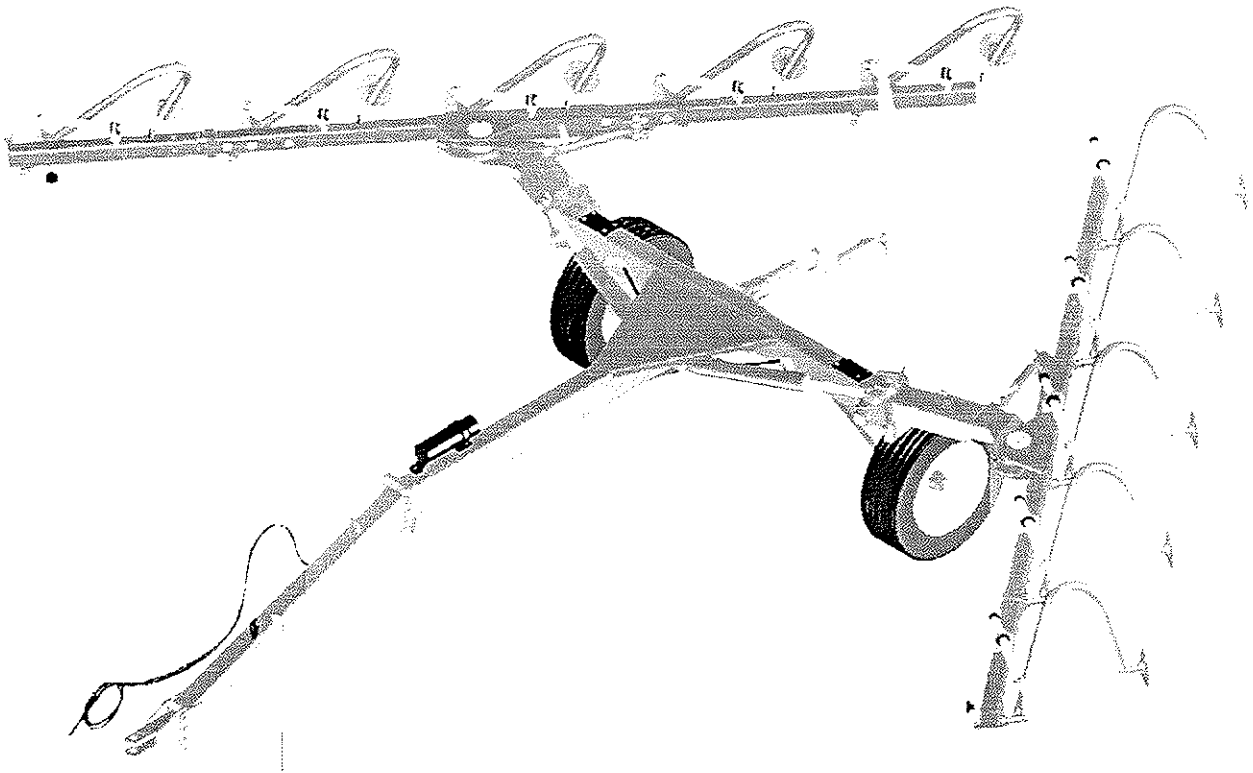




AGRICULTURAL MACHINERY  
**sitrex**®

**ASSEMBLY  
USE AND MAINTENANCE  
SPARE PARTS LIST**



**QR / 8-10-12**

Spare parts should be ordered with serial number

FROM 01/2011

# Warranty

On delivery, check that the machine has not been damaged during transport and that all the attachments are present. Claims must be made in writing to the agent within 8 days of receipt.

The manufacturer warrants new machinery at the time of delivery to the original purchaser to be free from defects in material and workmanship if properly set up and operated in accordance with this Operator's Manual.

The manufacturer undertakes to repair or replace free of charge any defective part which should be returned by the purchaser (freight prepaid) and found to be defective by inspection authorized by the manufacturer during the warranty period.

This warranty will be valid for 12 (twelve) months from the delivery of goods to the original purchaser .

In case the customer is not in a position to return the defective part to the manufacturer , the manufacturer cannot be held responsible for any cost due for repair or replacement of any part of the machine , he will only supply the part(s) required for the repair and/or replacement.

The warranty is null and void when it is evident that the machine has been improperly used or however repaired without authorization.

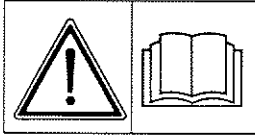
The manufacturer undertakes no responsibility for any obligation or agreement reached by any employers, agents or dealers, which are not in compliance with the above warranty . The manufacturer cannot be held responsible for the consequent damages. This warranty substitutes any other warranty , express or implied , and any other manufacturer's obligation.

**NOTE:** ALL WARRANTY WORK OR REPAIRS MUST BE APPROVED BY THE MANUFACTURER BEFORE WORK BEGIN. ANY WORK OR REPAIRS MADE BEFORE APPROVAL MAY NOT BE COVERED UNDER WARRANTY. PLEASE NOTIFY YOUR SALES & SERVICE DEPARTMENT OF THIS POLICY.

## ***TABLE OF CONTENT:***

- 1) GENERAL INSTRUCTIONS
- 2) GUIDE TO THE SIGNS AND SYMBOLS
- 3) PRODUCT IDENTIFICATION
- 4) DELIVERY AND ASSEMBLY INSTRUCTIONS
- 5) ADJUSTMENTS FOR MACHINE USE
- 6) TRANSPORT BY ROAD
- 7) GENERAL MAINTENANCE INSTRUCTIONS
- 8) SPARE PARTS LIST

## ***1) General instructions for the operation and maintenance***



**Read all the directions carefully before using the machine. When in doubt, seek advice from the manufacturers. The manufacturing company declines all responsibility for non-compliance with the following safety and accident-prevention instructions.**

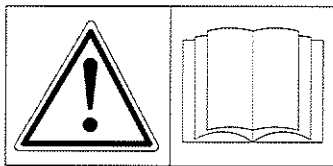
- 1- Pay attention to the danger signs and symbols in this manual and on the machine.
- 2- Do not touch moving parts.
- 3- All work on the machine (including adjustments) must always be carried out with the tractor immobilized and the engine switched off.
- 4- It is strictly prohibited to carry persons or objects on the machine and/or on the tractor.
- 5- Driving the tractor with the machine connected is absolutely forbidden to persons lacking suitable experience, or who are in poor health, or who do not have a suitable driving license.
- 6- All accident-prevention measures recommended in this manual should be scrupulously observed.
- 7- When a machine is attached to the tractor, always evaluate the suitability of the tractor for the purpose, in order to work safely. Keep in mind that when a machine is attached to the tractor – even if it is a towed type – it alters the tractor's stability, and therefore all the necessary precautions must be taken (ballast, tire pressure, etc.).
- 8- Before operating the tractor and machine, check that all transport and operational safety devices are complete and working.
- 9- When driving on public roads, you should comply with the Highway Code regulations for the country concerned.
- 10- Before starting work, familiarize yourself with the control devices and how they work.
- 11- Wear suitable clothes. Do not wear clothing which is loose or which could become entangled in rotating or moving parts.
- 12- Never leave the driving seat when the tractor is running.
- 13- It is extremely important to appreciate that road holding, steering and braking may be significantly affected with the machine attached.
- 14- Before connecting unit, stop the engine, apply the parking brake and remove the ignition key from the instrument panel.
- 15- Spare parts must meet the requirements as defined by the manufacturer. Use only original spare parts.
- 16- Safety decals must always be clearly visible. They must be kept clean and replaced if they become too illegible (they can be ordered from the agent if necessary).

## 2) Guide to the signs and symbols used on the machine

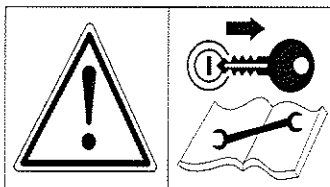
### IMPORTANT

These signs and symbols give information to the operator on how to make the best use of the machine so as to prolong life, avoid damage, optimise work and, above all, to avoid injury to the operator and anyone within range of the machine. Note well: most of the symbols that you will find below are located on the machine, but some are only in this manual and indicate how to act or what must be done during assembly, when maintenance or repairs are being done, etc..

### WARNING SIGNS



1) Before beginning operations, read the instruction manual carefully.

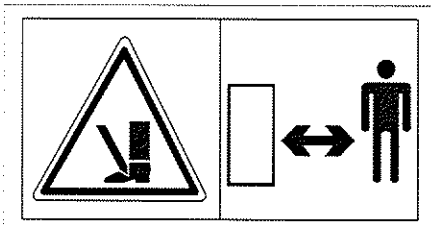


2) Before doing any maintenance or repair work, stop the machine at a suitable spot. Turn off the tractor motor, apply the brake, remove the key from the ignition and consult this manual.

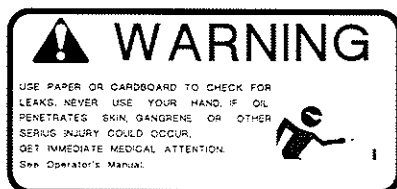
### DANGER SIGNS



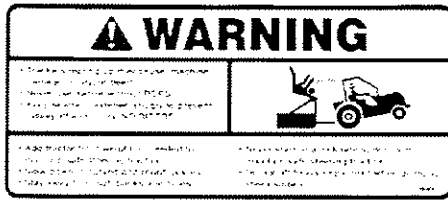
3) Warns against potential serious danger of hands being crushed.  
Keep away.



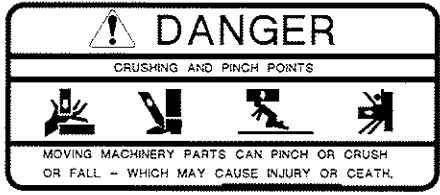
4) Warns against potential serious danger of injury to the feet.  
Keep away.



5) Use paper or cardboard to check for and/or clean any leaks from cylinders and oleo dynamic components in general. Never touch with bare hands, as it is harmful to the skin.

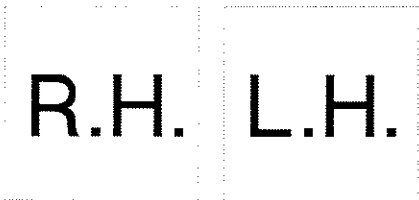


6) Warns against the potential and serious dangers to the driver and/or other persons who are near or on the machine or tractor when the tractor is used improperly and/or incautiously.



7) Summarizes all the potential and serious dangers that one risks when working improperly on the machine during assembly, use, maintenance or repair.

**SYMBOLS FOR INDICATIONS AND/OR RULES**



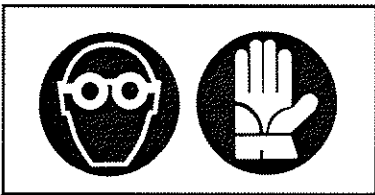
8) Indicates the components to be assembled on the right or left side of the machine. The R and L sides of the machine are usually determined by standing behind the machine and looking forward.



9) Indicates the maximum speed during transport (19 MPH - 30 Km/h)

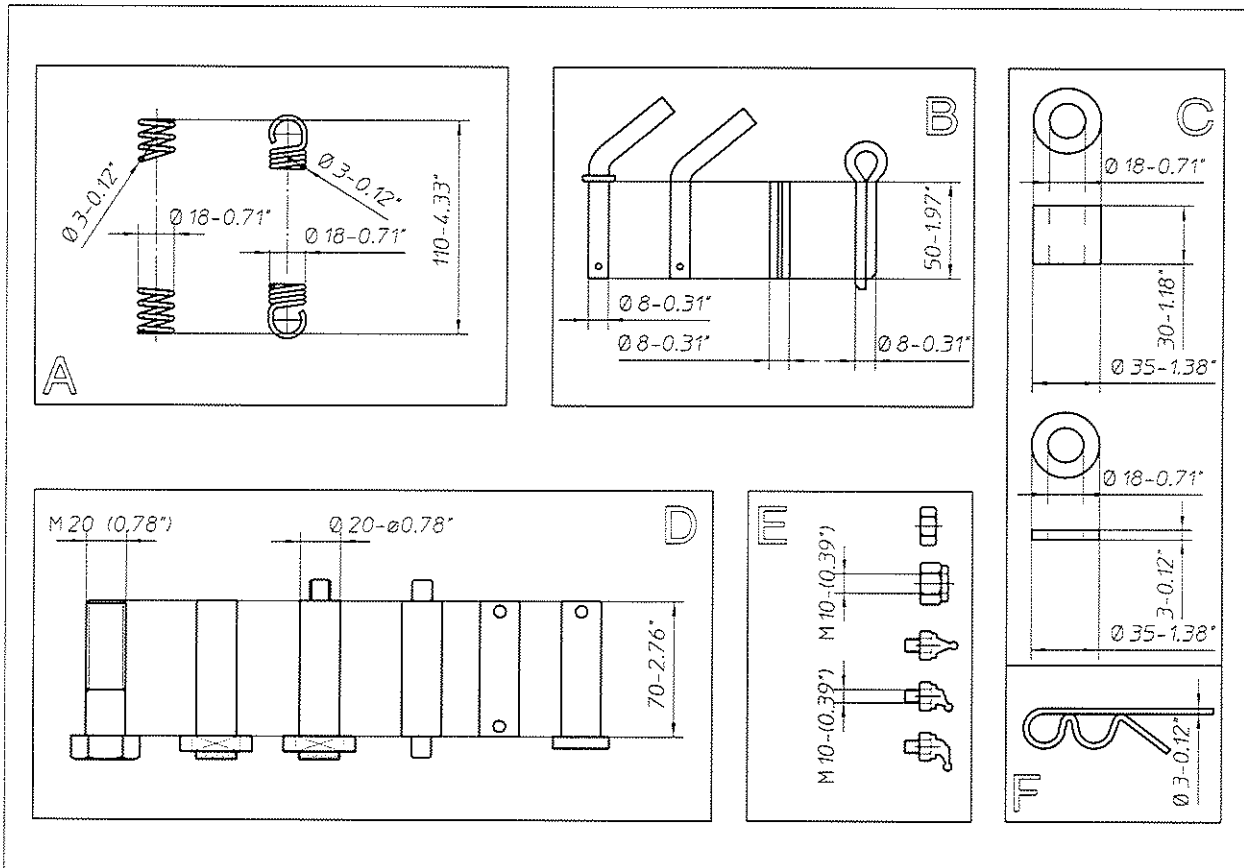


10) Indicates a greasing point.



13) Recommends working with suitable clothing and/or protection during assembly, use, maintenance and repair.

**Examples of general measurements for identifying the assembly accessories based on type.**



When tightening the bolts refer to the tightening torque table (the class of the material is generally stamped on the head of the bolts).

**MINIMUM HARDWARE TIGHTENING TORQUES**  
 IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS  
**METRIC NON-FLANGED HARDWARE AND LOCKNUTS**

NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL 8 W/CL 8.8 BOLT
	UNPLATED	PLATED W:ZnCr	UNPLATED	PLATED W:ZnCr	UNPLATED	PLATED W:ZnCr	
M4	1.7 (15)*	2.2 (19)*	2.6 (23)*	3.4 (30)*	3.7 (33)*	4.8 (42)*	2.3 (20)*
M6	5.8 (51)*	7.6 (67)*	8.9 (79)*	12 (102)*	13 (115)*	17 (150)*	7.8 (69)*
M8	14 (124)*	18 (159)*	22 (195)*	28 (248)*	31 (274)*	40 (354)*	19 (169)*
M10	28 (241)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	38 (28)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	66 (49)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	184 (121)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	330 (243)
M24	411 (303)	531 (392)	646 (475)	838 (619)	897 (662)	1160 (855)	572 (422)

NOTE: Torque values shown with \* are inch pounds.

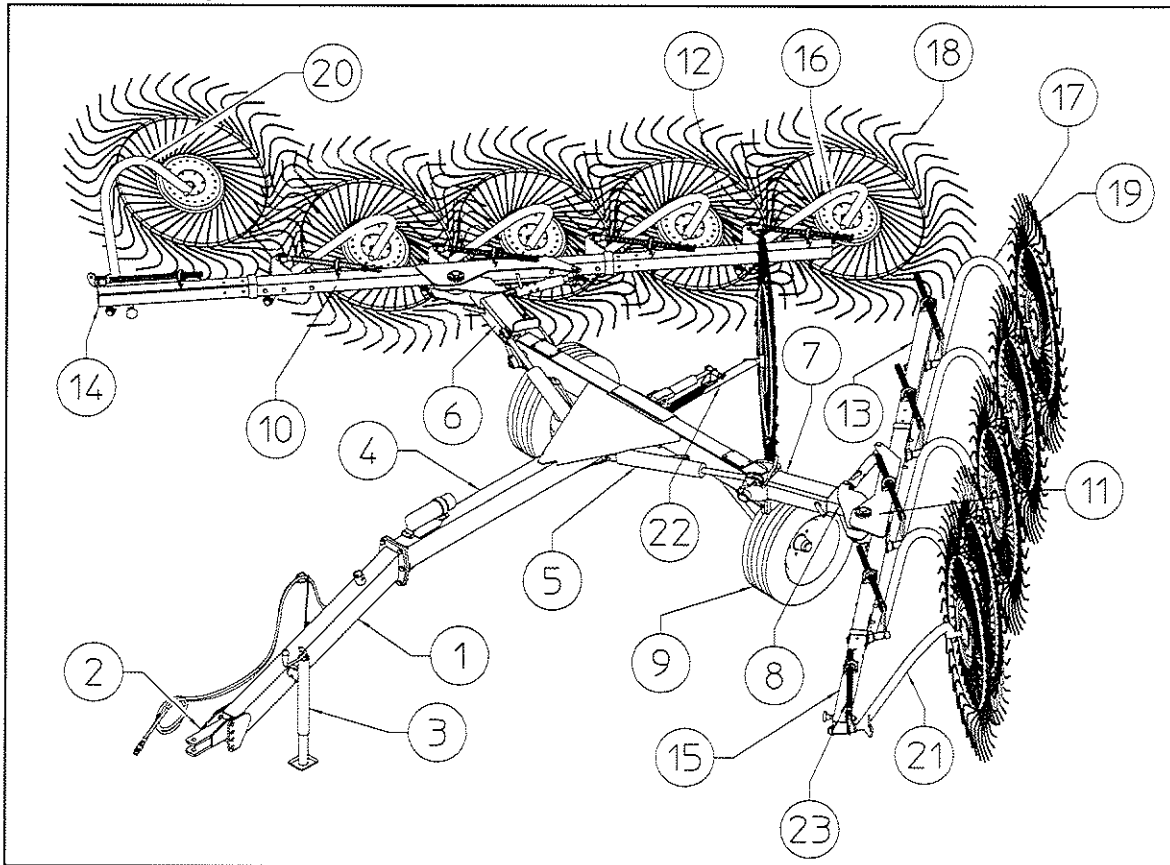
### 3) Product identification

Please write below the type and serial number of the machine. This information is to be provided to the dealer for all spare parts orders.

 <b>AGRICULTURAL MACHINERY</b> <b>sitrex</b> <sup>®</sup> <small>06018 TRESTINA-PERUGIA-ITALY s.r.l.</small> TEL.075-8540021 FAX 075-8540523	
SERIE <input type="text"/>	N° <input type="text"/>

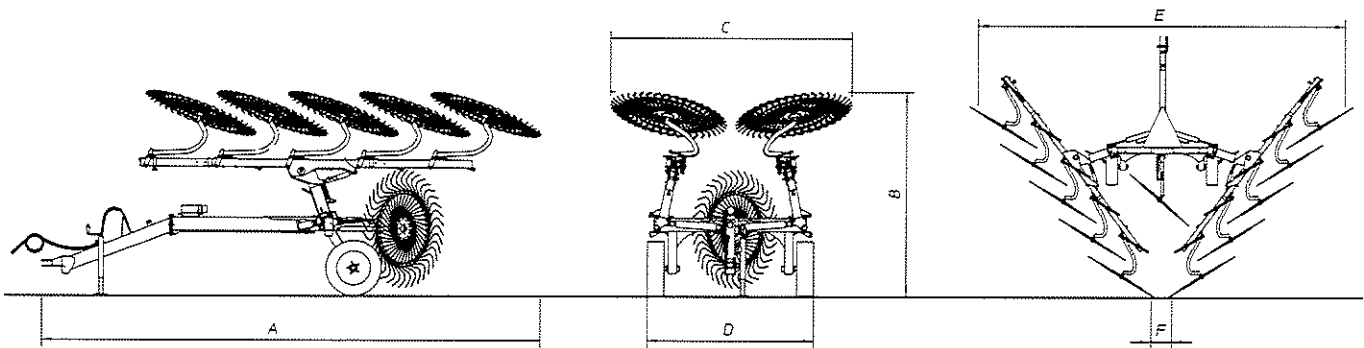
**Optional equipment**  
 Center wheel kit  
 Safety chain

### Machine Specifications



- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1) DRAWBAR</li> <li>2) BRACKET</li> <li>3) PARKING STAND</li> <li>4) DRAWBAR</li> <li>5) CYLINDERS</li> <li>6) ARM R.H.</li> <li>7) ARM L.H.</li> <li>8) TELESCOPIC ARM</li> <li>9) TIRE ASSY</li> <li>10) PIPE R.H.</li> <li>11) PIPE L.H.</li> </ul> | <ul style="list-style-type: none"> <li>12) MAIN PIPE R.H.</li> <li>13) MAIN PIPE L.H.</li> <li>14) EXTENSION PIPE R.H.</li> <li>15) EXTENSION PIPE L.H.</li> <li>16) WHEEL ARM R.H.</li> <li>17) WHEEL ARM L.H.</li> <li>18) WHEEL ASSY R.H.</li> <li>19) WHEEL ASSY L.H.</li> <li>20) SPECIAL ARM R.H.</li> <li>21) SPECIAL ARM L.H.</li> <li>22) CENTER WHEEL KIT (optional)</li> </ul> |
|---|---|

## TECHNICAL SPECIFICATIONS



MODEL	QR 8	QR 10	QR 12
Number of Finger Wheels	8	10	12
Overall length (A) (1)	19' (5,8 m)	19' (5,8 m)	22' (6,7 m)
Minimum Transport Height (B)	7' 9"(2,4 m)	7' 9"(2,4 m)	8' 2"(2,5 m)
Transport Width (C)	8' 5" (2,6 m)	8' 5" (2,6 m)	8' 5" (2,6 m)
Width (D)	6' 6" (1,98 m)	6' 6" (1,98 m)	6' 6" (1,98 m)
Minimum Working Width (E) (1)	16' 4" (5 m)	19' (5,8 m)	21' 8" (6,6 m)
Maximum Working Width (1)	18' (5,5 m)	21' (6,4 m)	24' 6" (7,5 m)
Minimum Windrow Width (F) (1)	3' (0,9 m)	3' (0,9 m)	3' (0,9 m)
Maximum Windrow Width (1)	6' 7" (2 m)	6' 7" (2 m)	6' 7" (2 m)
Weight	1675 Lbs-760 Kg	1875 Lbs-850 Kg	2115 Lbs-960 Kg
Tires	205-75/15	205-75/15	205-75/15
Tractor Requirements HP	30 (22,3 KW)	30 (22,3 KW)	50 (36,7 KW)

(1) Depending on crop conditions



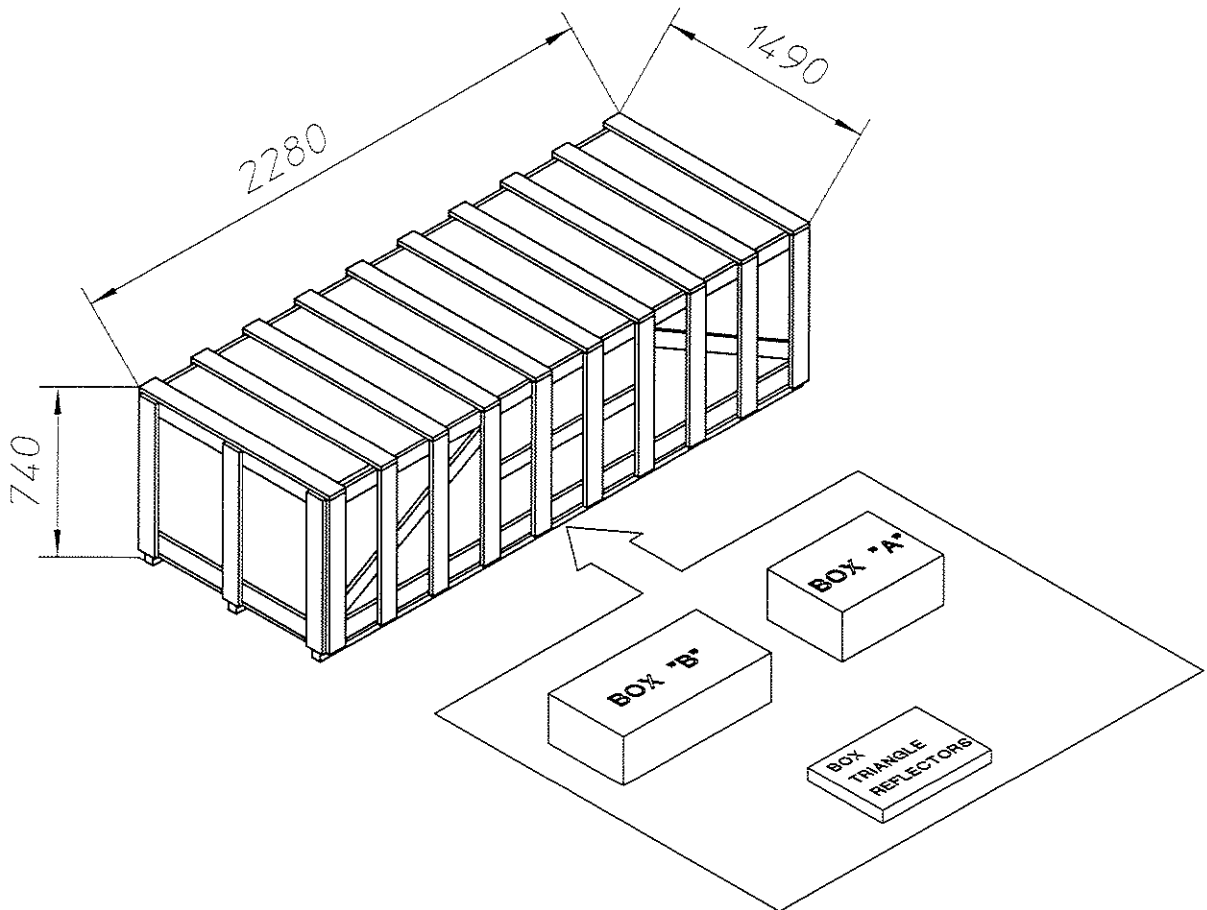
## ***4) Delivery and assembly***

### *Delivery and unpacking.*

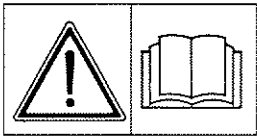
The machine is delivered partially assembled in no. 1 (a) box containing the stars and no. 3 (three) boxes. The boxes "A" and "B" are all the various mounting accessories (pins, screws, fittings, etc..) In the smaller box is not marked by letters to apply the triangle reflectors on the machine. All components are inspected before shipment from the manufacturer. Upon receipt of the machine, ensure that the case is intact and that the content has not been damaged during transport. If you detect damage and / or anomalies immediately report the matter to your vendor. Note: The packaging is made from wood, plastic films, cardboard and steel, must be disposed of according to applicable laws in your locality.

To unpack the boxes received by using suitable lifting is to lift the weight given to the banks to bring stability to the pallets because of their size and shape.

*Each machine is allocated in a box containing the rake wheels.*



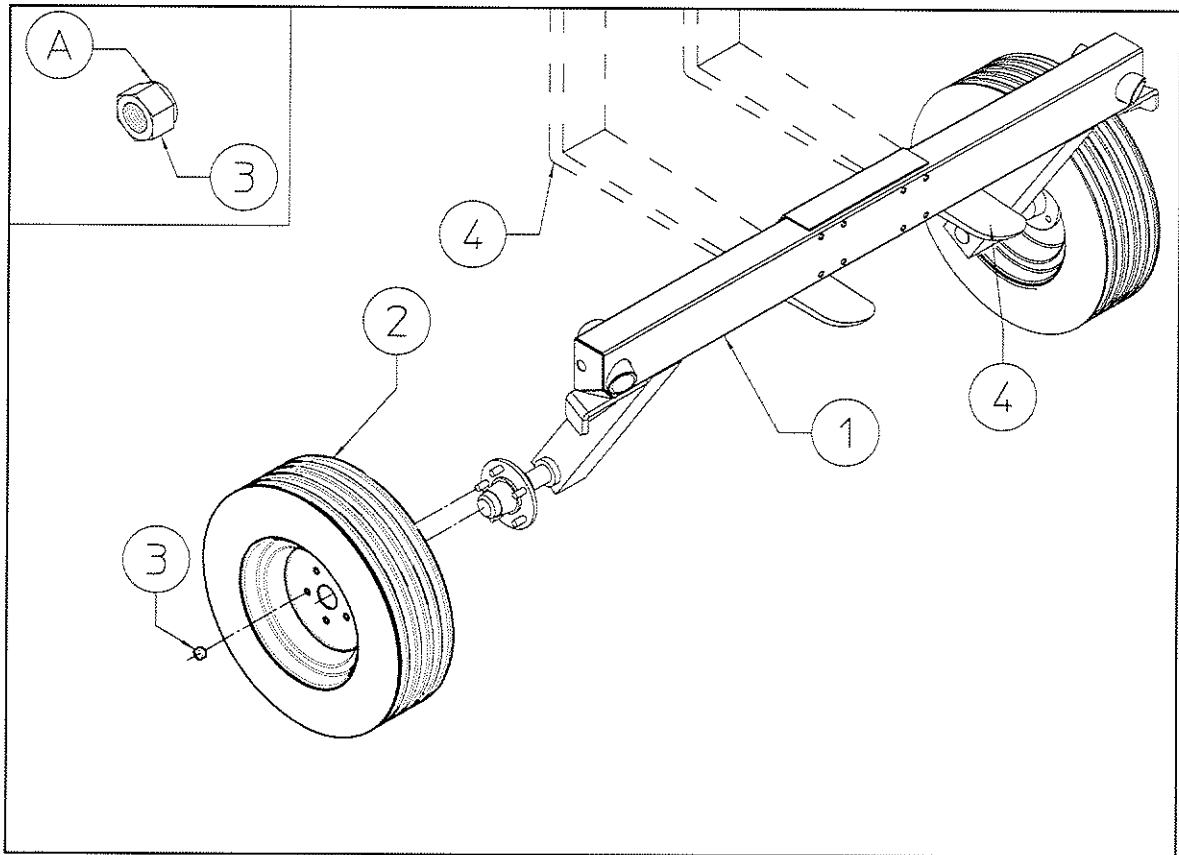
## *Assembly instructions*



### ATTENTION

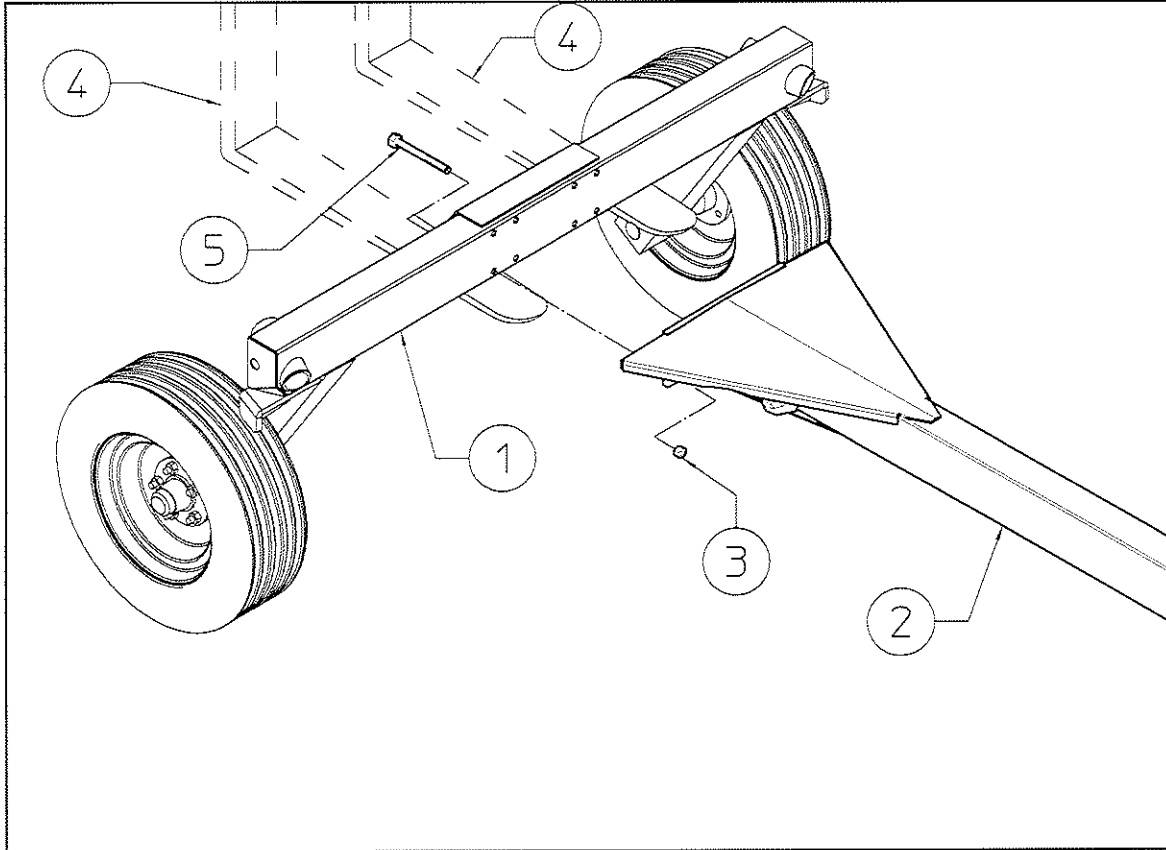
Assembly must be done carefully and accurately, for the safety of the person(s) doing the assembling and to ensure proper machine operation.

Assembly should be done on a flat, solid surface, using the proper tools and wearing suitable clothing, making sure that all people not involved in the assembly be kept at a safe distance. Assemblers must provide suitable lifting mechanisms and supports for stabilizing the partially assembled units, so as to prevent them from falling and causing damage or injury. The steps for assembly are illustrated in following. Depending on the experience of the assemblers and the tools available, it is not necessary that the instructions be followed in the exact order given here, but the safety precautions described above must always be followed carefully and scrupulously.



Mount wheels (2) to hubs on frame (1) using special nut (3). The spherical side "A" off the nut (3) must be always turned towards the wheel rim flange. The forks (4) of a forklift may also be used to support the assembly.

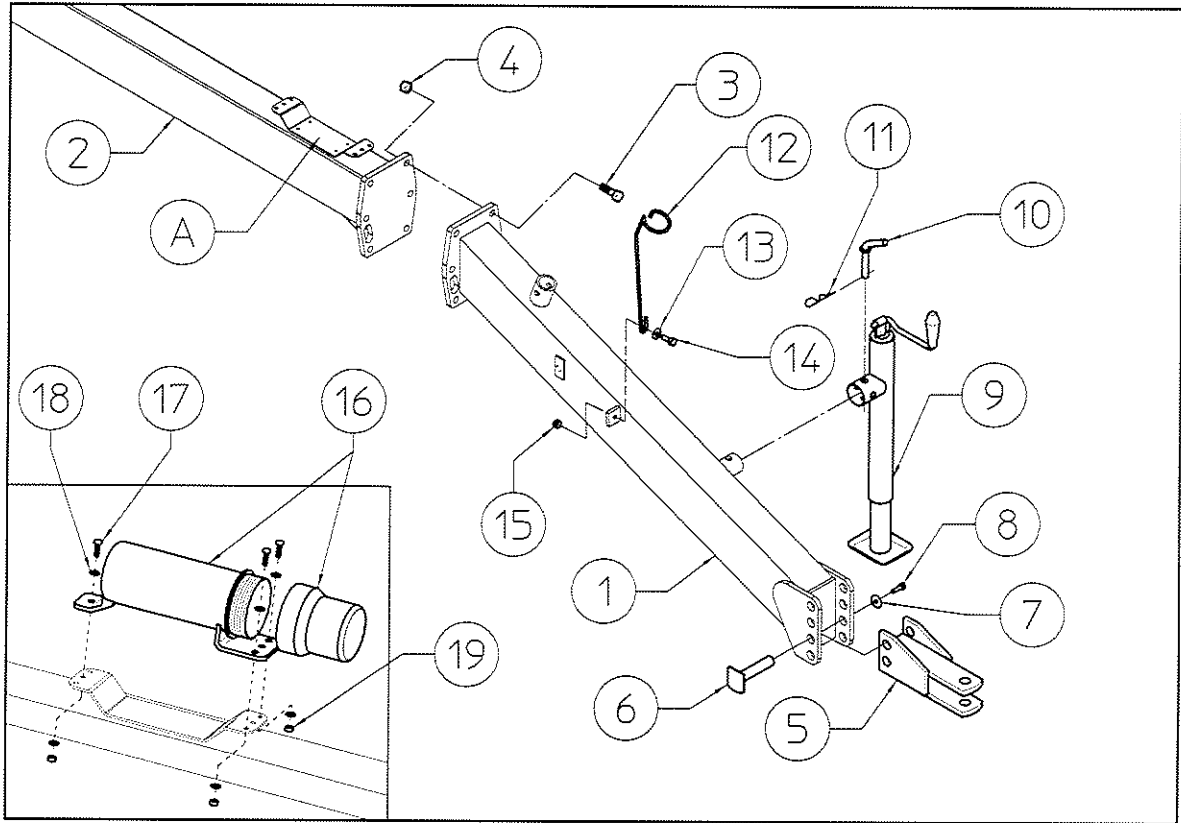
Item 3 : 10 special nuts M16 (5/8")



Attach the drawbar (2) to the frame (1) and fastening it with screws (5) and nuts (3).

Item (5) : 8 screws M16x140 (5/8"x 5 1/2")

Item (3) : 8 nuts M16 (5/8")



Attach the drawbar (1) to the drawbar (2) and fastening it with screws (3) and nuts (4). Attach the tractor hitch (5) to the drawbar (1) using the two pins (6), fastening with the screws (8) and washers (7).

To choose which should be used see ADJUSTMENTS FOR MACHINE USE section.

Attach parking stand (9) to drawbar (1), fastening it with pin (10) and clip (11).

Assemble the support hose (12) with the screw (14), washer (13) and nut (15). Attach the manual canister (16) to the drawbar at point (A) using screws (17), washers (18) and nut (19). Note: all manuals and other documents regarding the machine must be placed in the manual canister (16) so that they may be consulted at any time.

Item (3): 6 screw M16x50 (5/8"x 2")

Item (4): 6 nuts M16 (5/8")

Item (6): 2 pins  $\varnothing 25 \times 124$  (1"x5")

Item (7): 2 washers  $\varnothing 12-36 \times 2.5$  ( $\varnothing 15/32$ "-1 27/64"x 3/32")

Item (8): 2 screws M12x20 (15/32"x 13/16")

Item (10): 1 pin  $\varnothing 15 \times 78$  ( $\varnothing 19/32$ "x 3 1/8")

Item (13): 1 washer  $\varnothing 12$  ( $\varnothing 1/2$ "")

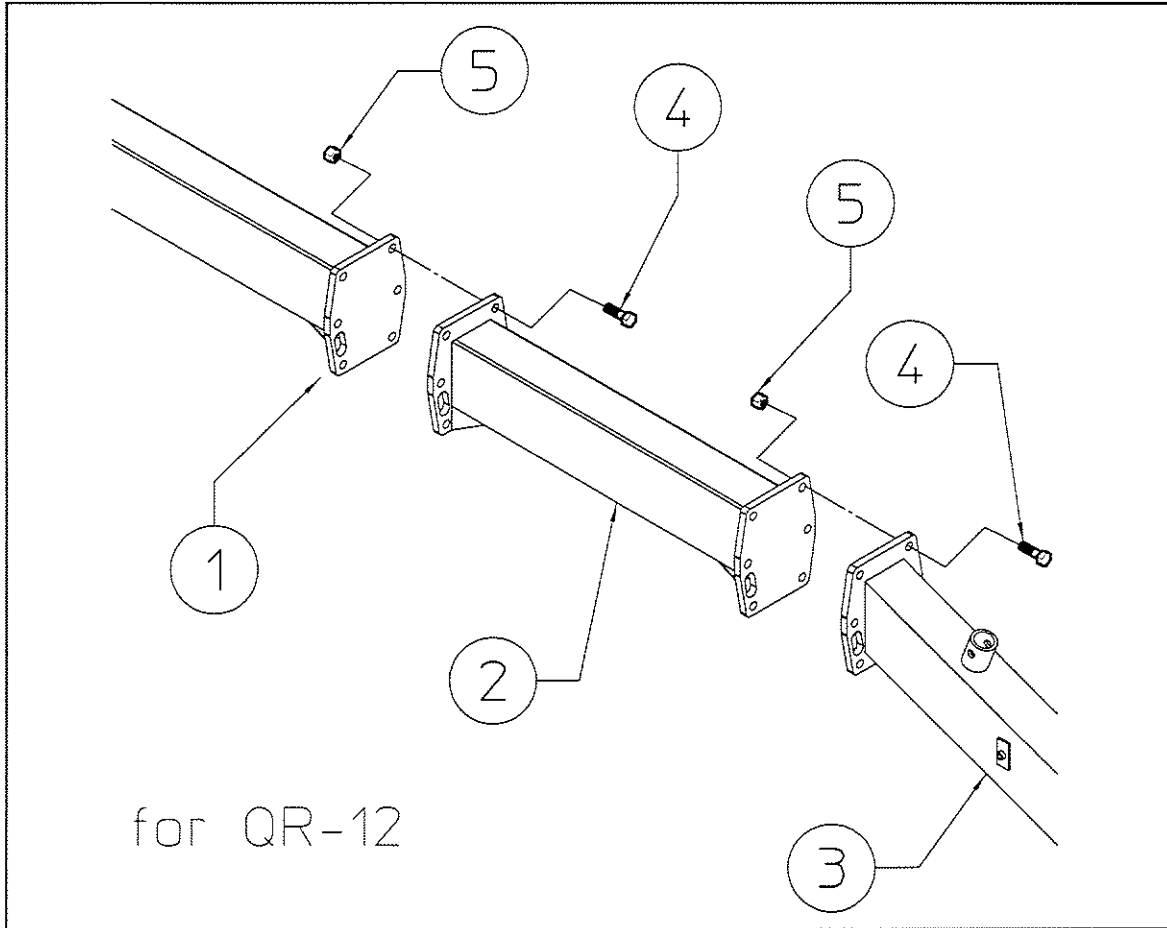
Item (14): 1 screw M12x35 (15/32"x 1 5/8")

Item (15): 1 nut M12 (15/32")

Item (17): 3 screws M6x20 (0.24"x0.79")

Item (18): 6 washers  $\varnothing 6.6-18 \times 2$  ( $\varnothing 0.26$ "- 0.71"x0.08")

Item (19): 3 nut M6 (0.24")

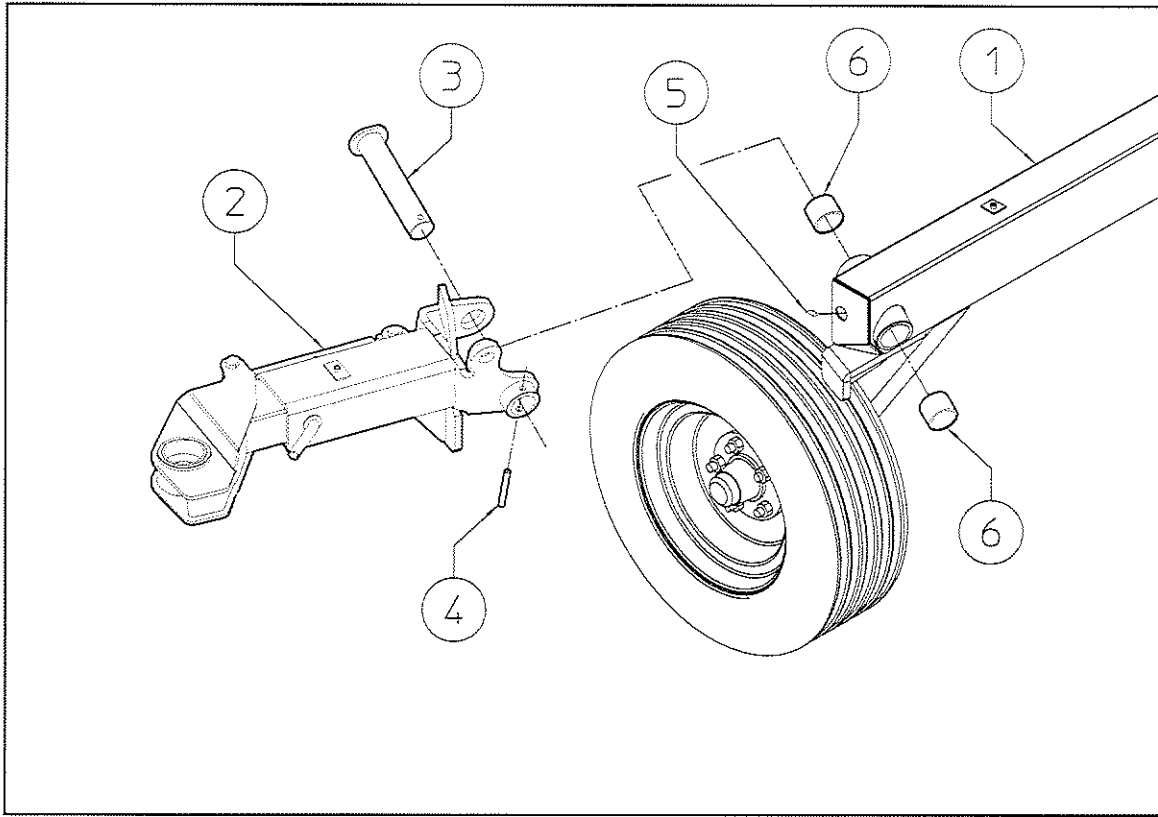


FOR QR/12 ONLY.

Insert and attach the drawbar extension (2) and fastening it with screws (4) and nuts (5).

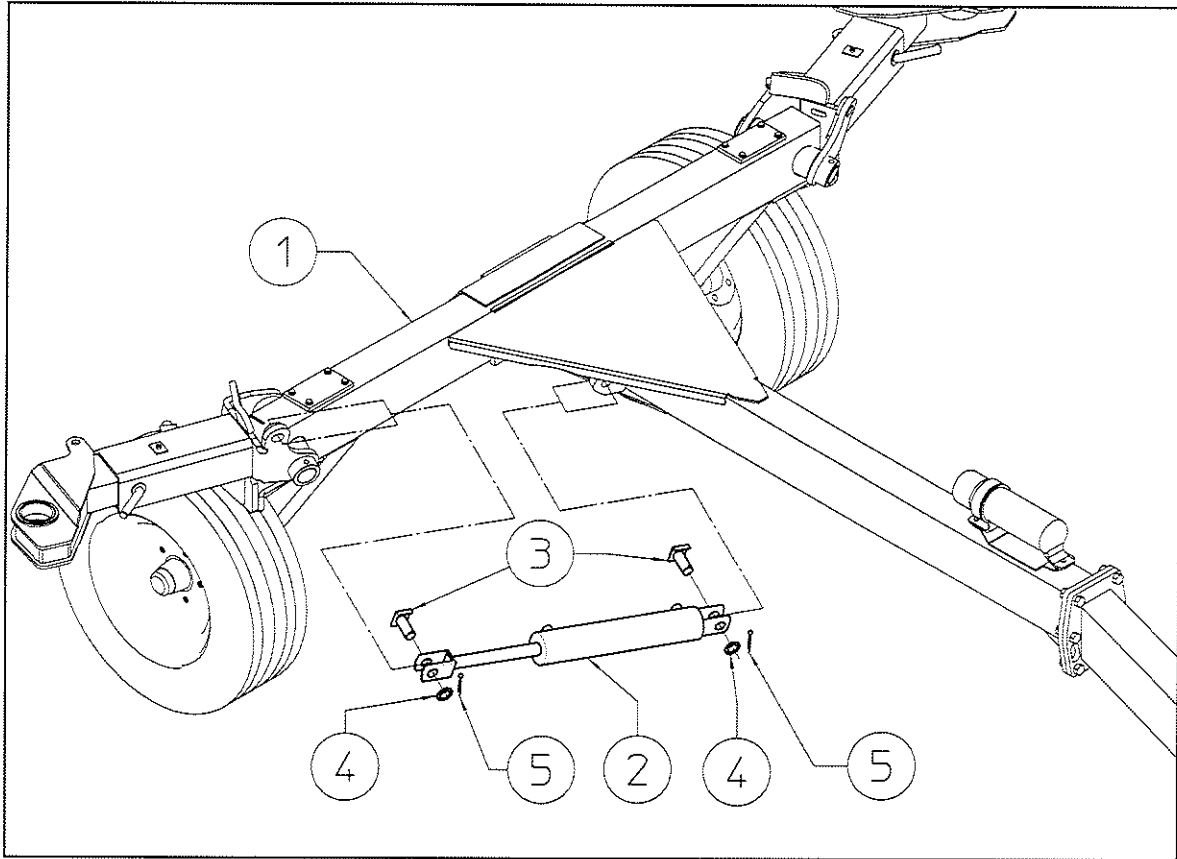
Item (4): 6+6 screws M16x50 (5/8"x 2")

Item (5): 6+6 nuts M16 (5/8")



Fit bushing (6) on proper seats of frame (1).  
Fit in proper seats grease nipple (5).  
Attach the arm (2) (R.H.-L.H.) to the frame (1) using pins (3).  
Fasten pins (3) with spring pins (4).

- Item (3): 2 pins  $\varnothing 50 \times 243$  ( $\varnothing 2 \times 9 \frac{1}{2}$ " )
- Item (4): 2 spring pins  $\varnothing 12 \times 70$  ( $\varnothing 1/2$ "  $\times 2 \frac{3}{4}$ " )
- Item (5): 2 grease nipple M8
- Item (6): 4 bushings  $\varnothing 50-60 \times 50$  ( $2$ "  $- 2 \frac{3}{8}$ "  $\times 2$ " )



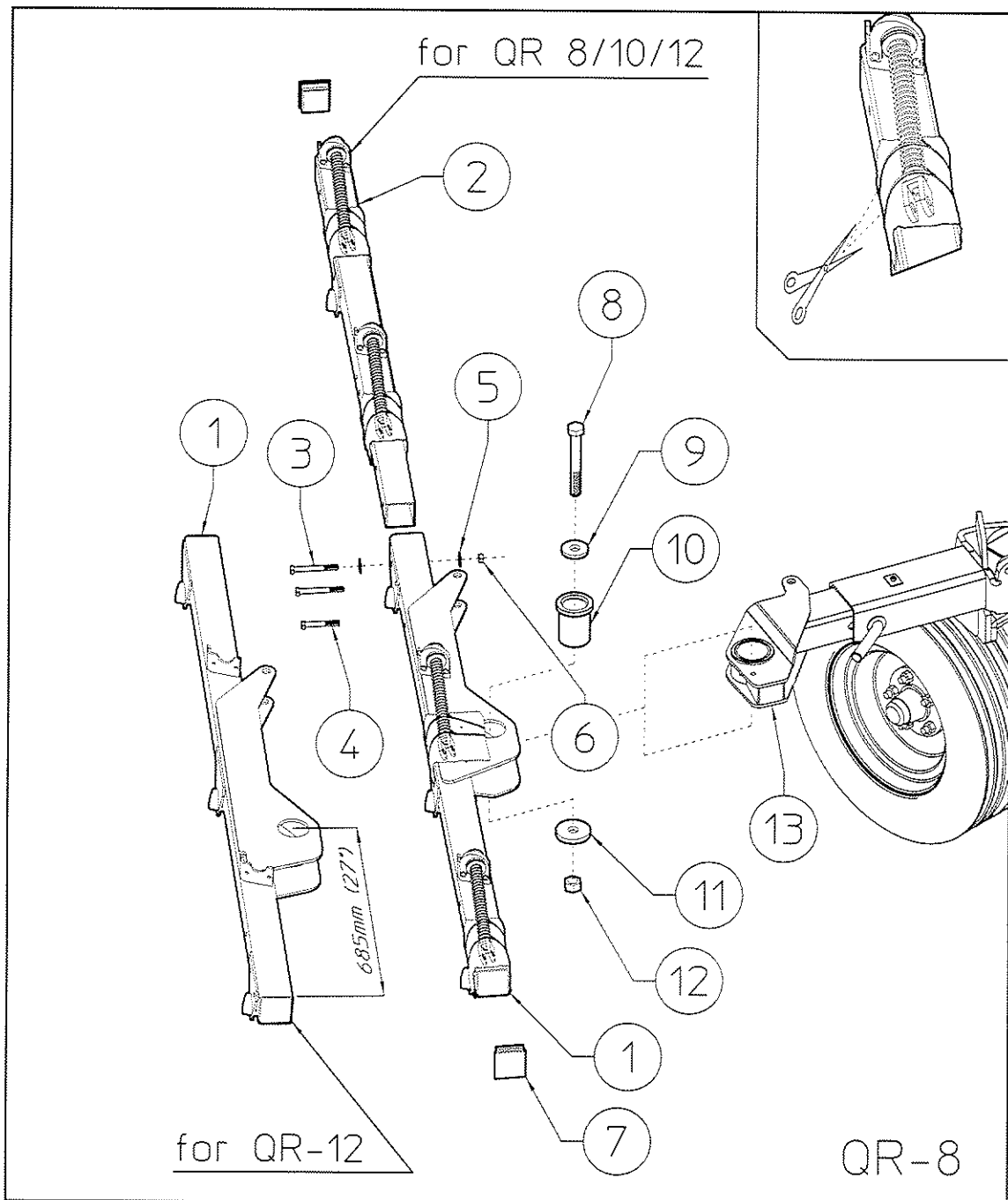
Attach the cylinders (2) to the lugs using pins (3) and split pins(5). Assemble the cylinders with distance washers (4) as shown in the diagram.

Item (3): 4 pins  $\varnothing 25 \times 58$  ( $\varnothing 1 \times 2 \frac{5}{16}$ " )

Item (4): 4 washers  $\varnothing 25$  ( $\varnothing 1$ " )

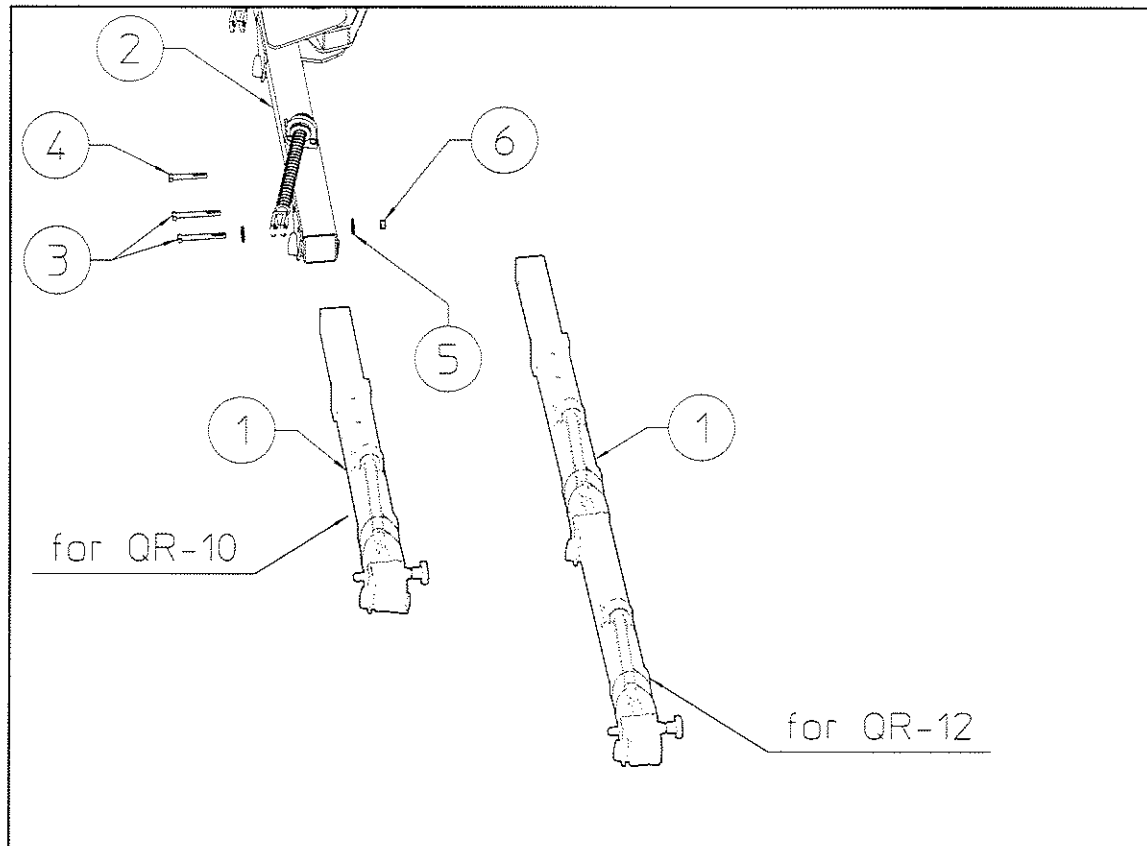
Item (5): 4 split pins  $\varnothing 6 \times 35$  ( $\varnothing \frac{1}{4}$ "  $\times 1 \frac{1}{2}$ " )





Attach the main pipe (1) to arm (13) using pin (10) washers (9) (11), screw (8) and nut (12). Insert pipe (2) to the main pipe (1), fastening it with the screws (3) and (4) washers (5) and nut (6). Insert plug (7) to main pipe (1) (2).

- |   |  |
|---|--|
| Item (3): 2+2 screws M12x110 (15/32"x4,3")                    | Item (8): 2 screws M24x150                         |
| Item (4): 1+1 screws M12x100 (15/32"x4")                      | Item (9): 2 washers $\varnothing 25-64 \times 10$  |
| Item (5): 6+6 washers $\varnothing 13$ ( $\varnothing 1/2$ ") | Item (10): 2 pin $\varnothing 7.5 \times 107$      |
| Item (6): 3+3 nuts M12 (15/32")                               | Item (11): 2 washers $\varnothing 25/90 \times 10$ |
| Item (7): 4 plug  | Item (12): 2 nuts M24                              |

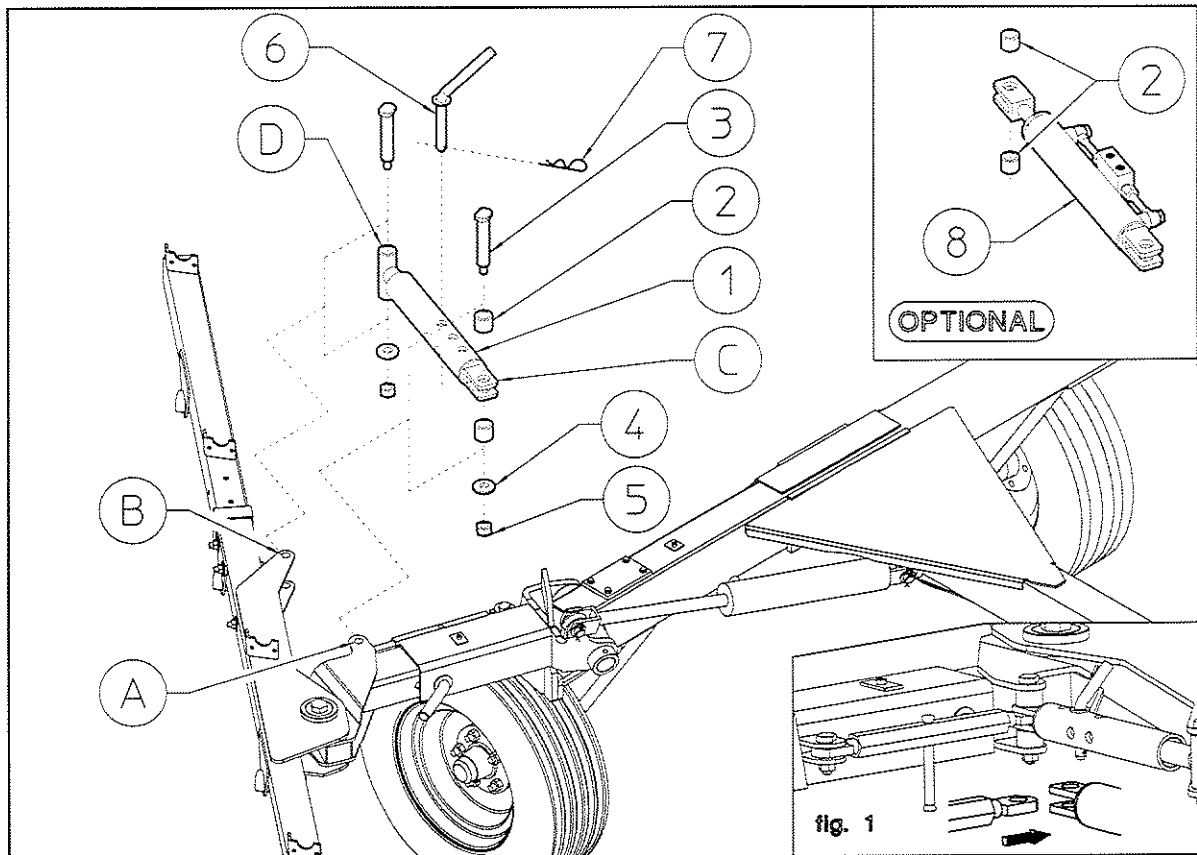


Insert pipe (1) to the main pipe (2), fastening it with the screw (3) and (4) washers (5) and nuts (6). Insert plug to main pipe (1).

Item (3): 3+3 screw M12x100 (15/32"x4)

Item (4): 6+6 washers  $\varnothing 13$  ( $\varnothing 1/2$ " )

Item (5): 3+3 nuts M12 (15/32")



Attach the manual angle tie-rod (1) at the two points (A) and (B), the rear end (C) at point (A) and the front end (D) at point (B), using the pins (3), bushes (2), washers (4) and nuts (5).

Insert pin (6) into the holes to choose the desired angle. Fasten with the clip (7).

#### OPTIONAL

To mount the cylinder (8) for hydraulic opening, the tie-rod (1) must be removed, then add two bushes (2) and reuse the pins (3), bushes (2), washers (4) and nuts (5) used previously.

To connect the hoses, see the section ADJUSTMENTS FOR MACHINE USE.

Item (2): 2+2 (2+2 optional) bush  $\varnothing 20.5/34 \times 23$

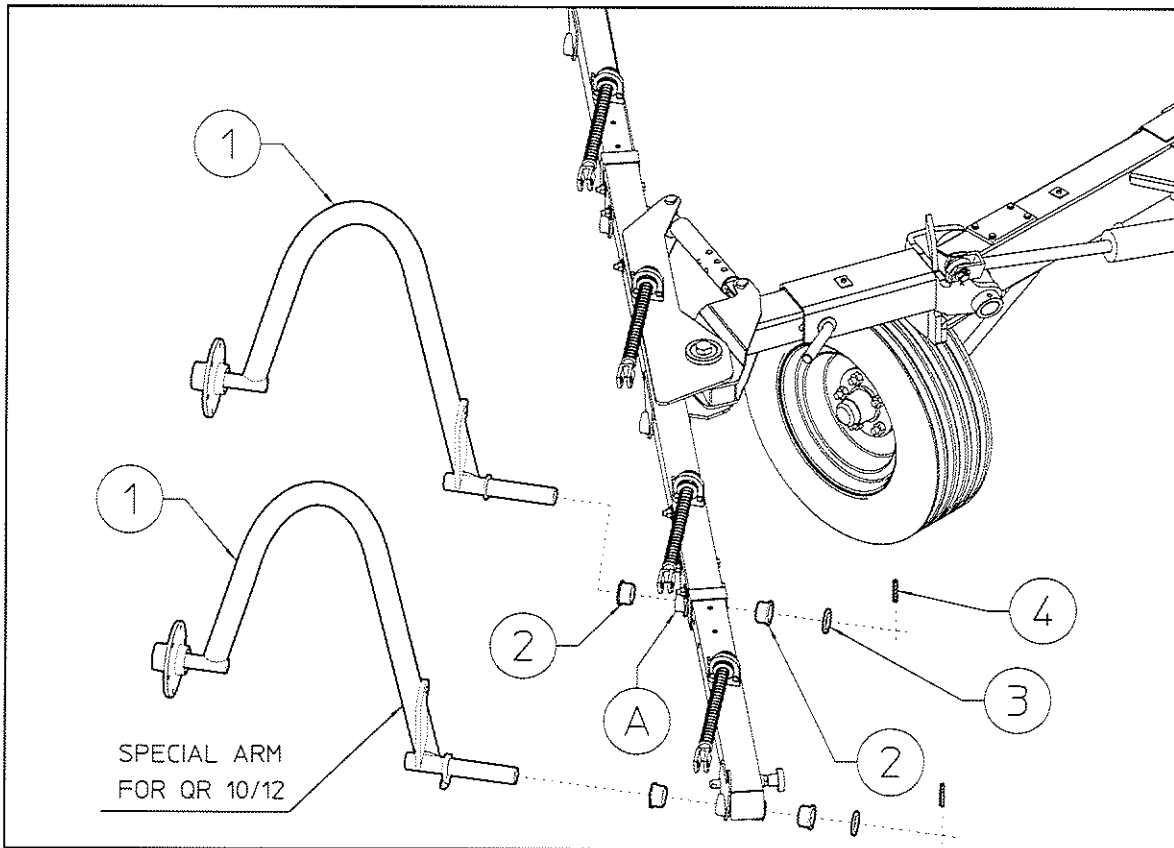
Item (3): 2+2 pins  $\varnothing 20 \times 125$

Item (4): 2+2 washers  $\varnothing 17$

Item (5): 2+2 nut M16

Item (6): 2 pins  $\varnothing 15 \times 60$

Item (7): 2 clips  $\varnothing 3$

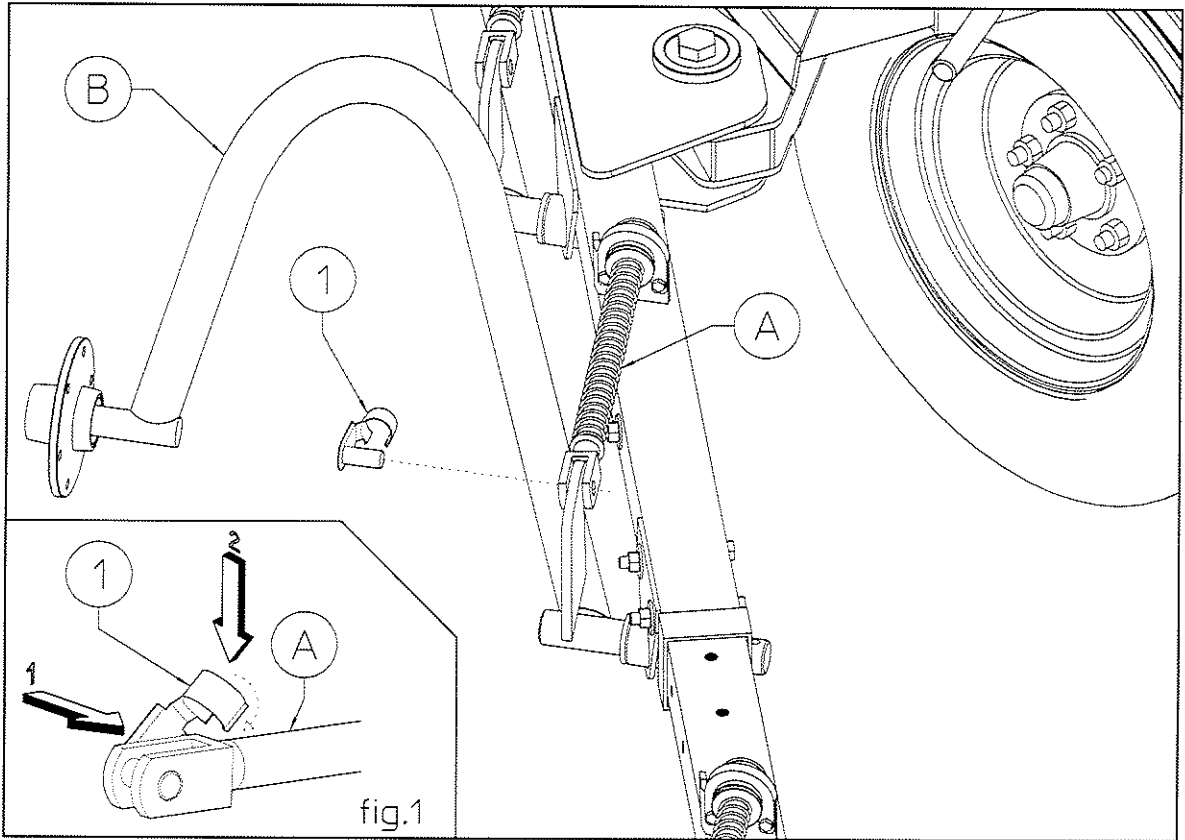


Insert the bushes (2) in section (A), then insert the arm (1) and fasten with washer (3) and pin (4).

Item (2): 16/20/24 bushings  $\varnothing 35-42 \times 26$

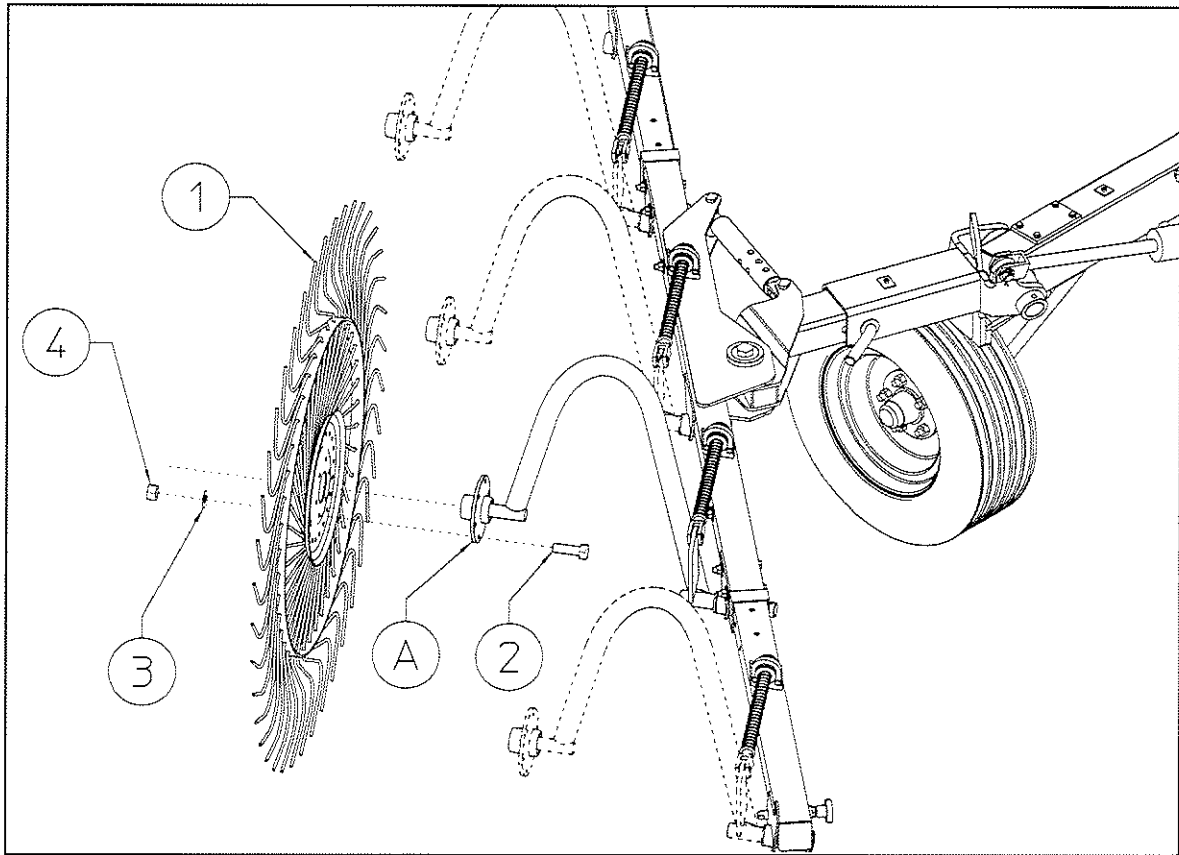
Item (3): 8/10/12 washers  $\varnothing 35-50 \times 5$

Item (4): 8/10/12 spring pins  $8 \times 50$



Attach the spring assembly (A) to the arm (B) using the automatic fastening pin (1). To fasten the pin in place, insert it into the fork and rotate it until it clips in place (Fig. 1).

Item (1): 8/10/12 pins  $\varnothing 16 \times 36$

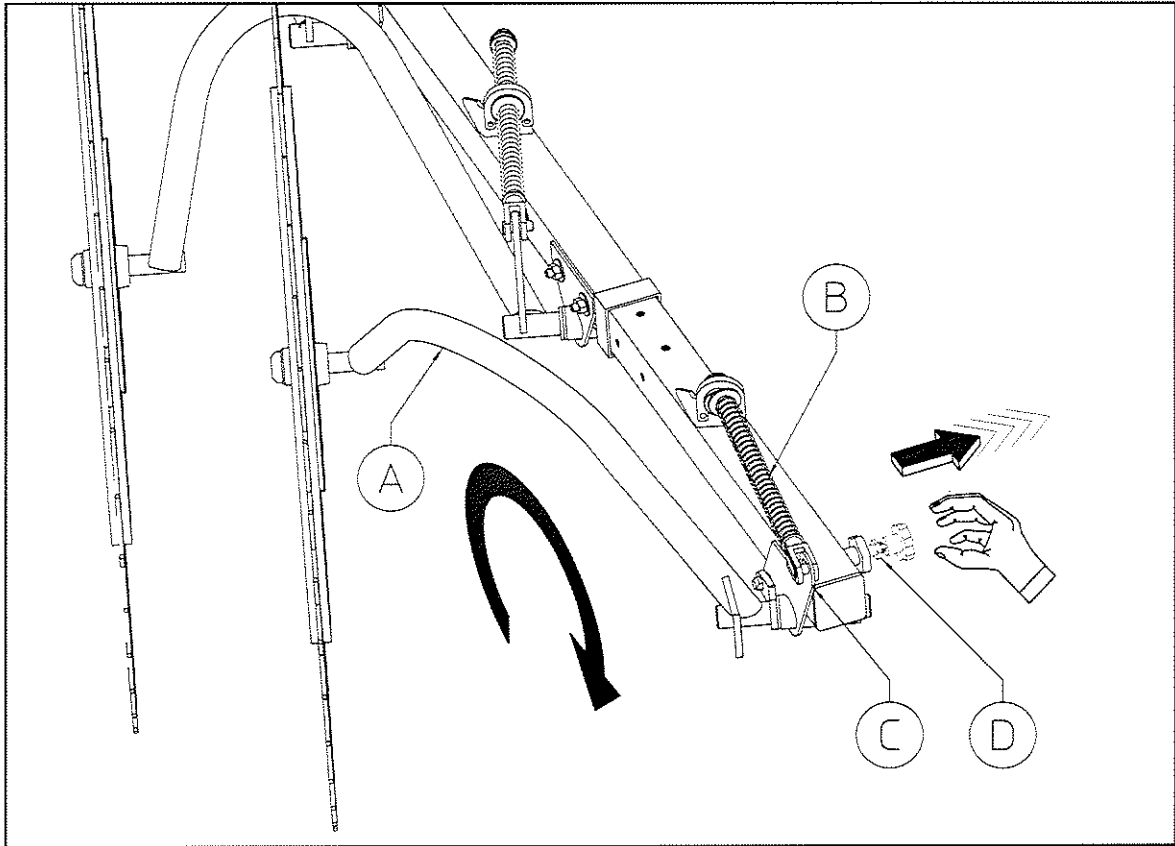


Attach the rake wheels (1) to the hubs (A) using screw (2) washers (3) and nuts (4).

Item (2): 48/60/72 screws M10x25 (25/64"x1")

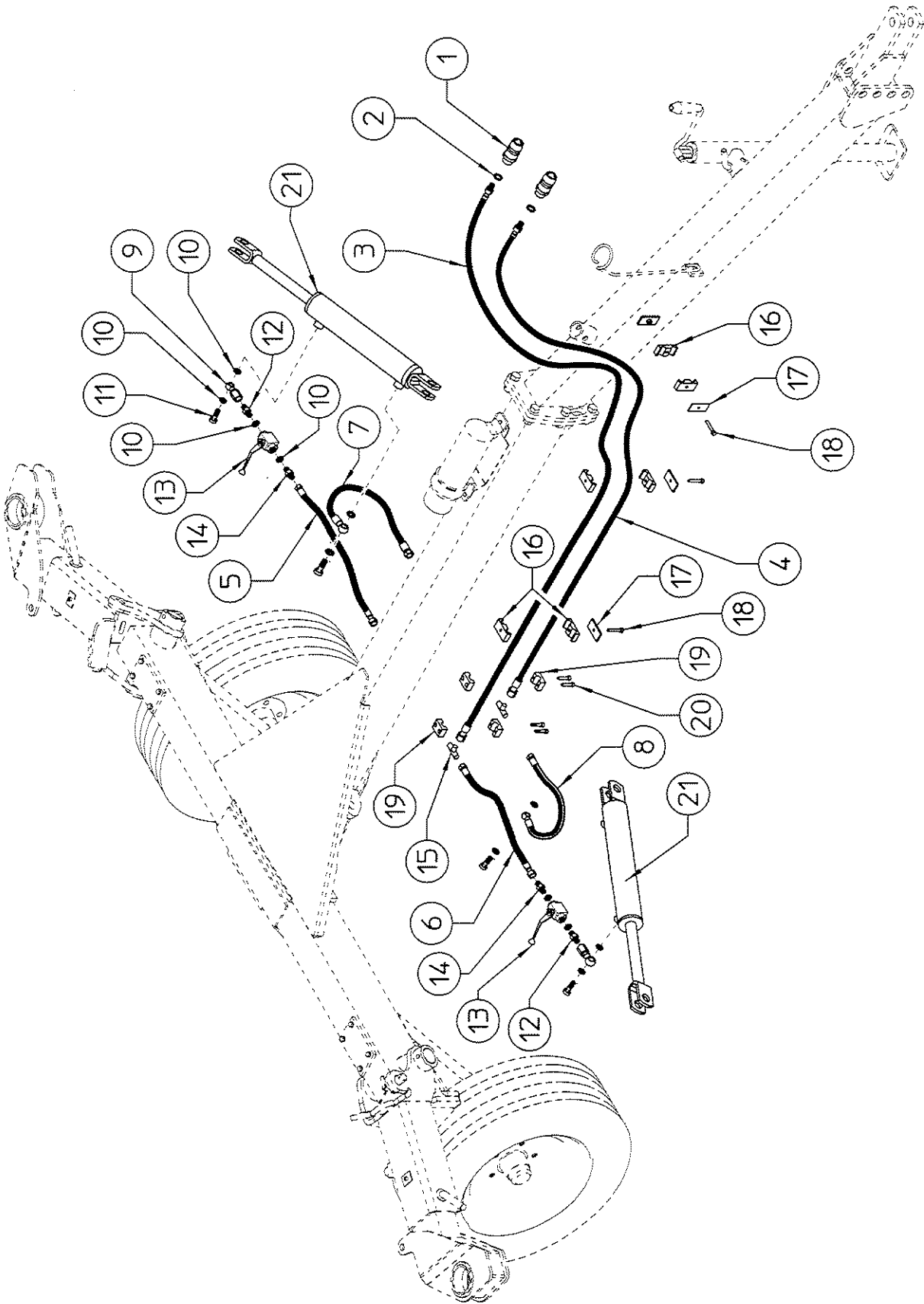
Item (3): 48/60/72 washers  $\phi$ 10.5 (27/64")

Item (4): 48/60/72 nuts M10 (25/64")



To lock the arm in the raised position, the spring assembly (B) must be released by sliding out the pin and hooking it onto the support (C).  
Then manually lift the arm (A), pull out the spring pin (D) and leave it at the hole on the arm bracket.

# HYDRAULIC SYSTEM





## HYDRAULIC SYSTEM ASSEMBLY

**Danger: the hydraulic cylinders are empty to start with, and the first time they are filled very dangerous uncontrolled movements can take place. It is recommended that the cylinders be filled with oil before connecting them to the machine, and the arms should be raised and lowered with the controls a few times in order to eliminate air from the circuit. These operations must be done in complete safety conditions, with the machine attached to the tractor and the operator sitting in the tractor driver's seat working the hydraulic controls, making sure that nothing and nobody is within the range of movement of the machine rake arms.**

Assemble the cylinders and the oleo-dynamic system as shown. When using for the first time, make sure there are no oil leaks. If there should be any, tighten the pipe fittings

Attach the nipples (14) at valve (13) with washer (10) and connect this at reducer nipples (12) and fittings (9).

Connect the fitting hole (9) with washer (10) and fitting screw (11) on cylinders (21)

Connect pipe (5) and (6) at fitting (14) and union T (15)

Connect eye-ring end of pipes (7) – (8) to the other side cylinders (21) and the rotating female ends on the other union T (15)

Connect the rotating female ends of pipes (3) – (4) to union T (15)

Place washers (2) and connect the quick-release coupling (1) to the straight male ends of pipes (3) – (4)

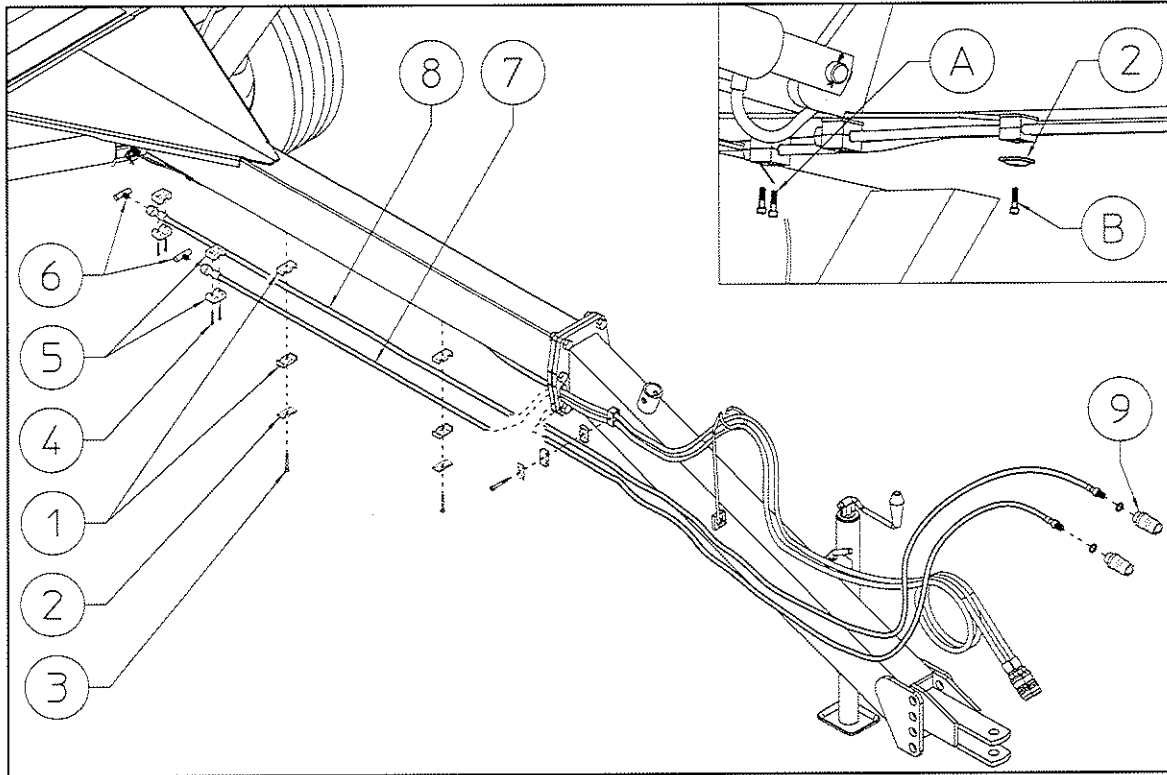
Check to make sure that all connections are correctly fastened.

Attach the hose collar (16) and (19) to the lugs on drawbar, fastening on correctly position (see shown)

## HYDRAULIC OPENING KIT (OPTIONAL)

**DANGER.** Assembly must be done carefully and accurately, for the safety of the person(s) doing the assembling and to ensure proper machine operation.

Assembly should be done on a flat, solid surface, using the proper tools and wearing suitable clothing, making sure that all people not involved in the assembly be kept at a safe distance.



Attach the male T connectors (6) to the hoses (7-8).

Remove the screws (A) (which will not be used anymore), then attach the hoses (7-8) on the same spot and fasten them using the hose collars (5) and the screws (4).

Remove the screws (B) which will not be used anymore and the plates (2), pull the hoses (7-8) taut and fasten them in the proper places using the double hose collars (1), the plates already used (2) and the screws (3). Insert the hoses through the proper opening of the drawbar joint plates and, keeping them taut fasten them again on the same spot.

Attach the quick couplings (9) to the hoses (7-8).

In this step, you use:

Item 1: 6 double hose collars  $\varnothing 16$  (5/8")

Item 2: 3 plat

Item 3: 3 screw M8x60 DIN 931 (0.3"x 2.3")

Item 4: 4 screw M6x60 DIN 912 (15/64"x 2.3")

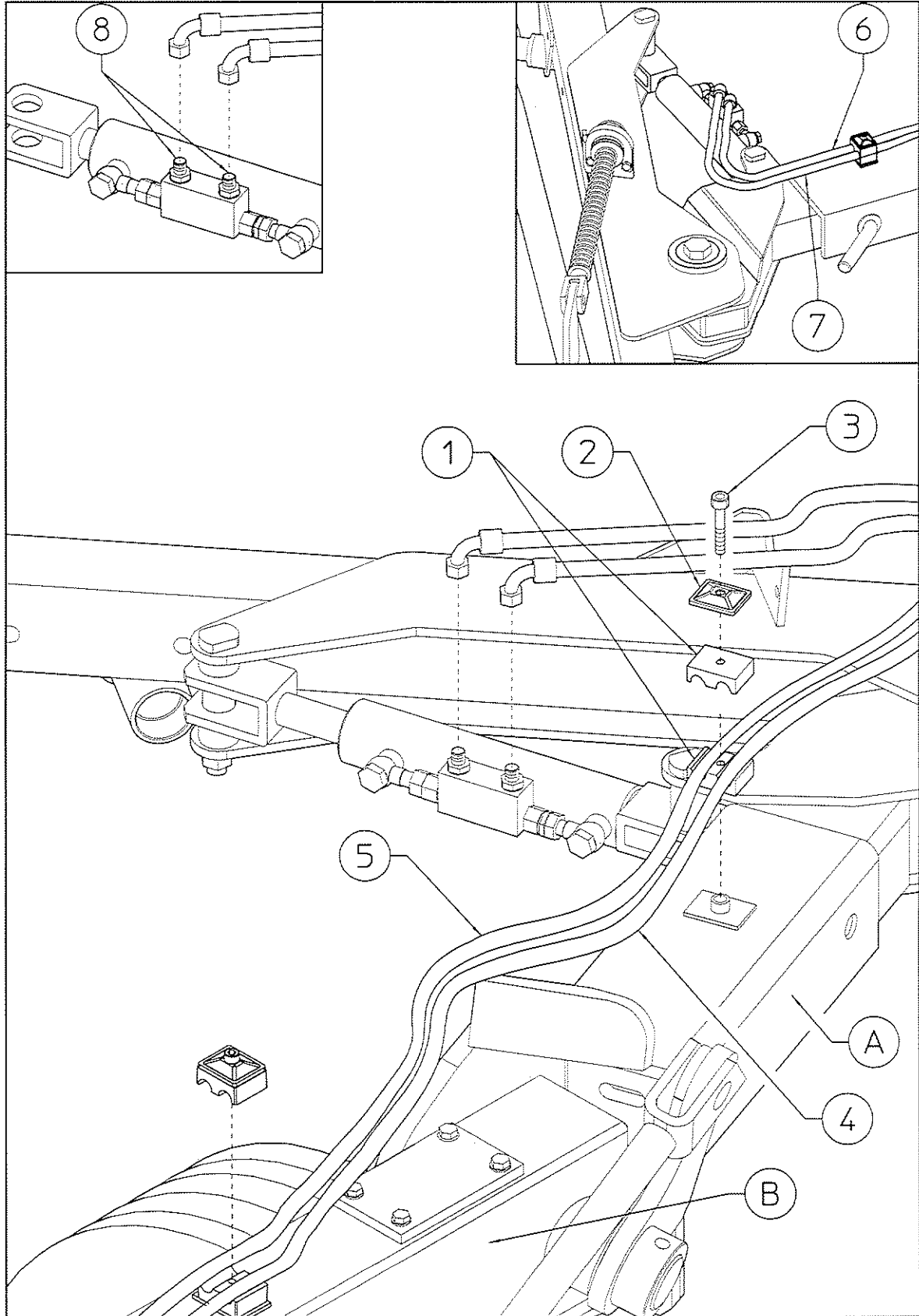
Item 5: 4 hose collar  $\varnothing 14$  (0.55")

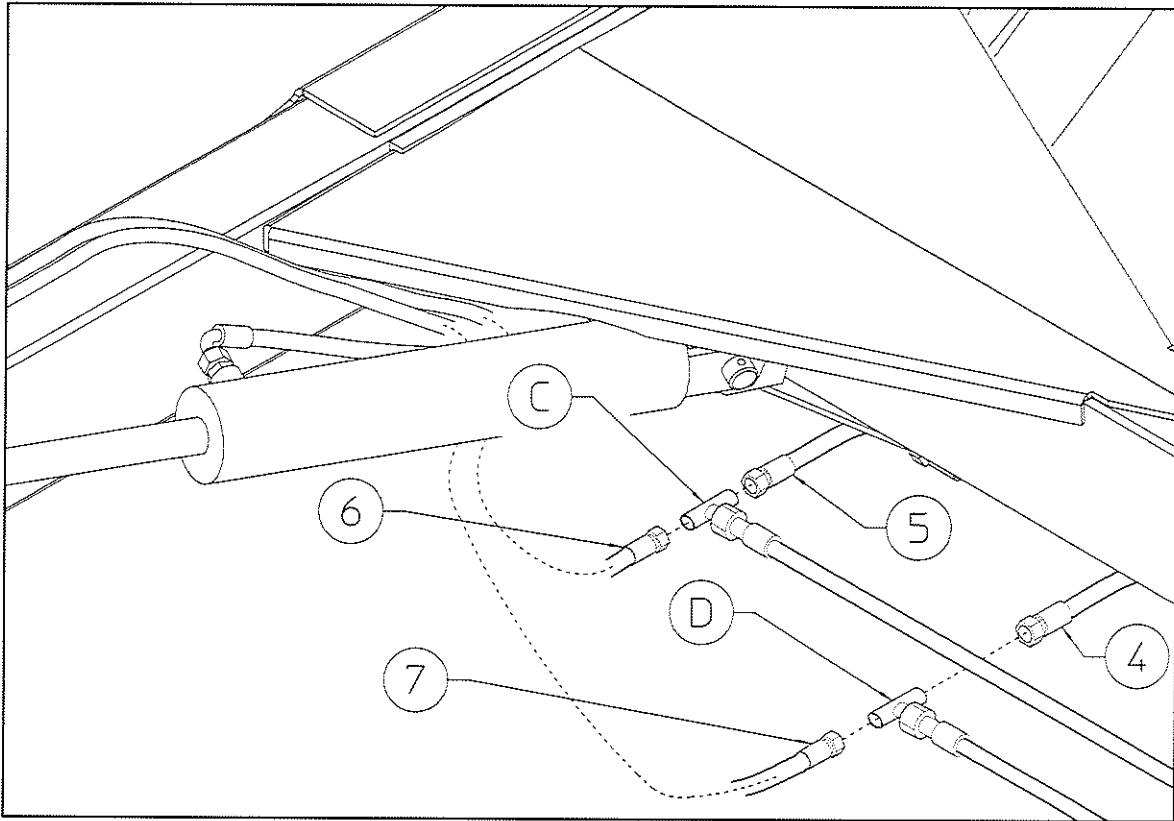
Item 6: 2 male T connector 1/4"

Item 7: 1 hose 1/4" length 4950mm (194.88")

Item 8: 1 hose 1/4" length 5100mm (200.78")

Item 9: 2 rapid coupling 1/2"



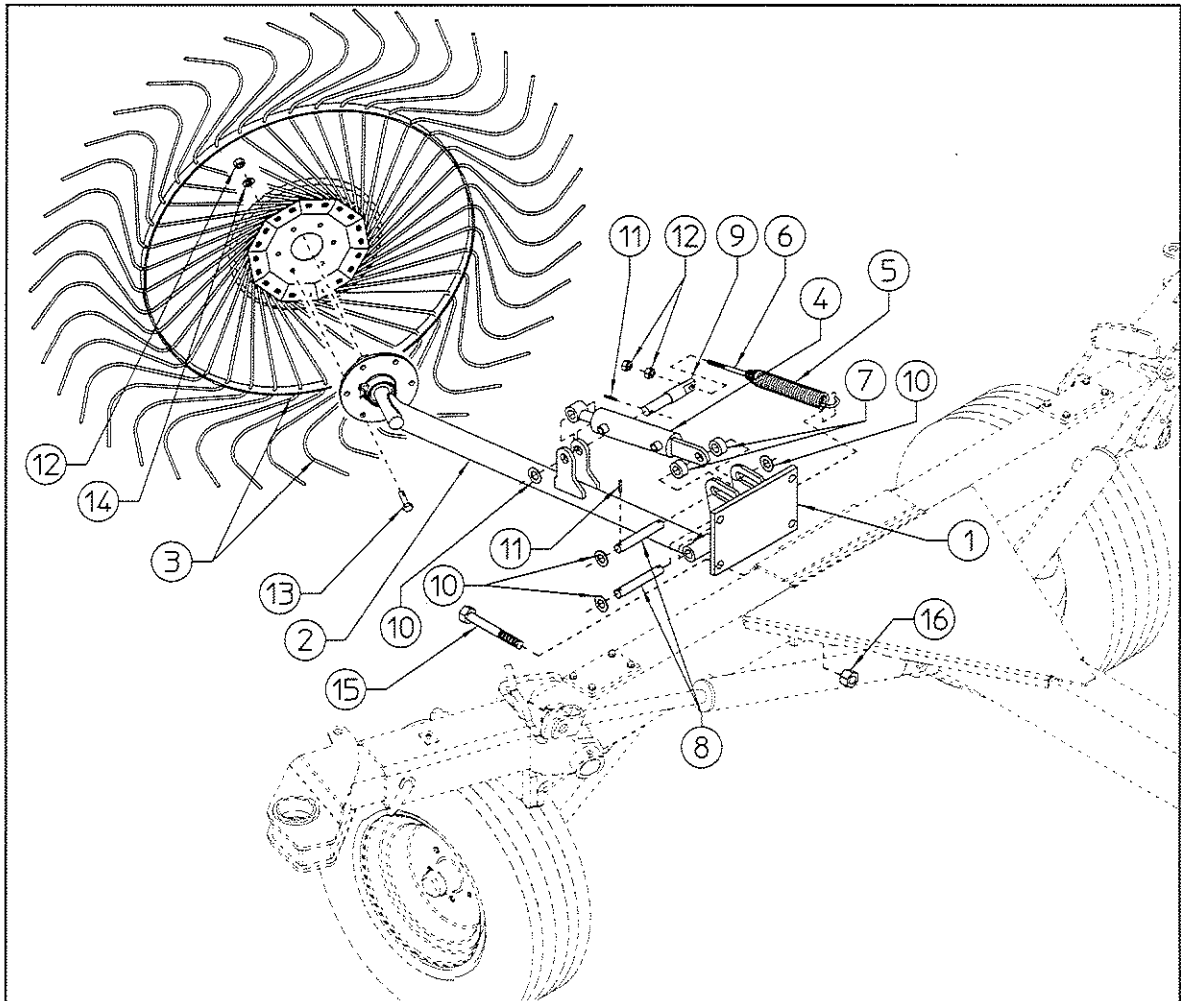


Mount the hoses (4-5-6-7) to the connectors (C-D). At this stage, keeping the hoses well extended, fasten them by means of the double hose collars (1), plats (2) and screws (3) to the main frame (B) and to the sliding arm (A). Finally, screw the hoses (4-5-6-7) to the cylinders nipples (8).

In this step, you will use:

- Item (1): 8 double hose collars  $\varnothing 16$  (5/8")
- Item (2): 4 plats
- Item (3): 4 screws M8x35 (0.3"x1.37")
- Item (4): 1 hose  $\frac{1}{4}$ " length 2150mm (84.65")
- Item (5): 1 hose  $\frac{1}{4}$ " length 1900mm (74.80")
- Item (6): 1 hose  $\frac{1}{4}$ " length 2000mm (78.74")
- Item (7): 1 hose  $\frac{1}{4}$ " length 2050mm (80.71")

## CENTER WHEEL KIT (OPTIONAL)



To assemble the Center Rake Wheel Kit, proceed as follows:

Remove the four central screws that connect the horizontal drawbar to the main frame and attach the plate (1) using the 4 long screws (15) that are supplied and the nuts (16).

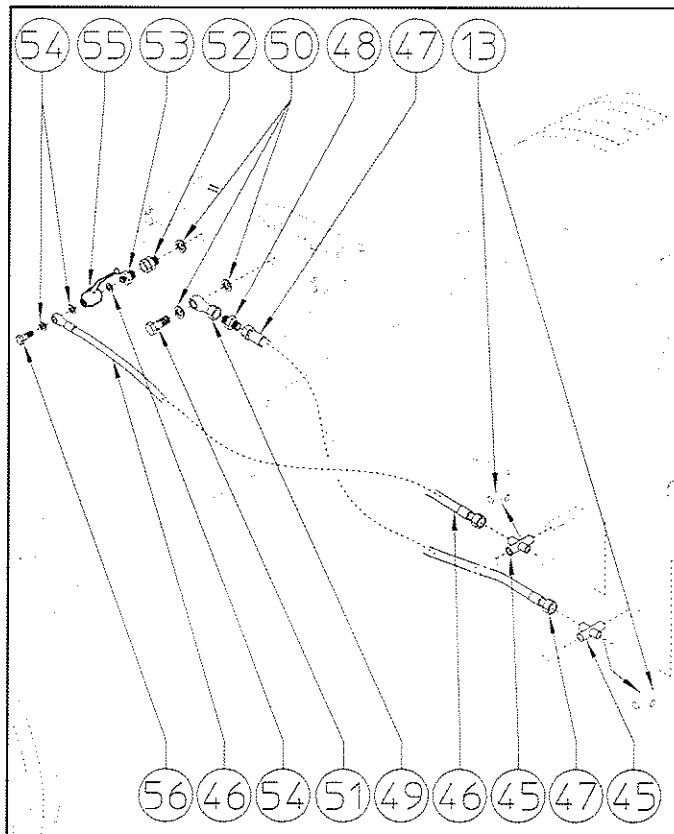
Assemble the arm (2) and hydraulic cylinder (4) to the plate (1) using the two pins (8), the washers (10) and the spring pins (11).

Connect the arm and cylinder with the milled pin (9), the washer (10) and the spring pin (11).

Attach the spring (5) first with the hook in the hole in the plate (1) and then the screw (6) in the hole in the milled pin (9). Tighten the nuts (12) on the screw, letting a few millimeters (1/8") protrude. The spring tension must be adjusted later according to the desired pressure of the rake wheel on the ground.

Attach the rake wheel (3) to the arm (2) using the screws (13), washers (14) and nuts (12).

## Assembly of hydraulic system for center rake wheel kit.



Attention: before proceeding check to make sure the hydraulic circuit is not under pressure. Wear individual protective devices (gloves, safety goggles, etc.). When loosening the fittings work carefully and cautiously.

Remove the tee fittings (13) found and replace them with the crosses (45).

Attach fitting 49 on relevant cylinder's base hitch through copper washers 50 and screw 51. In this phase do not tighten completely screw 51.

Fit nipple 48 to fitting 49. In this phase do not tighten completely nipple 48.

Attach female side 1/4" of short hose 47 to fitting 45 and female side 3/8" to nipple 48. Now position correctly hose 47 so that it does not suffer deformations or crushing during cylinder working phase.

Once this is done, tighten all fittings which were previously left loose.

Attach fitting 52 to relevant hitch on rod's side of cylinder together with copper washer 50.

Fit to tap 55 the nipple 53 with copper washer 54.

Fit tap 55, copper washer 54 and nipple 53 to rotating fitting 52.

Position the tap 55 opening lever up so that use is easy and does not interfere with anything else. Fit female side 1/4" of long hose 46 to fitting 45 and eye side 1/4" to tap 55 through copper washers 54 and screw 56. In this phase do not tighten completely screw 56.

Now position correctly hose 46 so that it does not suffer deformations or crushing during cylinder's working, then, tighten completely screw 56.

The center rake wheel kit must be used to move the product to be raked into the center area before forming the swath.

The hydraulic cylinder is operated in parallel with the rake arms and therefore no additional operations are required. The center rake wheel normally moves very fast; this does not mean it is not working properly. The compensating spring must be adjusted with the two nuts on the screw so as to obtain the right ground pressure according to the desired working conditions.

Tighten the nut to decrease ground pressure.

Loosen the nut to increase ground pressure.

If the raking conditions do not require the use of the center rake wheel the tap (55) makes it possible to keep the arm from lowering.

To lock out the central wheel kit:

Activate the tractor hydraulics and raise the rake arms until they reach the stops.

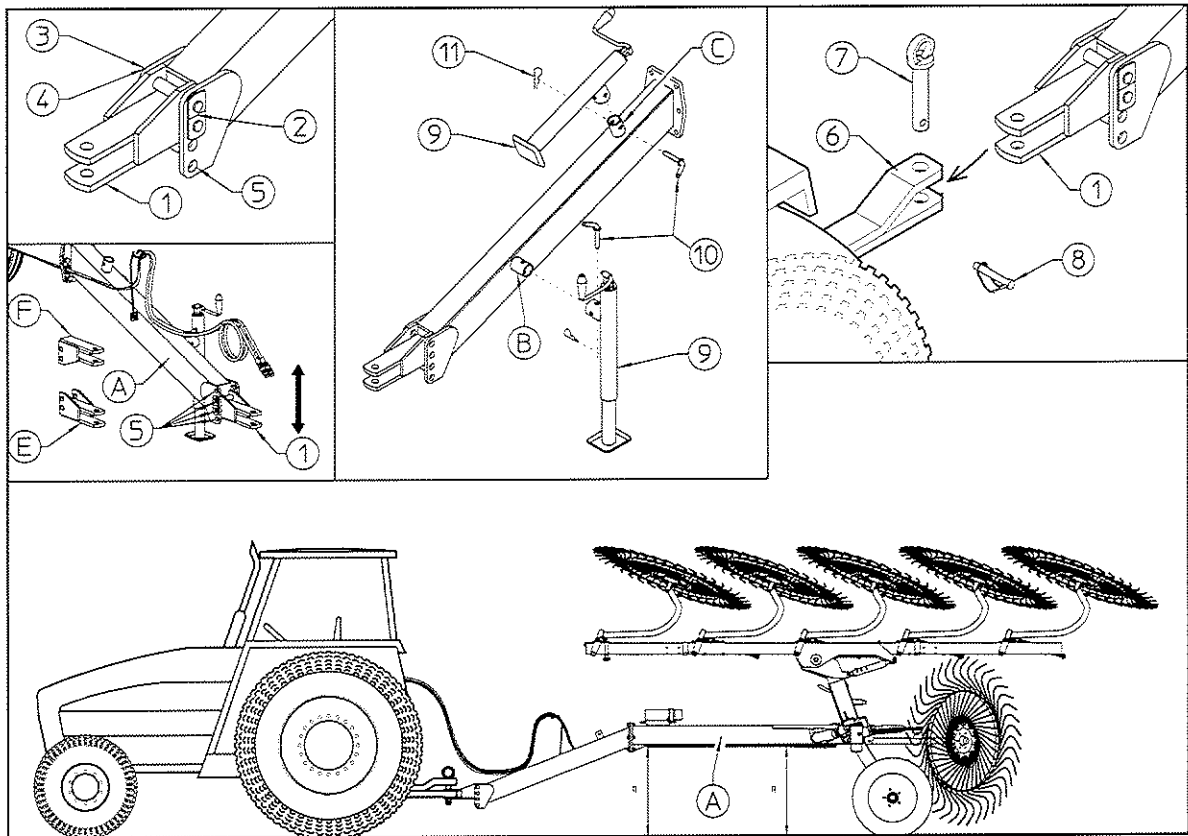
Stop the tractor engine and remove the key.

Wait until all moving parts have stopped. Close the tap (55) at the rear of the rake.

## 5) Adjustments for machine use

The machine must be adjusted according to the specific work requirements. Thus the various adjustment possibilities will be described, so you can choose that which best suits your work requirements. Before attaching the machine, make sure that it cannot accidentally start

### Attachment of machine to the tractor



Attaching the machine to the tractor is extremely simple: all that needs to be done is to couple the drawbar (1) to the tractor hitch (6) with pins (7)-(8) of the right shape and size. Always use extreme caution when the tractor is moving in reverse toward the machine. Once the machine is hitched, remove the parking stand (9) from point (B) by removing the clip (11) and pin (10), placing it in position (C), and fastening it in place with pin (10) and clip (11).

Before starting the machine to test its operation, check to make sure it is positioned correctly with regard to the ground. To do this, check that the horizontal drawbar (A) is parallel with the ground, i.e. the tip is pointing neither up nor down.

If this is not the case, the hitch to the tractor (1) must be adjusted, moving it to the free holes (5). To do this, remove the pins (2), washers (3) and screws (4), choose the right position and fasten back in place with the pins, washers and screws used previously.

Now check the machine operation, remembering that this must be done in a large enough area and making sure that no one is with the machine's operating range.

## Uncoupling the machine

Attention - Park the machine on even fairly level ground

Preferably park the machine in transport position with the transport lock installed.

- Block the machine with wheel chocks.
- Disconnect hydraulic hoses.
- Store hydraulic hoses in their support.
- Unhook safety chain. (If so equipped)

To prevent the implement hitch from raising rapidly, always position rake arms up against the stops or down with the finger wheels on the ground to prevent the rake from becoming unbalanced and tipping back when uncoupling.

- Remove parking stand to transport position.
- Install parking stand on tongue jack mount.
- Secure parking stand with pin and clip.
- Turn parking handle to lower the jack base to the ground and keep turning until the tongue weight is off of the tractor hitch (2).
- Remove hitch pin.

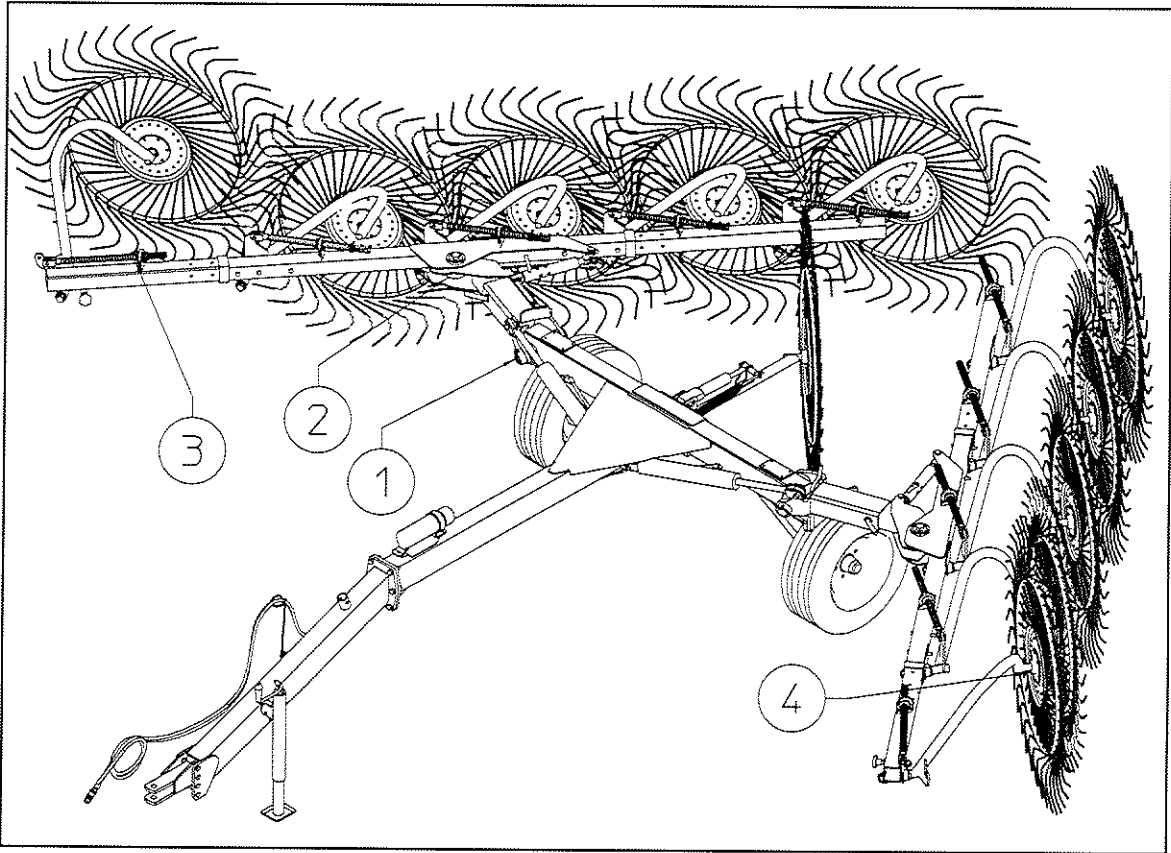
**Machine is uncoupled.**

When parking the machine for a long period, we recommend raising the rake arms until they butt against their stop in order to depressurize the hydraulic circuit.



## ***Grease and lubrication***

After the assembly, prior to any movement, lubricate the pivot points and sliding of the machine.



Then, as described below, lubricate after a certain period of work.

Every 25 hours

- Pin (1)
- Pin (2)
- Spring group (3)

Every 40 hours

- wheel hubs (4)

### **At the start of each season**

Read the operator's manual.

Check tire pressure.

Lubricate all grease points.

Torque transport wheel lug nuts. 120 ft. lbs. (16.3 daNm)

THE FOLLOWING SHOULD BE NOTED IF THE MACHINE IS SCRAPPED:

The machine consists mainly of ferrous material which must be disposed of according to the regulations in force in the country concerned.

There is also a small amount of plastic which must be disposed of according to the regulations in force in the country concerned.