SERVICE MANUAL

PS2045

Mechanical-Seeder

Part number 47918066
English
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SERVICE MANUAL

PS2045 Mechanical

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PERSONAL PROTECTIVE EQUIPMENT (PPE) RECOMMENDED

1. Ear protector.
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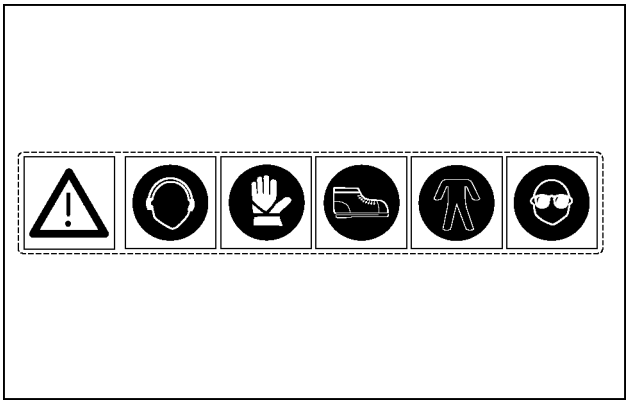

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SAFETY FEATURES FOUND IN THE MACHINE

1. Support stands: provide safe support of the front part of the machine when performing maintenance and adjustments.
2. Safety chains: avoid lack of control over machine in case of accidental disengagement between the drawbar of the Seeder and the drawbar of the tractor.
3. Decals: there are decals with warnings about the major safety risks and others, with technical instructions such as metering tables.
4. Platforms (footrests) and protections: they should not be used during machine operation; only for filling and maintenance.
5. Row lift cylinder locks: provide safety against the lowering of the planting rows when transporting the machine and performing maintenance. When you start planting, disconnect these locks.

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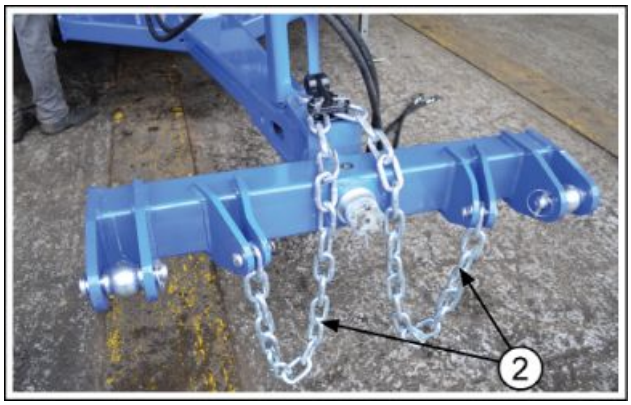

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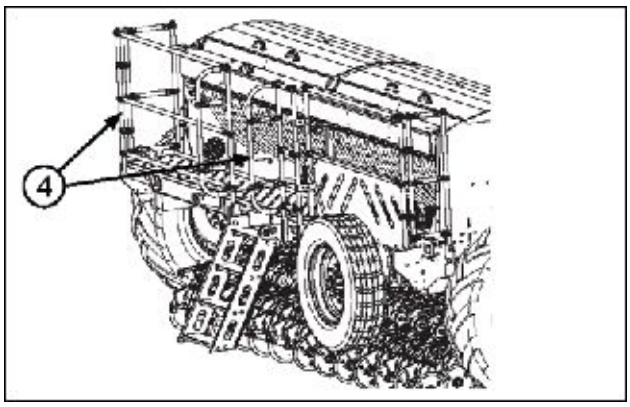

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WARNING NOTES USED IN THIS MANUAL

NOTE: *This word indicates special technical instructions that, if not observed, can cause malfunction and eventually, damage to the machine.*

ATTENTION: *This word indicates special technical instructions that, if not observed, can cause malfunction, damage to the machine and even risk of injury.*

ATTENTION: *This word indicates special technical instructions that, if not observed, can cause damage to the machine and imminent risk of injury, and even death.*

Displacement or transportation of the machine

In cases where the machine needs to be moved to another location to perform maintenance observe rules such as:

- Prefer the use of trucks to transport the machine, especially when it comes to public roads.

For transporting the machine towing it with the tractor:

- Seek information about what is allowed and the order recommended by the local traffic authorities.
- For operations performed by default of the current regulations, the consequences must be borne by the operator.

When displacement with the tractor is allowed:

- Use alerting devices, such as flags, slow vehicle emblems, lights, etc., approved by the current local traffic laws. Keep these devices clean and in good condition.
- Practice speeds compatible with the road conditions and traffic, but never exceeding 12.5 MPH (20 km/h). Reduce the speed considerably when the surface is uneven.

NOTE: *Do not transport the machine loaded: supply the seed at the planting site.*

- Use the brake pedals of the tractor for a smooth braking.
- Be careful with the power grid, trees, crossing points of restricted width and other obstacles.
- Never allow people on the machine while moving it.

For maintenance services performed with the Seeder coupled onto the tractor.

For many maintenance tasks, especially those performed in the field, it is convenient to leave the Seeder coupled to the tractor to ensure the firmness and stability of the machine. In addition:

- Remove the ignition key.
- Engage the first gear and actuate the parking brake.
- Put a sign next to the tractor panel:

UNDER MAINTENANCE
DO NOT OPERATE

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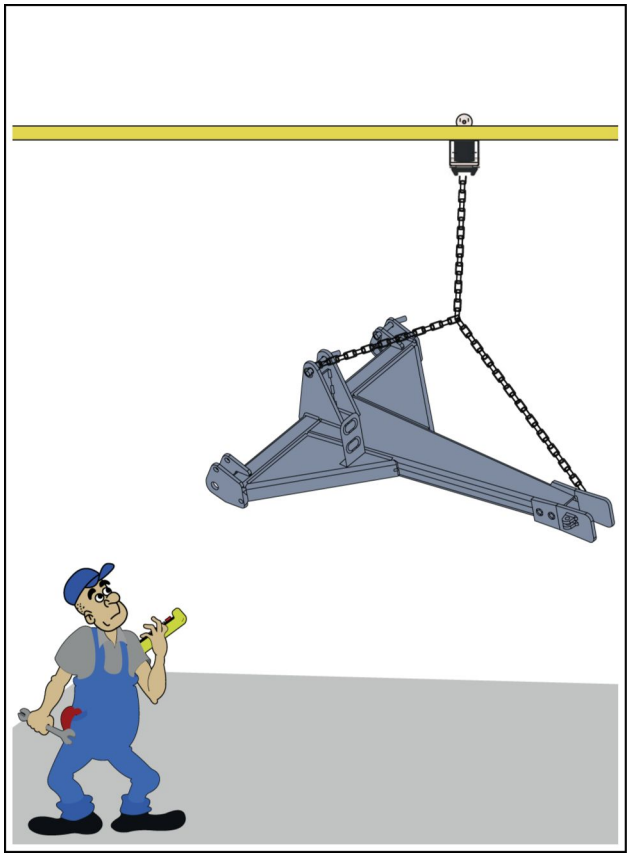
When removing, reinstalling or moving heavy assemblies

- Always use appropriate devices to attach and lift whole and/or heavy assemblies.
- Never stand under suspended loads. As safe as the lifting equipment may be, it is not worth running the risk!
- Check that the devices used have the necessary capacity and that they are in perfect storage and operating conditions.



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Safety recommendations to follow when performing maintenance on the Seeder

NOTE: *The following recommendations are specific to the maintenance work of the Seeder, in the workshop or in the field.*
For safety information related to the operation, handling of chemical fertilizers and others, see the operator's manual.

- Keep the machine properly supported: Always lower both support stands and install the locking latches in the lift cylinders, See the item "Safety features found in the machine", and Do not support the machine on improvised objects which can collapse under the load. also Do not work on the machine supported only by a hydraulic jack.
- If equipped with row markers, do not forget to lower them. If it was necessary to leave them raised, ensure a complete locking.
- Especially, when handling parts that have a cutting edge, such as the lagged and coulter disks, use appropriate gloves.

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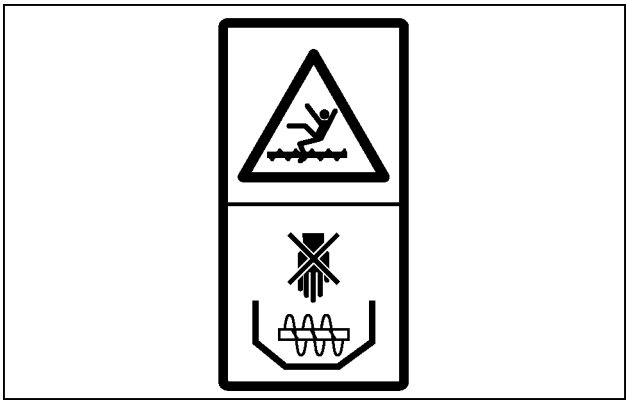
- With the engine running: Do not touch or enter the seed or fertilizer box and not perform any repairs or adjustments, and also Do not access the supply platform.
- Do not wear loose clothing, blankets or loose hair (if long), jewelery such as rings, bracelets and necklaces: moving parts could wind, pull and tear such items, with a risk of serious injury!



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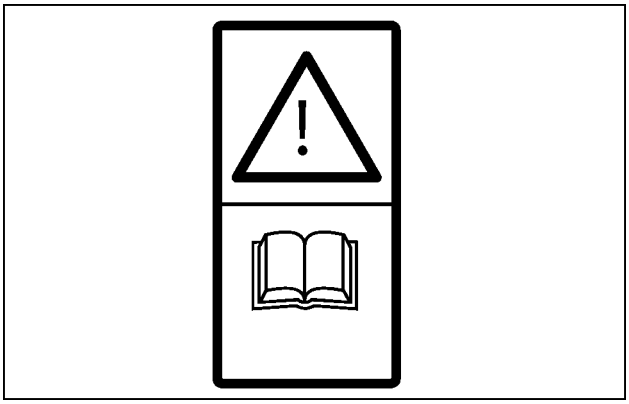
- Understand the procedure before performing work. Refer to this manual when necessary.
- Prolonged exposure to loud noise can cause hearing damage. Use ear protectors such as: noise dampers and plugs.
- Operating the equipment safely requires your full attention. Avoid using headphones while operating the machine.
- Use original parts only. Similar parts, apart from compromising the functioning of the machine, also pose safety hazards.



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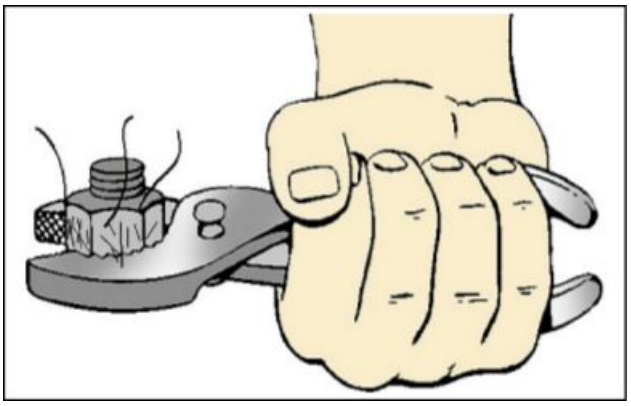
- Use appropriate tools and equipment, do not accept improvisations and refer to this manual whenever necessary.
  Improvisations constitute a potential safety risk.
  Special precautions should be taken when using electrical tools.
  To loosen and tighten bolts, use the correct type, size and pattern (millimetric) of tools.



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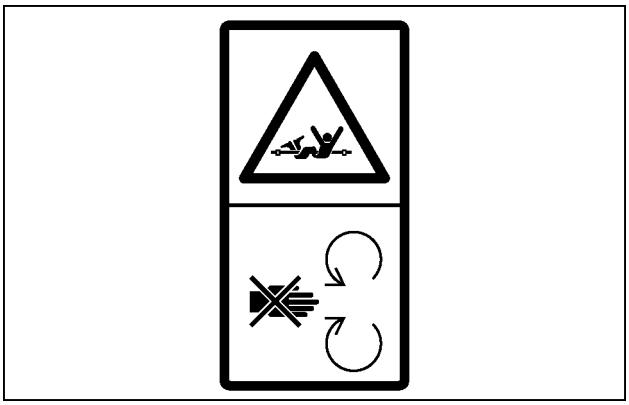
- Work in dry, clean and ventilated areas.
- Whenever possible and if necessary, clean the machine before performing maintenance: the operation becomes safer, with better quality.
  Remove accumulations of grease, oil and debris, which apart from hindering work, they represent potential sources of fire outbreaks.
- Remove all tools and unused parts before starting maintenance.
  In the same way, analyze the work to be performed and remove parts or protections to allow easier access, making this work safer, more productive and with quality.
- Do not perform repairs in areas with transmission (chains and gears) when the machine is running; risk of mutilation!



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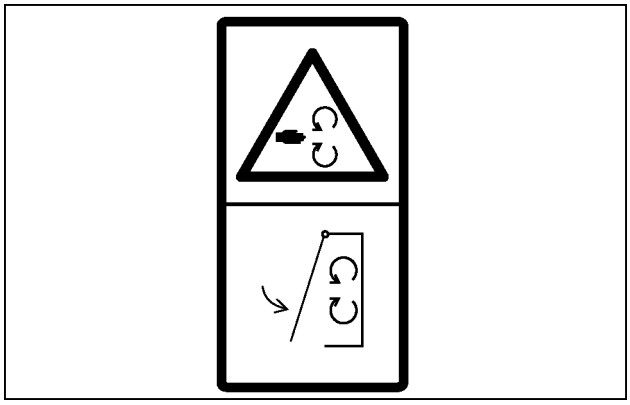
- Close all safety devices before starting the machine. This will prevent other materials from getting tangled on gears, chains, shafts and other moving parts of the system.



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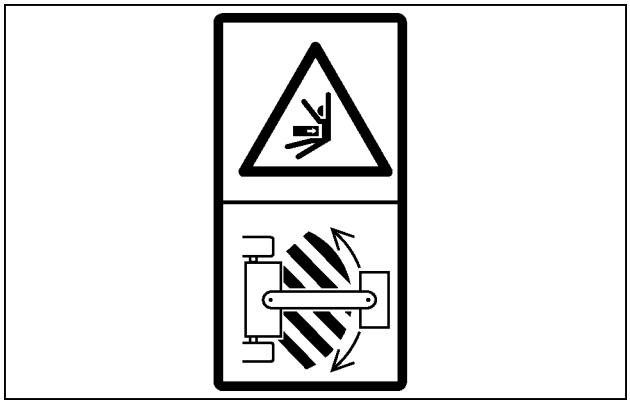
- Keep away from the articulated parts of the machine, such as row markers.
- Do not walk on the ladders or platform of the machine when the tractor is running.



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Tire calibration:

- Never exceed the recommended pressure to seat the edges of the tire on the rim.
- Replace the tire if it presents any defects. Replace the rim if you observe any sign of cracks, wear, deformation or severe corrosion.
- Make sure all the air was removed prior to removing the tire from the rim.
- Make sure the tire is properly seated on the rim during its filling.
- Tire replacement can be dangerous and must be performed by trained personnel with proper tools and equipment.
- Never stand in front or on top during the mounting of a tire.
- When removing and installing wheels, use suitable handling equipment for the weight involved. If available, use a safety cage to perform this type of operation.

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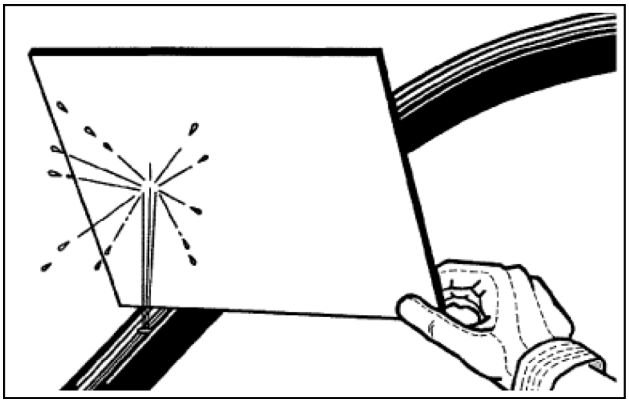
Care taken with hydraulic systems and fluids under pressure in general

- Fluids escaping under pressure can penetrate the skin, causing injury and serious poisoning; fluids injected into the skin must be surgically removed as soon as possible, as they may cause gangrene.
- To check for leaks, use a piece of paper or cardboard, not body parts.
- If an accident occurs, see a doctor immediately.
- Wear protective gloves and goggles when working with hydraulic systems.



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Avoid fires

- Keep a fire extinguisher and a first aid kit always at hand also Keep emergency numbers for doctor, ambulance, hospital and firefighter near the phone.
- Never allow open flame or welding near fluids, flammable gases, paints, solvents and other!
- Do not smoke at the work place. There is always the risk of fire due to the wide range of flammable products.
- When welding, remove any flammable products from near the area to be welded, such as fuels, solvents or lubricants.

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Chemicals and the Environment

- Being exposed to or come into contact with chemical pesticides, coolant, lubricants, paints, decals and others, can be harmful to your health.
- Protect yourself from the waste or gases of chemical products derived from the treatment of seeds.

ATTENTION: *See a doctor immediately if you notice symptoms of poisoning such as headaches, sweating, nausea, vomiting, abdominal cramps, weakness, profuse salivation, chest tightness, blurred vision and nonreactive pupils. Take the container or, at least, the label of the suspected chemical product. Manufacturers of these products provide a phone number for contact at any time if in doubt.*

- Before disposing of used fluids and lubricants, always remember the environment: Do not pour or spill these products on the ground or water, or place them in containers that could cause leaks.
- Dispose of oils, solvents, paints and other products adequately, as established in the existing environmental legislation. Many of these products may offer recycling alternatives.

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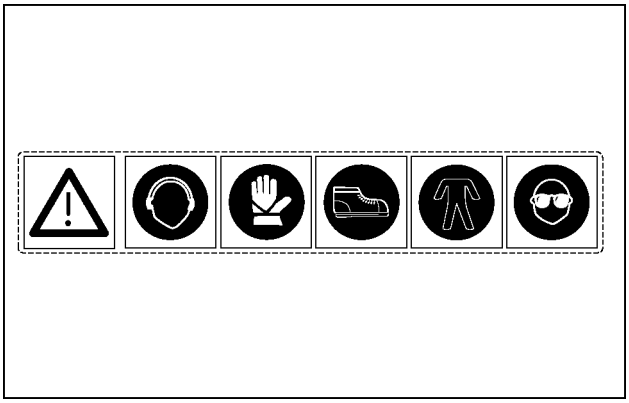
Conditions of the workplace

- At the workshop: separate and organize used and discarded parts; at the first opportunity, take them to collection points for recycling,
  All materials, including tires, currently have recycling alternatives.
- Do not allow the floor of the workshop to get drenched with oil; this is cause for slipping and falling, apart from compromising the appearance of the workshop. Remember: organization is the mirror of quality for the professional who works there.
- Provide the necessary illumination in the work area. If necessary, use a portable safety light for working in places hard to reach and/or with lack of good light.
  Regarding the portable lamp, be aware of the insulating conditions of both the electric power cable and the lamp itself: the heat of the lamp, cables not properly insulated or of poor quality and an accidentally broken bulb are factors that may cause burns or a fire.

Welding work

- Use the proper PPE for this activity: mask, gloves and a leather apron.
- In case of electric welding: always seek to connect the negative electrode near the point to be welded.
- Only perform welding in well ventilated areas to avoid the concentration of toxic gases and dust.
- Before welding, remove the paint, thus preventing the formation of toxic gases and dust.
  If you cannot remove the paint, use an appropriate mask to protect against the inhalation of toxic gases.
  When sanding surfaces, especially with paint, also wear a mask.
  If you use a solvent to remove the paint, do not forget to wash the area with soap and water before welding: fire hazard!



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Basic instructions

HITCH THE MACHINE ONTO THE TRACTOR

⚠ CAUTION

Transport hazard!
Always connect a safety chain between the machine and the implement. Only use a safety chain with a strength rating equal to or greater than the gross weight of the implement.
Failure to comply could result in minor or moderate injury.

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⚠ CAUTION

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in minor or moderate injury.

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⚠ DANGER

Crushing hazard!
Do not stand or place any body part between the implement and a moving tractor. Stop the tractor engine and set the parking brake before you attach cables and hoses.
Failure to comply will result in death or serious injury.

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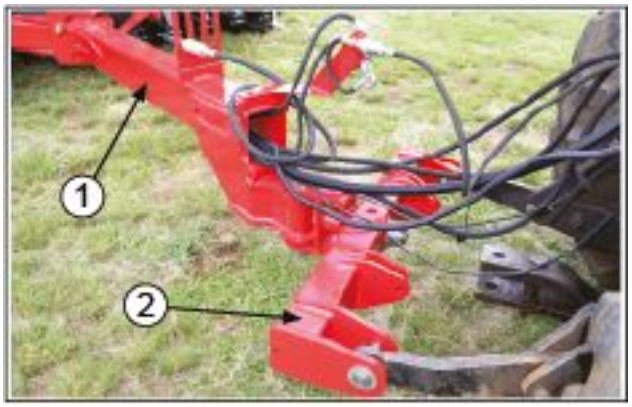
Engage the drawbar to the tractor and leveling

The drawbar **(1)** is engaged to the tractor through the bar **(2)**, and to the lower lift arms.



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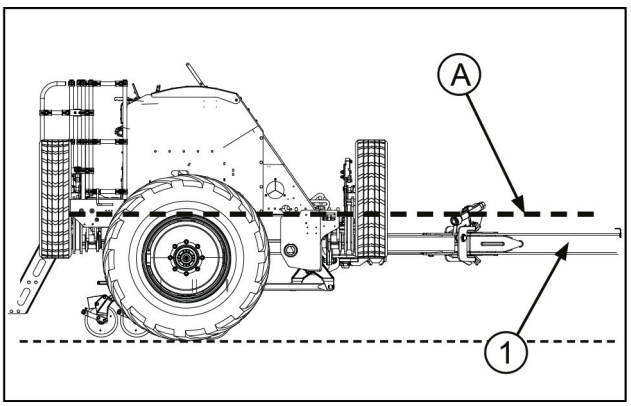
The machine leveling is set and maintained by the height adjusted in the lower lift arms of the tractor.
The correct machine leveling during planting is critical to the performance and maintaining of the correct depth of seed and fertilizer.
The machine leveling **(A)** is correct when the sides of the frame and the drawbar **(1)** are flat (parallel) to the ground.



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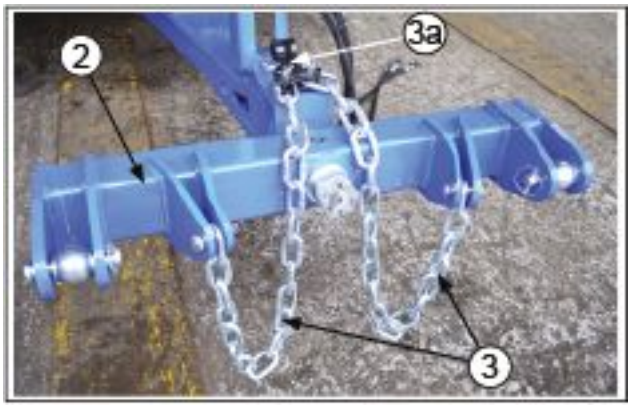
Safety chain

The chain **(3)** has the main function of safety in case of accidental disengagement of the machine.
Engage the chain end **(2)** in the top link of the tractor's hitch system.
The current **(3)** can be adjusted* to act as descent limiting of the lift arms, and therefore the drawbar **(1)**.

NOTE: **By the choice of the links connected to the chain end (3a).*



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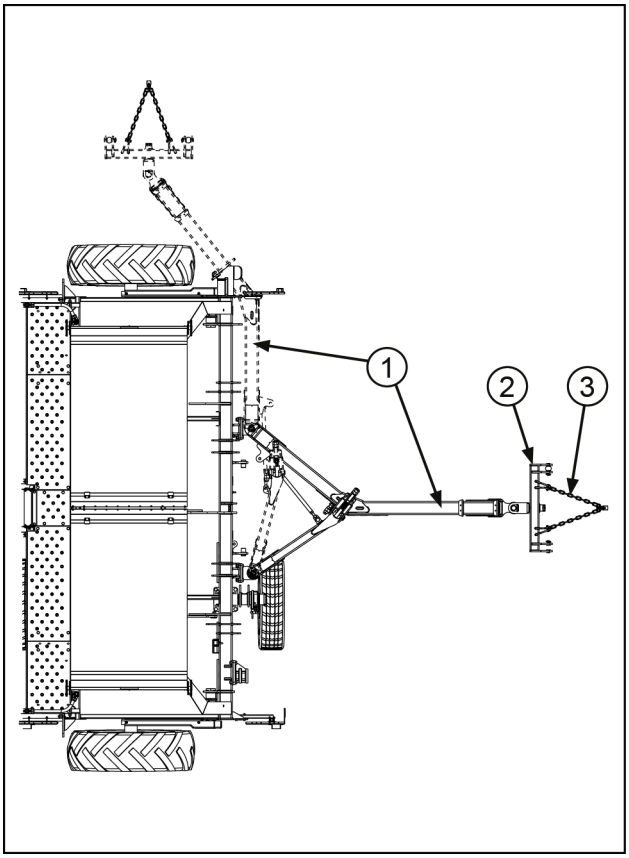

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Hydraulic coupling

After engaging the bar **(2)** to the lower lift arms, attach the hoses **(4)** of the Seeder in the tractor's remote quick couplers.

NOTICE:
• Before coupling the seeder hydraulic cylinder hoses, clean the surface of the quick coupler.
• When not using the quick coupler, keep the plastic cap in place.
• Do not couple onto the tractor's hydraulic system, hydraulic systems containing impurities in its circuit, since apart from contaminating the tractor's hydraulic oil, it can cause damage to its components.

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HYDRAULIC SYSTEM

Through the triple control valve **(5)** assembled on the machine frame, and the joystick type electric control (6), attached to the tractor, is possible to select the desired hydraulic function:

- I — up / down the transport drive wheels.
- II — lift row units (free passage of oil, circuit without solenoid valve).
- III — moves the drawbar of the machine between the transport and operation mode.

NOTE: *After using the control* ***(6)*** *in position "I or III", return the control lever to the center position. This will prevent the heating of the control valve coil* ***(6)****.*

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Disengage the machine of the tractor

1. With the control lever **(6)** in the central position "II", raise the row units with remote control.
2. Install locks **(7)** of the row units.
3. Release pressure in the hydraulic circuit: if the remote control has the "Floating" position, use it for this purpose. If there is no "Floating", shut down engine and move the remote control lever for both sides until the stroke ends.
4. Remove the hoses **(4)**.
5. Lower and lock the support stand.
6. Disengage drawbar **(2)** of the lower lift arms of the tractor.

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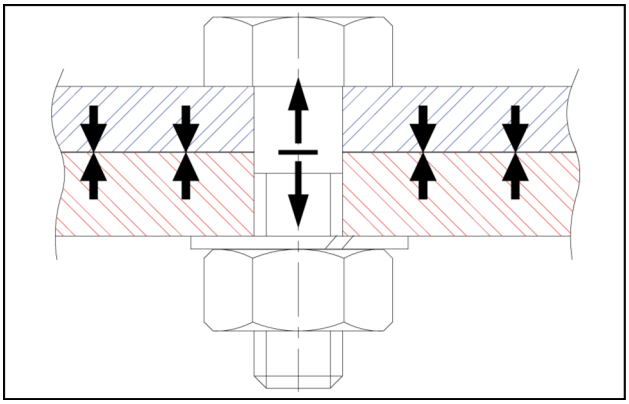
Torque

NOTE: *The machines are designed with SI standard metric measurements.*



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NOTE: *In case a special torque is specified for a given bolt or nut, do not use the values in the tables below.*

NOTE: *When applying the recommended torque, make sure the threads are clean.*

NOTE: *When replacing bolts and/or nuts, use new items with a class equal or superior to the original ones. However, when using a new bolt or nut of a higher class, apply the original torque only.*

Recommended torques for class 8.8 bolts, nuts and studs

Size (or gauge)	Torque - in N.m
4 mm	3 - 4
5 mm	7 - 8
6 mm	11 - 12
8 mm	26 - 31
10 mm	52 - 61
12 mm	90 - 107
14 mm	144 - 172
16 mm	217 - 271
20 mm	434 - 515
24 mm	675 - 815
30 mm	1250 - 1500
36 mm	2175 - 2600

Recommended torques for class 10.9 bolts, nuts and studs

Size (or gauge)	Torque - in N.m
4 mm	4 - 5
5 mm	9 - 11
6 mm	15 - 18
8 mm	37 - 43
10 mm	73 - 87
12 mm	125 - 150
14 mm	200 - 245
16 mm	310 - 380
20 mm	610 - 730
24 mm	1050 - 1275
30 mm	2000 - 2400
36 mm	3500 - 3200

Recommended torques for class 12.9 bolts, nuts and studs

Generally, the torque values specified for class 10.9 hardware can be used in class 12.9 hardware.

Recommended torque for steel hydraulic connections: 37° expansion connection

Tube's external diameter / hose's internal diameter		Thread size	Torque in N.m
mm	in		
6.4 mm	1/4 in	7/16-20 in	8 -16 N.m
7.9 mm	5/16 in	1/2-20 in	11 - 22 N.m
9.5 mm	3/8 in	9/16-18 in	14 - 34 N.m
12.7 mm	1/2 in	3/4-16 in	20 - 57 N.m
15.9 mm	5/6 in	7/8-14 in	34 - 79 N.m
19.0 mm	3/4 in	1-1/16-12 in	54 - 108 N.m
22.2 mm	7/8 in	1-3/16-12 in	81 - 135 N.m
25.4 mm	1 in	1-5/16-12 in	102 - 158 N.m
31.8 mm	1-1/4 in	1-5/8-12 in	169 - 223 N.m
38.1 mm	1-1/2 in	1-7/8-12 in	285 -338 N.m

Recommended torque for steel hydraulic connections: straight threads with "O" ring

Tube's external diameter / hose's internal diameter		Thread size	Torque in N.m
mm	in		
6.4 mm	1/4 in	7/16-20 in	8 - 16 N.m
7.9 mm	5/16 in	1/2-20 in	11 - 22 N.m
9.5 mm	3/8 in	9/16-18 in	14 - 34 N.m
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15.9 mm	5/6 in	7/8-14 in	34 - 79 N.m
19.0 mm	3/4 in	1-1/16-12 in	54 - 108 N.m
22.2 mm	7/8 in	1-3/16-12 in	81 - 135 N.m
25.4 mm	1 in	1-5/16-12 in	102 - 158 N.m
31.8 mm	1-1/4 in	1-5/8-12 in	169 - 223 N.m
38.1 mm	1-1/2 in	1-7/8-12 in	285 - 338 N.m

Recommended torque for mounting bolts with split flange

Size	Torque in N.m
5/16-18 in	20 - 27 N.m
3/8-16 in	27 - 34 N.m
7/16-14 in	47 - 61 N.m
1/2-13 in	74 - 88 N.m
5/8-11 in	190 - 203 N.m

Basic instructions

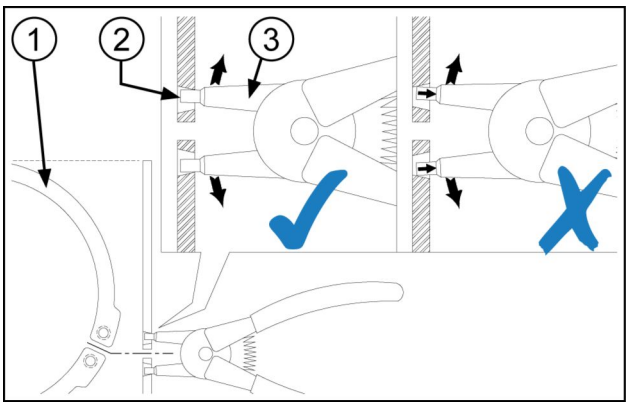
INSTALLATION OF SNAP RINGS

In the case of Seeger type rings **(1)** internal or external, installed and removed with pliers fitted in two holes **(2)** check for the correct side in the installation of the rings.

This is because the holes **(2)** for fitting the pliers **(3)** are tapered:

- Correct way of installation: the side with the smallest diameter of the tapered holes **(2)** must face the pliers **(3)**.
  Thus, the ring **(1)** does not escape from the pliers.
- Incorrect way: if the ring **(1)** was installed with the side with the largest diameter of the tapered holes facing the pliers, their tips would be pushed inside out, preventing or hindering the coupling.

ATTENTION: *Always wear protective goggles when working with snap rings. The escape of a snap ring from the plier tips causes a violent fling of the ring!*



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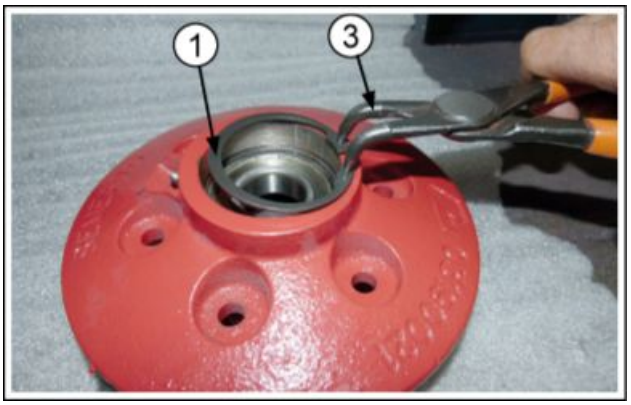

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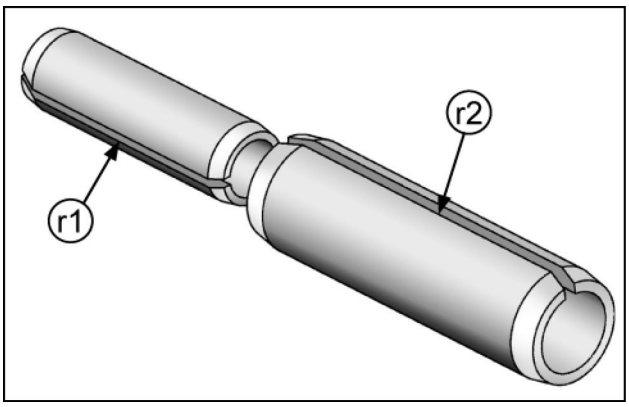
INSTALLATION OF DOUBLE SPRING PINS

The precaution consists in not to install the two pins with the slots **(r1)** and **(r2)** aligned.
This is especially critical in the case of compartments containing grease: the aligned slots allow the escape of grease.
For proper installation, mount the pins with the slots **(r1)** and **(r2)** lagged, as shown in the figure.



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BUSHING REPLACEMENT

Bushing removal

- Generally, bushings mounted under interference are removed only when they need to be replaced.
- The removal can therefore be destructive. However, be careful not to damage the part where the bushing is mounted.

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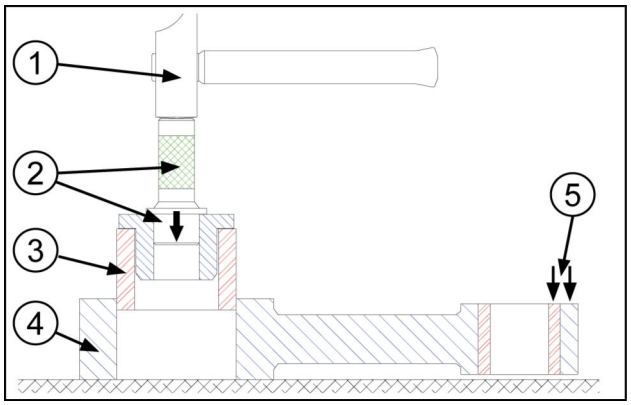
Installing bushings under interference

- The bushings used in Seeders not require the application of glue for their installation.
- The ideal thing is to use a press. This way, an aligned installation and with the necessary force is ensured.
- However, in field situations where a press is not available, observe the following precautions:
- Use a suitable tool **(2)** to guide the bushing **(3)** in its installation.
- Apart from guiding the bushing, the tool prevents the bushing from being directly hit with a hammer, which would cause its deformation and may even impede its installation, in addition to forcing the disposal of the bushing.
- Use a hammer **(1)** o move the tool **(2)** and the bushing **(3)**
- The part **(4)** in which the bushing is installed needs to be lying on a flat, hard surface.
- Check the mounting depth of the bushings: usually, the end of the bushing must face the surface of the part in which it is installed; see indication **(5)**.



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REPLACEMENT OF SEALS

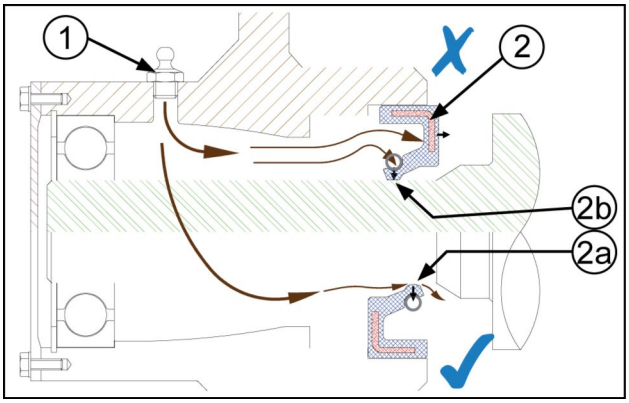
NOTE: *The fundamental care in the installation of seals consists in not to deform them. This requires the use of appropriate tools*

NOTE: *Once removed, the seals cannot be reinstalled: replace them.*

INSTALLATION OF SEALS IN HUBS WITH GREASE FITTING

By introducing grease through the grease fitting **(1)**, the old grease must be eliminated through the seal **(2)**
In this case, check for the following:

- Correct installation **(2a)**: seal installed with the sealing lip turned out from the hub: the force of the grease moves the lip slightly away from the axis, allowing the outflow of the grease see indication by the arrows.
- Incorrect installation (2b): sealing with the lip inwards, the passage of grease is prevented. The lip of the seal is forced against the shaft, not allowing the passage of grease. With this, the seal will be damaged or forced out of the housing.



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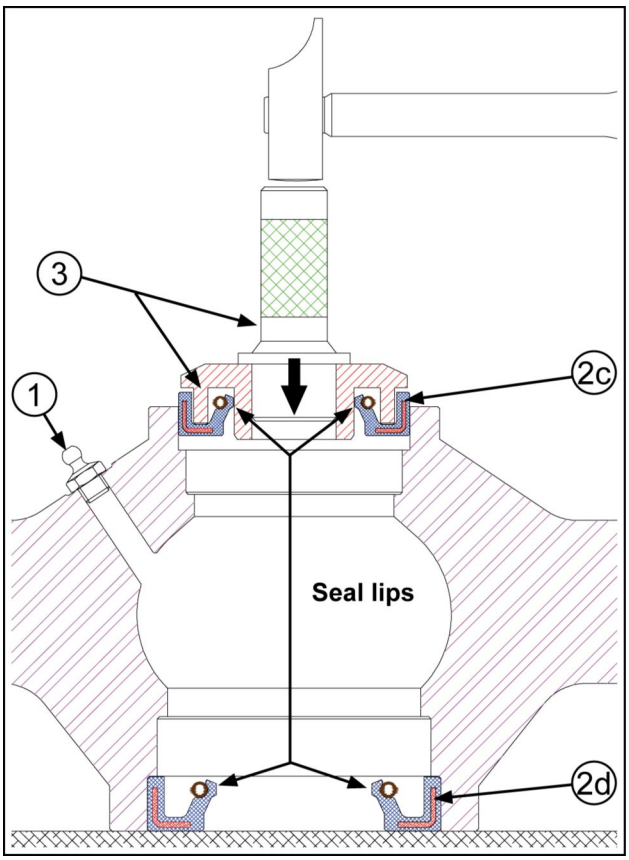
Hub with grease fitting and two seals

- One of the seals is installed with the lip outwards to allow the exit of old grease.
- The other seal is installed with the lip inwards.



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Seal installation procedure (with lip facing outwards)

It is essential to use a tool **(3)** which supports the seal by its rigid base, without causing deformation or damage to the sealing lip.

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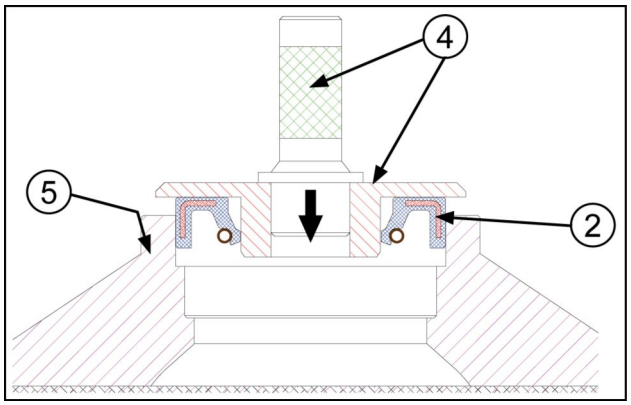
Move the seal until the rigid face reaches the bottom of the housing, but without forcing it.

Observations:

- The displacement of the seal into the housing must be in an aligned manner. Therefore, it is important that the tool **(3)** has an extension that facilitates the alignment.
- Before installing a seal, make sure that the housing is clean and dry, free of grease or oil.
- After installing the seal, grease the seal lip.
- Take care when mounting the shaft that goes through the seal, especially spline shafts with key slot and another type of edge that can damage the retainer lip.
- Tiny cuts on the lip cause leaks.

INSTALLATION OF SEALS IN HUBS WITHOUT GREASE FITTING

In these cases, the replacement is performed with the disassembly of the hub.



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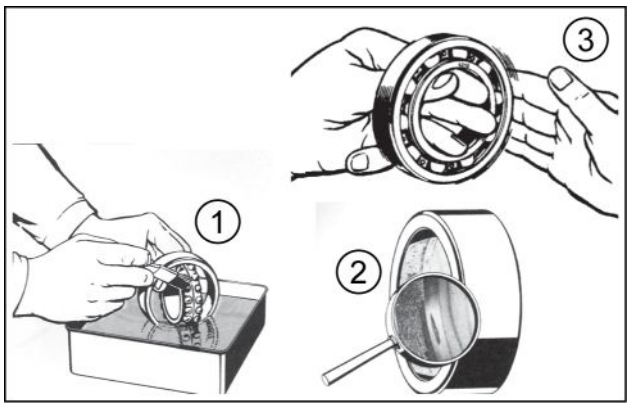
This way, the seal does not have the function of allowing the outflow of excess grease. Therefore, it is installed with the lip facing inward (and the flat face outwards).

To install it with the lip inwards:

- See the remarks of the previous item (seal with lip facing outwards).
- Lay the tool **(4)** on the rigid (flat) face of the seal **(2)**
- Typically, the depth of the seal installation must be such that the flat face is aligned with the outer surface **(5)** of the hub.

REPLACEMENT OR REUSE OF BEARINGS

To decide on the reuse of bearings, the first step is to perform a thorough cleaning **(1)**.



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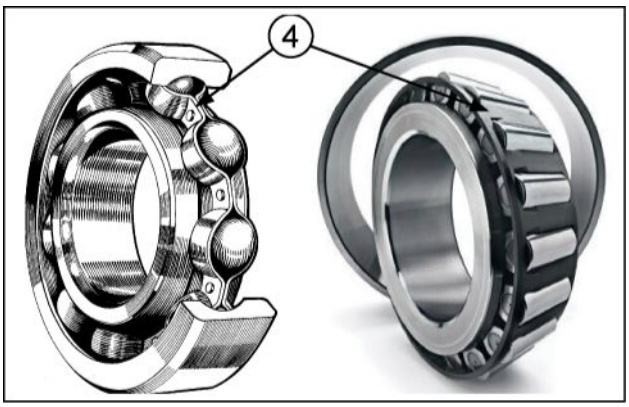
In step **(2)** analyze the bearing for damage such as signs of overheating (bluish surfaces), wear, scratches or breaks in its rollers or balls, and the surface of the tracks and other damage.

Also analyze the state of the cage **(4)**.

If everything is in order, make a noise test **(3)** when rotating the bearing with the hands, it cannot present metallic noises and its spinning must be completely smooth.

The slightest irregularity in any of the above determines the replacement of the bearing.



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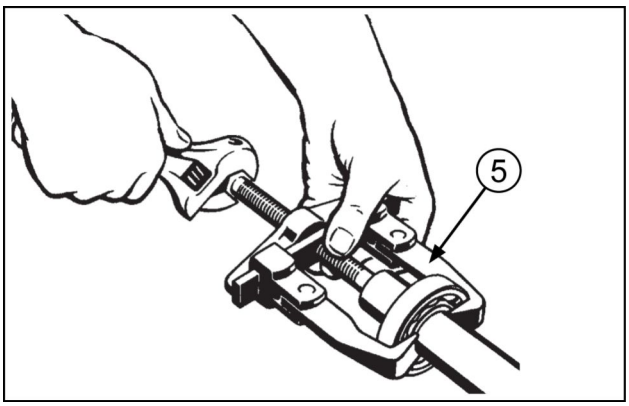
REPLACEMENT OF BALL BEARINGS

Ball bearings are normally made of one piece.

The removal must be done with appropriate pullers, generally universal type **(5)** of two or three legs.



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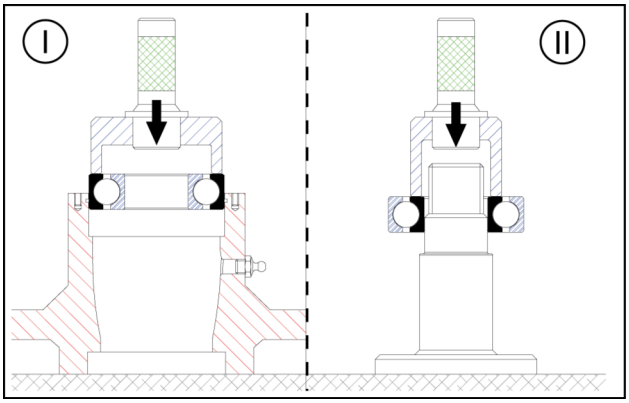
For installation

- Never install a bearing applying direct hammer blows on it!
- Prefer the use of presses for installing bearings. For field installations, a hammer can be used, however, the bearing needs to be displaced in an aligned manner by an appropriate tool.
- Lubricate the bearings before or after their installation.

  NOTICE: *The force to install the bearing should only be applied on the track (internal or external) which is installed with interference.*

  NOTICE: *If the force (of the press or the hammer blows) is applied on the free track, the balls and cages of the bearing could suffer serious damage.*
- So to install bearings in holes, press the outer ring, and to install bearings on shafts, press the inner ring.
- For the installation with both a press or a hammer, the bearing must be lying on a flat, firm surface and perpendicular to the tool or press used in the installation.



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REPLACEMENT OF ROLLER BEARINGS

These bearings are usually made up of two parts:

- Outer ring (or cup) **(1)**.
- "bearing cone" assembly **(2)**, consisting of the inner track with the rollers (cylindrical or conical) and the cage.

Thus, the removal and installation of tapered bearings is carried out in two parts: the cup and cone.

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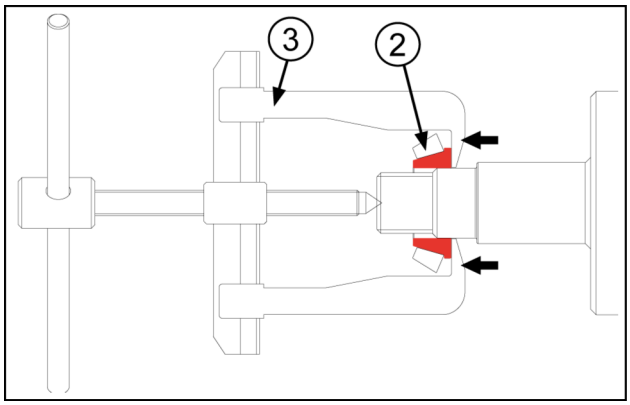
To remove tapered bearing cups

- Normally, the cups are only removed in case of replacement.
- In this case, use pullers (if available) and then, blow the cup off the housing by means of a pin puller.
- In the latter case, removal can be destructive. However, take care not to damage the housing.



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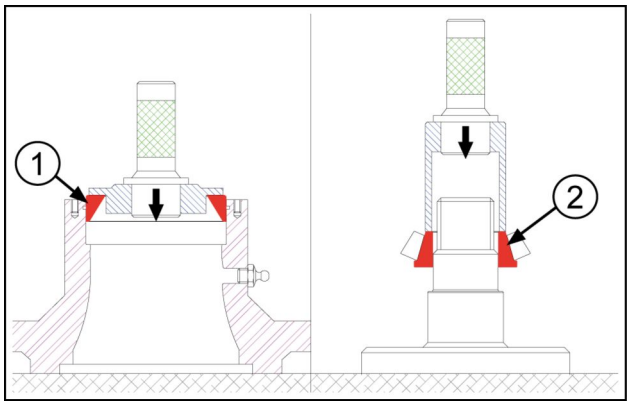
To remove bearing cones

Whenever possible, use universal pullers, of two or three legs **(3)**

To install tapered bearing cups and cones

- For the cups **(1)**), use tools that fit the inner face (track) or behind the cup, on the longest side.
- To install the bearing cones **(2)** on axes, use a press (preferred) or a hammer combined with a suitable tool.
- Never apply hammer blows directly on any parts of a bearing!
- Also, check the alignment of the installation, done on a flat, hard and perpendicular surface.



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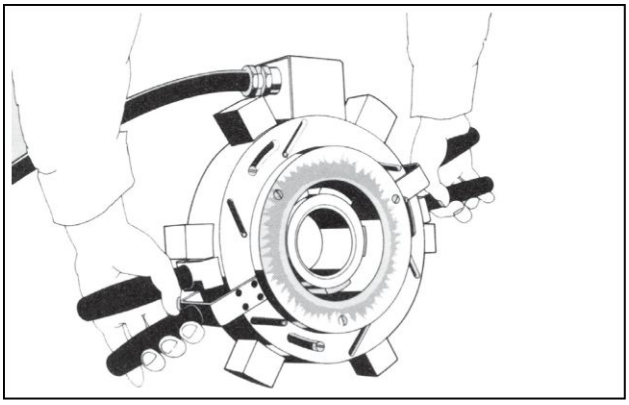
Heating or cooling of parts installed with interference

- In the case of bearings, it is a good practice to heat them for their installation. The expansion of the heated parts reduces the force needed for installation, facilitating the procedure and reducing the chance of damage to them.
- The heating should never be done under the action of direct fire on the parts. Use oil heated at 80 to 90 0 C or heating by electrical induction see figure.
- On the other hand, tapered bearing shafts and cups can be cooled to reduce its diameter, also facilitating their installation.
- Cooling can be done in freezers or with ice (dry or regular).



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GENERAL RECOMMENDATIONS

ASSEMBLY SIDE

- Several components of the machine have parts whose assembly side must be observed.
- In the row units, such components have a marking, indicating it should be installed on the right side (from the point of view of who is behind the machine). See examples in the figure, indicated by the arrows.

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Bolts in general

In the case of bolts that allow the installation in both directions, the standard factory installation is from left to right.

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IDENTIFYING THE CAUSE OF FAILURE BEFORE DISASSEMBLY

- Whenever possible, focus on making the complete diagnosis of the problem before starting disassembly.
- Take the necessary time for good previous planning, avoiding unnecessary operations and/or part replacements.
- Determine which tools, parts to be replaced and safety precautions (and PPE) are required for the job.
- Make an overview about the system or component that failed. See what precisely caused the failure and if other adjacent components were not affected.
- During disassembly, inspect the parts carefully.
- Clean the parts to be reused.

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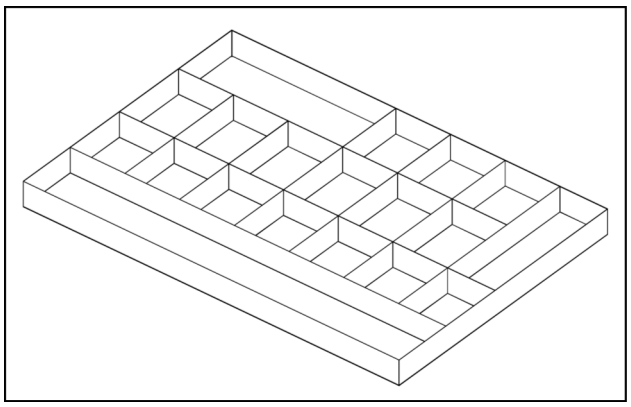
DO NOT MIX PARTS

- When disassembling different assemblies, arrange the pieces separately and logically.
- The ideal thing is to install all the parts in their original location. There are special parts whose position cannot be changed. Separate the different bolts and nuts in "large trays" with divisions.
- The base of the tray, shaped like a grid or perforated plate, allows the parts to be washed, draining the water beneath it.



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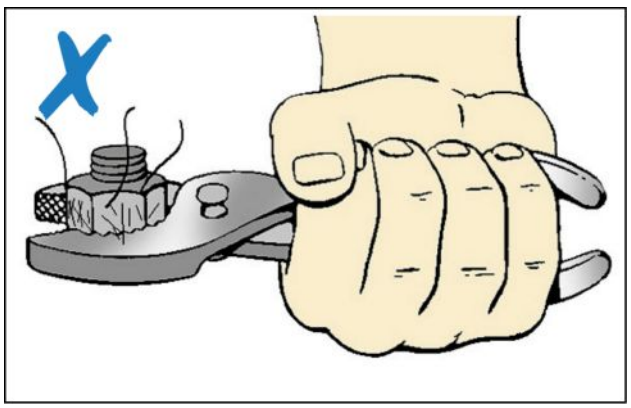
CORRECT USE OF TOOLS

- The general rule is: do not improvise! Inadequate tools and procedures, apart from compromising the quality of work, can cause injury.



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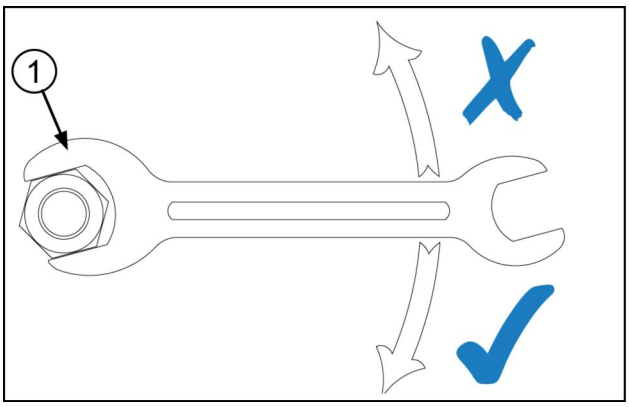
- Use wrenches correctly: see in the figure the correct direction of application of force on the lever relative to the angle of the socket **(1)**.
- Work in the opposite direction causes a greater effort in the structure of the key. Use this procedure only in special cases, such as bolts which are hard to access: in this case, switch positions, not recommended **(X)** and recommended **(C)** of the key until loosening the bolt.



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