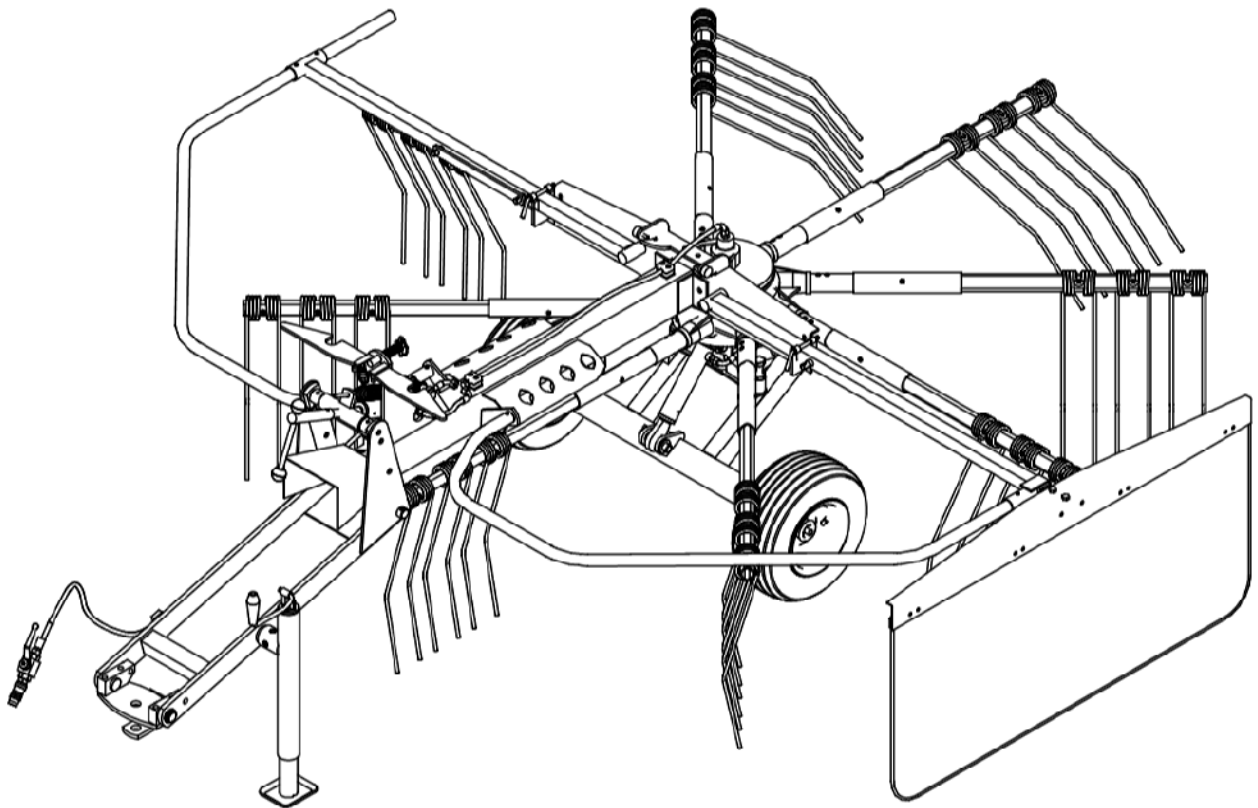


AGRICULTURAL MACHINERY

sitrex®
Spa

***USE AND MAINTENANCE
SPARE PARTS LIST***



SR 320/8 H
ROTARY RAKES
HYDRAULIC LIFT
Pull type

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.

CHAPTER

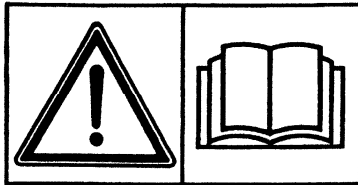
- 1) **GUIDE TO THE SIGNS**
- 2) **General summary of safety and accident-prevention instructions**
- 3) **PRODUCT IDENTIFICATION**
- 4) **DELIVERY AND ASSEMBLY**
- 5) **ADJUSTMENT, PREPARATION AND USE INTRODUCTION**
- 6) **TRANSPORT BY ROAD**
- 7) **MAINTENANCE**
- 8) **SPARE PARTS LIST**

GUIDE TO THE SIGNS AND SYMBOLS USED THIS MANUAL AND THEIR LOCATION ON THE MACHINE

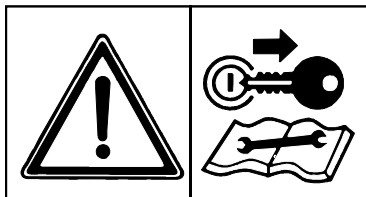
IMPORTANT

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.

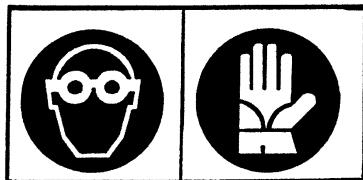
WARNING SIGNS



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

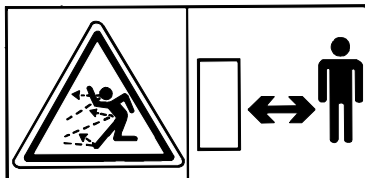


2) Before doing any maintenance or repair work, stop the machine at a suitable spot. Turn off the tractor motor, apply the brake, remove the key from the ignition and consult this manual.

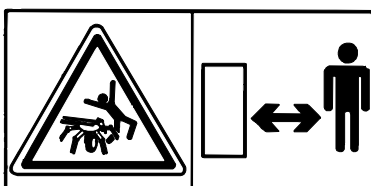


3) This is a warning to use proper accident protection when carrying out maintenance and repairs

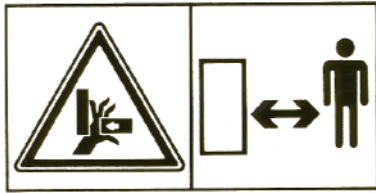
DANGER SIGNS



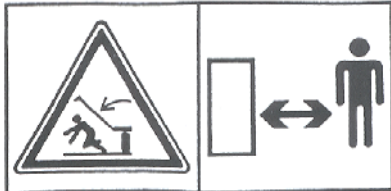
4) Risk of possible ejection of blunt objects. Keep a safe distance from the machine



5) Indicates that anyone coming within range of the moving tine arms will be seriously injured. Keep a safe distance from the machine.



6) Indicates that there is a risk of crushing your hands. Keep your distance.



7) Indicates danger caused by accidental fall of suspended arms. Keep safe distance.



8) Indicates that it is dangerous to touch the cardan (P.T.O.) shaft. For all the other information regarding the cardan shaft, see the use and maintenance booklet specifically for the cardan shaft which, together with this manual, makes up the documentation on safety, use and maintenance of the machine.

INDICATION SIGNS

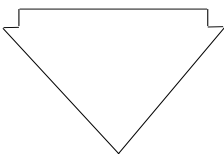


9) Indicates a greasing point .



10) Shows the direction of rotation of the power takeoff and the maximum number revolutions.

OIL LEVEL



11 Indicate a oil point.

MANUAL SIGNS.

DANGER



Indicates an impending dangerous situation which, if not avoided, will cause death or severe personal injury.

ATTENTION



Indicates a potentially dangerous situation which, if not avoided, could cause death or severe personal injury, including dangers which are present when protection is removed.

CAUTION



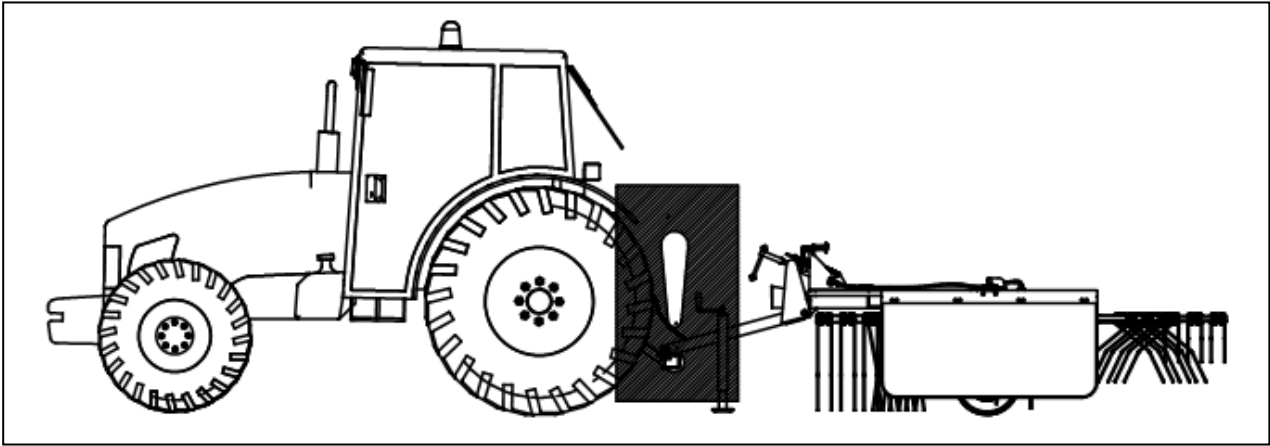
indicates a potentially dangerous situation which, if not avoided, can provoke less severe or minor injuries.

3) General Summary Of Safety And Accident-Prevention Instructions

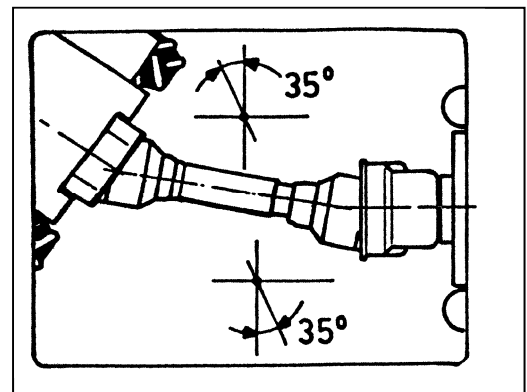
Read all the directions carefully before using the machine. When in doubt, seek advice from the manufacturers.

The manufacturing company declines all responsibility for non-compliance with the following safety and accident-prevention instructions.

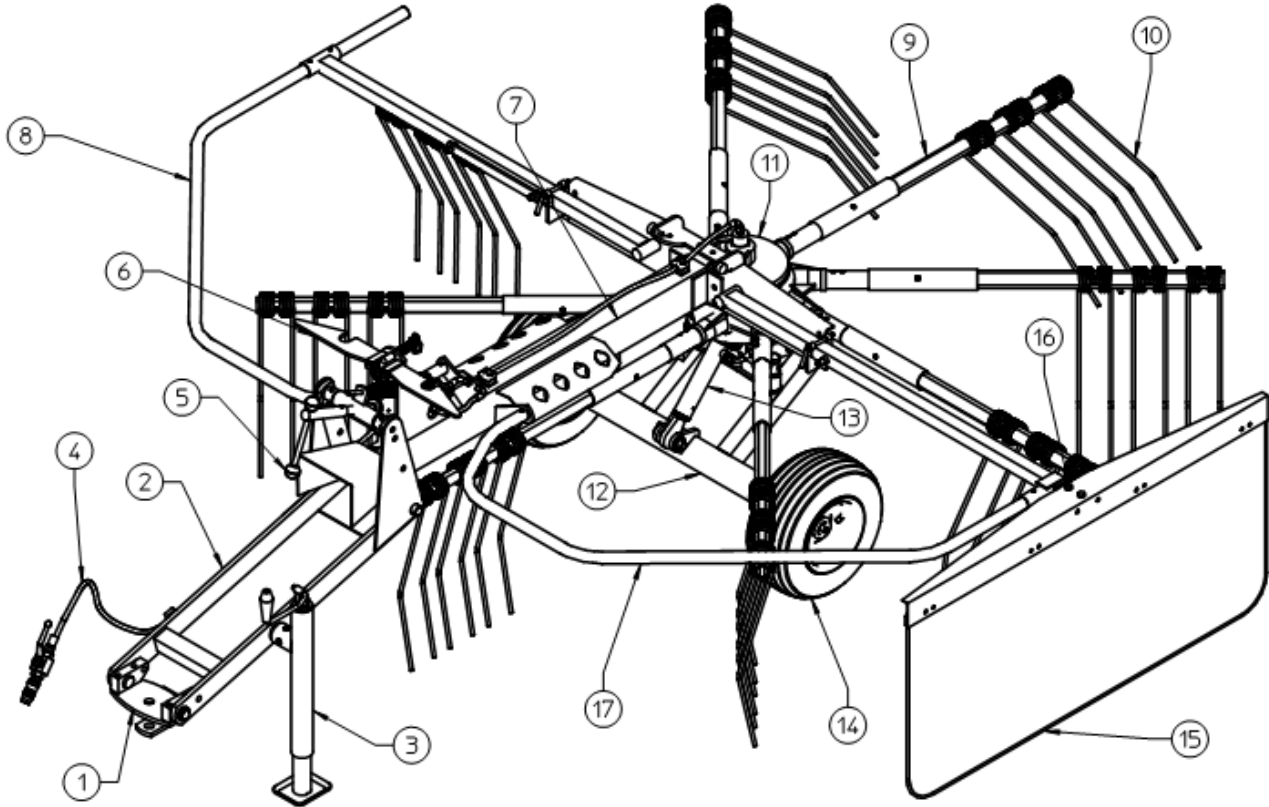
- 1-** Pay attention to the danger signs and symbols in this manual and on the machine.
- 2-** Do not touch moving parts.
- 3-** All work on the machine (including adjustments) must always be carried out with the tractor immobilized and the engine switched off.
- 4-** On no account may persons or animals be carried on the machine.
- 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-** Connecting the machine to the tractor creates a different weight distribution on the axles and so it is essential to ensure that the tractor-machine combination is stable in all anticipated working conditions. It is therefore necessary to have exact instructions from the tractor manufacturers. If such instructions are not available, suitable tests should be conducted in safe conditions in order to assess stability.
- 8-** Once the machine is connected, it can only be controlled through a cardan shaft complete with the required overload protection and guard secured with the appropriate small chains. Be aware of the rotational direction of the cardan shaft.
- 9-** Before operating the tractor and machine, check that all transport and operational safety devices are complete and working.
- 10-** When driving on public roads, you should comply with the Highway Code regulations for the country concerned.
- 11-** Do not exceed the tractor axle maximum weight and the total mobile weight. Heed transport regulations.
- 12-** Before starting work, familiarize yourself with the control devices and how they work.
- 13-** Wear suitable clothes. Do not wear clothing which is loose or which could become entangled in rotating or moving parts.
- 14-** Connect the machine to a suitably powerful tractor by using an appropriate lifting unit and in accordance with instructions.
- 15-** Take maximum care when connecting and disconnecting the machine to and from the tractor.
- 16-** The machine and any road transport attachments must bear the appropriate signs and symbols and have suitable protection.
- 17-** Never leave the driving seat when the tractor is running.
- 18-** It is extremely important to appreciate that road holding, steering and braking may be significantly affected with the machine attached.
- 19-** When turning corners with the machine attached, be aware of the fact that the centrifugal force will alter due to the change in the center of gravity.
- 20-** Before engaging the power takeoff check the preset revolution speed. Do not change speed from 540 rpm to 1000 rpm.
- 21-** Under no circumstances should anybody stand near the machine or any moving parts. It is the duty of the operator to ensure that this requirement is respected.
- 22-** Before leaving the tractor, lower the machine with the lifting unit, stop the engine, apply the parking brake and remove the ignition key from the instrument panel.
- 23-** Under no circumstances should anybody go between the tractor and the machine (Fig. 1) when the engine is running and the Cardan shaft is engaged, especially without first having applied the parking brake and placed chocks against the wheels.



- 24- Before connecting or disconnecting the machine to or from the 3-point linkage, put the lifting unit lever into the locked position.
- 25- The connection pins on the machine must match the connection sockets on the lifting unit.
- 26- During transport, secure the lateral lifting arms with the appropriate chains and tighteners.
- 27- When the machine is raised during road transport, put the tractor's hydraulic lifter lever into the locked position.
- 28- Only use the Cardan shaft provided by the manufacturer and, in case of replacement, substitute it with one having the same characteristics.
- 29- Regularly check all protection on the Cardan shaft. This should always be in excellent condition and securely fixed.
- 30- It is important to ensure that the protection on the Cardan shaft is complete.
- 31- Connection and disconnection of the Cardan shaft must be carried out with the engine switched off.
- 32- Pay particular attention to the correct connection and safety of the Cardan shaft and the power takeoffs on the machine and the tractor.
- 33- Prevent the cardan shaft protection from rotating using the chains supplied.
- 34- Before engaging the power takeoff, make sure that there are no people or animals in the vicinity and that the selected engine speed corresponds to that permitted. Never go above the maximum permitted.
- 35- Do not engage the power takeoff when the engine is not running.
- 36- Always disengage the power takeoff when the Cardan shaft is at too wide an angle (it should never be more than 35° see fig) and when it is not in use.
- 37- Only clean and grease the Cardan shaft when the power takeoff is disengaged, the engine is off, the parking brake is applied and the ignition key is removed.
- 38- On disconnecting the Cardan shaft, replace the protective hood on the power takeoff shaft.
- 39- Prolonged use of the machine can cause the drive boxes to become hot. To avoid any risk of getting burnt, avoid touching these areas both during use and some time afterwards.
- 40- Periodically check screws and nuts for tightness and grip. Tighten if necessary.
- 41- When carrying out maintenance work or replacing the blades, raise the machine and rest on adequate supports.
- 42- Use the quantities of grease and oil advised.
- 43- Spare parts must meet the requirements as defined by the manufacturer. Use only original spare parts.
- 44- 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).
- 45- The instruction booklet must be available for the lifetime of the machine.



PRODUCT IDENTIFICATION



MAIN PARTS

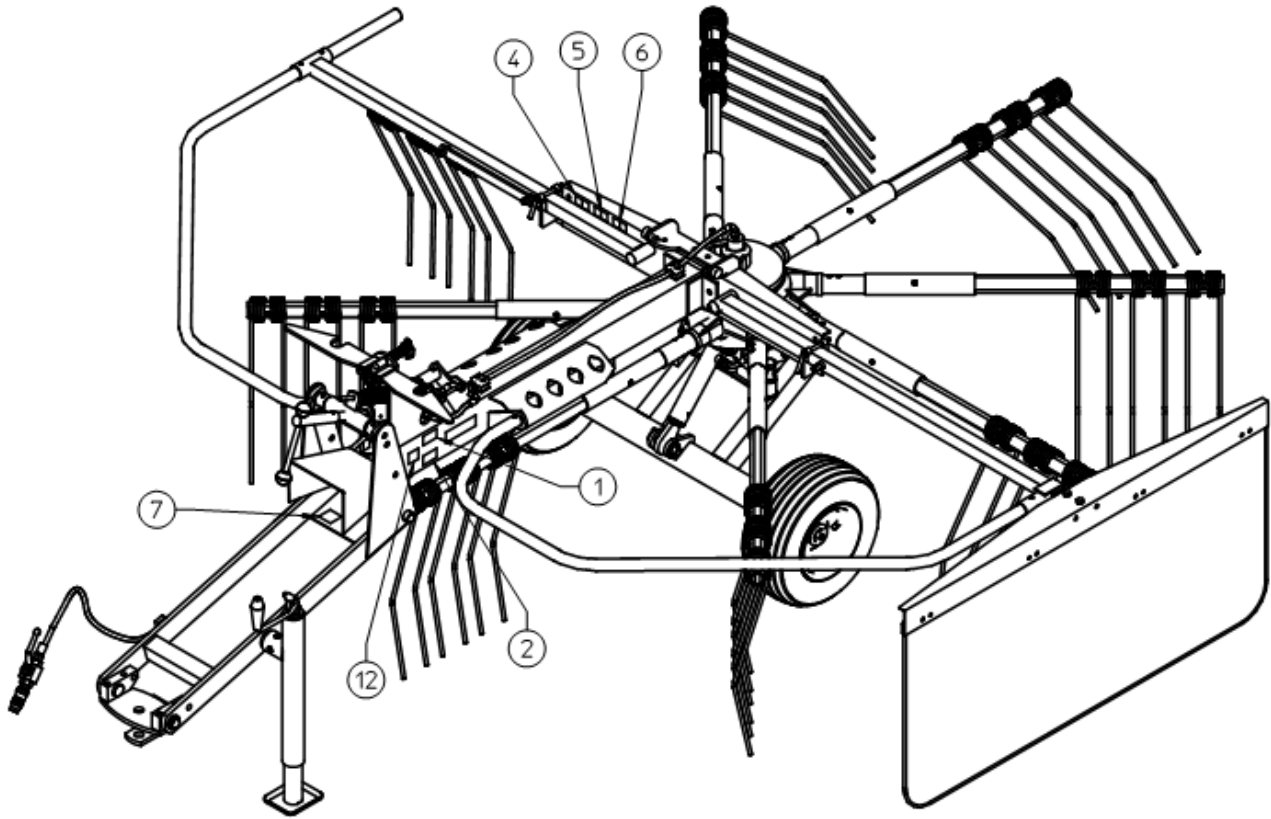
- 1) BRACKET
- 2) DRAWBAR
- 3) PARKING STAND
- 4) HYDRAULIC KIT
- 5) CRANK
- 6) RATCHET
- 7) FRAME
- 8) R.H. GUARD
- 9) TINE ARM
- 10) TINE
- 11) GEARBOX
- 12) AXLE
- 13) CYLINDER
- 14) TYRE ASSY
- 15) SWATHING DEFLECTOR
- 16) TELESCOPING TUBE
- 17) L.H. GUARD



IDENTIFICATION PLATE

RPM TRACTOR	RPM ROTORS	POWER REQUIRED	WHEEL TYPE	OPERATING WIDTH	TRANSPORT WIDTH	WEIGHT
MAX 540	75	HP 25	16X6.50	3,2Mt	1600	KG 466
		KW 19	6PLY	126"	63"	LBS 1030

LOCATION OF SIGNS AND SYMBOLS ON THE MACHINE



- 1) SEE DRAWING 1 P.4
- 2) SEE DRAWING 2 P.4
- 3) SEE DRAWING 3 P.4
- 4) SEE DRAWING 4 P.5
- 5) SEE DRAWING 5 P.5
- 6) SEE DRAWING 7 P.5
- 7) SEE DRAWING 10 P.6
- 8) SEE DRAWING 8 P.5
- 9) SEE DRAWING 9 P.6
- 11) SEE DRAWING 11 P.6
- 12) IDENTIFICATION PLATE

CHAPTER 4

DELIVERY AND ASSEMBLY

Checking the machine on delivery

All parts are carefully checked before dispatch or delivery.

On receiving the machine, ensure that it has not been damaged during transport. If damage has occurred, contact the dealer concerned.

Details of packing are given below.

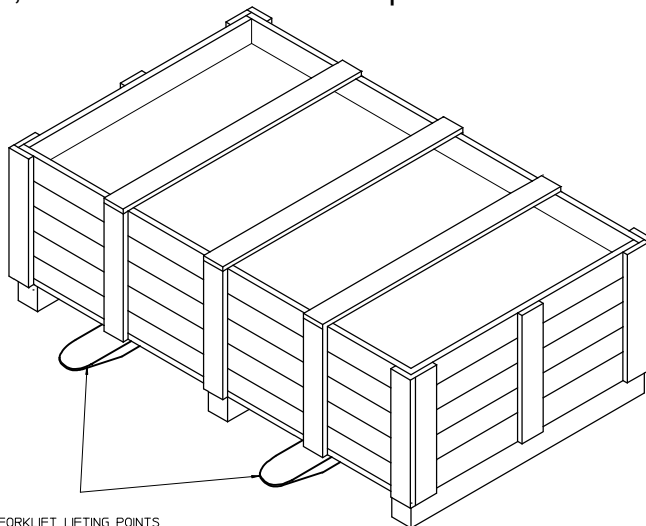
UNPACKING THE MACHINE



DANGER !!!



Lift the machine using a forklift truck, crane or other suitable equipment of sufficient capacity after first checking the weight of the configurations in the table given below. Check the stability and positioning of the load on the forklift truck forks or crane hook. Keep the load as low as possible during movement for maximum stability and to ensure that the operator has maximum visibility. If a forklift truck is used, ensure that the forks are positioned as wide apart as possible.



	WEIGT PACKING	WEIGHT
KG	520	466
LBS	1150	1030

- NOTE: 1) The packing consists mainly of wood which should be disposed of according to the laws in force in the country where the machine is used. The plastic film should also be disposed of according to the laws in force in the country where the machine is used.
- 2) When storing, it is permissible to stack 2-3 crates on top of each other. Make sure that they are perfectly aligned vertically.
- 3) In the event of further transport, ensure that the machine is on the transporting vehicle.

ASSEMBLY



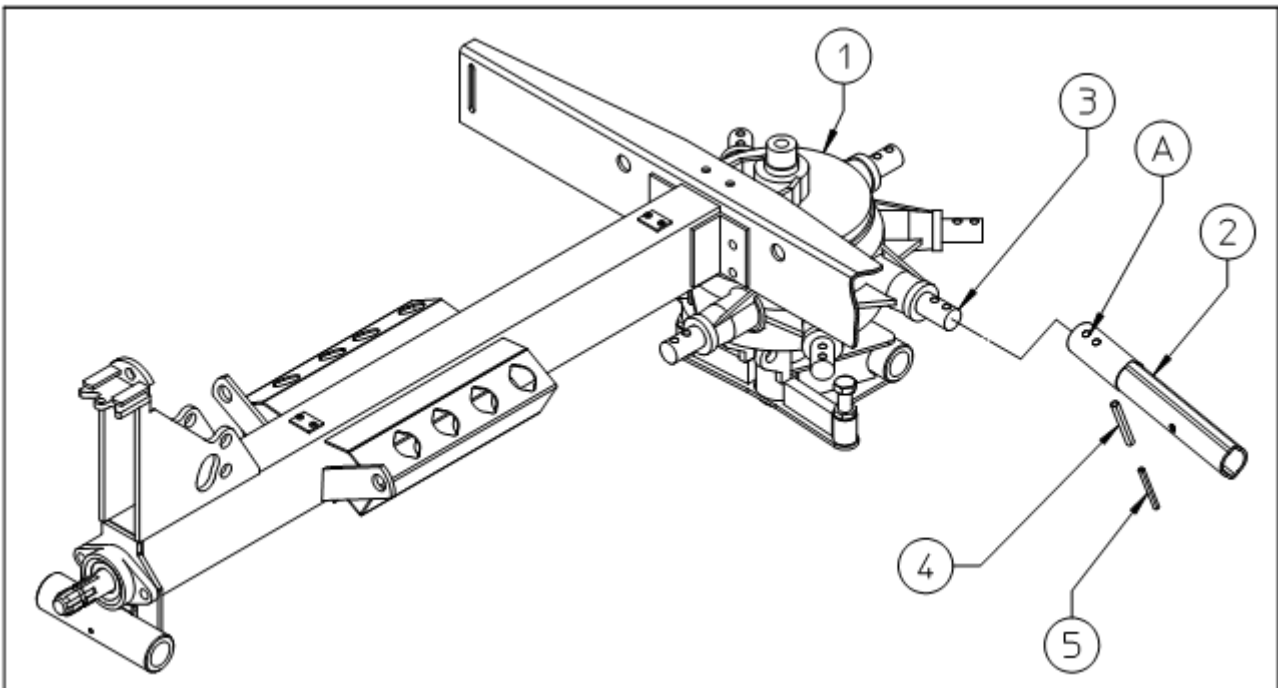
DANGER !!!



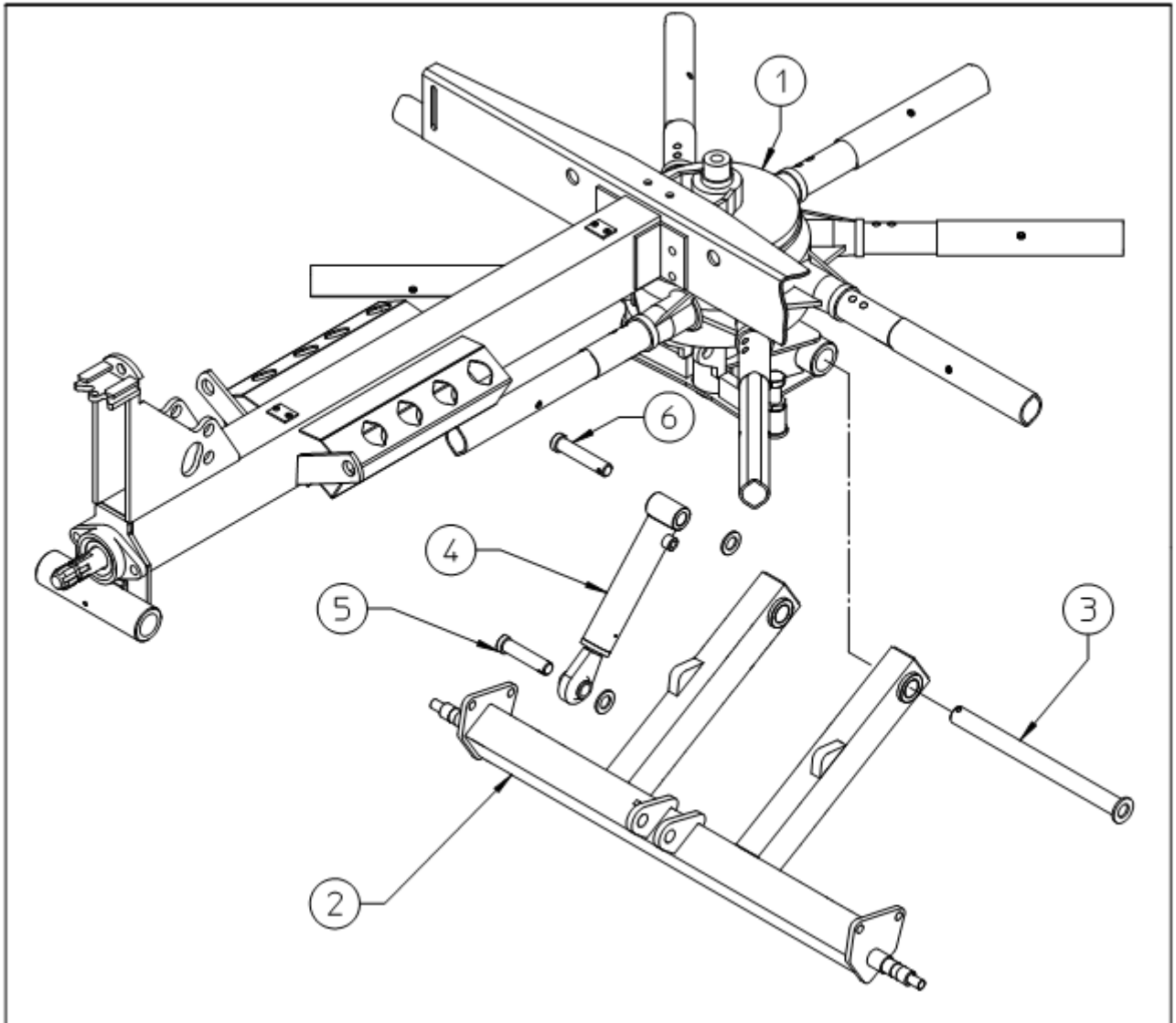
Assembly is highly dangerous and must be carried out in strict accordance with the following instructions. We recommend that assembly be performed by qualified personnel. We also recommend that assembly be carried out in a flat, open area with no people (particularly children) nearby who could be severely injured if they were to touch or move any parts of the machine.

Assembly sequence:

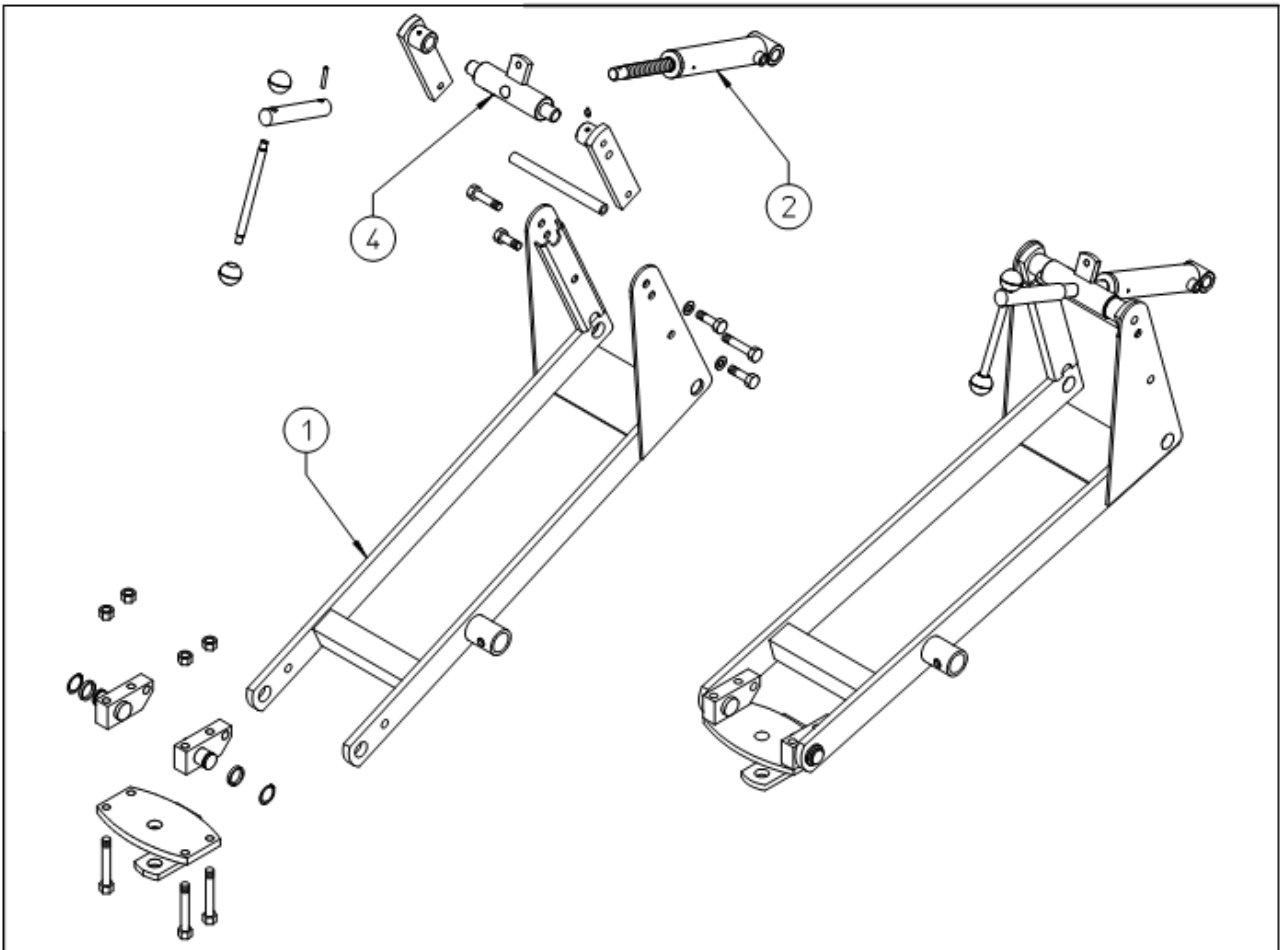
Attach the arms (2) to the housing (1), placing them over the pins (3). Fasten the arms by inserting spring pins (4) into holes (A), and then insert the inside spring pins (5).



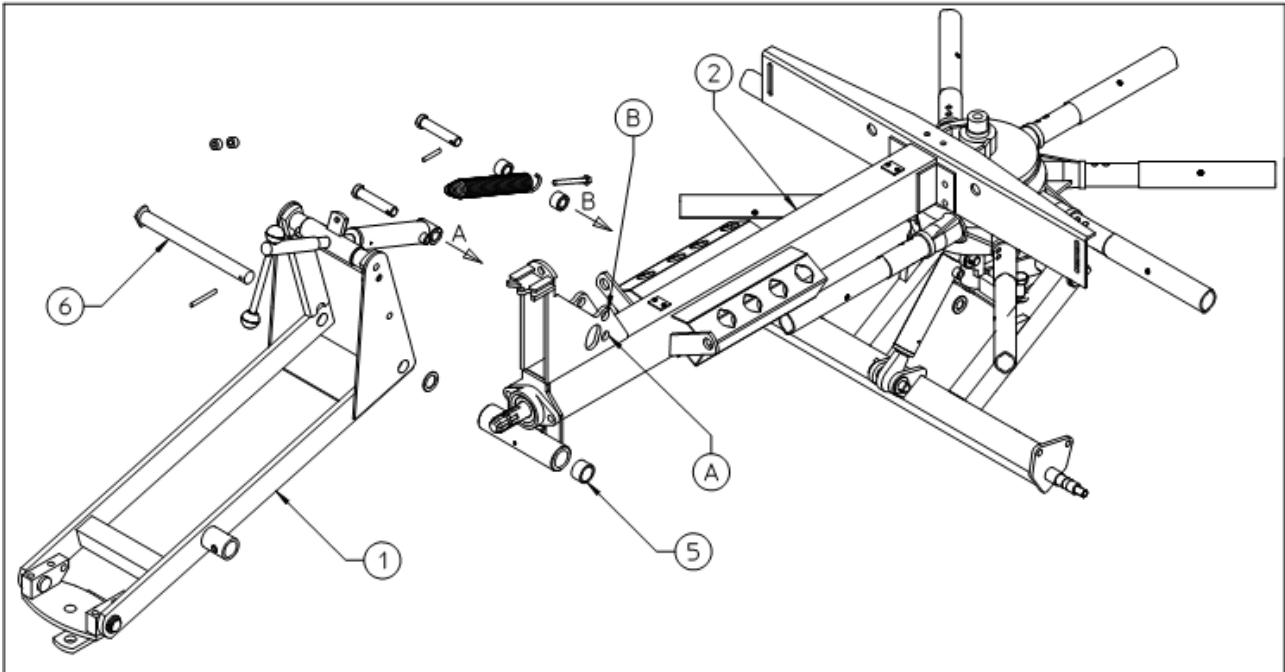
Attach the axle (2) to the housing (1). Insert pin (3) into hole and fasten with the spring pin. Attach the cylinder (4) with the pin (5) and (6), fasten pin with the spring pin.



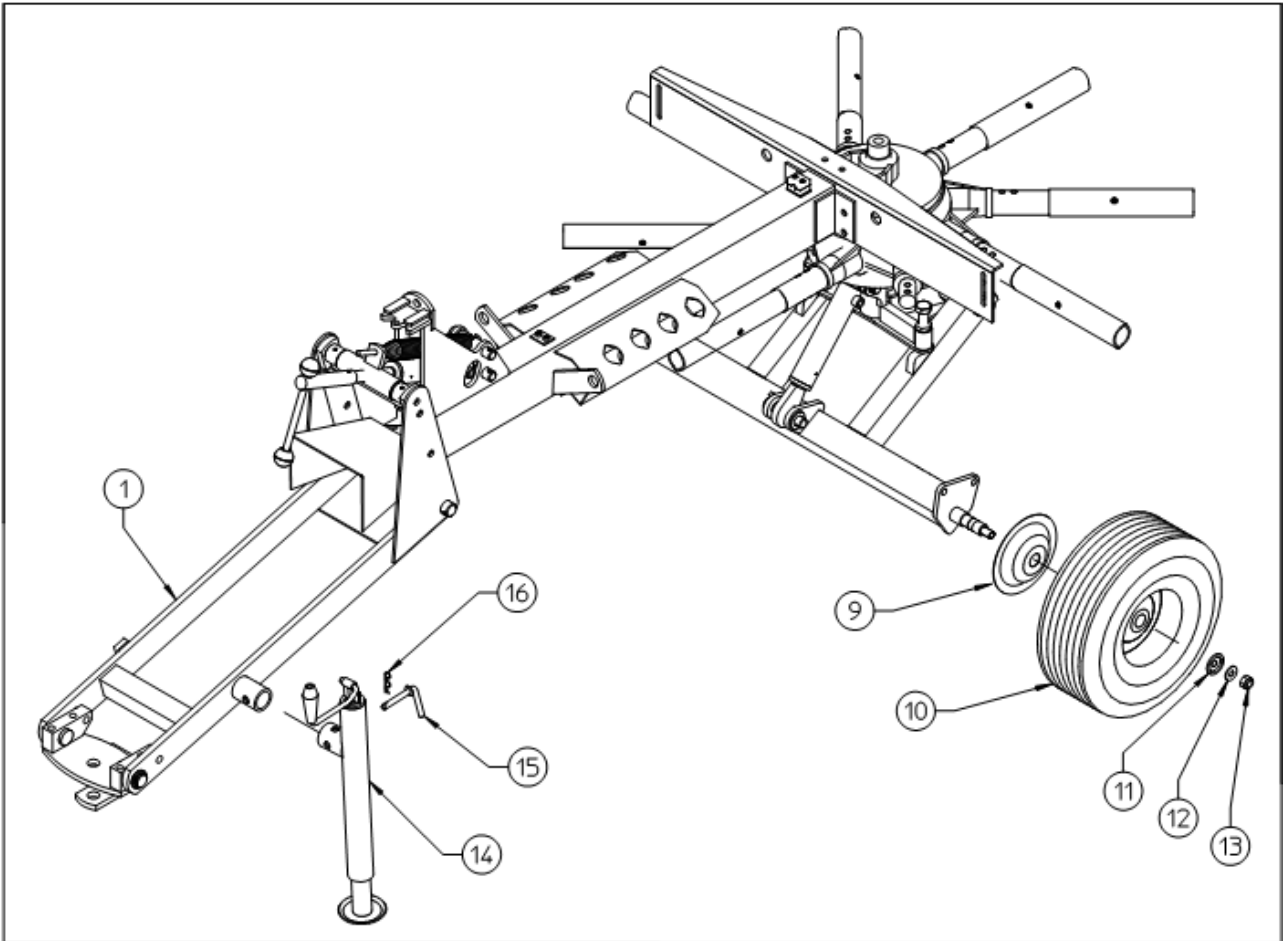
Attach the cylinder-adjustment assembly (2) to the drawbar (1), fastening with the spring pin



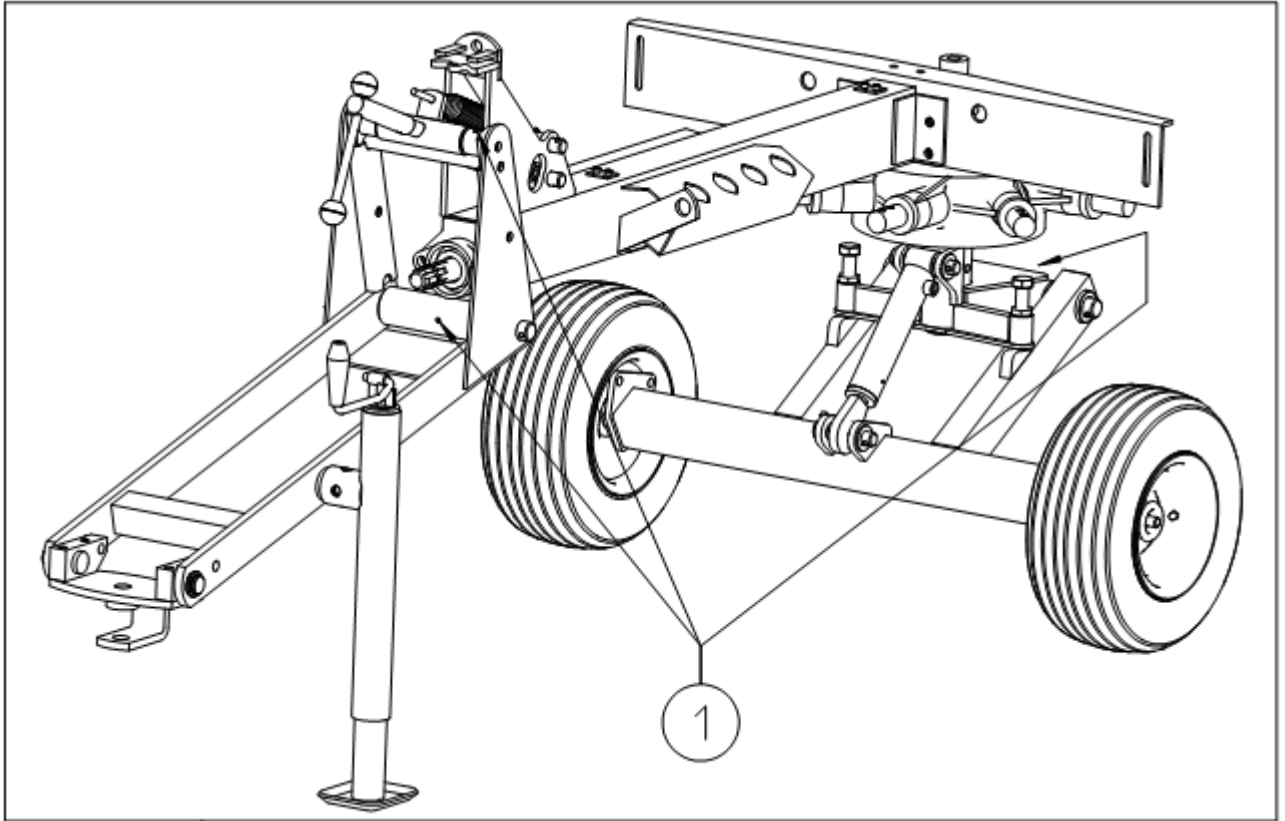
Rest the main frame (2) on stands and then insert the wear bushings (5). Insert pin (3) into hole (A) and fasten with the spring pin (42). Position the drawbar (1) so that pin (6) can be inserted, and fasten pin (6) with the spring pin (7).



Mount wheels (10) on the axle pins, first placing the large guard (9) and then the small guard (11), the washer (12) and tighten with the nut (13). Mount the parking stand (14) to the mount on the drawbar (1), and fasten with pin (15) and clip (16). The machine can now be placed on the ground.



Mount the grease nipple (1) on all bush.



HYDRAULIC SYSTEM ASSEMBLY

Assemble 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
Insert tube (16) to gearbox and attach the hose collar (17)-(19) to the lugs on axle. Mounting bush (15) to tube.

Connect the fitting pipe (20) nipple (12) on cylinder.

Connect the fitting pipe (20) with fitting (18) on tube (6)

Connect the fitting (14) to tube (16), tube (16) its insert on the gearbox

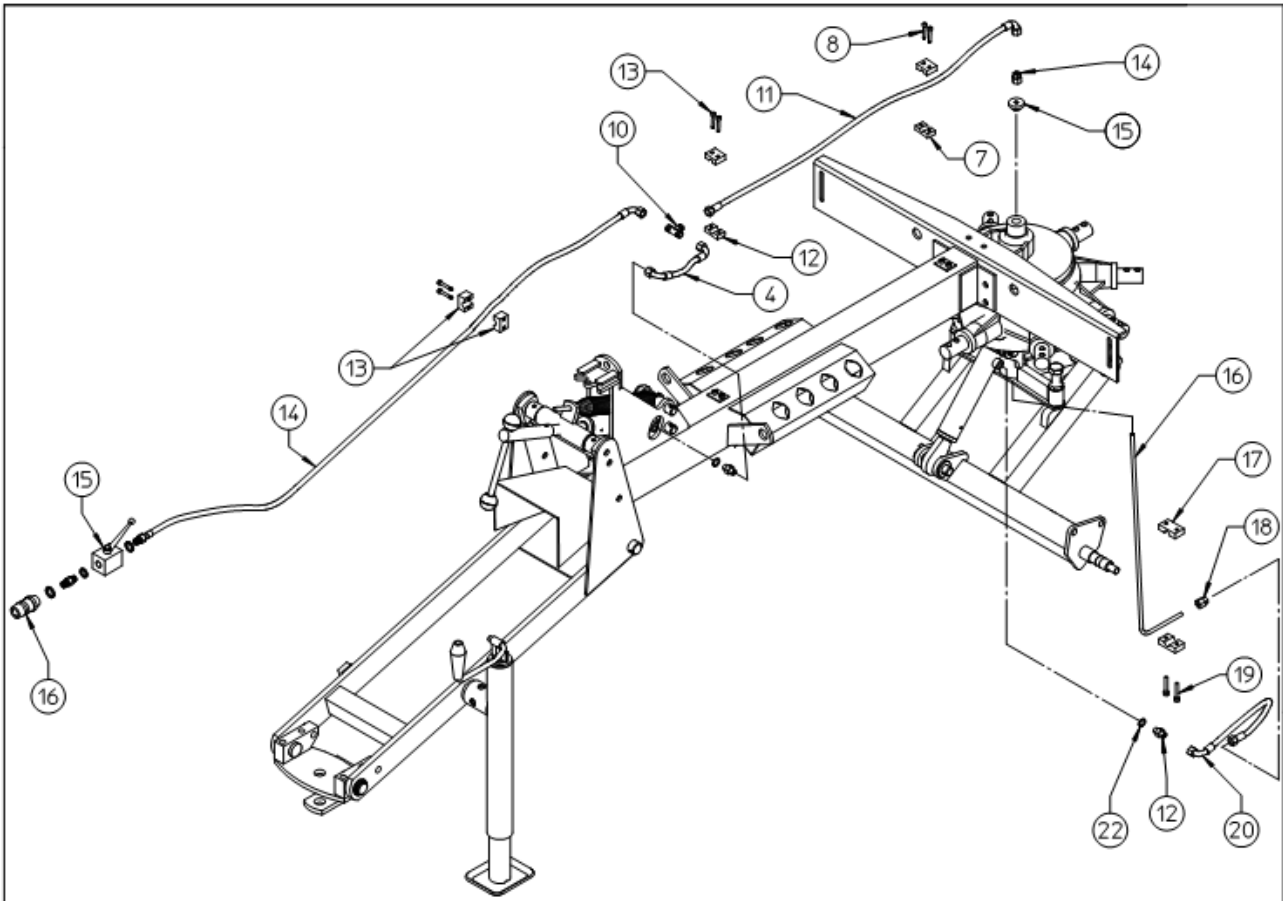
Connect the rotating female ends of pipes (11) to fitting (14)

Attach the T connector (10) with lines (11) and (14), and fasten the lines into the working position using the three line clamps (13) and (7), without pulling the lines tight; in the area where the main frame is joined to the drawbar, the line must make an arch, so as to allow movement between the two parts.

Check carefully to make sure that the opening of the tilt adjustment cylinder does not pull on line (14). If it does, lengthen the loose section between the two line clamps (13) that hold the lines in this area.

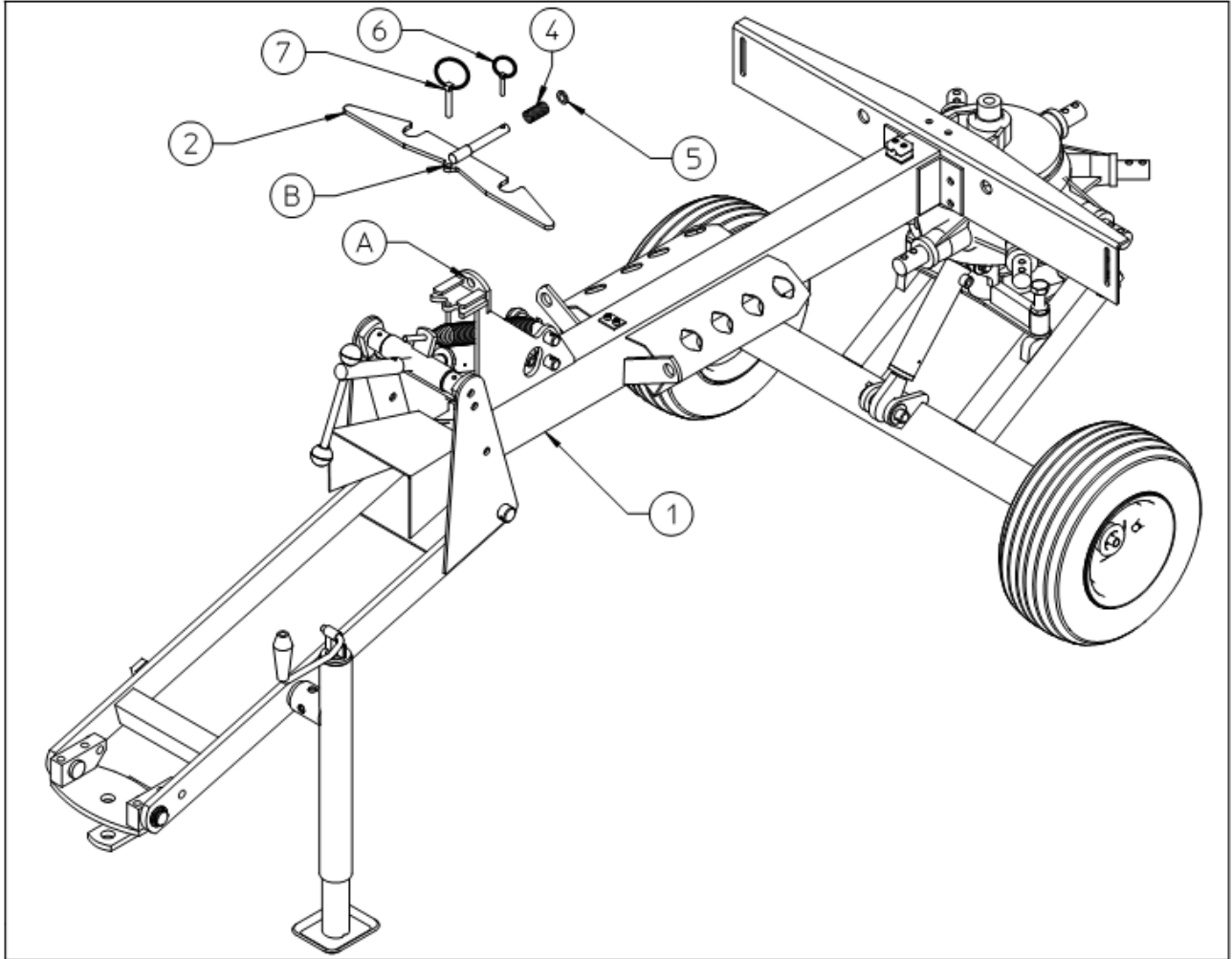
The short line (4) feeds the tilt adjustment cylinder and is attached by means of the nipple and washer. Attach the tap (15) and quick-release coupling (16) to the end of line (14).

Check to make sure that all connections are correctly fastened.



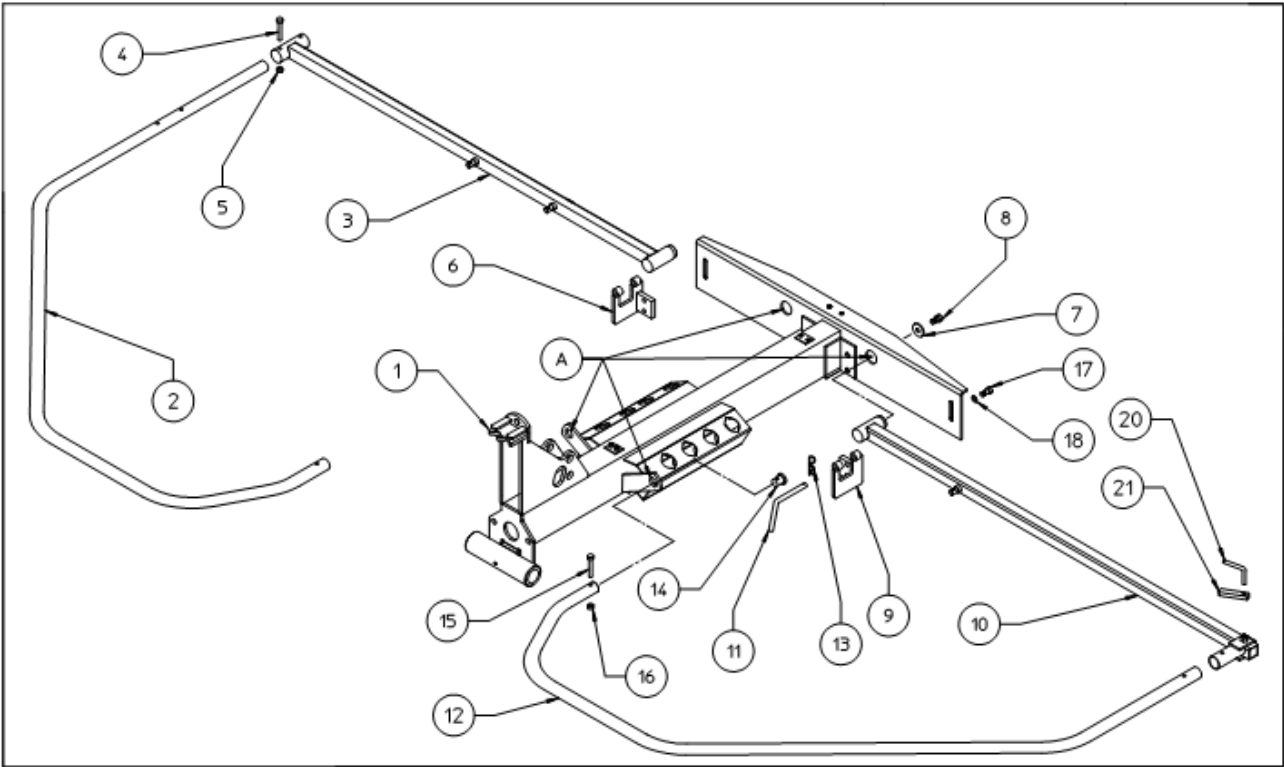
Danger: the hydraulic cylinders are empty to start with, and the first time they are filled very dangerous uncontrolled movements can take place. It is recommended that the cylinders be filled with oil before connecting them to the machine, and the arms should be raised and lowered with the controls 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.

Mount the safety hook (2) by inserting it into hole (A), and then place the spring (4) and washer (5) over the pin, fastening in place with pin (6). Insert safety pin (7) in hole (B).

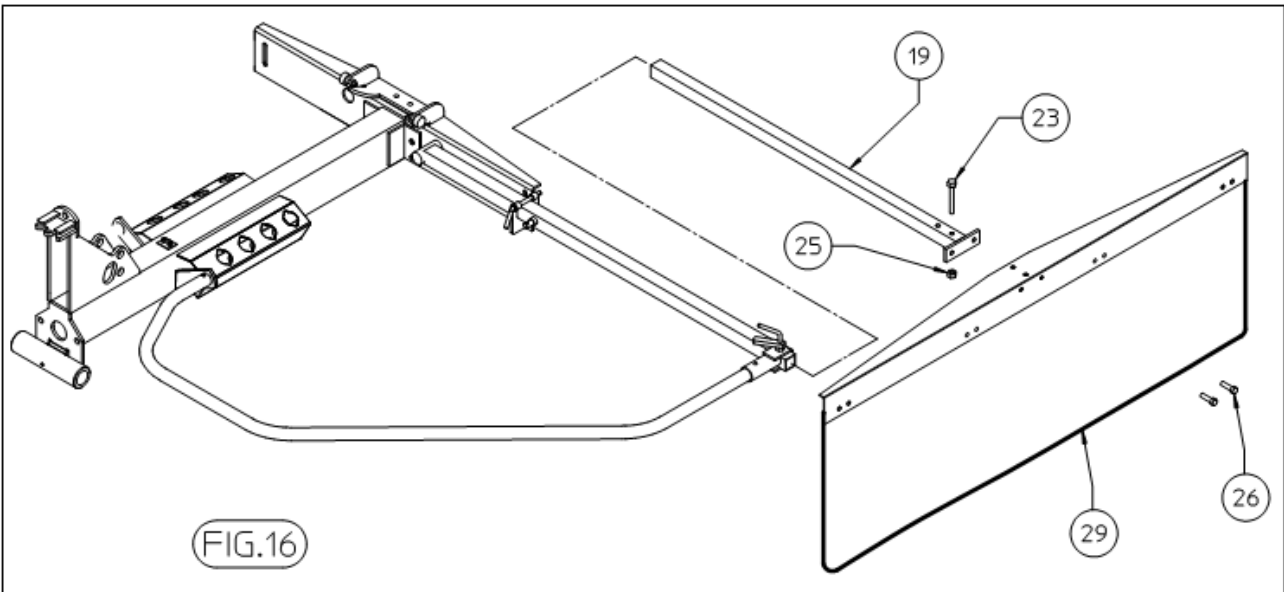


Mount the right-hand protection frame 2-3 by inserting into the special hole (A) on the drawbar and use screw 8 and pin 14 to fasten it.

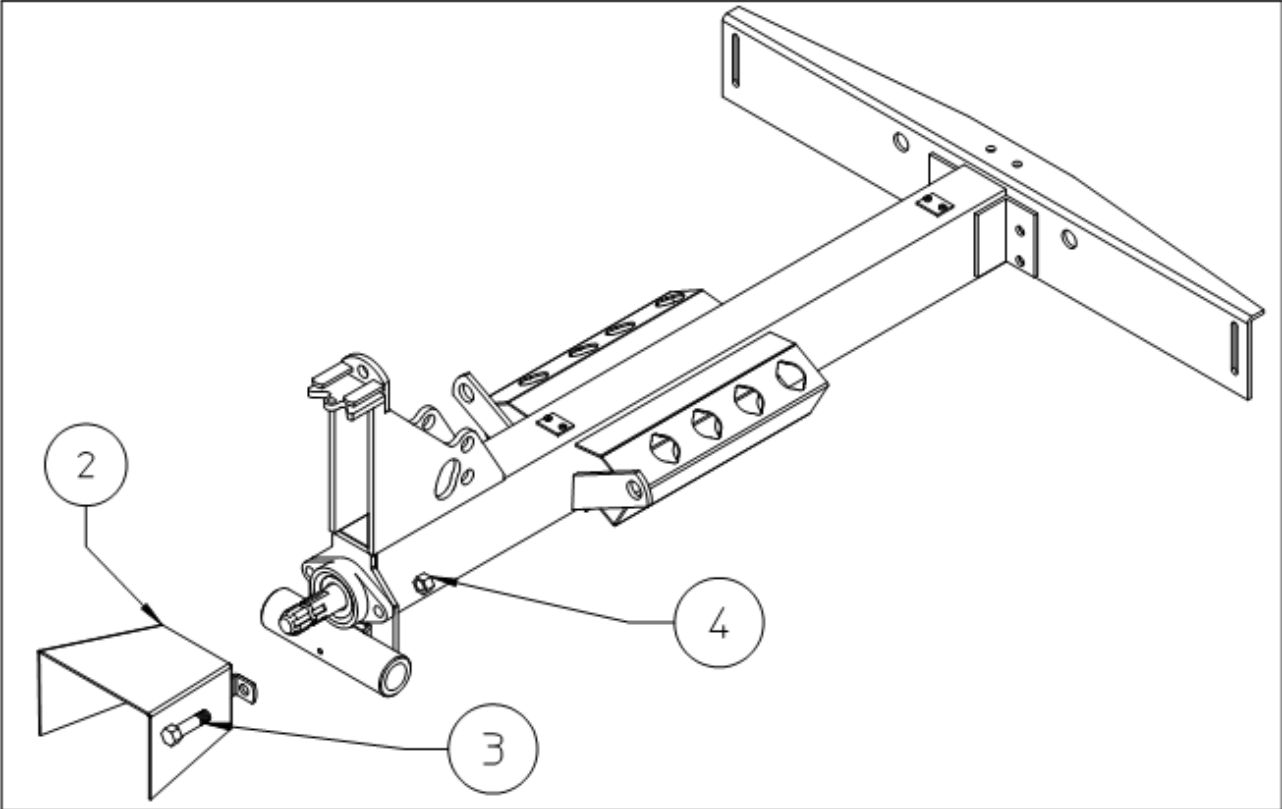
Repeat the procedure on the left-hand protection of the machine. Assemble support 6 and 9 using screw 17. Use pin 11 to fasten the protection. Mount pin 20 and plate nut 21.



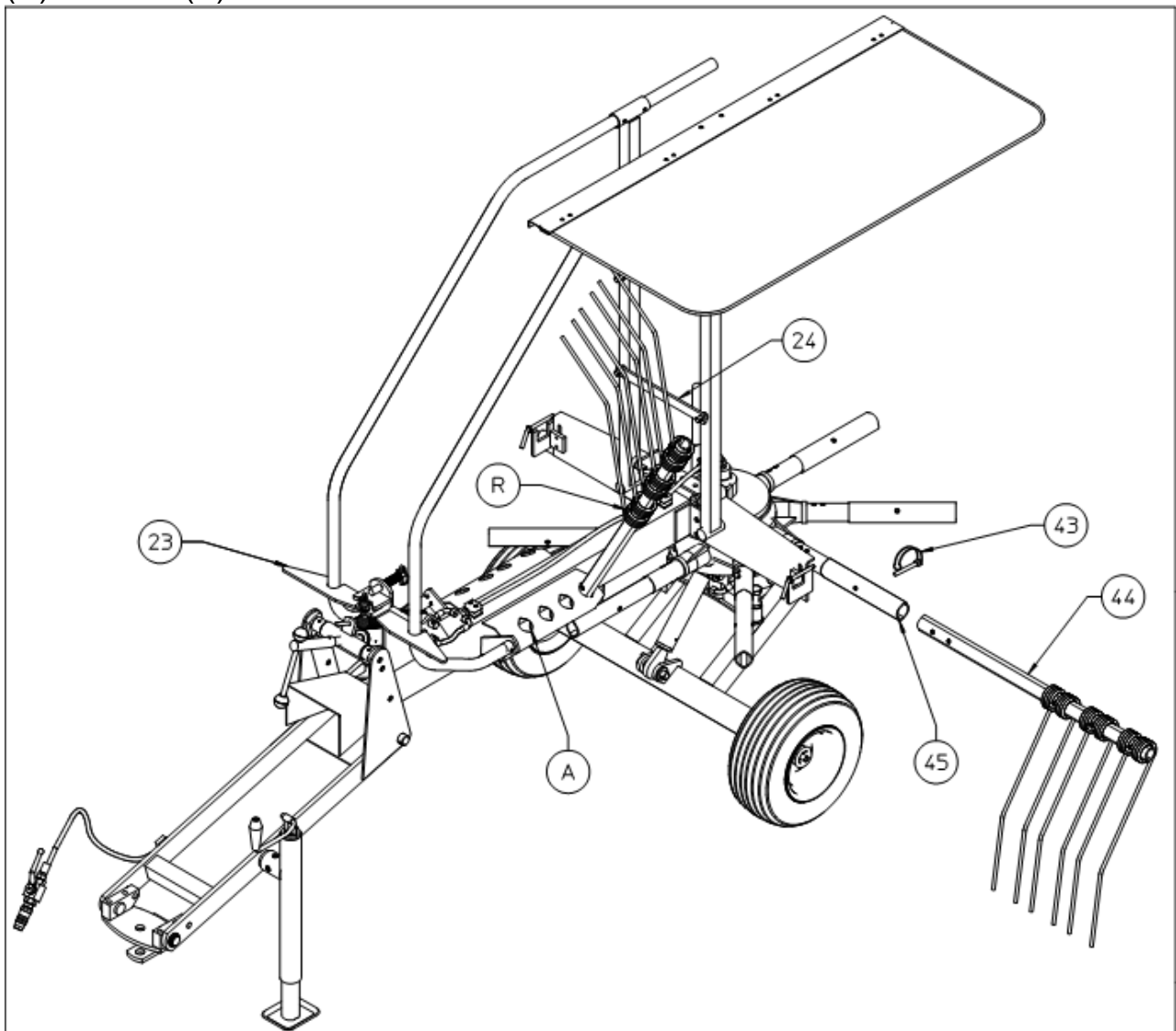
Use screws (23) and (26) to mount group swathing deflector on plate carrier extension (19). Insert extension on the protection



Attach the universal joint casing (2) using screws (3), nuts (4).



Before assembling the rake arms, raise the protection frames and use hook (23) and plate (24) to hold them up. If the machine has to be set up for work, mount detachable arms (44) on to the fixed arms (45) and fasten them with pin (43); the two holes on the detachable arms are to adjust swath width. The maximum working width is obtained by assembling the arm on the innermost hole. If the machine has to be prepared for transport or for storage, mount the detachable arms in position (R) in holes (A) on the frame.



CHAPTER 5

ADJUSTMENT, PREPARATION AND USE

INTRODUCTION



DANGER !!!



Connection to the tractor is highly dangerous. Take great care and carry out the entire operation in strict compliance with the following instruction.

Nobody should go near the area between the tractor and the machine.

Check that all warning and danger signs are in place and legible.

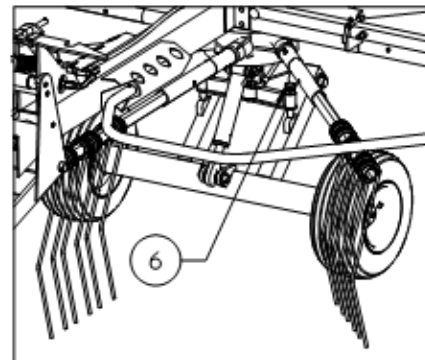
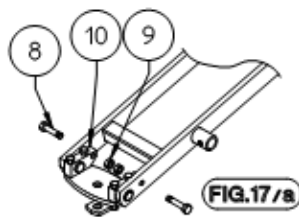
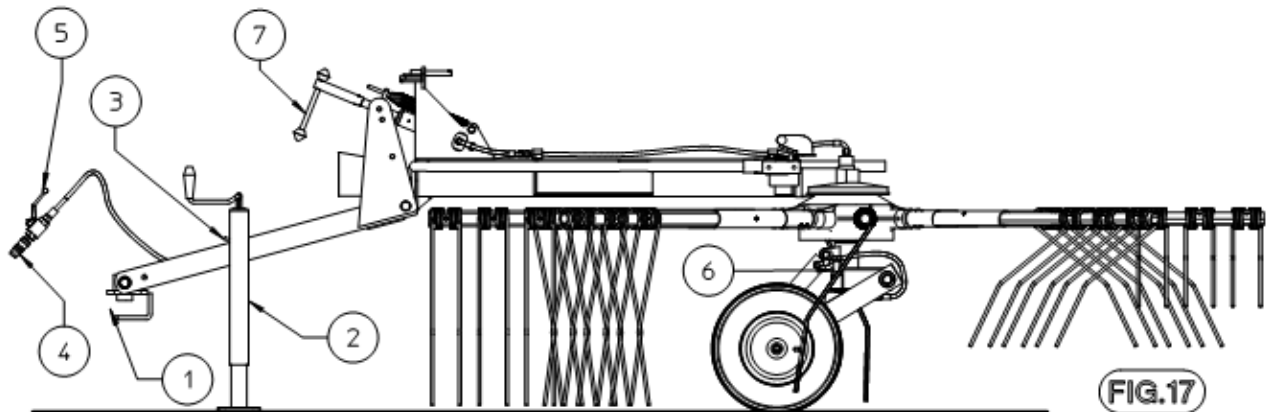
Check that the tractor is in good running order. Check the engine oil, gearbox oil, brake fluid and cooling water levels as well as the tyre pressures.

Refer to the tractor operator's manual.

CONNECTION TO THE TRACTOR

Connect the machine to the tractor, hitching it to the drawbar bar at point (1). If the two-point crosspiece is used, lock the equalizers (10) using the optional screws (8) and nuts (9). **Attention: do not use screws (8) if the machine is hitched to the drawbar.** After the machine is hitched, loosen the parking stand (2) and remove pin (3), then rotate the stand upward towards the back of the machine and insert pin (3) to hold it in the resting position.

Once this procedure is completed, insert the quick-release coupling (4) into the tractor socket and open the tap (the lever must be parallel with the line, as shown in the illustration). At this point, work carefully with the hydraulic distributor to make sure that the frame is completely lowered, then adjust the height of the tines above the ground. To change the distance between the tines and the ground, turn screws (6). By rotating the crank (7), the tilt of the machine relative to the ground is adjusted.



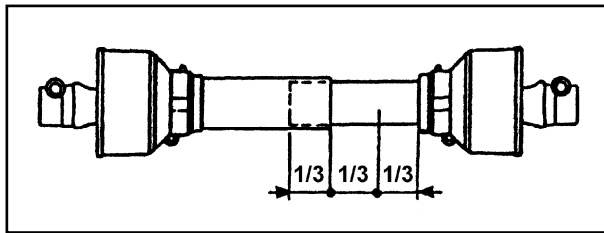
CONNECTING THE CARDAN SHAFT



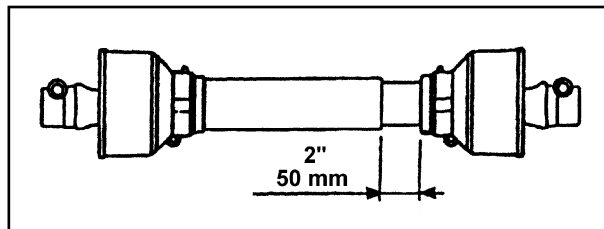
More detailed information may be found in the cardan shaft manual which, together with this manual, is an essential part of the accident-prevention documentation. It is your responsibility to read and comply with this documentation. If information given in this manual should conflict with that given in the cardan shaft manual, you should follow the instructions given by the cardan shaft manufacturer.

Fit the cardan shaft and check that the shaft is connected correctly both at the tractor end and at the machine end. For more details, see the descriptions on the following pages. If a safety system is provided, this should be fitted to the machine end, not to the tractor end.

During both transport and use, avoid conditions where the cardan transmission shaft is extended to the maximum. In all working conditions, the telescopic tubes must overlap by at least 1/3 of their length).

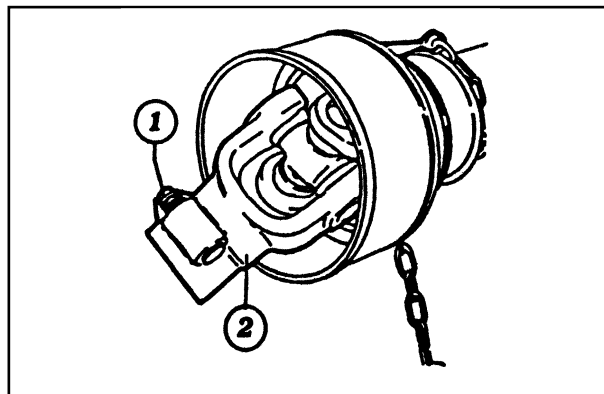


Conversely, when the cardan shaft is contracted to the maximum, there should still be a gap of approximately 50 mm (2") .



Take particular care when connecting the two cardan shaft end forks and make sure that they are fully secured. This is achieved by inserting the safety pins and bolts (1) in the special slots (2) on the power takeoff shafts on both the tractor and machine ends.

A loose shaft could come apart and cause considerable mechanical damage and serious injury to persons.



DISASSEMBLY OF THE TRACTOR

In order to park the rake, make sure that the ground beneath it is flat and is able to bear the weight of the machine.

When the rake is raised and lowered, no-one should be standing between the tractor and the machine or near the machine.

Before disconnecting the machine from the tractor, use the hydraulic system to lower the machine completely, then apply the brake and shut off the tractor. Dismount from the tractor and place the parking stand in the vertical position (pos. 2, Fig. 18). Turn the crank to raise the machine from the drawbar so that the hitch pin may be removed from the tractor. Disconnect the quick-release coupling (4). Disconnect the cardan shaft and lay it against the parking stand crank. The tractor may now be moved away.

If there are problems with space, when not in use the machine may be left in the position shown in pag. 18.

Attention: the machine should be in the high position only when being transported.

ADJUSTMENT OF THE FORAGE RAKE

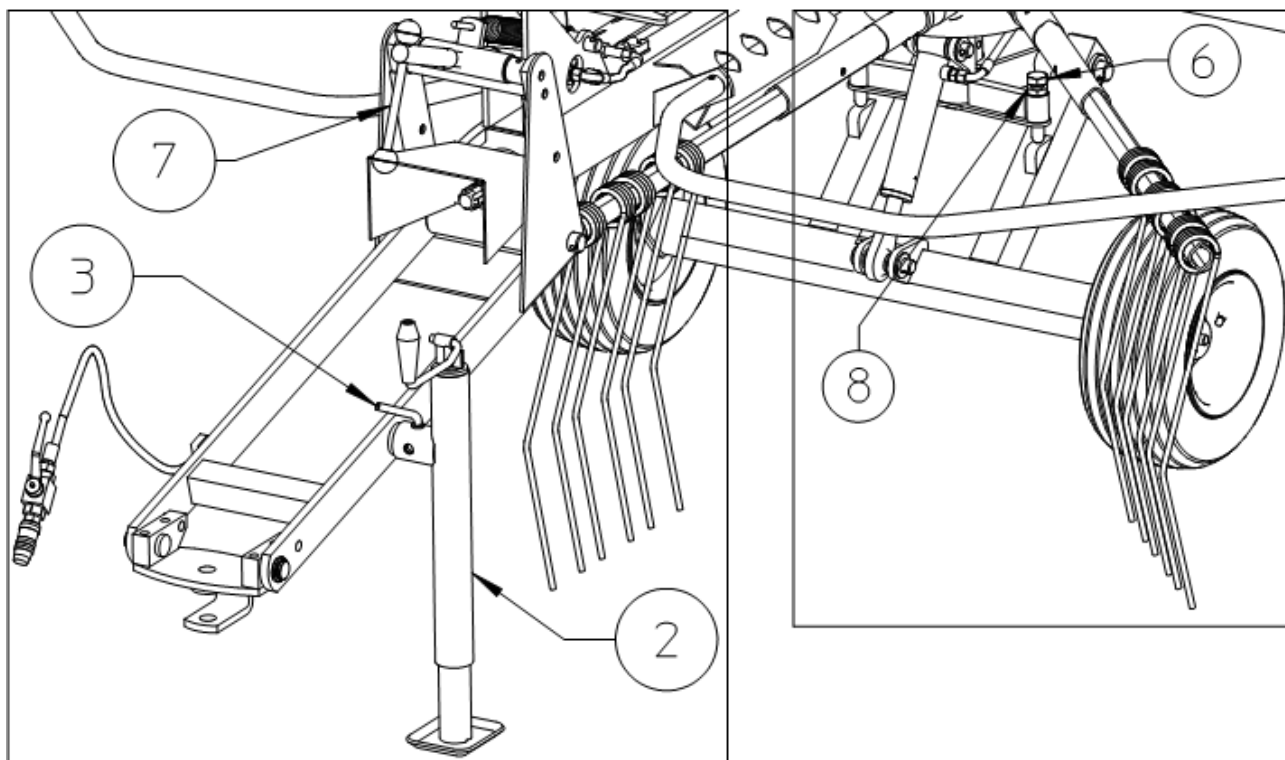
The machine has to be adjusted when it is attached to the tractor.

Adjustment of work depth

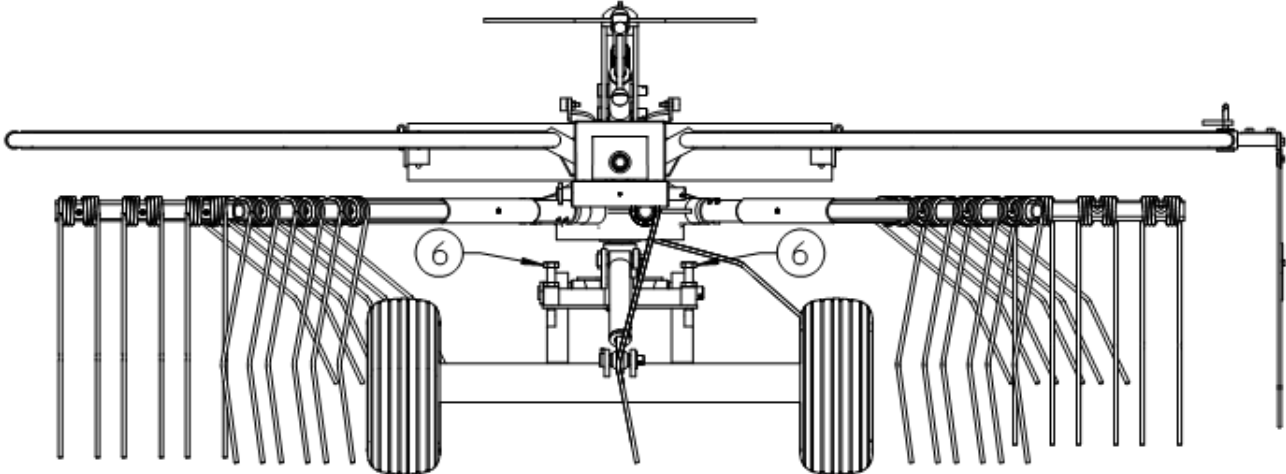
Adjustment of working height

The working height is adjusted by turning screws (6) and nut (8) and by rotating crank (7); it is advised to adjust the front tine so that it is 1 3/8" from the ground, and to keep the machine tilted slightly towards the front. The rear tine should be about 3/16" farther away from the ground.

If adjustment is too high, the forage will not be completely picked up and if it is too low, the forage risks becoming dirty, the grass will be damaged and the double elastic tines will be worn down.

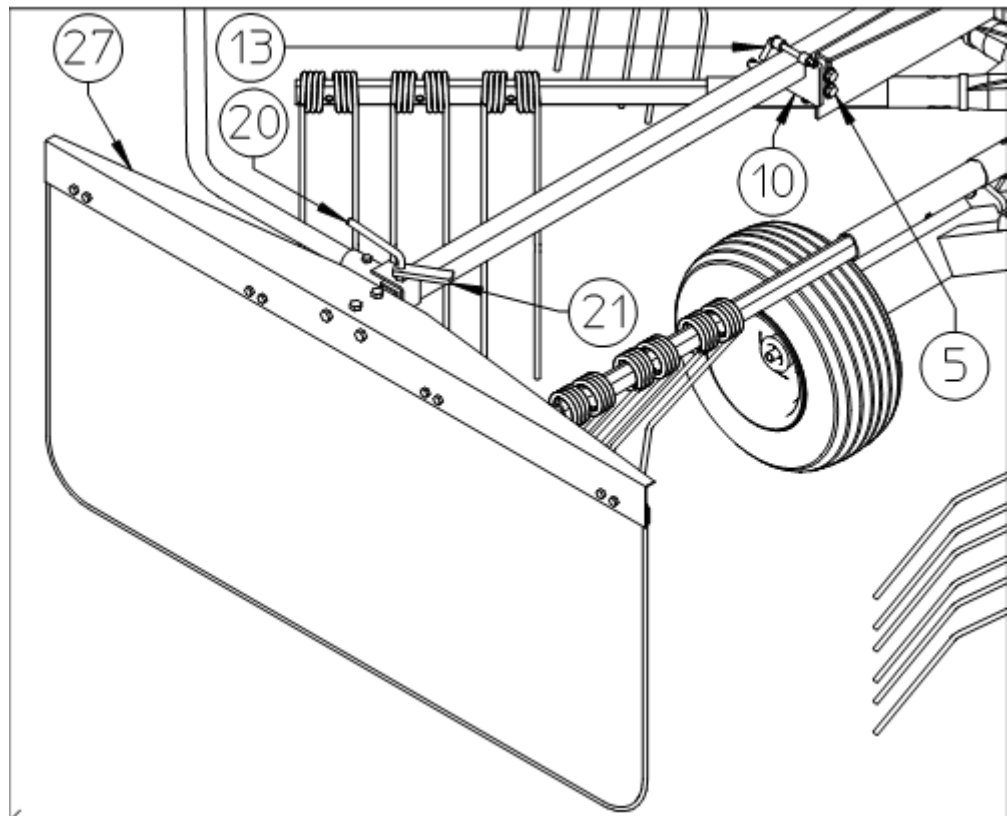


When the working height is being adjusted, set the screws (6) and relative nuts (8) so that the machine as seen in picture is parallel to the ground.



After having adjusted the work height of the tine, use nuts (5) under support (10) to set the distance of the plate from the ground.

The distance between the swath-shaper plate and the rotor determines the size of the swath and on this depends the amount of forage. Adjustment is continuous and a large amount of forage means making a larger adjustment. In order to carry out adjustment, loosen lock (21) and screw (20) and then move plate carrier (27) to the required position and tighten first screw (20) and then lock (21).



In the work position check that safety pin (13) fits into support (10) in order to fasten the swath-shaper plate into position.

Adjustment of gear speed and revs to work the machine

The gear speed and machine revs depend on;

- the amount of forage
- the type of ground
- the degree of dryness

The forage rake was designed for a maximum number of revs for the power take-off of 540 g/min. We advise working with a rev number of 350-450 g/min. Gear speed should be limited so that the rake works cleanly and the swath is well formed.

CHAPTER 6 TRANSPORT

If the machine is used on the road, make sure it complies with traffic regulations in your country; use regulation lights and comply with the safety regulations.

Preparation for transport

The machine may be transported for short distances after having raised it with the hydraulic system. When transporting for longer distances, close the tap (5). This operation must be done regardless of distance when transporting on public roads.

During transport or storage it may be necessary to have the machine occupy less space. To do this, follow the procedure given below (see pag. 18).

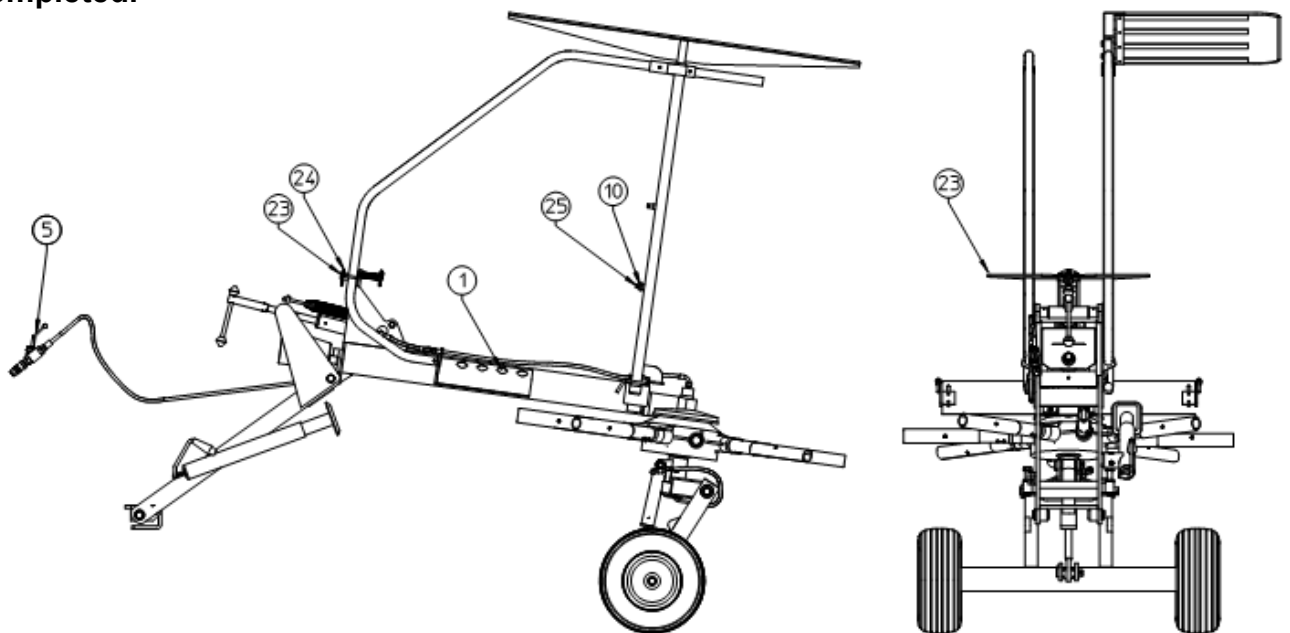
Loosen the swath-shaper plate carrier and reinsert it until the safety hook is released, then tighten the lock screw once again.

Turn the protection frames facing upwards one at a time and use hook (23) and plate (10) to fasten them, insert safety clamp (24) and (25) into the slot.

Remove (see pag.18 for number) tine carrier arms (44) from their slots and take out lock clamps (43), insert the arms into the special slots on side frame (1); the arms should be inserted with the tines facing into the machine. Clamps 43 should be placed into the holes on the rotor arms.

By detaching the arms and lifting up the protection frames, it is possible to have a narrower width if necessary for transport; the machine itself does not require these operations.

Remember to open the tap and lower the machine after transport operations are completed.



CHAPTER 7

MAINTENANCE DIRECTIONS



 DANGER !!! 

All cleaning, lubrication and maintenance operations must be carried out with the machine disconnected from the tractor. In an emergency with the machine still connected to the tractor, switch off the engine, apply the parking brake, disengage the power takeoff and remove the ignition key from the instrument panel.

Regular, correct maintenance and proper operation are the basic prerequisites for the long-term efficiency and safe operation of the machine.

Pay special attention to all instructions given on signs located on the machine.

All maintenance should be carried out in an area having the proper equipment readily available and in good condition. This area must always be kept clean and dry and must, have enough surrounding space to facilitate operations.

Any work must be carried out by trained personnel. Contact the dealer nearest to you.

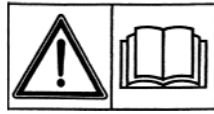
Respect the warnings and procedures for maintenance and technical assistance given in this manual.

Do not use petrol, solvents or other flammable liquids as detergents.

Use commercial non-flammable and non-toxic solvents, authorized by competent bodies.

Do not use compressed air or water at high pressure to clean the machine. If this is unavoidable, then wear goggles with side protection and limit the pressure as much as possible. When the work is finished, and with the machine disconnected from the tractor, inspect and check the machine completely.

GENERAL INSTRUCTIONS FOR REPAIR WORK



 DANGER !!! 

Any repair work must be carried out with the machine at rest and disconnected from the tractor.

Do not carry out welding without authorization and instructions from the manufacturers. Disconnect the machine from the tractor before any welding work in order not to damage the battery.

Always use a protective mask, goggles and gloves when welding, sanding or grinding or when using a hammer or drill.

Always work on the machine out of doors. If you have to operate the machine when connected to the tractor in an enclosed area (for example when testing after repair and/or maintenance), ensure that there is sufficient ventilation so as to prevent noxious exhaust gases accumulating.

In order to acquire the necessary control and to operate in safety, practise various manoeuvres by simulating those required in the workplace with the help of an experienced person.

If you activate the machine while it is raised from the ground, make sure there is nobody standing nearby or in a dangerous position.

LAYING UP FOR EXTENDED PERIODS

At the end of the season, or when an extended period of inactivity is envisaged, it is advisable to:

Clean the machine following instructions and allow it to dry.

Check it carefully and replace any damaged or worn parts.

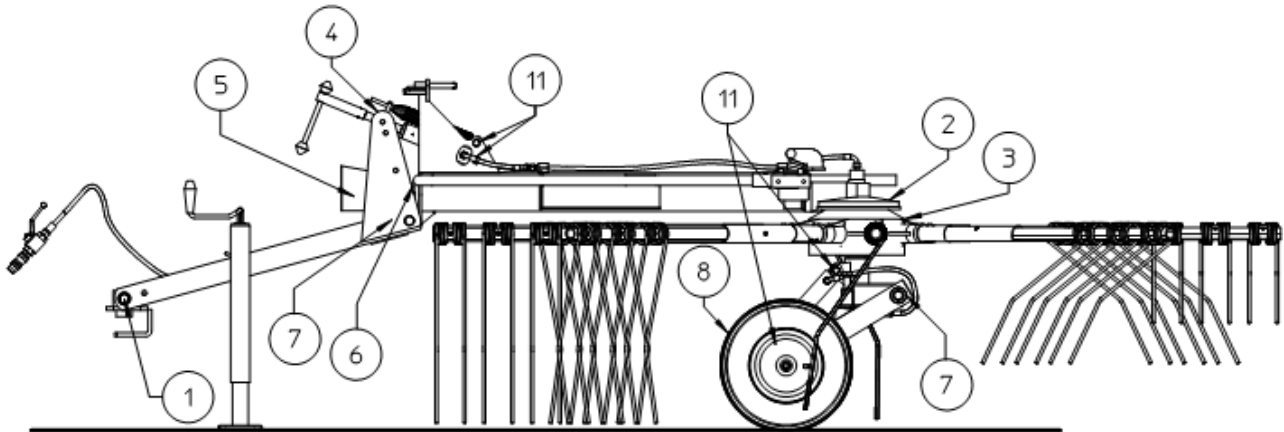
Thoroughly tighten all screws and bolts.

Grease the machine thoroughly and then cover it completely and lay it up in a dry place.

It is to the user's advantage to carry out these operations carefully. In this way, he will have a machine in perfect condition when work is restarted.

On recommencing work, repeat all the proper checks so as to be certain of working in conditions of maximum safety.

MAINTENANCE POINTS



Number	Q.ty	Description	Operation	Every hours	Product to be used	Notes
1	2	Equalizer	Greasing	16	Grease	
2	1	Gearbox	Greasing	8	Grease	
3	1	Gearbox	Oil level	50	Oil SAE90EP	
4	3	Screw and pin	Greasing	20	Grease	
5	1	Power takeoff shaft	Cleaning Greasing	A	Additives Grease	
6	1	Bearing	Greasing	20	Grease	
7	2	Bush	Cleaning Greasing	B	Additives Grease	
8	2 / 4	Tyres	Check pressure	B	Compressor	
9	2	Axle tandem	Greasing	20	Grease	(optional)
10						
11	4	Pin	Greasing	8	Grease	
12						
	2	Cardan shaft	Greasing	8	Grease	

General checking of bolts, security pins and split pins to be carried out initially after the first 8 hours of use. Subsequently every 50 hours and whenever the machine is laid up for extended periods.

A = Each time the Cardan shaft is disconnected and Whenever the machine is stopped, we recommended that you clean the power takeoff shaft and replace the protective cover.

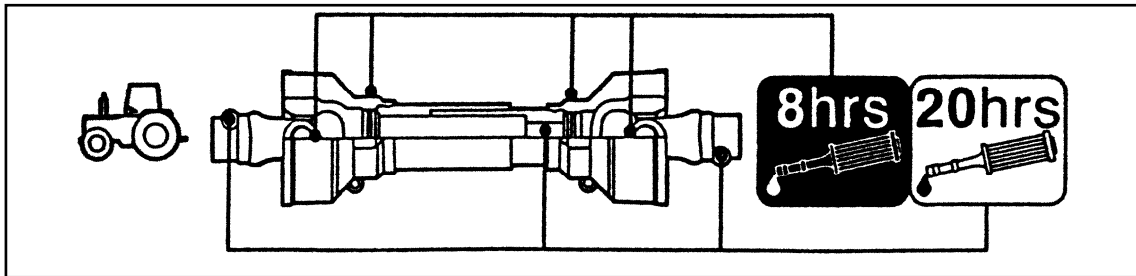
B = Each time the machine is connected to the tractor.

Additives of a type permitted by anti-pollution regulations.

CARDAN SHAFT MAINTENANCE



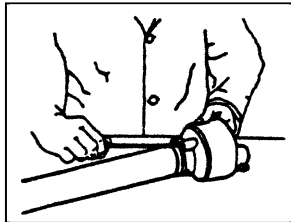
More detailed information may be found in the Cardan shaft manual, which, together with this manual, forms an essential part of the accident-prevention documentation. It is your responsibility to read and comply with this documentation.
 If information given in this manual conflicts with that given in the Cardan shaft manual, you should follow the instructions given by the Cardan shaft manufacturer.



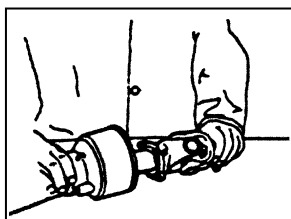
MAINTENANCE OF SLIDING PARTS

DISMANTLING

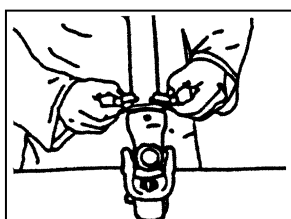
Turn the two eccentric pins on the ferrule until the protective cone comes free.



Withdraw the shaft protective guard.

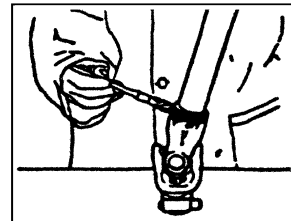


Check the condition of the ferrule and all protective parts.

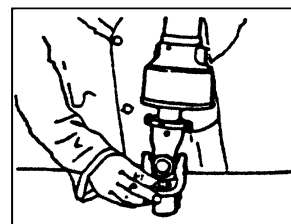


ASSEMBLY

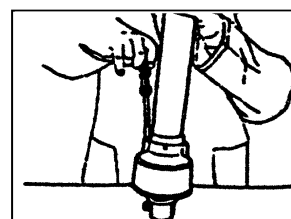
Lubricate the supporting ferrule seating.



Refit the supporting ferrule.



Reattach the protective guard to the Cardan shaft by turning the eccentric pins on the supporting ferrule.



NOISE AND VIBRATION

Noise affecting the tractor driver (from the machine only) is less than 70dB.

Vibration from the machine affecting the upper body and limbs of the driver is insignificant and is lower than the values given in Point 3.6.3 of Enclosure 1 of the Machine Directives (89/392/EEC, 91/386/EEC)

THE FOLLOWING SHOULD BE NOTED IF THE MACHINE IS SCRAPPED

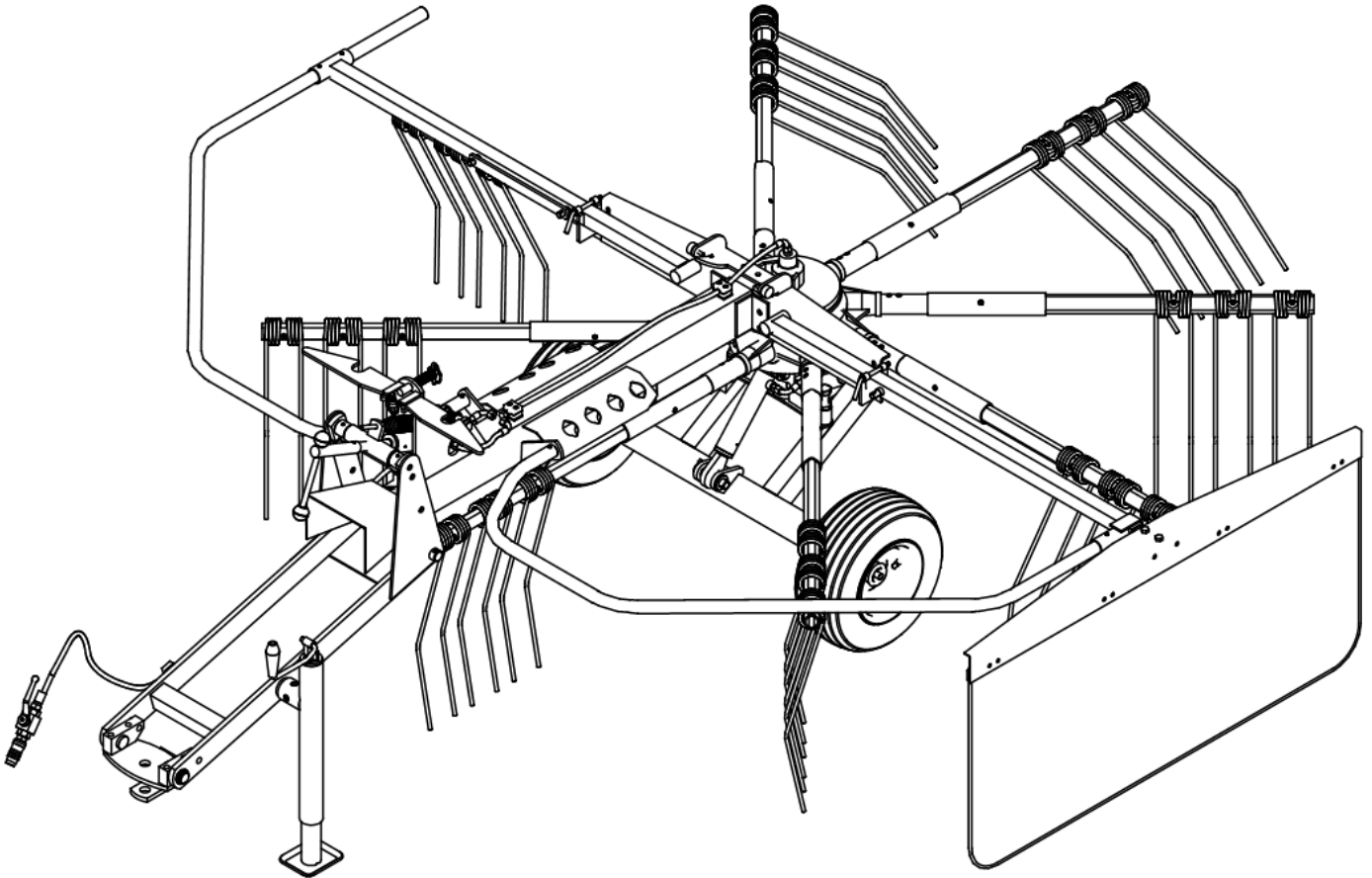
The machine consists mainly of ferrous material which must be disposed of according to the regulations in force in the country concerned.

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

There is very small amount of residual grease which must be disposed of according to the regulations in force in the country concerned.

SPECIFICATIONS	320/8
Number of arms	8
Number of double tines per arm	3
Working width	3,20 / 10'-6"
Rotor diameter (raking width)	2,70 / 8'-10"
Transport width (with arms disassembled)	1,50 / 5'
Transport width (with arms assembled)	2,70 / 8'-10"
Maximum height of tine from ground	0,33 / 1'-1"
Power required	19kW / 25HP
PTO driveline with overload clutch	350 - 450 RPM
Hydraulic requirement	1,000 PSI
Weight	466 kg / 1030 lbs
Tyres (tandem axle)	16 x 6.50 x 8

CHAPTER 8
SPARE PARTS LIST



920.308

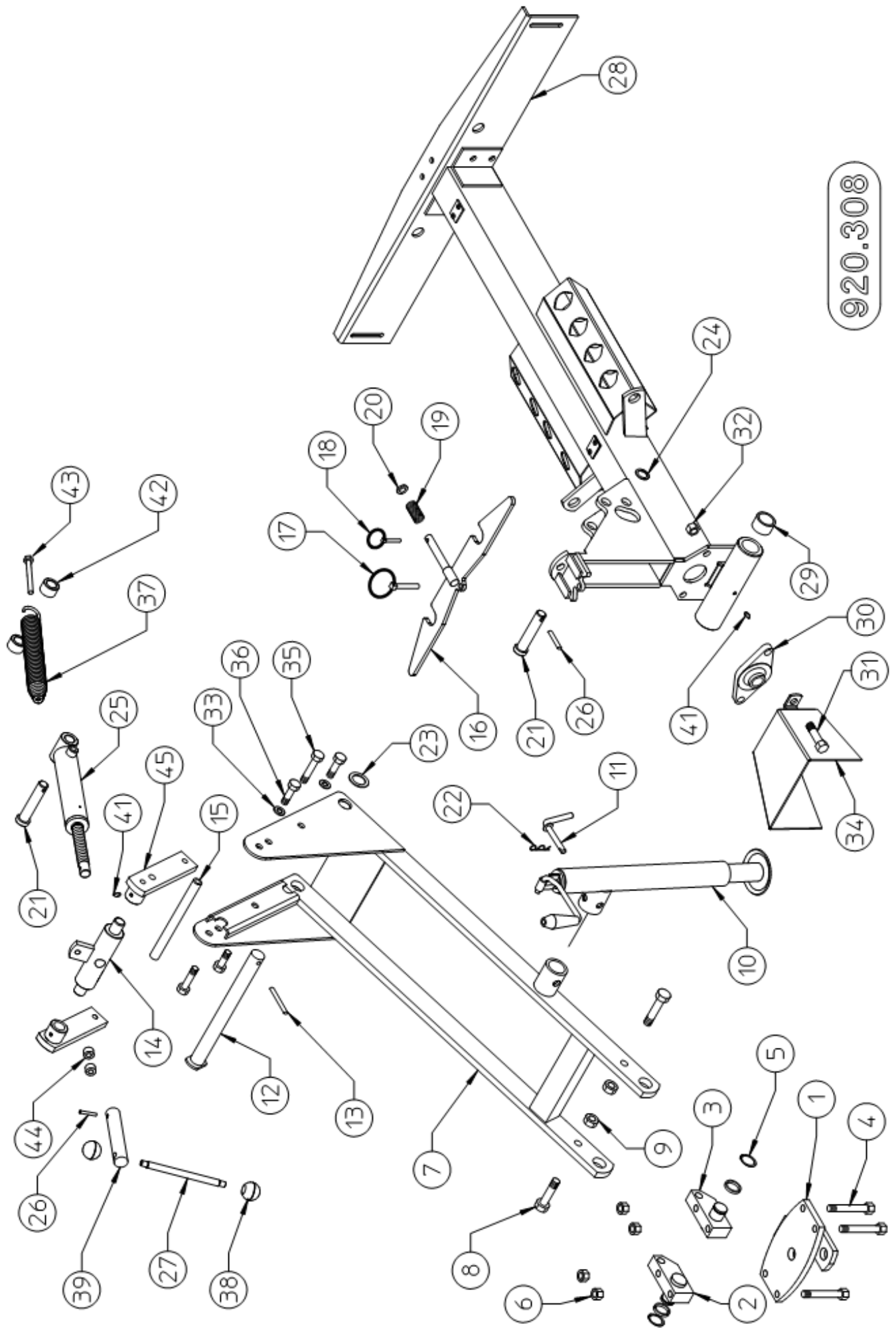
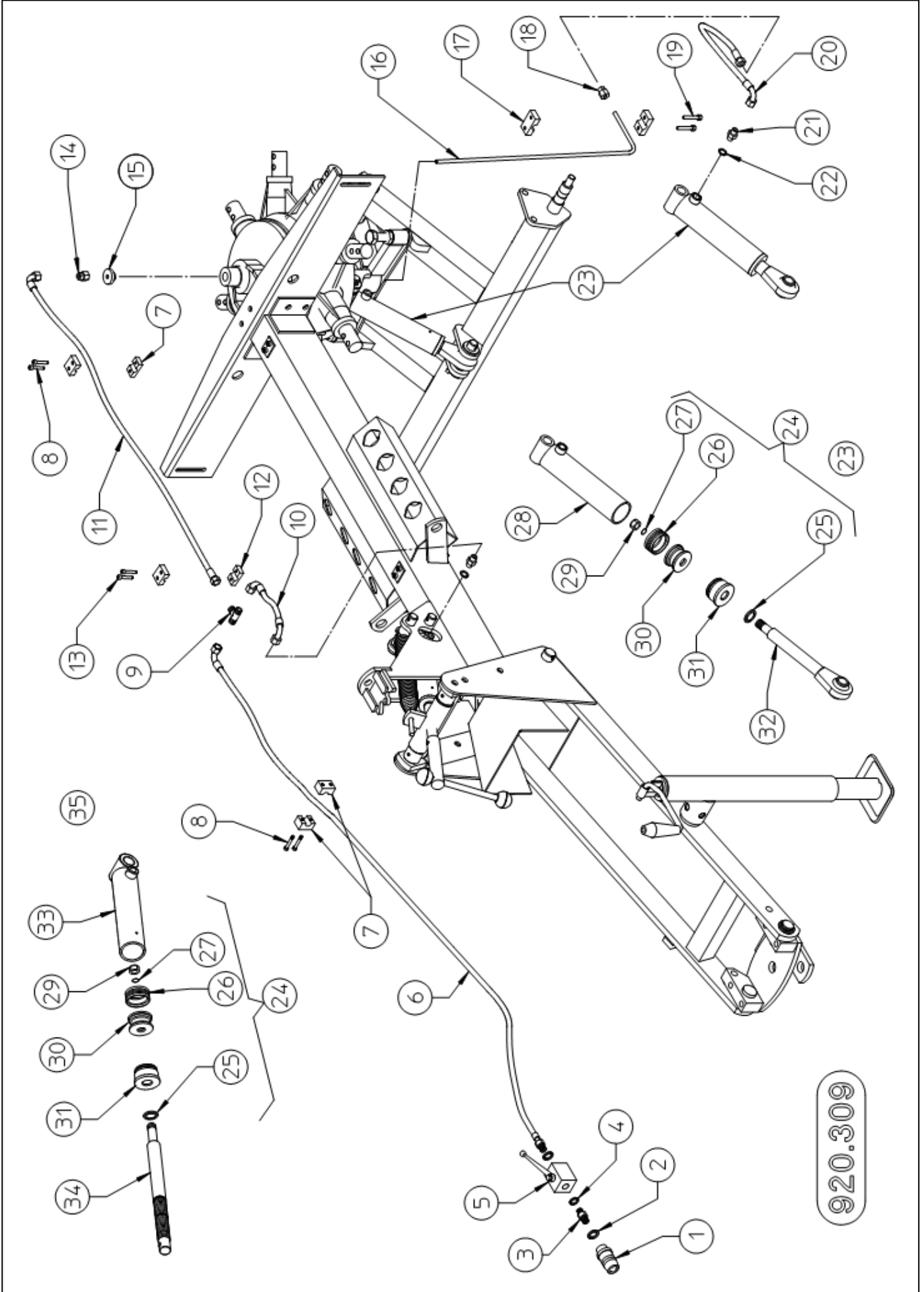


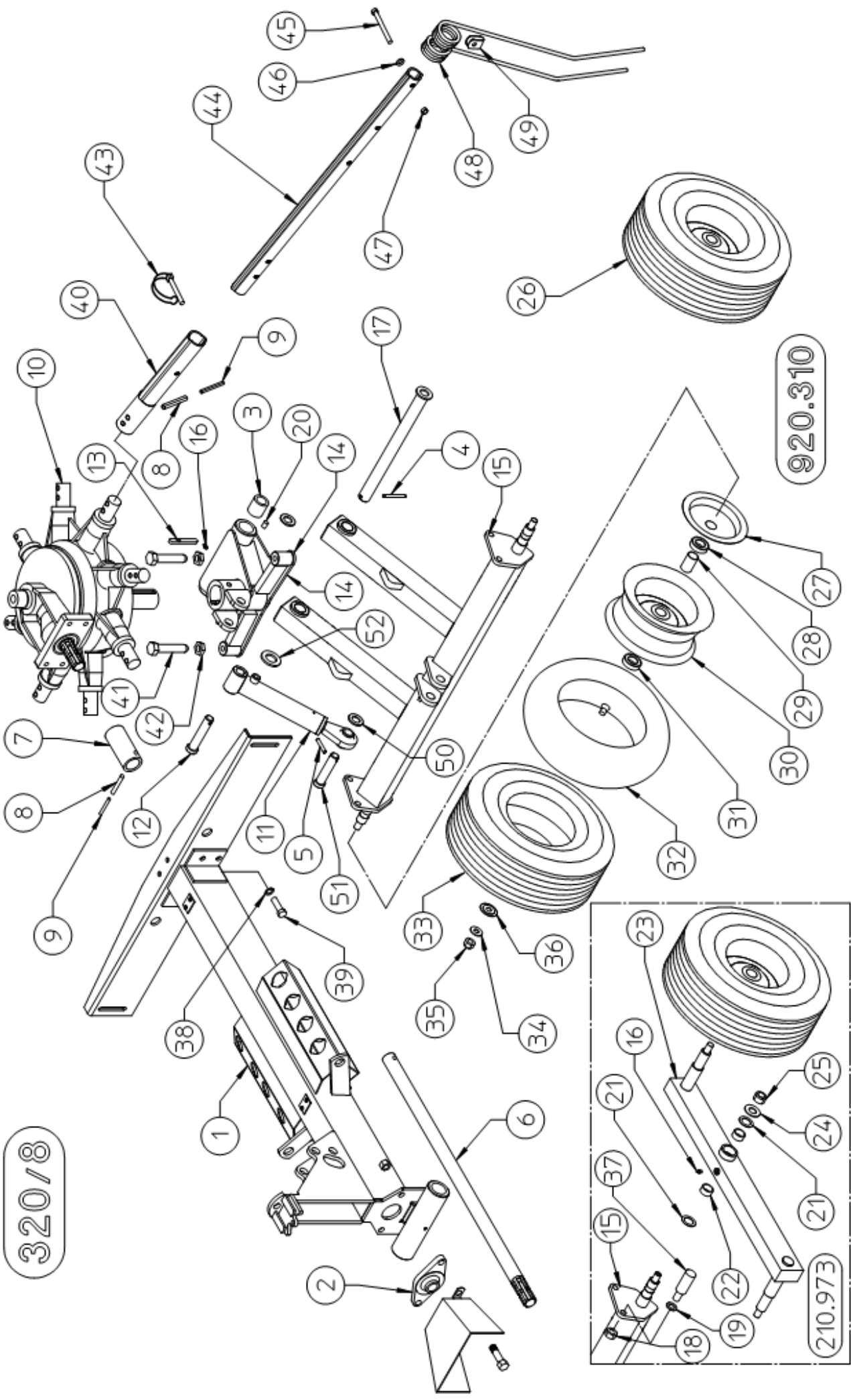
TABLE NO. 920.308				
320/8 Pull type				
ITEM	Q.ty	PART/NO	DESCRIPTION	NOTE
1	1	210.677	BRACKET	
2	1	210.719	RH EQUALIZER	
3	1	210.720	LH EQUALIZER	
4	4	600.737	SCREW M14 x 80	
5	2	600.611	SNAP RING	
6	4	600.075	NUT	
7	1	230.750	DRAWBAR	
8	2	620.254	SCREW M16 x 65	optyonal
9	2	600.080	NUT M16	optyonal
10	1	220.197	PARKING STAND	
11	1	200.222	PIN	
12	1	230.760	PIN	
13	1	600.027	SPRING PIN ø8 x 50	
14	1	230.754	PIN	
15	1	230.753	PIN DISTANCE	
16	1	210.703	RATCHET	
17	1	600.017	PIN BS10	
18	1	600.723	PIN BS4,5	
19	1	210.558	SPRING	
20	1	600.031	WASHER D.17	
21	2	230.468	PIN	
22	1	600.019	SPRING PIN BC3	
23	1	600.587	WASHER D.31	
24	2	600.042	WASHER D.23	
25	1	230.757	CYLINDER	
*	1	630.709	SET OF GASKET	
26	3	600.601	SPRING PIN ø8 x 36	
27	1	230.127	PIN	
28	1	230.751	FRAME	
29	2	210.761	BUSH	
30	1	610.285	BEARING	
31	2	610.167	SCREW M16 x 45	
32	2	600.080	NUT	
33	6	600.086	WASHER D.15	
34	1	210.817	HOOD	
35	2	600.065	SCREW M14 x 35	
36	4	610.155	SCREW M14 x 25	
37	1	230.376	SPRING	
38	2	620.464	KNOB	
39	1	230.128	PIN	
40				
41	2	600.034	GREASE NIPPLE M8	
42	2	230.804	BUSH	
43	1	230.629	SCREW M10	
44	2	600.010	NUT M10	
45	2	230.752	SUPPORT	



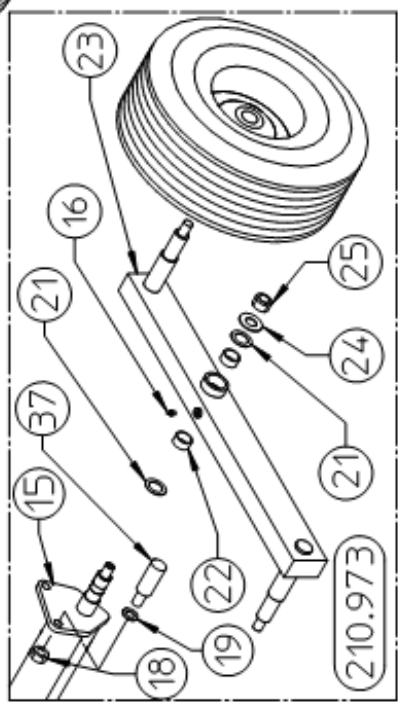
920.309

TABLE NO. 920.309				
320/8 Pull type				
ITEM	Q.ty	PART/NO	DESCRIPTION	NOTE
1	1	600.273	RAPID COUPLING	
2	1	630.048	COPPER WASHER 1/2	
3	1	600.416	NIPPLE M1/2-M3/8	
4	2	620.452	COPPER WASHER 3/8	
5	1	610.002	VALVE	
6	1	630.713	HOSE	
7	6	610.423	HOSE COLLAR D.12	
8	6	610.424	SCREW M 6 x 20	
9	1	600.823	FITTING	
10	1	630.712	HOSE	
11	1	630.710	HOSE	
12	2	610.810	HOSE COLLAR D.16	
13	2	610.037	SCREW M 6 x 25	
14	1	630.529	FITTING	
15	1	230.843	BUSH	
16	1	630.714	TUBE	
17	2	610.799	HOSE COLLAR D.8	
18	1	630.529	FITTING	
19	2	610.424	SCREW M 6 x 20	
20	1	630.711	HOSE	
21	2	630.320	NIPPLE	
22	2	630.376	COPPER WASHER 1/4	
23	1	230.758	CYLINDER	
24	*	630.709	SET OF GASKET	
25	*		GASKET WRM	
26	*	610.028	GASKET DBM 157118	
27	*	630.322	GASKET OR \varnothing 12,34x2,62	
28	*		CYLINDER BARREL \varnothing 40/50	
29	*		NUT	
30	*	230.397	PISTON \varnothing 40	
31	*		HEAD \varnothing 40/25	
32	*		ROD \varnothing 25	
33	*		CYLINDER BARREL \varnothing 40/50	
34	*		ROD \varnothing 25	
35	1	230.757	CYLINDER	
36				

320/8



920.310



210.973

TABLE NO. 920.310

320/8 Pull type

ITEM	Q.ty	PART/NO	DESCRIPTION	NOTE
1	1	230.751	FRAME	
2	1	610.285	BEARING	
3	2	210.761	BUSH	
4	1	600.027	SPRING PIN \varnothing 8x50	
5	2	600.601	SPRING PIN \varnothing 8X36	
6	1	230.762	SHAFT	
7	1	210.528	BUSH	
8	17	610.417	SPRING PIN D.12 x 50	
9	17	610.419	SPRING PIN D. 7 x 50	
10	1	610.666	GEARBOX	
11	1	230.758	CYLINDER	
12	1	230.468	PIN	
13	2	230.821	LATCH	
14	1	230.755	FRAME	
15	1	230.756	AXLE	
16	3	600.034	GREASE NIPPLE	
17	1	230.761	PIN	
18	4	600.075	NUT M14	
19	4	600.188	WASHER D.15	
20	2	610.586	SCREW ST M14x30	
21	4	200.668	SHIM	
22	4	610.488	BUSHING	
23	1	230.847	TANDEM ARM SX	
23BIS	1	230.846	TANDEM ARM DX	
24	2	210.986	WASHER	
25	2	600.080	NUT M16	
26	2/4	620.737	TYRE ASSY	
27	2/4	210.596	DUST COVER, INNER	
28	2/4	600.602	BEARING	
29	2/4	200.415	SPACER	
30	2/4	610.273	RIM	
31	2/4	600.602	BEARING	
32	2/4	610.274	TUBE	
33	2/4	610.275	TYRE	
34	2/4	600.031	WASHER	
35	2	600.080	NUT M16	
36	2/4	200.416	DUST COVER, OUTER	
37	4	210.967	PIN	
38	4	600.086	WASHER D.15	
39	2	600.310	SCREW M14 x 40	
40	8	210.952	PROFILE TUBE	
41	2	230.777	SCREW M20 x 100	
42	2	620.206	NUT M20	
43	8	600.842	PIN	
44	8	210.954	TINE ARM	
45	24	600.386	SCREW M12 x 70	
46	24	500.012	WASHER 13/28-3,5	
47	24	600.077	NUT M12	
48	24	210.495	TINE	
49	24	200.349	TINE LOCK, FLEXIBLE	
50	2	600.042	WASHER D. 23	
51	1	230.467	PIN	
52	1	600.587	WASHER D. 31	

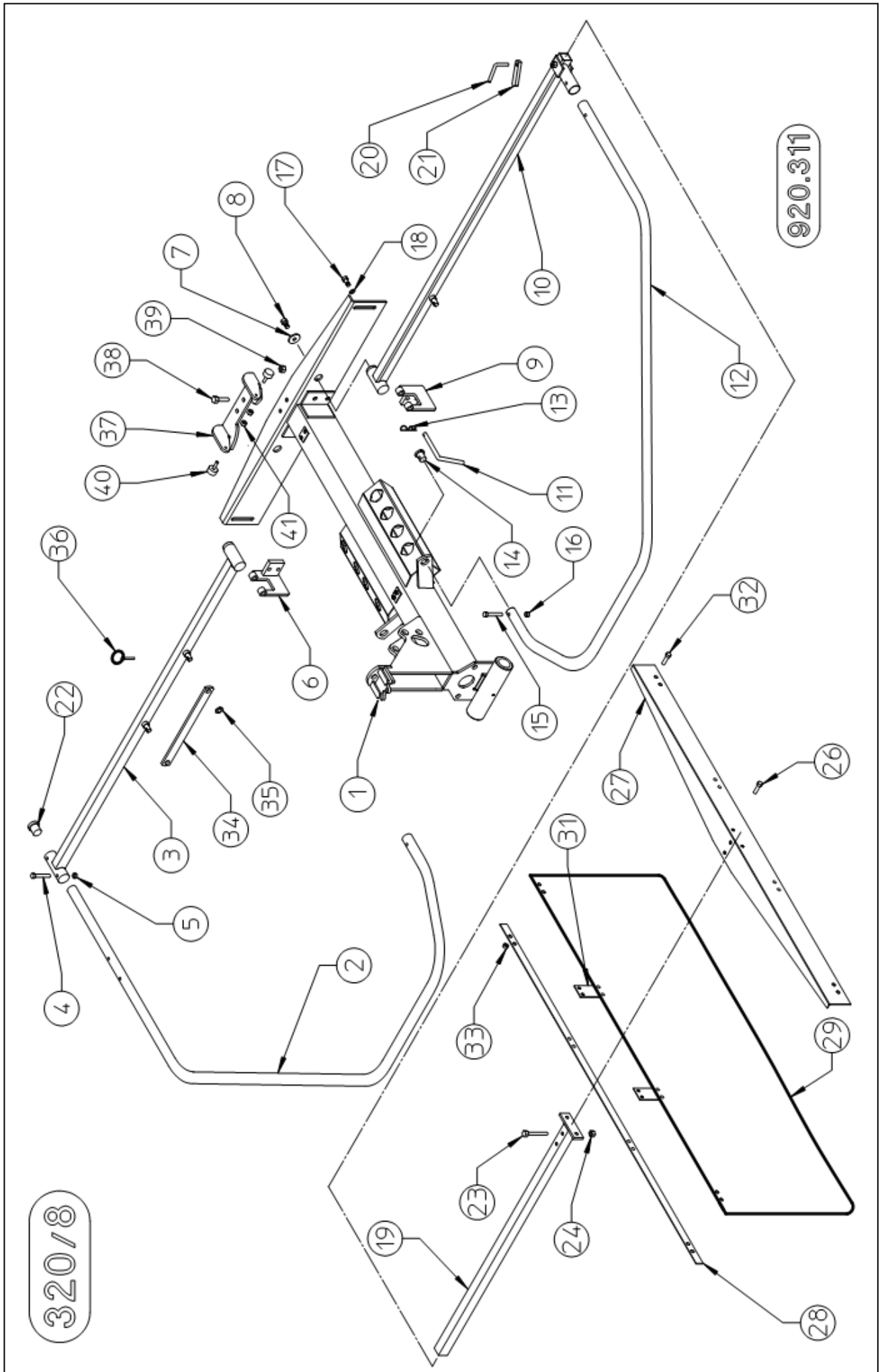
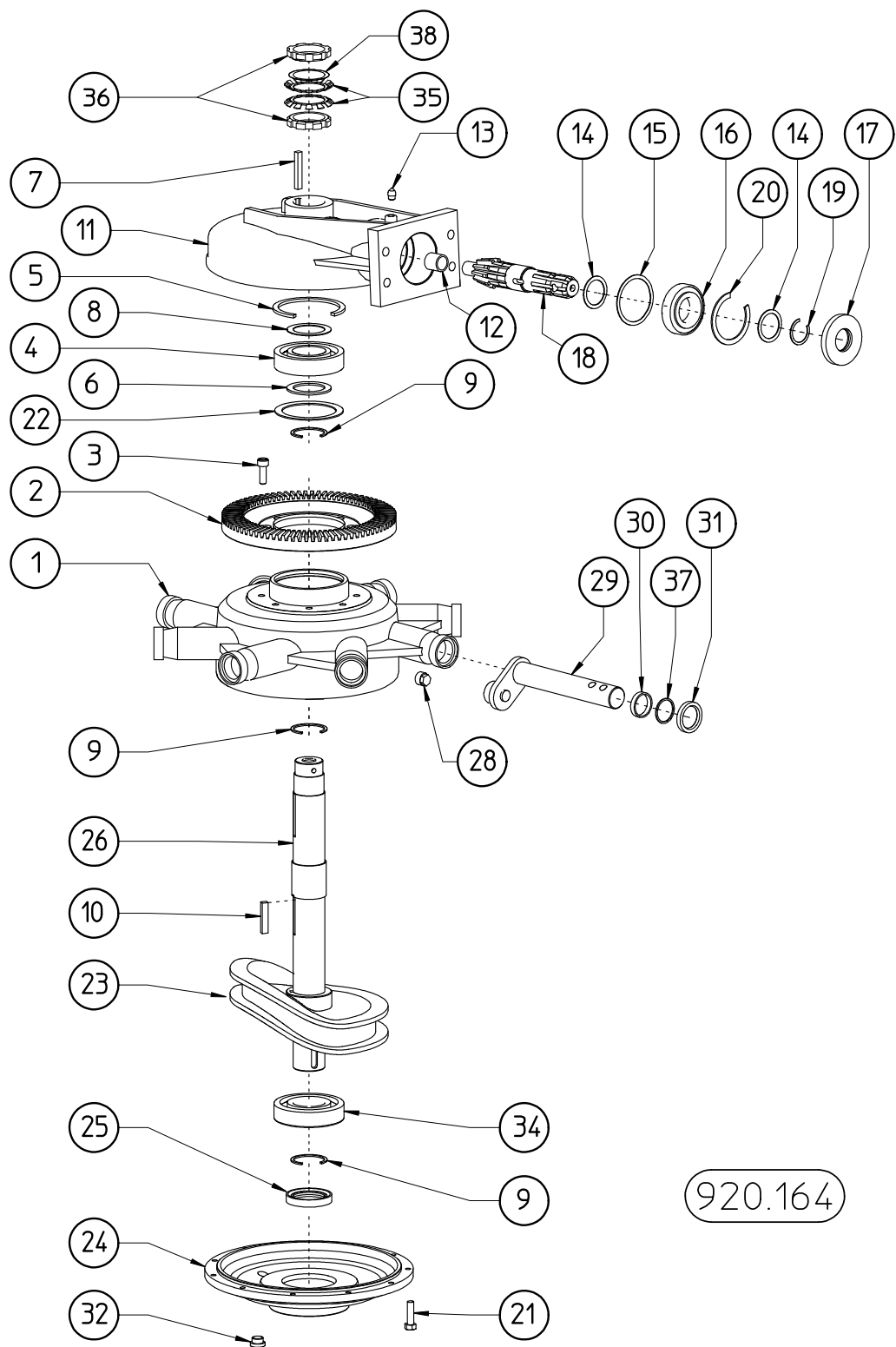


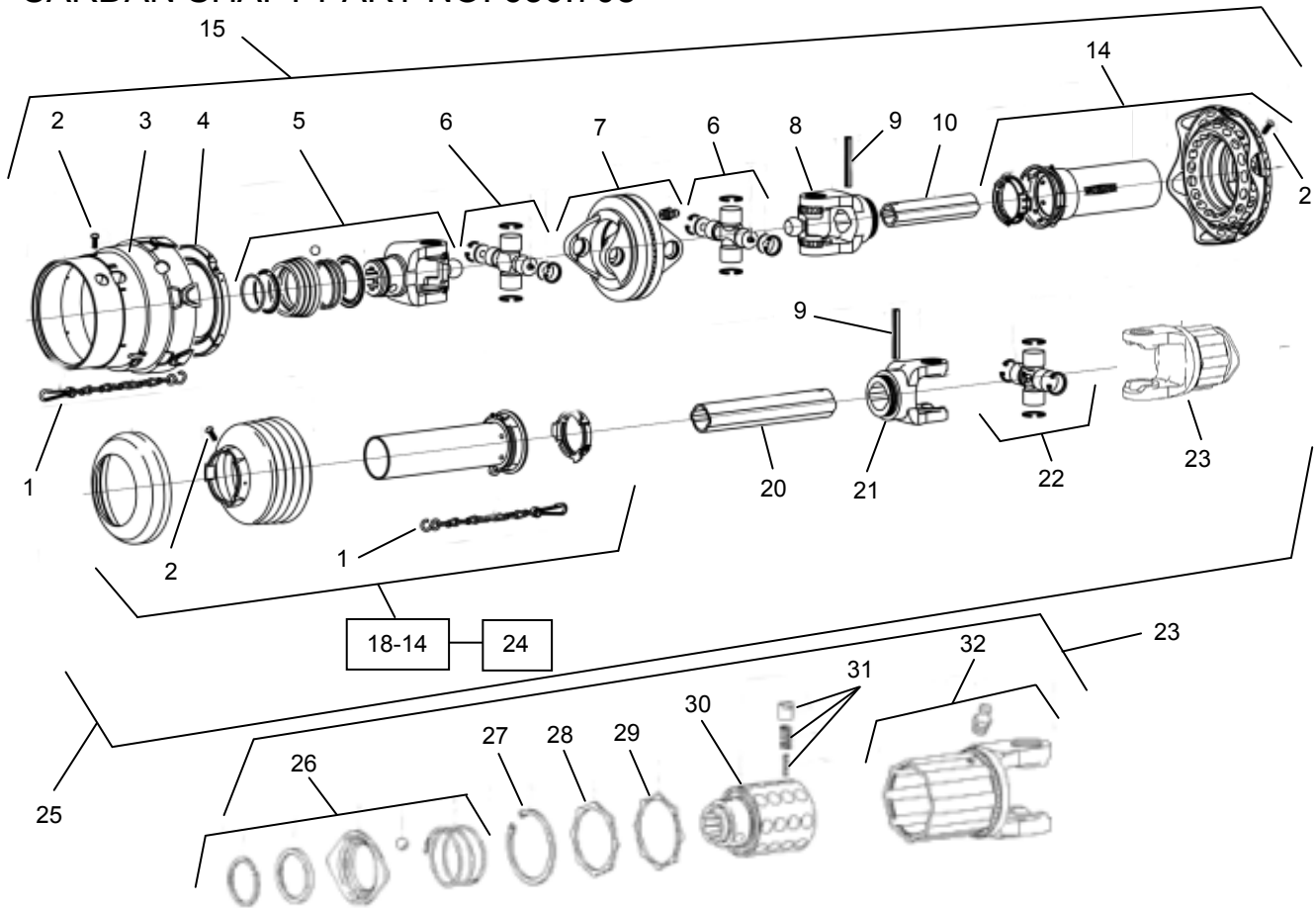
TABLE NO. 920.311				
320/8 T				
ITEM	Q.ty	PART / NO	DESCRIPTION	NOTE
1	1	230.751	FRAME	
2	1	210.955	R.H. GUARD	
3	1	210.957	R.H. SUPPORT	
4	3	600.036	SCREW M 8 x 50	
5	3	600.076	NUT M 8	
6	1	210.962	SUPPORT	
7	2	210.961	WASHER	
8	2	600.770	SCREW M12 x 20	
9	1	210.963	SUPPORT	
10	1	210.958	L.H. SUPPORT	
11	2	210.969	PIN	
12	1	210.956	L.H. GUARD	
13	2	600.019	SPLIT PIN BC3	
14	2	210.960	PLUG	
15	2	600.551	SCREW M 8 x 45	
16	2	600.076	NUT M8	
17	4	600.006	SCREW M10 x 25	
18	4	600.322	WASHER D 10,5	
19	1	210.959	TELESCOPING TUBE	
20	1	210.502	PIN	
21	1	210.552	NUT PLATE	
22	1	200.309	PLUG	
23	2	600.063	SCREW M10 x 45	
24	4	600.029	NUT M10	
25				
26	2	600.006	SCREW M10 x 25	
27	1	210.964	SWATHING DEFLECTOR	
28	1	210.965	CLAMPING STRAP	
29	1	210.966	SWATHING DEFLECTOR	
30				
31	4	210.555	CLAMPING STRAP	
32	8	600.223	SCREW M 8 x 20	
33	8	600.076	NUT M8	
34	1	230.808	PLATE	
35	2	600.031	WASHER D. 17	
36	2	600.723	PIN BS4,5	
37	1	230.806	SUPPORT	
38	2	610.962	SCREW M12 x 30	
39	2	600.077	NUT M12	
40	2	630.534	RUBBER PAD	
41	2	600.037	NUT M8	



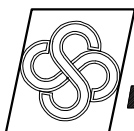
920.164

TABLE NO 920.164				
ITEM	PART NO	Q.ty	DESCRIPTION	NOTE
1	220.734	1	CASING	
2	220.716	1	GEAR	
3	220.705	8	SCREW	
4	620.185	1	BEARING	
5	620.177	1	SNAP RING	
6	220.733	1	SHIM	
7	620.178	1	LATCH	
8	220.724	1	SHIM	
9	620.147	3	SNAP RING	
10	620.201	1	LATCH	
11	220.743	1	COVER	
12	620.187	1	NEEDLE BEARING	
13	620.188	1	GREASE NIPPLE	
14	100.883	2	SHIM	
15	220.735	1	SHIM	
16	620.202	1	BEARING	
17	620.160	1	OIL SEAL	
18	220.714	1	PINION	
19	620.145	1	SNAP RING	
20	620.199	1	SNAP RING	
21	220.741	6	BOLT	
22	220.742	1	SHIM	
23	220.708	1	CAMME	
24	220.736	1	COVER	
25	620.158	1	OIL SEAL	
26	220.709	1	SHAFT	
28	620.183	1	PLUG	
29	220.719	8	CONNECTING ROD	
30	220.707	8	SPACER	
31	620.162	8	OIL SEAL	
32	620.189	1	PLUG	
34	620.200	1	BEARING	
35	620.179	2	SPRING WASHER	
36	620.180	2	LOCKNUT	
37	220.718	8	SHIM	
38	220.730	1	SHIM	

CARDAN SHAFT PART NO. 630.708



CARDAN SHAFT PART NO. 630.708			
ITEM	Q.ty	PART NO	DESCRIPTION
1	2	620.918	CHAIN
2	12	620.919	SPECIAL SCREW
3	1	630.766	GUARD
4	1	630.767	BEARING
5	1	630.758	YOKE
6	2	630.759	CROSS JOURNAL ASSEMBLY
7	1	630.760	CENTER JOINT
8	1	630.761	YOKE
9	2	620.926	SPRING PIN
10	1	630.746	CARDAN TUBE
14	1	630.792	HALF SAFETY GUARD
15	1	630.793	HALF SHAFT (WITH GUARD)
18	1	630.794	HALF SAFETY GUARD
20	1	630.747	CARDAN TUBE
21	1	630.762	YOKE
22	1	630.763	CROSS JOURNAL ASSEMBLY
23	1	630.764	TORQUE K32
24	1	630.765	SAFETY GUARD
25	1	630.795	HALF SHAFT (WITH GUARD)
26	1	620.941	BALL COLLAR KIT
27	1	620.942	SNAP RING
28	1	620.943	RETAINING RING
29	1	620.944	RETAINING RING
30	1	630.768	HUB 1 3/8" Z6
31	4 set	620.946	SET INCLUDING NR 8 RATCHET TOOTH
32	1	630.769	HUB WITH YOKE



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