cloths that may entangle in moving or rotating bodies;
- he is not aware of the instructions described in this manual;
- he does not observe road and safety regulations currently in force;
- not having previously verified the required requisites, coupling with the tractor cannot be performed (power or different features from the ones indicated in the technical data table);
- he did not carry out the required maintenance operations, which, even if simple, they may cause damages to the equipment and create dangerous situations to the people exposed, if they are not appropriate;
- he carried out modifications or non-authorised interventions to the equipment;
- he used non-original spare parts or non-conforming to the windrow rotary rake.

B6 Pictograms

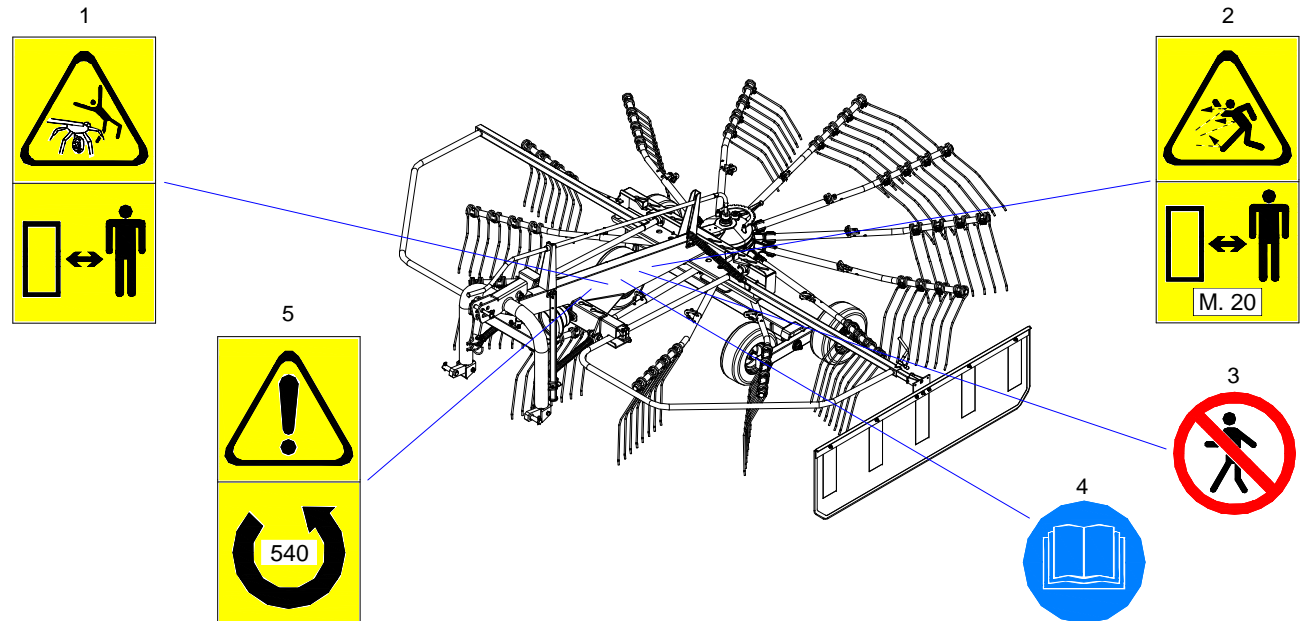
In addition to the indications in this manual, to help operators, there are adhesive labels or pictograms applied in various parts of the equipment illustrating the safety regulations to respect. Depending on the regulation, the labels vary in form and colour. Therefore, who work must know that the round 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. Regulations illustrated by the labels on the windrow rotary rake are:

1. **danger of hooking or entanglement.** With rotating arms, their teeth may hook on to clothes or other objects worn by personnel in charge;
2. **danger launch of objects.** With the rotation of the arms, objects found on the place of use may be launched by the teeth; Safety minimum distance m.20;
3. **prohibition to stand or transit.** It is forbidden for persons not in charge to stand or move inside the operational area of the windrow rotary rake, when this is running. Should it be necessary to move inside the operational area, stand at a safe distance (20 m) and be very cautious

4. **obligation** to read the use and maintenance manual;
5. Ensure the rpm number set at the tractor PTO output is of 540 rpm/min and that it rotates clockwise.

IMPORTANT

The warning labels and pictograms must be replaced before they become illegible. Should one of them become illegible, the operator cannot use the windrow rotary 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 windrow rotary rake would no longer have the safety requisites with which it was designed and manufactured.



B7 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, consult the relative use and maintenance manual.

INSTALLATION

C1 Preliminary information

The **pull type** windrow rotary rake can be installed on any agricultural tractor provided with towing connection and rear auxiliary hydraulic jacks; whereas the **mounted type** can be installed on any tractor provided with 3 point rear universal coupling and 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

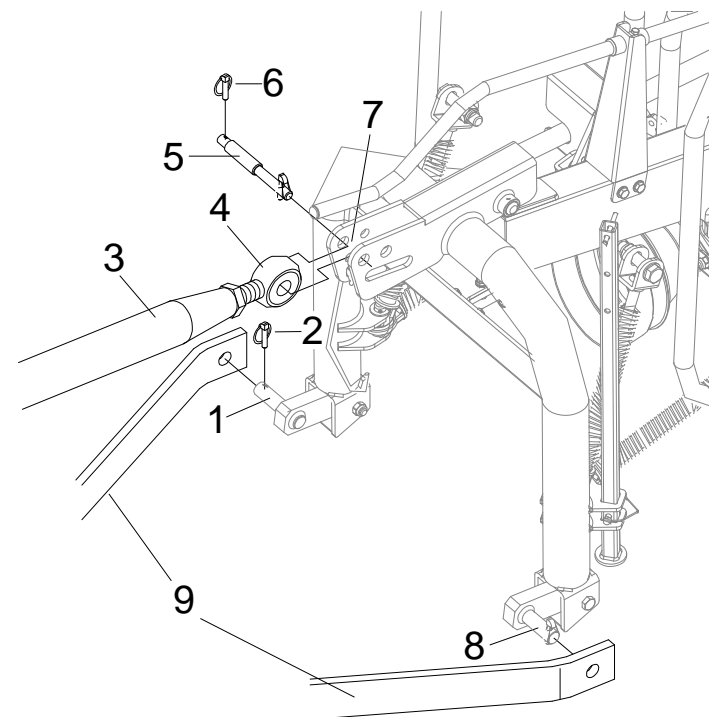
- **Mounted type:** The equipment is installed to the 3 point universal coupling of the hydraulic lift of the tractor. To do this, the operator must slowly approach the tractor to the windrow rotary rake, positioning it so to facilitate its centring.

IMPORTANT

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

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

- he inserts lift arms (9) in the appropriate housings (low pins 1 and 8) on the frame of windrow rotary rake (6) and blocks them one by one by using safety pins (2);
- (should it not be present on the tractor) he places adjustable tie-rod (3) in the appropriate housing of the tractor 3rd section ("heavy pull" hole) and he fastens it to the tractor by using the provided pin;
- he loosens or tightens the tie-rod body of the windrow rotary rake, leaving volute (4) free, until it coincides with the housing on equipment frame (7);
- he fastens the tie-rod with pin (5), which he subsequently blocks with safety pin (6).
- Once carried out these operations, the operator climbs on the tractor and lifts the equipment by activating the hydraulic lift lever and supported by another operator from the ground, until the PTO has the same height of the tractor. Afterwards, he stops the tractor again, blocks the hydraulic lift lever and adjusts the tie-rod (acting on his body), until the frame of the windrow rotary rake is perfectly vertical, then he tightens the lock nut;
- finally, he blocks the arms of the hydraulic lift with the tie-rods or chains they are equipped with.



Once carried out the centring, the same operator lifts support foot (12) in a more suitable and safe position, both for the transport phase and for the subsequent working phase. For this lifting, the operator removes pin (11) to release rue pin (10) and then he removes the latter from the foot holes. He lifts the foot up to the lowest hole, as indicated in the figure and he tightens it with the rue pin and relative pin.

Cardan shaft: For instructions relating to its installation and adjustment refer to its use and maintenance manual.

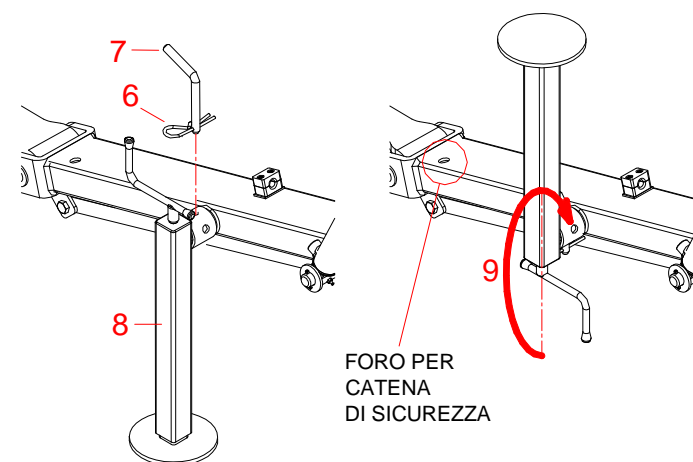
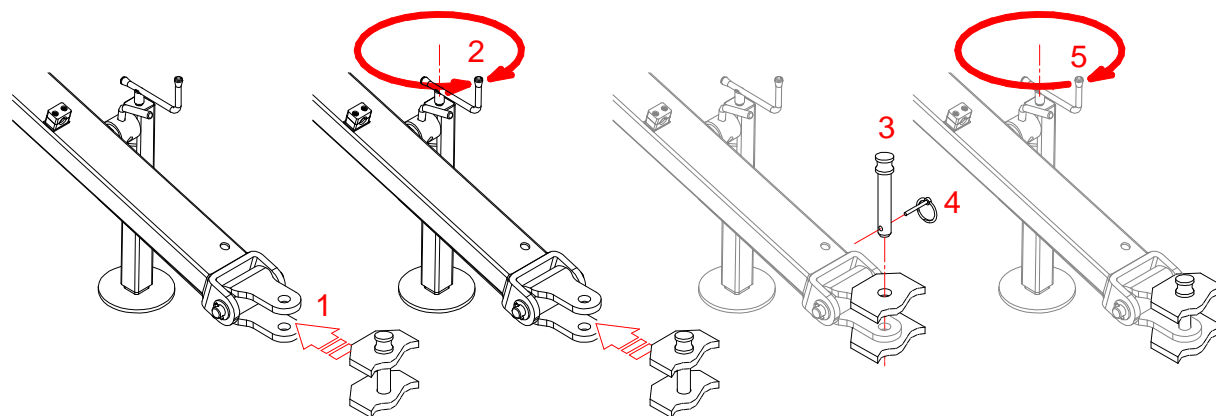
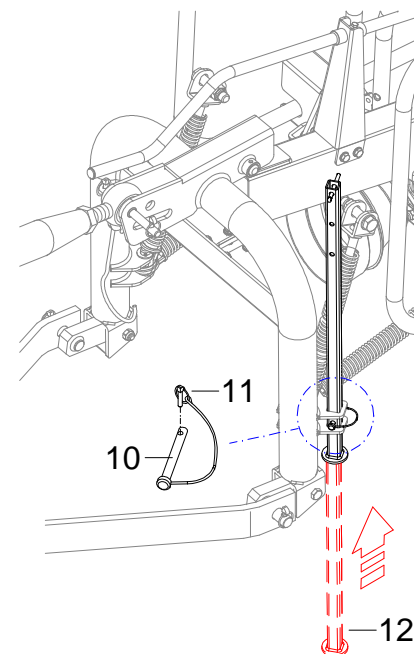
- **Pull type:** The equipment can be mounted on any agricultural tractor, by hooking it to the relative towing connection. To do this, the operator must slowly approach the tractor to the windrow rotary rake, positioning it so to facilitate its centring (1).

IMPORTANT

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

When the tractor is close to the connection with the windrow rotary rake, an operator from the ground lifts or lowers the windrow rotary rake connection by activating the support foot handle (2), so that it coincides with the tractor one. Once carried out the connection, he places rue pin (3) in the relative connection holes, as indicated in the figure, and then he fastens it by using its pin or safety pin (4).

Once carried out the centring, the same operator lifts the support foot from the ground, always by acting on handle (5), so to complete the tractor connection operation. Then, he rotates support foot (8) in a more suitable and safe position, both for the transport phase and for the subsequent working phase. For this rotation, the operator removes pin (6) to release handle pin (7) and then he removes the latter from the foot holes. He rotates the foot of 180°, as indicated in figure (9) and he fastens it by placing the handle pin and the relative pin.



Close to the towing connection, there is a hole where to connect the safety chain, which must be subsequently fastened to the tractor. The application of this chain is not mandatory in Countries members of the European Union, however it is in other countries, as U.S.A.

C3 Installation and adjustment of the cardan shaft

- **Installation:** strictly observe instructions relative to installation indicated in its own use and maintenance manual.

IMPORTANT

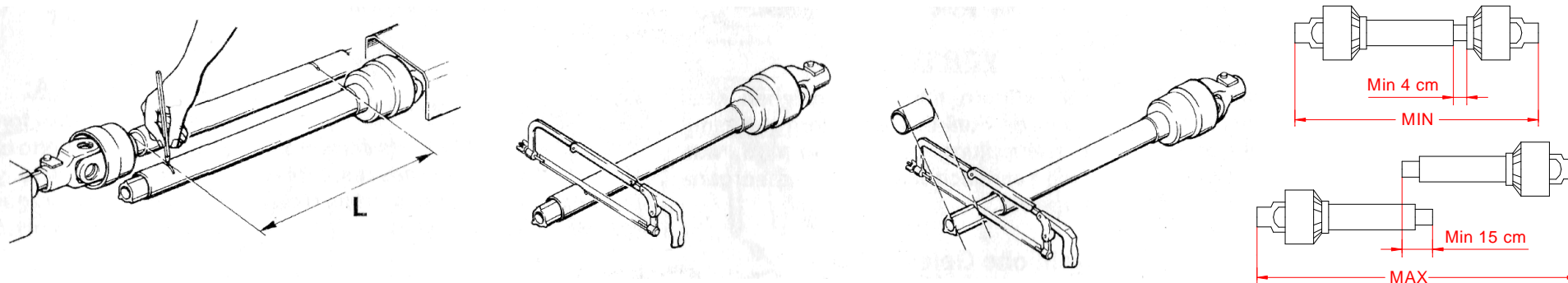
Before installing the cardan shaft, ensure this has the requisites required for the type and power to transmit according to the rpm of the PTO. If required, verify also the tractor use manual.

Should this not be used, is saying not installed on the PTO of the tractor but only on the windrow rotary rake one, lay the cardan shaft on the support located on the **mounted type** or on the towing connection bar of the pull type.

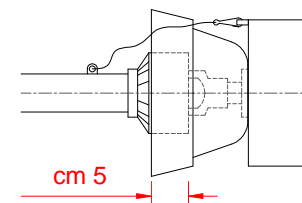
- **Adjustment:** the cardan shaft (either provided with the equipment or sold as accessory) has a standard length. So it must be adjusted to the tractor where the windrow rotary rake is installed. For this operation, proceed as follows:
 - remove protection devices from the cardan shaft;
 - remove the two parts that make up the shaft and join a part to the windrow rotary rake PTO, by clicking the spring safety pin and the other part to the tractor PTO, by clicking the spring safety pin as well;
 - place the two parts of the cardan shaft beside and find the minimum sliding length (L). Should the shaft be too long, shorten the two external plastic protection pipes, which must have the same size, and then the internal metallic ones. Smudge the cut parts and lubricate the internal parts.

IMPORTANT

When the cardan shaft is removed at its maximum, the two pipes must overlap for at least 15 cm. When it is inserted at its maximum, the minimum gap allowed must be 4 cm.



- remove the two parts of the cardan shaft from their connections (on the tractor and windrow rotary rake) and assemble the shaft, by placing a part completely inside the other;
- join again the two ends of the cardan shaft to the relative PTO by clicking the relative spring safety pins;



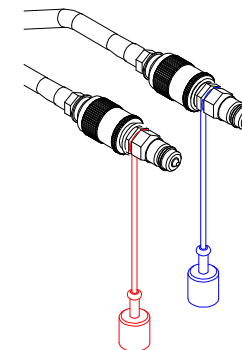
- block the protection pipes by using appropriate chains to prevent their rotation both on the tractor and on the windrow rotary rake. The overlap between guard and cardan shaft must not be lower than 5 cm;

At this point, without activating the tractor PTO, all the equipment can be transported to the place of use.

Note: *using the equipment on another tractor requires the adjustment of the cardan shaft. Proceed following the instructions indicated in this paragraph.*

C4 Hydraulic connections

The adjustment of the teeth in relation to the ground (which implies lowering and lifting the entire frame, including the work rotating unit) is determined by the retraction and extension of the two appropriate hydraulic jacks. These are powered by the tractor auxiliary circuit and so controlled by a lever, located in the cabin. Thus, the teeth adjustment cannot be carried out if previously the jack pipes (provided with quick coupling, as indicated in the figure) are not connected to the correspondent connections of the tractor auxiliary circuit.



C5 Removal

To remove the windrow rotary rake from the tractor, follow the instructions in this chapter, in reverse order.

C6 Storing the windrow rotary rake

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

- if not already done, have the windrow rotary rake assume the work configuration;
- park the equipment in a safe and isolated place, on a flat and consistent surface;
- **mounted type:** using the tractor's hydraulic lift, rest the equipment on the ground;
- if not already done, adequately position the support foot for the parking phase;
- remove the tractor from the windrow rotary rake;
- protect the equipment with a sheet.

OPERATION AND USE

D1 Preliminary information

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

Before the tractor start-up, follow the precautions indicated in paragraphs B3, B4 and B5. Always remind that the windrow rotary rake must be used by a qualified, adult and trained 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 Operation and Use

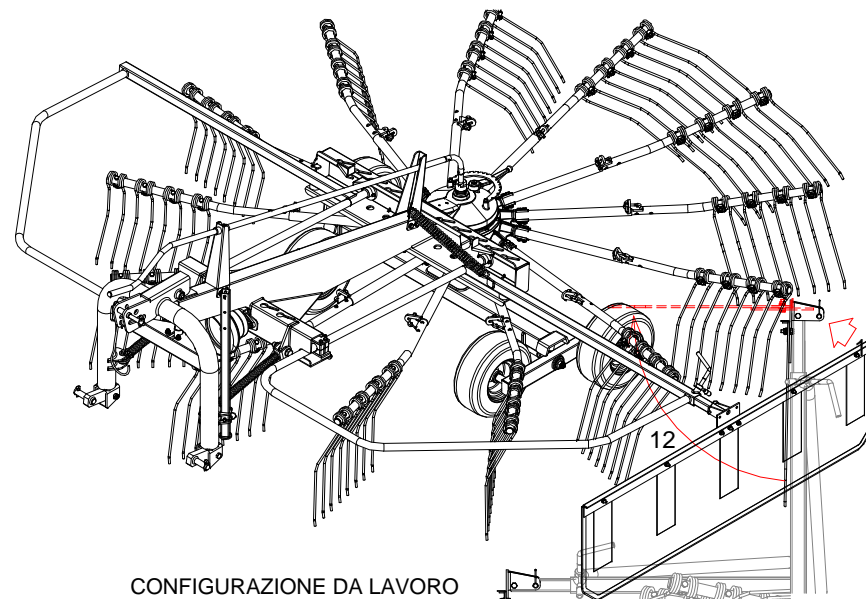
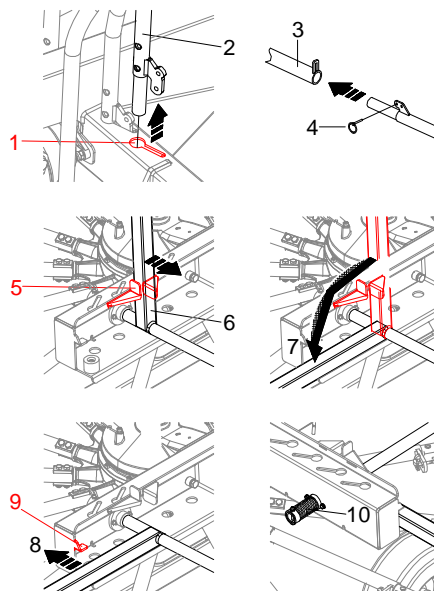
D2.1 Work configuration

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

- ensure the PTO is disconnected and the lever blocked;

IMPORTANT
PTO must never be inserted with the engine off;

- **only for the mounted type:** by activating the relative lever, lower the tractor hydraulic lift until the wheels of the windrow rotary rake touch the ground;
- reverse the tractor engine, engage the parking brake, remove keys from the dashboard and climb down the tractor;
- ensure the equipment has the work configuration:
 - a. One at a time, remove teeth-holder arms (2) from its supports on frame (1) and place them in their housings on work rotating unit (3) to then block them by using safety pin (4);
 - b. first on the right side and then on the left side: Pull forward the side protection screen towards tractor connection (6), so to unhook it from the mechanical block for transportation (5);

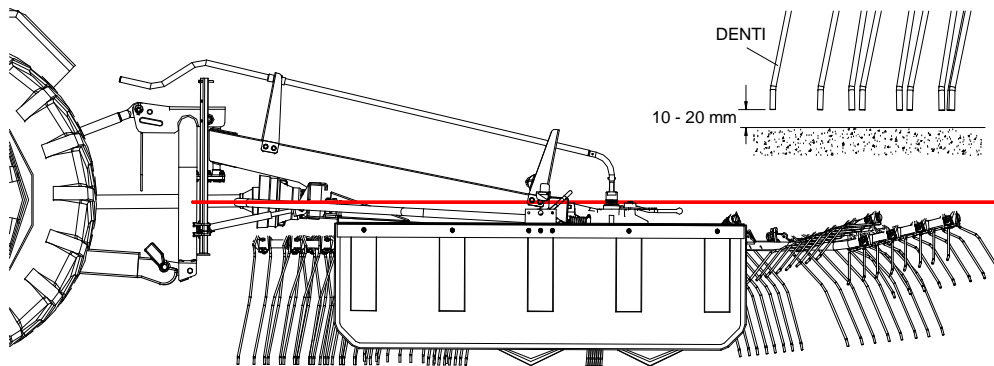


CONFIGURAZIONE DA LAVORO

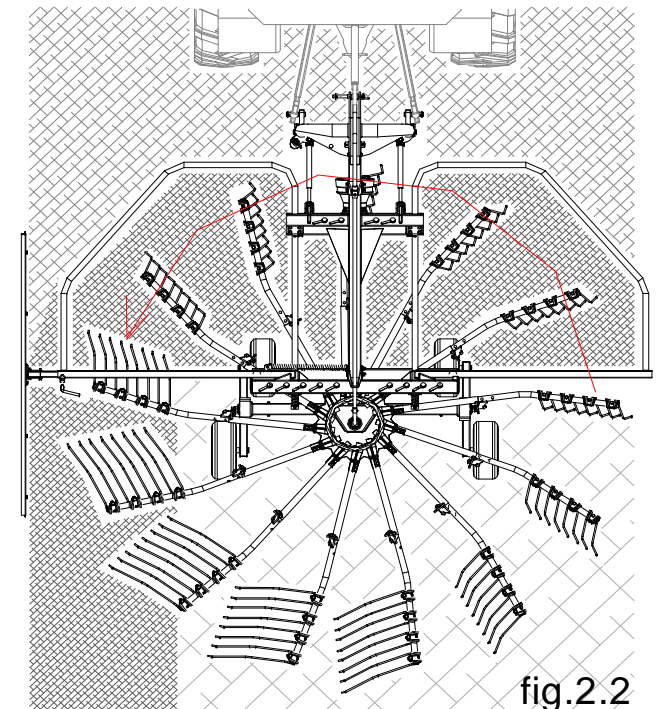
- c. always keeping it pulled, rotate it downwards, as indicated in figure (7), and release it only when it is placed on the frame so to be blocked by its relative work mechanical block (9). When the screen (8) is released, appropriate spring (10) will take it back to the initial position.
- d. on the left side, before lowering completely the protection screen, open the side deflector. Therefore, remove the safety pin from the pin that blocks the deflector rotation. Remove the pin from its housing (11) and rotate deflector (12) of 90° upwards, as indicated in the figure. Complete lowering the side protection screen. **Note:** on this side of the windrow rotary rake, the mechanical block is not set. The side deflector weight keeps the screen position during the process;
- ensure the support foot is in a safety position. It must be already in this position, because this intervention completes the installation of the windrow rotary rake on the tractor. Should it not be, follow the related instructions indicated in paragraph C2 "Installation to tractor".
- ensure there are no persons or animals within the action range of the equipment, otherwise move them away.
- climb on the tractor again, start the engine, disengage the parking brake and insert the PTO, by activating the appropriate lever.

D2.2 Work process

Harvest process starts when the tractor forwards and with the rotation of the work rotating unit. By brushing the ground, teeth scrape the surface and collect the cut forage, forming a left side windrow, which is regular and even, as indicated in the figure. In order to obtain a satisfying result, the windrow rotary rake must work in parallel to the ground and teeth adjusted at a distance of 10 ÷ 20 mm from the ground. Instead, the side deflector position determines the windrow width.



Proceed for some meters and then verify the process result. Should the operator require one or more adjustments, follow the instructions indicated in the relative paragraphs.



IMPORTANT

Except cases when otherwise specified, all adjustments must be carried out with the tractor engine off, PTO disconnected, parking brake engaged and keys removed from the dashboard.

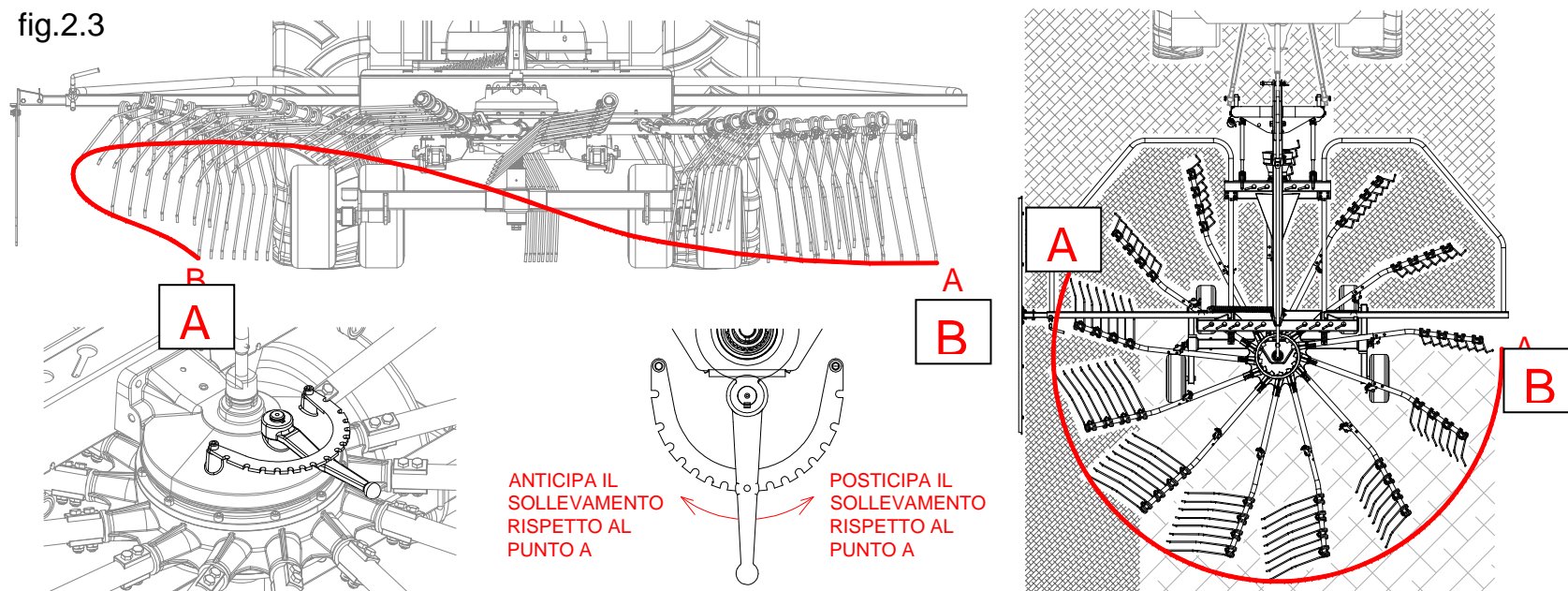
D2.3 Quality of the windrow

Windrow teeth work by following different phases that continuously repeat: first they brush the ground (harvest and forage side transferring phase), then they lift (windrow formation phase).

According to a sinusoidal movement (indicated in **fig.2.3**), teeth brush the ground in section **B** (harvest and transferring) and then they lift from the ground in section **A** (windrow formation). The position of the arms close to the work rotation unit together with the succession of the teeth operational sequences allow to obtain an excellent harvest and so a regular, even and high quality windrow, without interruptions.

The windrow rotary rake is already calibrated to produce a high quality windrow, because, before delivering it to the Customer, the Manufacturer sets the appropriate lever (located on the rotary unit and indicated in the figure) centrally on the adjustment board. This position allows the teeth to start lifting in section **A**. By moving the lever to the left or right, this lifting is anticipated or delayed and so the windrow formation quality is modified.

fig.2.3

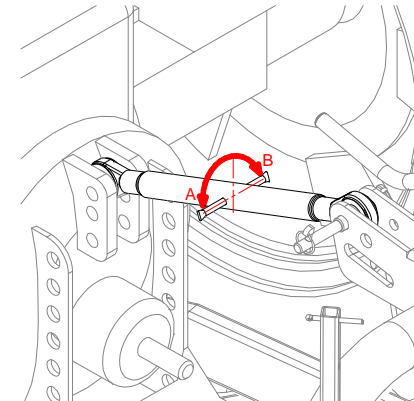
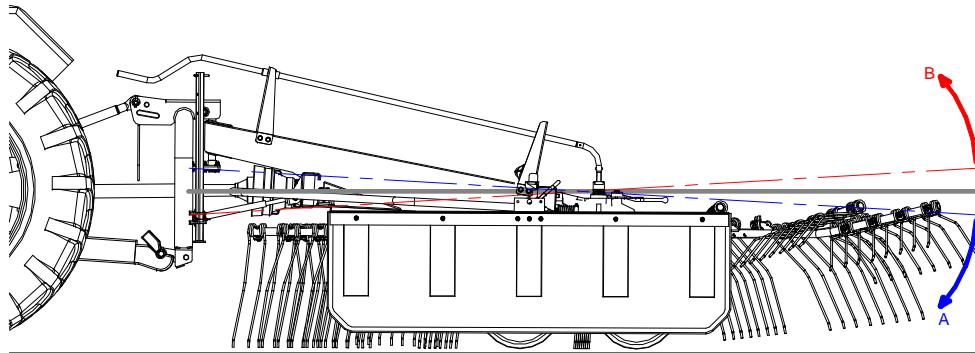


D2.4 Adaptation of the parallel windrow rotary rake to the ground

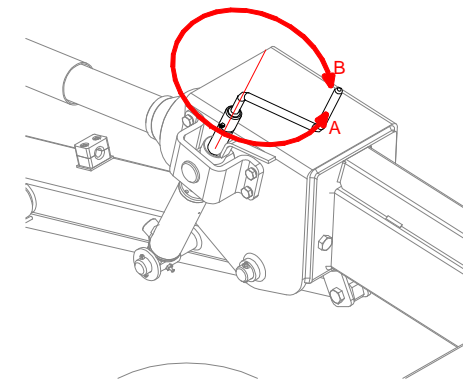
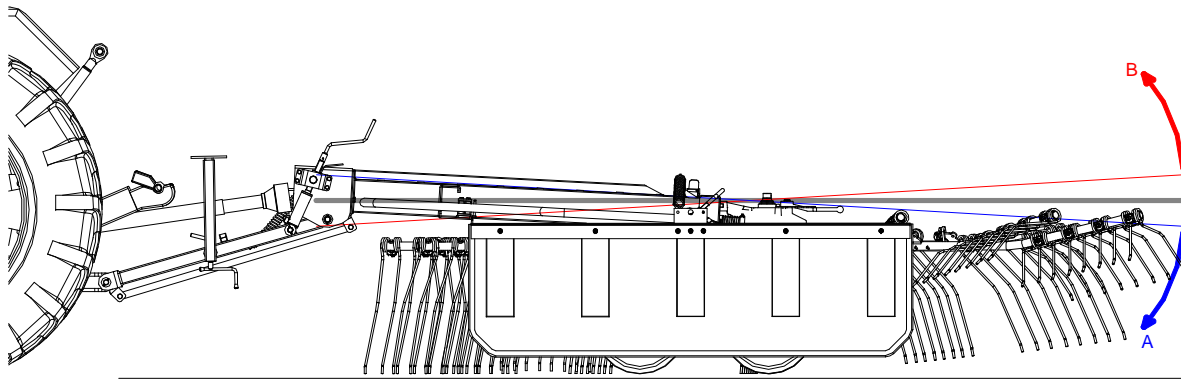
Carry out this adaptation, if the equipment does not work in parallel to the ground.

- **Mounted type:** to perform such adjustment, activate the adjustment tie-rod, located between the tractor and the third section of the windrow rotary rake, by loosening or tightening its body and manoeuvring the appropriate lever, as indicated in the figure. By rotating the lever counter-clockwise (direction **A**) the tie-

rod extends, pushing the equipment frame downwards. By rotating the lever clockwise (direction **B**) instead, the tie-rod shortens, pulling the frame of the windrow rotary rake upwards.

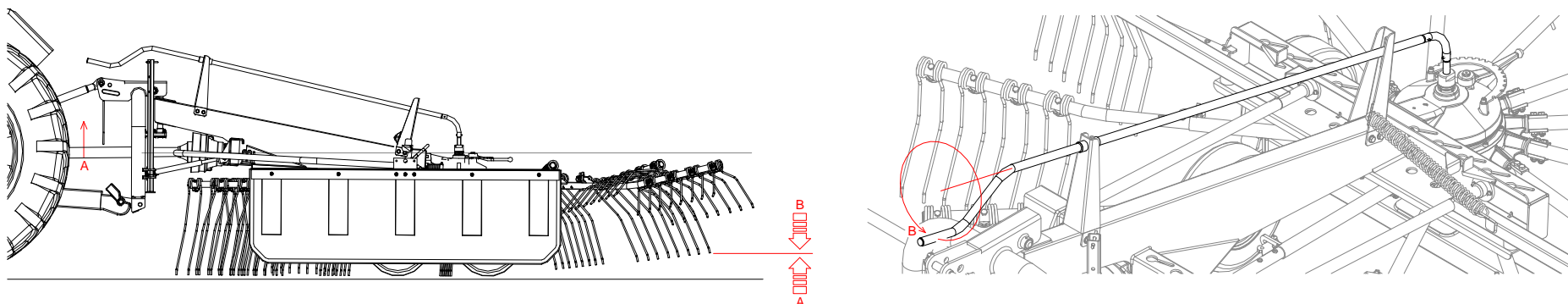


- **Pull type:** to perform such adjustment, activate the front jack, located between the towing connection and the frame, by loosening or tightening a worm screw installed in it and manoeuvring an appropriate lever, as indicated in the figure. By rotating the lever counter-clockwise (direction **A**), the equipment frame lowers, whereas by rotating the lever clockwise (direction **B**) it lifts.

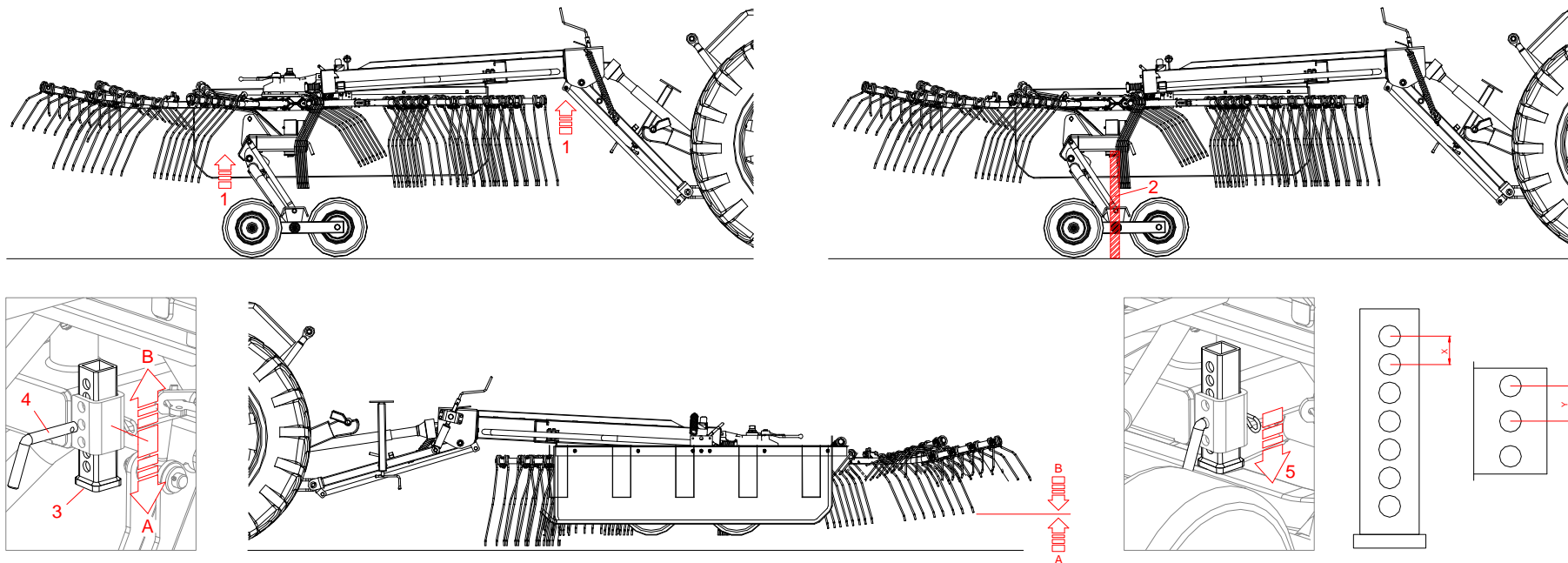


D2.5 Adjustment of the windrow teeth distance from the ground

- **Mounted type:** to lower the teeth and so reduce their distance from the ground, rotate counter-clockwise the appropriate handle (**B**), located nearby the third section, as indicated in the figure. If they touch the ground, they must be lifted by using the tractor hydraulic lift (**A**), activated by the appropriate lever located inside the cabin. **Note:** in theory, to lift the teeth from the ground, the handle should rotate clockwise, but in practice, the weight of the rotary unit with arms does not allow this operation. Therefore, use the hydraulic lift.



- Pull type:** to adjust the distance of the teeth from the ground, adjust the position of appropriate adapter (3), located in its housing, under the rotary unit, as indicated in the figure. First, lift completely rotator unit with arms (1), by manoeuvring the relative tractor service lever from the cabin, and then safely block it, by placing a piece of wood or metal under it (2), as indicated in the figure, so that the unit cannot lower in any case. This application is required, because to adjust the adaptor position, an operator must work under the rotator unit. In this position, he must remove the R-pin that blocks the handle pin (4), extract it from its housing and place the adaptor by sliding it vertically in its housing, as indicated in the figure. the holes on the adaptor and those present in the housing

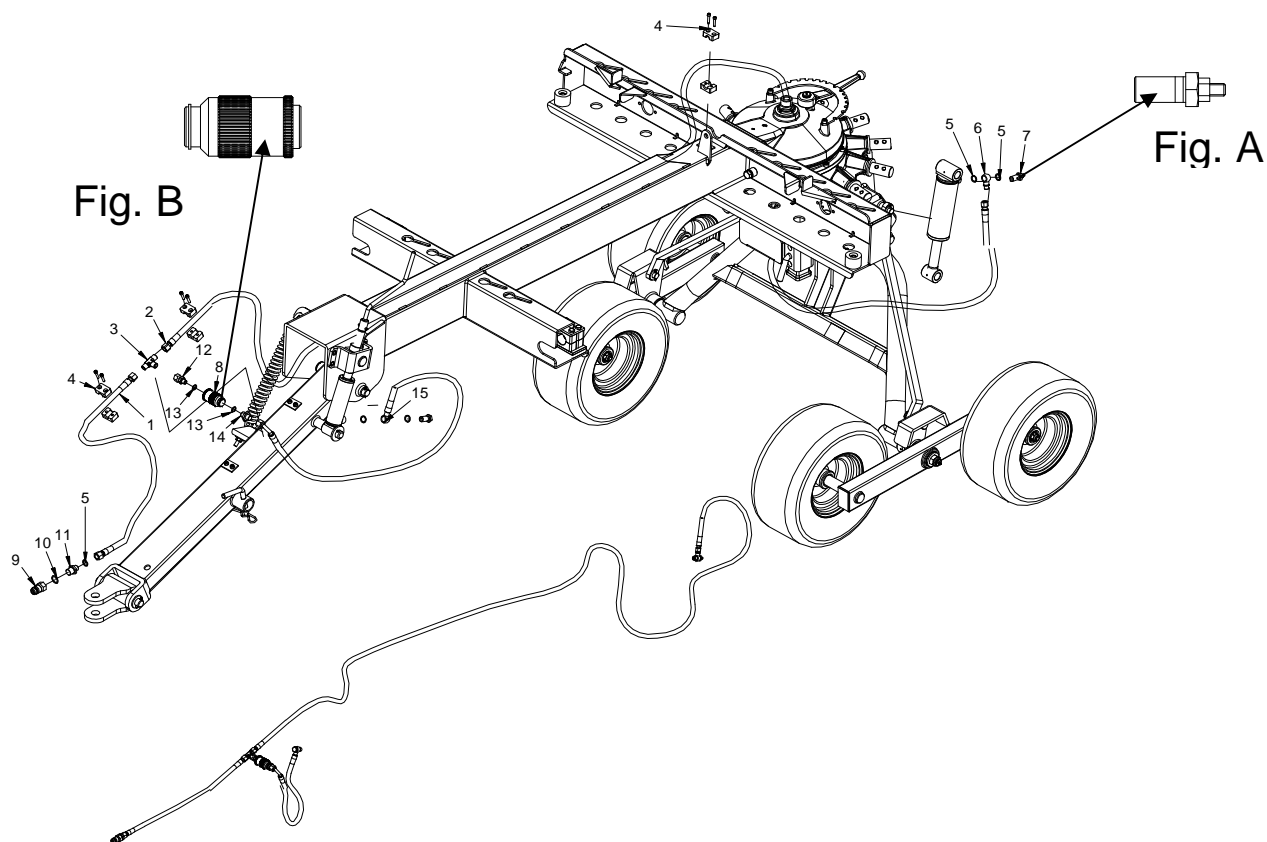


are located so to easily obtain the desired height. Once the adaptor is placed, the operator inserts the handle pin again in the corresponding holes and then it blocks it, by using the relative R-pin.

Then, he removes the safety piece of wood or metal and lowers completely the rotator unit, by manoeuvring the lever from the cabin, until the adaptor base does not impact with the wheel axle (5). Verify the new distance between windrow teeth and ground.

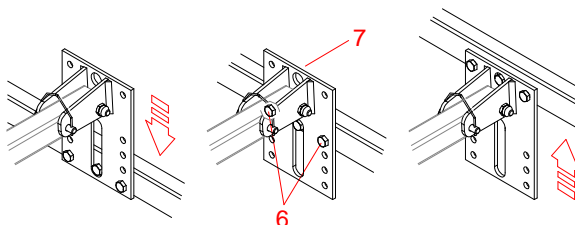
Adjustment of the lift speed.

- 1) Should the rotor lifts too fast or too slow, adjust the throttle valve, Pos. 7- Fig. a.
- 2) Should the frame not lift in a parallel way, adjust the flow adjustment valve, Pos. 8 Fig. B.



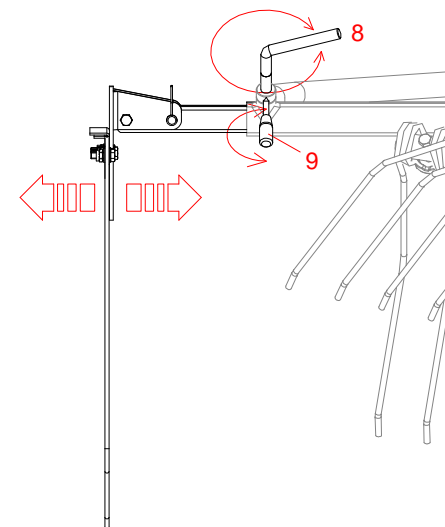
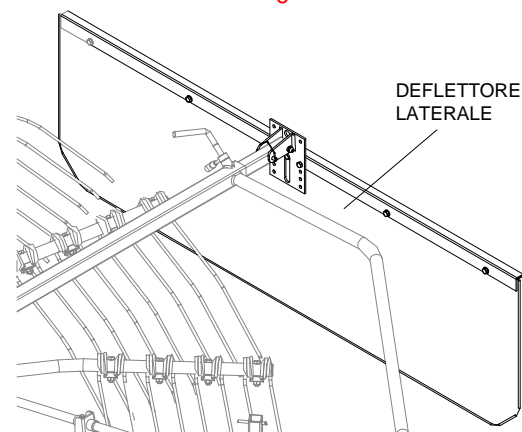
D2.6 Adjustment of the side deflector distance from the ground

To perform such adjustment, loosen completely the nuts of the screws that block the deflector on its support and remove screws (6) one by one, paying attention not to drop the deflector. Place the deflector drilled rod in the desired position, referring to the holes on its support (7); place the blocking screws in the new holes and tighten completely the relative nuts.



D2.7 Adjustment of the side deflector excursion

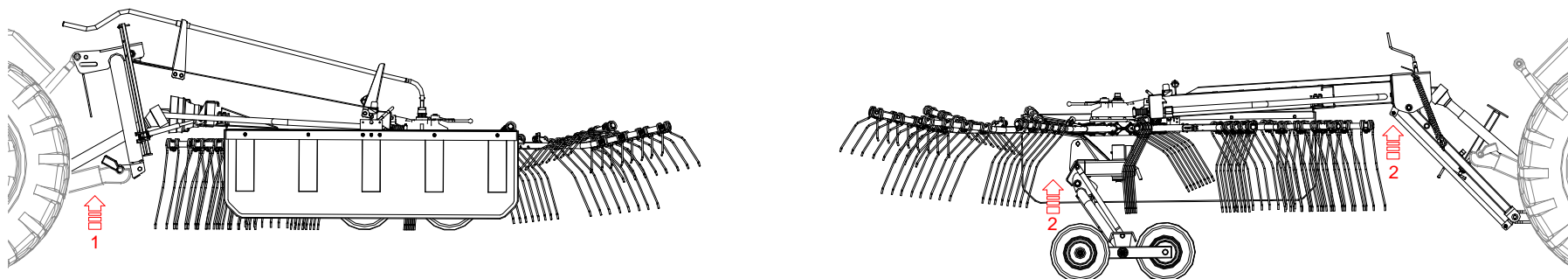
This type of adjustment is used to form a more or less wide windrow, according to the cut forage quantity. The higher this is, the wider must be the windrow, so the deflector must be placed more externally. To adjust its excursion, first loosen locking knob (by rotating it counter-clockwise) (9) and then handle pin (8), enough to slide horizontally the deflector in its housing. Adapt the deflector excursion to the kind of windrow desired and block its support again, by tightening first the handle pin and then the locking knob (by rotating them clockwise).



D2.8 Change of direction or in reverse

At the end of the field, when the tractor with the windrow rotary rake must invert direction or in the event it must go in reverse for a short distance, windrow teeth must be lifted from the ground.

- **Mounted type:** All the equipment must be lifted by using the tractor hydraulic lift (1), until teeth will be at 30 cm from the ground;
- **Pull type:** the entire frame must be lifted by using the hydraulic lift, which is controlled by the corresponding lever of the tractor auxiliary circuit, from the cabin.



D2.9 End of work

Once work is completed and the tractor must return in its usual parking, set the transport configuration on the windrow rotary rake, before moving.

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

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

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

MAINTENANCE

E1 Warnings during maintenance

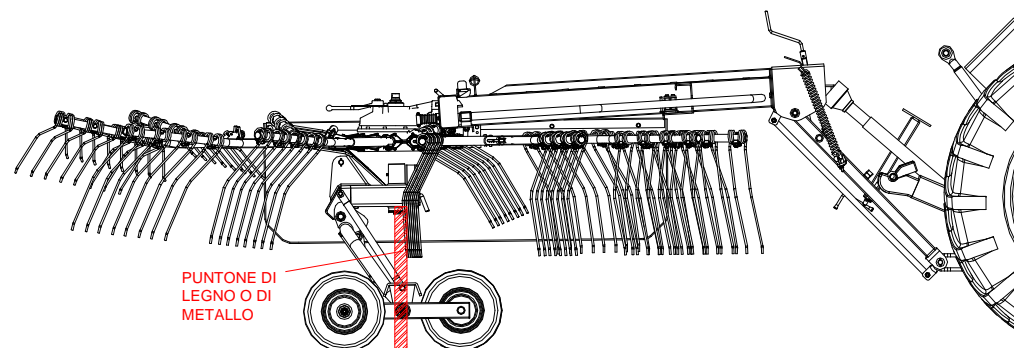
The windrow rotary rake is agricultural equipment that does not require particular maintenance, or relative programs. However, a periodical intervention is envisioned (described below) that, if scrupulously carried out by the Customer, will maintain the efficiency and work ability of the equipment unaltered,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

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



DANGER

any kind of intervention must be carried out on an even surface, sufficiently lighted and free from any person, animal or object that may obstruct every manoeuvre. The equipment must be stable on the ground, the tractor blocked, the parking brake engaged, the engine off and keys removed from the dashboard. Should lifting the windrow rotary rake be required, safely block it, by placing a piece of wood or metal under it, as indicated in the figure;



- for the operator's safety and to prevent damages to the windrow rotary rake, before working a clearly visible sign must be applied on the tractor indicating "**Machine under maintenance**";
- the interventions, maintenance and repair, once started must always be completed and never post-poned;
- he must not work on memory, but always read the instructions in this manual and accurately follow them;
- 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 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.

Other maintenance interventions to be carried out weekly (or after about 40 hours of operation) 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;



INGRASSATORE



PUNTI DA LUBRIFICARE

- 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;
- verify the structural integrity of all equipment parts, in particular those subject to wear like, for example, the tire wheels;
- **for the pull type:** ensure all components of the hydraulic system do not leak;
- ensure the rotary unit is intact and does not leak.

Note: both windrows rotary types are equipped with work rotating unit operating in oil bath, this means that all components of the rotor are dipped in lubricant. Without oil, they are exposed to rapid wear and so to cam binding. Therefore, should leakages occur, verify its internal oil level. To verify this, loosen the level plug, placed at the head side and indicated in the figure. Should the oil not reach the lower part of the hole, its quantity is considered inadequate and so it must be filled up through the same hole until the oil will not escape. Only use oil type SAE 90 E.P..

IMPORTANT

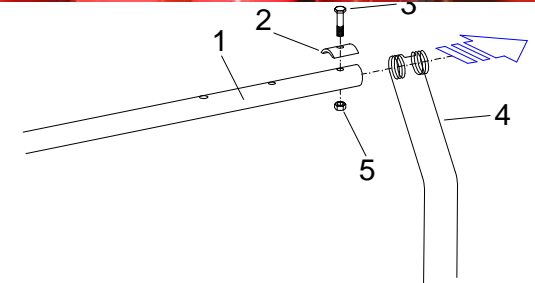
To avoid polluting, it is forbidden to disperse oil, lubricants, filtering cartridges or other toxic materials in the environment. Scrupulously comply with the current dispositions for the disposal of liquid and solid substances.

- regarding operations on the cardan shift, refer to its use and maintenance manual.



E3 Replacement of windrow teeth

Should the replacement of a pair of windrow teeth be required (for wear or damage), loosen locking nut (5) completely, remove fixing screw (3) with relative tie-teeth plate (2) from its housing and then remove teeth pair (4) from the arm of equipment (1). Place the new pair and fix them by following removal instructions in reverse.



**E4 Troubleshooter**

FAILURE OR INCONVENIENCES	CAUSES	SOLUTIONS
For the pull type – Jacks move jerkily	Air in the hydraulic circuit	Run the windrow rotary rake in vain for a few minutes to drain the air in the hydraulic circuit

FAILURES	CAUSES	SOLUTIONS
		Also verify the hydraulic oil in the tractor tank
For the pull type version – A jack moves without the command for its activation	Jack gasket worn	Replace gaskets
Partial or inadequate forage harvesting	Windrow teeth too distant from the ground	Adjust windrow teeth distance from the ground (See paragraph D2.5)
Rapid wear of windrow teeth	Teeth a constantly touching the ground	Adjust windrow teeth distance from the ground (See paragraph D2.5)

E5 Materials disposal in case of scrapping

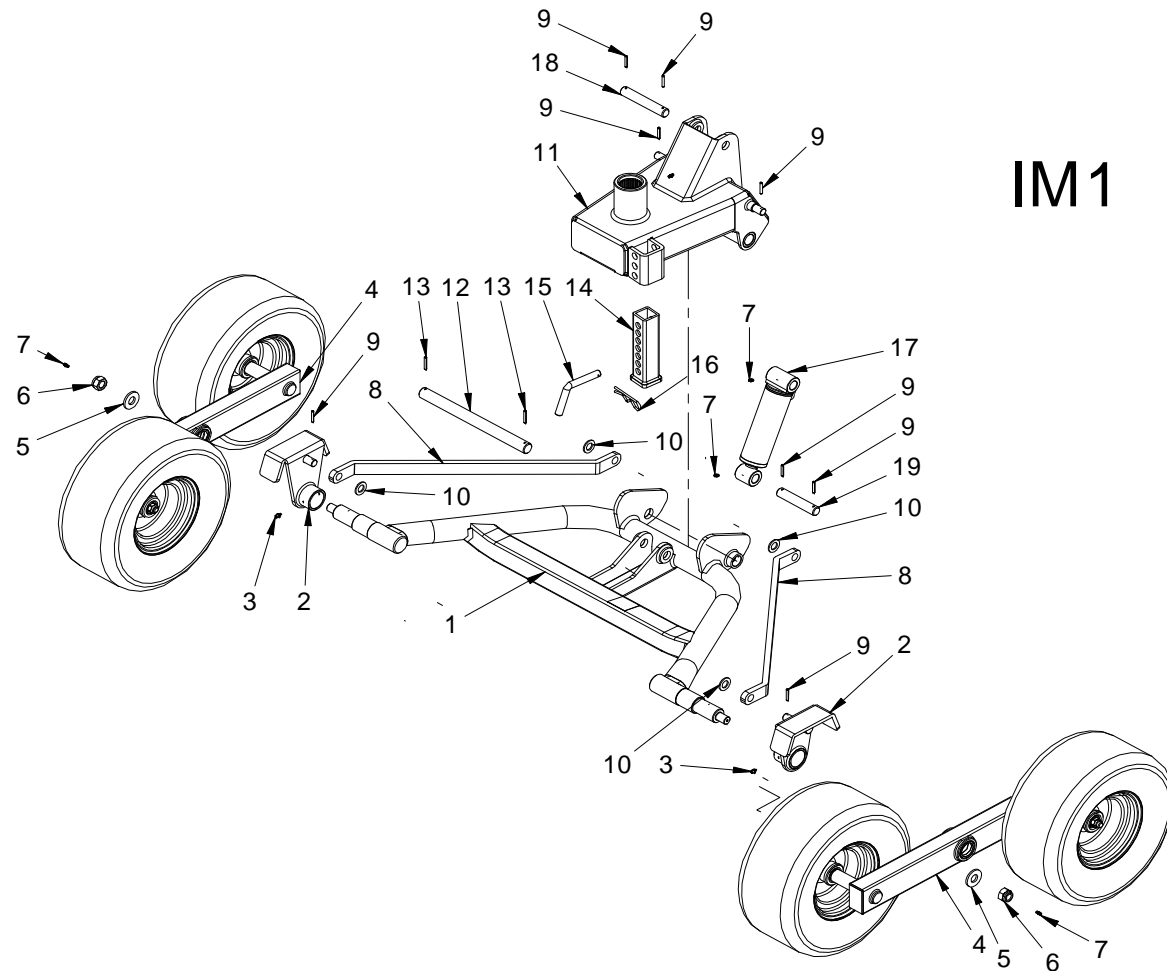
When the windrow rotary rake is placed out of service, the parts that might become dangerous for persons, animals and environment must be made harmless, if dispersed. The equipment materials, which are subject to a separate disposal are:

- iron
- lubricant oil
- rubber

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

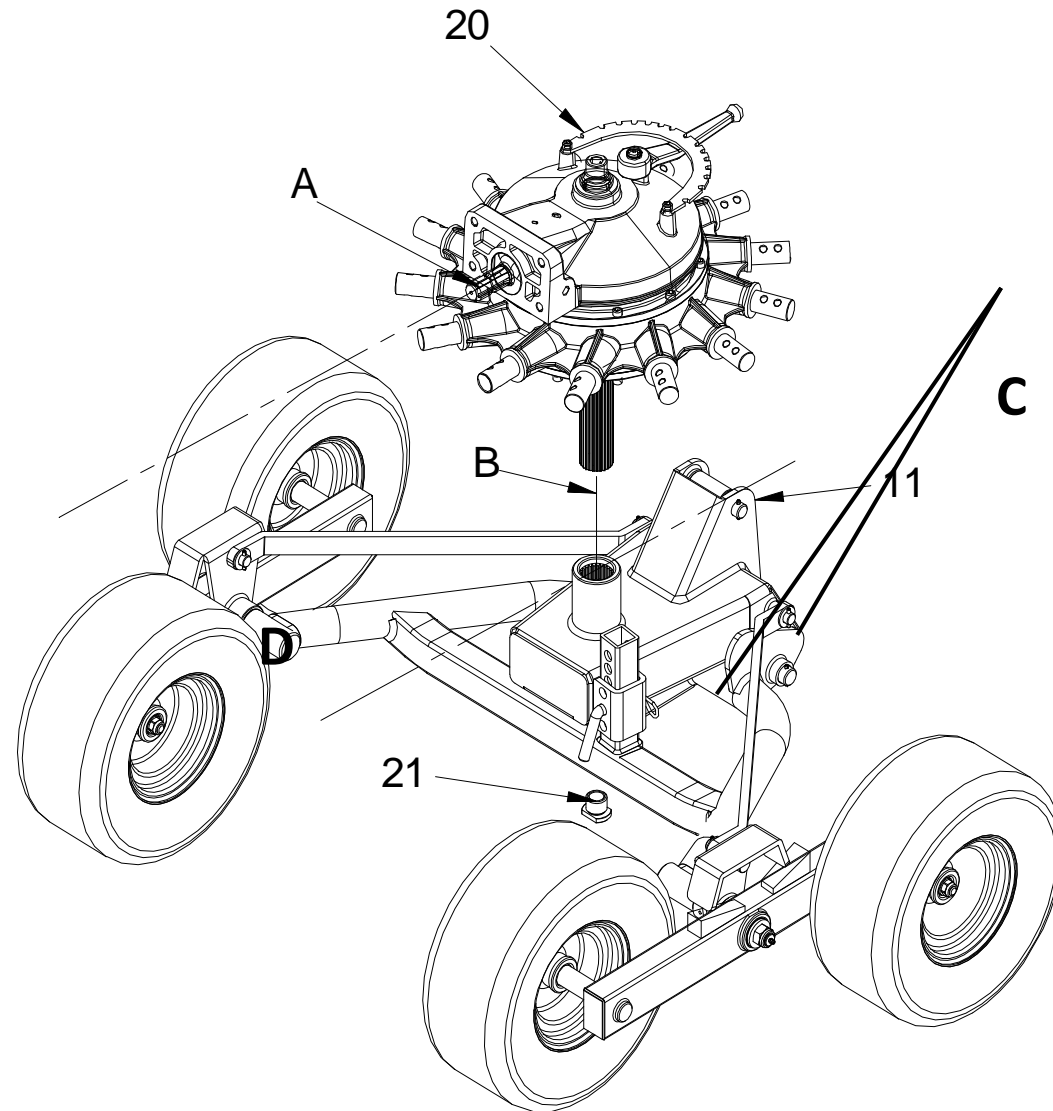
Assembly instruction N°1 - pull-type version (tandem assembly)

- 1)** mount the axle stop Pos. 14 into the guide of the rotor support Pos. 11. Fix the stop with the pin \varnothing 18 Pos. 15 and the spring pin \varnothing 5x100 Pos. 16.
- 2)** mount the rotor support Pos. 11 onto the tandem axis Pos. 1. Fix with the pin \varnothing 30x370 Pos. 12 and block the pin with elastic pins \varnothing 6x40 Pos. 13.
- 3)** Mount the hydraulic cylinder Pos. 17 and fix with the pin \varnothing 25x130 Pos. 19 and pin \varnothing 25x150 Pos. 18. Lock the two pins with elastic pins \varnothing 6x36 Pos. 9. Mount the straight greasers on the hydraulic cylinder M6x1 Pos. 7.
- 4)** Mount the two tandem brackets Pos. 8 on the rotor support Pos. 11 and fix with the washers \varnothing 21x3x37 Pos. 10 and elastic pins \varnothing 6x36 Pos. 9.
- 5)** mount the tandem stop Pos. 2, on the axle Pos. 1 and insert the tandem bracket Pos. 8 in the tandem stop Pos. 2. Fix with the washer \varnothing 21x3x37 Pos. 10 and the elastic pin \varnothing 6x36 Pos. 9.
- 6)** mount the two tandem axes with wheels Pos. 4 on the axle Pos. 1. Fix with the washer \varnothing 23x50x5 Pos. 6 and M 22 self-locking nut Pos. 6. Mount the straight greaser M 6x1 Pos. 7.



Assembly instruction N°2 - pull-type version (rotor assembly)

- 1)** Position the thicknesses under the tandem stops (see Pos. C) to position the broached bush vertically (see Pos. B) in order to make it easier to insert the rotor.
- 2)** Install the rotor Pos. 20, by inserting the splined shaft in the bush of the rotor support, aligning the PTO Pos. A with the axis Pos. D of the trolley.
- 3)** Screw the threaded bush Pos. 21 (use the threadlocker to tighten it better)



IM2

Assembly instruction N°3 - pull-type version

(assembly of the drive shaft and shock absorbers for the protections)

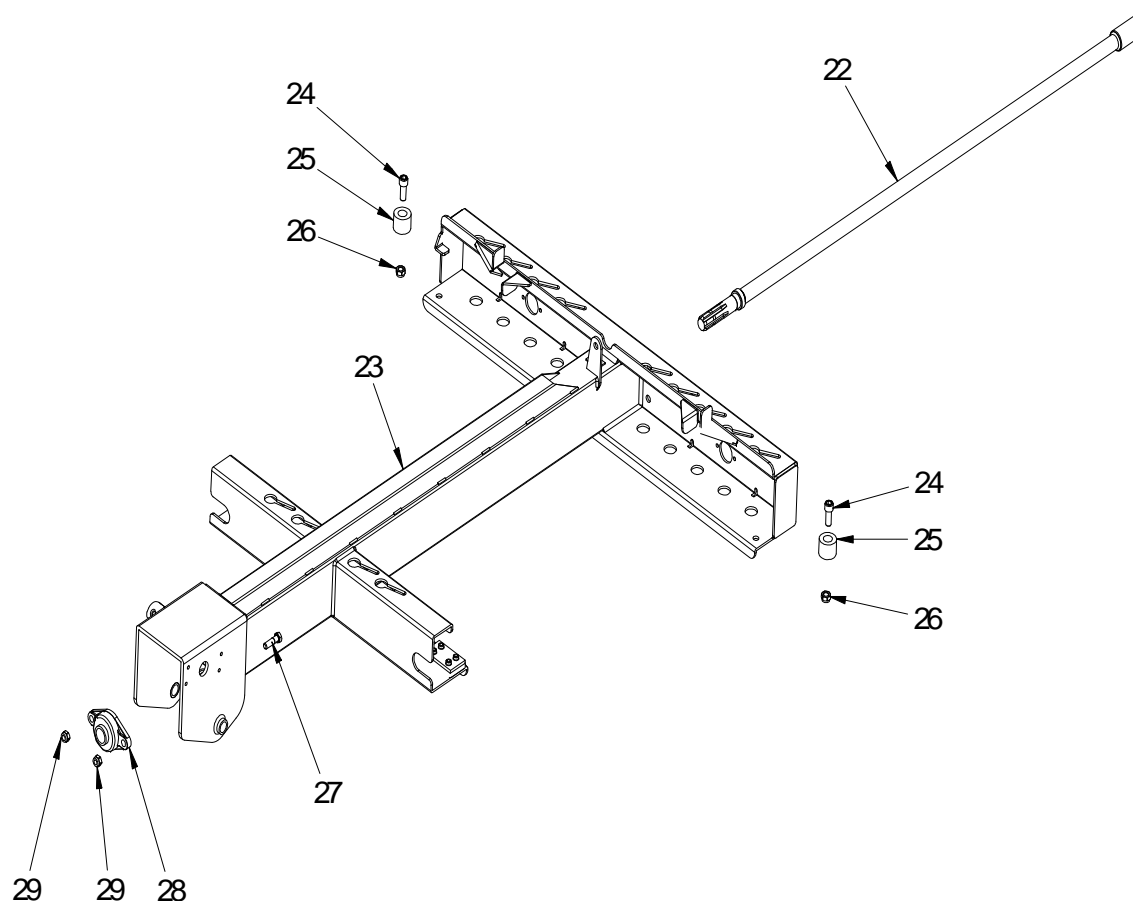
1) insert the drive shaft Pos. 22, in the frame Pos. 23.

After the assembly of the rotor unit Pos. 20 (see assembly instruction n°2) and fix the shaft axially Pos. 22 by tightening the grains of the support Pos. 28.

2) mount the articulated support $\varnothing 35$ Pos. 28 and lock with the T.E. screws M14x50 Pos. 27 and M 14 self-locking nuts Pos. 29.

3) mount the two shock-absorbers Pos. 25 and lock them with the T.E. screws M16x40 Pos. 24 and M 16 self-locking nuts Pos. 26

IMB

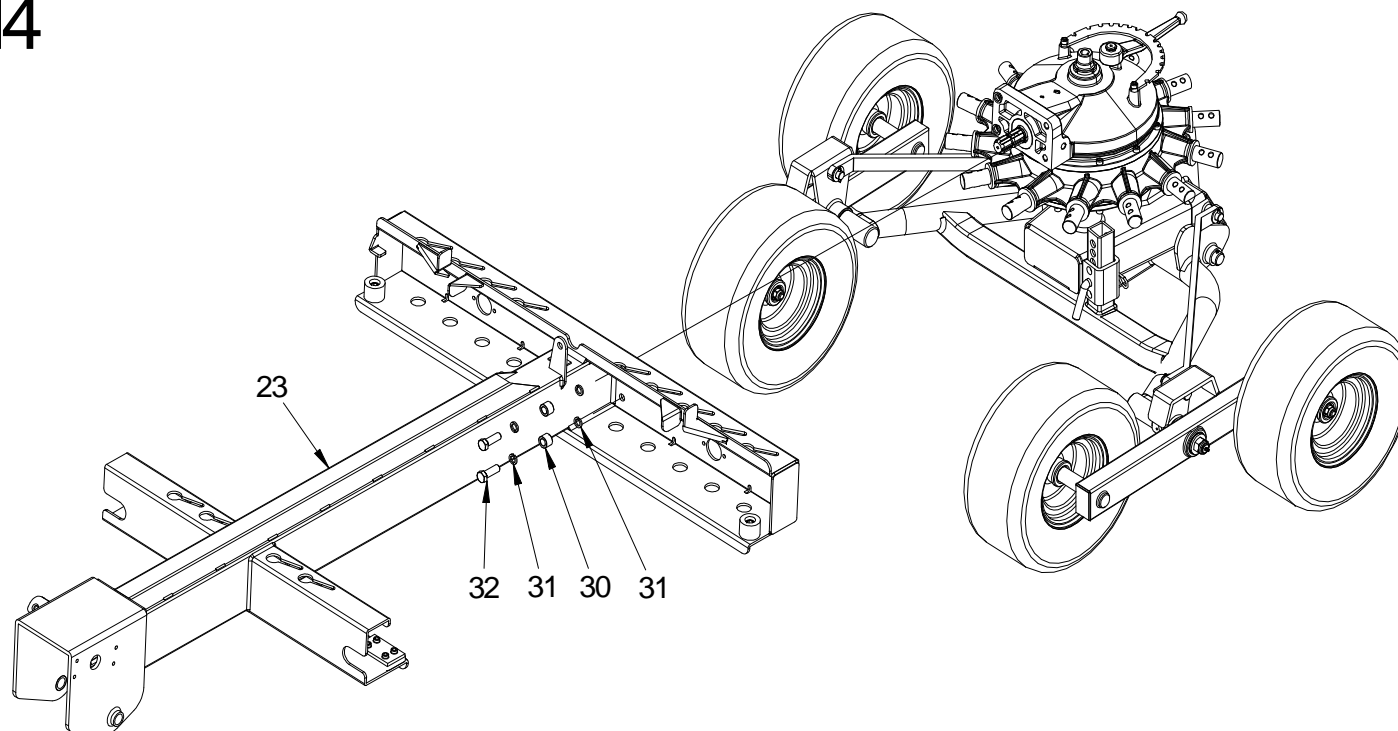


Assembly instruction N°4 - pull-type version (assembly of the main frame with rotor)

1) mount the frame Pos. 23, on the rotor unit Pos. 20.

Fix with the 4 T.E. screws M16x50 Pos. 32, the 8 Grower washers \varnothing 16 Pos. 31 and the spacer \varnothing 28x22 Pos. 30. Use the thread-locker for the screws Pos. 32.

IM4



Assembly instruction N°5 - pull-type version (tow bar assembly)

IM5

1) attach the tow bar Pos. 33 to the frame Pos. 23. Fix with the pin \varnothing 25x250 Pos. 34 and elastic pins \varnothing 6x36 Pos. 35.

2) mount the supporting foot Pos. 43 and fix with the pin \varnothing 15 Pos. 44 and the spring pin \varnothing 5x100 Pos. 45

3) mount the tow hook Pos. 36 to the tow bar Pos. 33. Insert the pin \varnothing 25x190 Pos. 37 and fix it with the washers \varnothing 24x44x4 Pos. 38 and elastic pins \varnothing 6x36 Pos. 35.

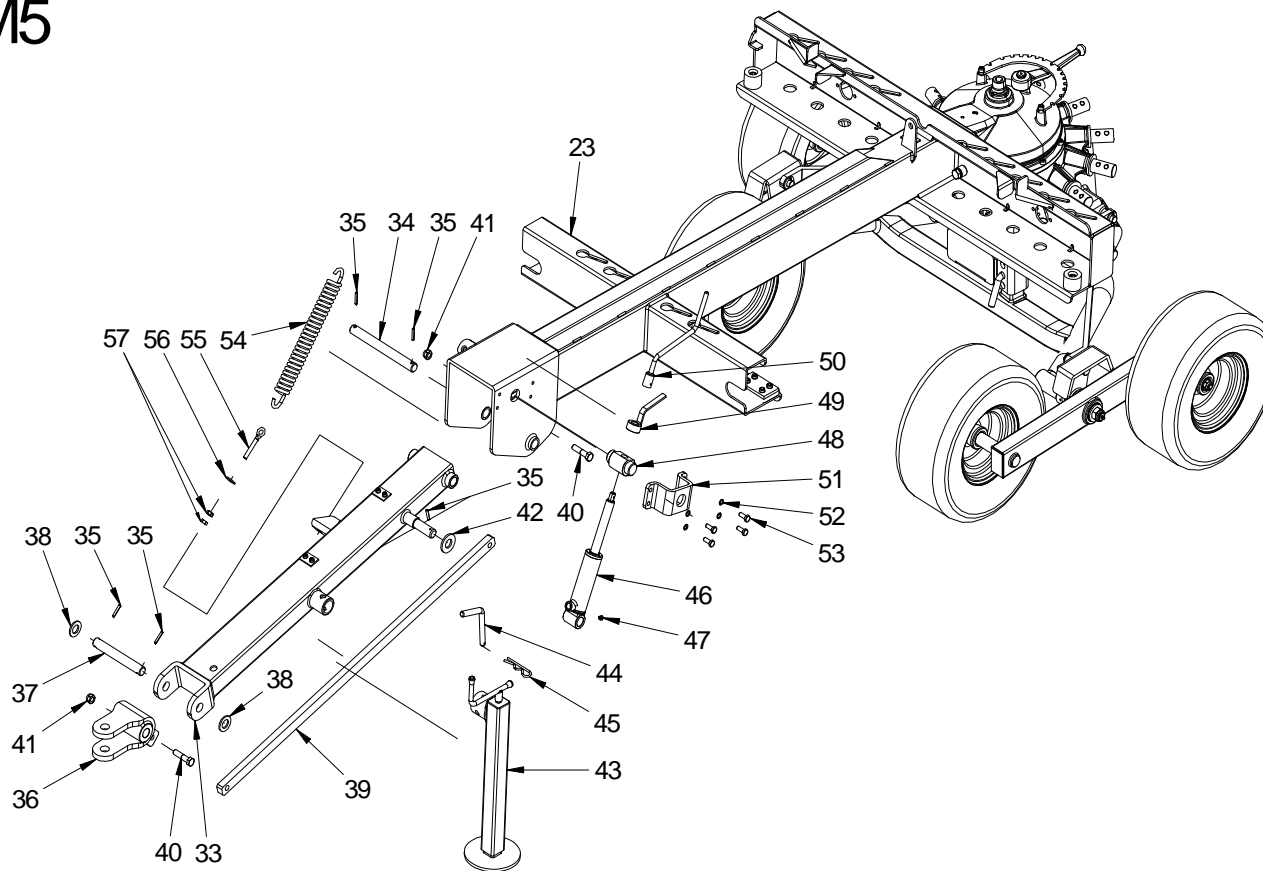
4) mount the rod 30x20x1125 Pos. 39 and fix it with the T.E. screws M14x60 Pos. 40 and M 14 self-locking nuts Pos. 41.

5) mount the spring \varnothing 45 Pos. 54, and attach it to the frame Pos. 23 and to the tow bar Pos. 33 using the M 10 tensioning screw Pos. 55, the washer \varnothing 10.5 Pos. 56 and the M 10 nuts Pos. 57.

6) screw the nut screw Pos. 48 onto the rod of the hydraulic cylinder Pos. 46. Mount the hydraulic cylinder Pos. 46 onto the pin of the tow bar Pos. 33 and fix it with the washer \varnothing 26 Pos. 42 and the elastic pin \varnothing 6x36 Pos. 35.

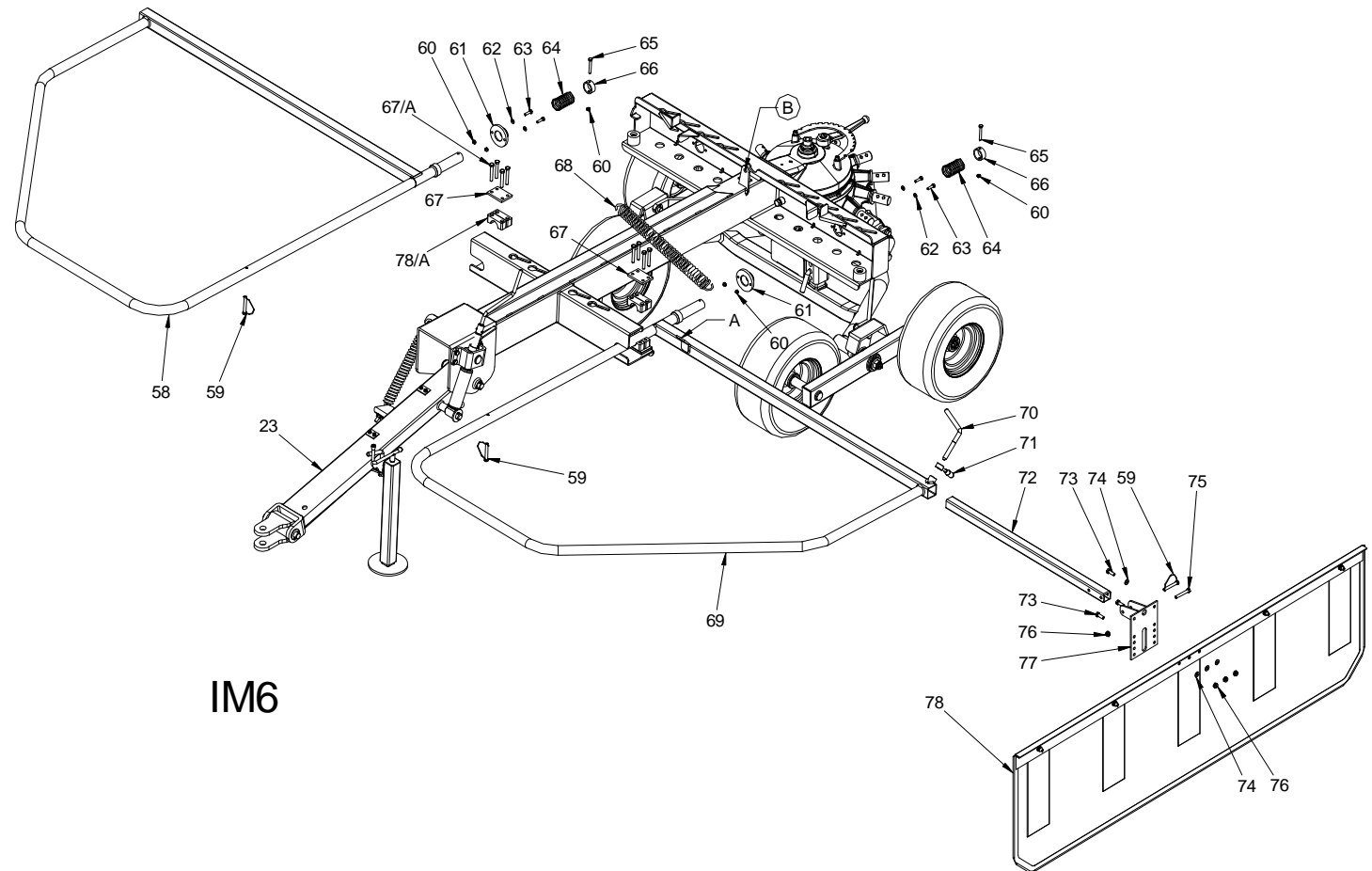
Insert the nut screw in the frame's hole and lock it with the jack bracket Pos. 51. Fix the bracket Pos. 51 with the washers \varnothing 10.5 Pos. 52 and T.E. screws M 10x25 Pos. 53. (Lock the screws with a threadlocker).

7) mount the locknut Pos. 49 onto the rod of the hydraulic cylinder Pos. 46. Install the height adjustment handle Pos. 50.



Assembly instruction N°6 - pull-type version (protections assembly)

- 1) mount the plastic bush \varnothing 40x90 Pos. 61 and fix it with the T.E. screws M 8x30 Pos. 63, the washers \varnothing 8 pos. 62 and the M 8 self-locking nuts pos. 60.
- 2) mount the bottom part of the collar Pos. 78/A. Insert the two protections Pos. 58 and 69 in the plastic bushes Pos. 61. Install the springs Pos. 64 and fix them with the washers \varnothing 48.3 Pos. 66, the T.E. screws M8x60 Pos. 65 and the M 8 self-locking nuts Pos. 60.
- 3) mount the top of the collar Pos. 78/A and fix it with the 88x60 steel plate and T.E. screws M 10x70 Pos. 67/A.
- 4) mount the weight compensation spring Pos. 68 at point B frame bracket and point A of the protection.
- 5) insert the 40x40 tube Pos. 72 in the protection tube Pos. 69 and fasten with the threaded washer M 16 Pos. 70 and lock nut M 16 Pos. 71.
- 6) mount the lateral strap Pos. 78 onto the strap connection plate Pos. 77. Fix with the T.E. screws M 10x30 Pos. 73, the washers \varnothing 10 Pos. 74 and the M 10 self-locking nuts Pos. 76. Mount the plate onto the 40x40 tube Pos. 77 and fix it with the T.E. screw M10x70 Pos. 75, the M 10 self-locking nut Pos. 76 and the latched plug \varnothing 10 Pos. 59.

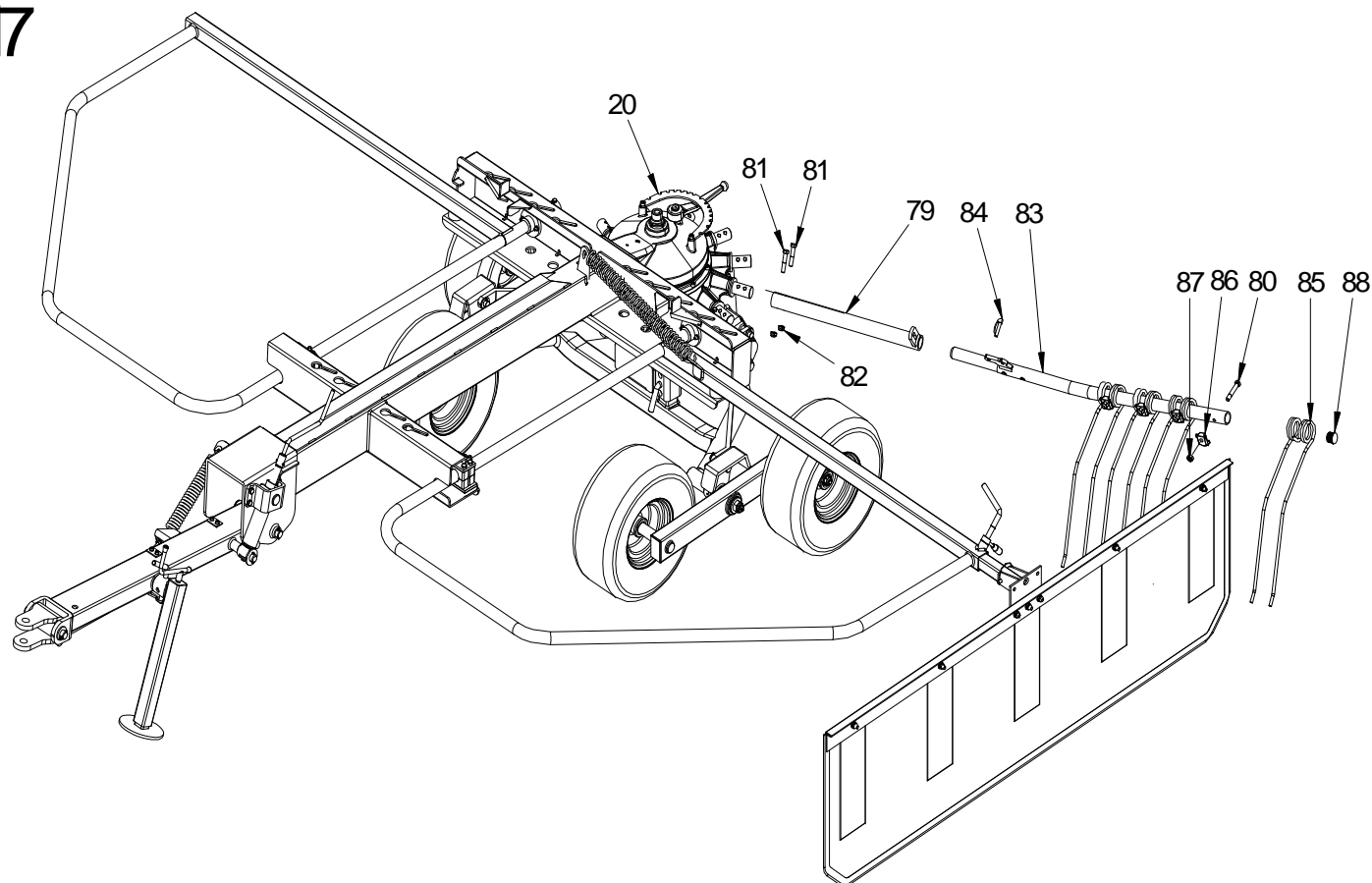


Assembly instruction N°7 - pull-type version (arm-holder and arms assembly)

1) mount the sleeves Pos. 79 (arm holders) on the pins of the rotor Pos. 20. Fix them with T.E. screws M12x60 Pos. 81 and M 12 self-locking nuts Pos. 82.

2) mount the spring arms Pos. 83 on the rotor (in the arm-hold. sleeves Pos. 79) and fix them with latched plugs Pos. 84.

IM7



Assembly instruction N°8 - pull-type version (hydraulic circuit assembly)

- 1) insert the duct \varnothing 5/16 lg. 3.500 Pos. 97 in the frame Pos. 23. Insert the duct in the central hole of the rotor Pos. 20. Then insert it in the bottom hole of the rotor support (see Fig. A and Fig. B)
 - 2) screw, in the duct Pos. 97, the fitting with a $\frac{1}{4}$ threaded eyelet Pos. 105. Fix with a $\frac{3}{8}$ throttle screw Pos. 104 in the jack. (see Fig. A).
 - 3) screw, in the duct Pos. 97, the $\frac{3}{8}$ three-way fitting Pos. 98 and then screw the $\frac{3}{8}$ three-way fitting Pos. 98 to the duct \varnothing 5/16 lg 2.000 Pos. 96. Fig. C
 - 4) fix the hydraulic ducts with the collars \varnothing 14 Pos. 93. Fig. C
 - 5) screw the duct \varnothing 5/16 lg 300 Pos. 95 to the three-way fitting Pos. 98.
- Screw the other end of the duct Pos. 98 to the hydraulic cylinder Pos. 46.

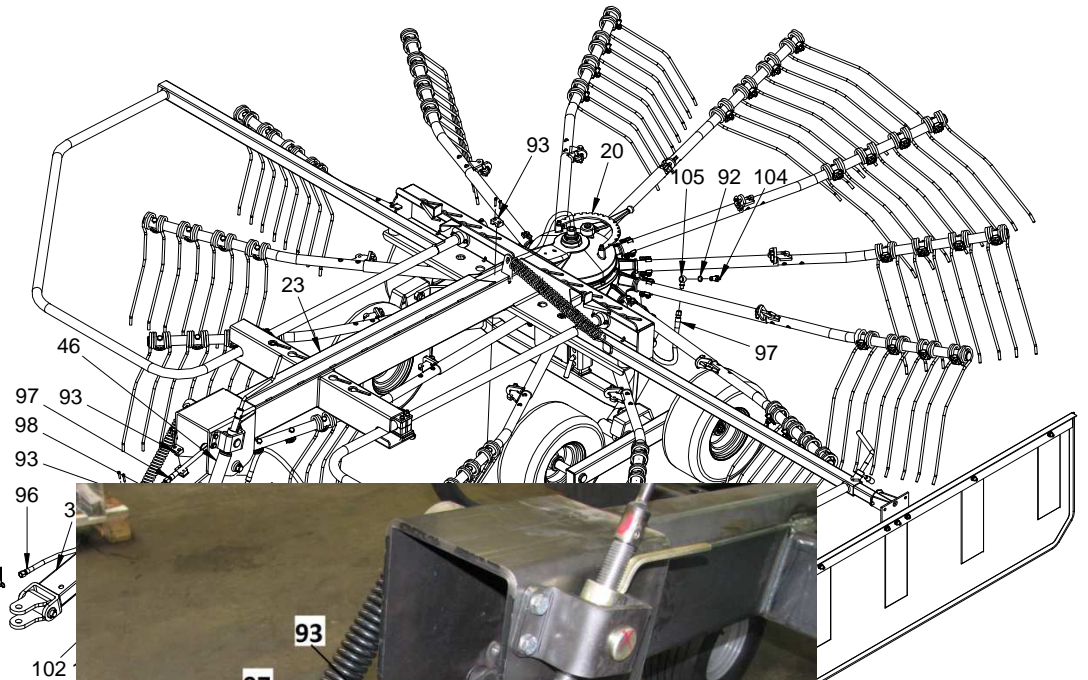


Fig. A

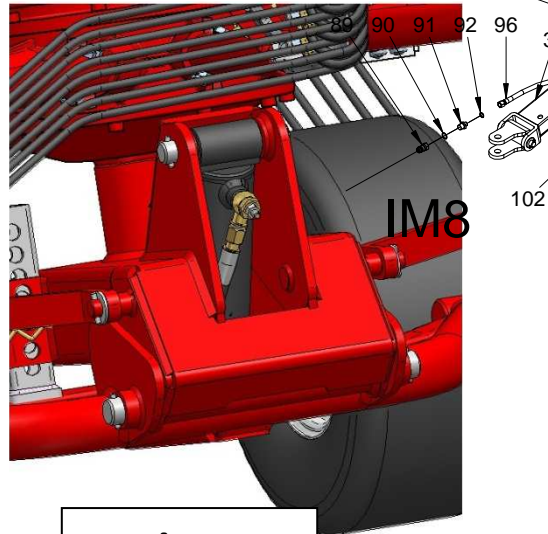


Fig. B

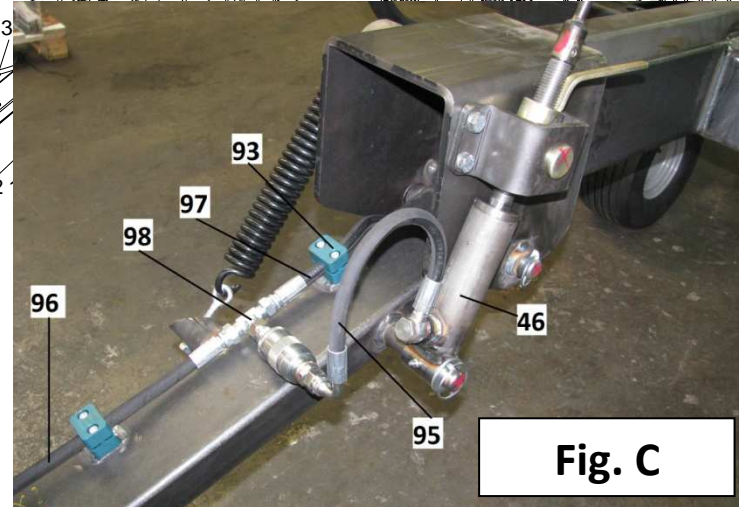


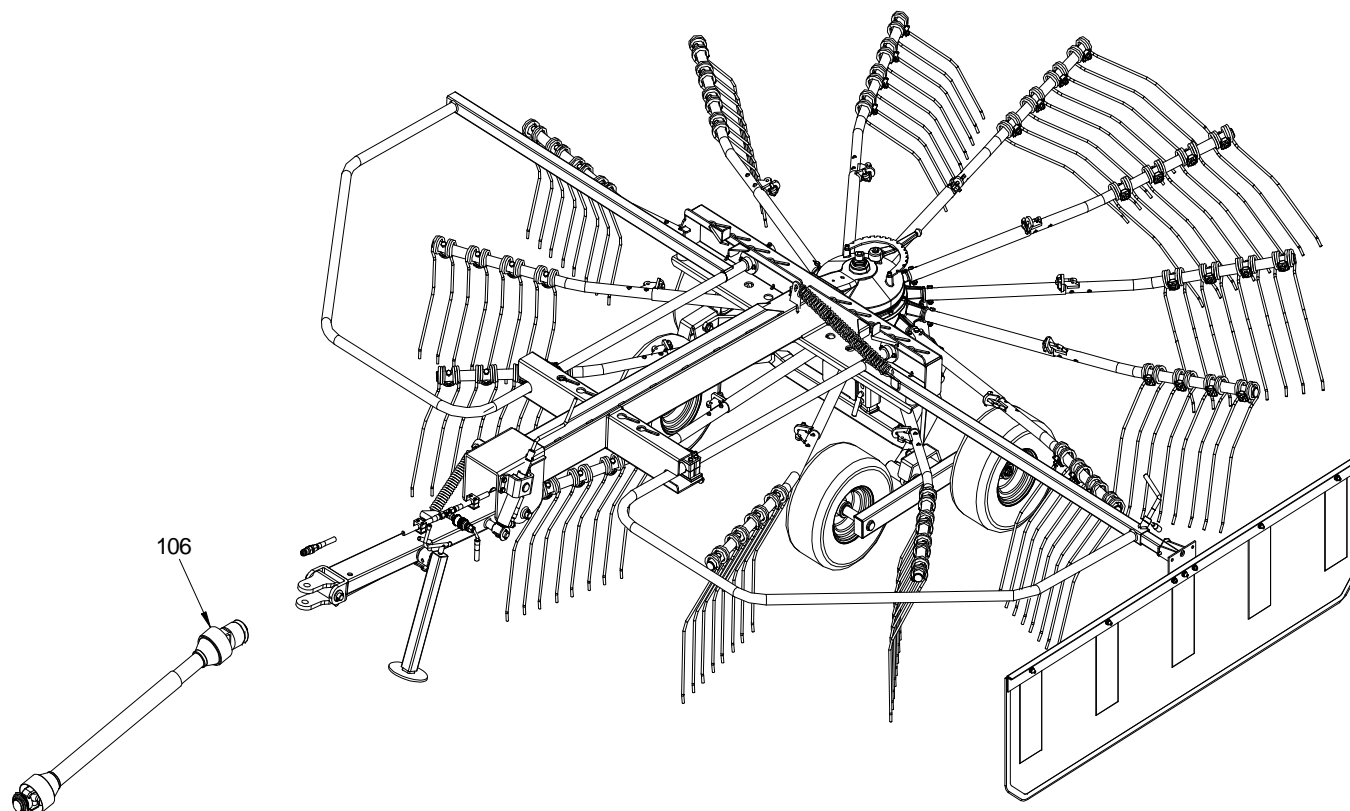
Fig. C

Assembly instruction N°9 - pull-type version (cardan joint assembly)

The cardan shaft is provided with a torque limiter with elastic pawl with a radial effect. It acts by interrupting power transmission if the transmitted torque exceeds the value of its calibration.

NOTE: when the power limiter comes into operation, immediately stop the PTO, to avoid unnecessary wear of the pawls.

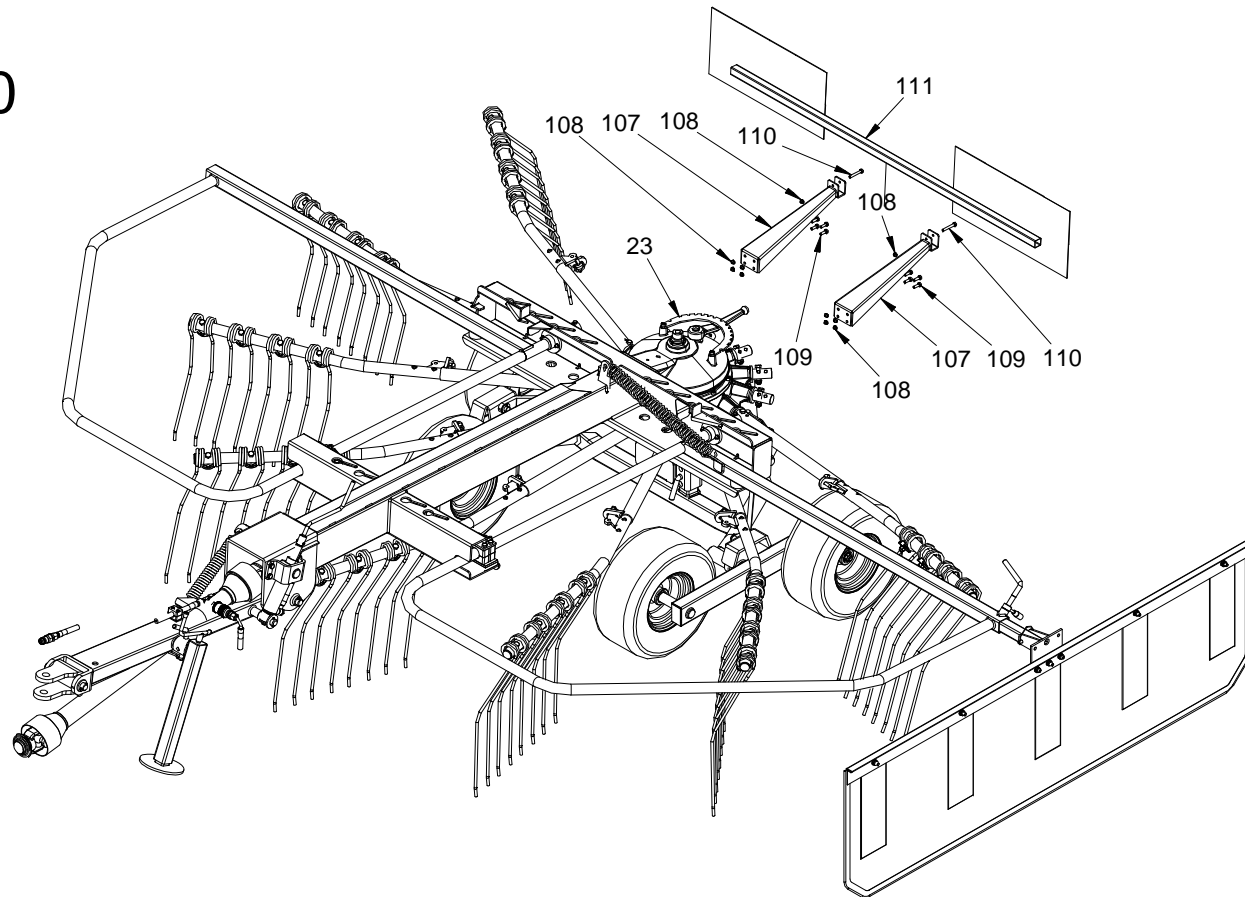
For more information, please see the instructions on the cardan shaft.



Assembly instruction N°10 - pull-type/mounted version (assembly of the rear signalling kit) OPTIONAL

IM10

1) mount the two tandem support brackets for the signalling panels, Pos. 107, at the rear of the main frame. Tighten with T.E. screws M 8x25 Pos. 109 and M 8 self-locking nuts Pos. 108. Insert the signalling bar Pos. 97 in the brackets Pos. 107 and fix with T.E. screws M 8x55 Pos. 110 and M 8 self-locking nuts Pos. 108.

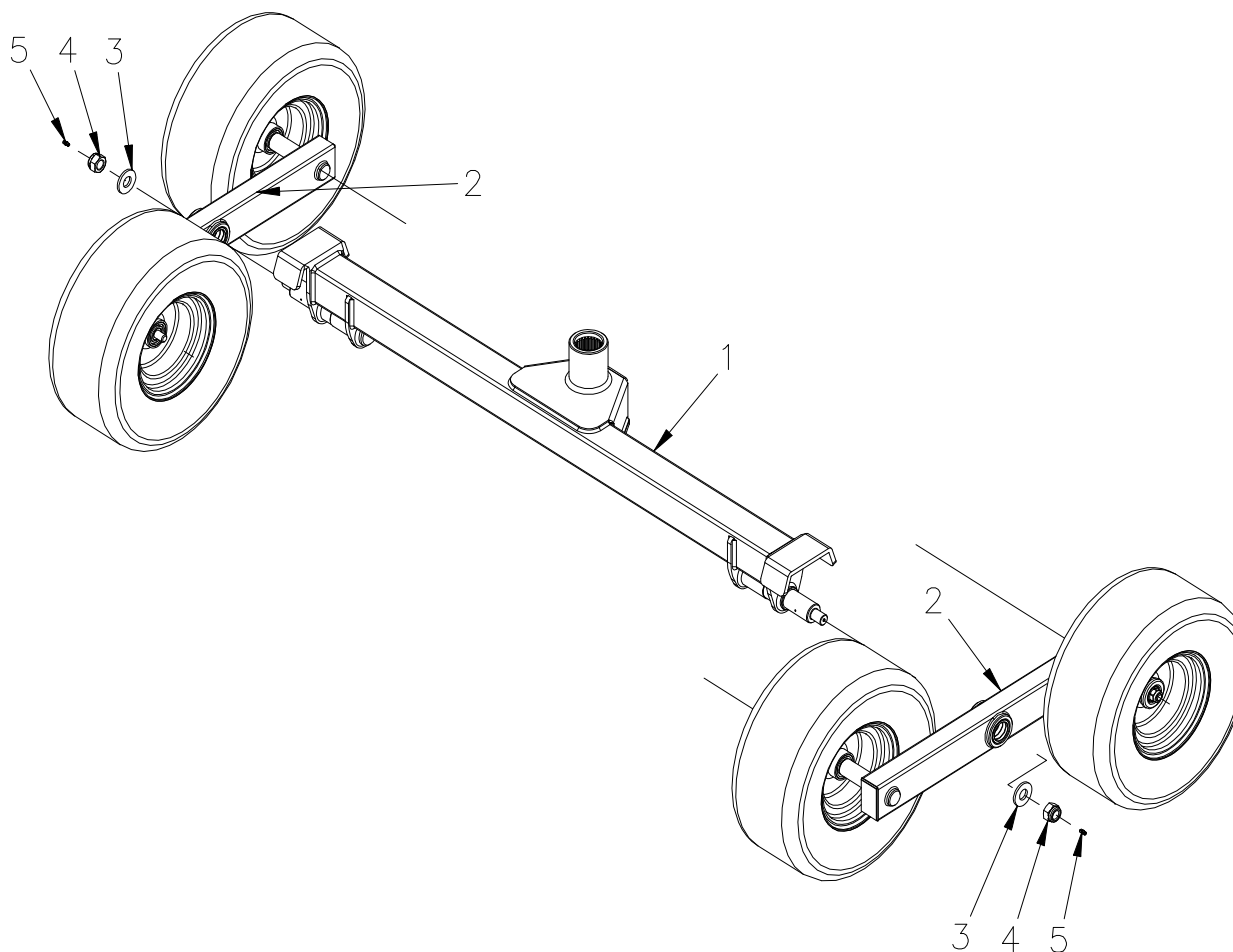


Assembly instruction N°1 - mounted version (tandem wheels assembly)

1) mount the two tandems with wheels Pos. 2 in
axle Pos. 1

2) fix with the washer $\varnothing 23 \times 50 \times 5$ Pos. 3 and M 22
locking nut Pos. 4

3) mount the straight greaser M6 Pos. 5



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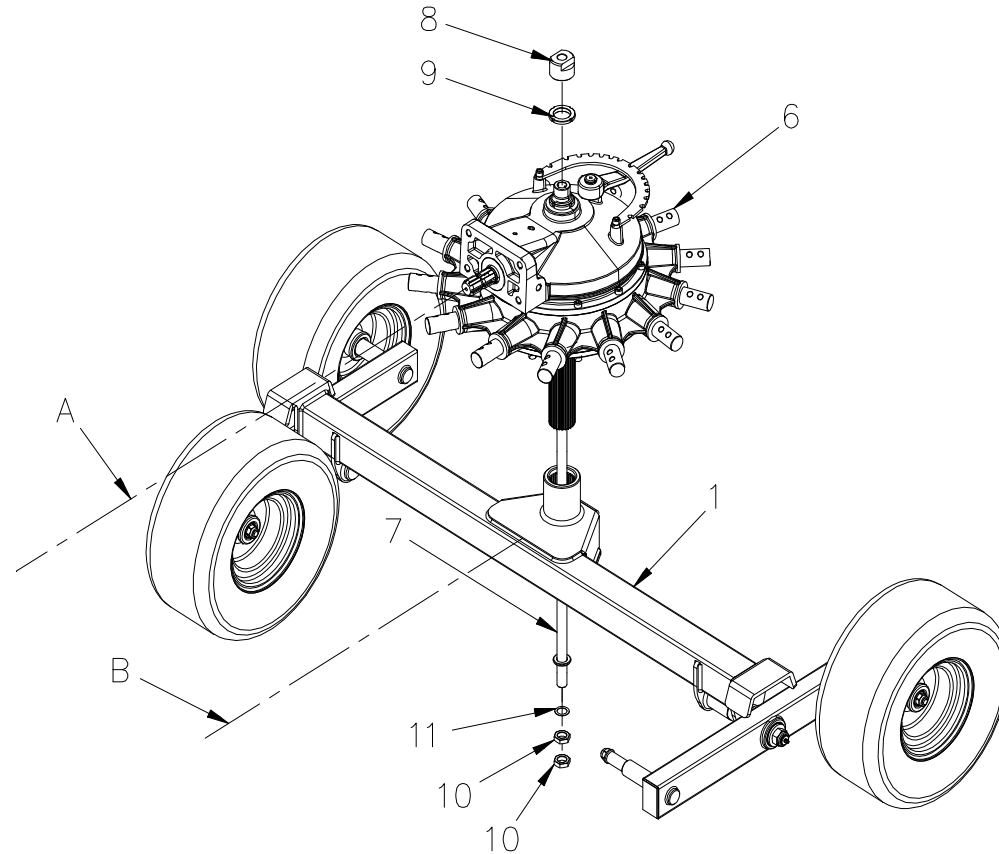
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Assembly instruction N°2 - mounted version (rotor assembly)

1) mount the rotor unit Pos. 6 on the trolley Pos. 1, aligning the PTO (A) axis (B) of the trolley Pos. 1.

2) mount the height adjustment screw Pos. 7. Fix the screw by installing wheel \varnothing 22x32x0.5 Pos. 11 and the two hexagonal nuts M 22x1.5 Pos. 10. NOTE: lock the two nuts Pos. 10 so that the height adjustment screw can its seat.

3) mount the ring nut Pos. 9. Screw the stop Pos. 8, by firmly tightening rotor and locking it with the ring nut Pos. 9 like a lock nut.



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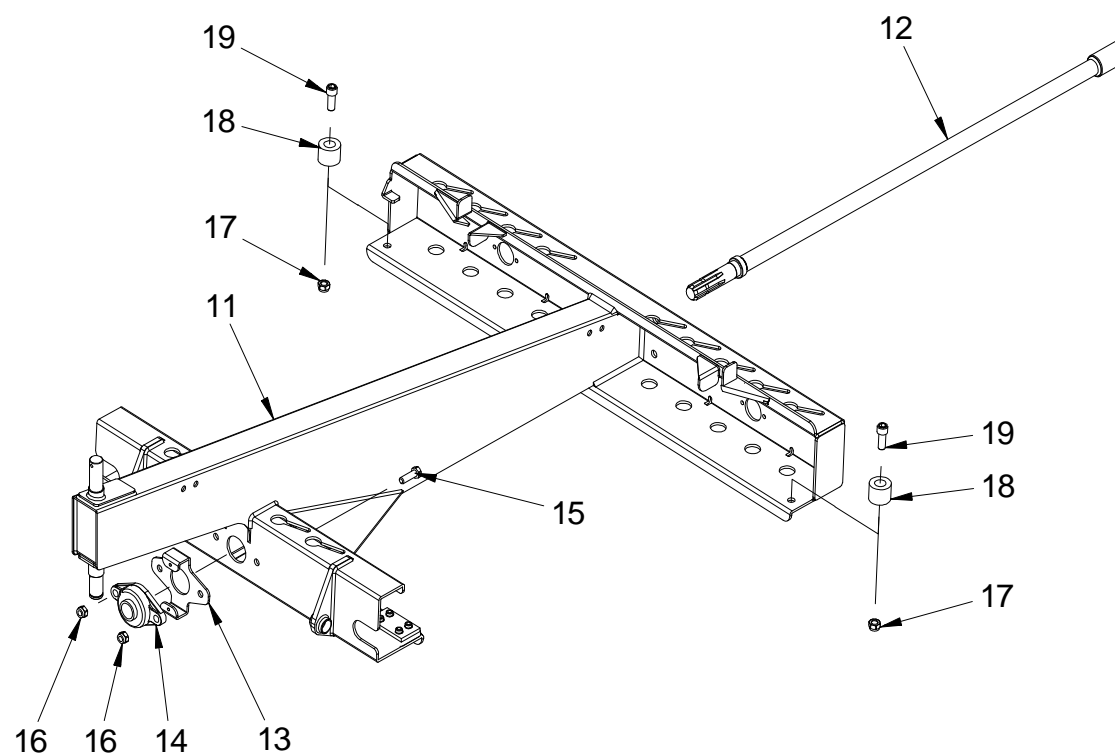
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Assembly instruction N°3 - mounted version

(assembly of the drive shaft and shock absorbers for the protections)

- 1) insert the drive shaft Pos. 12 in the frame Pos. 11.
- 2) mount the counter-guard support Pos. 13.
- 3) mount the articulated support $\varnothing 35$ Pos. 14. Lock the counter-guard support Pos. 13 and the articulated support Pos. 14 with T.E. screws M14x14 Pos. 15 and M 14 self-locking nuts Pos. 16.
- 4) mount the two shock-absorbers Pos. 18. Lock them with TCEI screws M 16x40 Pos. 19 and M 16 self-locking nuts Pos. 17.

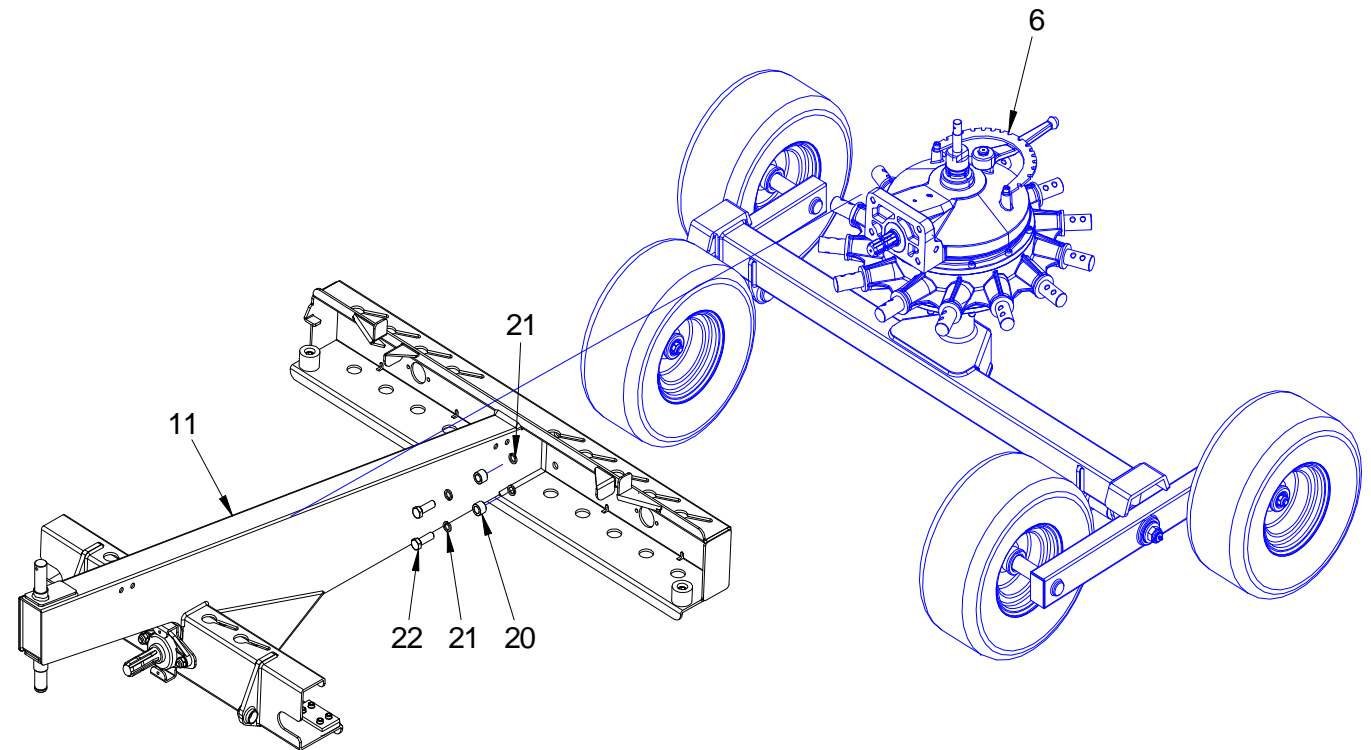


Assembly instruction N°4 - mounted version (assembly of the main frame with rotor)

1) mount the frame Pos. 11 on the rotor unit Pos. 6.

2) fix with the four T.E. screws M16x50 Pos. 22, the eight GROWER washers M 16 Pos. 21 and the spacers \varnothing 28x22 Pos. 20.

Use the threadlocker for the T.E. screws M16x50.



Assembly instruction N°5 - mounted version

(assembly of the third section)

1) mount the two brackets with pin Pos. 43. Fix with the T.E. screws M 16x110 Pos. 41 and M 16 self-locking nuts Pos. 42.

2) mount the junction plate Pos. 37 and fix it with the T.E. screws M 12x45 Pos. 38, and flat washers \varnothing 13x24x2.5 Pos. 40 and M 12 self-locking nuts Pos. 39.

3) under the frame Pos. 11, place a trestle 70-80 cm high, as shown in the figure.

4) in the junction Pos. 23 mount the two bushes (bronze bushes) \varnothing 30-34-26 Pos. 24. Insert the junction in the pin of the frame Pos. 11. Mount with the stop bush \varnothing 30.5x44.5x16 Pos. 27.

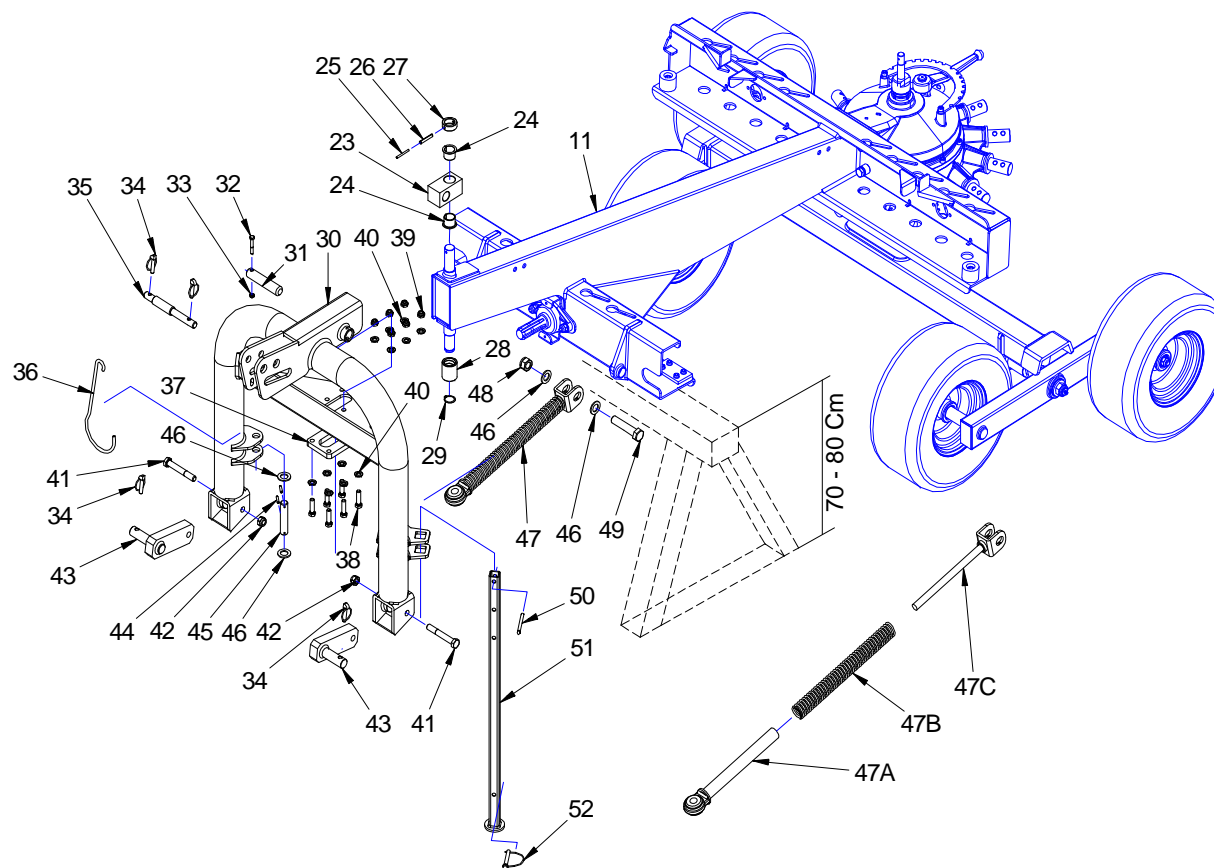
Fix with the elastic pins \varnothing 8x50 Pos. 26 and the internal elastic pin \varnothing 5x50 Pos. 25.

5) mount the hardened bush \varnothing 30x40 L.50 Pos. 28 onto the pin of the frame Pos. 11. Fix with the elastic safety ring \varnothing 30 Pos. 29.

6) mount the whole three-point coupling Pos. 30, on the frame Pos. 11. First insert the bottom part of the three-point coupling (junction plate Pos. 37), on the frame Pos. 11. Insert the top of the three-point coupling Pos. 30, on the junction Pos. 97 of the frame Pos. 11. Insert the pin \varnothing 28x135 Pos. 31 and fix it with the T.E. screw M 8x50 Pos. 32 and M 8 nut Pos. 33.

7) mount the two stabilisers Pos. 47, by inserting the pins \varnothing 22x104 Pos. 45 and fix with the washers \varnothing 23x39x3 Pos. 46 and elastic pins \varnothing 6x30 Pos. 44. Fix with the stabiliser on the side of the frame with 4 T.E. screws M 22x100 Pos. 49, washers \varnothing 23-39-3 Pos. 46 and M 22 self-locking nut Pos. 48.

8) mount the supporting foot Pos. 51 and fix with the latched plug \varnothing 10 Pos. 52. Mount the cardan hook Pos. 36. Mount the pin \varnothing 19-25 Pos. 35 and the two latched plugs \varnothing 10 Pos. 34



Assembly instruction N°6 - mounted version (assembly of the height adjustment axis)

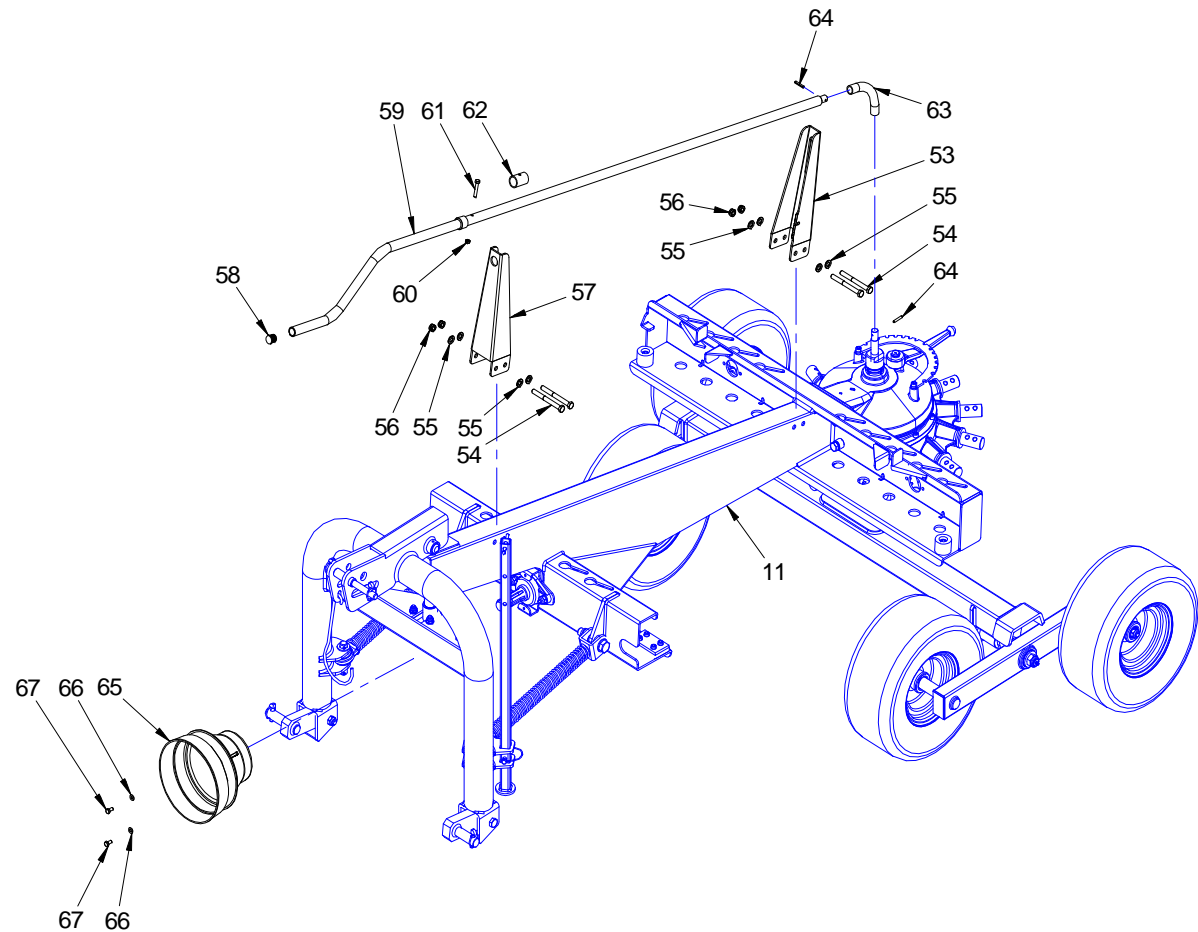
1) mount the two height adjustment brackets Pos. 57 and Pos. 53 on the frame Pos. 11. Fix with the T.E. screws M12x120 Pos. 54, the washers M12 pos. 55 and M 12 self-locking nuts Pos. 56.

2) insert the height adjustment axis Pos. 59 in the bracket Pos. 57. Fix the bracket with the bushing Pos. 62 and the T.E. screws M8x45 Pos. 61 and M 8 nut Pos. 60.

3) mount the junction Pos. 63 and fix elastic pins \varnothing 6x36 Pos. 64.

4) mount the counter-guard Pos. 65 and fix it with the T.E. screws M 8x16 Pos. 67 and the washers \varnothing 8 Pos. 66.

5) mount the rubber cap Pos. 58 on the adjustment axis Pos. 59.



Assembly instruction N°7 - mounted version

(assembly of the protections and the lateral strap)

1) mount the plastic bush \varnothing 40x90 Pos. 71, on the protection Pos. 68. Fix with the T.E. screws M 8x30 Pos. 73, washers \varnothing 8 Pos. 72 and M 8 self-locking nuts Pos. 70.

2) mount the bottom part of the collar Pos. 88, insert the two protections Pos. 68 and Pos. 78 in the plastic bushes Pos. 71. Install the springs Pos. 74 and fasten them with the bushes \varnothing 48.3 Pos. 76, T.E. screws M8x60 Pos. 75 and M 8 self-locking nuts Pos. 70.

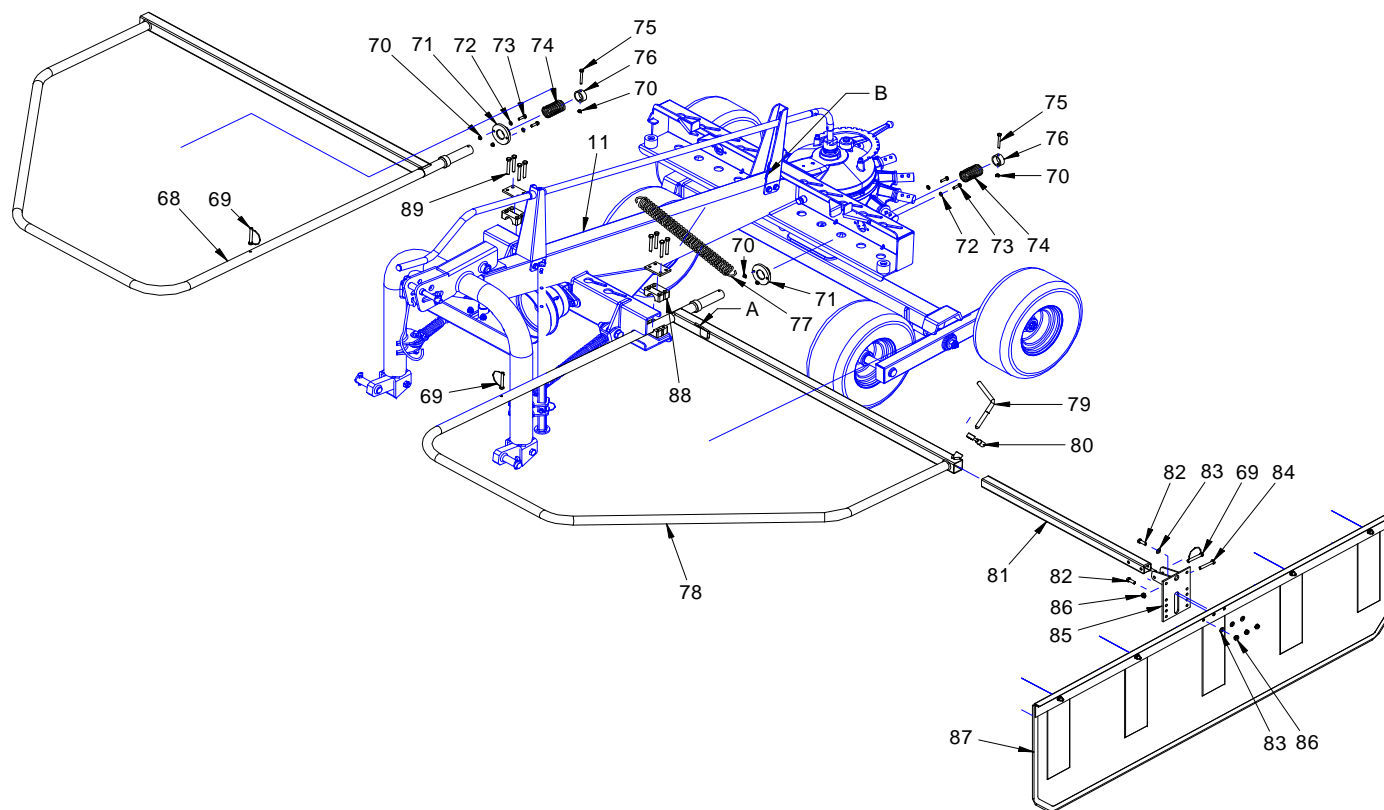
3) mount the top of the collar Pos. 88 and fix it with the 88x60 steel plate and T.E. screws M 10x70 Pos. 89.

4) mount the weight compensation spring Pos. 77 at point B bracket and point A of the protection.

5) insert the 40x40 squared tube Pos. 81 in the protection tube Pos. 78

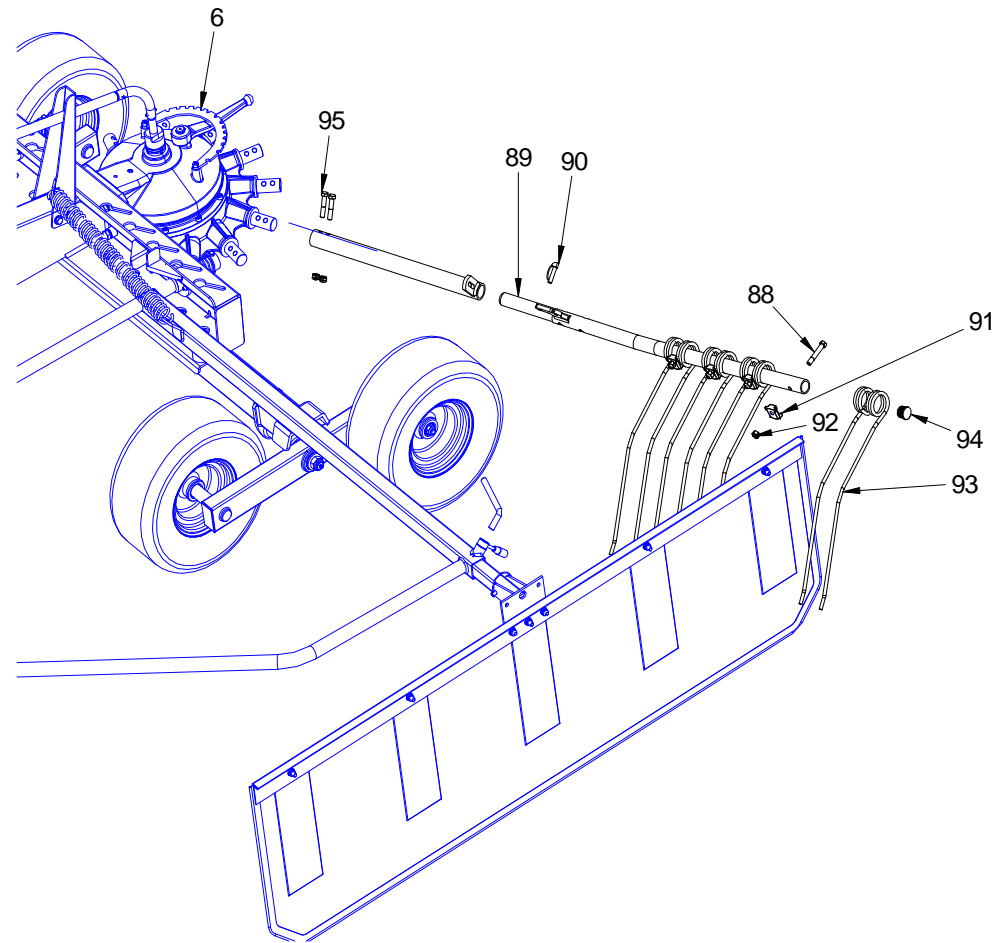
6) mount the lateral strap Pos. 87 onto the strap connection plate Pos. 85. Fix with the T.E. screws M 10x30 Pos. 82, the \varnothing 10 washers and the M 10 self-locking nuts Pos. 86.

Mount the 40x40 squared tube Pos. 81 in the strap connection plate and fix it with the T.E. screw M 10x70 Pos. 84 and the latched plug \varnothing 10 Pos. 69.



Assembly instruction N°8 - mounted version (arm-holder and arms assembly)

- 1) mount the sleeves Pos. 88 (arm holders) on the pins of the rotor Pos. 6. Fix them with T.E. screws M12x60 Pos. 89 and M 12 self-locking nuts Pos. 91.
- 2) mount the spring arms Pos. 92 on the rotor and fix them with latched plugs Pos. 93.



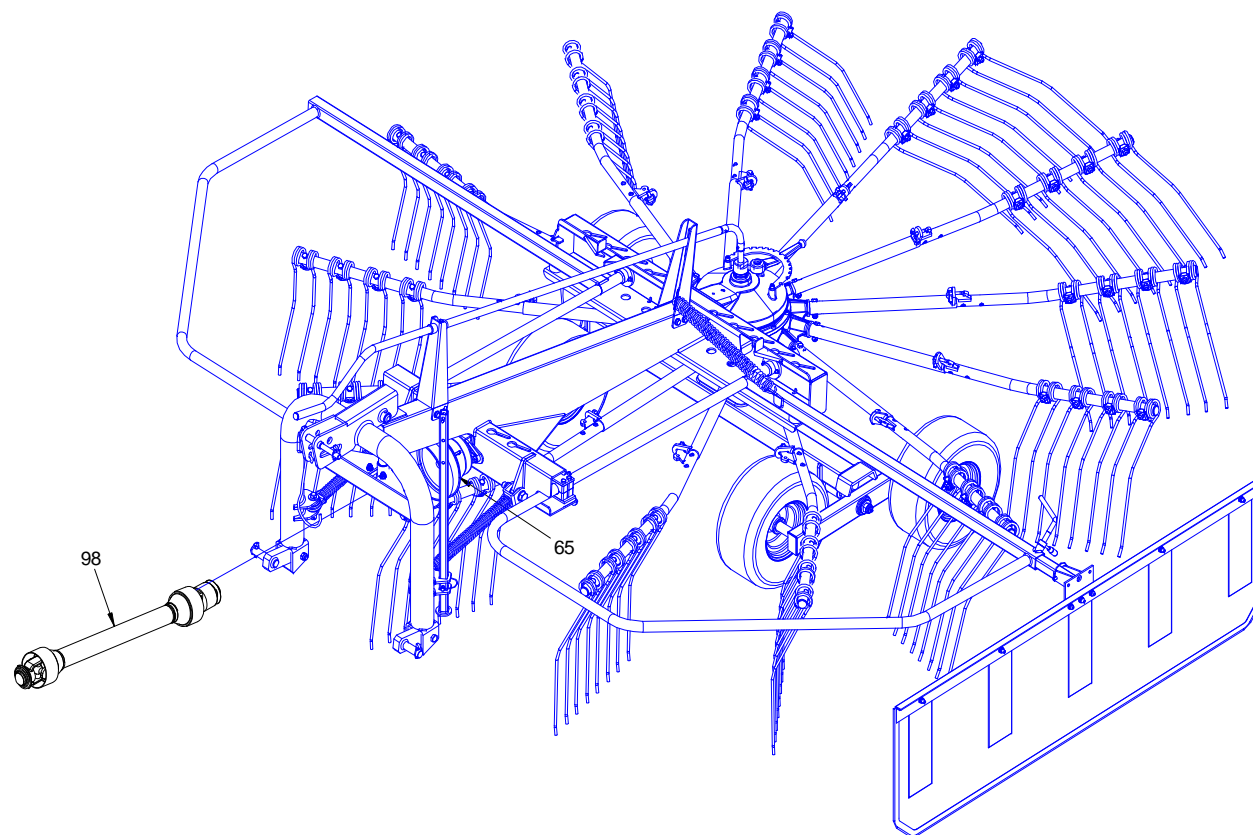
Assembly instruction N°9 - mounted version (cardan joint assembly)

The cardan shaft is provided with a torque with elastic pawl with a radial effect. It acts by interrupting power transmission if the transmitted torque exceeds the value of its calibration.

NOTE: when the power limiter comes into operation, immediately stop the PTO, to avoid unnecessary wear of the pawls.

For more information, please see the instructions on the cardan shaft.

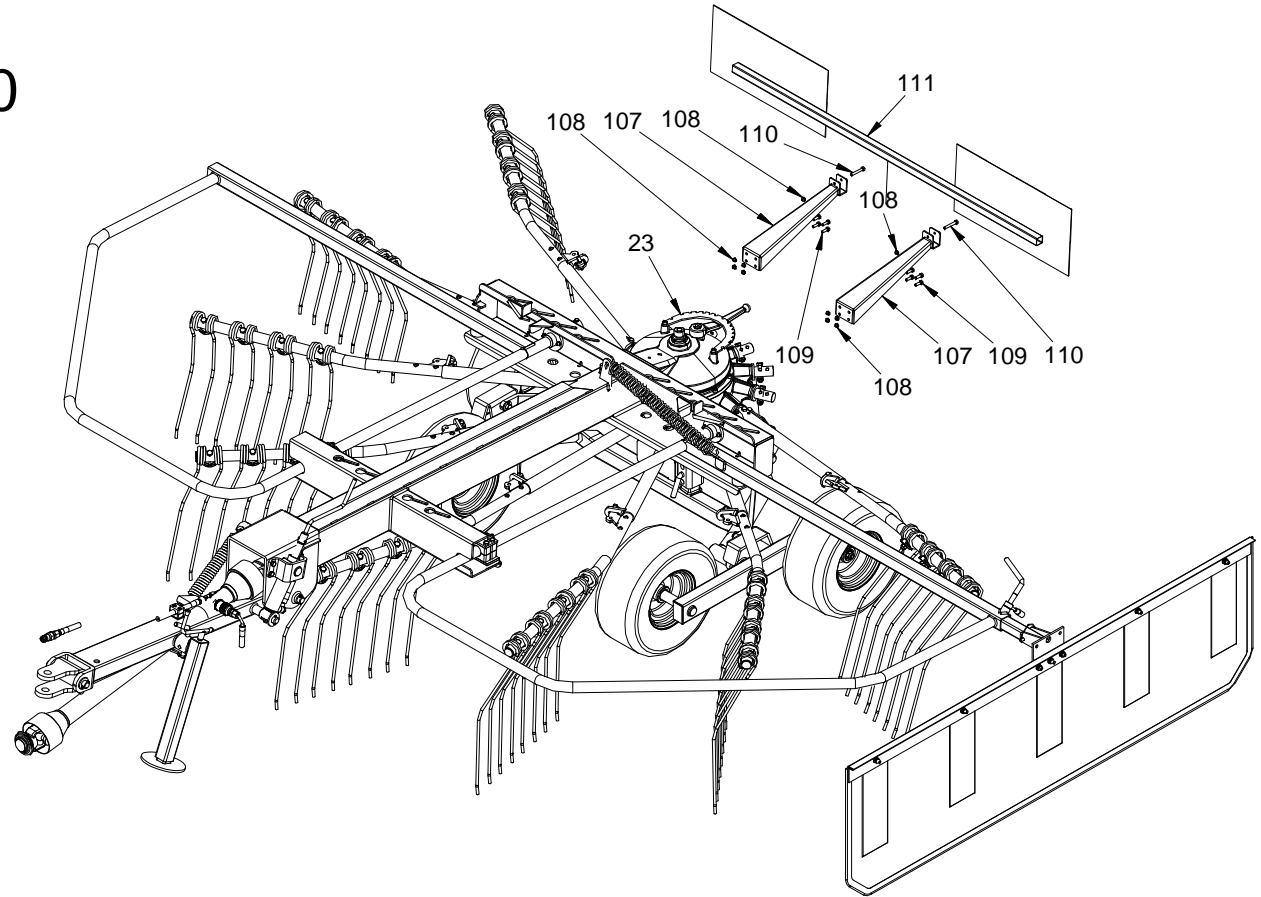
limiter



Assembly instruction N°10 - pull-type/mounted version (assembly of the rear signalling kit) OPTIONAL

1) mount the two tandem support brackets for the signalling panels, Pos. 107, at the rear of the main frame. Tighten with T.E. screws M 8x25 and self-locking nuts M 8. Insert the signalling bar Pos. 97 in the brackets Pos. 107 and fix with T.E. screws M 8x55 Pos. 110 and M 8 self-locking nuts Pos. 108.

IM10





Spare parts

When ordering spare parts please make photostats of this order form, fill out and mail or fax it directly to us at this address:

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To ensure prompt assistance and replacement of parts always supply below required information, thank you.

Company name			
Invoice address			
Country			
Destination of goods If different from above			
Pos.	Code number	Description	Quantity

Tavola 1 - Cod. 19010580 Telaio per modello trainato
 Table 1 - Code 19010580 Main frame pull type version

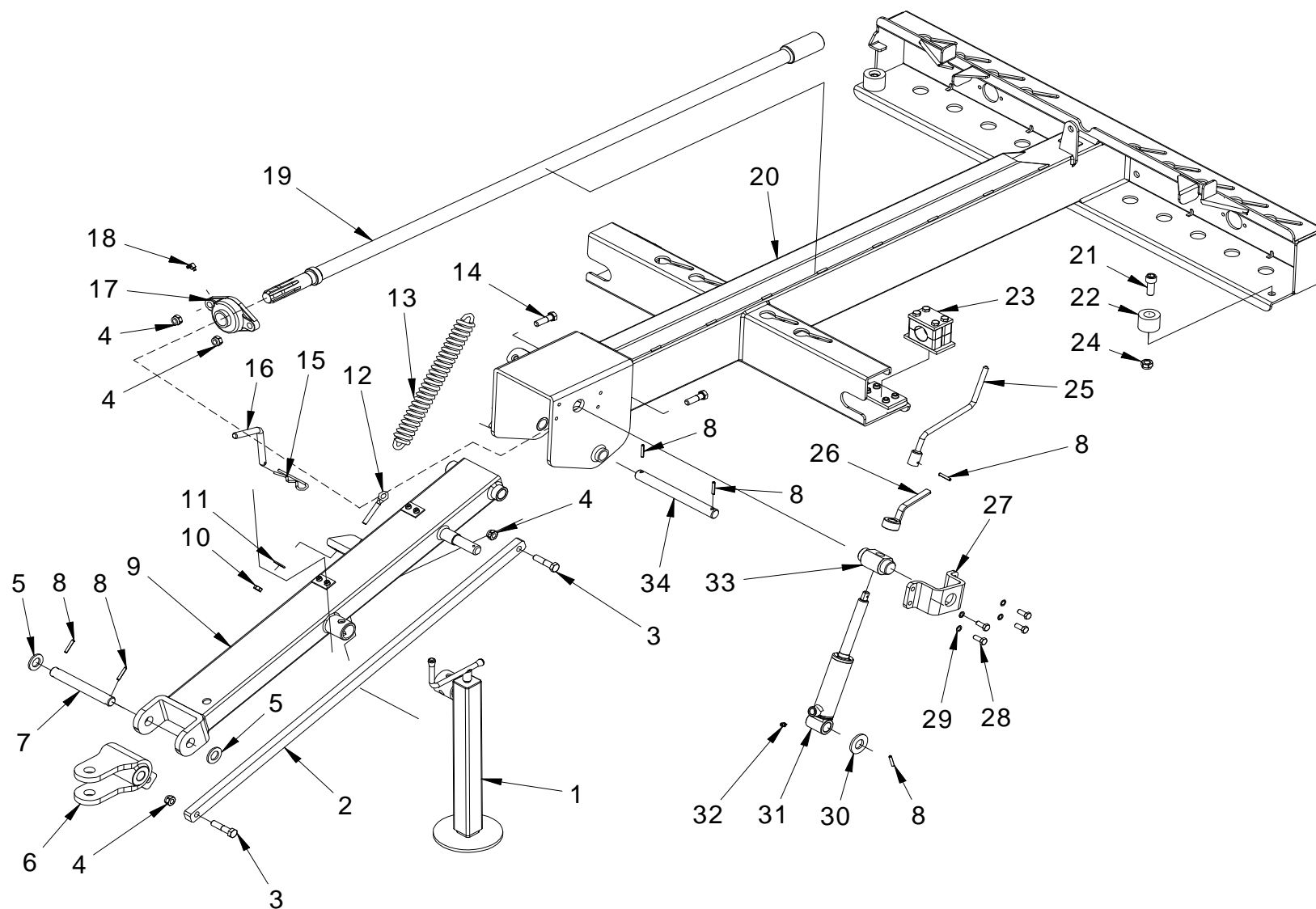




Tabella 1 - Cod. 19010580 Telaio per modello trainato

Table 1 - Code 19010580 Main frame pull type version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	17020129	Piedino	Jack support	
2	18032226	Asta di richiamo	Connecting bar	
3	3011202	Vite T.E. M14x60	Screw T.E. M14x60	
4	3020203	Dado autoblocc M14	Self locking nut M 14	
5	3030174	Rondella M24	Washer M 24	
6	18032227	Gancio	Hitch	
7	18032228	Spina Ø25x190	Pin Ø25x190	
8	3080102	Spina elastica Ø6x36	Spring pin Ø6x36	
9	18032229	Timone	Pull bar	
10	3020328	Dado M10	Nut M10	
11	3030169	Rondella M10	Washer M10	
12	3220201	Anello tenditore	Ring	
13	11010501	Molla	Spring	
14	3011265	Vite T.E. M14X50	Screw M14x50	
15	3040202	Coppiglia tipo R 5x100	Clip pin 5x100	
16	12120104	Spina Ø15x198	Roll pin Ø15x198	
17	12250027	Supporto snodato	Support	
18	3090108	Ingrassatore 90°	Grease 90°	
19	18032230	Albero di trasmissione	Shaft	
20	18032231	Telaio	Frame	
21	3010660	Vite TCEI M16x40	Screw TCEI M16x40	
22	18032232	Molla forata	Drilled spring	
23	12980005	Base collare	Screw neck	
24	3020204	Dado autoblocc. M16	Self locking nut M16	
25	18032233	Vite reg. martinetto timone	Handle	
26	18032234	Ghiera di bloccaggio	Ring nut	
27	18032235	Staffa martinetto timone	Clamp	
28	3011211	Vite T.E. M10x25	Screw T.E. M10x25	
29	3030701	Rondella shnorr M10	Shnoor washer M10	
30	3030186	Rondella M26	Washer M26	
31	18032236	Cilindro	Hydraulic cylinder	
32	3090101	Ingrassatore M8x1	Grease zerk M8x1	
33	18032237	Chiocciola martinetto timone	Nut	
34	18032238	Spina di attacco Ø25x250	Pin M25x250	

Tavola 2 – cod. 19010581 Ruote tandem per versione trainata

Table 2 - Code 19010581 Tandem wheel - pull type version

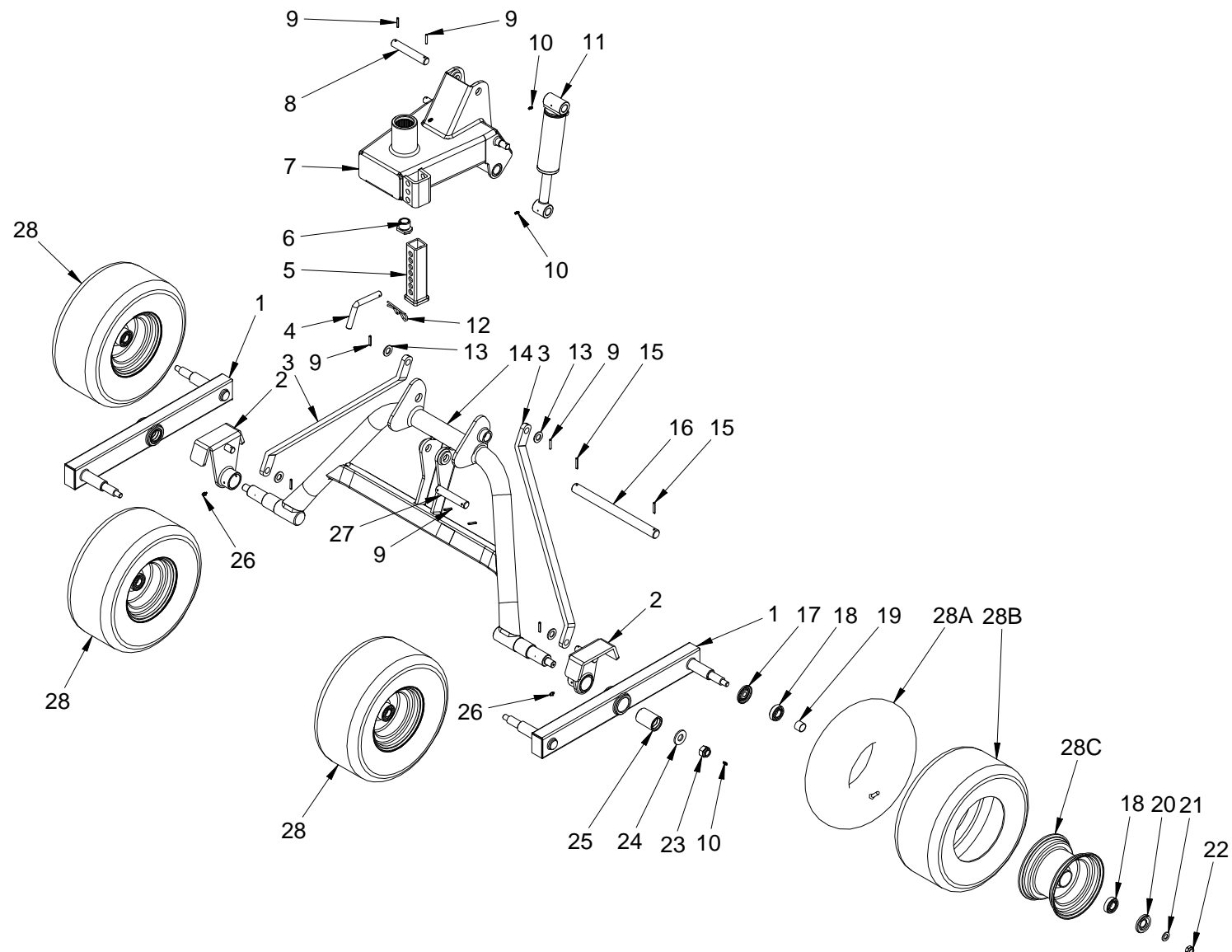




Tabella 2 – cod. 19010581 Ruote tandem per versione trainata
 Table 2 - Code 19010581 Tandem wheel - pull type version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	18032239	Tandem	Wheel axle	
2	18032240	Battuta per tandem	Axle stop bracket	
3	18032241	Braccio rinvio tandem	Wheel axle connecting bar	
4	18032284	Spina Ø18x182	Pin Ø18x182	
5	18032242	Battuta per assale tandem	Wheel axle stop shaft	
6	18032282	Boccola	Bushing	
7	18032243	Supporto rotore	Rotor support	
8	18032244	Perno Ø25x150	Pin Ø25x150	
9	3080102	Spina elastica Ø6x36	Roll pin Ø6x36	
10	3090102	Ingrassatore M6x1	Grease zerk M6x1	
11	18032245	Cilindro idraulico	Hydraulic cylinder	
12	3040202	Coppiglia a R 5x100	Clip pin R 5x100	
13	3030168	Rondella M20	Washer M20	
14	18032246	Assale tandem	Axle	
15	3080103	Spina elastica Ø6x40	Roll pin Ø6x40	
16	18032247	Perno Ø30x370	Pin Ø30x370	
17	12070315	Rondella esterna per ruota	Washer	
18	12240128	Cuscinetto 6205 2rs	Bearing 6205 2rs	
19	12070307	Distanziale	Spacer	
20	12070314	Rondella per ruota interna	Washer	
21	3030175	Rondella M17	Washer M17	
22	3020204	Dado autoblocc. M16	Self locking nut M16	
23	3020222	Dado autoblocc. M22	Self locking nut M22	
24	18032281	Rondella D. 50	Washer M22	
25	12071211	Boccola snodo tandem	Tandem bushing	
26	3090101	Ingrassatore M8x1	Greaser M8x1	
27	18032283	Perno Ø25x133	Pin Ø25x133	
28	12170111	Ruota completa di cuscinetti	Complete wheel	
28/A	12070362	Camera d'aria	Air tube	
28/B	12070361	Pneumatico	Tire	
28/C	12070360	Cerchio ruota	Wheel rim	

Tavola 3 – Cod. 19010582 Circuito idraulico per versione trainata
Table 3 - Code 19010582 Hydraulic circuit – pull type version

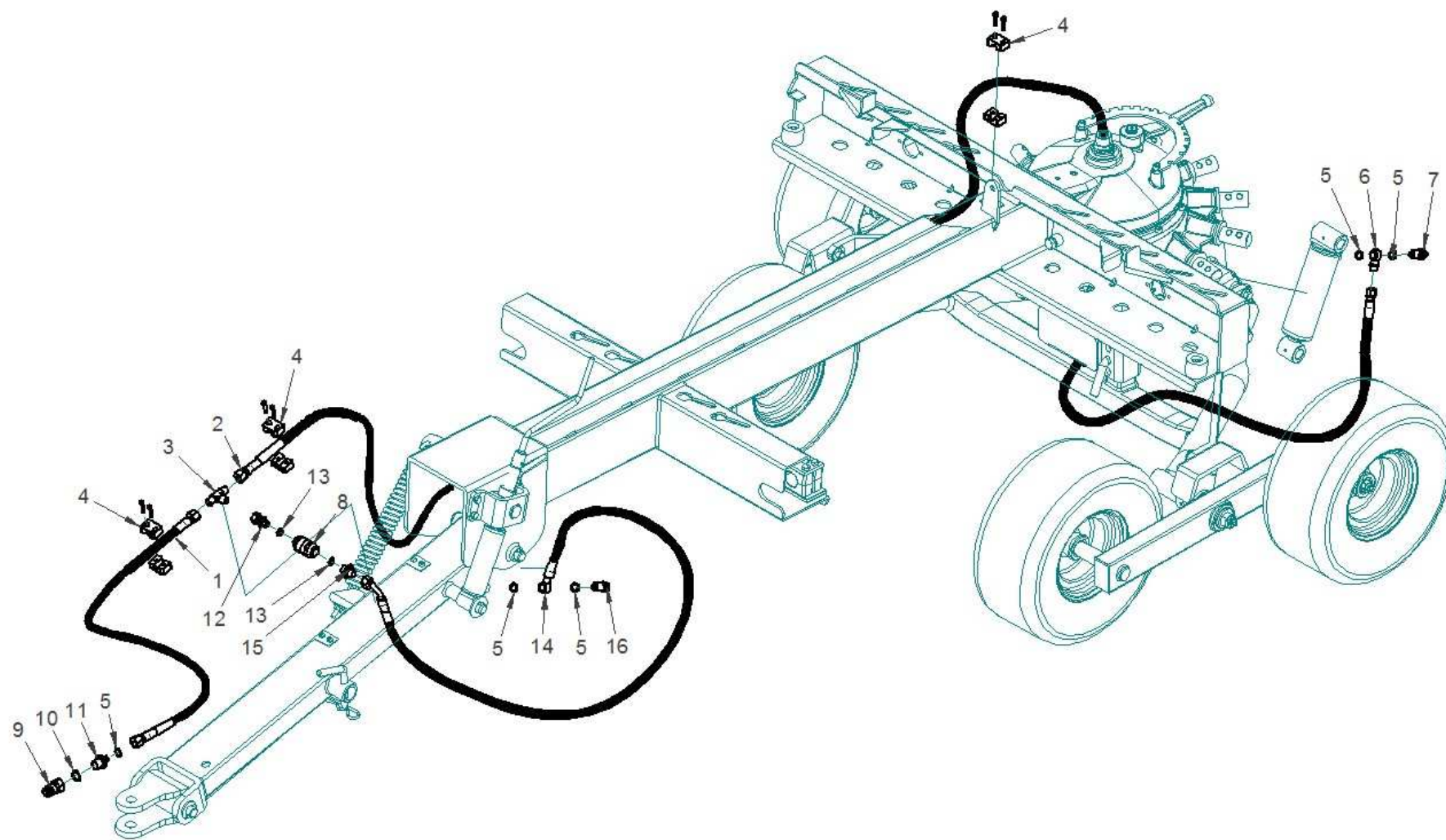




Tabella 3 – Cod. 19010582 Circuito idraulico per versione trainata
 Table 3 - Code 19010582 Hydraulic circuit – pull type version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	12760606	Tubo idraulico 5/16 L.2000 completo	Hydraulic hose 5/16 L.2000	
2	12760608	Tubo idraulico 5/16 L.3500 completo	Hydraulic hose 5/16 L.3500	
3	4010905	Raccordo a tre vie	3 way Pipe	
4	12980005	Mezzo collare	Neck	
5	3030403	Rondella rame 3/8	Copper washer 3/8	
6	4010944	Raccordo ad occhio filettato	Pipe fitting	
7	4021503	Vite strozzatrice	Screw 3/8	
8	4021203	Valvola regolatrice	Regulation valve	
9	4011804	Innesto rapido	Quick coupler push pull 1/2	
10	3030402	Rondella rame ½	Copper washer ½	
11	4010206	Nipplo di riduzione	Male nipple	
12	4010946	Riduzione girevole	Reduction	
13	3030406	Rondella rame ¼	Copper washer ¼	
14	12760607	Tubo idraulico martinetto timone L.300	Hydraulic hose L.300	
14/A	12760609	Tubo idraulico martinetto timone L.300 completo	Hydraulic hose L.300	
15	4010218	Nipplo 3/8	Nipple 3/8	
16	3011605	Vite forata 3/8	Screw 3/8	

Tavola 4 – Cod. 19010583 cilindro idraulico tandem per versione trainata
Table 4 - Code 19010583 Hydraulic cylinder – pull type version

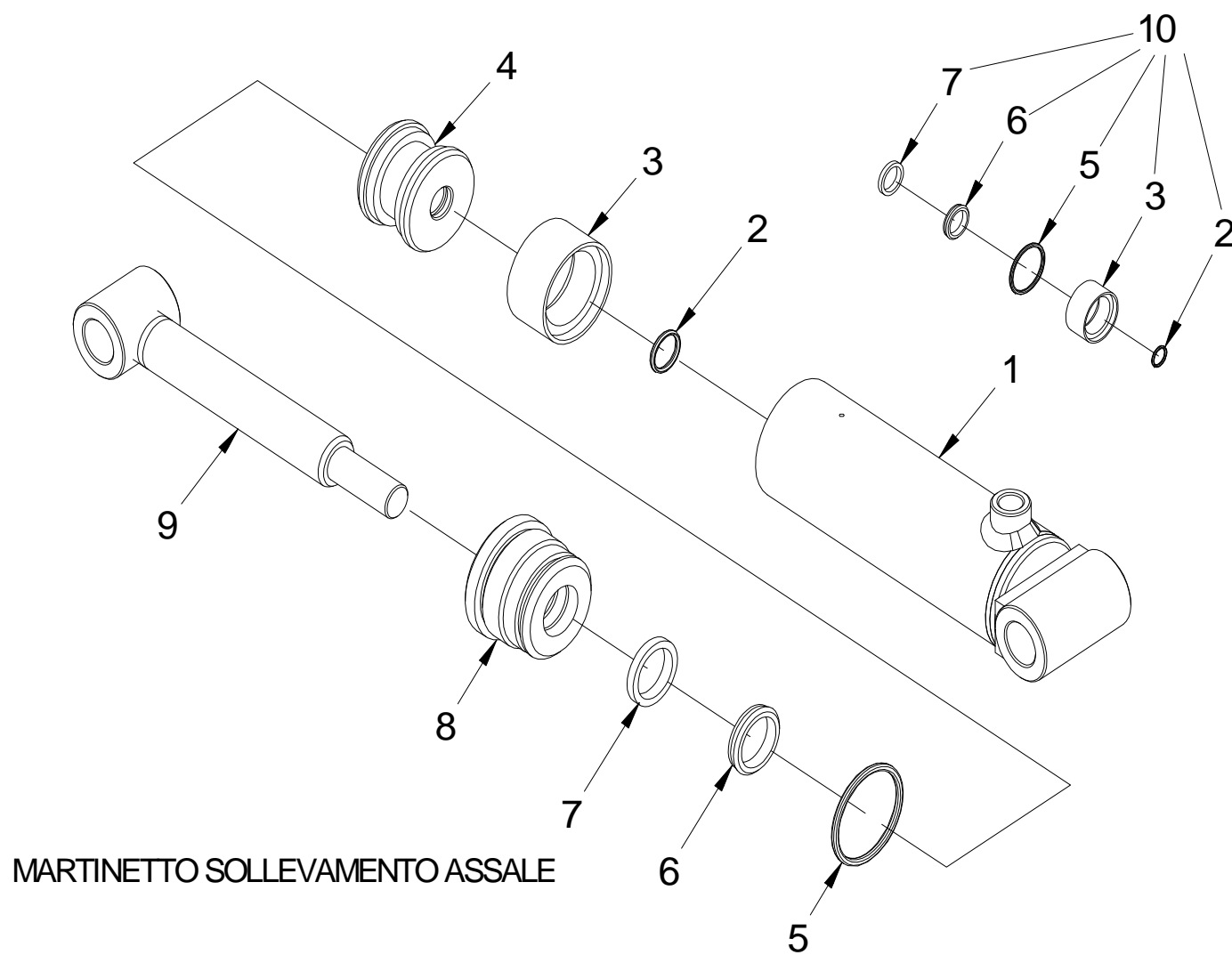


Tabella 4 - Code 19010583 Hydraulic cylinder – pull type version

[illegible]

Tavola 5 – Cod. 19010584 cilindro idraulico timone per versione trainata
Table 5 - Code 19010584 Hydraulic cylinder (hitch side) – pull type version

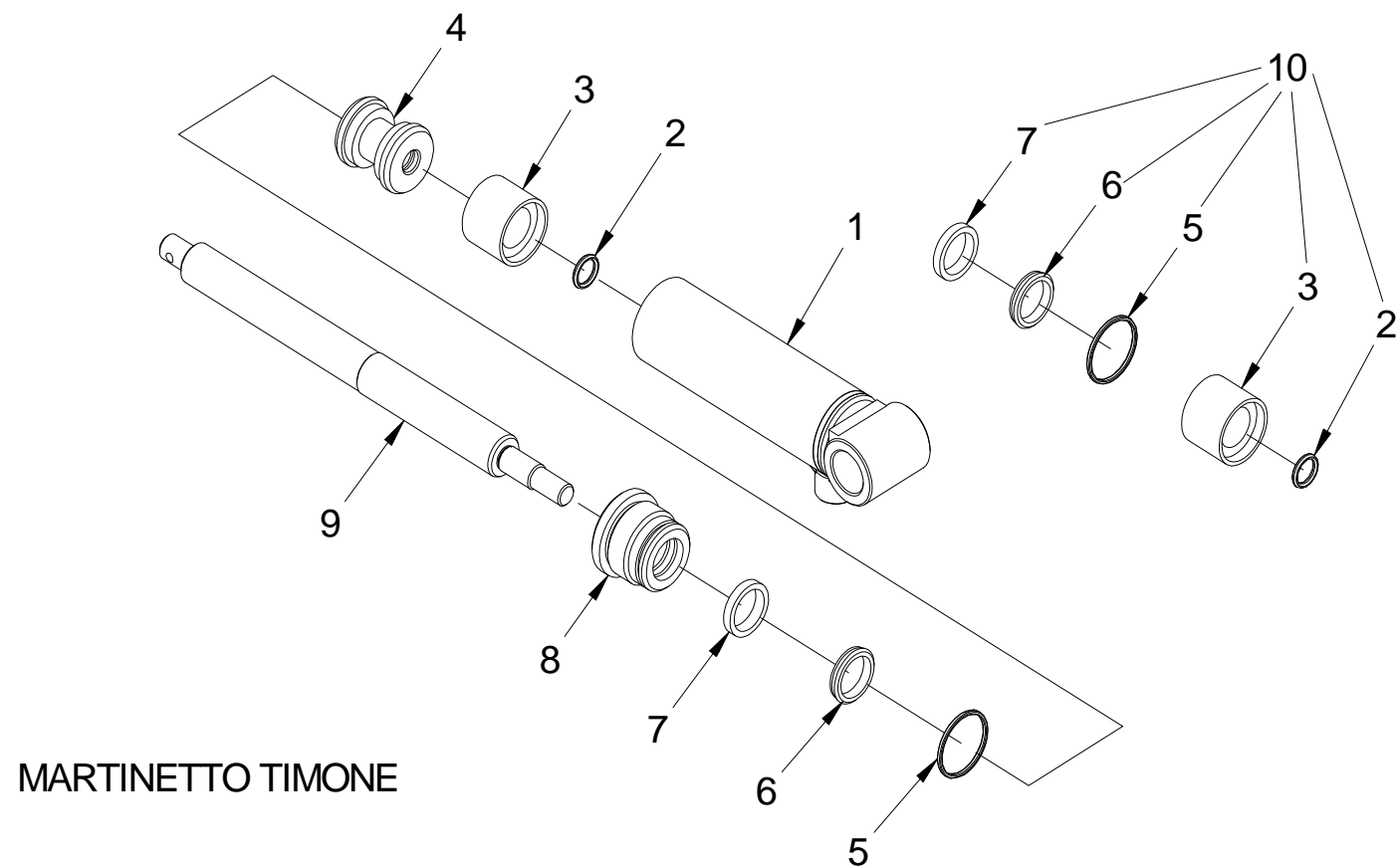




Tabella 5 – Cod. 19010584 cilindro idraulico timone per versione trainata
 Tabella 5 - Code 19010584 Hydraulic cylinder (hitch side) – pull type version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	18232251	Cilindro	<i>Cylinder lyner</i>	
2		O-ring 616	<i>Toroidal ring OR616</i>	
3		Balmaster	<i>Balmaster</i>	
4	12770216	Pistone 0706020	<i>Piston 0706020</i>	
5		Anello toroidale OR219	<i>Toroidal ring OR219</i>	
6		Balsele	<i>Gasket</i>	
7		Raschiatore	<i>Scraper</i>	
8	12770215	Testata di guida 0304025	<i>Guide 0304025</i>	
9	18032252	Stelo	<i>Shaft</i>	
10	18032253	Kit guarnizioni	<i>Seal kit</i>	

Tavola 1 – Cod. 19010585 attacco terzo punto per versione portata

Table 1 - Code 19010585 Hitch – 3 point hitch version

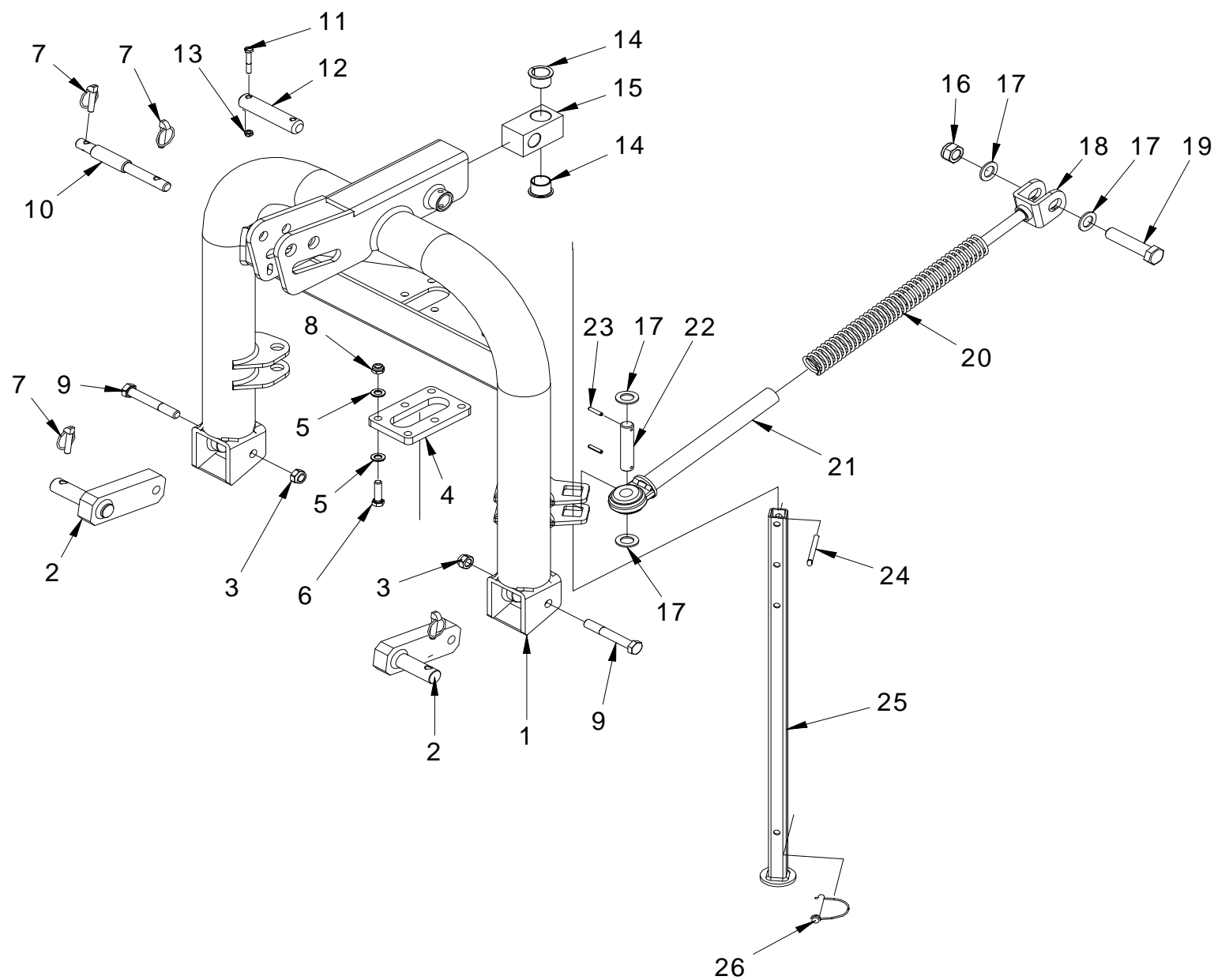




Tabella 1 – Cod. 19010585 attacco terzo punto per versione portata

Table 1 - Code 19010585 Hitch – 3 point hitch version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	18032254	Attacco a tre punti	Three point hitch	
2	18031422	Perno con staffa	Pin bracket	
3	3020204	Dado autoblocc. M16	Self locking nut M16	
4	18032255	Piastra per snodo	Plate	
5	3030162	Rondella M12	Washer M12	
6	3011707	Vite T.E. M12x45	Screw M12x45	
7	3080202	Spina a scatto Ø10	Spring pin D.10	
8	3020202	Dado autoblocc. M12	Self locking nut M12	
9	3010408	Vite T.E. M16x110	Screw T.E. M16x110	
10	12310115	Perno attacco 3° punto	3 RD point hitch pin	
11	3011692	Vite T.E. M8x50	Screw T.E. M8x50	
12	18032256	Perno snodo Ø28x138	Pin Ø28x138	
13	3020209	Dado autoblocc. M8	Self locking nut M8	
14	12240237	Boccola di strisciamento	Bushing	
15	18032257	Supporto snodato	Support	
16	3020222	Dado autoblocc. M22	Self locking nut M22	
17	3030176	Rondella M22	Washer M22	
18	18032258	Asta con staffa	Shaft with bracket	
19	3011698	Vite T.E. M22x100	Screw T.E. M22x100	
20	11010536	Molla a compressione	Spring	
21	18032259	Asta con snodo	Swiveling shaft	
22	12880953	Perno di snodo	Pin	
23	3080109	Spina elastica Ø6x30	Spring pin Ø6x30	
24	3040117	Coppiglia 8x80	Split pin	
25	18032260	Piede di appoggio	Standt	
26	3080204	Spina D.10	Pin D.10	

Tavola 2 – Cod. 19010586 telaio principale per versione portata
 Table 2 - Code 19010586 Main frame – 3 point hitch version

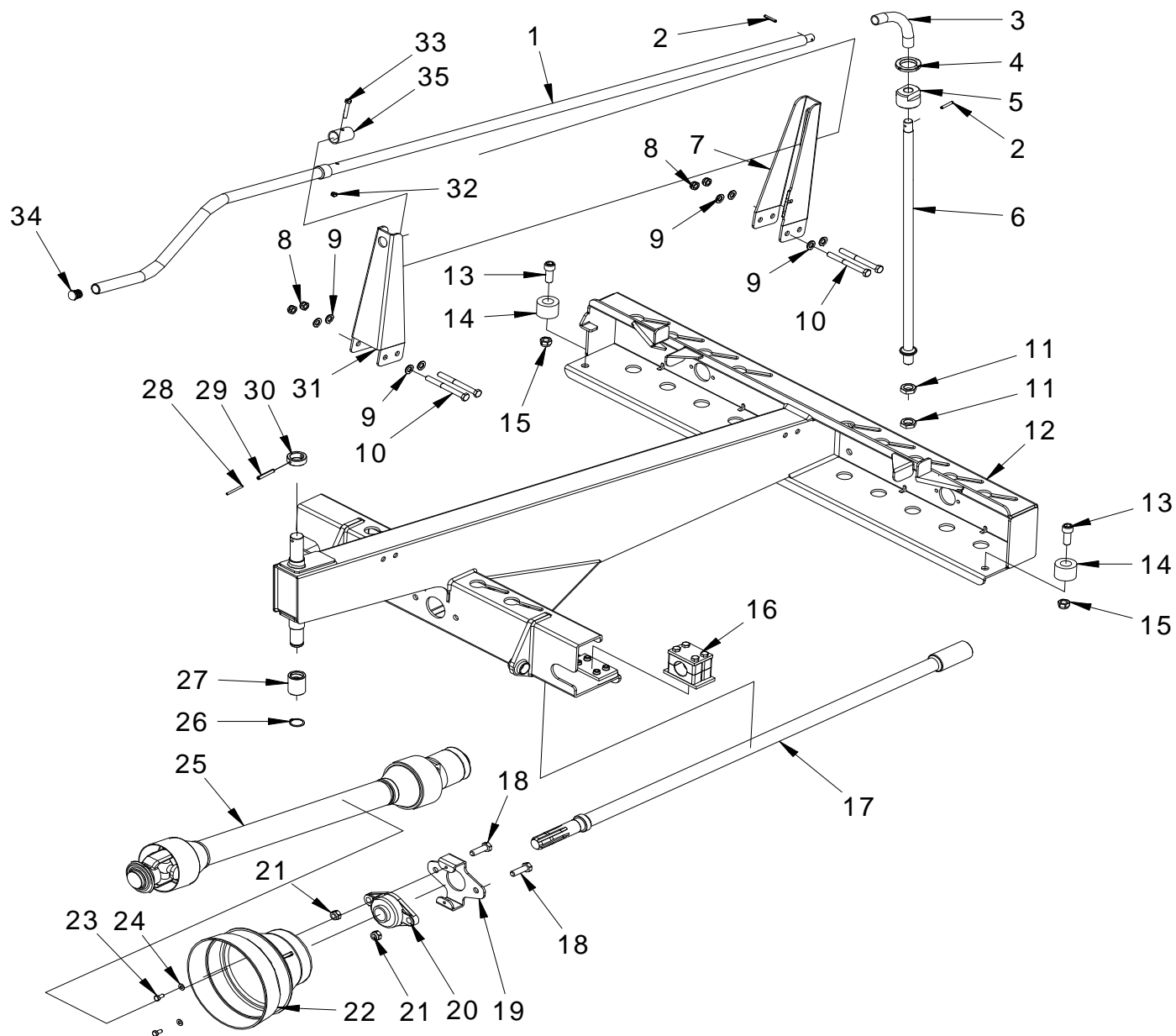




Tabella 2 – Cod. 19010586 telaio principale per versione portata

Table 2 - Code 19010586 Main frame – 3 point hitch version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	18032261	Asse regolazione altezza	Regulation axle	
2	3080102	Spina elastica Ø6x36	Roll pin Ø6x36	
3	8020703	Giunto	Joint	
4	3180015	Ghiera M40x1.5	Ring nut M40x1.5	
5	12880567	Fermo per ghiera	Ring nut stop	
6	18032262	Vite di regolazione	Regulation screw	
7	18032263	Montante post. Asse regolaz. altezza	Support	
8	3020202	Dado autoblocc. M12	Self locking nut M12	
9	3030162	Rondella M12	Washer M12	
10	3011247	Vite T.E. M12x120	Screw T.E. M12x120	
11	3020358	Dado M22x1.5	Nut M22x1.5	
12	18032264	Telaio	Frame	
13	3010660	Vite TCEI M16x40	Screw TCEI M16x40	
14	18032232	Molla	Spring	
15	3020204	Dado autoblocc. M16	Self locking nut M16	
16	3011277	Vite T.E. M10x80	Screw M10x80	
17	18032265	Albero di trasmissione	Shaft	
18	3011632	Vite T.E. M14x45	Screw T.E. M14x45	
19	1014105	Supporto controcuffia	Support	
20	12250027	Supporto snodato	Support	
21	3020203	Dado autoblocc. M14	Self locking nut M14	
22	9070103	Contro cuffia	Protection guard	
23	3011221	Vite T.E. M8x16	Screw T.E. M8x16	
24	3030156	Rondella M8	Screw M8	
25	8020443	Albero cardanico	Cardan shaft	
26	3120101	Anello elastico	Spring ring	
27	12071212	Boccola cementata	Bushing	
28	3080157	Spina elastica Ø5x50	Spring pin Ø5x50	
29	3080105	Spina elastica Ø8x50	Spring pin Ø8x50	
30	18032266	Boccola di fermo	Bushing stop	
31	18032267	Montante ant. Reg. altezza	Post	
32	3020209	Dado autoblocc. M8	Self locking nut M8	
33	3011258	Vite T.E. M8x45	Screw T.E. M8x45	
34	9190012	Puntale	Cap	
35	18032268	Boccola di bloccaggio	Bushing	

Tavola 3 – Cod. 19010587 Protezioni per versione trainata e portata
 Table 3 - Code 19010587 Protection guards 3 point hitch version - pull type version

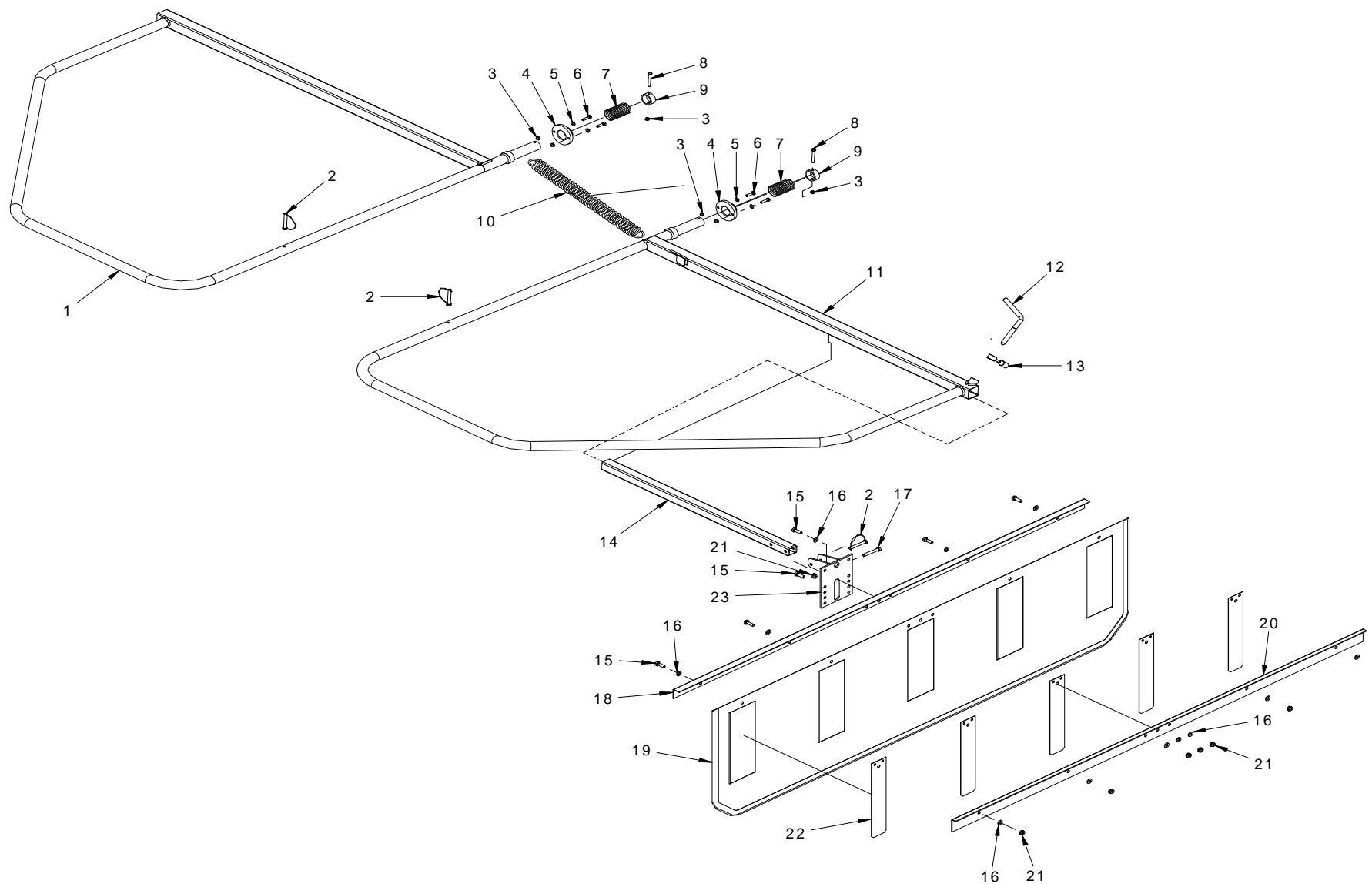




Tabella 3 – Cod. 19010587 Protezioni per versione trainata e portata
 Table 3 - Code 19010587 Protection guards 3 point hitch version - pull type version

POS.	CODICE	DESCRIZIONE	DESCRIPTION	MODEL
1	18032269	Protezione destra RR-450	<i>Right rear protect. Guard RR-450</i>	
1/A	18032270	Protezione destra RR-400	<i>Right rear protect. Guard RR-400</i>	
2	3080204	Spina D.10	<i>Pin D.10</i>	
3	3020209	Dado autoblocc. M8	<i>Self locking nut M8</i>	
4	18032271	Boccola snodo	<i>Bushing</i>	
5	3030156	Rondella M8	<i>Washer M8</i>	
6	3010780	Vite T.E. M8x30	<i>Screw T.E. M8x30</i>	
7	11010537	Molla di protezione	<i>Protection spring</i>	
8	3011616	Vite T.E. M8x60	<i>Screw T.E. M8x60</i>	
9	18032286	Fermo molla	<i>Spring</i>	
10	11010534	Molla di richiamo	<i>Spring</i>	
11	18032272	Protezione sinistra RR-450	<i>Left rear protect. Guard RR-450</i>	
11/A	18032273	Protezione sinistra RR-400	<i>Left rear protect. Guard RR-400</i>	
12	18032285	Maniglia filettata	<i>Pin Ø16x250</i>	
13	18032274	Vite regolaz. Tubolare bandella	<i>Regulation screw</i>	
14	18032275	Tubolare portabandella	<i>Deflector curtain bar</i>	
15	3011206	Vite T.E. M10x30	<i>Screw T.E. M10x30</i>	
16	3030159	Rondella M10	<i>Washer M10</i>	
17	3010756	Vite T.E. M10x70	<i>Screw T.E. M10x70</i>	
18	18031471	Porta bandella interno	<i>Internal deflector curtain</i>	
19	12881029	Bandella	<i>Deflector</i>	
20	18031472	Porta bandella esterno	<i>Internal deflector curtain</i>	
21	3020201	Dado autoblocc. M10	<i>Self locking nut M10</i>	
22	11010702	Lamella di rinforzo	<i>Plastic stripes</i>	
23	18032276	Cerniera attacco bandella	<i>Deflector curtain fast. plate</i>	

Tavola 4 – cod. 19010588 ruote tandem per versione portata
 Table 4 - Code 19010588 Tandem wheel – 3 point hitch version

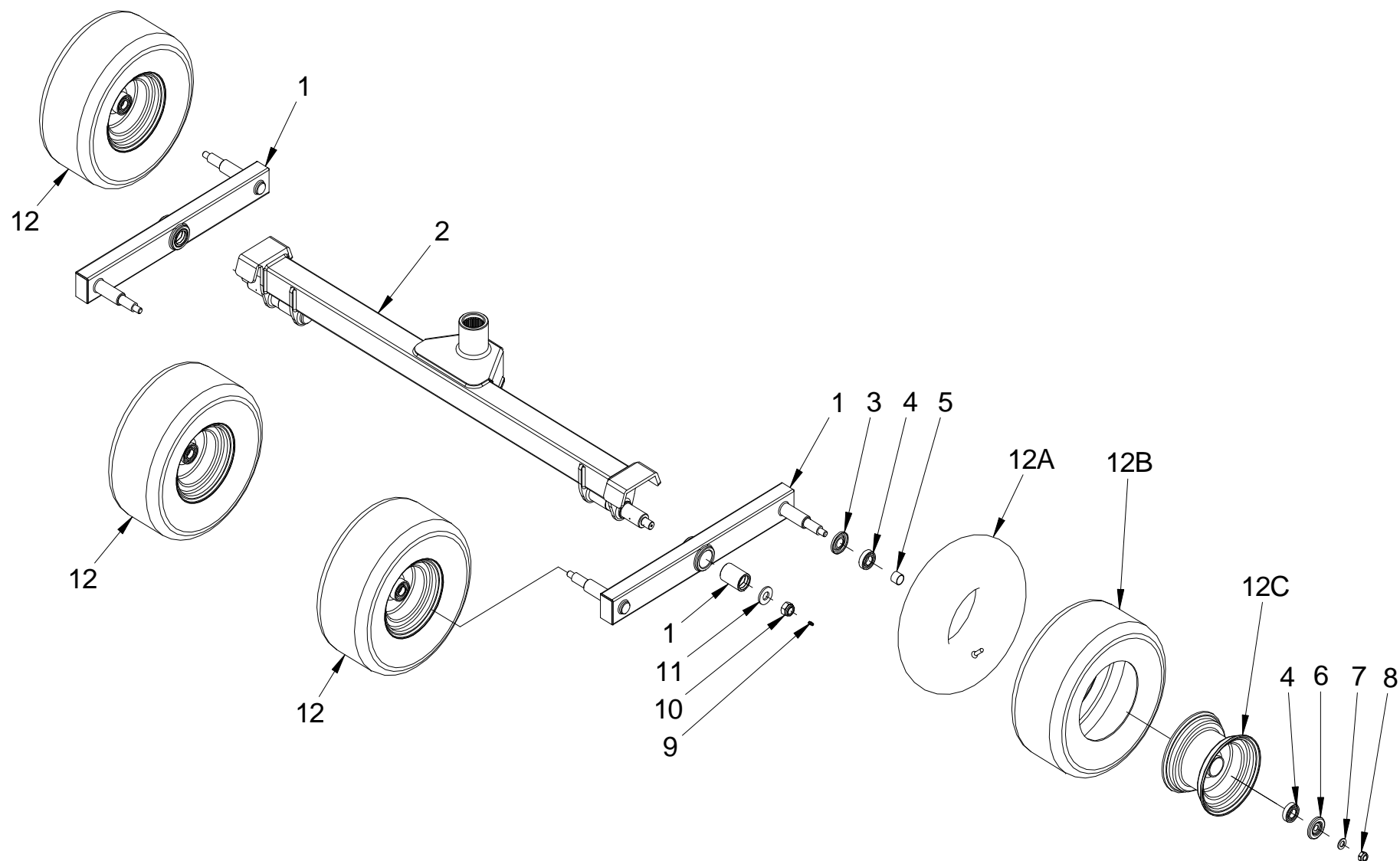


Tabella 4 – cod. 19010588 Ruote tandem per versione portata
Table 4 - Code 19010588 Carrello tandem per modello portato

[illegible]

Tavola 5 – Cod. 19010589 Braccetti (RR-400/450EVO) per versione trainata e portata
Table 5 - Code 19010589 Arms (RR-400/450EVO) 3 point hitch version - pull type version

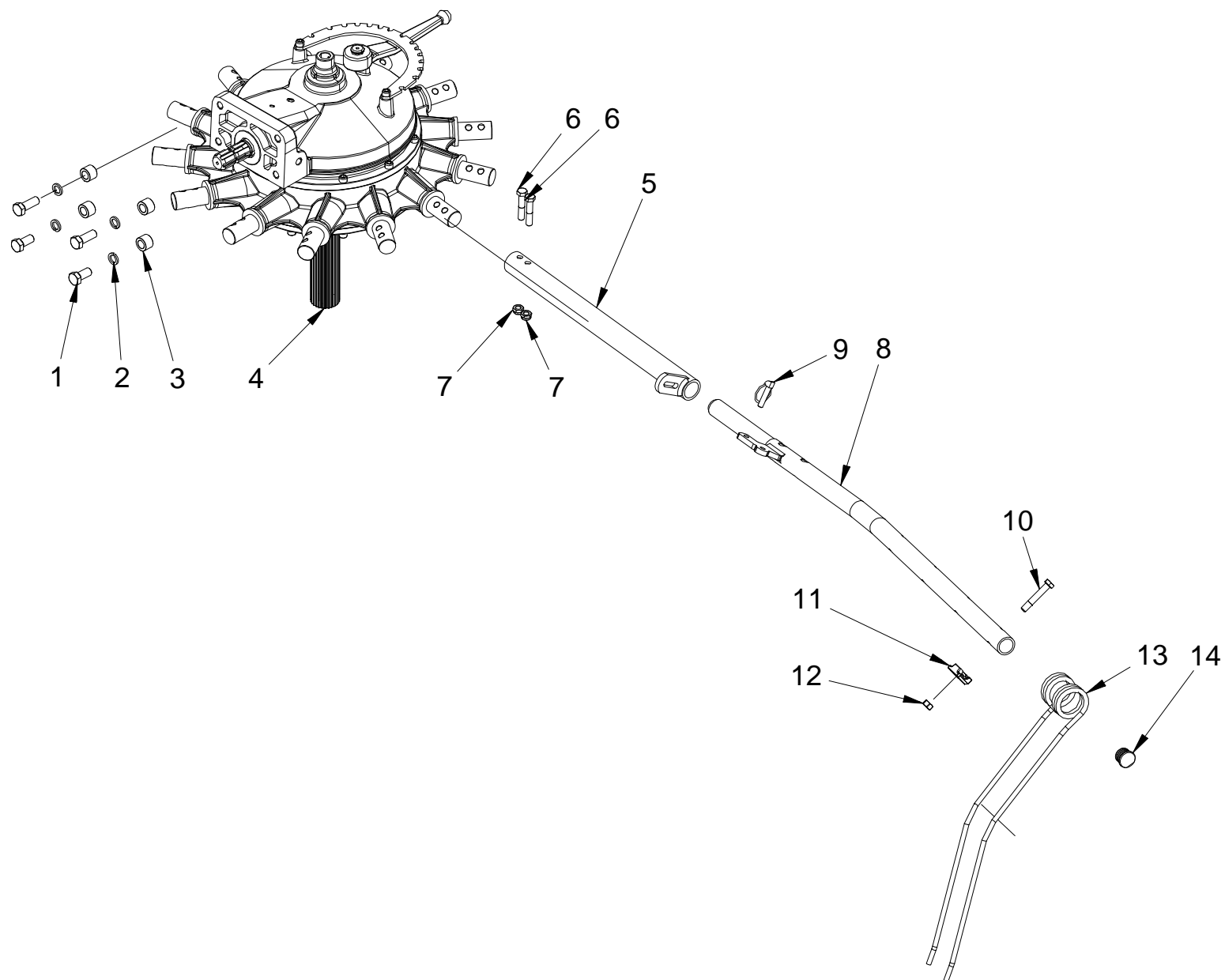




Tabella 5 – Cod. 19010589 Braccetto porta molla (RR-400/450EVO) per versione trainata e portata
Table 5 - Code 19010589 Arms (RR-400/450EVO) 3 point hitch version - pull type version

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