



RICHIGER E6910 UNLOADER

Operator's Manual & Parts List



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CDED00242A

E6910 UNLOADER

Operator's Manual

This manual

Richiger has endeavored to provide the most accurate and clear information on this equipment. Because of efforts to produce the best equipment possible, upgrades and improvements may precede this or subsequent manuals' updates. Therefore, contents of this manual are based on development in effect at the time of publication and are subject to change without notice.

Important

Before attempting machine operation, read this manual's instructions carefully.

This manual contains information and recommendations that may vary in accordance with user experience, climate, grain type, tractor weight and other variable conditions.

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Warranty policy

Warranty terms



Unit: **Hydraulic-Mechanical Grain Bag Unloader**

Model: **E-6910**

RICHIGER MAQUINARIAS S.A, located in Avellaneda 661, Sunchales, Santa Fe province, Argentina, warrants its product E-6910 mechanical grain unloader from defects in materials and workmanship under normal operating conditions and proper application, in accordance with the specifications for operation as described by the manufacturer, for the period of 365 days from date of delivery to buyer.

Limitations on Warranty

This warranty is expressly in lieu of any other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

Buyer's sole and exclusive remedy under this warranty shall be limited to the repair, replacement or exchange of warranted parts at our option, F.O.B. our factory, or designated service center, agent or representative. If the agent or representative grants any warranty greater in scope or time period or labor allowance than that detailed herein, RICHIGER MAQUINARIAS S.A shall not be liable beyond the herein stated limitations.

Equipment and accessories not of our manufacture are not covered by this warranty. Any claim with regards to defective aforementioned equipment and accessories shall be submitted by RICHIGER MAQUINARIAS S.A to the original manufacturers for analysis and subsequent non-approval or approval of repair, replacement or exchange, at their option.

No special, incidental, consequential or other damages or contingent liabilities including, but not limited to, loss of life, personal injury, loss of crops, loss due to fire or water damage, loss of business or business income, down time costs and trade or other commercial loss arising out of the failure of product. The term product and products as used in this warranty designates the whole finished unit in its entirety, i.e. the complete assembled machine, and/or all and every individual component, part, equipment and accessory that forms said complete assembled machine.

Normal wear and tear associated with use is expressly excluded from this warranty.

No products shall be returned without prior authorization from RICHIGER MAQUINARIAS S.A.

Buyers and their agents shall prepay all transportation charges for the return of such products to RICHIGER MAQUINARIAS S.A. or designated service center. There will be no acceptance of any charges for labor and/or parts incidental to the removal and remounting of product repaired or replaced under this warranty.

This warranty does not cover conditions over which RICHIGER MAQUINARIAS S.A. has no control including, without limitation, contamination, pressures in excess of the recommended maximum, products damaged or subject to accident, abuse or misuse after shipment from factory, products altered and repaired by anyone other than RICHIGER MAQUINARIAS S.A. factory personnel or representative or source approved by RICHIGER MAQUINARIAS S.A. in writing prior to commencement of said work.

The first buyer is responsible for proof of delivery date of product for the purpose of establishing warranty time of validity. Warranty can continue for new user should the product be resold by the first buyer during valid period of warranty, only if this situation is reported in writing, with enclosed documentation as proof of purchase. Warranty will not be applicable if series number or other identification markers are erased, obliterated or otherwise altered.



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- 1) Product suffered damages attributable to accident, abuse, neglect or ignorance.
- 2) Product was not used in accordance with manufacturer's recommendations.
- 3) Product did not receive required maintenance.
- 4) Failure ensued after replacement of original parts without express consent of RICHIGER MAQUINARIAS S.A. , or modifications that in RICHIGER MAQUINARIAS S.A.'s judgment may have affected performance, safety and/or dependability parameters.
- 5) Product was used in a manner or for a purpose for which it was not designed or intended to be used.
- 6) Incorrect mounting of external gears, pulleys.
- 7) Stripped splines or keyways on drive shafts.
- 8) Damage due to deterioration during periods of storage by the purchaser prior to operation.
- 9) Damage of any kind from erosive or corrosive action of any gases or liquids handled by the machinery.
- 10) Lack of or incorrect type of hydraulic fluid, lubricant, oil and/or grease.
- 11) Contamination of hydraulic fluid.
- 12) Operating beyond recommended maximum speeds, pressures and temperatures.
- 13) Repairs or disassembly by unauthorized personnel.
- 14) Misalignment of drive shafts, gears, sprockets and power driven elements.
- 15) Damage due to voltage spikes, static discharge, electrical storms, physical abuse, externally controlled device failure and improper fusing.

Buyer inspection and acceptance

Within 15 days after delivery to or receipt by the buyer of the product, the buyer shall inform the seller in writing if product is found defective or short in any respect. Failure to so inform the seller or any use by buyer of product shall constitute conclusive evidence that the seller satisfactorily performed and the buyer waives any right to reject the product thereafter





Machine Description:				
Model #:				
Unit #:				
Date of Purchase:			Date of Delivery:	
Customer Name:				
Address:				
City:		State:		
Dealer Name:				
Address:				
City:		State:		

The machine detailed above and the Operator's Manual have been received and I understand and have been thoroughly instructed by my dealer about how to operate the machine, Operator's Manual content, equipment care, safe operation & warranty terms, and have personally reviewed the Warranty Policy Terms.

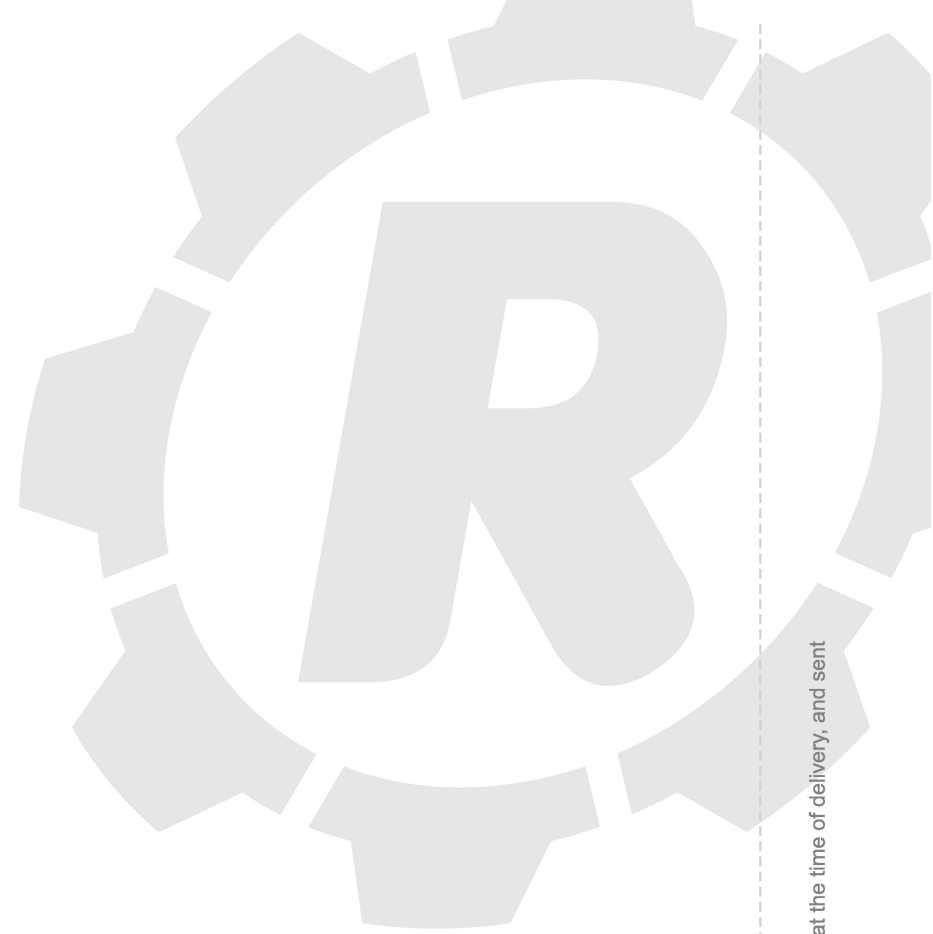
Buyer's signature:



Cut-Out Warranty Registration Card

This form must be filled out and signed by the customer at the time of delivery, and sent to factory within 30 days of delivery.





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Richiger Maquinarias SA
Avellaneda 661,
S2322BCM Sunchales,
Province of Santa Fe,
Argentina

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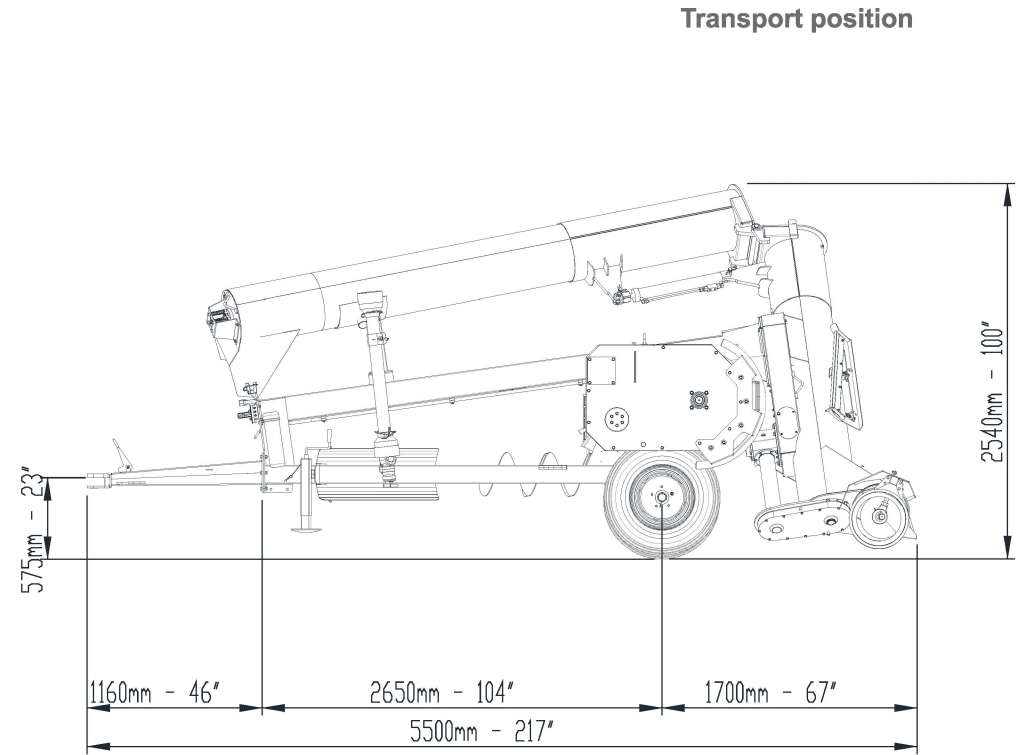
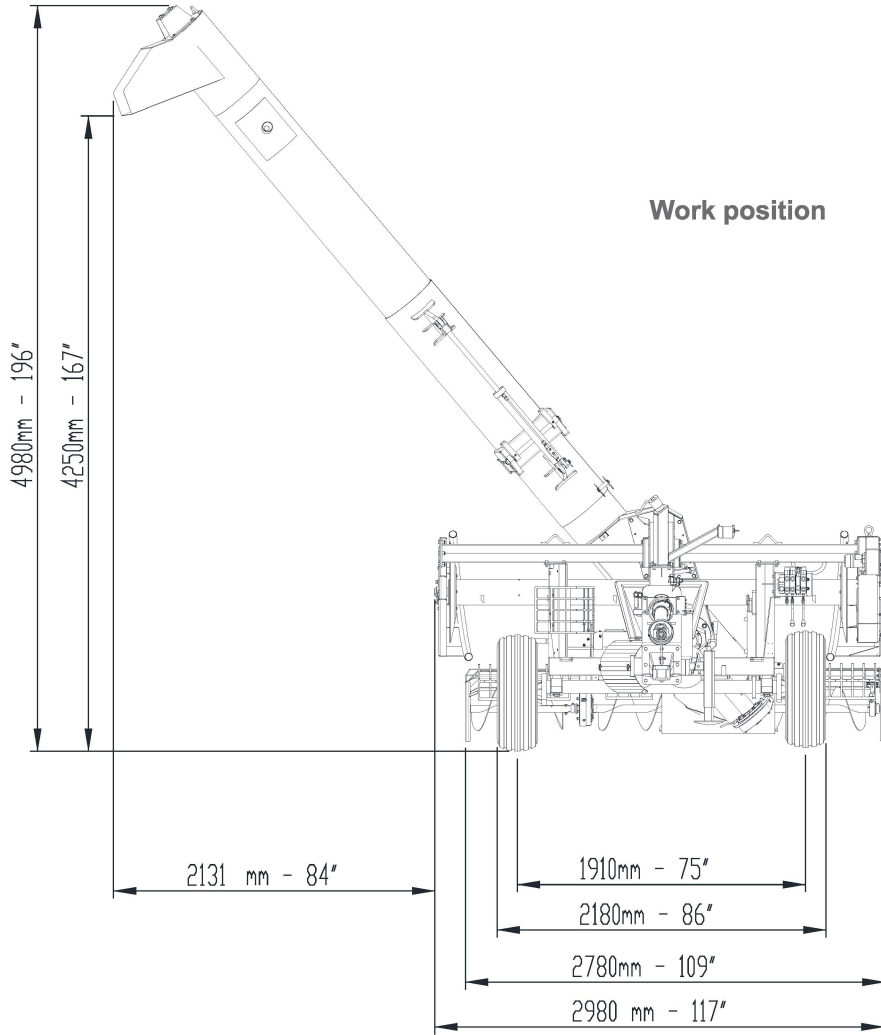


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Materials to be extracted	All kinds of dry grains (wheat, sorghum, maize, sunflower, soybeans, rice, etc.) and pelletized materials	
Capacity	Up to 350 tons/tour (*)	
Tractor	Minimum power:	60 CV
	PTO revolutions:	540 rpm
Extraction system	Automatic bag pickup system	
	Working height hydraulically controlled	
	Bag slasher blade	
	Works mechanically and hydraulically	
	Adjustable working width	
Extraction	High clearance discharge auger, mechanical drive	
PowerTransmission	Drive shaft w / shear bolt protection	
	Mechanical central discharge auger & cross augers	
Tires	11 L15 – 10 ply	
	Tire pressure:	30 lbs./sq. in.
Total weight	1,700 kg. (3,740 lbs)	
(*) Work capacity can vary according to grain type, moisture content and other factors		
Manufacturer reserves right to change specifications at any given time without previous notification		

02





- Most accidents are caused by human error. Follow all safety procedures.
- Make sure all people are safely positioned before starting tractor's engine and engaging the PTO.
- Keep unloader clean and sheltered when not in use. This diminishes risk of deterioration and eventual failure.
- Keep a fire extinguisher handy.
- Decals with safety indications and warnings should be strictly heeded, kept in good condition and replaced if necessary.
- When towing the machine, drive with the utmost caution on public roads.
- Keep hands, feet and clothing well away from moving parts.
- Stop the tractor's engine before attempting a hands-on task on the unloader.

For the operator

In order to obtain maximum performance from your grain bag unloader, we recommend you keep the owner's manual in a handy place for quick consultation. Read the manual carefully before attempting to unload grain from bags and pay special attention to operating and maintenance instructions.

Before transporting the grain unloader, verify that:

- a) The tow bar pin is properly secured
- b) Check tire pressure
- c) Check that wheel bolts are properly tightened
- d) Attach safety chains between machine's tow bar and tractor drawbar for added security on the road



IMPORTANT

The operator should become familiarized with machine controls before attempting actual operation. Keep unit in good working condition. Any modification could cause malfunctioning, potentially dangerous situations, or reduced machine durability.

General indications
before actual work

04

Tractor

The tractor used with the E6910 unloader should have no less than 60 HP.

Hydraulic circuit can be either open loop or closed loop.

The PTO drive shaft should not exceed a 360 millimeter (14") length, measured from end of PTO stub shaft to drawbar hitch pin (Fig. 1) This is to ensure adequate torque transference between the two sections of the drive shaft.

A 12V electric hoist is used to raise and place bag in position on the tunnel hood, so the tractor's battery should provide that voltage.

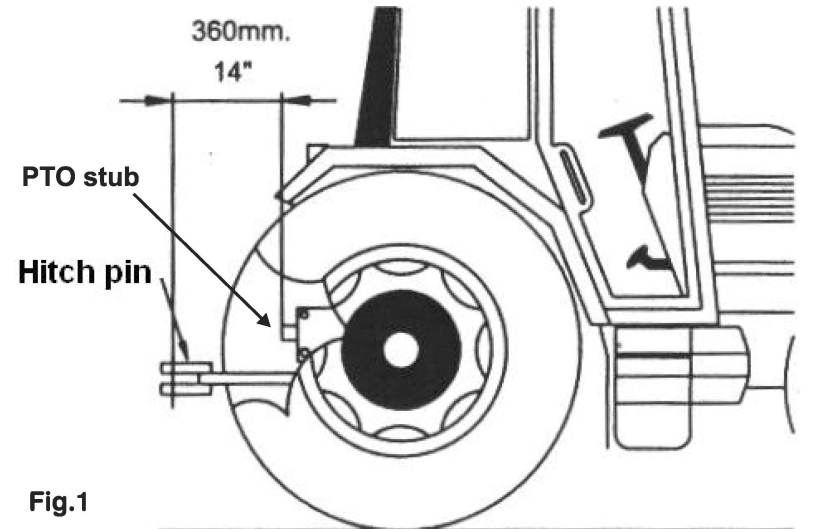


Fig.1

Hitch pin "A" should be 30 to 32 mm. (1 3/16" to 1 1/4") in diameter and have its corresponding retaining clip "B" (Fig. 2). A spacer should be placed between hitch tongue and drawbar to prevent vertical rocking motion.

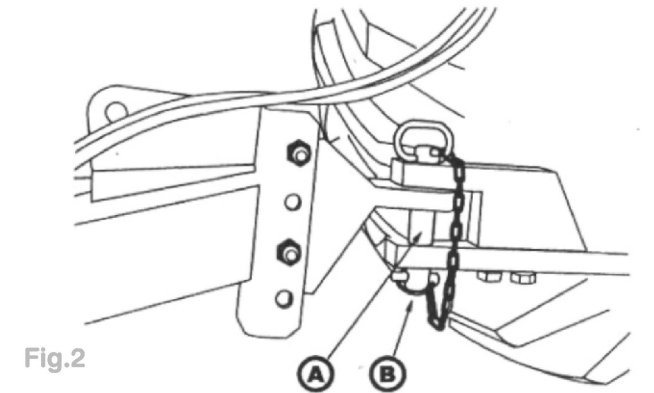


Fig.2



The hydraulic cylinder is used to set the machine's inclination angle and working height. Hoses connect to tractor hydraulic system through 1/2" NPT quick couplings (Fig. 3, "A").

Before connecting hoses to tractor: stop tractor engine and depressurize hydraulic circuit by moving control lever in both directions. Remove female plugs (Fig. 3, "B") and wipe clean coupling ends before connecting.

Before disconnecting hoses from tractor: stop tractor engine and depressurize hydraulic circuit by moving control lever in both directions. Pull out quick connect couplings and cover ends with plugs.

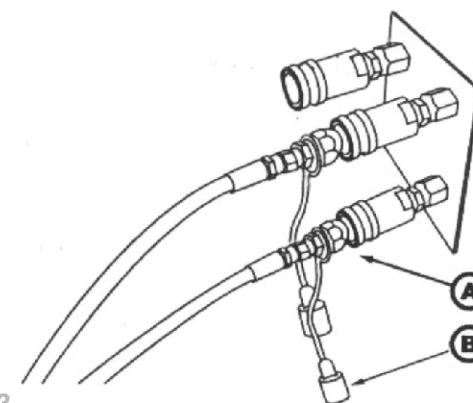


Fig.3



CAUTION

After connecting the hoses, check that they are not left so short that the bagger cannot maneuver without pulling at them, nor too long that there is risk of them snagging a machine part.

PTO drive shaft

Make sure that the correct extremity (i.e., the square bar) of the drive shaft is connected to the tractor's PTO. This is clearly indicated on the shaft itself.

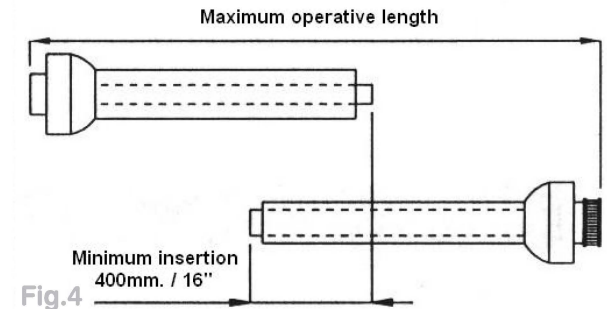


CAUTION

The PTO drive shaft demands that the operator be attentive and use maximum caution around it. Make sure that protection shields installed on tractor and shaft do not interfere with each other or with normal shaft movement during work. Verify there is no excessive angle disparity between connection points: drive shaft should be as horizontal as possible.

Check maximum and minimum lengths of shaft when open and closed. Read following instructions to adjust length:

- Disassemble shaft into its male and female component halves.
- With unloader hitched to tractor and square bar telescoping section (male half) connected to PTO, place round tube section (female half) alongside and verify that there are at least 400 mm. (16") of square bar that will insert (Fig. 4).
- This maximum allowable length should not be exceeded because torsion effort could damage the shaft, or even worse, the sections could come loose.
- Also check that drive shaft is not left so short that adjoining sections could make contact. Apply grease to sliding parts. When connecting yokes to tractor and unloader, ensure that they lock properly.
- The protection shields have chains attached to their ends so that they can be secured and be prevented from rotating simultaneously with drive shaft. Check that they turn freely before chaining them down.



DANGER

A drive shaft connected to a live PTO that comes loose at the unloader's end will flail around uncontrollably, posing a mortal danger to operator and bystanders, and can badly damage equipment at the very least. To avoid this possibility ensure that:

- a) Enough length of square shaft is inserted in adjoining female section
- b) Quick release yokes are securely locked to splined stubs on tractor and bagger
- c) Regular maintenance is carried out and U-joints are replaced if necessary

Ground conditions

05

Ground conditions were evaluated before bagging the grain. If terrain was not previously prepared it can be loose. The wheels could hit potholes under the bag and tilt to one side. In case the ground is loose, machine height can be increased with hydraulic cylinder. If there are potholes, they can be filled with soil or covered with elements such as bricks or planks as the machine advances and lifts the bag off the ground, leaving the holes visible.



DANGER

At no time during the unloading operation should anyone, except the operator standing at the hydraulic controls, approach unloader or bag, and that includes both tractor and truck drivers. Onlookers should keep a safe distance. And never allow anyone to lean against the bag: augers are turning inside.

Initiating labours

06

From transport to work position

1

Haul the machine to where extraction will take place. When transporting the machine, the discharge auger must always lie horizontal over its support stand (Fig. 5) to prevent damage. The hydraulic cylinder that determines height clearance must be raised to its maximum position to prevent the cross augers from making contact with the ground. The cylinder shaft must be fitted with the aluminum stops provided so that the weight of the machine rests upon them (Fig. 6).



Fig. 5



Fig. 6

2

Before unhitching the unloader, place the front located screwjack in vertical position (Figs. 7 & 8).



Fig. 7



Fig. 8

3

Once the machine rests on the screw jack, hitch it to the tractor drawbar (Fig. 9). Return the screwjack to its horizontal stow position (Fig. 7).



4

Connect the hydraulic hoses to the tractor's hydraulic system (Fig. 10). Make sure hydraulic quick couplings are well-matched with tractor hydraulic system, as incompatible fittings can restrict flow and cause an oil temperature increase that can damage components.



5

Lower the drive shaft which is in transport position (Fig. 11) and connect to tractor PTO (Fig. 12). Check that the drive shaft plastic protection shields can turn freely and secure the chains at both ends to fixed points on the machine.



6

Remove the short cross auger extension from its transport position (Fig. 13) and attach it to the end of the main auger shaft. Then use pins to mount the corresponding protection grid (Fig. 14).

To configure the machine as a 10' bag unloader instead of a 9' bag unloader – the unloader is set up as a 9' machine in factory because transport has to be done under a 9' configuration – the protection grid must be moved to its outermost position (Fig. 15), the intermediate grid removed from the frame (Fig. 16) and installed in the open section that remains (Fig. 17). Finally, mount the long cross auger extension on the shaft (Fig. 18).



Fig.13



Fig.14



Fig.15

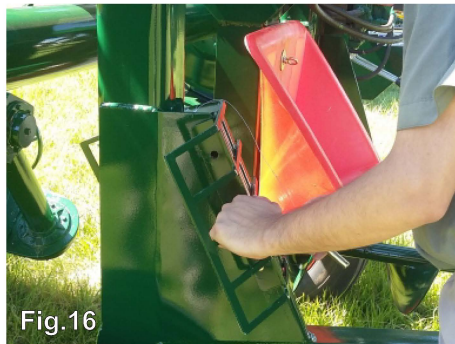


Fig.16



Fig.17



Fig.18

Hydraulic commands

7

All hydraulic functions are controlled from a central command station. On the upper section is a knob (Fig. 19) that is turned completely clockwise or completely anti-clockwise depending on the function to be performed. See detailed instructions in the following box

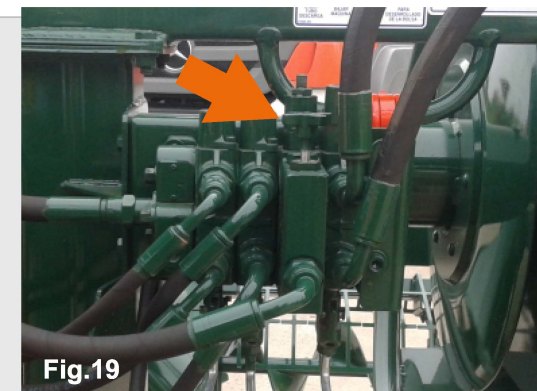


Fig.19

8

Three levers on the valve cluster regulate hydraulic flow, as depicted in the diagram below. First and second levers “A” & “B” (which operate the machine’s hydraulic cylinders) are mounted on valve sections to the left of the control knob, while third lever “C” (which drives the roller) is mounted to the right of the control knob. This knob operates the flow control valve.

The diagram shows the operational speeds that turning the control knob clockwise or anticlockwise, in combination with each specific lever, has on the different hydraulic circuits. Operating speed, dependant on hydraulic flow, is all important when it comes to the roller.

Roller speed on initiating extraction should start in the low revs position and should then be increased as necessary. The knob should initially be turned completely clockwise, in which position the roller will not move at all when lever “C” is actuated, and then progressively be turned counterclockwise until the desired rpm are attained (Fig.20).

Conversely, if levers “A” or “B” are actuated, hydraulic flow (i.e. operating speed) increases when the knob is turned clockwise. If the cylinders do not move at all or do so very slowly, the reason is that the knob is completely, or almost completely, turned counterclockwise.(Fig.21).

The next sections show the use of hydraulic levers “A”, “B” and “C”.

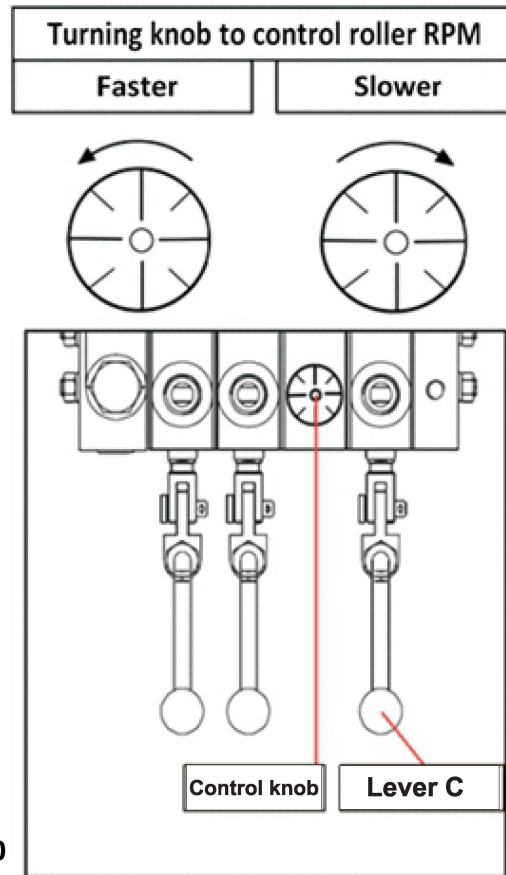


Fig.20

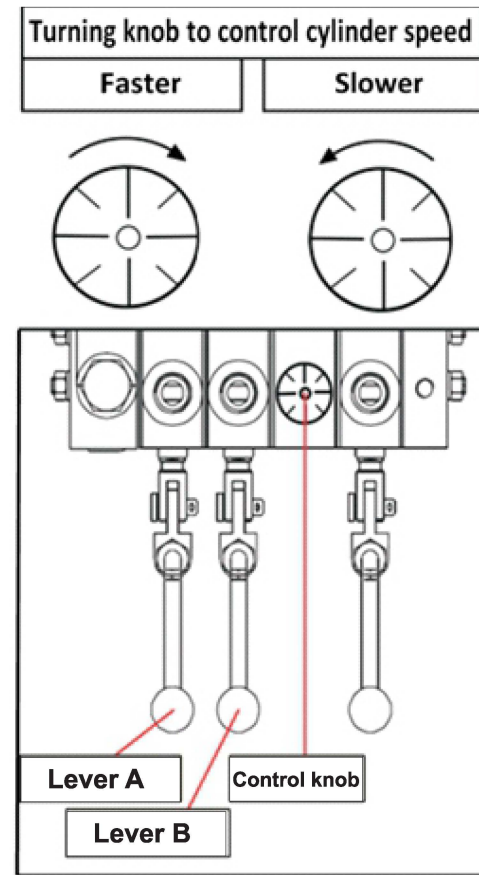


Fig.21

9

Raising the discharge auger

First step in preparing for work is raising the discharge auger. With the tractor's hydraulics turned on, move lever "A" to upward position (Fig. 22). This will raise the auger tube. Before doing that, remove any grain that may have accumulated on the connecting faces as this may prevent correct closure and cause losses through the resulting gap.

When auger is fully extended, move back the lever to its mid position (neutral). Once the unloader has finished working and is to be towed away, the sequence is reversed and the tube is lowered onto its support bracket by moving lever "A" downward.

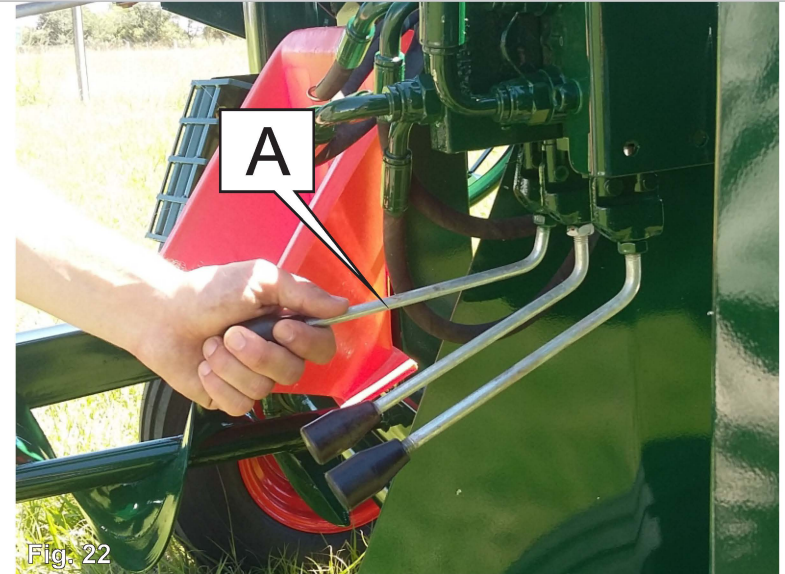


Fig. 22

10

Machine Clearance

Next, second lever "B" is used to regulate working height (i.e., clearance of the sweep augers to the ground). To raise the unloader, the lever is moved to its top position (Fig. 23). The object of height regulation is to set minimum clearance possible without compromising bag integrity which can occur if the augers run into the ground because of potholes.

The machine cannot be raised during operation. The only way to do it is to first extricate the sweep augers from the mass of grain and only then proceed to modify height.

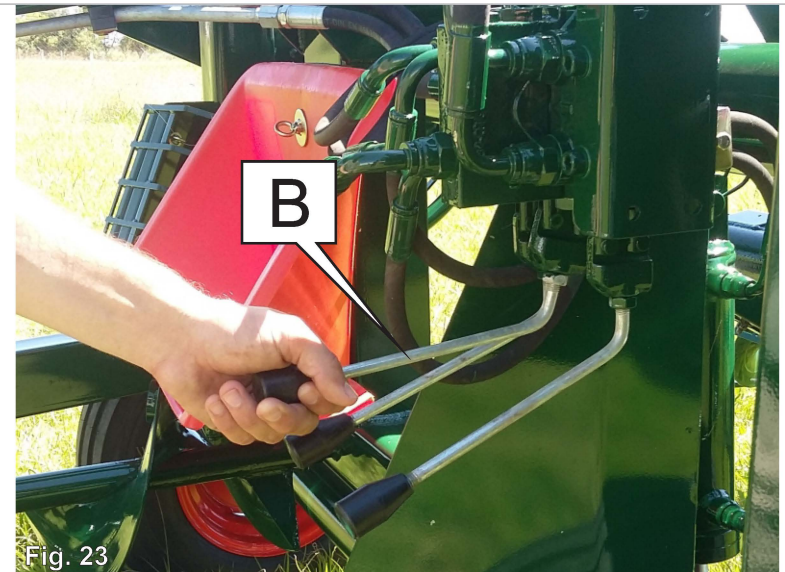


Fig. 23



IMPORTANT

The unloader should not be raised or lowered with the hydraulic cylinder if the augers are deep within the grain mass, as this could place undue strain on some components. The correct procedure is to release a few feet of plastic from the roller by counter rotating it hydraulically, advance forward with tractor to extricate the sweep augers from the grain, modify machine clearance with the hydraulic cylinder removing or adding stops as necessary, back the machine once again into the bag to position the augers next to the grain, and reinitiate PTO and roller to continue unloading.

11

Stops provided come in 3 sizes: 58mm, 40mm and 30mm. Once a combination of stops has been selected and placed around the cylinder rod, lever "B" is pulled down so that the weight of the unloader comes to rest upon the stops (Fig. 24). At this point the lever is returned to its neutral position.

The cylinder's bottom located screw (Fig. 25) allows further height adjustment.

Wide stop

Medium stop

Narrow stop

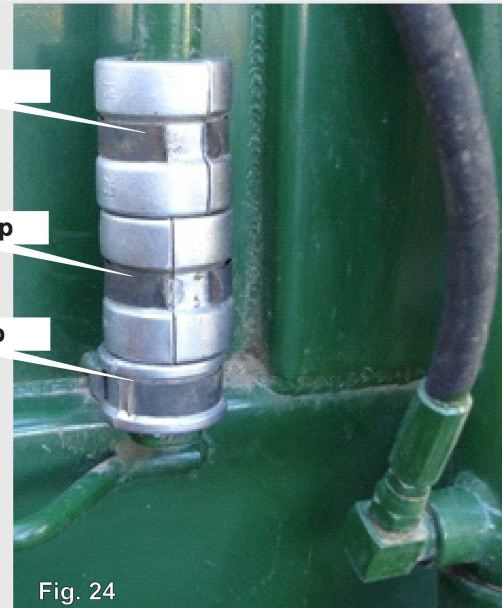
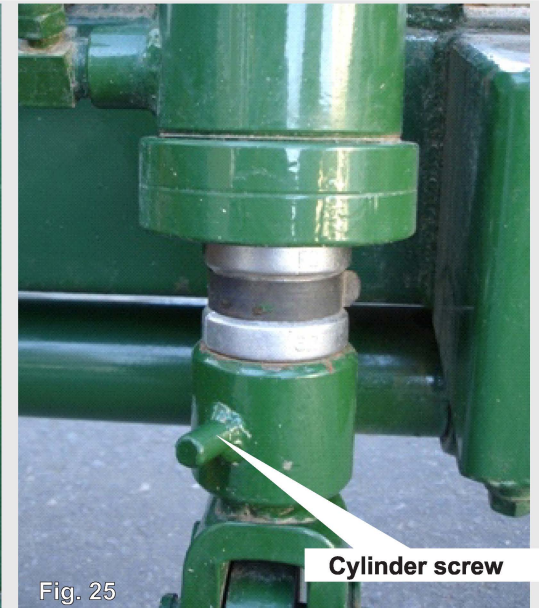


Fig. 24



Cylinder screw

Fig. 25

12

As a practical tip, it is recommended that the cross auger outer protection rings be at a height of 8 or 10 cm (3" or 4") from the ground (Fig. 26)



Fig. 26

8 or 10 cm (3" or 4")

Roller control

13

To turn the roller, lever "C" is used (Fig. 27). Pushing the lever upward turns the roll in the direction that pulls in the bag.

Turned up, the lever locks in that position so that operator does not have to hold it continuously during the procedure.

Pushing the lever downward turns the roller in the direction that releases plastic sheet, but without locking it because this maneuver takes only seconds.

In mid position, the lever is neutral and the roller remains motionless.

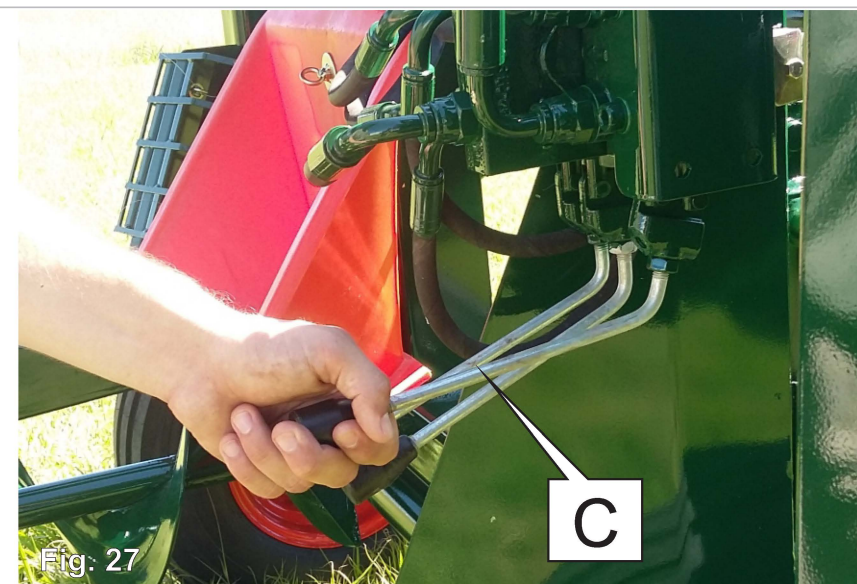


Fig: 27



IMPORTANT

The roller must occasionally be stopped, for example when grain has run out or the unloading operation has ended. There are two ways to accomplish this: moving lever "C" to its neutral position, or turning the hydraulic flow control knob completely clockwise while holding lever "C" in an active position, as shown in Fig. 20.

Set up the blade for work

14

Remove the wing nuts, turn blade 90° and replace wing nuts. Then remove blade guard. (Figs. 28, 29 & 30). In this way the blade will face the incoming bag.



Fig. 28



Fig. 29



Fig. 30

Mounting the bag

15

Align the machine with the bag opening as straight and dead center as possible. Open the bag end and extend it flat on the ground in an orderly manner. On the approximate mid-line of the upper half of the plastic make a lengthwise cut about 3 or 4 meters long. This cut should reach about the beginning of the mound of grain. To prevent the cut from extending further because of grain pressure, it is a good idea to first determine which will be the end point of the lengthwise cut and then proceed to make a short transversal slash about 10 cm long at this point. Then make the lengthwise cut starting from this transversal slash and cutting outward to the bag leading edge (Fig. 31).



Fig. 31



Fig. 32

Spread the flaps outward to leave an opening through which the unloader can introduce its sweep augers in the bag (Fig. 32).

- 16** At this point in time it is convenient to set the approximate speed at which the roller will work. The roller works in the same manner as a winch, pulling in emptied bag plastic and providing advance movement to the tractor/unloader combo.
- 17** Having already described how the hydraulic commands drive the roller and with the tractor hydraulics operating, it is convenient to begin with the control knob turned completely clockwise (zero movement) and then gradually turn it clockwise to increase rpm's. Draw a visible mark on the outer disc of the roller to time the roller's rotational speed. To achieve maximum output, the roller should take between 30 and 40 seconds to complete one revolution, so set it initially within this range. Fine tuning will be done once operation is underway. Speed is directly proportional to hydraulic flow provided by tractor, which should be a minimum of 60 liters/minute.
- 18** Now back up the unloader into the bag to the point where the sweep augers come lightly in contact with the grain, but do not attempt to wedge the augers forcefully into the mass of grain. On doing this maneuver, it is important to check that the machine's wheels do not tread on the plastic. The plastic must stay inside the wheels.

19

Turn the roller until the line of studs are in the uppermost position (Fig. 33)

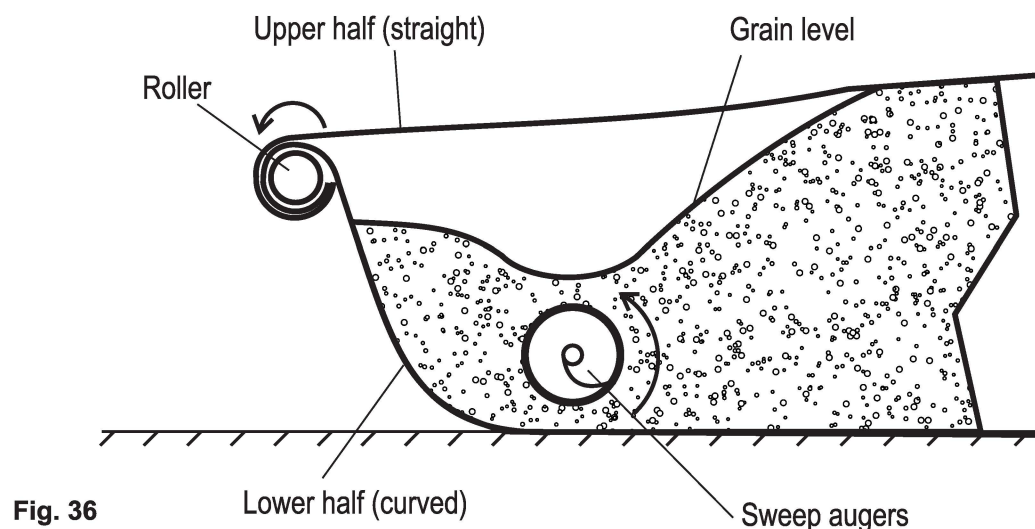
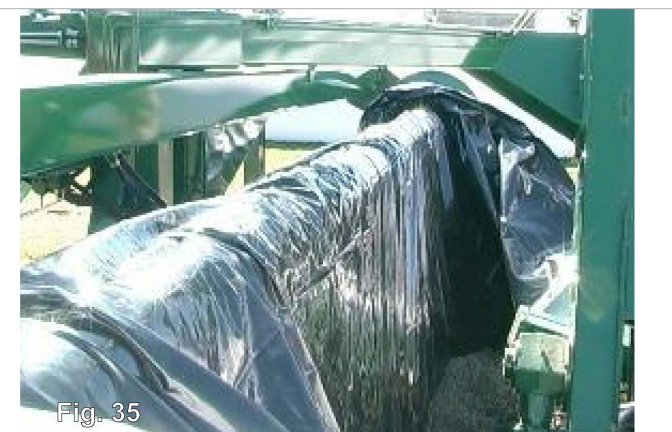


Fig. 33

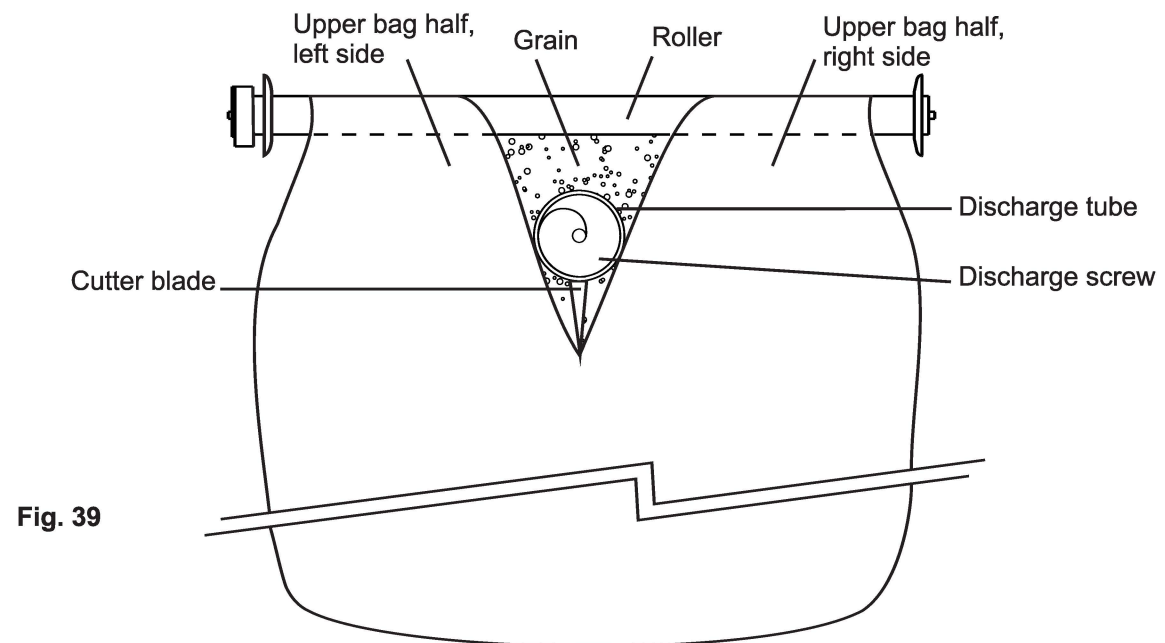
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Lift the bottom half of the bag bringing it up to the roller. Punch the plastic sheet through each holding stud (Fig. 34) leaving a remainder of 30 or 40 cm to the edge. Notice that the bottom half is one continuous section of plastic that runs along the length of the roller and that the black inner layer of plastic remains visible. Do not worry if at this stage the plastic is not perfectly distributed along the length of the roller or if folds and creases remain after attachment Fig. 35). The creases will gradually smoothen out upon starting work.

The lower half should not be stretched tight when attaching to the holding studs, but should be given some slack (about 1 ft. of plastic should be enough). This facilitates formation of a pouch that accumulates grain to be collected by the sweep augers (Fig. 36). The curved section or pouch prevents contact between the augers and the plastic sheet.



Once the bottom half of the bag has been secured in this manner, bring up the upper half in a similar way, right over the bottom half already tacked to the roller. Proceed to punch the plastic sheet through each stud, starting from the studs at the end of the roller and progressing toward the center. Notice that it is the white outer layer that is now visible (Fig. 37). The initial cut has divided the top part of the bag in two parts. The left part goes to the left of the discharge auger fastened to corresponding studs, while the right part goes to the right of the auger tube fastened to the studs on that side (Figs. 38 & 39). Unlike the lower half of the bag, the upper half should be attached tight (i.e., not allowing slack when punching through studs) in order to assist initial advance by providing traction (Fig. 36). Once unloading is underway, the initial cut will be continued by the cutter blade.





IMPORTANT

There is no need to be overly precise when fastening the bag to the roller. Even though at this stage the plastic may look crumpled and in disarray, it will stretch and straighten after a few turns of the roller. The basic consideration here is having the bottom part of the bag (the part hooked to the roller first) hold some slack relative to the upper part attached last (one or two feet is enough). The latter should be attached shorter so that the roller tugs at it first. The small margin of slack in the bottom section plus the plastic sheet's elasticity helps form a rounded shape that contains the grain as the bag is rolled in. The rounded shape also helps keep adequate clearance between bag and sweep augers.

22

Pull lever "C" to its upward position (Fig. 27) and rotate roller forward about one turn, or whatever is needed for the plastic sheet to achieve initial tension (Fig. 40). Then lower lever "C" to neutral position. Ensure cutting blade has adequate height clearance to cut through the upper half of the bag (Fig. 41).



Fig. 40



Fig. 41

Grain extraction procedure

23

Ensure that the tractor's gear case is disengaged and brakes are off. Failure to comply with this can result in a torn bag or mechanical malfunction. The machine is now ready to begin unloading grain.

24

If not done already, connect PTO and take to 500/540 rpm to turn the augers

25

Receiving truck should begin loading grain at the near end of its cargo box so that as the unloader advances collecting grain, it finishes at the far end of the truck. The operation is stopped till the truck moves to position his trailer next, or a new truck takes its place.

26

It's important to start operating with a low roller speed to allow grain to completely cover the augers and the bag to take on the rounded shape of Fig. 36. Therefore it is best to begin with hydraulic control knob turned completely clockwise, then raise lever "C" to drive the roller and finally turn knob anti-clockwise till roller starts turning at slow speed.

27

Once augers are covered and lower half of bag has taken on a rounded shape, continue to turn the control knob to increase roller speed (which should end up ranging from 30 to 40 seconds to complete one revolution). End rpm's will depend on the hydraulic output of tractor, which should never be less than 60 liters per minute (16 gallons/minute).

- 33** To determine proper speed, wait until grain reaches a level that is approximately 10 centimeters (4 inches) below the roller's level and keep it there by adjusting the knob in either direction.
- 34** This can be verified visually by observing the mass of grain through the cutter blade opening at the top of the bag. If the gap between grain level and pick-up roller grows too close, and grain is being pulled up into the roller with the bag folds, then too much material is accumulating inside the bag than can be discharged.
- 35** Operating speed must be lowered by turning knob clockwise. If the gap between roller and grain increases, more grain must be supplied by turning the knob anti-clockwise and speeding up the roller. The knob is turned very gradually, avoiding any abrupt changes in grain flow.
- 36** The unloader should now be delivering a steady stream of grain to the receiving truck or trailer. The truck will have to move every so often to stay alongside the retreating bag.



CAUTION

It is critical that grain not be allowed to collect higher up in the bag than level recommended (see "General indications for efficient operation" section) because it can be drawn up with the bag, rolled in with the plastic sheet and form large masses of bulging grain that continue to get bigger. If that happens, operation is stopped, roller is disengaged, tractor is made to advance a few meters so that enough plastic is unrolled to be cut off with a knife, all the used plastic is discarded from the roller and operation is recommenced. Although it is ideal that no grain be picked up by the roller, small bulges here and there can be put up with as long as roller speed is decreased and grain ceases to be pulled in.

37

During work, it is advisable to check direction once in a while and if necessary correct the steering wheel so that the tractor continues to be pulled back in a straight line. It is very important to prevent the sweep auger extremities from touching the bag sidewalls as this could tear the plastic.

That is the reason tractor and machine should be positioned in a straight line and aligned with the bag when initiating work (Fig. 42). If noticed that the unloader is not working aligned with the bag and that the auger protection grids have either come into contact with the plastic or are about to make contact, it may be too late to correct the situation by steering alone (Fig. 43).

When bags are filled on uneven terrain or the tractor pulling the bagger swerves or the bagger's brakes are adjusted while working, the bag can curve, and the curvature can be quite sudden and pronounced. The operator should watch for this while unloading and try to follow curvature with the tractor's steering wheel as far as possible to avoid contact of the augers with the bag's walls.

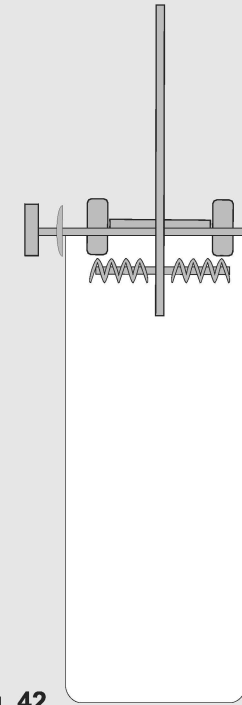


Fig. 42

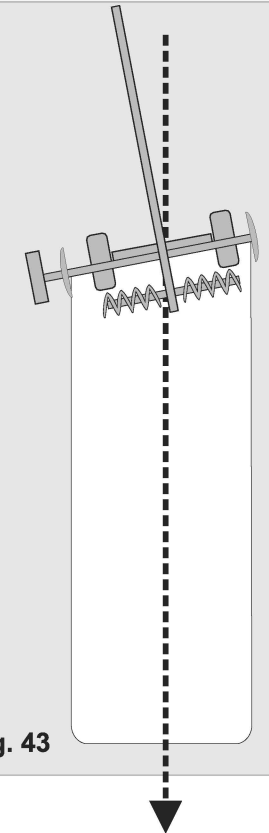


Fig. 43



CAUTION

When not possible to correct misalignment by steering action only - in situations as described above - operation should be halted and the unloader realigned before it ruptures the bag and grain is lost. It should be done as follows: PTO is turned off and the roller is counter-rotated hydraulically to slacken off as much plastic sheet as may be necessary to provide scope for maneuvers (there is no need to detach bag from roller for this specific correction). Tractor and unloader are first driven forward to extract the sweep augers from the grain and then maneuvered to line up straight with the bag, sweep augers placed next to the grain (not wedged forcefully into the grain). With PTO turning, the roller is reengaged so that the cross auger is reintroduced in the mass of grain while in movement.

When the bag is to be closed because work has been completed and the unloader is being taken away, sufficient plastic is unrolled, either hydraulically or by mechanically disengaging the roller, for the bag to be sealed with plastic strips or 2" x 4" boards nailed together.



IMPORTANT

Whenever grain extraction is ended, either if the unloader will remain with bag attached to continue work later or if it will be towed away, the correct termination sequence is as follows:

- . The roller is brought to a complete standstill by setting valve lever in neutral position or closing flow control knob, in order to stop the input of grain.
- . PTO is left engaged and working for a few minutes so that all loose grain is unloaded, ensuring there is no buildup inside the discharge auger tube that could be cause of drive overload.

Emptying the last section of bag

When the unloader reaches a point where it can advance no further because the bag is almost finished and the augers are not picking up any more grain (Fig. 44), it is time to cut short the main operation. After stopping hydraulics and the PTO for reason of safety, the operator should use a knife to rip open the upper part of the bag, remove stops and lower the machine so that the augers may pick up additional grain (Fig. 45) while the roller remains stationary. The tractor can engage in some gentle forward and reverse action to boost grain collection. Repeating this sweeping action, the volume to be loaded by hand can be considerably reduced.

Once all grain possible has been picked up in this way the tractor engine is stopped. For operator safety, it is now necessary to disconnect the sweep augers from the main transmission while still allowing the discharge auger to turn and unload grain. Remove the lock pin from the sweep auger gear case and pull out the coupling gears' handle (Fig. 46), which will disconnect the auger drive. With sweep augers disconnected, the auxiliary hopper is attached to the slot located at the base of the discharge auger.



WARNING:

At this stage no one should approach the bag to hasten discharge by heaping grain onto the augers, or attempt any other action in proximity of the augers since these are turning and could cause serious injury or worse. Stay away!

At this stage the sliding panel or divider that separates the sweep augers from the discharge auger is introduced in corresponding space between auger flights (Fig. 47).



Then the crescent shaped covers are attached to the ends of the divider, thus effectively covering and sealing both openings of the cylinder shaped grain reception chamber (Fig. 48). In this way the totality of grain introduced in the auxiliary hopper will be captured by the discharge auger, valuable loading time gained as no grain is tossed out of the chamber by the churning action of the auger.



The auxiliary hopper is removed from the frame and mounted to the discharge auger's lower slot (Fig. 49)



The tractor engine is turned on, its PTO is engaged and the last grain remaining in the bag is shoveled into the auxiliary auger by hand (Fig. 50). Once unloading is concluded and engine turned off, the sweep auger coupling gears' handle should be pushed in and the lock pin reinserted, ready for next use. The coupling gears are connected to the drive shaft by means of a flange fitted with shear bolts. Should these bolts be cut, unscrew gear case cover and replace with low carbon steel SAE 1010 or C10 bolts of same diameter as the original.



Fig. 50



WARNING:

Always disable the sweep augers when grain is being introduced manually in the hopper in the final stages of work.

To detach the bag, the roller must turn freely. The E6910 model uses an automatic clutch to connect and disconnect the roller drive, so there is no need at any time to open the transmission's cover to perform this operation. The photo that depicts the operating mechanism is only for information purposes. Never operate the machine with protection cover open.



DANGER:

Roller drive protection cover must remain in place at all times during operation. Removal can mean death or serious injury to operator or bystanders.

Pull the third hydraulic lever “C” to low position (Fig. 51) to rotate the bag pick-up roller backward. This action releases tension as the plastic begins to unroll. At this point, the arm cam “D” (Fig. 52) will fall back and disengage the roller drive.

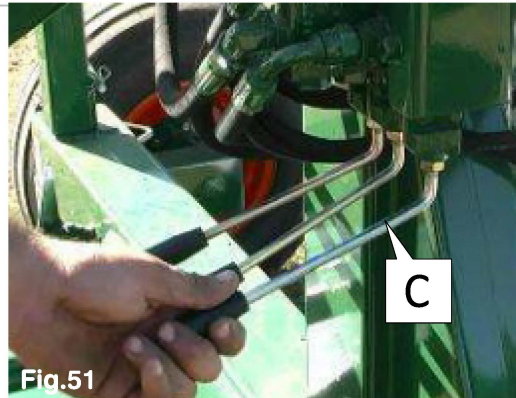


Fig.51

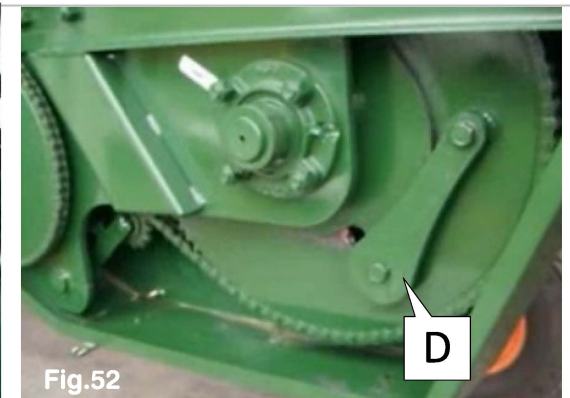


Fig.52

Once the arm cam has disengaged, usually with an audible clunk, continue turning roller until marker “E” appears in viewing window “F”. This positively indicates that the roller now rotates freely (Figs. 53 & 54). Move lever back to its middle, neutral position, and do not move again till operation is finished.

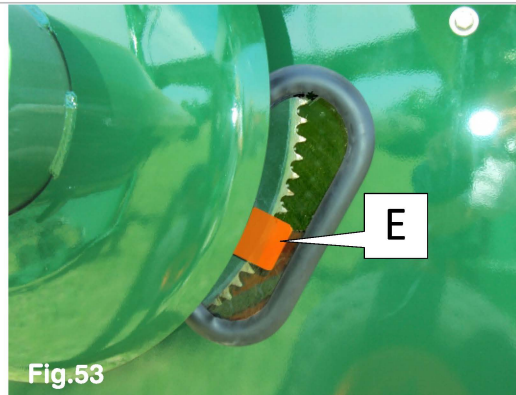


Fig.53



Fig.54



IMPORTANT:

Plastic sheet litter is an eyesore and doesn't help the environment. Inquire about recycling alternatives from your plastic bag supplier or local environmental agency.

Go forward with tractor and unloader until all of the used plastic is released from the roller and lies on the ground (Fig. 55).



Fig.55

Back to transport mode

08

Reverse the order of previous steps to set up the machine for transport:

- a) **Raise hydraulic cylinder to its maximum height, clamp all the stops on the cylinder rod and lower again to rest machine on stops. It is important to set highest clearance for the road.**
- b) **Fold the discharge auger.**
- c) **Disconnect hydraulic hoses and remove PTO drive shaft.**
- d) **Turn cutter blade round so cutting edge faces inward.**
- e) **Hitch unloader to towing vehicle.**

**WARNING:**

Never perform maintenance or lubrication tasks when there are moving parts. Always stop tractor engine and remove the ignition key as an extra precaution.

To check for main drive chain slack, remove covers located on front part of frame and discharge auger tube, and adjust idler sprockets if needed.

Shear bolts

The drive shaft that connects to tractor's PTO is equipped with two shear bolts linking yoke and flange elements (Fig. 38).

They have been installed there to protect the unloader's driveline and transmission from overloads. Should they have to be replaced, use soft low carbon steel **SAE 1010 or C10 bolts** of same diameter as the original.

Never use hardened steel bolts or pins as replacements.

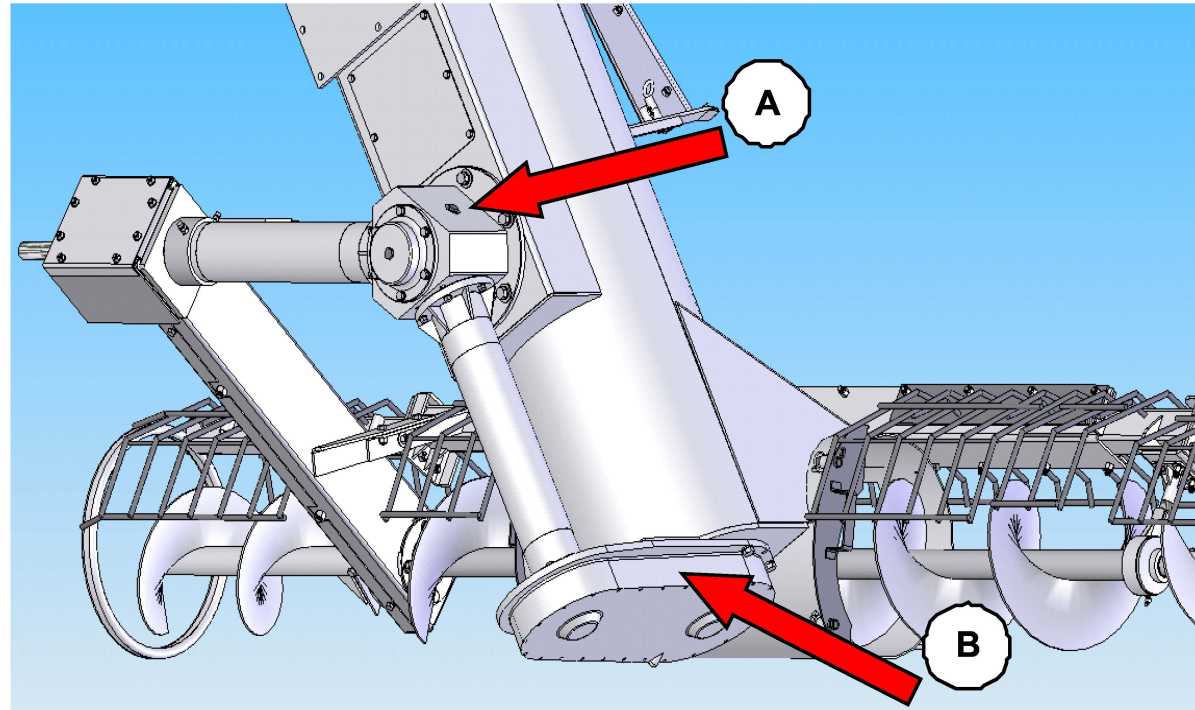


Fig.38

Lubrication

**Roller gearbox, sweep auger and discharge auger transmission cases and chains:
Use SAE 140 gear oil.**

**Bearings and chains:
Use heavy duty lithium grease.**

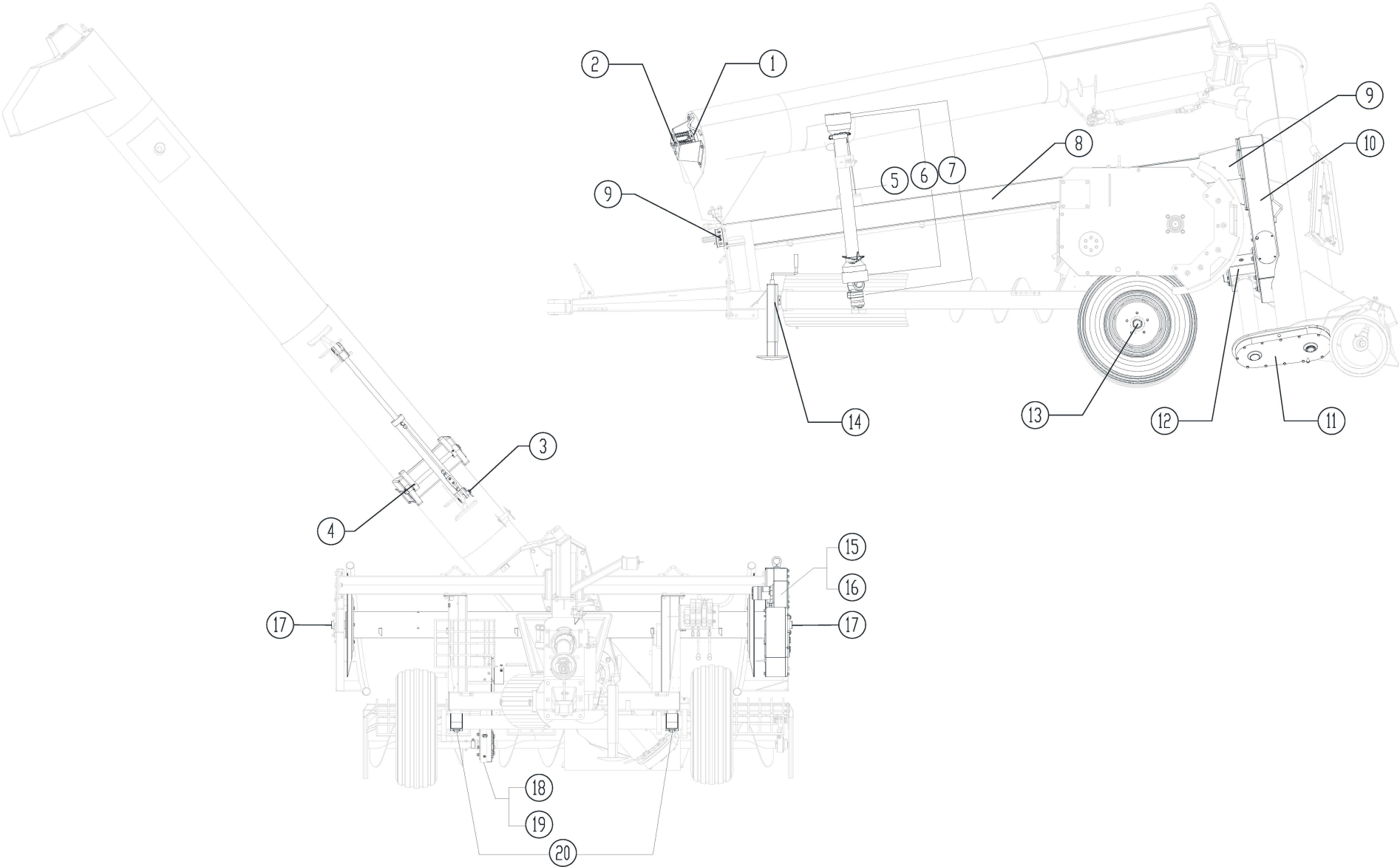


A) The driveline case shown in “A” takes about **4 liters of SAE 140 gear oil** in two stages. The filling procedure is as follows:

- Pour in oil until gear case “A” is full. This will require about two liters (slightly over half a gallon) of oil. Leave it standing for about 24 hours, or to speed up the process connect to tractor and drive the transmission for an hour, preferably with the fill plug removed to facilitate air venting.
- The oil will gradually drain down and once it does the gear case must be refilled with about two additional liters. Oil passage is slow, especially in low temperatures, and this is the reason why two filling steps are required. It helps if oil is warmed slightly.
- Before replacing the fill plug, turn transmission on. Any oil quantity in excess will be thrust out through the plug opening. Peering down, oil should be visible at about mid level to ensure proper gear lubrication. If oil surface is not visible, pour in some additional quantity.

B) The gear case shown in “B” is filled with about **3 liters of SAE 140 gear oil**. Oil is poured through the fill opening at the side of the gear case until oil reaches and flows out of the smaller drain opening. Both fill and drain plugs are then screwed on in place.

11




			Grease zerks (qty)	Lubricant	Interval in hours
1	PTO shaft	U-joints	2	Grease	8
2		Sliding shafts	Apply w/brush	Grease	16
3		Plastic shields	-	Grease	16
4	Discharge tube	Sliding bearing housing	1	Grease	50
5		Hinge assy.	4	Grease	50
6		Cylinder bushing	1	Grease	50
7		Compression springs	Apply w/brush	Grease	50
8	Drive shaft	Plastic bearing caps	1	Grease	50
9		Shaft bearing	2	Grease	50
10	Cross auger drive	Chain tensioner	2	Grease	50
11		Auger drive chain	Apply w/brush	Grease	50
12	Roller drive	Chain tensioner	1	Grease	50
13		Roller drive chain	Apply w/brush	Grease	50
14	Front drive	Front drive chain	Apply w/brush	Grease	50
15	Wheel spindles	Bearing caps	2	Grease	50
16	Roller	Roller bearings	2	Grease	50
17	Jack stand		1	Grease	50
18	Wheels	Hubs	2	Grease	100
19	Lower drive	Chain drive casing	-	Oil (3 liters)	100 (1)
20	Intermediate drive	Gearbox	-	Oil (5 liters)	100 (1)

Ref (*): SAE 140 oil level should be checked every 100 hours.

OPERATOR NOTICE
 THE DECALS ON THIS MACHINE ARE REMINDERS FOR SAFE OPERATION. DO NOT REMOVE THEM. REPLACE IF MISSING OR DETERIORATED.

INSTRUCTIONS




BAG
 ROLLER

- Attachment position of bag to roller when commencing operation, indicating roller turn direction.
- Turning the variable flow valve's knob will alter roller speed to conform to grain discharge rate.

0206-0141 RICHIGER

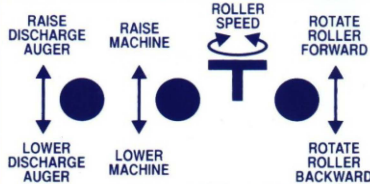
IMPORTANT
HEAVY-DUTY WORK:
 check tension & apply grease every 10 h.
LIGHT-DUTY WORK:
 check tension & apply grease every 20 h.

RICHIGER 1005-0041

 **MAXIMUM SPEED**
18 miles/h

0406-018 1 RICHIGER

HYDRAULIC COMMANDS
 SYSTEM PRESSURE ADJUSTED TO 60 kg/sq cm - APP. 850 PSI
 CAUTION: DO NOT TURN OR MODIFY SETTING OF PRESSURE REGULATING SCREW (SCREW WITH SMALL PERFORATION THROUGH HEAD)



RAISE DISCHARGE AUGER
 LOWER DISCHARGE AUGER
 RAISE MACHINE
 LOWER MACHINE
 ROLLER SPEED
 ROTATE ROLLER FORWARD
 ROTATE ROLLER BACKWARD

0308-281

IMPORTANT

- CHECK GREASE NIPPLES AND LUBRICATE ALL MECHANISMS BEFORE OPERATING MACHINE.
- RETIGHTEN NUTS AFTER FIRST FEW HOUR'S WORK AND RE-CHECK PERIODICALLY.
- MAXIMUM TRANSPORT SPEED: 18 miles/h.
- DO NOT REMOVE PROTECTION COVERS.
- FOLLOW MANUFACTURER'S INSTRUCTIONS.
- DO NOT MODIFY MACHINE IN ANY WAY WITHOUT MANUFACTURER'S CONSENT.

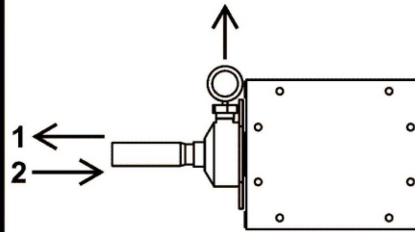
1005-007 1 RICHIGER

IMPORTANT
PREVENT DAMAGE TO YOUR MACHINE
 Do not replace original shear bolts with others of different size or hardness. Determine cause of shear bolt failure and take corrective action.

RICHIGER 0210-0531

WARNING

For safety reasons, ALWAYS disconnect sweep auger drive before shoveling grain manually into the auxiliary bin or approaching the sweep augers.



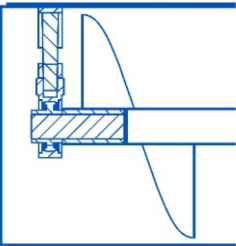
1
 2

1) TO DISCONNECT, remove lock pin and pull handle out.
 2) TO CONNECT, remove lock pin and push handle in.

0210-0451

IMPORTANTE/IMPORTANT/ÖNEMLİDİR


Lubricar rodamiento en el interior del tubo cada 30 Hs.
 Lubricate bearing on auger shaft ending every 30 Hs.
 Her 30 saatte bir helezon yatağını yağlayın.

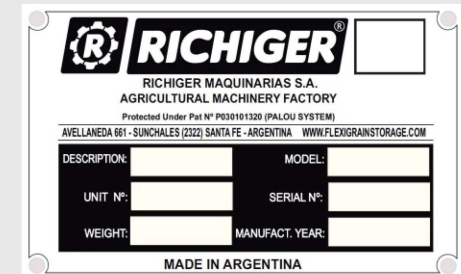
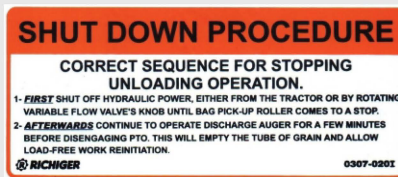
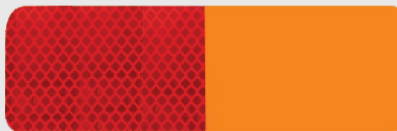


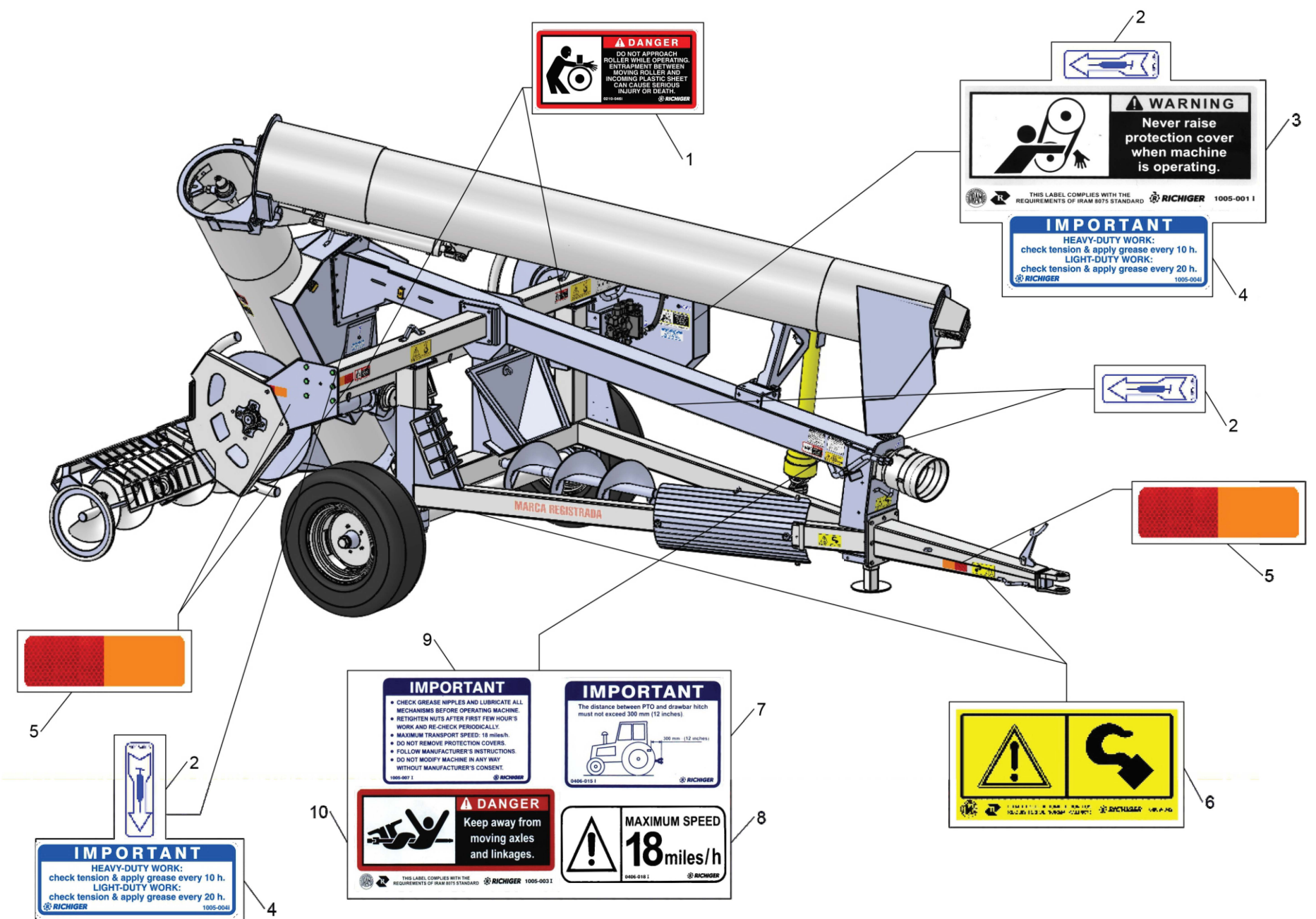
RICHIGER 0514-093


540 RPM
 RICHIGER 0210-050

1005-005





⚠ DANGER
 DO NOT APPROACH
 ROLLER WHILE OPERATING.
 ENTANGLEMENT BETWEEN
 MOVING ROLLER AND
 INCOMING PLASTIC SHEET
 CAN CAUSE SERIOUS
 INJURY OR DEATH.
 RICHIGER 1005-009

⚠ WARNING
 Never raise
 protection cover
 when machine
 is operating.
 THIS LABEL COMPLIES WITH THE
 REQUIREMENTS OF ISO 9001 STANDARD RICHIGER 1005-001 I

IMPORTANT
 HEAVY-DUTY WORK:
 check tension & apply grease every 10 h.
 LIGHT-DUTY WORK:
 check tension & apply grease every 20 h.
 RICHIGER 1005-004



IMPORTANT
 • CHECK GREASE NIPPLES AND LUBRICATE ALL
 MECHANISMS BEFORE OPERATING MACHINE.
 • RETIGHTEN NUTS AFTER FIRST FEW HOUR'S
 WORK AND RE-CHECK PERIODICALLY.
 • MAXIMUM TRANSPORT SPEED: 18 miles/h.
 • DO NOT REMOVE PROTECTION COVERS.
 • FOLLOW MANUFACTURER'S INSTRUCTIONS.
 • DO NOT MODIFY MACHINE IN ANY WAY
 WITHOUT MANUFACTURER'S CONSENT.
 RICHIGER 1005-007 I

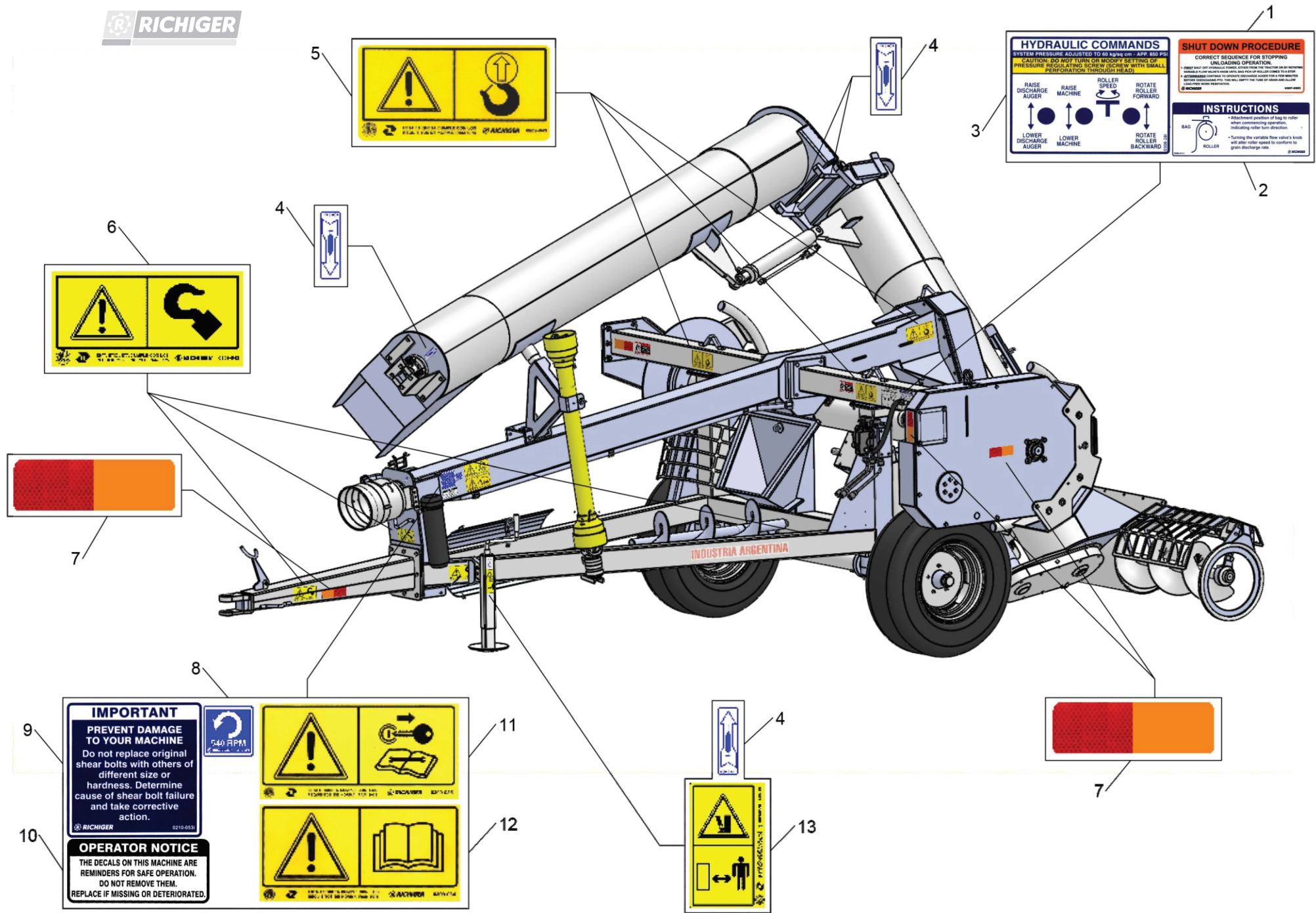
IMPORTANT
 The distance between PTO and drawbar hitch
 must not exceed 300 mm (12 inches)
 RICHIGER 0406-010 I

⚠ DANGER
 Keep away from
 moving axles
 and linkages.
 THIS LABEL COMPLIES WITH THE
 REQUIREMENTS OF ISO 9001 STANDARD RICHIGER 1005-003 I

⚠ MAXIMUM SPEED
18 miles/h
 RICHIGER 0406-011 I



IMPORTANT
 HEAVY-DUTY WORK:
 check tension & apply grease every 10 h.
 LIGHT-DUTY WORK:
 check tension & apply grease every 20 h.
 RICHIGER 1005-004



HYDRAULIC COMMANDS SYSTEM PRESSURE ADJUSTED TO 80 kgf/cm ² - APP. 850 PSI CAUTION: DO NOT TURN OR MODIFY SETTING OF PRESSURE REGULATING SCREW (SCREW WITH SMALL PERFORATION THROUGH HEAD)		SHUT DOWN PROCEDURE CORRECT SEQUENCE FOR STOPPING UNLOADING OPERATION: - FIRST STOP HYDRAULIC SYSTEM THROUGH THE TRUCK OR BY STOPPING ENGINE - LOWER DISCHARGE AUGER TO REST POSITION - TURN THE TRUCK TO THE LEFT OR RIGHT TO THE POSITION OF YOUR CHOICE - STOP THE TRUCK
RAISE DISCHARGE AUGER LOWER DISCHARGE AUGER	RAISE MACHINE LOWER MACHINE	

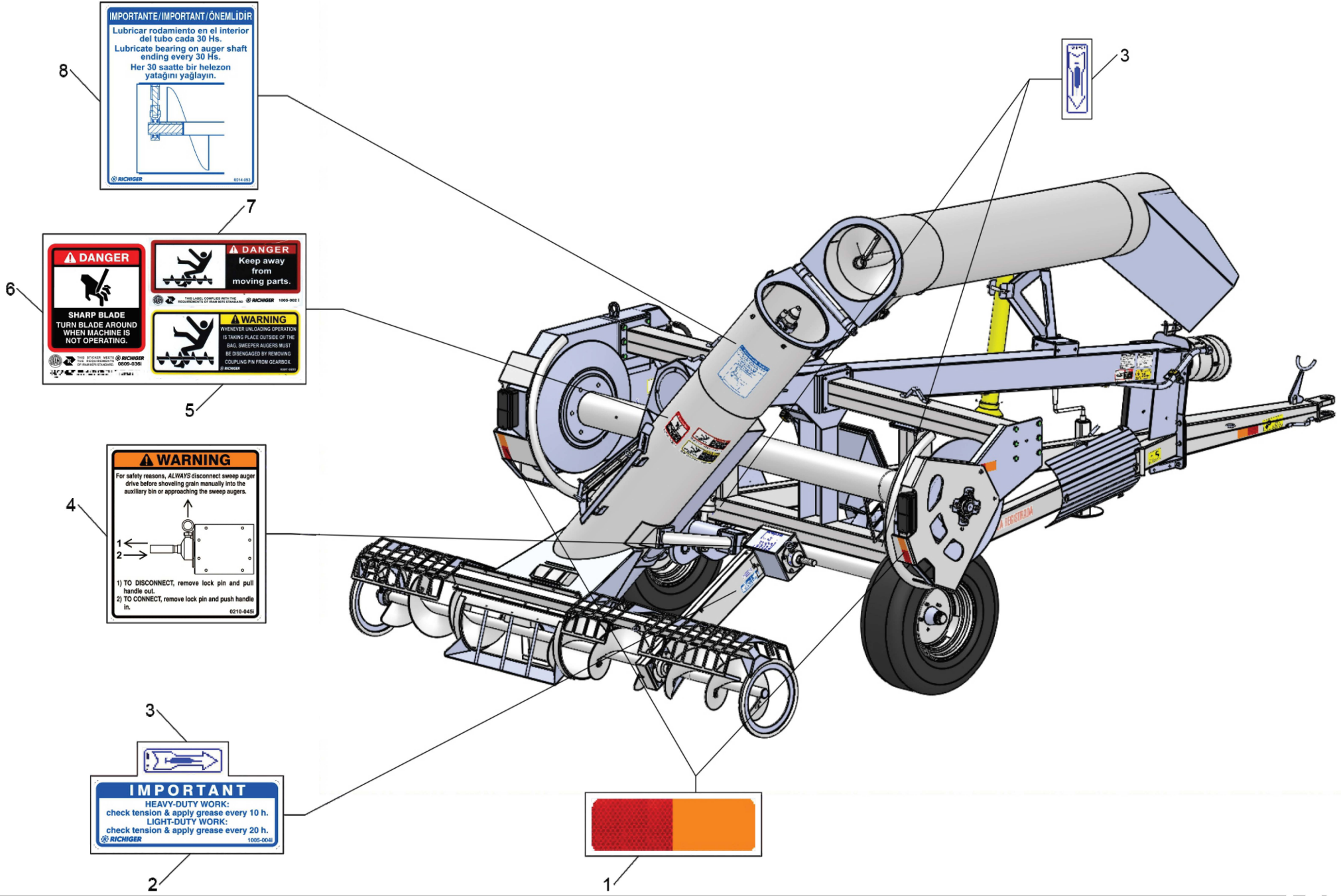
INSTRUCTIONS

Attachment position of bag to roller when commencing operation, indicating roller turn direction.

Turning the variable flow valve's knob will alter roller speed to conform to grain discharge rate.



7



IMPORTANTE/IMPORTANT/ÖNEMLİDİR
 Lubricar rodamiento en el interior del tubo cada 30 Hs.
 Lubricate bearing on auger shaft ending every 30 Hs.
 Her 30 saatte bir helazon yatağını yağlayın.
 RICHIGER 0514-003

DANGER
 SHARP BLADE
 TURN BLADE AROUND WHEN MACHINE IS NOT OPERATING.
 RICHIGER 0509-0361

DANGER
 Keep away from moving parts.
 RICHIGER 1008-0021

WARNING
 WHENEVER UNLOADING OPERATION IS TAKING PLACE OUTSIDE OF THE BAG, SWEEPER AUGERS MUST BE DISENGAGED BY REMOVING COUPLING PIN FROM GEARBOX.
 RICHIGER 1007-0033

WARNING
 For safety reasons, ALWAYS disconnect sweep auger drive before shoveling grain manually into the auxiliary bin or approaching the sweep augers.
 1) TO DISCONNECT, remove lock pin and pull handle out.
 2) TO CONNECT, remove lock pin and push handle in.
 RICHIGER 0210-045

IMPORTANT
 HEAVY-DUTY WORK:
 check tension & apply grease every 10 h.
 LIGHT-DUTY WORK:
 check tension & apply grease every 20 h.
 RICHIGER 1005-0041

RICHIGER[®]

WE MEET YOUR PRODUCTION NEEDS

The aptitude of different kinds of grain to flow can be approximately determined by the angle formed by the sides of a mound lying on the ground. A steep angle indicates bad grain flow (Fig. 39) whilst a shallow angle indicates a good flow rate (Fig. 40).

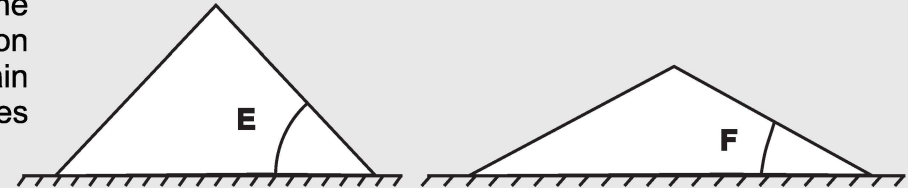


Fig.39

Fig.40

Some of the factors that contribute to good grain flow are the following:

Bigger grain size
Smooth outer surface
Round shaped grain
Dry grain
Clean grain



Low heap angle



Smooth flow, higher rate of extraction

Examples of grains with good flow characteristics that can be unloaded at higher speeds are:

- Corn below 21% moisture
- Soybeans below 21% moisture
- Wheat below 19% moisture

Grains that flow with more difficulty should be extracted at a slower pace as the higher speeds cannot be attained and if attempted the unloader could suffer mechanical damage. Examples of these grains are:

- Corn above 22% moisture
- Soybeans above 22% moisture
- Wheat above 20% moisture
- Sunflower
- Oats
- Barley
- Paddy rice
- Chickpeas

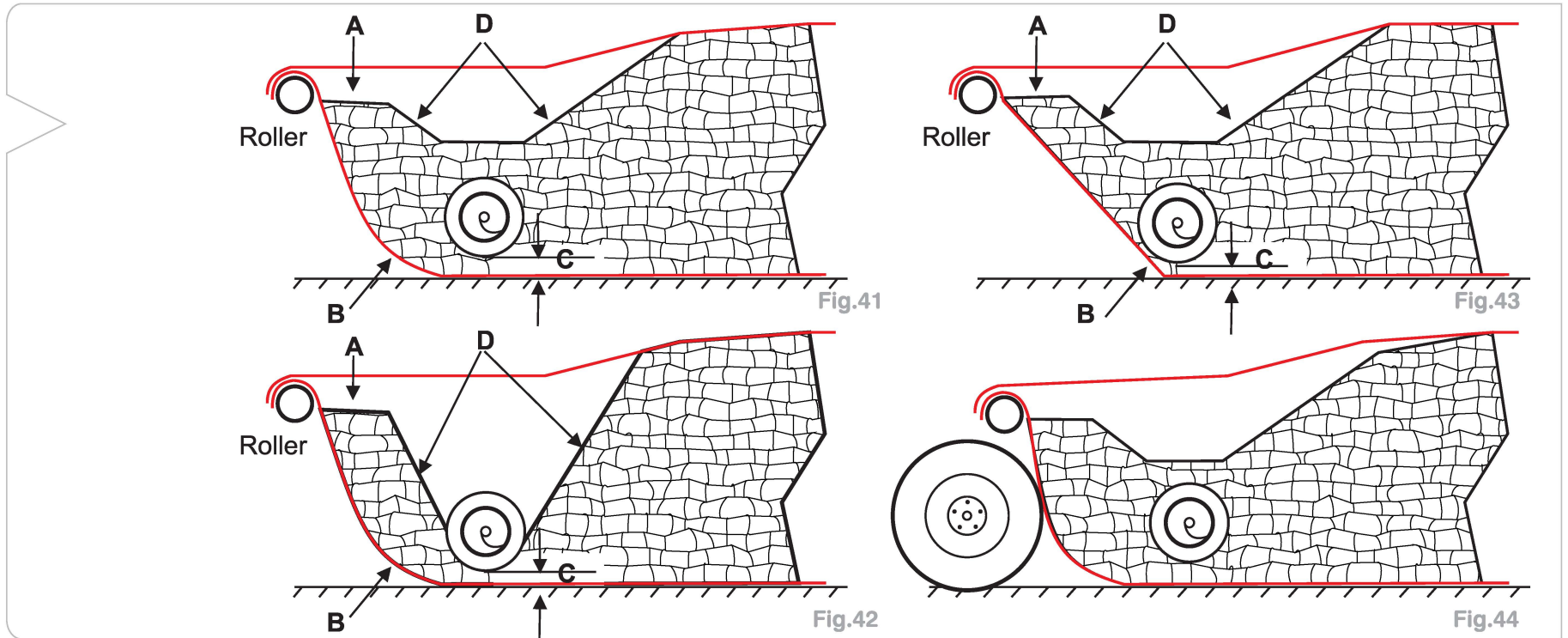


Remember: the whole working principle of the unloader rests upon the flow characteristics of grain.

Sweep auger efficiency is dependent on the type of grain being unloaded. The highest output measured in tons extracted per hour is obtained with grains that run well. Free running grain results in more efficient auger operation, a higher discharge rate and less stress on mechanical components.

The opposite is true of grain that does not run so well, that clusters together because of contamination with straw or twigs, excessive moisture, or because grain shape lends itself to interlocking. In these less than ideal conditions, work speed is necessarily compromised.

The following drawings depict magnitudes A, B, C & D. The text that follows can help you assess how these parameters interact with each other and with different grains to help optimize operation:



“A” is the height that grain within the bag can be taken to by increasing or reducing the pickup roller's RPM's. This level must not exceed the roller's height to prevent grain from being picked up with the plastic sheet. With this constraint, grain level should normally be maintained as high as possible so that, with the aid of gravity, it can readily fall back onto the sweep augers and be directed to the discharge auger.

“B” shows the curved shape that the front part of the bag should adopt - Figs. 41 & 42 - in order that the plastic sheet does not come in contact with the sweep augers or their protection grids with risk of ripping open and losing contents. The curvature is formed by the grain mass weighing down the tip of the bag as it is rolled in. When grain does not accumulate there, the plastic will tend to go up to the roller in a straight line - Fig. 43 - dangerously close to or actually touching the augers, with possibility of bag damage. With grain that flows easily (e.g. dry wheat), if the sweep augers are set with their normal low clearance to the ground (see “C” below), it can happen that due to quick passage, no layer of grain is left between the sweep augers and the floor. With no grain weighing down the bottom part of the bag and grain being unloaded at a very fast pace because it flows freely, it might not accumulate at the front as in fig. 41 but take on the shape shown in Fig. 43. In this case, sweeper height (“C”) should be increased to permit some grain to pass beneath the sweepers without being gathered so that it can weigh down the bottom of the bag and collect at the front (“B”). However, if sweeper height is excessive, too much grain could accumulate there and project forward, making contact with the unloader's wheels (Fig. 44), a situation that should be avoided. The weight of grain contained within the curved shape “B” can reach tons. For that reason too it is important to pay close attention to grain level within the bag and prevent it from climbing above the roller as this will add even more volume and weight, the problem compounded by a large amount of grain that will immediately be pulled up by the roller along with the plastic, forming huge lumps of rolled material. If it goes unchecked, this progression could cause failure of mechanical components.

“C” is the clearance between sweep augers and bag bottom (or ground). This distance should be small so that the sweep augers lie low inside the bag and are well covered with grain, which ensures adequate delivery to the discharge auger. The clearance is set via clamp stops placed on the hydraulic cylinder rod. Since the augers should not touch the ground as this would endanger bag integrity, the convenience of placing the bags on terrain as flat as possible becomes clear. If the ground is rough, this will force operation with sweeper augers placed higher up than optimum because a rut will cause the unloader to dip, with the consequence of sweepers bumping against the ground and ripping the plastic. Especially with grain that clings together and flows badly, it is important to place the sweeper augers as low as possible. Generally speaking and in average conditions, low may be considered to be a clearance of about four to six inches from auger flighting to floor.

“D” indicates the slope or angle of grain inside the bag. Materials that flow easily will form a shallow slope Fig. 41 -, whilst those that do not will tend to form a steeper slope - Fig. 42 - that in extreme cases will flow only with great difficulty and could keep the augers uncovered and visible (or partially visible) while the machine is working, instead of fully covered with grain which constitutes the most desirable situation. Free flowing grain will typically cover the augers with a foot thick layer of grain. In relation to this, it is very important to remember that quick starting the augers deeply immersed in grain will most likely result in shear bolts that snap or transmission breakages. When labor is interrupted, PTO *must not be restarted when augers are deep inside grain*. The correct procedure is to unwind a certain length of plastic by hydraulically turning the roller in reverse and then advancing forward with tractor and unloader the distance it takes to extricate the augers from the mass of grain. When reinitiating work, augers should not be thrust into the grain by the tractor, but should be pulled into the mass of grain by roller action.



The main rule when dealing with difficult, hard flowing grain is to slow down the operation. This means lessening the volume of incoming grain, which in turn means slowing down the roller's revolutions per minute.

Let us present a practical example applying some of the parameters mentioned above by analyzing an extraction of “difficult” grain in detail. Most of these indications are applicable grains in general, but grain that flows with difficulty better exemplifies the precautions that should be taken. Once the operator becomes knowledgeable about how the unloader handles different types of grain, using the correct approach becomes a matter of routine. The intention is not to impose a rigid set of rules, but to provide general guidelines that the operator can follow while he familiarizes himself with the machine.

If we consider a bag filled with grain that will not flow easily, in a situation such as depicted in Fig. 42, the grain forms a compact mass that the sweep augers can only penetrate with difficulty. The augers will move less quantity of grain per unit of time compared with free flowing material.

A) *First adjust “C” so that sweeper distance to the ground is the minimum possible. This allows the augers to tackle the mass of grain from a lower point, so that more grain can accumulate above them and form a steeper angle “D”. This will cause the wall of grain to tumble down more readily and better feed the augers. Remember that minimum is a relative term and can very well mean 4 or 6 inches or more from the floor, to compensate for the unloader lurching into a hole or depression and causing the augers to thump on the ground and rip the plastic. Therefore, sweeper clearance “C” will tend to increase with ground bumpiness.*

B) When backing up the tractor into the bag, *the unloader must never be rammed forcefully against the grain as this can damage the sweeper augers or even bend the beam that supports them. The unloader should be introduced with prudence in the bag and the augers should not penetrate the mass of grain, but make light contact with it. See warning (above in “D” section) about not initiating work with augers surrounded by grain.*

C) *The PTO should always work within its normal 500/540 rpm range, not slower. Whatever grain characteristics are, PTO revs are not reduced and augers work at a uniform speed.*

D) Once the bag has been hooked to the roller and the augers are moving, the operator should begin to haul in the bag by gradually turning open the hydraulic flow control valve (with the roller control lever in its upper position).

E) Grain will start coming out of the discharge auger and simultaneously it will start building up inside the bag to form shape “B” with a certain gradient “D”. The operator should allow a buildup of grain that will probably take a few minutes to reach point “A”.

F) If level of grain inside bag goes too high the roller must be slowed down to allow more grain to be removed by the sweeper and discharge augers. Grain picked up and rolled as one with the plastic sheet is the telltale sign that should be watched out for. The roller extremes where the plastic folds converge on the centering discs is where grain is more likely to collect. If grain is being picked up then roller speed has to be reduced. If the roller picks up too much grain resulting in prominent and growing bulges under the plastic, it will be necessary to stop operation, cut the bag, remove plastic sheet from roller, and reinitiate operation.

G) If grain height reaches point “A”, where a substantial amount of grain is being unloaded with none being picked up by the roller, then roller speed should be stabilized there. Usually point “A” is the highest point that the grain can reach without being pulled in with the plastic folds, but the actual clearance to the roller measured in centimeters can vary. When this plateau is reached, the roller is turning at the correct speed.

H) This is the point of equilibrium where inflow and outflow of grain are equal. The amount of grain that can be handled has reached its peak. Increasing discharge speed should not be attempted at this stage since no benefit in terms of time or volume will be obtained and failure of mechanical parts is a possibility.

I) If in doubt, first always try working slower before increasing speed in a gradual manner.

It is important, in order to avoid accidents that affect oneself and others, to be familiar with the operation of agricultural machinery.

Therefore, please follow these guidelines:

1. Allow only people with a working knowledge of the machine, controls and safety rules to operate it.
2. Verify that all safety and instructional decals are in place and in good condition. If they're not, replace them.
3. For machinery that uses the PTO:



- a) Confirm that all protective shields are in place and do not interfere with moving parts. Drive shaft shields should be secured with chains to prevent them from turning.
 - b) Follow instructions regarding minimum coupling lengths for drive shaft sections. Disconnection during operation can have dire consequences.
 - c) Check correct PTO rpm's indicated for your machine, either 540 or 1,000.
4. Do not tow agricultural machinery with automotive vehicles at high speeds on public roads. They are mostly designed to be towed by tractors on country roads at low speeds of not more than 15 mph.
 5. Make sure the total width of machinery you are towing on public roads does not exceed what is legally permitted. Use signaling lights or banners, or travel with a signaling companion vehicle.
 6. Do not allow people on machines, either working or in transport.
 7. Check that all nuts and bolts are properly tightened.
 8. Follow maintenance indications detailed in user's manual.
 9. Do not attempt to revise or repair anything if there are moving parts or tractor's engine is running.
 10. Hands, feet, hair and loose clothing are especially at risk of being snagged by moving shafts and driveline components. Operator should use adequate shoes and tight fitting clothes, and avoid using rings, watches, chains or other types of jewelry. He should also wear head, eye and ear protection if necessary.
 11. In all machines equipped with hydraulic circuits used for elevation or rotation, do not perform maintenance work without ensuring that:
 - a) Engine is off.
 - b) Nobody has ignition keys to inadvertently turn engine on.
 - c) Safety stops are in place
 - d) There are supporting stands between machine and ground.
 12. Ensure that operator is familiar with fire hazard procedures and proficient with a fire extinguisher.

Following all safety routines involves a high degree of responsibility. Be responsible to yourself and others.

Hand signals

Hand signals have been developed to provide a uniform means of communication between workers on the ground and equipment operators. They are especially useful when noise, distance, or language barriers make voice communication difficult.

There are eleven recognized hand signals found in ASAE Standard S351. They are illustrated here in figures.

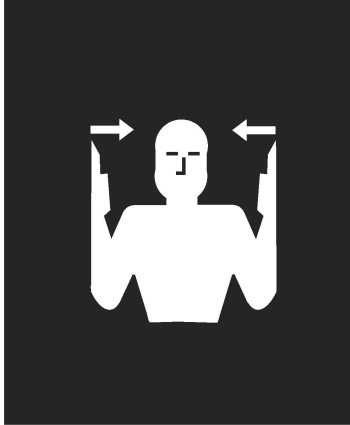


Fig. 1 THIS FAR TO GO.
Put hands in front of face, palms facing each other. Move hands together or farther apart to indicate how far to go.



Fig. 2 COME TO ME.
(May mean "Come help me" in an emergency). Raise arm straight up palm to the front and move arm around in a large circle.



Fig. 3 MOVE TOWARD ME FOLLOW ME.
Look toward person or vehicle you want moved. Hold one hand in front of you, palm facing you, and move your forearm back and forth.

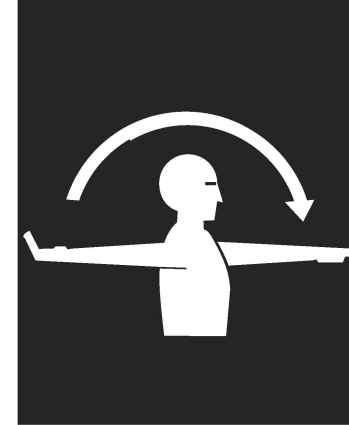


Fig. 4 MOVE OUT TAKE OFF.
Face desired direction of movement. Extend arm straight out behind you, then swing it overhead and forward until it's straight out in front of you.



Fig. 5 STOP.
Raise arm straight up, palm to the front.

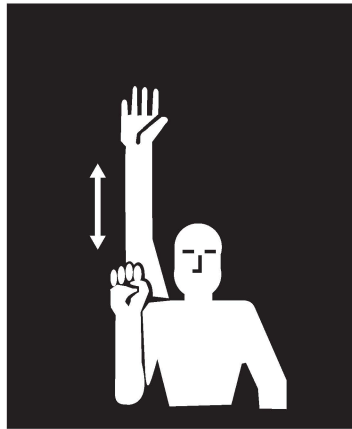


Fig. 6 SPEED IT UP.
Clenching your fist, bend your arm so your hand is at shoulder level. Thrust arm rapidly straight up and down several times.

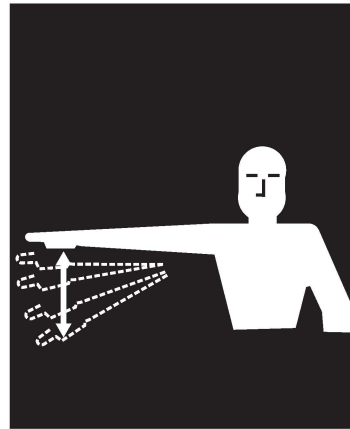


Fig. 7 SLOW IT DOWN.
Extend arm straight out to the side palm down. Keeping arm straight, move it up and down several times.

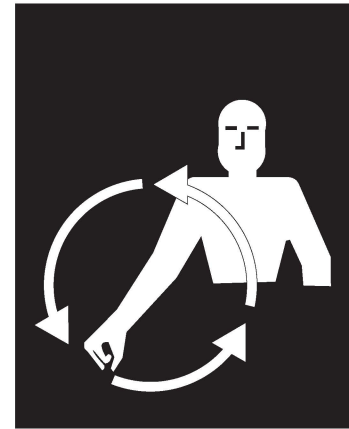


Fig. 8 START THE ENGINE.
Move arm in a circle at waist level as though you were cranking an engine.

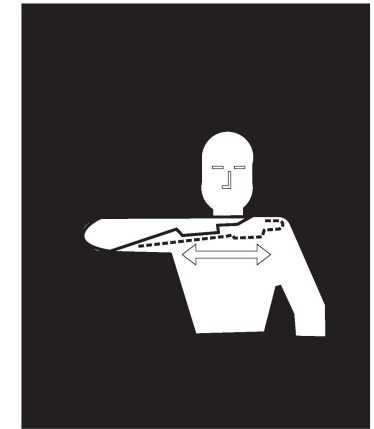


Fig. 9 STOP THE ENGINE.
Move your right arm across your neck from left to right in a "throat-cutting" motion.

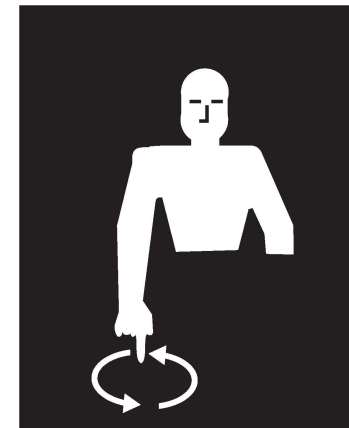


Fig. 10 LOWER EQUIPMENT.
Point toward the ground with the forefinger of one hand while moving the hand in a circle.

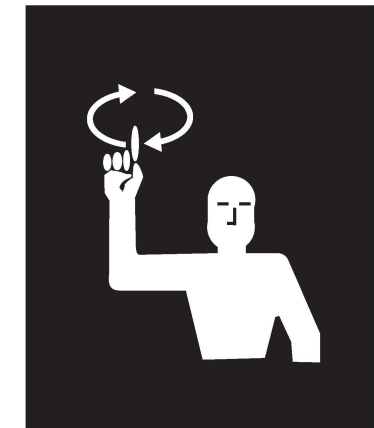
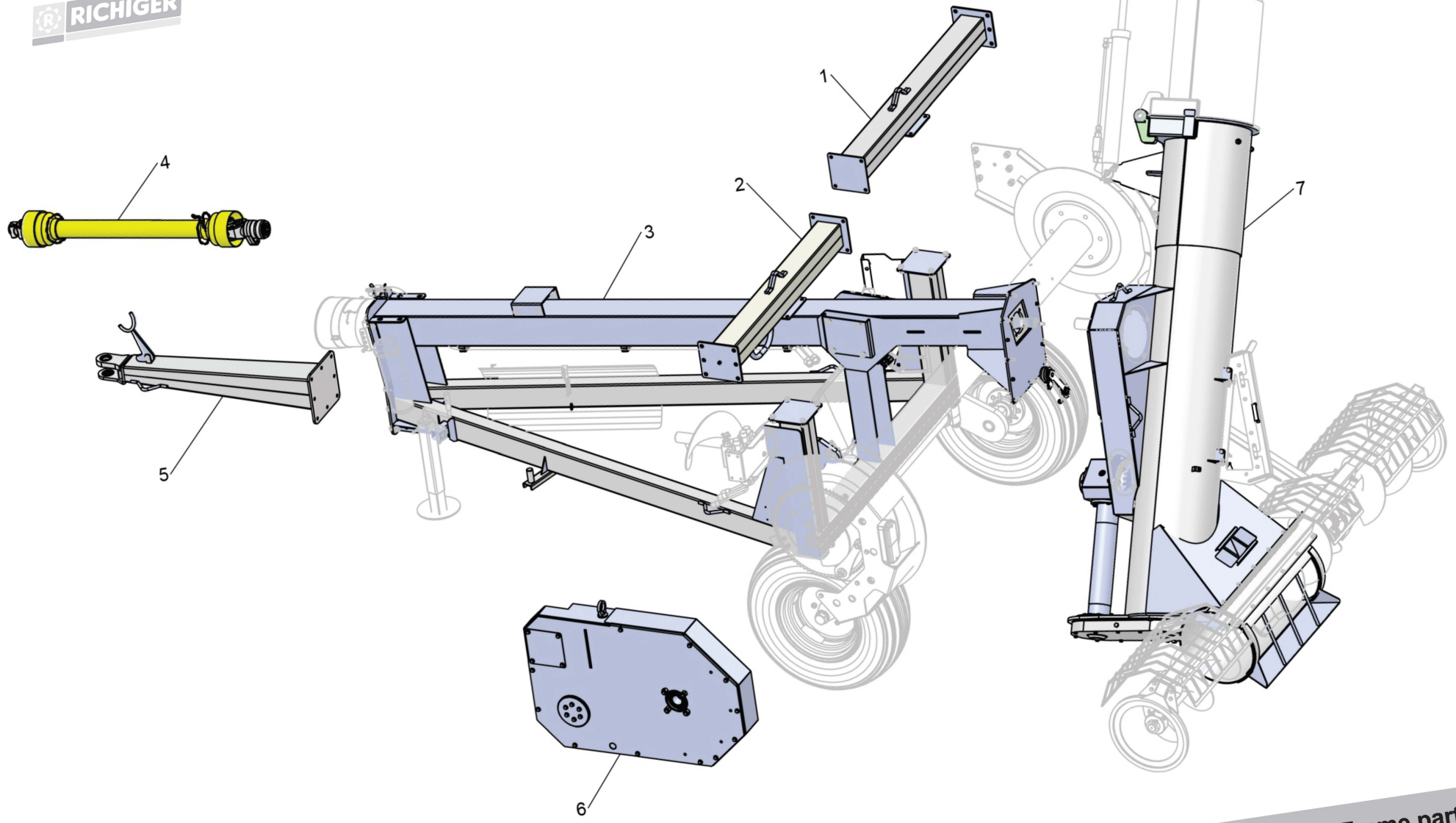


Fig. 11 RAISE EQUIPMENT.
Point upward with forefinger, while making a circle at head level with your hand.

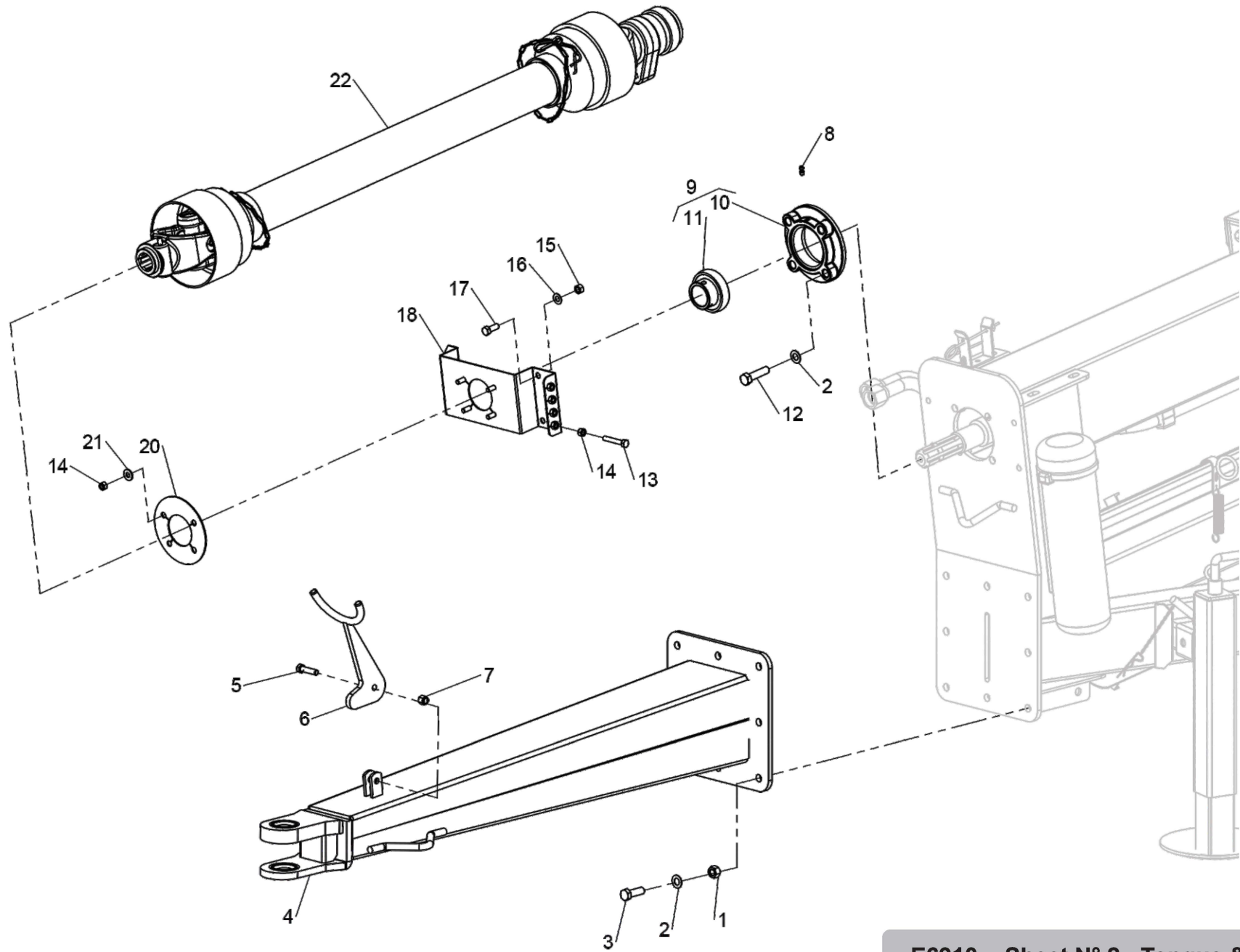
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E6910 - Sheet N° 1 - Frame parts			
N°	Description	Code	Quant.
1	Crossbeam RH	CDED50007A	1
2	Crossbeam LH	CDED50008A	1
3	Frame	CDED50000A	1
4	Main drive shaft assembly	MCBA00017A	1
5	Clevis hitch	CDED50028A	1
6	Roller drive	CDED50093A	1
7	Lower discharge tube assy.	CDED50046A	1

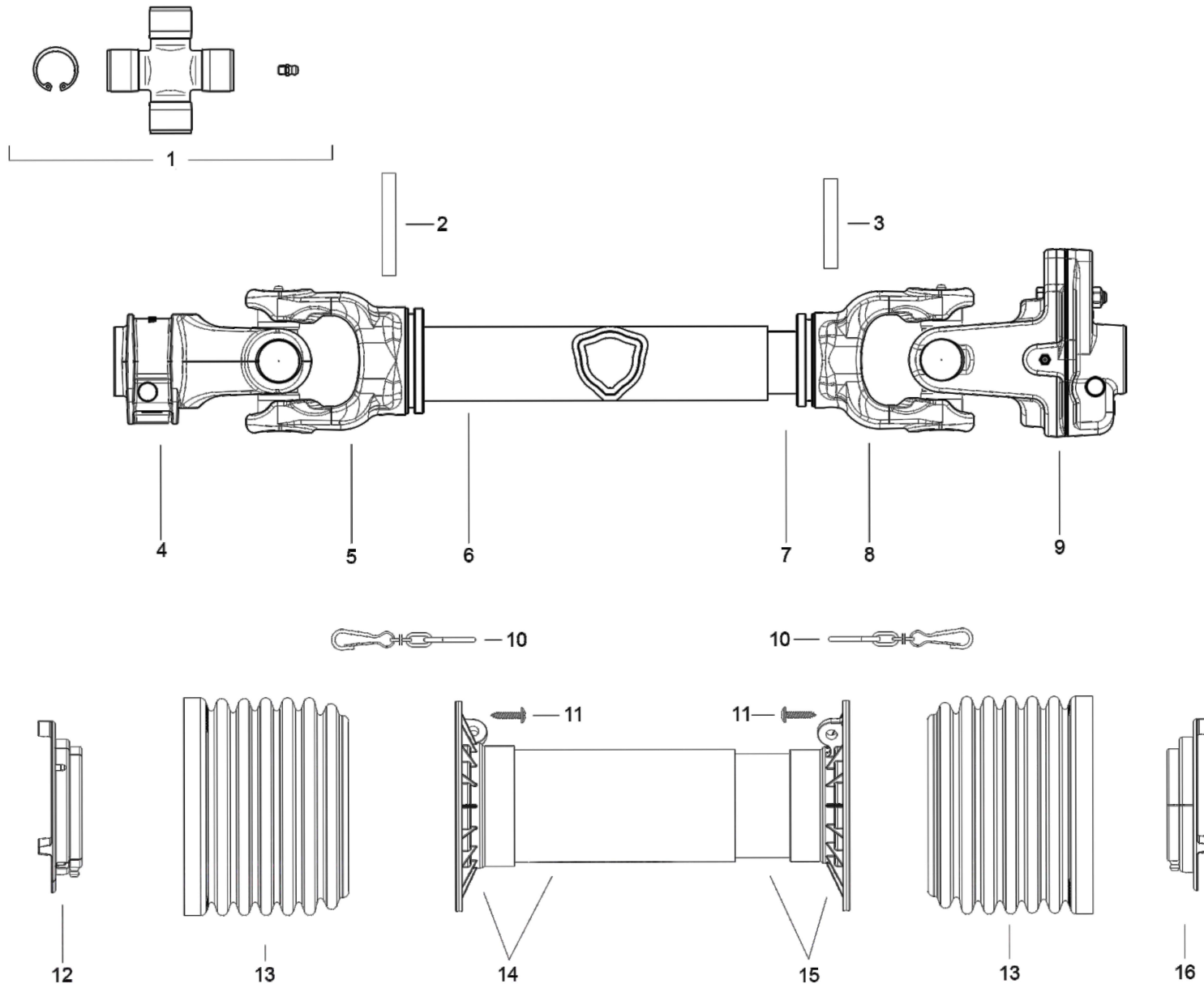




E6910 - Sheet N° 2 - Tongue & hitch

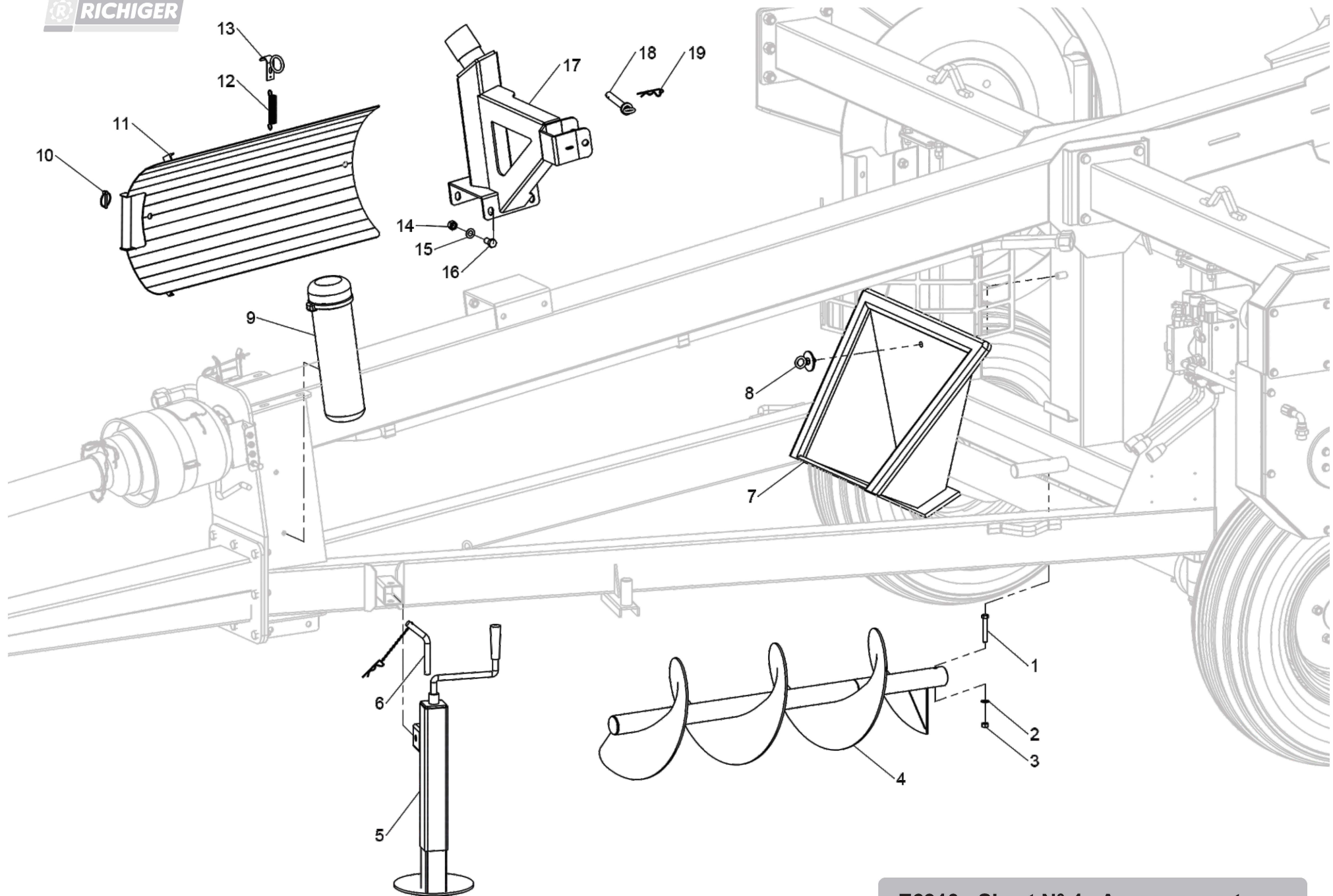
E6910 - Sheet N° 2 - Tongue & hitch			
N°	Description	Code	Quant.
1	Hex nut gr. 5 BSW 1/2"	MCTU00005A	8
2	Disc springs 1/2" (24x13x2,8 mm)	MCAR03002A	12
3	Hex bolt gr. 5 BSW 1/2"x1 1/2"	MCBU00026A	8
4	Clevis hitch	CDED50028A	1
5	Hex bolt gr. 5 BSW 3/8"x1 1/2"	MCBU00009A	1
6	Support bracket	CDDW50025A	1
7	Self locking nut BSW 3/8"	MCTU06001A	1
8	Grease fitting, straight SAE 1/4"	MCAL00002A	1
9	Bearing assy.	MCRO11003A	1
10	Bearing housing FC 208	CDAA51034A	1
11	Bearing UC-208	MCRO12005A	1
12	Hex bolt gr. 5 BSW 1/2"x2"	MCBU00028A	4
13	Hex bolt gr. 5 BSW 5/16"x2"	MCBU00059A	4
14	Self locking nut BSW 5/16"	MCTU06002A	8
15	Hex nut gr. 5 BSW 3/8"	MCTU00003A	4
16	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	4
17	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	4
18	Bracket	CDED50029A	1
19	Plastic shield, PTO	CDBZ00112A	1
20	Retaining washer, plastic shield	CDBQ00036A	1
21	Flat washer galvanized 5/16"	MCAR00004A	4
22	Main drive shaft assembly	MCBA00017A	1





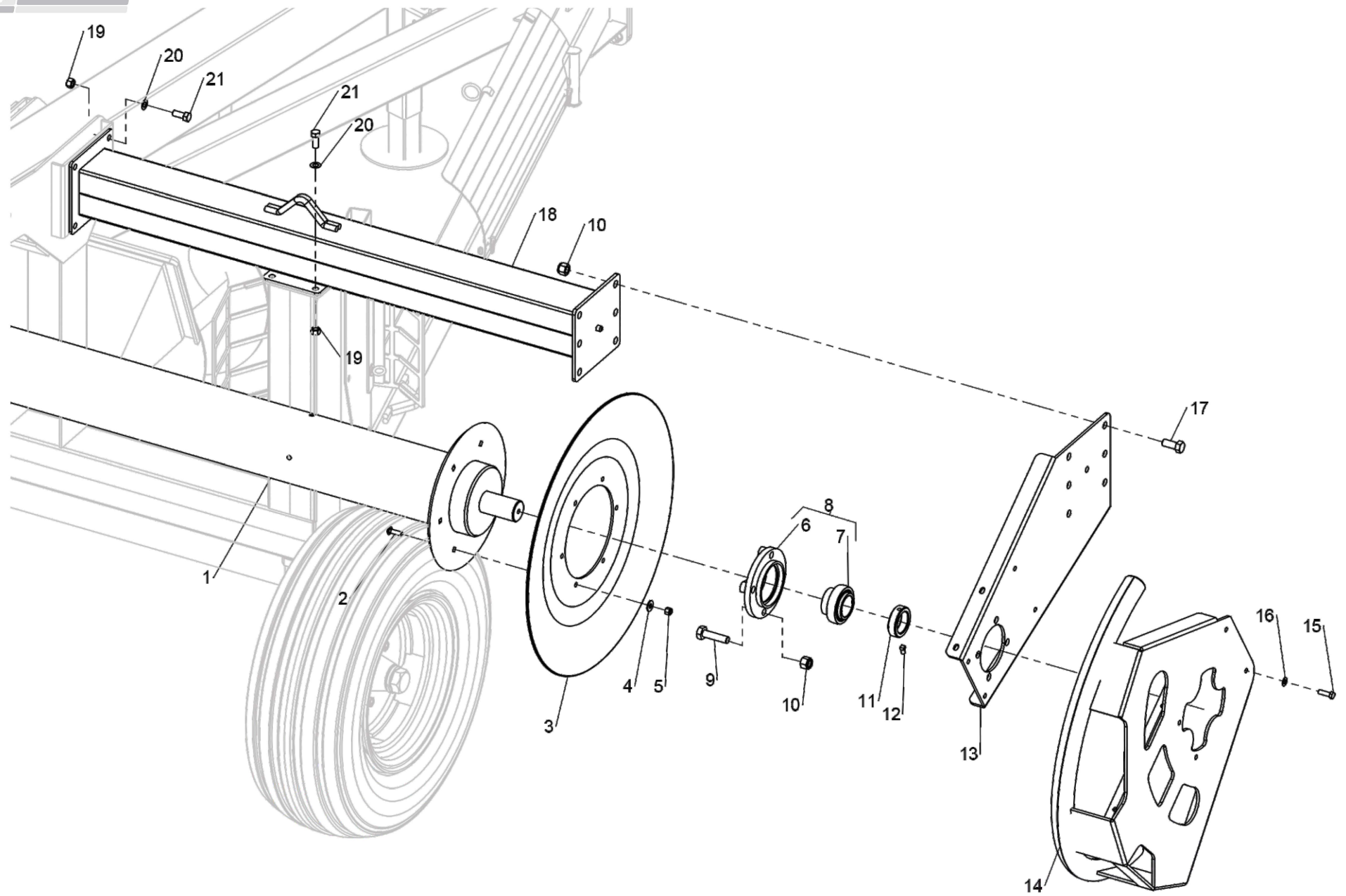
E6910 - Sheet N° 3 - Drive shaft			
N°	Description	Code	Quant.
1	U-joint for simple knots 30,2x91,4 - G7	MCBA01211A	2
2	Outdoor spring pin 10x75 - G7/G8	MCBA01213A	1
3	Inner spring pin 10x65 - G7/G8	MCBA01216A	1
4	Yoke, overhand knots with pushbutton 1 3/8" - Z6 - G7	MCBA01210A	1
5	Yoke, simple knots for external tubes G7	MCBA01212A	1
6	Triangular outer gimbal bar	MCBA01214A	1
7	Triangular inner gimbal bar	MCBA01215A	1
8	Yoke, simple knots for inner tubes G7	MCBA01217A	1
9	Power limiter	MCBA01218A	1
10	Chain hook in "S" L=60	MCBA01195A	2
11	Self-tapping screw 4,8x22 zink	MCBA01221A	6
12	Outer tube support ring G7	MCBA01220A	1
13	Flexible Bando for simple knot G7	MCBA01219A	2
14	Cone outer tube G7	MCBA01222A	1
15	Cone inner tube G7	MCBA01223A	1
16	Inner tube support ring G7	MCBA01224A	1





E6910 - Sheet N° 4 - Accesory parts			
N°	Description	Code	Quant.
1	Hex bolt gr. 5 BSW 3/8"x2 1/2"	MCBU00056A	1
2	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	1
3	Hex nut gr. 5 BSW 3/8"	MCTU00003A	1
4	Sweep auger, long end	CDED50041A	1
5	Screwjack	CDAA52001A	1
6	Hitch pin w/ R-clip, screw jack	CDAA52003A	1
7	Auxiliary bin	CDBW00137A	1
8	Wing bolt 3/8"	CDBE50011A	1
9	User's manual canister	MCPL00013A	1
10	R-clip w/ring	MCCH03001A	2
11	Cover plate, grain inlet	CDED50105A	1
12	Extension spring 2 x 15 x 100 mm	MCRS00002A	1
13	Latch, protection grids	CDBW50068A	1
14	Hex nut gr. 5 BSW 1/2"	MCTU00005A	4
15	Disc springs 1/2" (24x13x2,8 mm)	MCAR03002A	4
16	Hex bolt gr. 5 BSW 1/2"x1"	MCBU00024A	4
17	Support bracket	CDED50069A	1
18	Pin, upper bracket	CDCM50016A	1
19	R-clip 2.5x60 mm	MCCH00005A	1

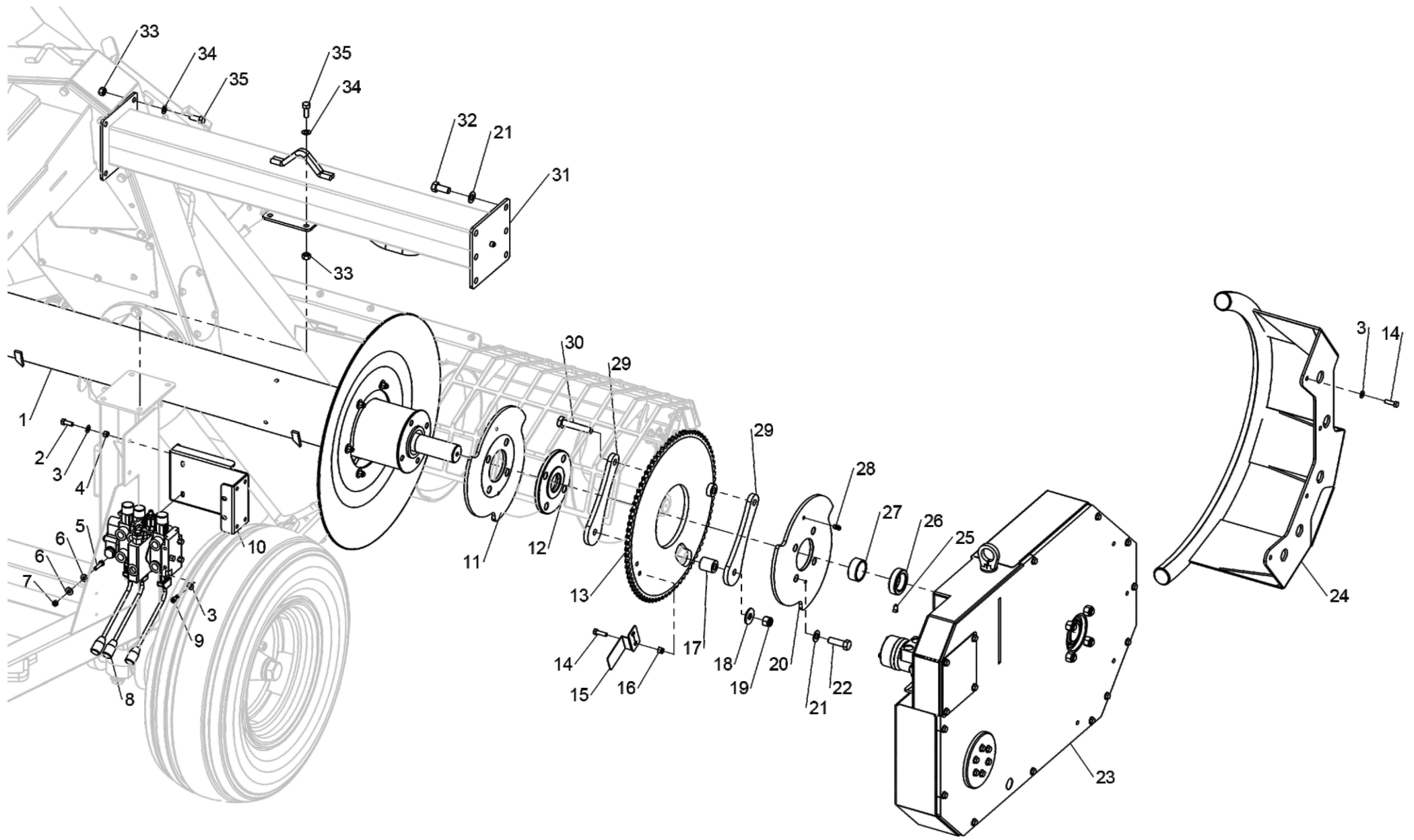




E6910 - Sheet N° 5 - Roller

E6910 - Sheet N° 5 - Roller			
N°	Description	Code	Quant.
1	Roller w/flange	CDED50097A	1
2	Carriage bolt gr. 5 BSW 3/8" x 1 1/4"	MCBU07005A	12
3	Roller bag stop	CDED00017A	2
4	Flat washer galvanized 3/8"	MCAR00005A	12
5	Self locking nut BSW 3/8"	MCTU06001A	12
6	Bearing Housing FC 210	CDAA51041A	1
7	Bearing UC-210	MCRO12007A	1
8	Bearing housing FC 210	MCRO11008A	1
9	Hex bolt gr. 5 BSW 5/8"x2 1/2"	MCBU00039A	4
10	Self locking nut BSW 5/8"	MCTU06005A	10
11	End cap, spindle	CDBW00217A	1
12	Square head set screw 3/8"x1/2"	MCPR00012A	1
13	Roller end plate	CDED50103A	1
14	Roller guard RH	CDED50065A	1
15	Hex bolt gr. 5 BSW 3/8"x1 1/4"	MCBU00008A	4
16	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	4
17	Hex bolt gr. 5 BSW 5/8"x1 1/2"	MCBU00035A	6
18	Crossbeam RH	CDED50007A	1
19	Hex nut gr. 5 BSW 1/2"	MCTU00005A	8
20	Disc springs 1/2" (24x13x2,8 mm)	MCAR03002A	8
21	Hex bolt gr. 5 BSW 1/2"x1 1/4"	MCBU00003A	8

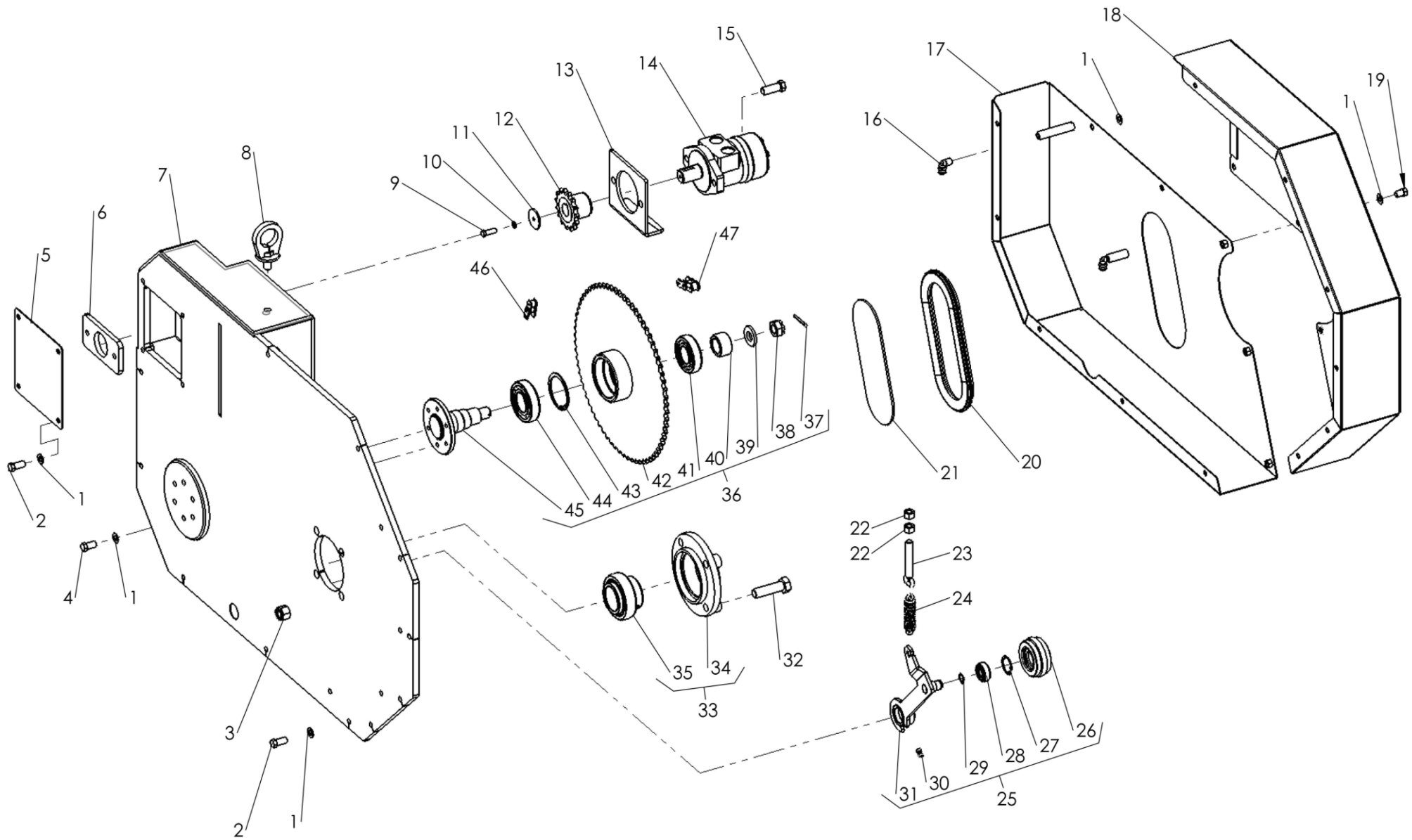




E6910 - Sheet N° 6 - Roller drive			
N°	Description	Code	Quant.
1	Roller partial assy.	CDED50096A	1
2	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	2
3	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	8
4	Hex nut gr. 5 BSW 3/8"	MCTU00003A	2
5	Hex bolt gr. 5 BSW 5/16"x1 1/4"	MCBU00002A	2
6	Flat washer galvanized 5/16"	MCAR00004A	4
7	Self locking nut BSW 5/16"	MCTU06002A	2
8	Sauer Danfoss control valve, 60 liters/minute flow, 3 sections w/ mechanical lever actuators, single position detent w/ flow control and pressure relief auxiliary valves	MCHI06007A	1
9	Socket screw 10x1.5x20 mm	MCTO00026A	2
10	Support bracket	CDBW00148A	1
11	Coupling plate LH	CDDF00011A	1
12	Divider plate	CDDF00006A	1
13	Sprocket 79 tooth	CDED50044A	1
14	Hex bolt gr. 5 BSW 3/8"x1 1/4"	MCBU00008A	2
15	Roller disengage tab	CDED00097A	1
16	Self locking nut BSW 3/8"	MCTU06001A	2
17	Bushing	CDDF00005A	1
18	Flat washer galvanized 5/8"	MCAR00009A	2
19	Self locking nut BSW 5/8"	MCTU06005A	2
20	Coupling plate RH	CDDF00010A	1

E6910 - Sheet N° 6 - Roller drive			
N°	Description	Code	Quant.
21	Disc springs 5/8" (31,5x16,3x1,75 mm)	MCAR01003A	4
22	Hex bolt gr. 5 BSW 5/8"x2"	MCBU00037A	4
23	Roller gear box	CDED50093A	1
24	Roller guard LH	CDED50066A	1
25	Square head set screw 3/8"x1/2"	MCPR00012A	1
26	End cap, spindle	CDBW00217A	1
27	Spacer bushing	CDED00123A	1
28	Grease zerk, 45° angle SAE 1/8"	MCAL01004A	3
29	Coupling arm	CDDF00009A	2
30	Hex bolt BSW 5/8"x3 1/2"	MCBU01084A	2
31	Crossbeam LH	CDED50008A	1
32	Hex bolt gr. 5 BSW 5/8"x1 1/2"	MCBU00035A	6
33	Hex nut gr. 5 BSW 1/2"	MCTU00005A	8
34	Disc springs 1/2" (24x13x2,8 mm)	MCAR03002A	8
35	Hex bolt gr. 5 BSW 1/2"x1 1/4"	MCBU00003A	8

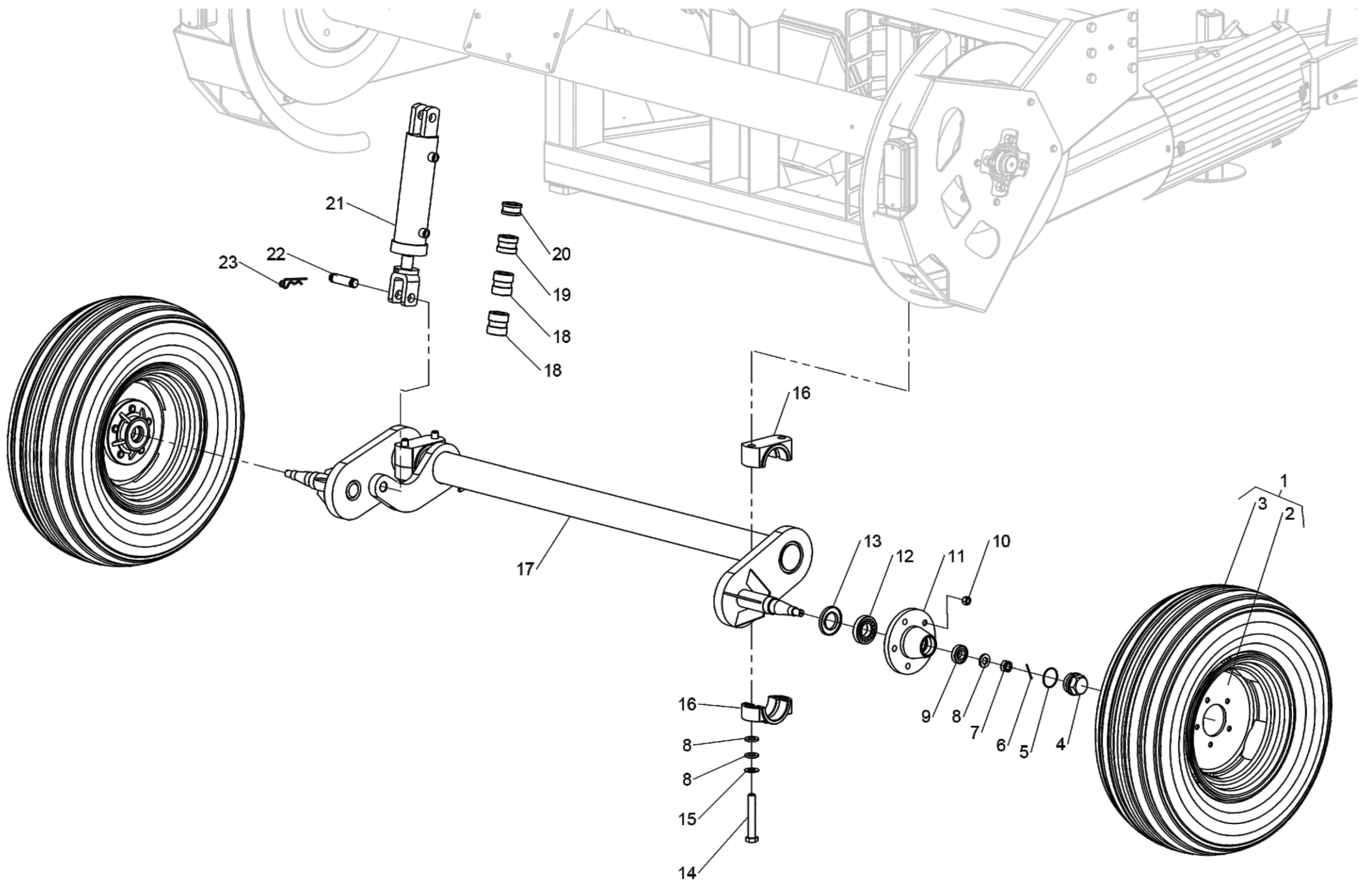




E6910 - Sheet N° 7 - Roller gear box

E6910 - Sheet N° 7 - Roller gear box			
N°	Description	Code	Quant.
1	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	26
2	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	15
3	Self locking nut BSW 5/8"	MCTU06005A	4
4	Hex bolt gr. 5 BSW 3/8"x7/8"	MCBU00006A	8
5	Cover plate	CDEC00142A	1
6	Tensioner plate	CDED00129A	1
7	Drive assy. cover plate	CDED50086A	1
8	Eyebolt BSW 1/2"	CDDF50018A	1
9	Hex bolt gr. 5 BSW 1/4"x1"	MCBU00021A	1
10	Disc springs 1/4" (14x7,2x0,8 mm)	MCAR01005A	1
11	Flat washer 1/8" OD 40/ ID 07 mm	CDAA42041A	1
12	Sprocket 15 tooth	CDBG00020A	1
13	Tensioner sliding plate	CDED50056A	1
14	Hydraulic motor	MCHI01008A	1
15	Hex bolt gr. 5 BSW 1/2"x1 1/2"	MCBU00026A	2
16	Coupling 90°	MCNE04049A	2
17	Fairing, lower	CDED50091A	1
18	Fairing, upper	CDED50092A	1
19	Hex bolt gr. 5 BSW 3/8"x5/8"	MCBU00031A	3
20	Rubber strip	CDBF00023A	1
21	Acrylic window	CDBF00021A	1
22	Hex nut gr. 5 BSW 1/2"	MCTU00005A	5
23	Tensioner stud	CDBW50086A	1
24	Tensioner spring 2.5x20x65 mm	MCRS00013A	1
25	Tensioner assy.	CDED50089A	1

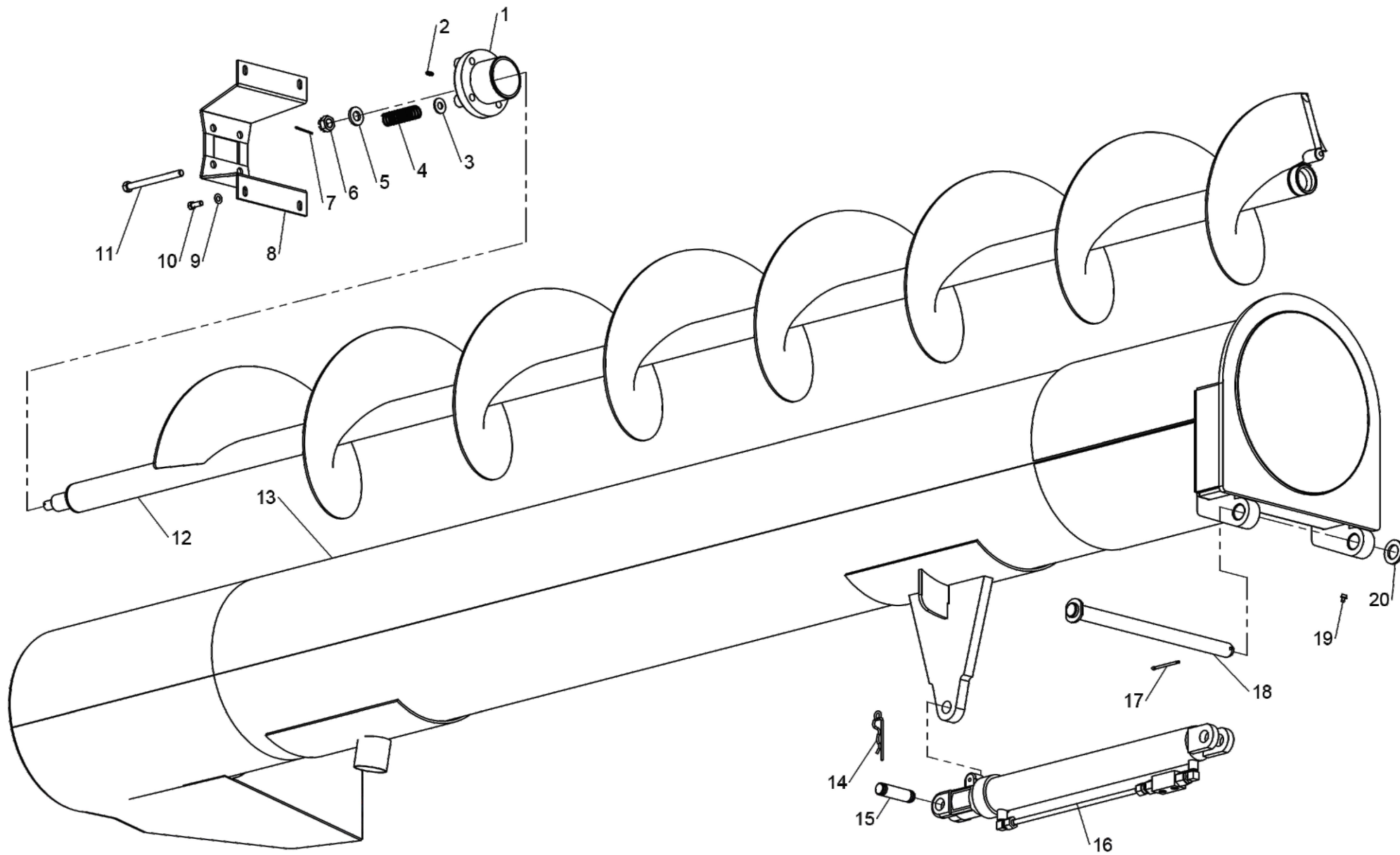
E6910 - Sheet N° 7 - Roller gear box			
N°	Description	Code	Quant.
26	Tensioner roller	CDDE00052A	1
27	Snap ring 35I DIN472	MCSE00011A	1
28	Bearing 6202 2RS	MCRO00011A	1
29	Snap ring 15A DIN471	MCSE01020A	1
30	Grease fitting, straight SAE 1/4"	MCAL00002A	1
31	Tensioner arm	CDED50090A	1
32	Hex bolt gr. 5 BSW 5/8"x2 1/2"	MCBU00039A	4
33	Bearing housing FC 210	MCRO11008A	1
34	Bearing housing FC 210	CDAA51041A	1
35	Bearing UC-210	MCRO12007A	1
36	Reduction sprocket assy.	CDED50064A	1
37	Split pin 3x40 mm	MCCH01017A	1
38	Castle nut NF 3/4"	MCTU10003A	1
39	Flat washer 3/16" OD 40/ ID 20 mm	CDAA42020A	1
40	Bushing	CDED00132A	1
41	Bearing 6207 2RS	MCRO00021A	1
42	Reduction sprocket	CDED50054A	1
43	Snap ring 72I DIN472	MCSE00005A	1
44	Bearing 6208 2RS	MCRO00023A	1
45	Reduction sprocket shaft	CDED50055A	1
46	Roller chain ASA 50/1	MCCA00002A	1
47	Roller chain ASA 60/1	MCCA00003A	1



E6910 - Sheet N° 8 - Wheels, axle & hydraulic cylinder

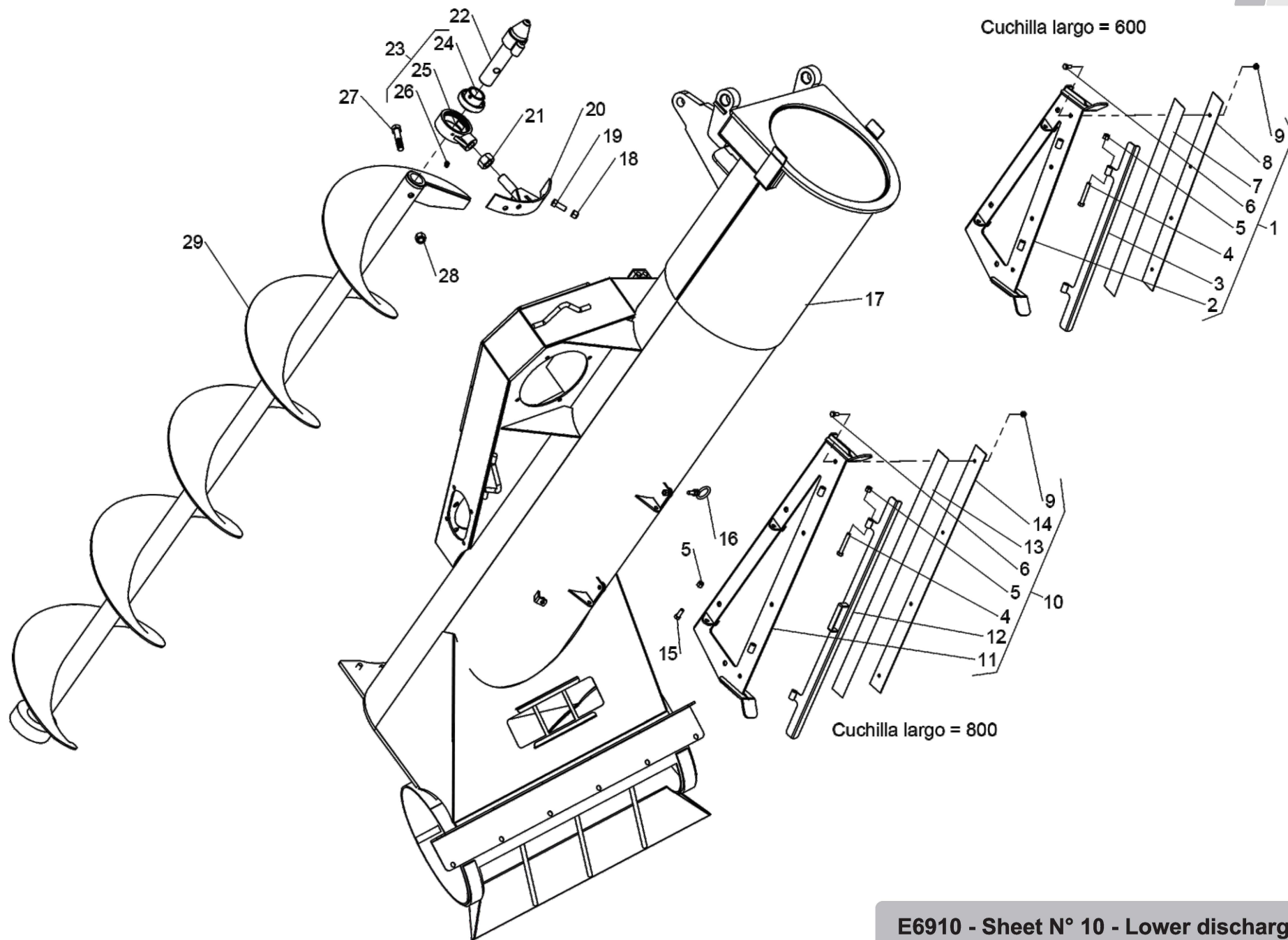
E6910 - Sheet N° 8 - Wheels, axle & hydraulic cylinder			
N°	Description	Code	Quant.
1	Wheel assembly w/ 11-15/10 ply tire	MCLL50012A	2
2	Tire rim 15"	MCLL00020A	2
3	Tire 11L-15 10 ply	MCCC00020A	2
4	Hub cap	CDBE00026A	2
5	O-ring seal 52,07x57,31x2,62mm	MCRE01019A	2
6	Split pin 3x40 mm	MCCH01017A	2
7	Castle nut NF 3/4"	MCTU10003A	2
8	Flat washer 3/16" OD 38/ ID 20 mm	CDAA42053A	10
9	Bearing 30205	MCRO06003A	2
10	Conical bolt, 1/2" NF galvanized	MCTU12003A	10
11	Wheel hub	CDBW00165A	2
12	Bearing 30208	MCRO06006A	2
13	Oil seal 48x82x8 mm	MCRE00036A	2
14	Hex bolt gr. 5 NF 3/4"x5"	MCBU02039A	4
15	Disc springs 7/8" (40x20.4x2.25 mm)	MCAR01001A	4
16	Bearing cap, wheel axle	CDBZ50071A	2
17	Wheel axle	CDED50009A	1
18	Wide stop 60 mm	MCHI07059A	2
19	Medium stop 45 mm	MCHI07060A	1
20	Narrow stop 30 mm	MCHI07061A	1
21	Hydraulic cylinder, 1 1/4" rod diameter x 3" sleeve bore x 8" stroke	MCHI02024A	1
22	Clevis pin 25 x 94,5 mm, hydraulic cylinder	MCHI07142A	2
23	R-clip 4x90 mm	MCCH00007A	4





E6910 - Sheet N° 9 - Upper discharge auger			
N°	Description	Code	Quant.
1	Bearing housing UC 207	CDBW00036A	1
2	Grease fitting, straight SAE 1/4"	MCAL00002A	1
3	Flat washer galvanized 1/2"	MCAR00007A	4
4	Compression spring 3 x 26 x 120 (mm.)	MCRS01002A	4
5	Flat washer 3/16" OD 38/ ID 20 mm	CDAA42053A	1
6	Castle nut NF 3/4"	MCTU10003A	1
7	Split pin 3x40 mm	MCCH01017A	1
8	Bracket, bearing housing	CDBW50002A	1
9	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	4
10	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	4
11	Hex bolt gr. 5 BSW 1/2" x 6" w/40 mm thread	MCBU01068A	4
12	Upper discharge auger	CDBW50007A	1
13	Upper discharge tube	CDED50024A	1
14	R-clip 4x90 mm	MCCH00007A	1
15	Clevis pin 25 x 94,5 mm, hydraulic cylinder	MCHI07142A	2
16	Hydraulic cylinder 1 1/4" rod diameter x 2 1/2" sleeve bore x 490 mm stroke	MCHI02033A	1
17	Split pin 5x60 mm	MCCH01044A	1
18	Hinge pin, auger tube	CDAZ50010A	1
19	Grease fitting, straight SAE 1/8"	MCAL00001A	2
20	Flat washer 3/16" OD 50 / ID 30 (mm.)	CDAA42010A	1

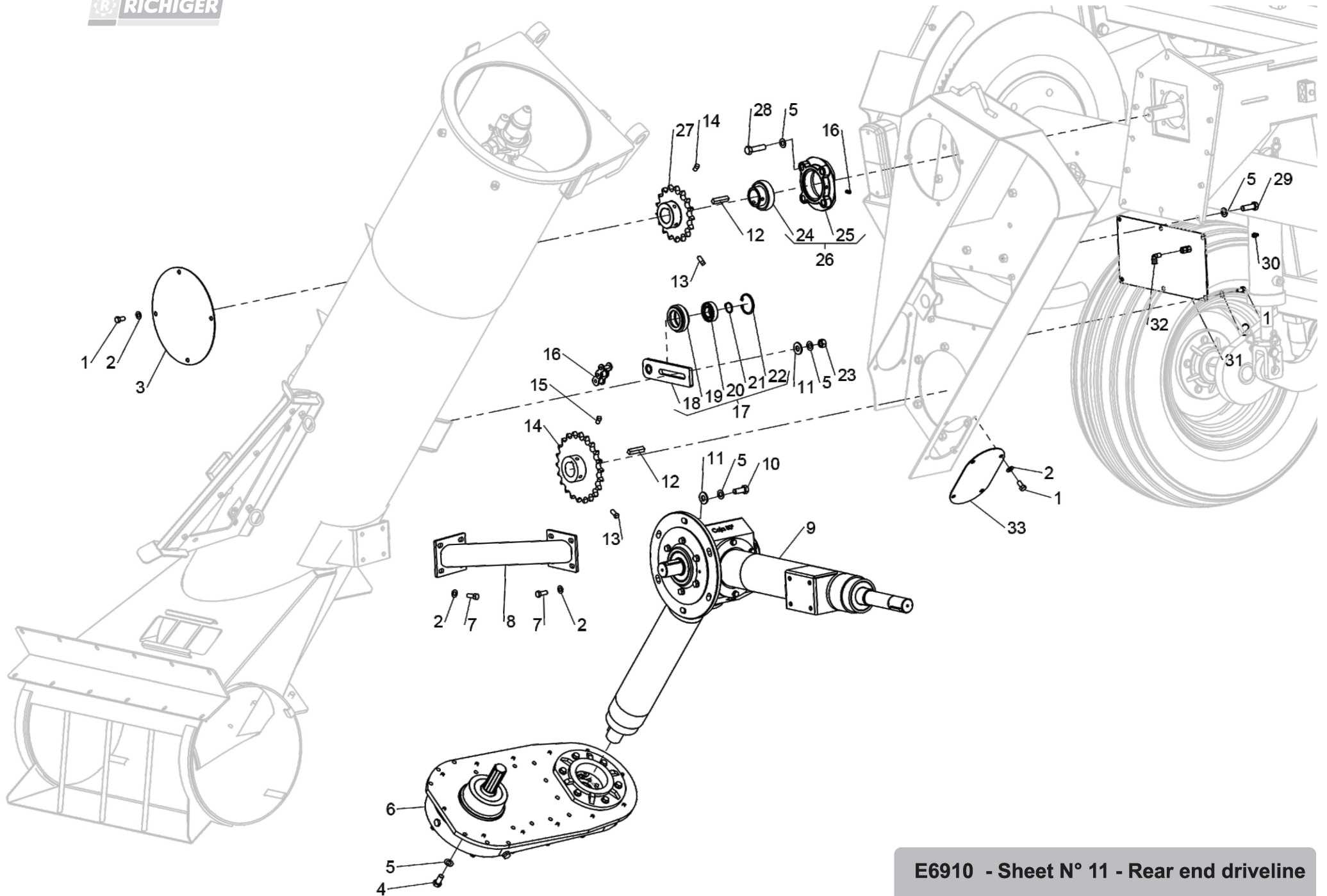




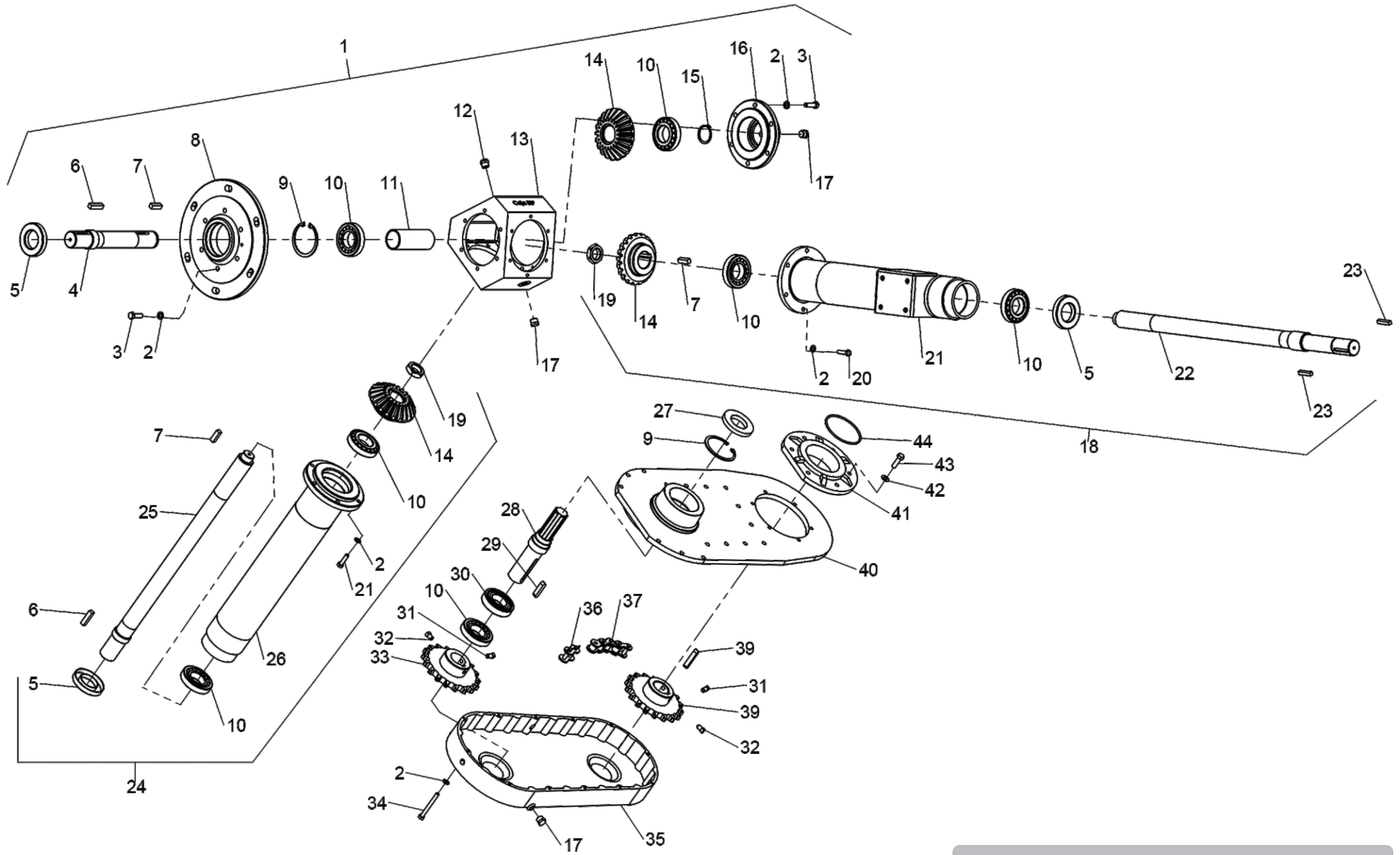
Cuchilla largo = 600

Cuchilla largo = 800

E6910 - Sheet N° 10 - Lower discharge auger			
N°	Description	Code	Quant.
1	Cutter blade assy. (600 mm)	CDED50027A	1
2	Blade assy. support (600 mm)	CDED50083A	1
3	Blade guard (600 mm)	CDED50082A	1
4	Hex bolt gr. 5 BSW 3/8"x2 1/2"	MCBU00056A	4
5	Self locking nut BSW 3/8"	MCTU06001A	8
6	Hex bolt gr. 5 BSW 5/16"x3/4"	MCBU00011A	8
7	Blade (600 mm)	CDBX00044A	1
8	Blade holder (600 mm)	CDBX00007A	1
9	Self locking nut BSW 5/16"	MCTU06002A	8
10	Cutter blade assy. (800 mm)	CDED50134A	1
11	Blade assy. support (800 mm)	CDED50135A	1
12	Blade guard (800 mm)	CDED50136A	1
13	Blade (800 mm)	CDED00231A	1
14	Blade holder (800 mm)	CDED00232A	1
15	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	2
16	Wing bolt gr. 5 BSW 3/8"x3/4"	CDDP50047A	2
17	Lower tube	CDDP50045A	1
18	Self locking nut BSW 1/2"	MCTU06003A	2
19	Hex bolt gr. 5 BSW 1/2"x1 1/4"	MCBU00003A	2
20	Support bracket, bearing housing	CDBW50016A	1
21	Hex nut gr. 5 BSW 1"	MCTU00010A	1
22	Coupling, auger lower section	CDBW50019A	1
23	Complete UC-208 bearing & bracket assy.	CDBW50031A	1
24	Bearing UC-208 3L	MCRO12010A	1
25	Bearing housing UC-208 3L	CDAA51036A	1
26	Grease zerk, 45° angle SAE 1/4"	MCAL01001A	1
27	Hex bolt gr. 5 BSW 5/8"x3 1/4"	MCBU00042A	1
28	Self locking nut BSW 5/8"	MCTU06005A	1
29	Lower discharge auger	CDBW50029A	1



E6910 - Sheet N° 11 - Rear end driveline			
N°	Description	Code	Quant.
1	Hex bolt gr. 5 BSW 3/8"x3/4"	MCBU00005A	18
2	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	26
3	Cover plate	CDED00102A	1
4	Hex bolt gr. 5 BSW 1/2"x1"	MCBU00024A	8
5	Disc springs 1/2" (24x13x2,8 mm)	MCAR03002A	27
6	Chain drive aasy., discharge auger	CDBW50035A	1
7	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	8
8	Support bar	CDED50051A	1
9	Gearbox 50° , single input/double output	CDED50076A	1
10	Hex bolt gr. 5 BSW 1/2"x1 1/4"	MCBU00003A	6
11	Flat washer galvanized 1/2"	MCAR00007A	6
12	Square key 10x10x50 (mm.)	CDBW00048A	2
13	Square head set screw 3/8"x3/4"	MCPR00014A	2
14	Sprocket 22 tooth f/ASA 80/1 chain	CDBW00007A	1
15	Square head set screw 3/8"x1/2"	MCPR00012A	2
16	Double roller chain ASA 80/1 L=1,89 m	CDED00194A	1
17	Tensioner assy.	CDED50123A	1
18	Tensioner arm	CDED50124A	1
19	Tensioner roller	CDED00212A	1
20	Bearing 6205 2RS	MCRO00017A	1
21	Snap ring 25A DIN471	MCSE01006A	1
22	Snap ring 52I DIN472	MCSE00004A	1
23	Hex nut gr. 5 BSW 1/2"	MCTU00005A	1
24	Bearing UC-208	MCRO12005A	1
25	Bearing housing FC 208	CDBZ00137A	1
26	Bearing & housing assy.	MCRO11003A	1
27	Sprocket 17 tooth f/ASA 80/1 chain	CDBW00005A	1
28	Hex bolt gr. 5 BSW 1/2"x2"	MCBU00028A	4
29	Hex bolt gr. 5 BSW 1/2"x1 1/2"	MCBU00026A	8
30	Grease fitting, straight SAE 1/8"	MCAL00001A	1
31	Cover plate	CDED50110A	1
32	Coupling 90°	MCNE04049A	1
33	Cover plate	CDED00152A	2

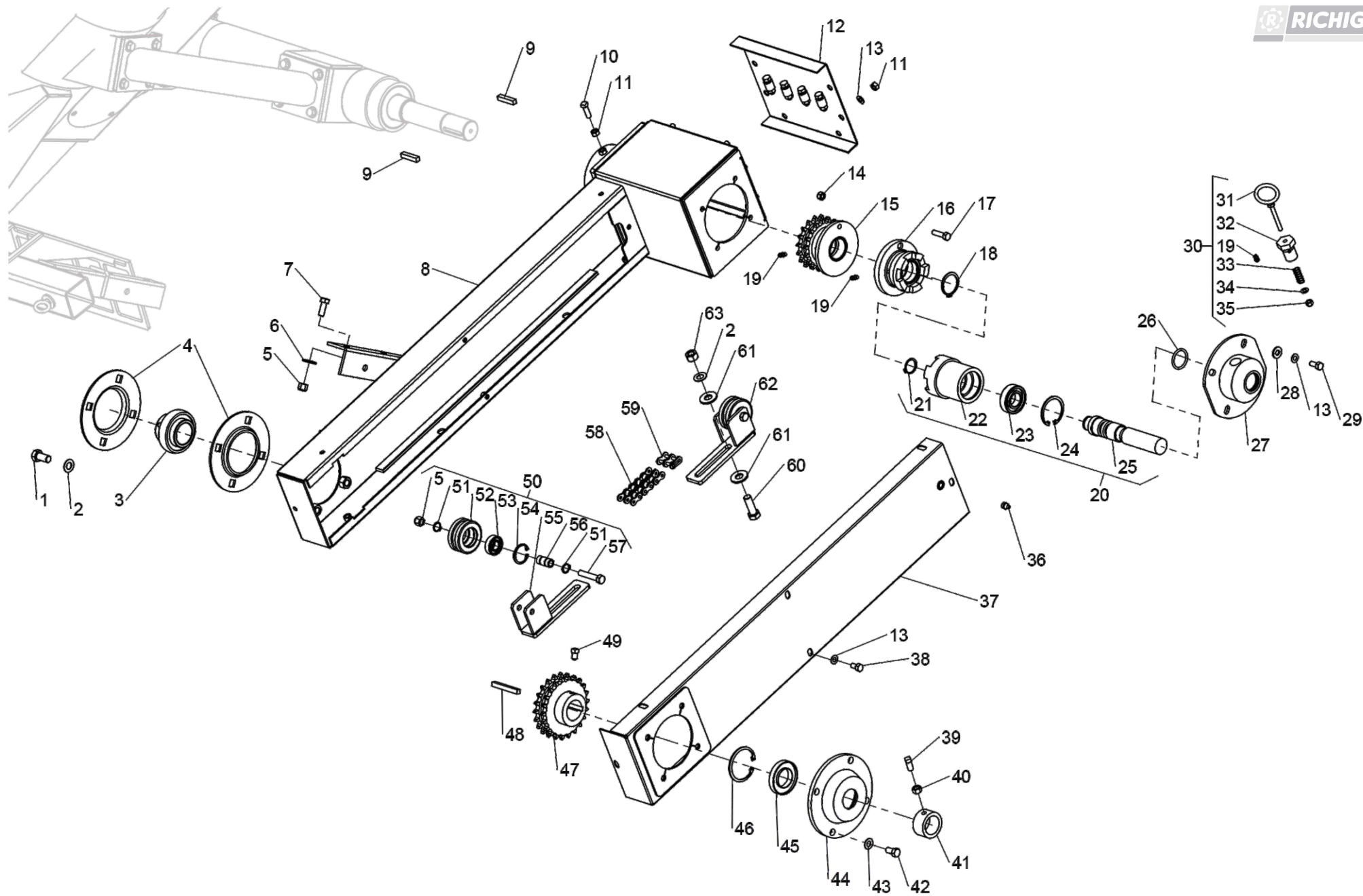


E6910 - Sheet N° 12 - Gear case

E6910 - Sheet N° 12 - Gear case			
N°	Description	Code	Quant.
1	Gear case 50° assy.	CDED50106A	1
2	Disc springs 5/16" (16x8,2x0,6 mm)	MCAR01004A	36
3	Hex bolt gr. 5 BSW 3/8"x1 1/4"	MCBU00008A	12
4	Input shaft	CDBW00038A	1
5	Oil seal 45x80x13 mm	MCRE00039A	3
6	Square key 10x10x42 mm	CDAA45004A	2
7	Square key 10x10x32 mm	CDCP00141A	3
8	Plate flange, input shaft	CDBW00037A	1
9	Snap ring 80I DIN472	MCSE00001A	2
10	Bearing 30208	MCRO06006A	7
11	Spacer bushing	CDBW00040A	1
12	Venting valve 3/8" GAS	CDBG00013A	1
13	Housing, gearbox	CDCA00015A	1
14	Conical gear 21 tooth	CDBW00042A	3
15	Snap ring 40A DIN471	MCSE01012A	1
16	Bearing housing 30208	CDBW00041A	1
17	Threaded plug 3/8" GAS	CDBG00014A	3
18	Sweep auger drive assy.	CDBZ50040A	1
19	Hex nut NF 1 1/8"	MCTU02013A	2
20	Hex bolt gr. 5 BSW 5/16"x1 1/4"	MCBU00002A	12
21	Housing, sweep auger drive shaft	CDBZ50019A	1
22	Drive shaft, sweep augers	CDBZ00024A	1

E6910 - Sheet N° 12 - Gear case			
N°	Description	Code	Quant.
23	Square key 8x8x40 mm	CDBZ00061A	2
24	Rear drive assy.	CDBZ50039A	1
25	Rear driveline	CDBZ00049A	1
26	Housing, rear driveline	CDBZ50014A	1
27	Oil seal 40x80x12 mm	MCRE00040A	1
28	Splined shaft, chain drive	CDBW00095A	1
29	Square key 10x10x45 mm	CDED00206A	1
30	Bearing 6208 2RS	MCRO00023A	1
31	Square head set screw 3/8"x5/8"	MCPR00013A	2
32	Square head set screw 3/8"x1/2"	MCPR00012A	2
33	Sprocket 18 tooth	CDBW50079A	1
34	Hex bolt gr. 5 BSW 5/16"x3"	MCBU00020A	12
35	Casing, chain drive	CDBW00127A	1
36	Connecting link, ASA 80/1 roller chain	MCCA01017A	1
37	Roller chain ASA 80/1	CDBW00274A	1
38	Drive sprocket 18 tooth f/ASA 80/1 chain	CDBW00170A	1
39	Square key 10x10x57 mm	CDED00205A	1
40	Cover plate, chain drive	CDBW50078A	1
41	Base flange, cover plate	CDBW00128A	1
42	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	6
43	Hex bolt BSW 3/8"x1 1/4"	MCBU01029A	6
44	O-ring seal 91,67x98,73x3,53mm	MCRE01030A	1





E6910 - Sheet N° 13 - Sweep auger drive			
N°	Description	Code	Quant.
1	Hex bolt gr. 5 BSW 1/2"x1"	MCBU00024A	4
2	Disc springs 1/2" (24x13x2,8 mm)	MCAR03002A	6
3	Bearing UC-208 3L	MCRO12010A	1
4	Bearing housing PF 208	CDAA51026A	1
5	Self locking nut BSW 3/8"	MCTU06001A	5
6	Flat washer galvanized 3/8"	MCAR00005A	3
7	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	3
8	Housing, sweep auger drive	CDED50016A	1
9	Square key 8x8x40 mm	CDBZ00061A	2
10	Square head set screw 5/16"x1"	MCPR00010A	2
11	Hex nut gr. 5 BSW 5/16"	MCTU00002A	10
12	Cover, gearcase	CDBZ50006A	1
13	Disc springs 5/16" (16x8,2x0,6 mm)	MCAR01004A	20
14	Self locking nut BSW 5/16"	MCTU06002A	1
15	Double gear 18 teeth w/ bronze bushing	CDBZ50004A	1
16	Double sprocket w/bronze bushing	CDBZ50005A	1
17	Hex bolt gr. 5 BSW 5/16"x1 1/4"	MCBU00002A	1
18	Snap ring 38A DIN471	MCSE01011A	1
19	Grease fitting, straight SAE 1/4"	MCAL00002A	3
20	Handle, gear coupling assy.	CDBZ50025A	1
21	Snap ring 25A DIN471	MCSE01006A	1

E6910 - Sheet N° 13 - Sweep auger drive			
N°	Description	Code	Quant.
22	Gear coupling, sweep augers	CDBZ00005A	1
23	Bearing 6205 2RS	MCRO00017A	1
24	Snap ring 52I DIN472	MCSE00004A	1
25	Handle, gear coupling	CDBZ00054A	1
26	O-ring seal 31,34x38,40x3,53mm	MCRE01009A	1
27	Lock, gear coupling	CDBZ50073A	1
28	Flat washer galvanized 5/16"	MCAR00004A	4
29	Hex bolt gr. 5 BSW 5/16"x3/4"	MCBU00011A	4
30	Complete lock pin assy.	CDBZ50028A	1
31	Lock pin, sweep augers	CDBZ50023A	1
32	Bushing, lock pin	CDBZ00051A	1
33	Spring, lock pin	MCRS01010A	1
34	Disc springs 1/4" (14x7,2x0,8 mm)	MCAR01005A	1
35	Self locking nut BSW 1/4"	MCTU06004A	1
36	Grease fitting, straight SAE 1/8"	MCAL00001A	1
37	Chain cover	CDED50018A	1
38	Hex bolt gr. 5 BSW 5/16"x5/8"	MCBU00045A	8
39	Square head set screw 3/8"x3/4"	MCPR00014A	1
40	Hex nut gr. 5 BSW 3/8"	MCTU00003A	1
41	Outer ring, flange bracket	CDBZ00008A	1
42	Hex bolt gr. 5 BSW 3/8"x3/4"	MCBU00005A	4



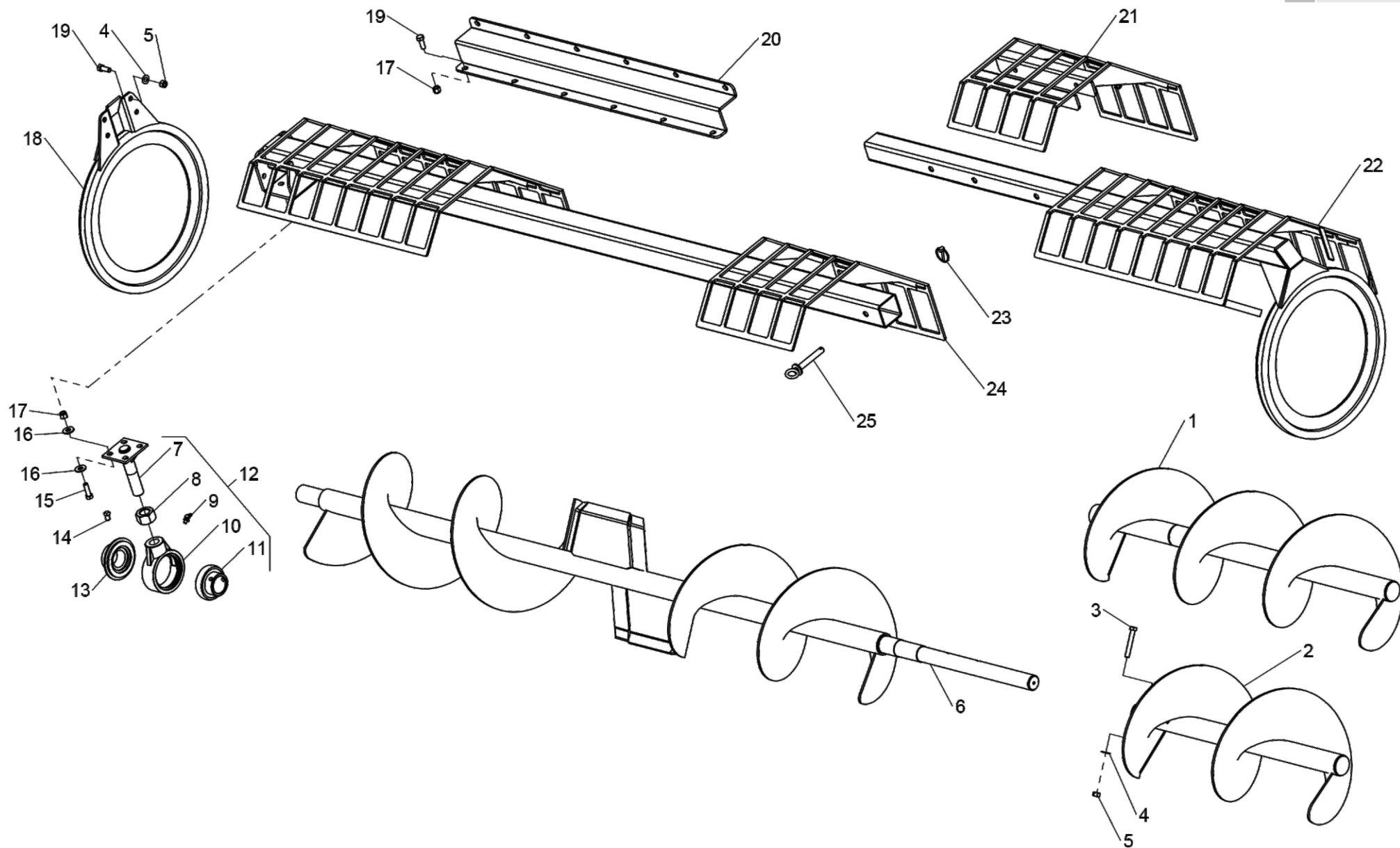
E6910 - Sheet N° 13 - Sweep auger drive			
N°	Description	Code	Quant.
43	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	4
44	Flange bracket, oil seal	CDBZ00042A	1
45	Oil seal 35x62x10 mm	MCRE00031A	1
46	Snap ring 62I DIN472	MCSE00003A	1
47	Double sprocket 22 tooth	CDBZ00002A	1
48	Square key 8x8x65 mm	CDBZ00060A	1
49	Square head set screw 3/8"x1/2"	MCPR00012A	1
50	Tensioner arm assy., left side	CDBZ50018A	2
51	Snap ring 15A DIN471	MCSE01020A	4
52	Tensioner roller	CDBZ00128A	2
53	Bearing 6202 2RS	MCRO00011A	2
54	Snap ring 35I DIN472	MCSE00011A	2
55	Tensioner arm	CDBZ50016A	2
56	Bushing	CDBZ00013A	2
57	Hex bolt gr. 5 BSW 3/8"x2"	MCBU00012A	2
58	Double roller chain ASA 50/2 L=2,10 m	CDED00197A	1
59	Connecting link, ASA 50/2 roller chain	MCCA01026A	1
60	Hex bolt gr. 5 BSW 1/2"x1 1/2"	MCBU00026A	2
61	Flat washer galvanized 1/2"	MCAR00007A	4
62	Tensioner arm assy., right side	CDBZ50017A	2
63	Hex nut gr. 5 BSW 1/2"	MCTU00005A	2



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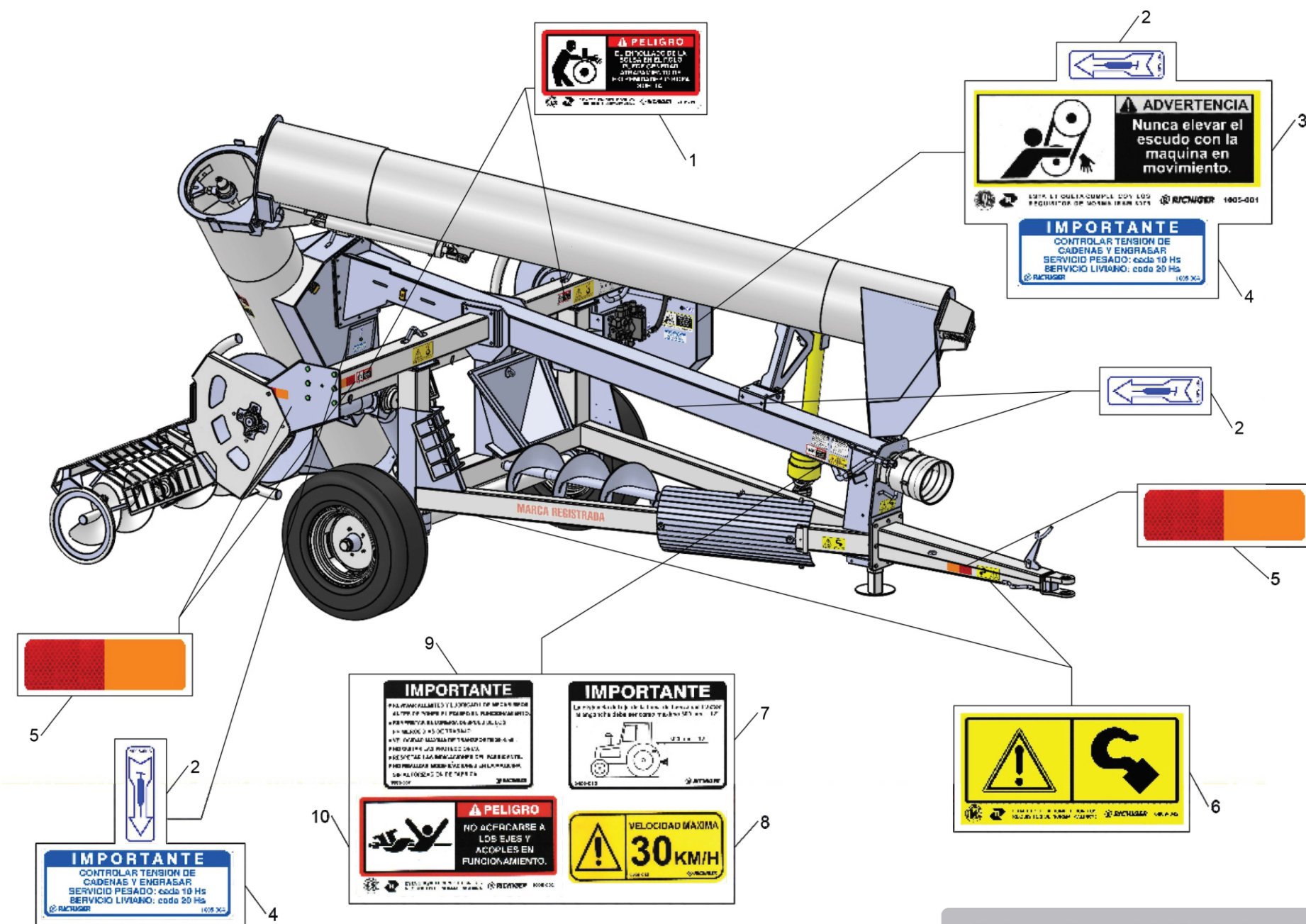
WE MEET YOUR PRODUCTION NEEDS



E6910 - Sheet N° 14 - Sweep augers

E6910 - Sheet N° 14 - Sweep augers			
N°	Description	Code	Quant.
1	Auger end for 10' bags	CDED50041A	1
2	Auger end for 9' bags	CDED50100A	1
3	Hex bolt gr. 5 BSW 3/8"x2 1/2"	MCBU00056A	2
4	Disc springs 3/8" (20x10,2x0.8 mm)	MCAR01006A	2
5	Hex nut gr. 5 BSW 3/8"	MCTU00003A	6
6	Main auger for 9' & 10' bags	CDED50035A	1
7	Support bracket, bearing housing	CDBZ50013A	1
8	Hex nut gr. 5 BSW 1"	MCTU00010A	1
9	Grease zerk, 45° angle SAE 1/4"	MCAL01001A	1
10	Bearing housing UC-208 3L	CDAA51036A	1
11	Bearing UC-208 3L	MCRO12010A	1
12	Hanger	CDBZ50041A	1
13	Dust cover	CDBZ00028A	1
14	Square head set screw 3/8"x1/2"	MCPR00012A	1
15	Hex bolt gr. 5 BSW 3/8"x1 1/4"	MCBU00008A	4
16	Flat washer galvanized 3/8"	MCAR00005A	8
17	Self locking nut BSW 3/8"	MCTU06001A	15
18	Ring guard, LH & RH	CDED50073A	1
19	Hex bolt gr. 5 BSW 3/8"x1"	MCBU00007A	16
20	Support bracket	CDED00040A	1
21	Middle guard (used only w/ 10' bags)	CDED50021A	1
22	Ring guard w/ RH end guard for 9' & 10' bags	CDED50022A	1
23	R-clip w/ring	MCCH03001A	1
24	Main guard, 9' & 10' bags	CDED50040A	1
25	Pin	CDBZ50083A	1





PELIGRO
 C. ENROLLADO DE LA
 SILETA EN EL PUNTO
 DE PUNTO DE CONTACTO
 CON EL SUELO. TIENE
 MUCHA FUERZA Y PUEDE
 DAÑAR LA SILETA.
 RICHIGER 1005-001

ADVERTENCIA
 Nunca elevar el
 escudo con la
 maquina en
 movimiento.
 RICHIGER 1005-001

IMPORTANTE
 CONTROLAR TENSION DE
 CADENAS Y ENGRASAR
 SERVICIO PESADO: cada 10 Hs
 SERVICIO LIVIANO: cada 20 Hs
 RICHIGER 1005-001



IMPORTANTE
 PLANTEAMIENTO Y LUGAR DE MONTAJE DE
 ALTO DE TRABAJO Y POSICION DE FUNCIONAMIENTO.
 APLICAR LOS PROCEDIMIENTOS DE SEGURIDAD
 EN EL MANEJO DE LA MAQUINA.
 NO DEJAR ALGUNAS PARTES DE LA MAQUINA
 SIN PROTEGER LAS PARTES SUAVES.
 PREVENIR LAS MANEJOS EN EL MANEJO.
 DEBEMOS SER CONSCIENTES DE LA FUERZA
 DE LA MAQUINA.
 RICHIGER 1005-001

IMPORTANTE
 La velocidad máxima de la maquina debe ser de 30 km/h.
 La maquina debe ser usada en terreno llano.
 RICHIGER 1005-001

PELIGRO
 NO ACFRARSE A
 LOS EJES Y
 ACOPLES EN
 FUNCIONAMIENTO.
 RICHIGER 1005-001

VELOCIDAD MAXIMA
30 KM/H
 RICHIGER 1005-001

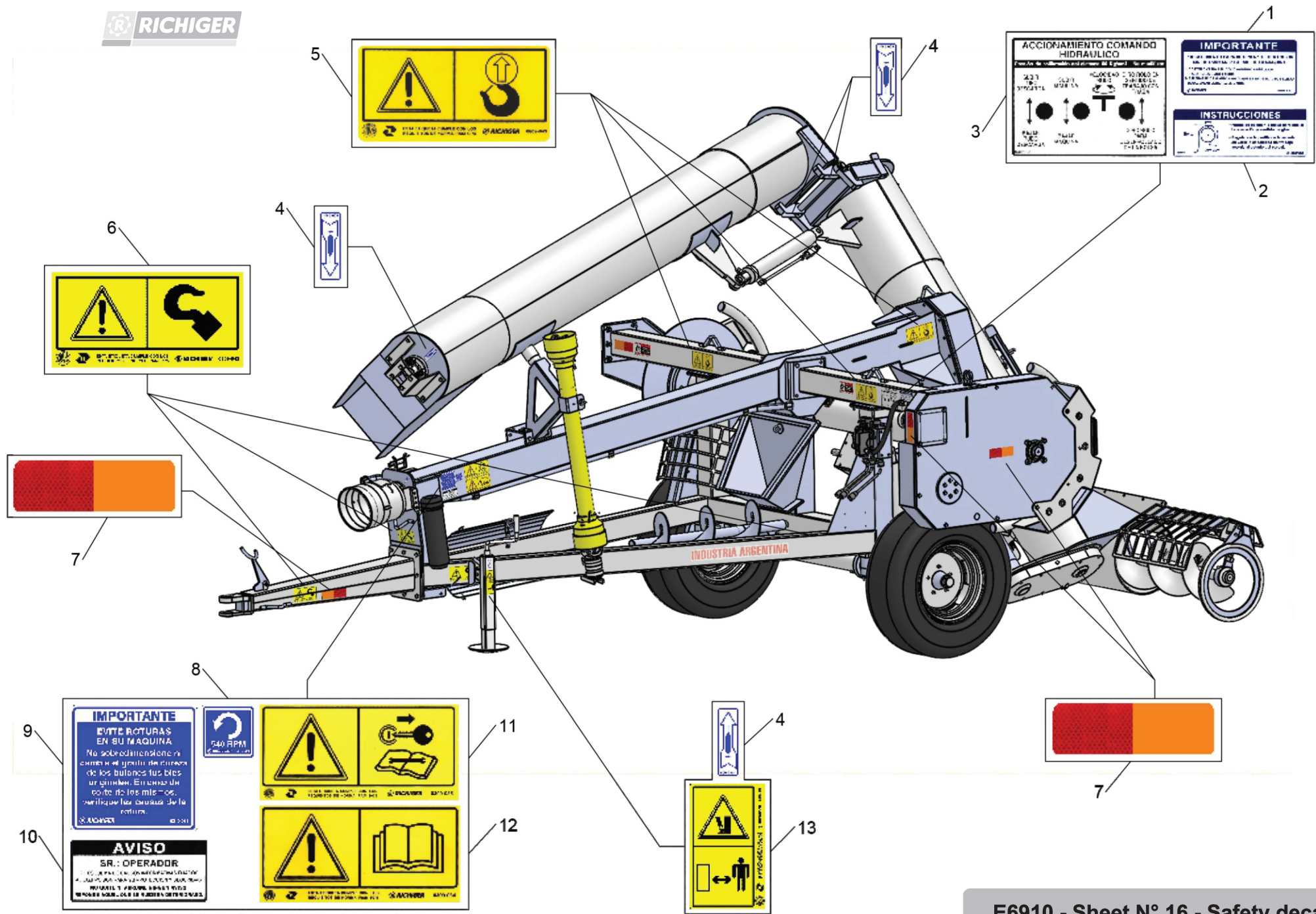
ADVERTENCIA
 RICHIGER 1005-001

IMPORTANTE
 CONTROLAR TENSION DE
 CADENAS Y ENGRASAR
 SERVICIO PESADO: cada 10 Hs
 SERVICIO LIVIANO: cada 20 Hs
 RICHIGER 1005-001

E6910 - Sheet N° 15 - Safety decals

E6910 - Sheet N° 15 - Safety decals			
N°	Description	Code	Quant.
1	Sticker "Danger entrapment between roller and plastic"	CDAA00093A	2
2	Sticker "Apply grease"	CDAA00021A	5
3	Sticker "Warning do not remove protection cover"	CDAA00011A	1
4	Sticker "Important check chain tension & apply grease"	CDAA00019A	2
5	Sticker red and orange reflector	CDAA00298A	3
6	Sticker "Machine in transport tie-up point"	CDAA00087A	2
7	Sticker "Important distance between PTO & hitch"	CDAA00039A	1
8	Sticker "Maximum speed 18 miles/hr"	CDAA00044A	1
9	Sticker "Important check list to-do"	CDAA00025A	1
10	Sticker "Danger keep away from moving axles & linkages"	CDAA00017A	1

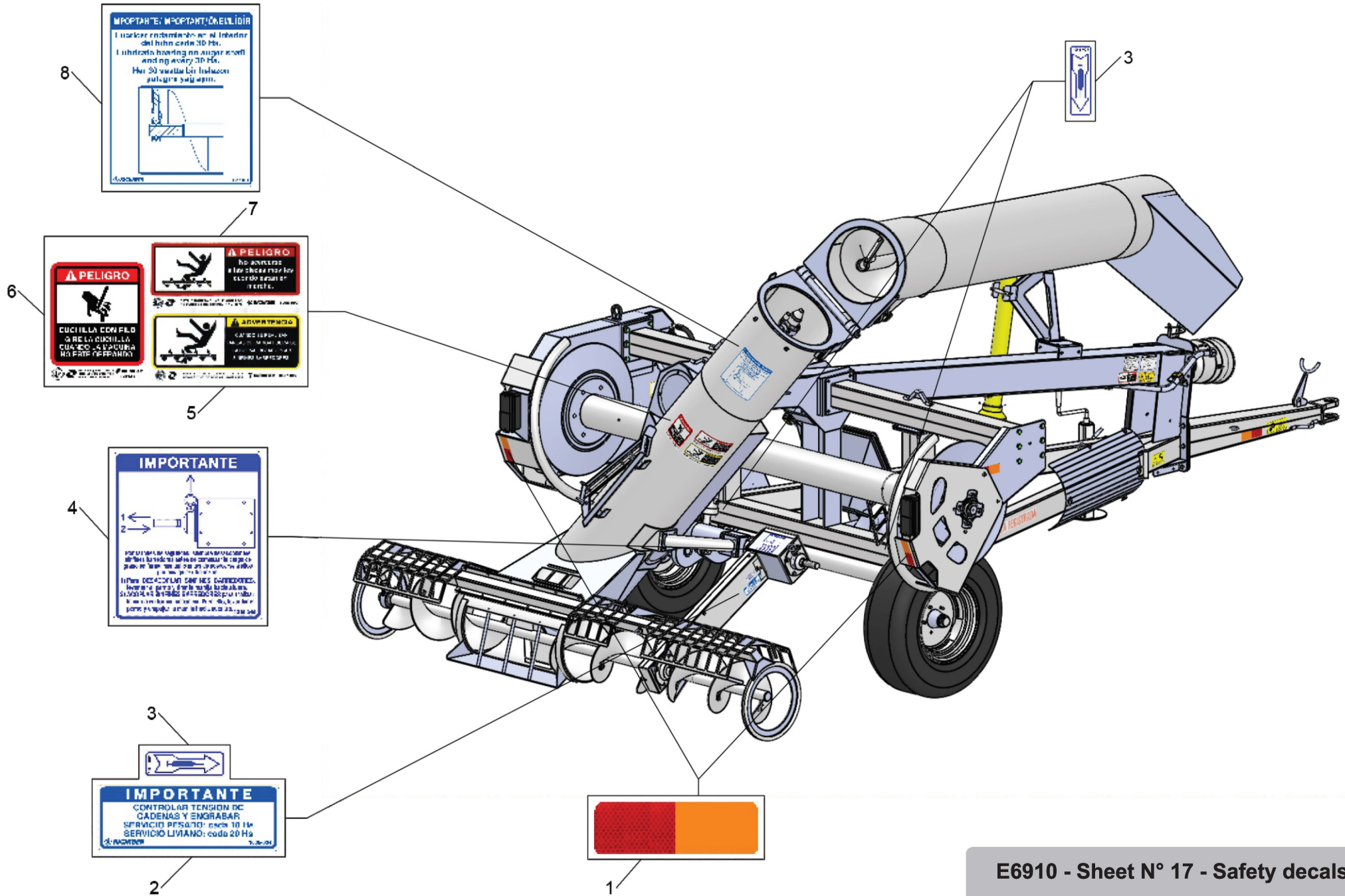




E6910 - Sheet N° 16 - Safety decals

E6910 - Sheet N° 16 - Safety decals			
N°	Description	Code	Quant.
1	Sticker "Unloading shutdown procedure"	CDAA00048A	1
2	Sticker "Instructions attaching bag to roller"	CDAA00036A	1
3	Sticker "Hydraulic command instructions"	CDAA00066A	1
4	Sticker "Apply grease"	CDAA00021A	4
5	Sticker "Hoisting sling attach point"	CDAA00088A	3
6	Sticker "Machine in transport tie-up point"	CDAA00087A	3
7	Sticker red and orange reflector	CDAA00298A	3
8	Sticker "540 RPM"	CDAA00097A	1
9	Sticker "Important correct shear bolt replacement"	CDAA00101A	1
10	Sticker "Operator notice do not remove safety stickers"	CDAA00006A	1
11	Sticker "Consult operator manual & turn off engine"	CDAA00079A	1
12	Sticker "Consult operator manual"	CDAA00078A	1
13	Sticker "Stay a safe distance from machine"	CDAA00083A	1





IMPORTANTE / IMPORTANT / WICHTIG
 El usuario responsable de la lubricación del hacha cada 30 Hrs.
 Lubricado usando un aceite motor estándar cada 30 Hrs.
 Ha 30 miete bir luhason putugra selugra.

PELIGRO
 CUCHILLA CONFILO
 O RE LA CUCHILLA
 CUALQUIER ALACUÑA
 NO PUEDE PERFORAR

PELIGRO
 No advierte
 a los chinos por los
 efectos de la
 fuerza.

PELIGRO
 No advierte
 a los chinos por los
 efectos de la
 fuerza.

PELIGRO
 No advierte
 a los chinos por los
 efectos de la
 fuerza.

IMPORTANTE

1 ←
 2 ←

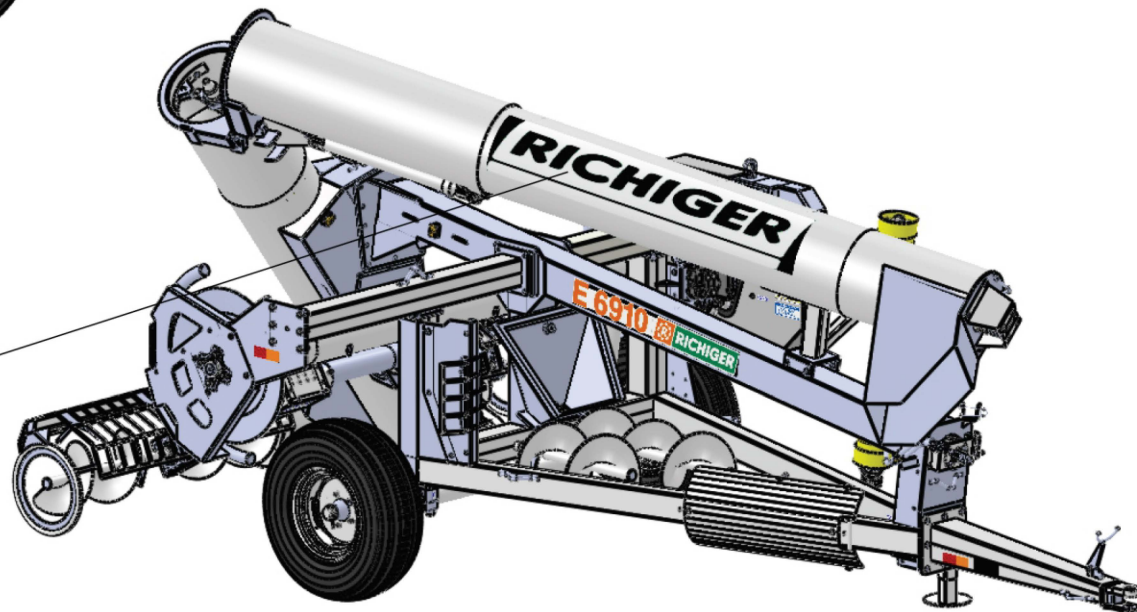
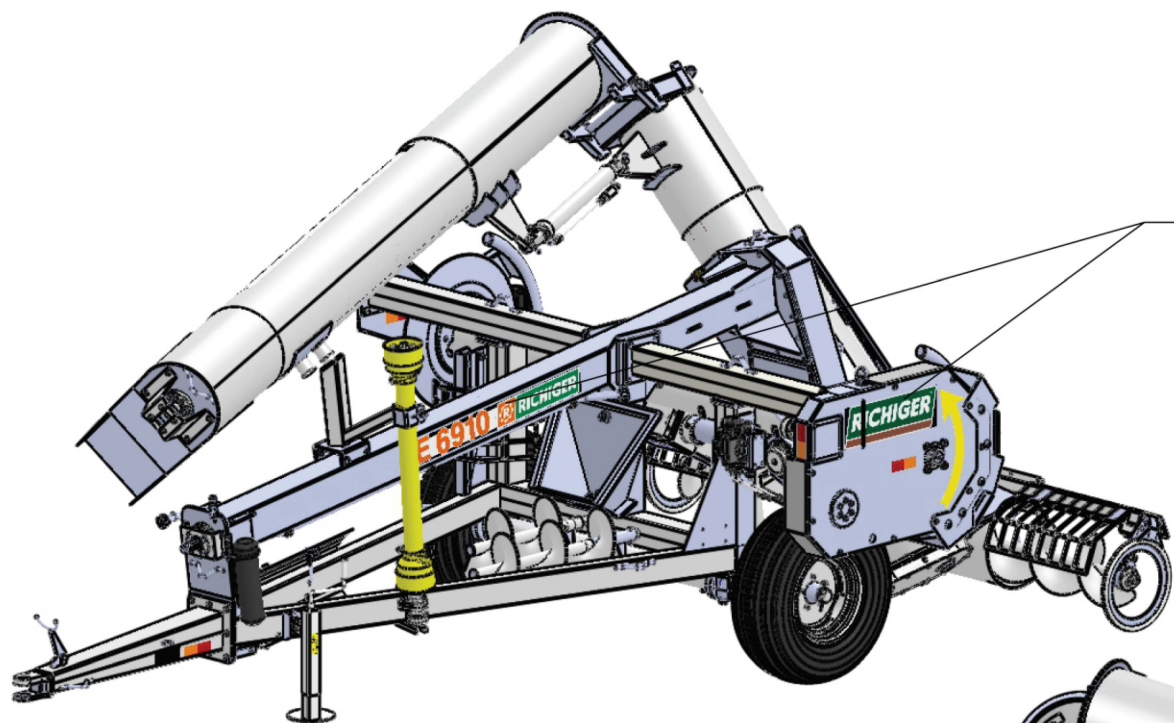
IMPORTANTE / IMPORTANT / WICHTIG
 Para el mantenimiento de la tensión de las cadenas y engranajes, se debe seguir el siguiente procedimiento:
 1. Desmontar el eje de la cadena.
 2. Ajustar la tensión de la cadena.
 3. Montar el eje de la cadena.
 4. Comprobar la tensión de la cadena.
 5. Si la tensión es correcta, se puede utilizar el equipo.
 Si la tensión no es correcta, se debe repetir el procedimiento.
 Si la tensión no es correcta, se debe repetir el procedimiento.

IMPORTANTE
 CONTROLAR TENSION DE
 CADENAS Y ENGRABAR
 SERVICIO PESADO: cada 10 Hrs
 SERVICIO LIVIANO: cada 20 Hrs



E6910 - Sheet N° 17 - Safety decals			
N°	Description	Code	Quant.
1	Sticker red and orange reflector	CDAA00298A	2
2	Sticker "Important check chain tension & apply grease"	CDAA00019A	1
3	Sticker "Apply grease"	CDAA00021A	3
4	Sticker "Warning disengage sweep auger drive"	CDAA00091A	1
5	Sticker "Warning disengage sweep augers when outside of bag"	CDAA00054A	1
6	Sticker "Danger blade guard in place if not in use"	CDAA00081A	1
7	Sticker "Danger keep away from moving parts"	CDAA00014A	1
8	Sticker "Important lubricate auger shaft"	CDAA00251A	1

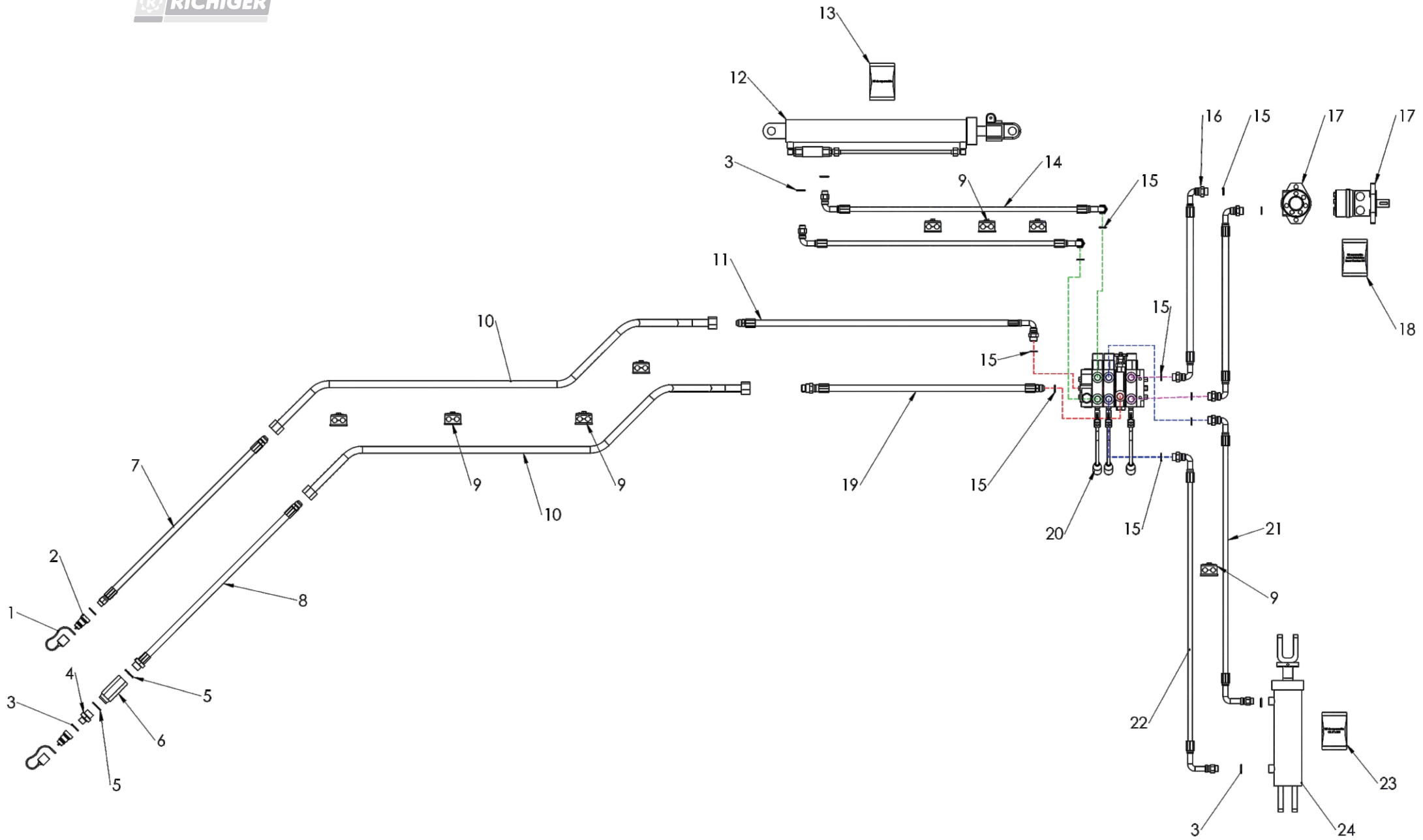




E6910 - Sheet N° 18 - Brand stickers

E6910 - Sheet N° 18 - Brand stickers			
N°	Description	Code	Quant.
1	RICHIGER sticker 1	CDAA00168A	1
2	RICHIGER sticker 2	CDAA00296A	1
3	RICHIGER sticker 3	CDAA00295A	2





E6910 - Sheet N° 19 - Hydraulic circuit

E6910 - Sheet N° 19 - Hydraulic circuit

N°	Description	Code	Quant.
1	Plastic plug BTHP 1/2"	MCHI07027A	2
2	Quick disconnect coupling PNH Boss 3/4" o-ring	MCHI07062A	2
3	O-ring seal 23,47x29,37x2,95mm	MCRE01031A	6
4	Adapter, 3/4" male UNF O ring x 3/4" male BSP	MCHI07267A	1
5	Washer metal-rubber, 3/4" BSP	MCHI07200A	2
6	One-way valve, 3/4" female BSP both ends	MCHI06008A	1
7	Hydraulic hose 1/2" SAE 100R2 AT x 2500 mm, connectors 7/8" male UNF JIC 37° x 3/4" male UNF o-ring	MCHI04024A	1
8	Hydraulic hose 1/2" SAE 100R2 AT x 2400 mm, connectors 7/8" male UNF JIC 37° x 3/4" male NPT	MCHI04025A	1
9	Mounting bracket, double tubing 5/8"	MCHI07048A	8
10	Hydraulic tubing 5/8" x 2650 mm., connectors 7/8" female swivel UNF JIC 37° both ends	MCHI05049A	2
11	Hydraulic hose 1/2" SAE 100R2 AT x 850 mm, connectors 7/8" male UNF JIC 37° x 7/8" male UNF 90° w/o-ring seat	MCHI04021A	1
12	Hydraulic cylinder 1 1/4" rod diameter x 2 1/2" sleeve bore x 490 mm stroke	MCHI02033A	1
13	Repair kit, hydraulic cylinder	MCHI00012A	1
14	Hydraulic hose 1/4" SAE 100R2 AT x 3000 mm	MCHI04116A	2
15	O-ring seal 19,18x24,10x2,46mm	MCRE01032A	10
16	Hydraulic hose 1/2" SAE 100R2 AT x 550 mm	MCHI04115A	2
17	Hydraulic motor 250 cc	MCHI01008A	1
18	Repair kit hydraulic	MCHI00035A	1
19	Hydraulic hose 1/2" SAE 100R2 AT x 700 mm, connectors 7/8" male UNF JIC 37° x 7/8" male UNF w/o-ring seat	MCHI04020A	1
20	Sauer Danfoss control valve, 60 liters/minute flow, 3 sections w/ mechanical lever actuators, single position detent w/ flow control and pressure relief auxiliary valves	MCHI06007A	1
21	Hydraulic hose 1/4" SAE 100R2 AT x 800 mm	MCHI04114A	1
22	Hydraulic hose 1/4" SAE 100R2 AT x 900 mm	MCHI04113A	1
23	Repair kit, hydraulic cylinder	MCHI00017A	1
24	Hydraulic cylinder, 1 1/4" rod diameter x 3" sleeve bore x 8" stroke	MCHI02024A	1





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