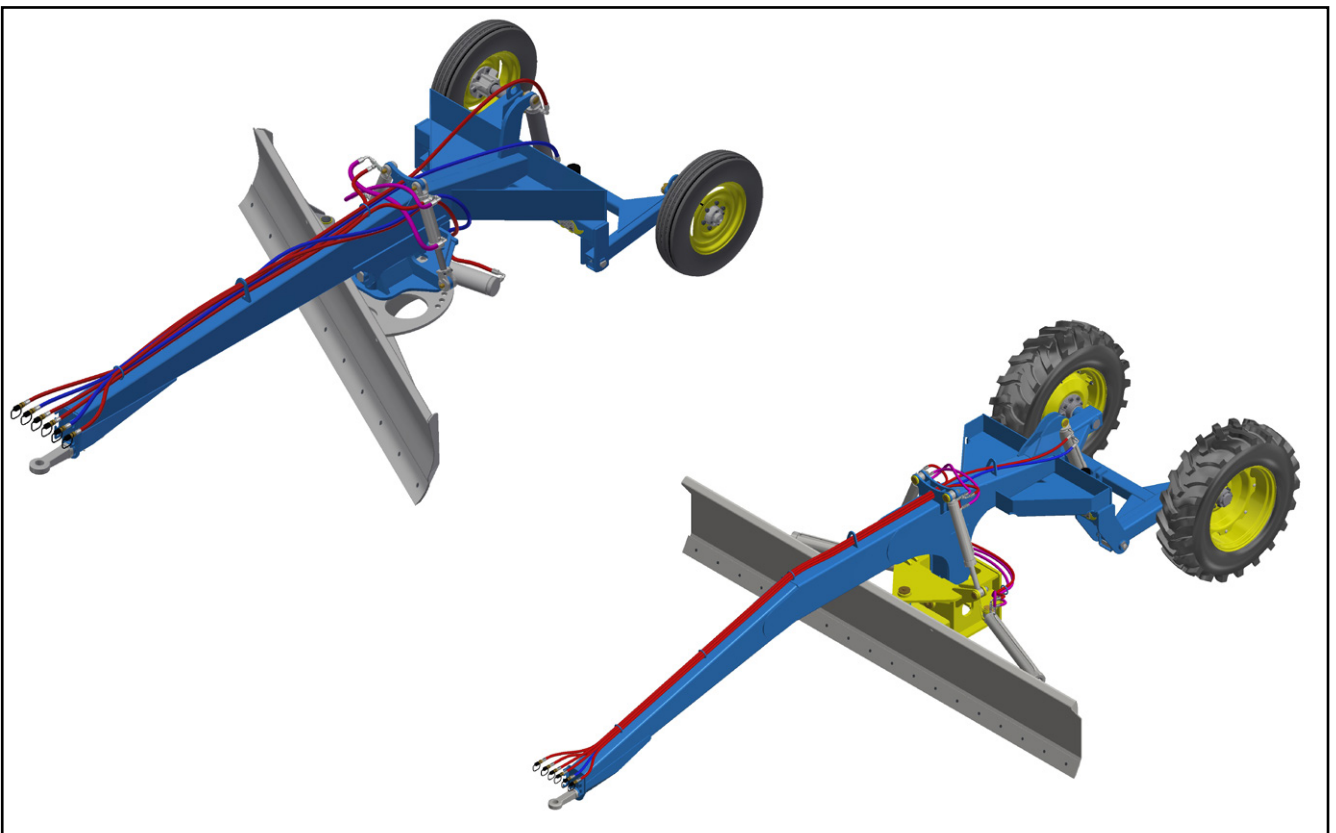


**MARCHESAN**

# **INSTRUCTIONS MANUAL**



***LTA 3000***

***LTA 5000***

***LTA 5000 S***



# Introduction

The rear scraper blades LTA 3000, LTA 5000 and LTA 5000 S were designed to simply and quickly carry out works in terraces, construction sites and to provide servicing in your property roads and tracks, leveling the ground and removing bumps and depressions in areas in the farming. The large free height of the frame from the ground allows moving a great amount of earth.

It features reinforced structure, sturdy parts where mechanical forces concentrate, better weight distribution, and ensures excellent performance in a wide range of conditions.

The tractor is required to provide dual control of the hydraulic drive.

The blade features vertical and horizontal angle adjustment.

This instructions manual contains the necessary information for the best performance of this blade. The operator must carefully read the entire manual before working with the equipment. Also, read and understand the safety recommendations.

For any further clarification or in the event of technical problems that may arise during the service, consult your dealer and the Technical Support department of the factory. They can ensure the fully functioning of your TATU blade.



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## To the owner

The acquisition of any TATU product assures to the original purchaser the following rights:

- Warranty certificate;
- Instructions manual;
- Technical assistance by the dealer on equipment delivery.

However, the owner must check the condition of the equipment on delivery, as well as knowing the warranty terms.

Special attention should be given to the safety recommendations, operation precautions and maintenance of the equipment.

The instructions in this manual indicates how to get the best performance and allow the operator to get maximum income, increasing the equipment lifetime.

This manual should be read by operators and maintenance staff.

### Important



- Only people who own a full knowledge of the tractor and equipment must operate them;
- Marchesan is not responsible for any damage caused by accident on transporting, incorrect utilization or inadequate storage, either by negligence and/or lack of experience from any person;
- Marchesan is not responsible for any damage caused by unpredictable situations or the incorrect use of the equipment.


### General information

Right and left hand side indication are made observing the equipment from the rear.

To order any parts or request technical assistance services, it is required to provide the data contained on the nameplate, which is located on the equipment frame.

MODELO MODEL	<input type="text"/>
Nº SÉRIE SERIAL NR	<input type="text"/>
DATA DATE	<input type="text"/>
PESO WEIGHT	<input type="text"/>

MARCHESAN IMPLEMENTOS E  
MÁQUINAS AGRÍCOLAS "TATU" S.A.  
[www.marchesan.com.br](http://www.marchesan.com.br)  
AV. MARCHESAN, 1979 - MATÃO-SP-BRASIL  
CNPJ: 52.311.289/0001-63



**MARCHESAN**

#### NOTE

The warranty shall not be applied to any equipment, or any parts thereof, which has been altered elsewhere than at the place of manufacture or which the original purchaser thereof, at retail, has used or allowed to be used parts, not made or supplied by Marchesan S/A.

# To the operator

## Be careful with the environment

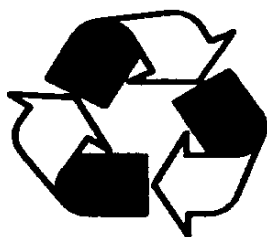
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Dear user!

Respect the ecology. Do not throw trash away. This gesture of goodwill helps to protect our environment.

---



Products such as oil, fuel, filters, batteries and others are spilled to the soil and can penetrate to the underground layers, compromising nature. Ecological and conscious disposal of them should be done.

---

## Working safely

---



- **Security aspects must be carefully observed to avoid accidents.**
- **This symbol is a warning used to prevent accidents.**
- **The instructions under this symbol refers to the safety of the operator or third parties, therefore they should be carefully read and observed.**

The LTA 3000, LTA 5000 and LTA 5000 S rear blades are simple to operate, requiring however the basic and essential cautions to their handling.

Always keep in mind that safety requires constant attention, observation and prudence during the transportation, maintenance and storage.

---



Read and understand the information before making any adjustment or maintenance.

---



Have extreme caution when operating with the power take-off (PTO). Do not get closer during operation.

---

## To the operator



Never use your bare hands to check hydraulic leaks, the high pressure can cause injuries.

---



Never attempt to change the adjustments, clean or lubricate the equipment when the same is switched on or in movement.

---



Be careful while driving on slopes. Risk of overturn.

---



Prevent that chemical products (i.e.: fertilizers, treated seeds) make any contact with your skin or clothes.

---



Keep access and work places clean or free from oil and grease. Risk of accidents.

---



Never transport the equipment on highways or paved roads during the night. Avoid that the tractor wheels touch the drawbar in sharp turns.

---



The presence of any other people on the tractor or equipment is strictly forbidden.

---



Have extreme caution when driving under electrical power lines. Any contact may result in severe shocks, injuries or death.

---



For your protection and safety, always wear adequate clothes and footwear while operating the equipment.

---



Always use the safety locks to carry out maintenance operations and to transport the equipment.

# To the operator



- While working or during transportation, only the presence of the operator is allowed on the tractor.
- Do not allow children to play or to get over the equipment while it is operating, during transportation or storage.
- Have full knowledge of the soil before starting to work. Use the speed which is suitable to the conditions of the ground. Provide the delineation of obstacles or hazardous locations.
- Use personal protective equipment (PPE).
- Wear appropriate clothes and footwear. Avoid clothes that are either loose or hanging from the body, which may become entangled in moving parts.
- Never operate the equipment without its **protective devices**.
- When lifting or lowering the blade, check if there are no people or animals close or under the equipment.
- Never attempt to change the adjustments, clean or lubricate the equipment while it is moving.
- In case of emergency, know how to stop the tractor and blade quickly.
- Always shut down the engine, remove the key and use the handbrake before leaving the tractor seat.
- Only drive the equipment using a tractor with appropriate power.
- Carefully check the transport width on narrow locations.
- Whenever you unhitch the equipment, either in the field or shed, do it on a flat and firm surface and use the parking stands. Make sure the equipment is properly supported.
- Do not drive the equipment under the influence of alcohol or any calming/stimulating medicine, as it may result in a serious accident.
- In case of a fire outbreak or any possible hazard, the operator must leave the area as fast as possible and look for a safe place. Always have emergency numbers at hands.
- Please check the general safety instructions on the back cover of this manual.



# To the operator

## Transportation over truck or trailer



Marchesan does not advise the equipment traffic on highways, because this practice involves serious security risks in addition to being prohibited by the current existing traffic law. The transportation for long distances should be done on truck, trailer or other by following these safety guidelines:

- Use adequate ramps to load or unload the equipment. Do not make the loading on ditch banks, it can cause a serious accident.
- When lifting with a hoist, use the appropriate points to lift.
- Fasten the moving parts that may get loose and cause accidents.
- Underpin the equipment wheels appropriately.
- Use chock blocks and safety chains to secure the equipment to the truck or trailer during the transport.
- After 8 to 10 km transporting, please inspect the load condition. Repeat this procedure every 80 to 100 km. Give more attention when transporting the equipment on rough roads, slopes and other adverse conditions.
- Always be careful with the load height, especially when passing under electrical power lines, bridges and others.
- Check all laws and regulations regarding the height limits and load width while transporting the equipment to the truck or trailer. If necessary use banners, lights and other devices in order to give adequate warning to the other drivers.

# To the operator

## Safety stickers

The safety stickers warn about the equipment points that require more attention and they should be kept in good repair. If these stickers become damaged or illegible, replace them. Marchesan provide stickers, upon request and indication of the respective serial number.



05.03.03.1428

**LUBRIFICAR E REAPERTAR DIARIAMENTE**  
**LUBRICATE AND TIGHTEN DAILY**  
**LUBRICAR Y REAPRETAR DIARIAMENTE**

05.03.03.1827

Model LTA 3000	Serial number
Small sticker	05.03.03.4023
Sticker	05.03.03.4024
Big sticker	05.03.03.4025

Model LTA 5000	Serial number
Small sticker	05.03.03.4026
Big sticker	05.03.03.4027

Model LTA 5000 S	Serial number
Small logo	05.03.03.4210
Small sticker	05.03.03.4211
Big logo	05.03.03.4212
Big sticker	05.03.03.4213

# Data sheet

## LTA 3000

Model: .....	LTA 3000
Blade width:.....	3,000 mm
Total length:.....	4,400 mm
Tire outer width:.....	1,950 mm
Minimum transportation width: .....	2,250 mm
Raised blade height: .....	1,700 mm
Blade horizontal turn: .....	45°
Blade vertical turn:.....	20°
Working speed: .....	5 Km/h
Tires: .....	600 x 16 ( <b>44 PSI</b> )
Weight: .....	933 kg
Tractor required (cv): .....	70 - 95

# Data sheet

## LTA 5000

Model: .....	LTA 5000
Blade width: .....	4,200 mm
Total length using:	
11L - 15 tires: .....	5,455 mm
12.4 x 11 x 24 tires: .....	5,700 mm
Iron wheel: .....	5,670 mm
Tire outer width:	
11L - 15 tires: .....	2,410 mm
12.4 x 11 x 24 tires: .....	2,480 mm
Iron wheel: .....	2,270 mm
Minimum transportation width: .....	3,050 mm
Raised blade height:	
11L - 15 tires: .....	1,765 mm
12.4 x 11 x 24 tires: .....	1,975 mm
Iron wheel: .....	1,925 mm
Blade horizontal turn: .....	45°
Blade vertical turn: .....	20°
Working speed: .....	5 Km/h
Types of tires:	
11L - 15 tires - 10 tarps ( <b>52 PSI</b> ): .....	Standard
12.4 x 11 x 24 tires - 6 tarps ( <b>30 PSI</b> ): .....	Optional
Iron wheel: .....	Optional
Total weight:	
11L - 15 tires: .....	1,100 kg
12.4 x 11 x 24 tires: .....	1,320 kg
Iron wheel: .....	1,217 kg
Tractor required (cv): .....	95 - 120

# Data sheet

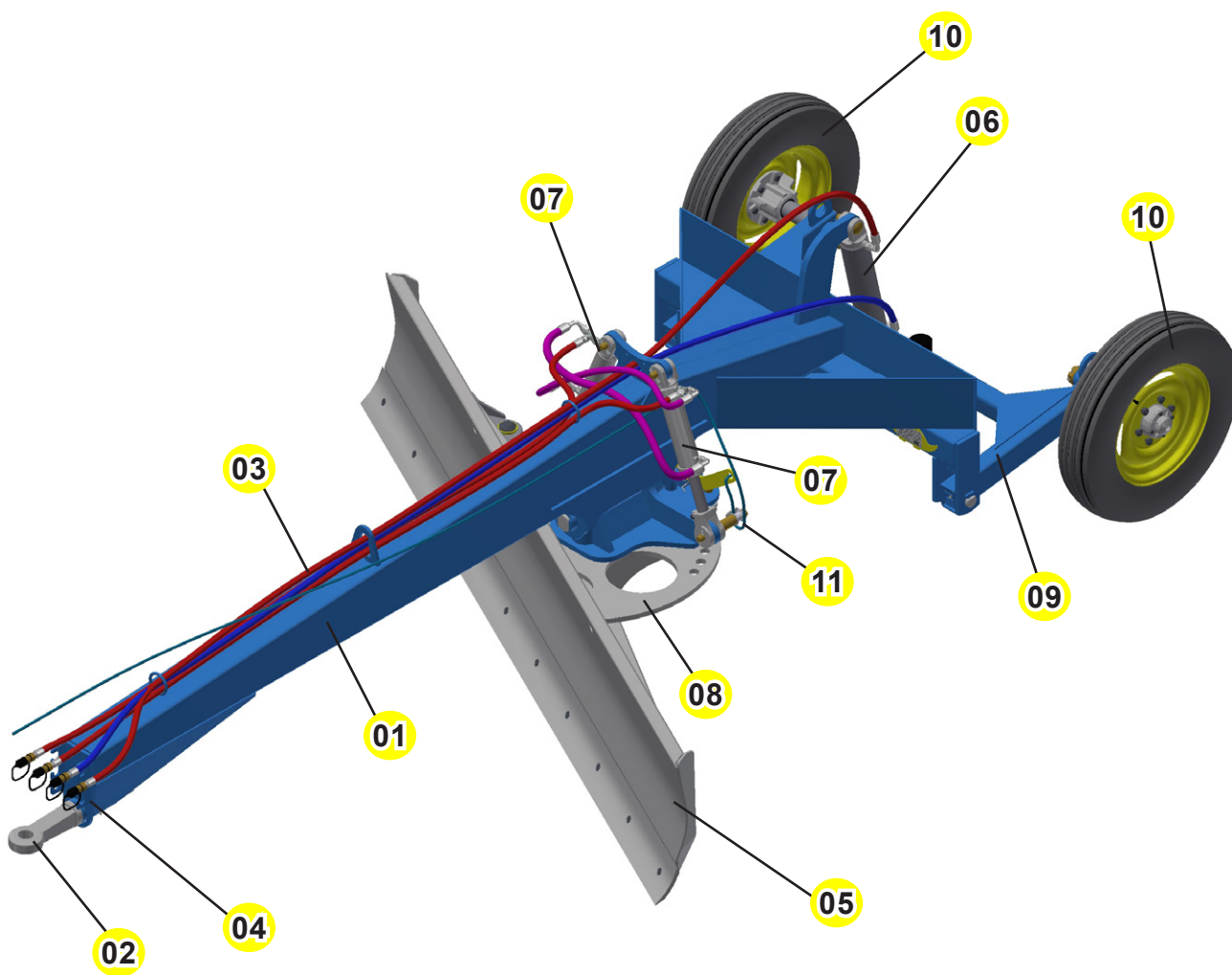
## LTA 5000 S

Model: .....	LTA 5000 S
Blade width:.....	4,500 mm
Total length:.....	7,030 mm
Tire outer width:.....	3,350 mm
Minimum transportation width: .....	4,000 mm
Raised blade height: .....	750 mm
Blade horizontal turn: .....	47°
Blade vertical turn:.....	21°
Working speed: .....	5 Km/h
Tires: .....	14.9 x 28 - 8 tarps <b>(26 PSI)</b>
Weight without ballast: .....	2,600 kg
Tractor required (cv): .....	120 - 200

# Components

## LTA 3000 and LTA 5000 (mechanical)

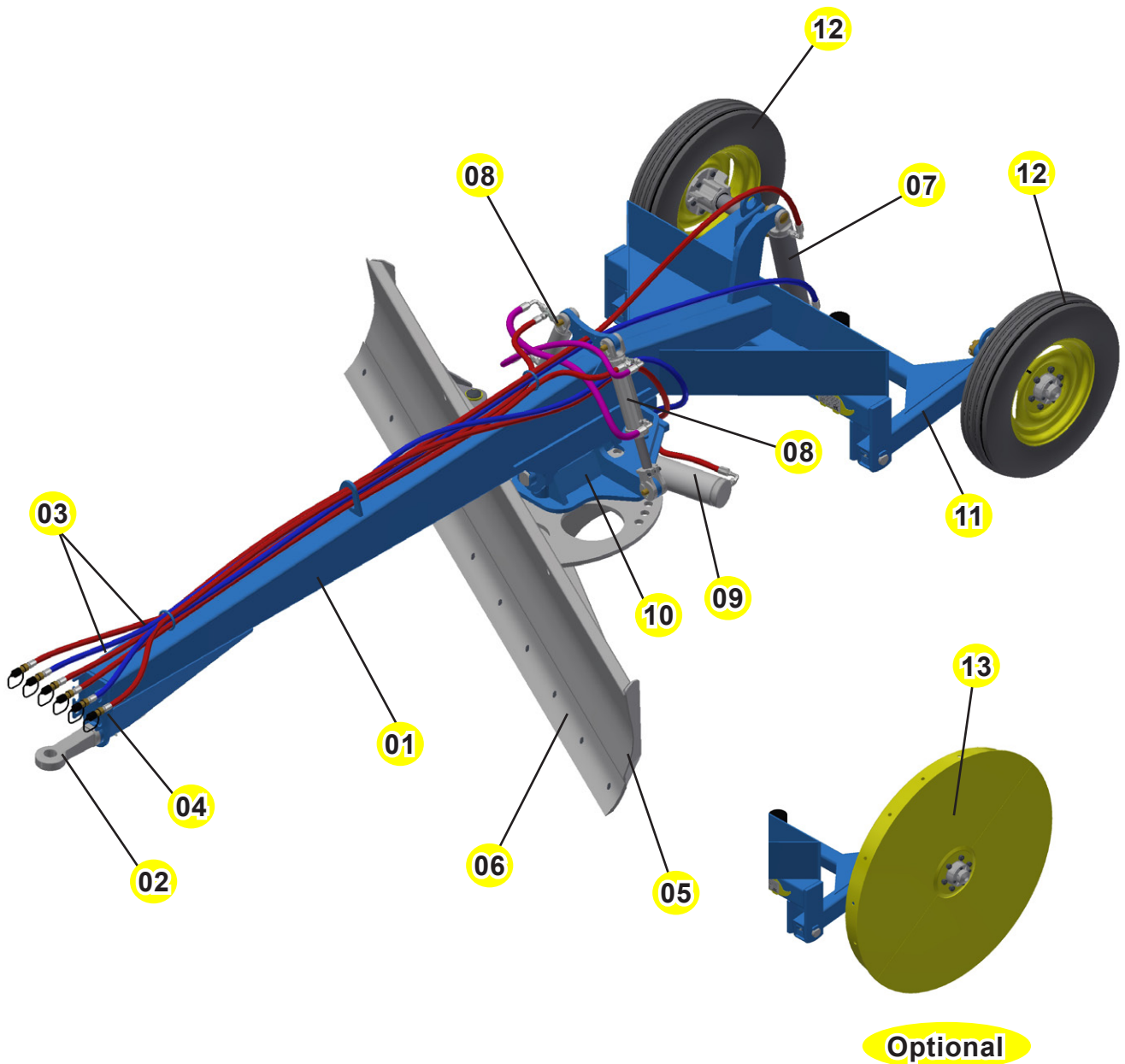
- 01 - Frame
- 02 - Hitch
- 03 - Hoses
- 04 - Hose support
- 05 - Blade
- 06 - Lifting hydraulic cylinder
- 07 - Blade articulation hydraulic cylinder
- 08 - Blade mounting support
- 09 - Wheelset
- 10 - Tires
- 11 - 3/8" rope



# Components

## LTA 3000 and LTA 5000 (hydraulic)

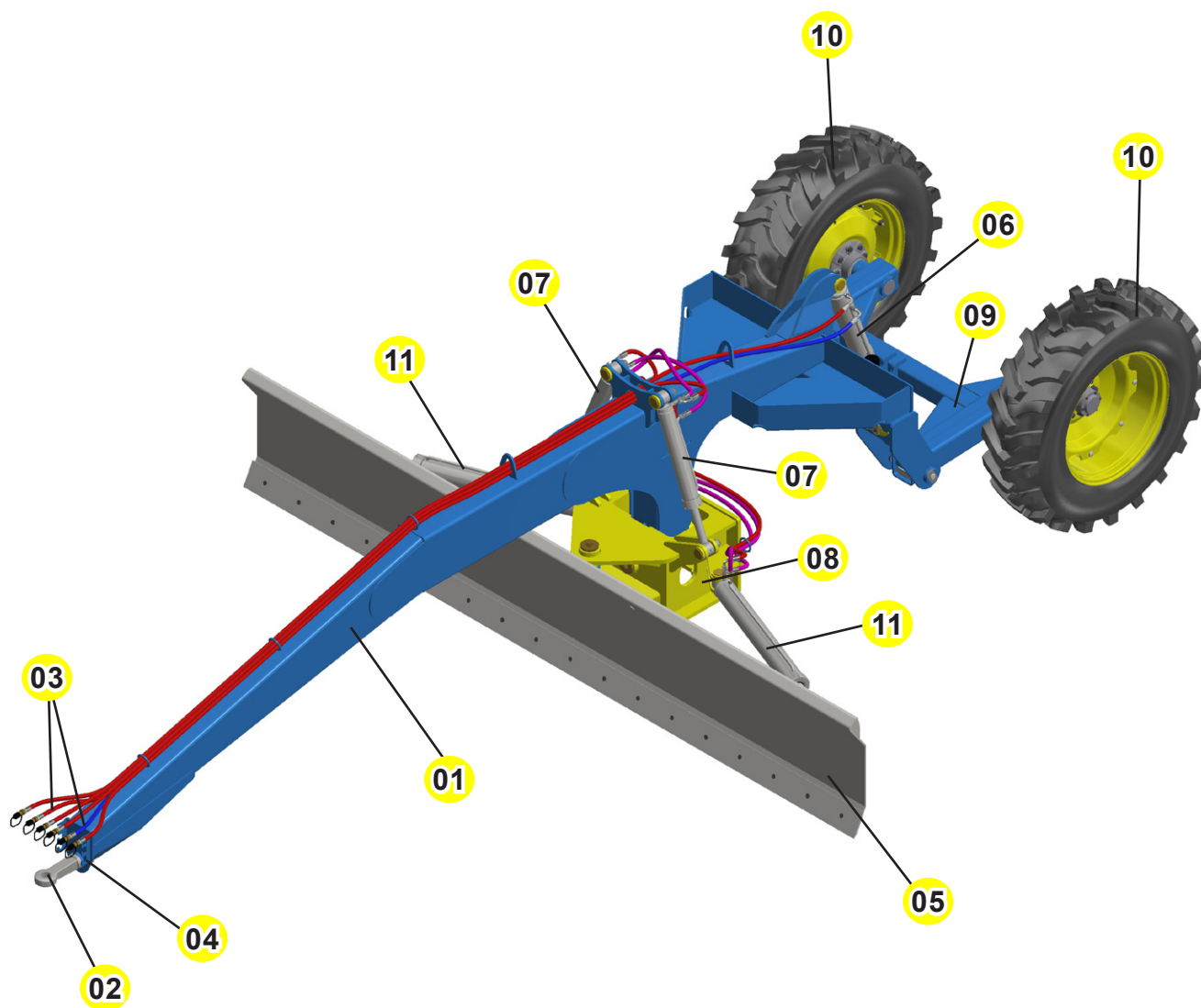
- 01 - Frame
- 02 - Hitch
- 03 - Hoses
- 04 - Hose support
- 05 - Blade
- 06 - Reversible scraper
- 07 - Lifting hydraulic cylinder
- 08 - Blade articulation hydraulic cylinder
- 09 - Hydraulic cylinder adjustment
- 10 - Blade mounting support
- 11 - Wheelset
- 12 - Tires
- 13 - Iron wheel (Optional)



# Components

## LTA 5000 S

- 01 - Frame
- 02 - Hitch
- 03 - Hoses
- 04 - Hose support
- 05 - Blade
- 06 - Lifting hydraulic cylinder
- 07 - Blade articulation hydraulic cylinder
- 08 - Blade mounting support
- 09 - Wheelset
- 10 - Tires
- 11 - Blade hydraulic cylinder adjustment





# Assembly

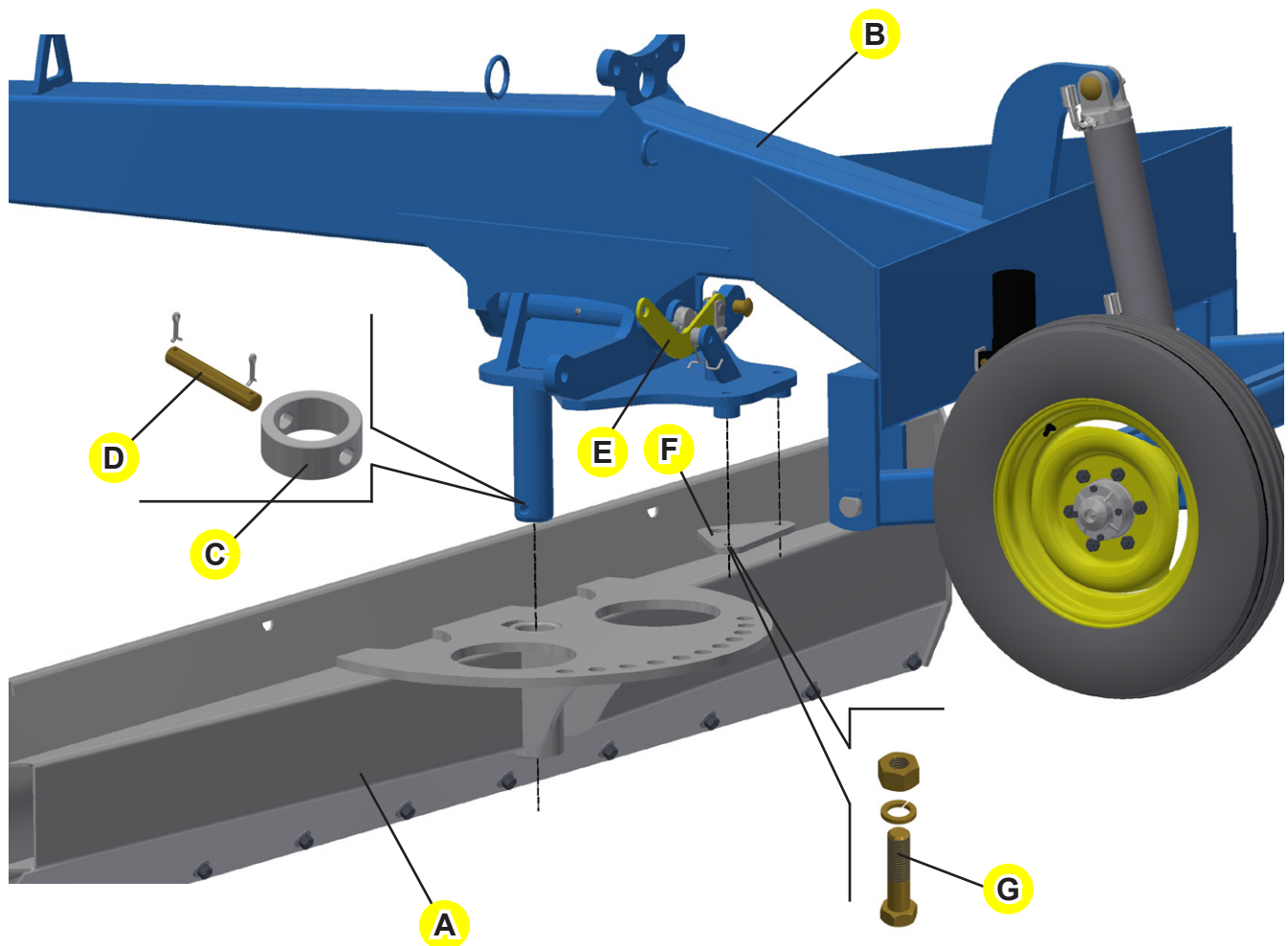
In the first place, spread all the parts in a clean area to identify them easily. Check the quantity of parts with the packing list which is found inside the packing box.

## Blade assembly - LTA 3000 and LTA 5000 (mechanical)

Move the blade (A) to a flat plan and well supported so it is in the proper assembling position.

Using a hoist, mount the frame (B), attaching it with a sleeve (C), pin (D) and cotter pins.

After finishing such operation, position the lever lock shaft (E) on the blade and fix the bottom base (F), attaching it with bolts (G), spring washers and nuts.



**Make sure the blade is well supported in order to prevent accidents.**

# Assembly

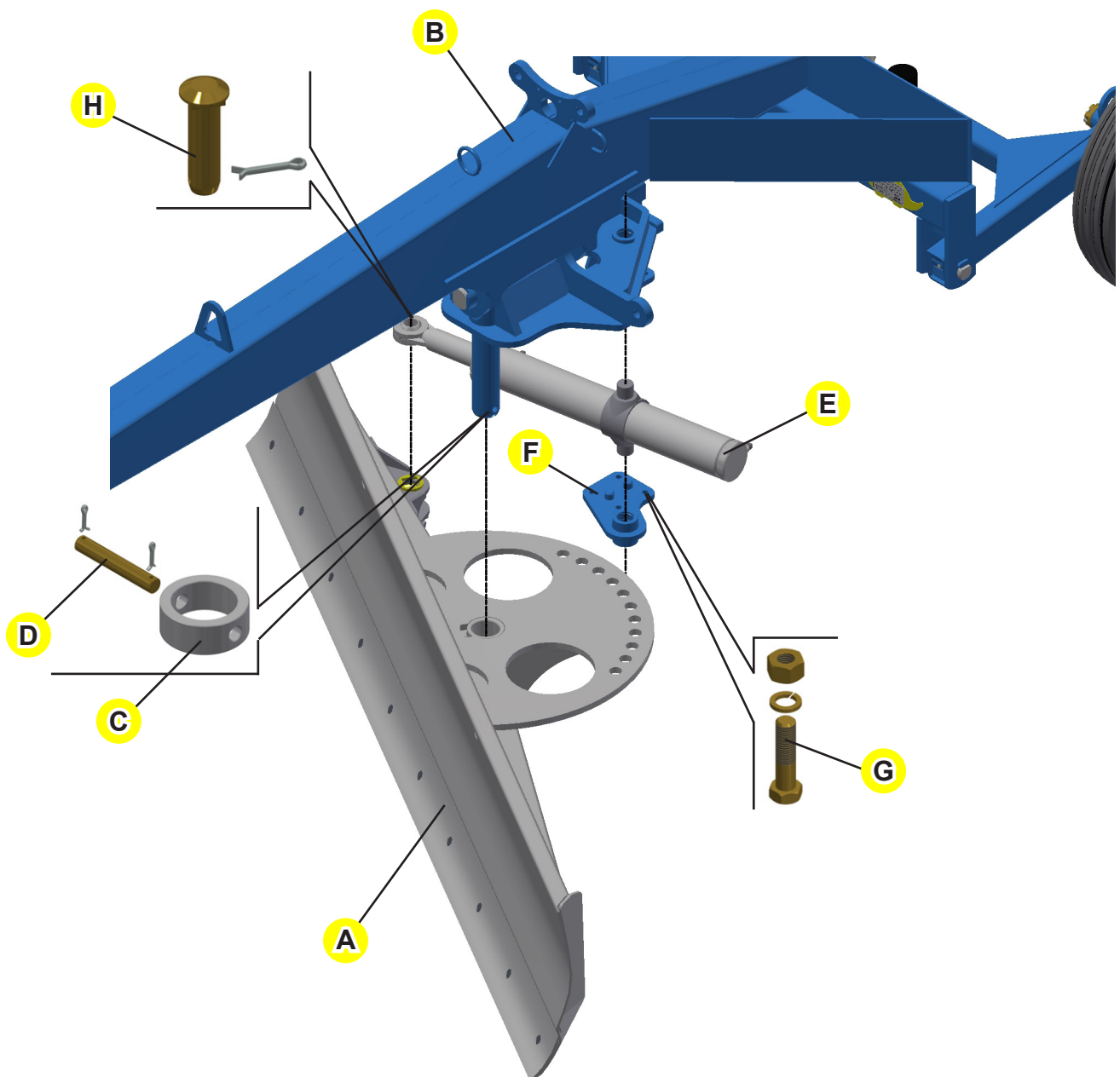
## Blade assembly - LTA 3000 and LTA 5000 (hydraulic)

Assemble the blade (A) over a flat plan and well supported so it is in the proper assembling position.

Use a hoist to fasten the frame (B) and lock using a sleeve (C), pin (D) and cotter pins.

After this operation, position the cylinder (E) between the frame and cylinder fastener (F), locking with bolts (G), spring washers and nuts.

Lock the other end of the cylinder (E) to the blade using an axle (H) and cotter pin.



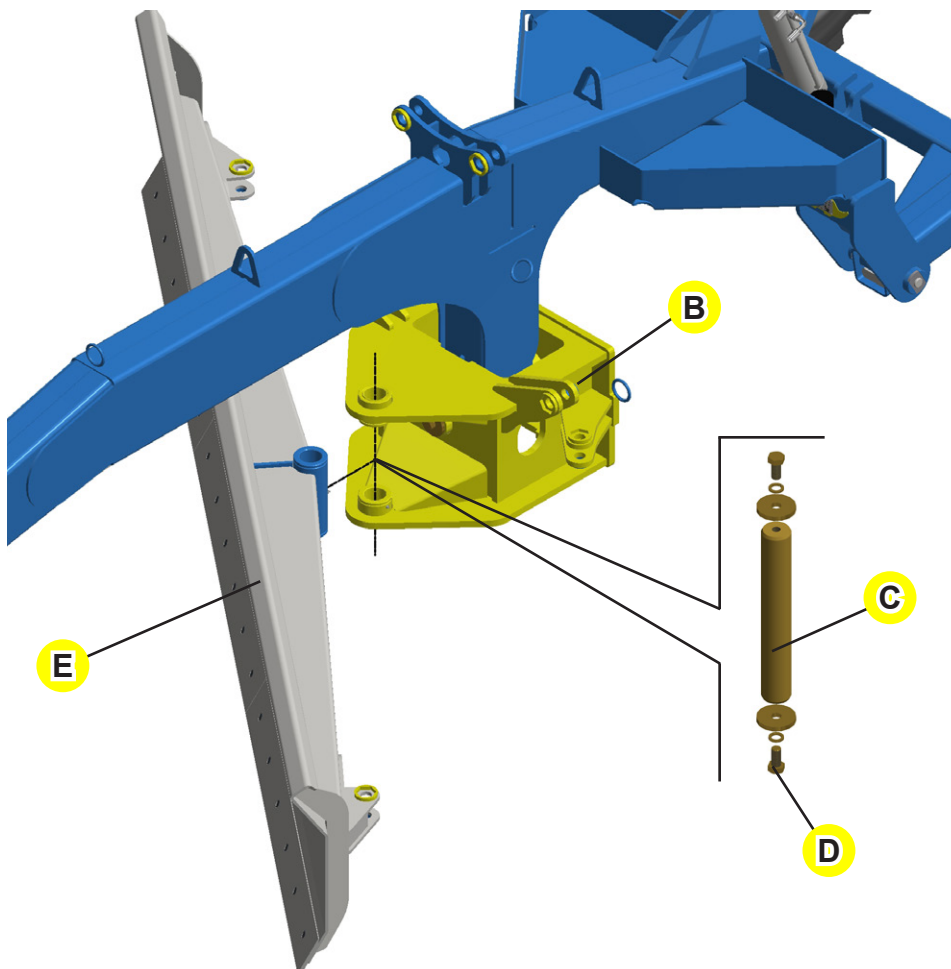
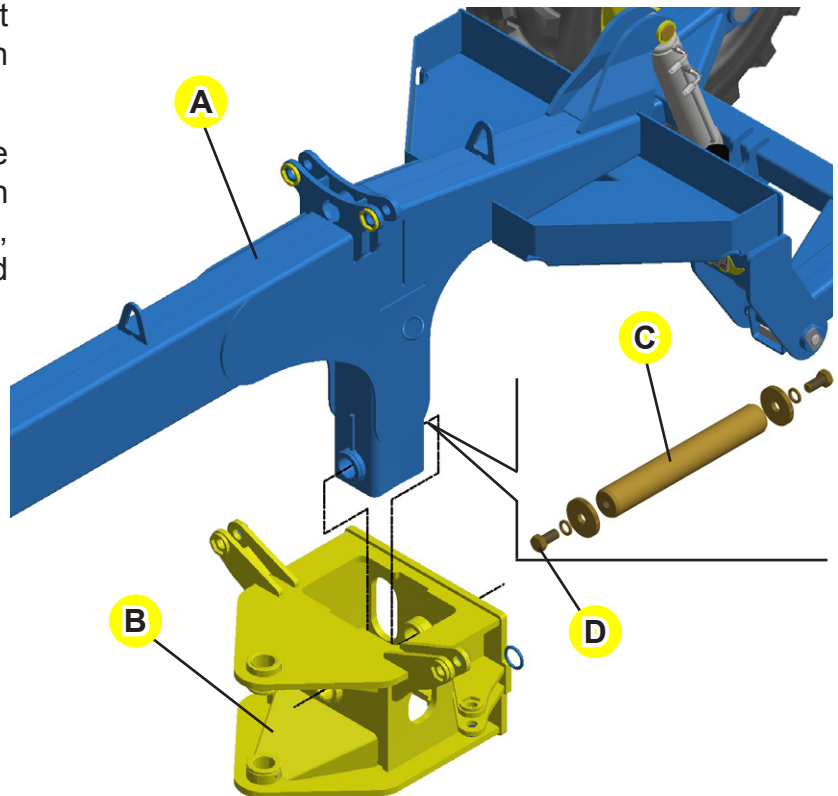
# Assembly

## Blade assembly - LTA 5000 S

Place the blade over a flat plan and well supported so it is in the proper assembling position.

Use a hoist to fasten the frame (A) to the blade fixation support (B) using a joint shaft (C), flat washers, spring washers and bolts (D).

After this operation, position the blade (E) and lock it to the fixation support (B) using joint shaft (C), flat washers, spring washers and bolts (D).



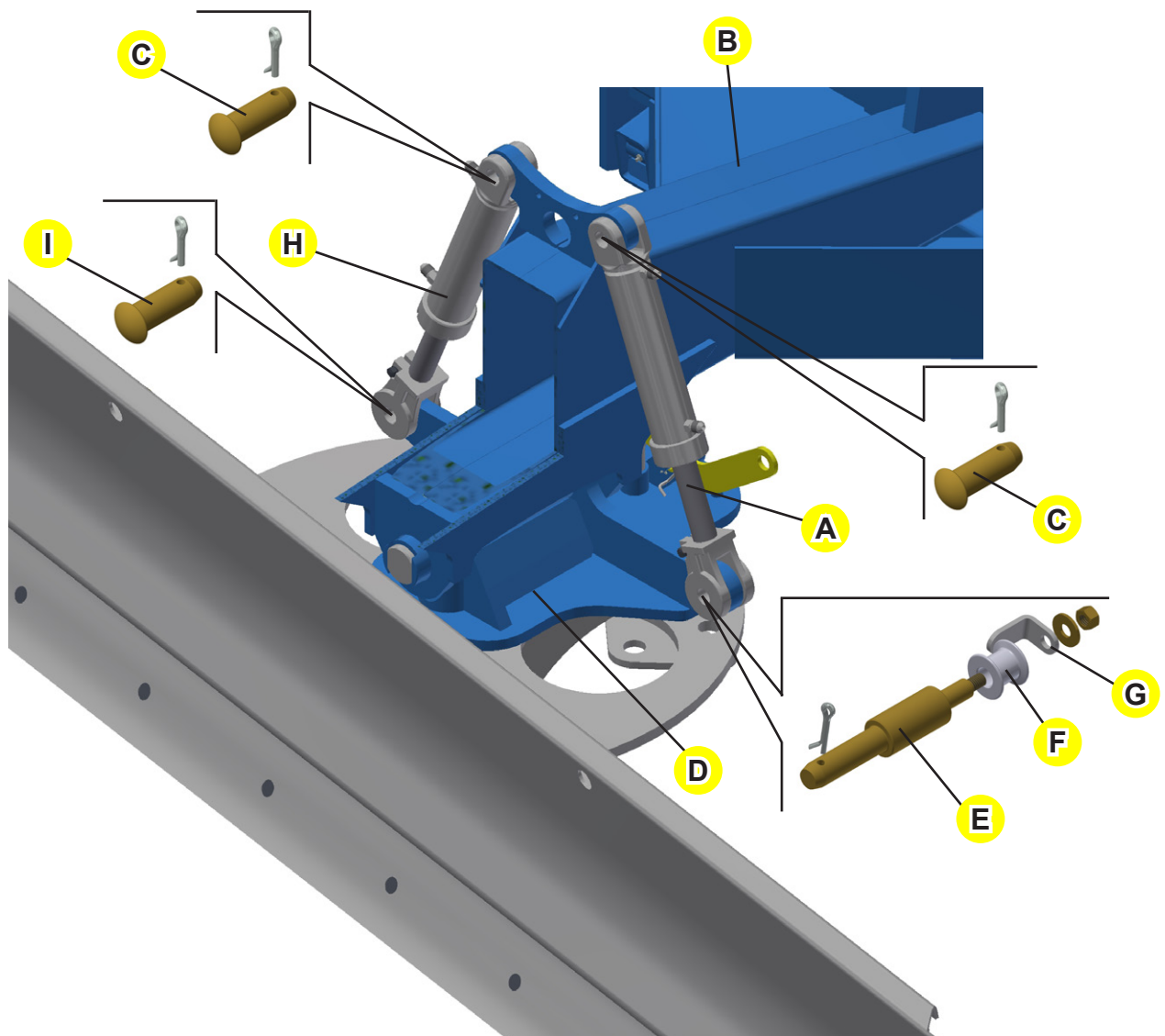
# Assembly

## Articulation cylinder assembly for LTA 3000 and LTA 5000 models

Assemble the hydraulic cylinders to articulate the blade, being the rods facing down, as indicated:

Assemble the cylinders (A) to the frame fixation support (B), using joint shafts (C) and cotter pins. Assemble the other end of the cylinders (A) to the blade fixation support (D) using joint shafts (E), pulley (F), guide (G), spring washer and nut.

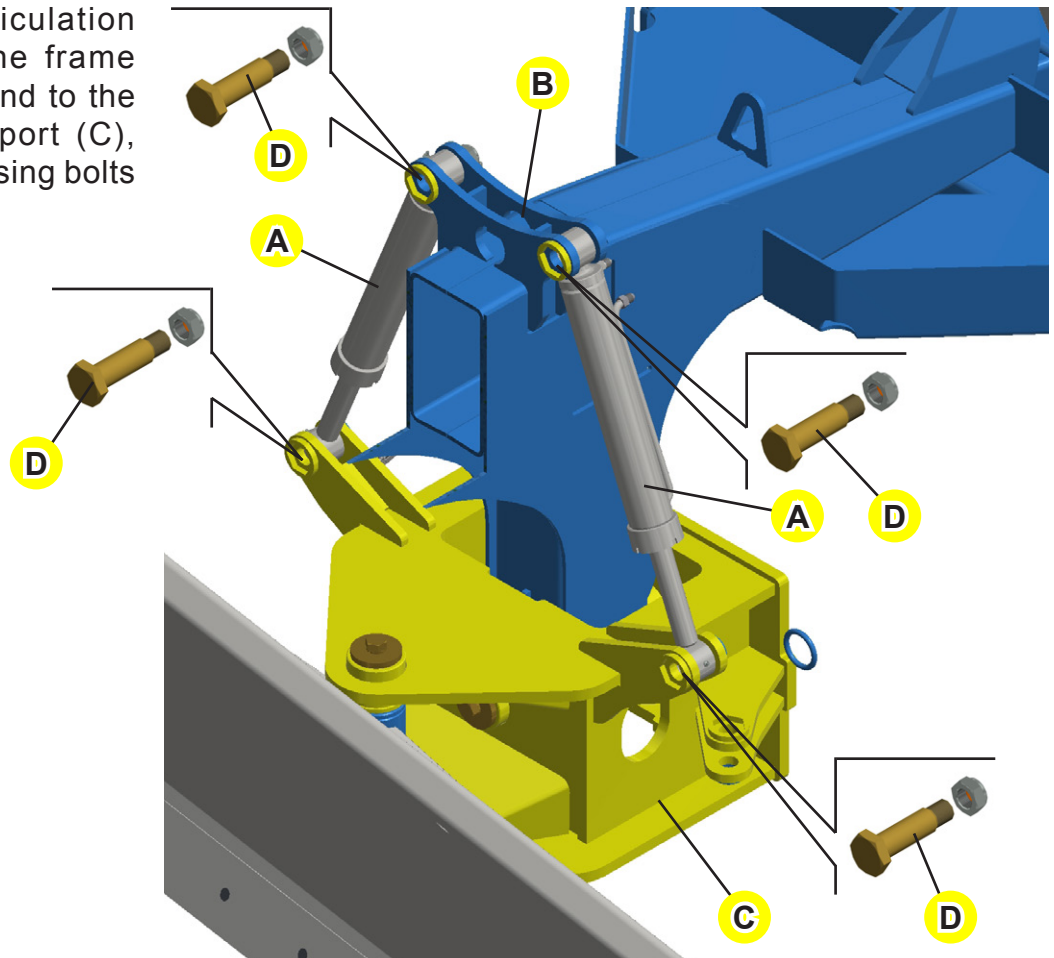
Repeat the same operation for the cylinder (H) using joint shaft (I) and cotter pin.



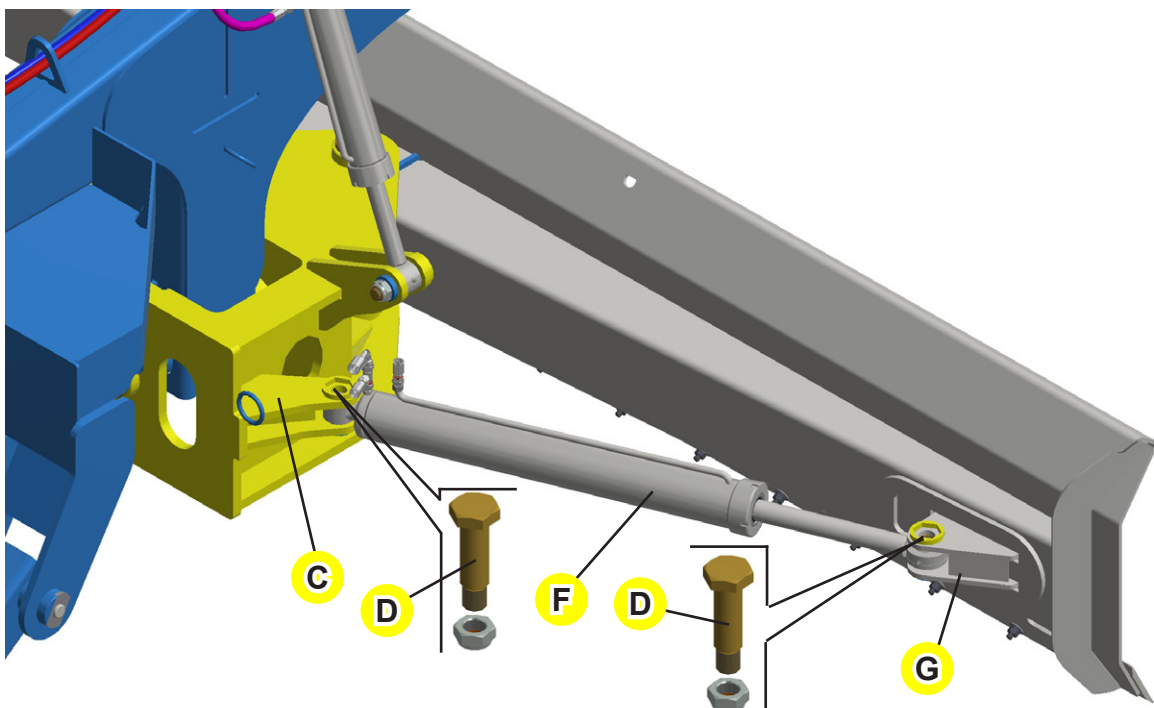
# Assembly

## Hydraulic cylinder assembly for the LTA 5000 S model

Place the articulation cylinders (A) to the frame (B) and the other end to the blade fixation support (C), locking both ends using bolts (D) and nuts.



Place the adjusting cylinders (F) to the blade (G) and the other end on the blade fixation support (C), locking both ends using bolts (D) and nuts.





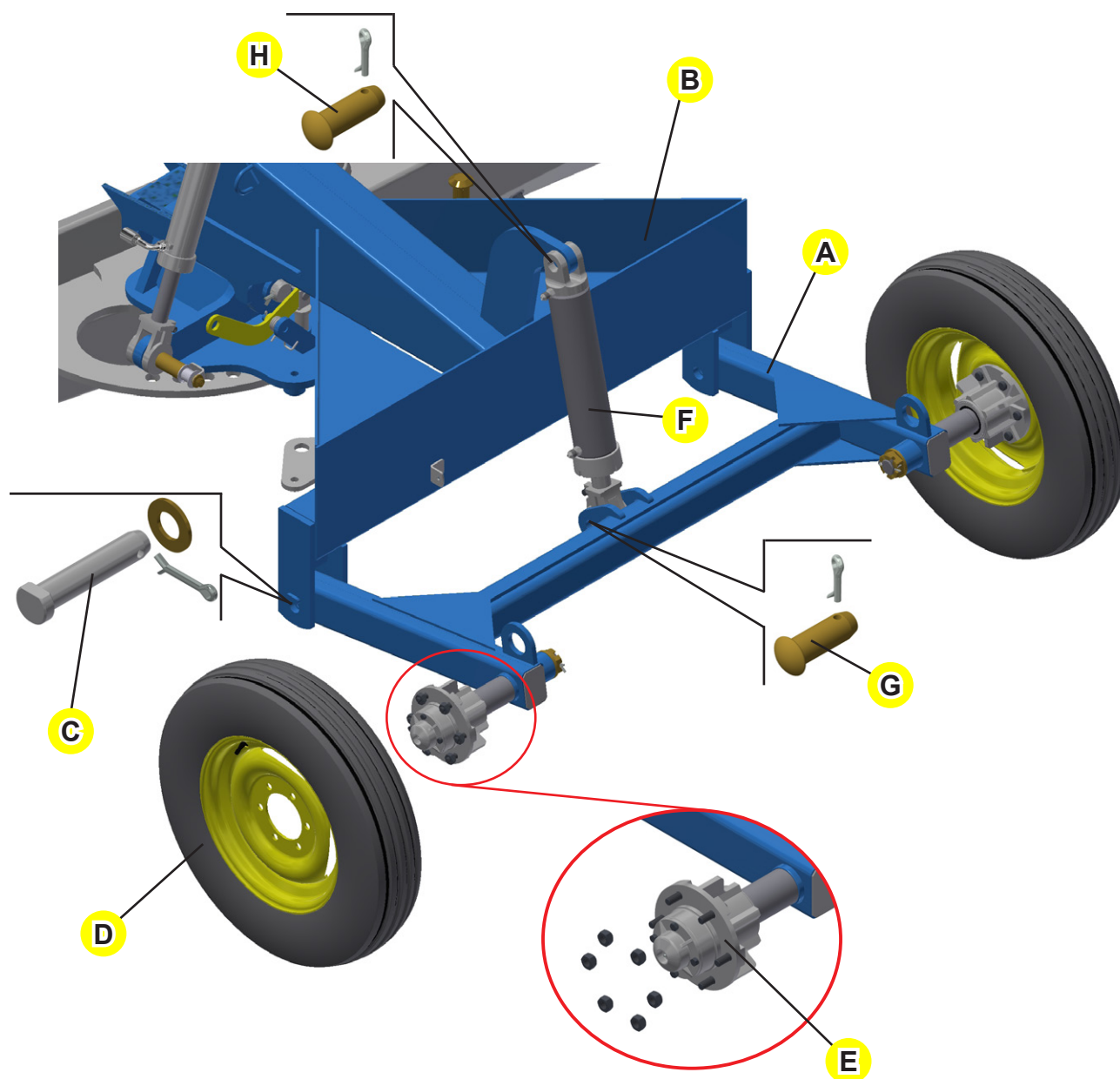
# Assembly

## Wheelset assembly

Assemble the wheelset (A) to the frame (B) using joint shafts (C), flat washers and cotter pins.

Assemble the tires (D) to the hubs (E) using the nuts that can be found on them.

After this step, mount the cylinder (F) to the wheelset (A) using joint shaft (G) and cotter pin. Lock the cylinder on the frame (B) using joint shaft (H) and cotter pin.

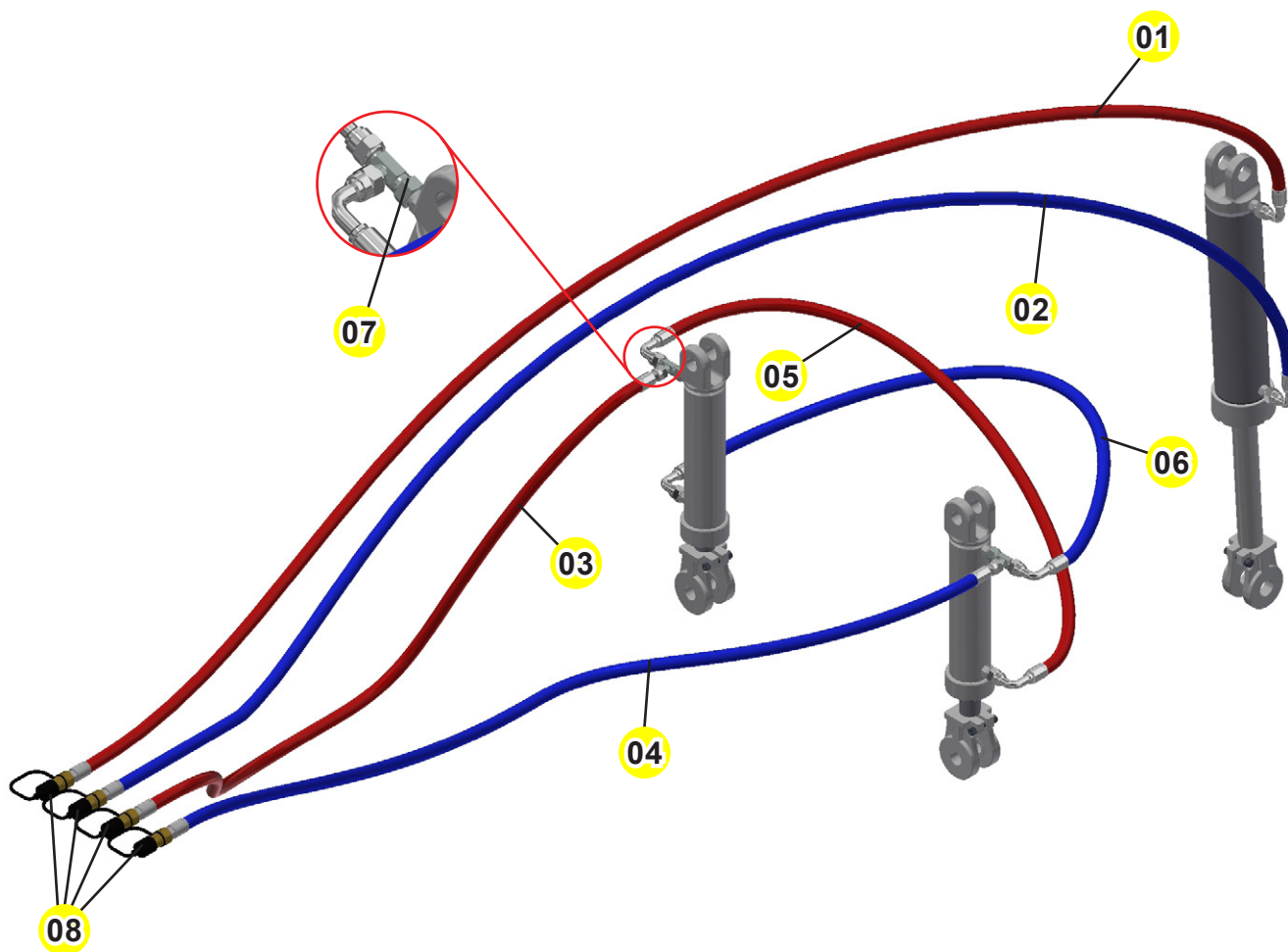


# Assembly

## Hydraulic circuit - LTA 3000 and LTA 5000 (Mechanical)

Assemble the hoses to their respective hydraulic cylinders, with enough tightening and avoiding that the ports touch the soil.

**IMPORTANT** The hoses on the hydraulic cylinder of the blades are assembled in a reverse way, as both cylinders activate at the same time.



Item	LTA 3000	Qty.	Item	LTA 5000	Qty.
01	3/8 X 5300 TC-TM hose	01 Pressure	01	3/8 X 6000 TC-TM hose	01 Pressure
02	3/8 X 5000 TC-TM hose	01 Return	02	3/8 X 5700 TC-TM hose	01 Return
03	3/8 X 4200 TR - TM hose	01 Pressure	03	3/8 X 4500 TR - TM hose	01 Pressure
04	3/8 X 4200 TR -TM hose	01 Return	04	3/8 X 4500 TR -TM hose	01 Return
05	3/8 X 900 TC -TC hose	01 Pressure	05	3/8 X 900 TC -TC hose	01 Pressure
06	3/8 X 900 TC-TC hose	01 Return	06	3/8 X 900 TC-TC hose	01 Return
07	"T" adapter with nut	02	07	"T" adapter with nut	02
08	Male quick coupler 1/2 NPT	04	08	Male quick coupler 1/2 NPT	04

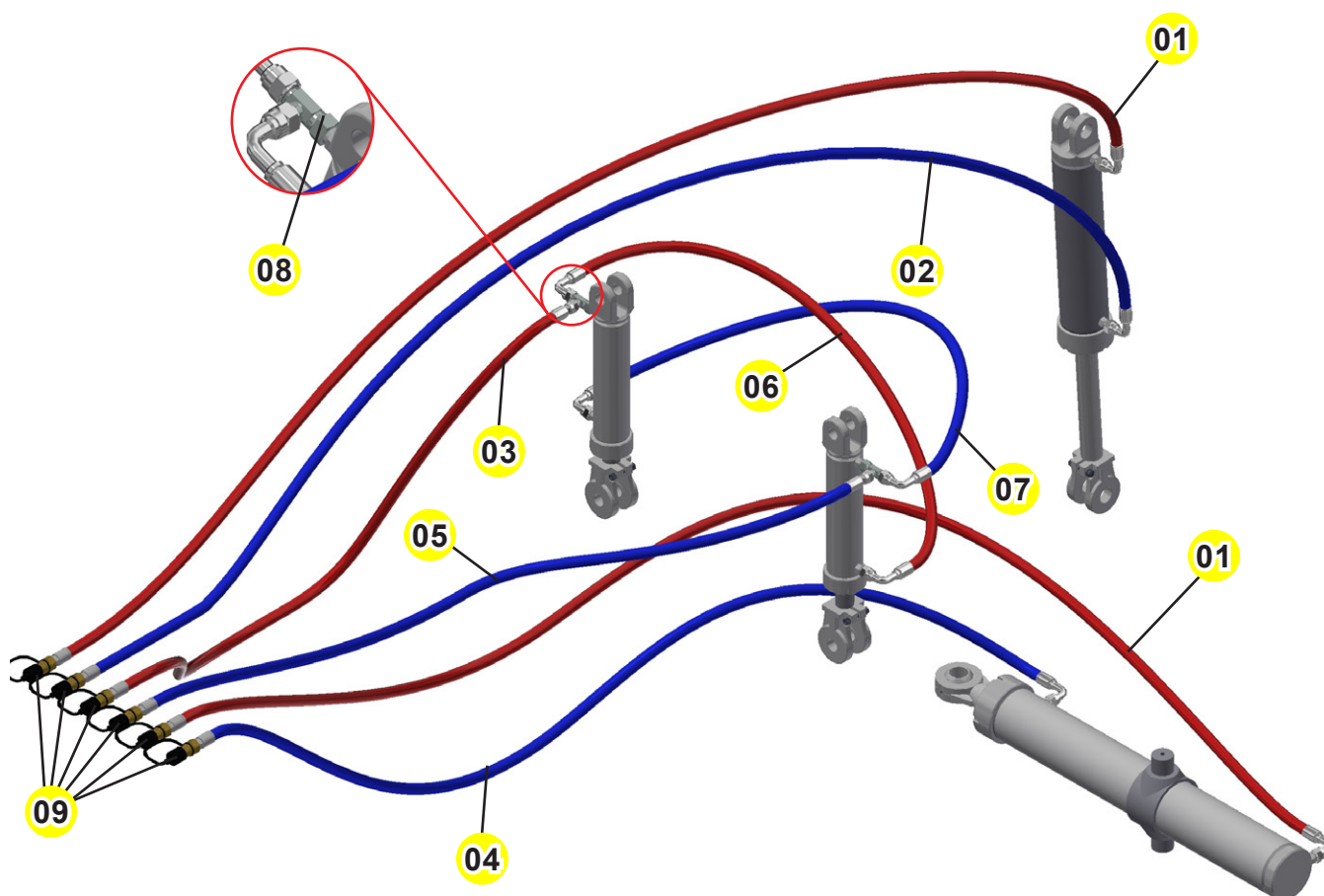
# Assembly

## Hydraulic circuit - LTA 3000 and LTA 5000 (Hydraulic)

Assemble the hoses to their respective hydraulic cylinders, with enough tightening and avoiding that the ports touch the soil.

### IMPORTANT

The hoses on the hydraulic cylinder of the blades are assembled in a reverse way, as both cylinders activate at the same time.



Item	LTA 3000	Qty.	Item	LTA 5000	Qty.
01	3/8 X 5300 TC-TM hose	02 Pressure	01	3/8 X 6000 TC-TM hose	02 Pressure
02	3/8 X 5000 TC-TM hose	01 Return	02	3/8 X 5700 TC-TM hose	01 Return
03	3/8 X 4200 TR - TM hose	01 Pressure	03	3/8 X 4500 TR - TM hose	01 Pressure
04	3/8 X 5300 TC -TM hose	01 Return	04	3/8 X 6000 TC -TM hose	01 Return
05	3/8 X 4200 TR -TM hose	01 Pressure	05	3/8 X 4500 TR -TM hose	01 Pressure
06	3/8 X 900 TC-TC hose	01 Return	06	3/8 X 900 TC-TC hose	01 Return
07	3/8 X 900 TC-TC hose	01 Pressure	07	3/8 X 900 TC-TC hose	01 Pressure
08	"T" adaptor with nut	02	08	"T" adaptor with nut	02
09	Male quick coupler 1/2 NPT	06	09	Male quick coupler 1/2 NPT	06



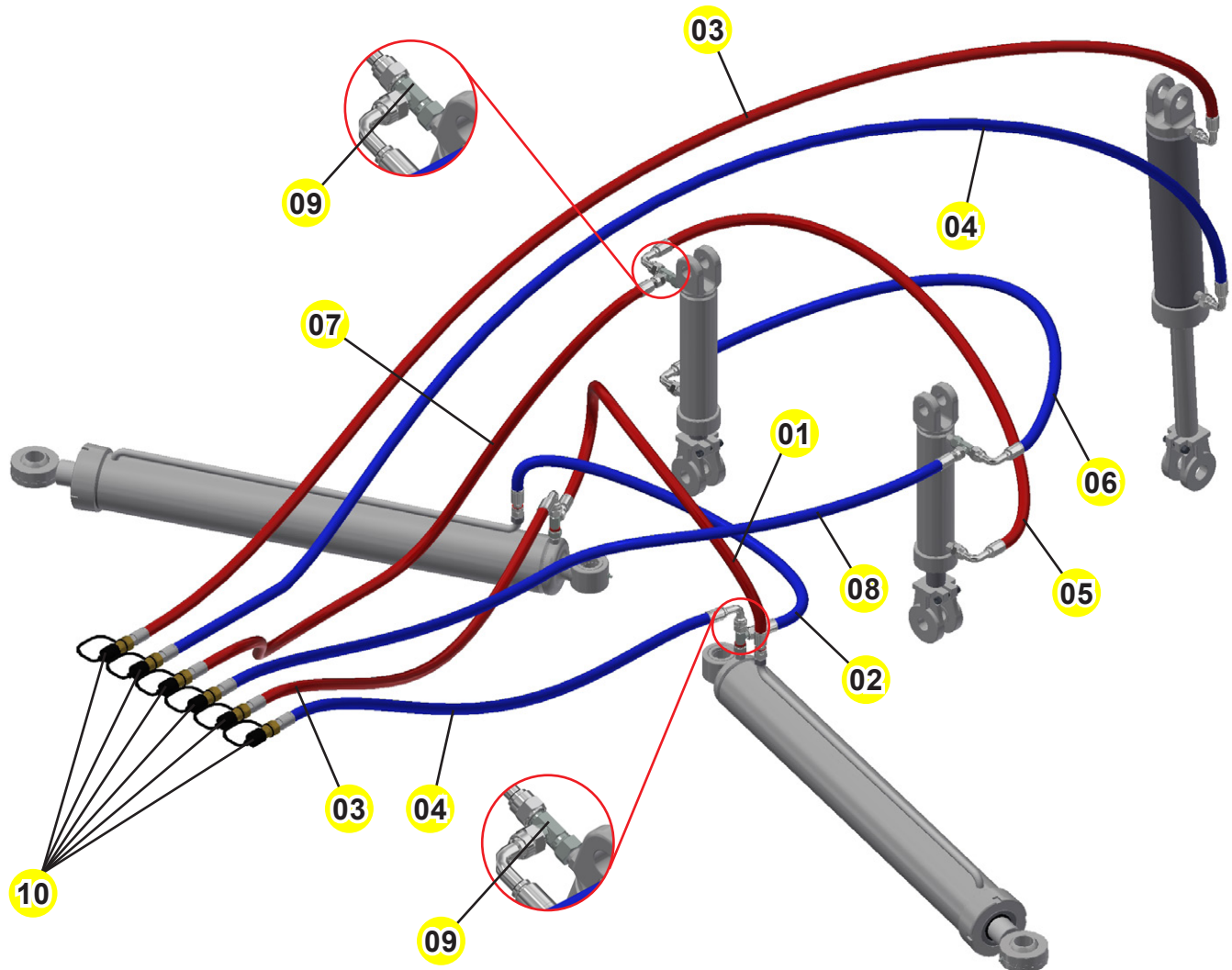
# Assembly

## Hydraulic circuit - LTA 5000 S

Assemble the hoses to their respective hydraulic cylinders, with enough tightening and avoiding that the ports touch the soil.

### IMPORTANT

The hoses on the hydraulic cylinder of the blades are assembled in a reverse way, as both cylinders activate at the same time.



Item	LTA 5000 S	Qty.
01	3/8 X 1700 TR - TR hose	01 Pressure
02	3/8 X 1700 TR - TR hose	01 Return
03	3/8 X 7000 TC - TM hose	02 Pressure
04	3/8 X 7000 TC - TM hose	02 Return
05	3/8 X 700 TR - TR hose	01 Pressure
06	3/8 X 700 TR - TR hose	01 Return
07	3/8 X 6000 TC - TM hose	01 Pressure
08	3/8 X 6000 TC - TM hose	01 Return
09	"T" adapter with nut	04
10	Male quick coupler 1/2 NPT	06

# Set-up instructions

The following guidelines should be carefully observed to achieve the best performance at work.

## Tractor preparation

The addition of water ballasts to the tires and counterweights to the front and rear wheels of the tractor are the most common methods used to increase traction on the ground and provide more stability to the tractor.

## Blade preparation

Check the condition of all parts, retightening nuts and bolts that, if working loose, damage the machine components.

Check the tires calibration and keep the same pressure on both.

For LTA 5000 with 12.4 x 11 x 24 tires, water ballasts can be added (up to 110 liters).

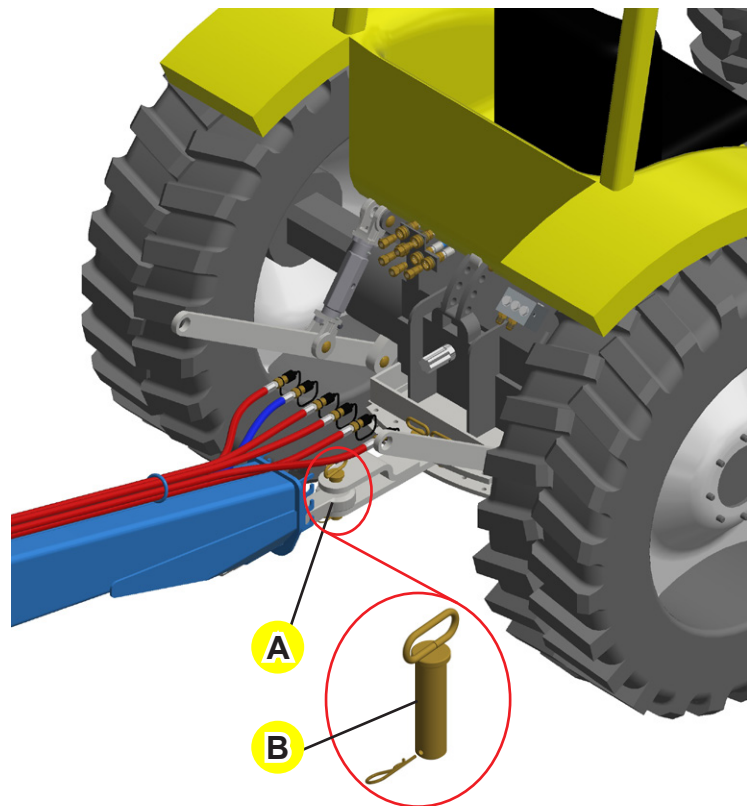
Lubricate all grease fittings appropriately. (See lubrication instructions on pages 37 and 38).

## Hitching to the tractor

Move the tractor closer and attach the hoses to the quick couplers. In order to do so, switch the engine off, relieve drive pressure activating the lever a few times, and make sure the hitching points are clean.

Activate the drive to lift the equipment so that the hitching tip (A) is at the height of the tractor drawbar.

Place the tractor hitching pin (B) with the latch.



### ATTENTION

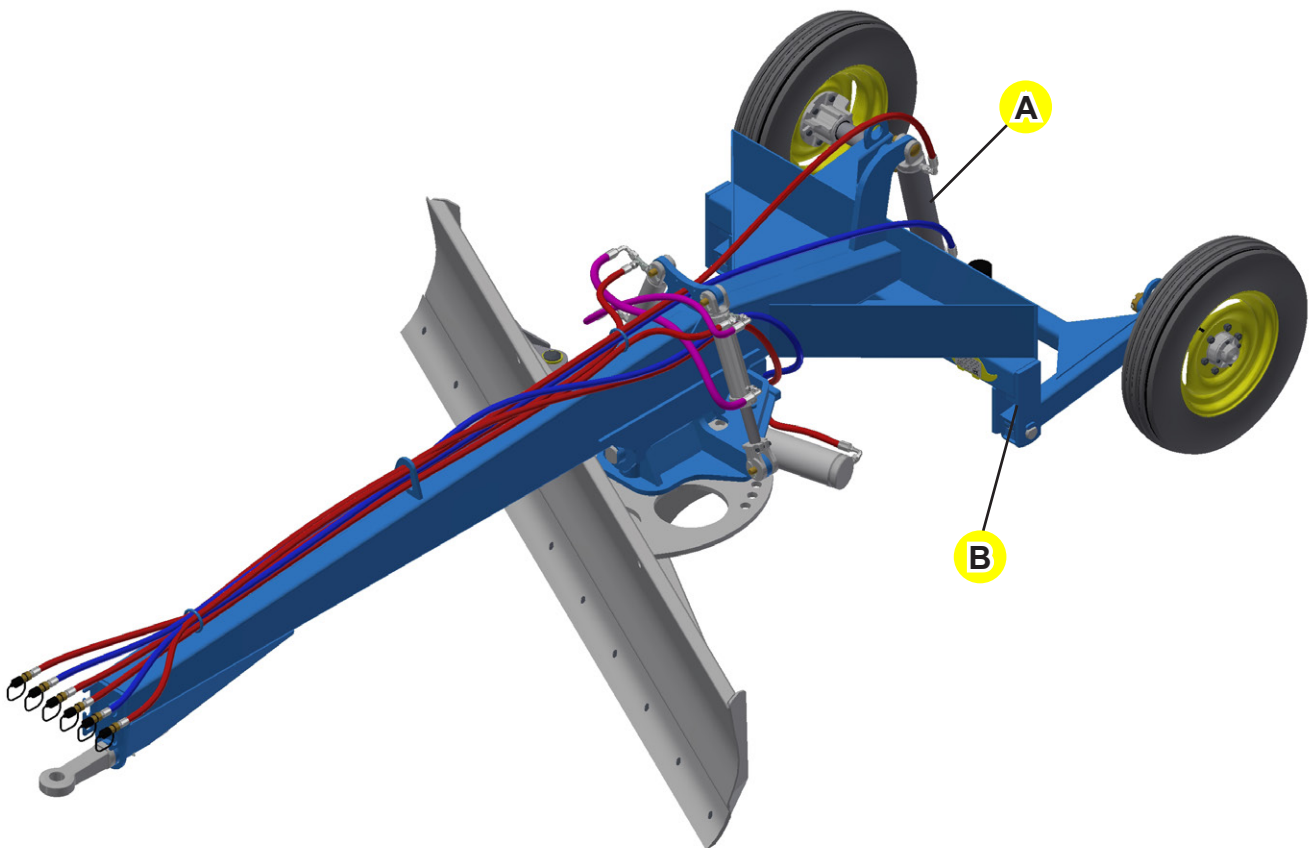
- The tractor must not be equipped with dual wheelsets.
- Always keep the tractor drawbar in a fixed position.
- Never remove the hoses before lowering the blade and relieving drive pressure.

# Set-up instructions

## Procedures for transportation

In order to transport the blade, it is required to:

- Totally activate the rear hydraulic cylinder (A) to lower the wheelset arm (B), thereby raising the blade.
- Rotate the blade attaching it at one of the horizontal adjustment holes, to make the way through narrow places easier.



### ATTENTION

Always observe the minimum width for transporting on the "data sheet" pages.

# Adjustments and operations

## Blade horizontal angle adjustment for LTA 3000 and LTA 5000

The rear scraper was designed to work on firm soils, without rocks or loose earth.

For hard soils, it is recommended to scarify the terrain before using the blade.

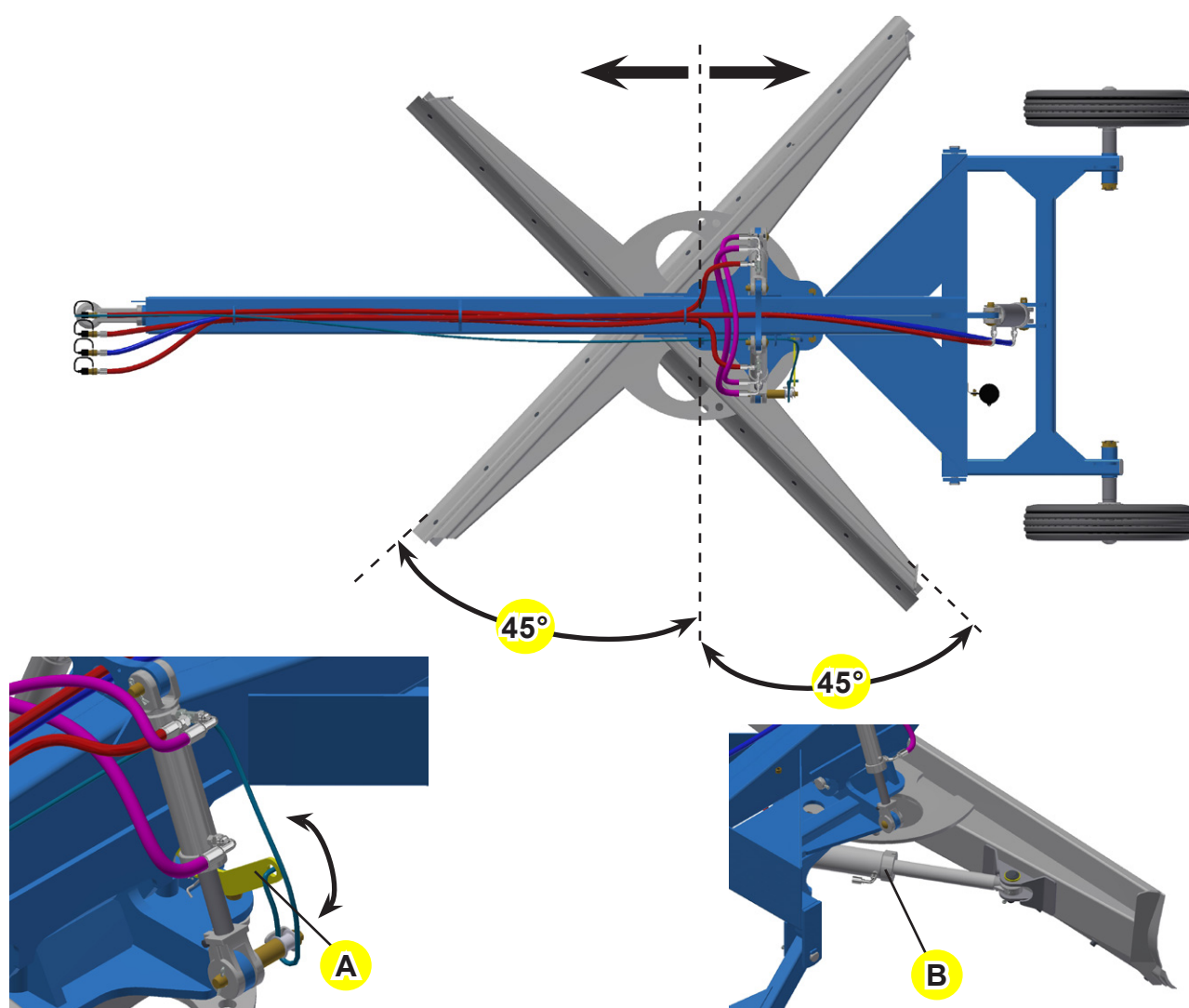
It is possible to work in roads with fine gravel, since a low speed is used (2 to 3 km/h) and with precaution.

Avoid using the LTA on rocky and compacted roads, as it will increase the wear on the blades and decrease the lifetime of the equipment.

The blade can be adjusted horizontally to an angle of 45°.

To make such adjustment, follow these steps:

- For a mechanical equipment, pull the lever (A) to unlock the blade;
- Move the blade to the desired position, and release the lever to lock again;
- For a hydraulic equipment, make the adjustment through the hydraulic cylinder (B) activating the hydraulic system of the tractor.

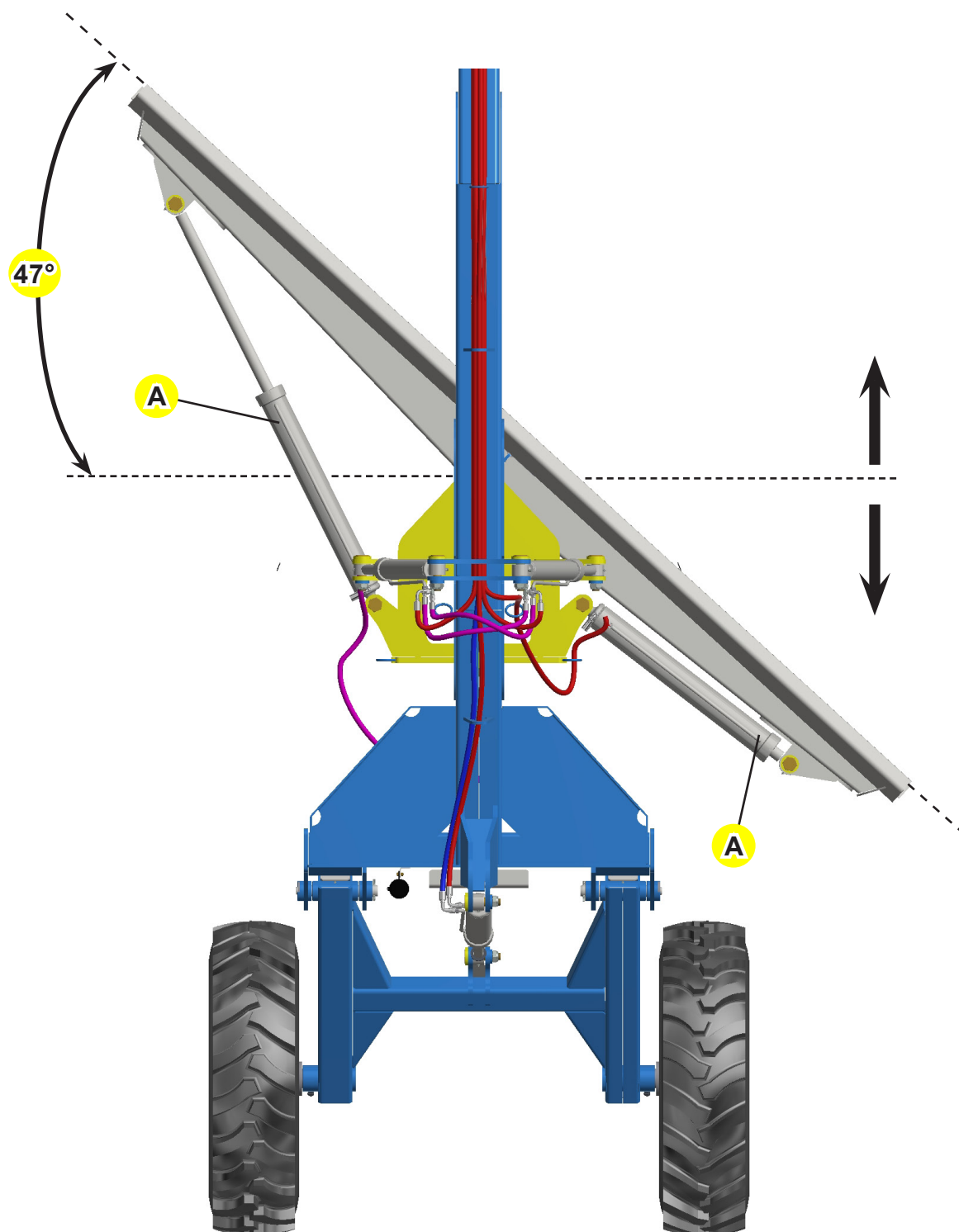


# Adjustments and operations

## Blade horizontal angle adjustment for LTA 5000 S

The blade can be adjusted horizontally at an angle of up to 47°.

Make the adjustment through the two hydraulic cylinders (A), driven by the hydraulic control of the tractor.

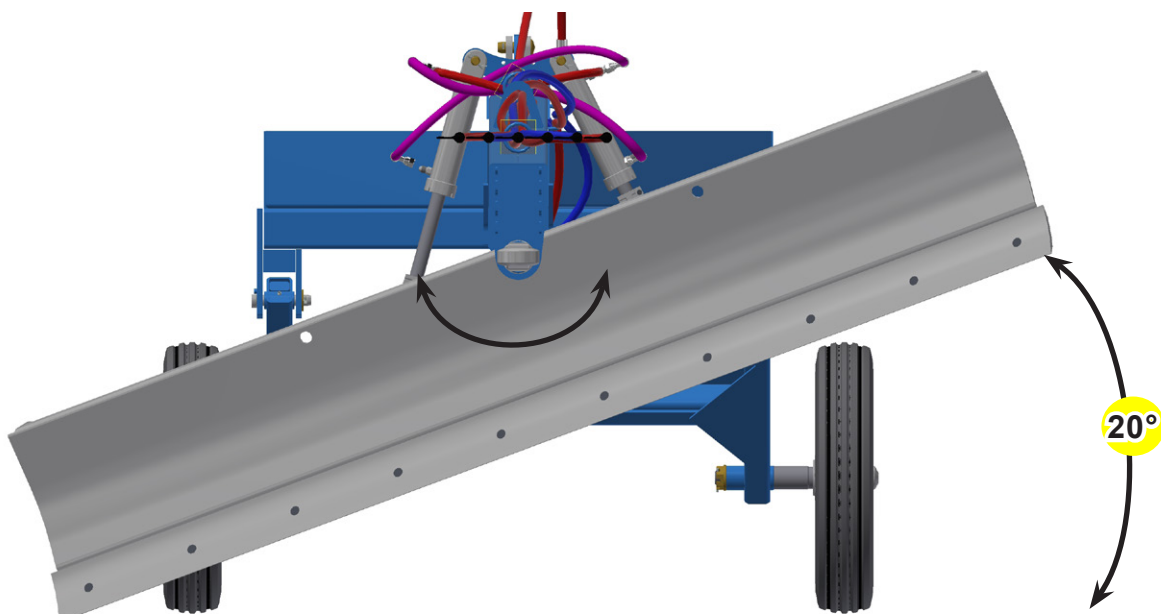




# Adjustments and operations

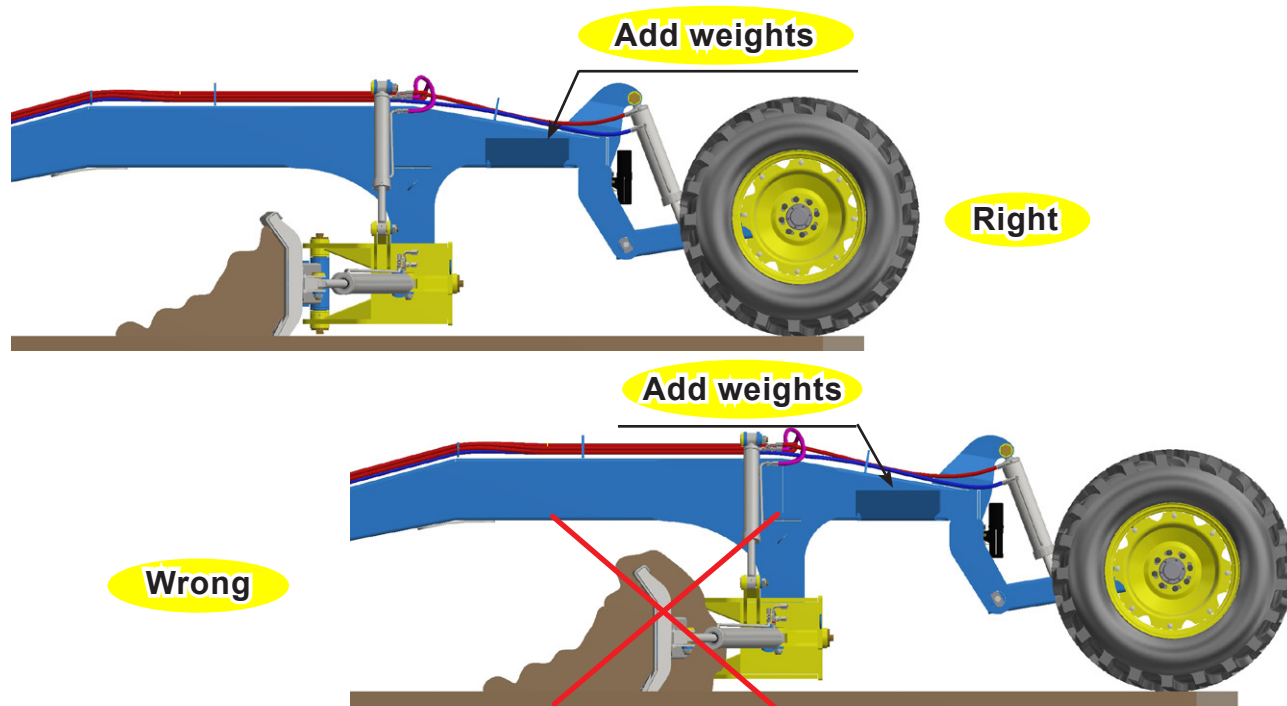
## Blade vertical angle adjustment

The vertical angle can be set using the two double-acting hydraulic cylinders, which actuated by the tractor hydraulic drive, can be set to an angle of 20°, either to the left or right side.



## Cutting depth adjustment

The cutting capability of the blade depends on the tractor power, therefore the amount of earth must not overflow the blade while it is moving on.



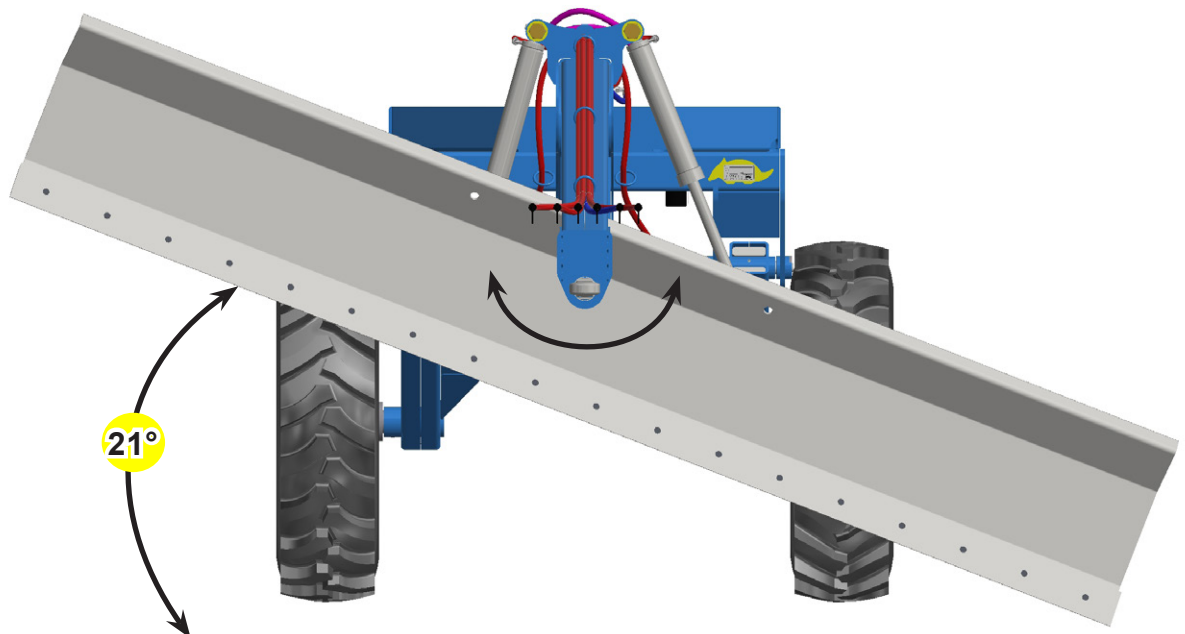
### IMPORTANT

LTA 3000 and LTA 5000 structures are provided with two boxes so weights can be added to it in order to prevent skidding.  
For LTA 3000, weight limit is 450 kg.  
For LTA 5000, weight limit is 850 kg.

# Adjustments and operations

## Blade vertical angle adjustment - LTA 5000 S

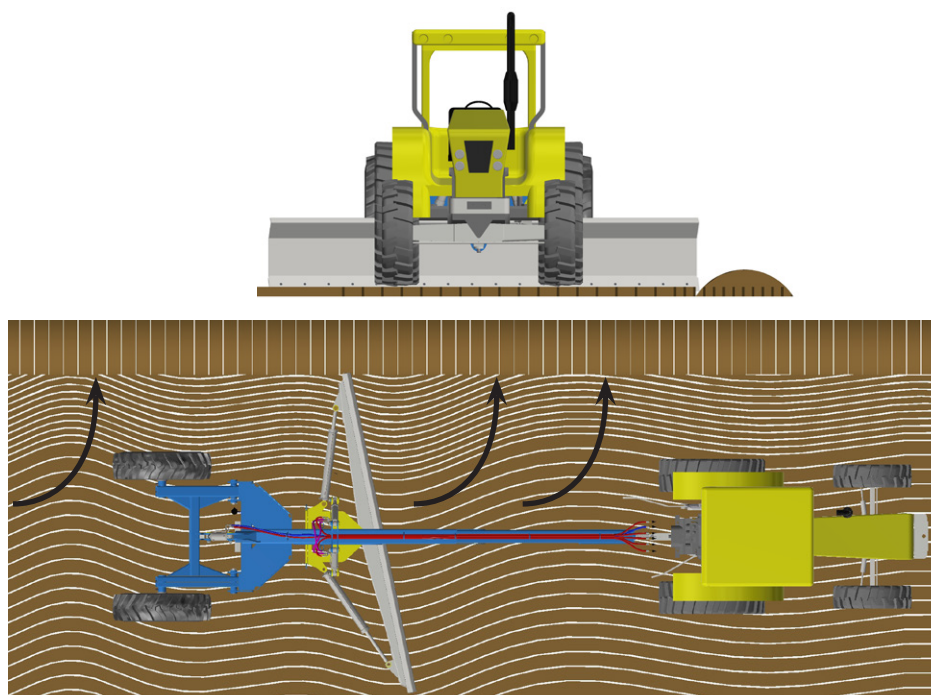
The vertical angle is obtained through two hydraulic double-acting cylinders, actioned by the hydraulic control of the tractor, reaching an angle of up to  $21^{\circ}$ , either for the right or for the left side.



## Making terraces

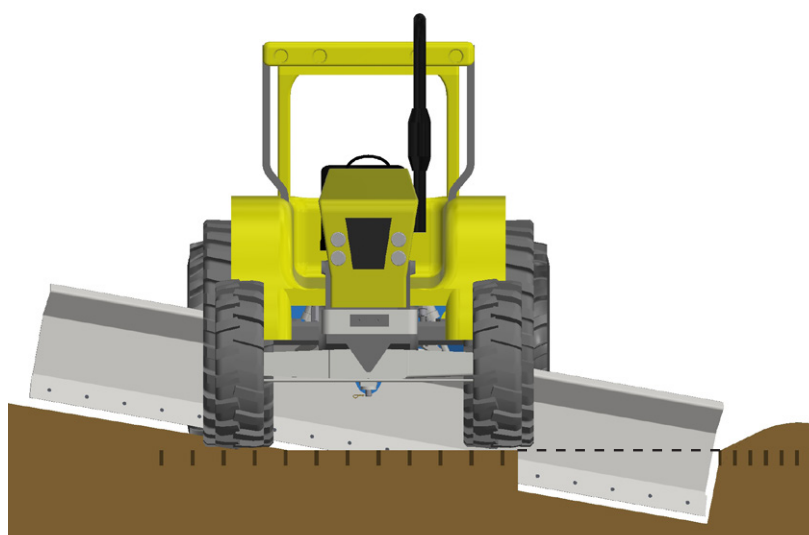
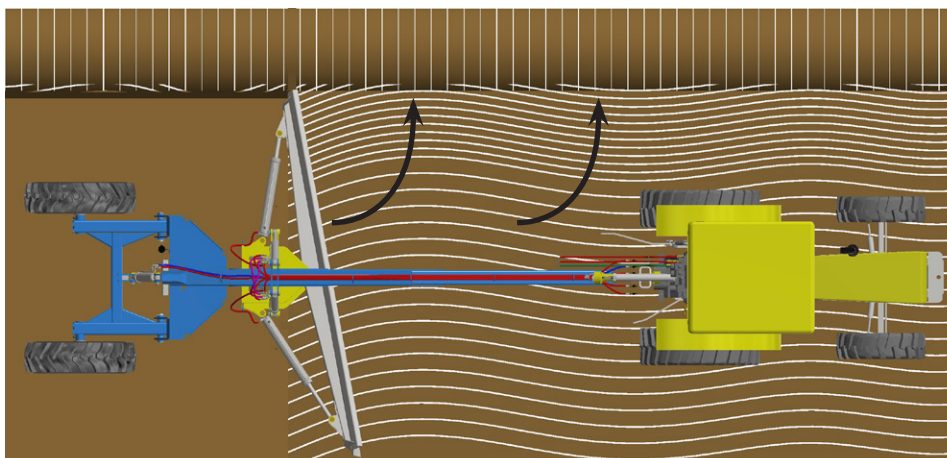
In order to quickly make wide-based terraces it is required to perform the proper operation of the equipment and observe the following instructions carefully:

In an unprepared ground, start making the terrace by actuating the blade hydraulic cylinder, only with a little tilt. Such procedure is for the 1st and 2nd passes; whose purpose is only to remove the soil.



# Adjustments and operations

In a previously prepared ground you can start making the terrace with the blade a little more tilted, i.e. with a little more actuation on the cylinder.



In both cases, after the 3rd and 4th passes, gradually activate the cylinder until the terrace is completed.

## NOTE

When the pass is started the operator must be careful to adjust the blade cutting depth when the wheel gets into the terrace channel. In case such detail is not observed, difficulties may arise in cutting and leveling the terrace, resulting into unevenness throughout it.

## Removing terraces

When the purpose is the leveling of an area, and the terrain is yet irregular, blade cutting depth must be adjusted frequently.

As the terrace loses the waviness, such frequency must be reduced to a point in which blade adjustment is no longer required.



# Adjustments and operations

## Operations - Important points



- Retighten nuts and bolts after the first day of work and also verify the condition of all pins and cotter pins. Then retighten every 24 hours of work.
- In case of a fire outbreak or any possible hazard, the operator must leave the area as fast as possible and look for a safe place. Always have emergency numbers at hands.
- Carefully observe the lubrication intervals.
- The tire inflation must always be carried out with an aid of a containment device. (i.e.: tire inflation cage).
- The correct calibration of the tires is important and should be maintained the same in both of them (according to the instructions on pages 9 - 11).
- Choose a gear that allows the tractor to maintain certain power reserve, ensuring against unforeseen efforts.
- Always make operations in a controlled and careful manner.
- While at work or during transportation, do not allow the presence of any other person on the tractor or equipment.
- Never use your bare hands to check hydraulic leaks, the high pressure can cause injuries. Use cardboard or other suitable object.
- The speed depends on the gear of the tractor and can only be determined by local conditions. We adopt an average of 5 to 7 Km/h, which is not advisable to exceed in order to maintain efficiency and prevent possible damages to the equipment.
- Relieve the drive pressure before releasing the quick couplers and every time the hydraulic cylinder is checked.
- The tractor drawbar must always remain fixed.
- As previously mentioned the rear scraper LTA model features several adjustments. However, only the local conditions can determine the best adjustment for the equipment.

# Adjustments and operations

## Troubleshooting

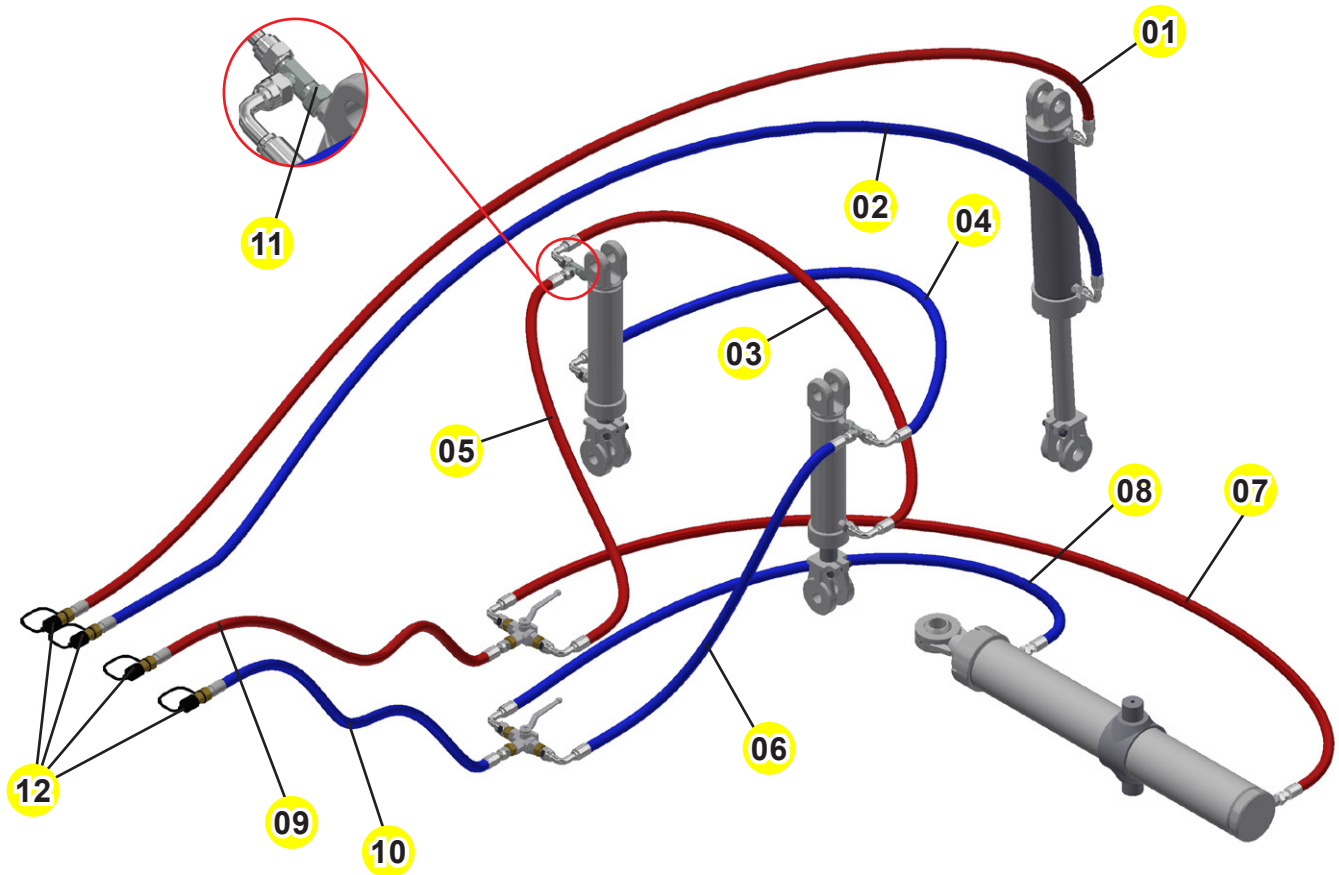
PROBLEM	CAUSES	POSSIBLE SOLUTIONS
Quick couplers cannot be attached.	Different type of couplings.	Change for male and female couplings of the same type.
The blade does not articulate and/or does not lift the structure.	Hydraulic duct is clogged or kneaded.	Unclog or replace the duct.
	Insufficient drive hydraulic pressure.	Adjust the drive at the relief valve with the help of a manometer. Normal pressure: 180 Kg/cm <sup>2</sup> .
	Hoses are inverted.	Check and reassemble the hoses properly.
	Hydraulic cylinder is defective.	Replace the seal kit or replace the cylinder.
	Tractor with defective hydraulic system.	Check the equipment with another tractor.
	Oil level is low.	Fill up.
Leakage on hoses and end pieces.	Insufficient tightening.	Retighten carefully.
	No thread sealing.	Use thread sealing and retighten carefully.
Leakage on the hydraulic cylinder.	Damaged seals.	Replace seal kit.
	Damaged rod.	Replace the rod.
	Oil with impurities.	Change the oil, seals and filter elements.
	Working pressure above recommended.	Adjust the control at the relief valve with the help of a manometer. Normal pressure: 180 Kg/cm <sup>2</sup> .
Leakage on quick couplers.	Insufficient tightening.	Retighten carefully.
	No thread sealing.	Use thread sealing and retighten carefully.
	Damaged seals.	Replace seals.
The frame gets down without drive actuation.	Damaged hydraulic cylinder seals.	Replace seals.

# Optional

## LTA hydraulic circuit with valve

Marchesan optionally supplies a hydraulic circuit with valve for LTA 3000 and LTA 5000 models.

Assemble the hoses on the respective hydraulic cylinders, with enough tightening and avoiding that the ports touch the soil.



Item	LTA 3000	Qty.	Item	LTA 5000	Qty.
01	3/8 X 5000 TC-TM hose	01 Pressure	01	3/8 X 5700 TC-TM hose	01 Pressure
02	3/8 X 5300 TC-TM hose	01 Return	02	3/8 X 6000 TC-TM hose	01 Return
03	3/8 X 900 TC-TC hose	01 Pressure	03	3/8 X 900 TC-TC hose	01 Pressure
04	3/8 X 900 TC-TC hose	01 Return	04	3/8 X 900 TC-TC hose	01 Return
05	3/8 X 2800 TR-TC hose	01 Pressure	05	3/8 X 3100 TC-TC hose	01 Pressure
06	3/8 X 2800 TR-TC hose	01 Return	06	3/8 X 3100 TC-TC hose	01 Return
07	3/8 X 4900 TC-TC hose	01 Pressure	07	3/8 X 4600 TC-TC hose	01 Pressure
08	3/8 X 4900 TC-TC hose	01 Return	08	3/8 X 4600 TC-TC hose	01 Return
09	3/8 X 1500 TC-TM hose	01 Pressure	09	3/8 X 1500 TC-TM hose	01 Pressure
10	3/8 X 1500 TC-TM hose	01 Return	10	3/8 X 1500 TC-TM hose	01 Return
11	"T" adapter with nut	02	11	"T" adapter with nut	02
12	Male quick coupler 1/2 NPT	04	12	Male quick coupler 1/2 NPT	04

### IMPORTANT

The hoses on the hydraulic cylinder of the blades are assembled in a reverse way, as both cylinders activate at the same time.

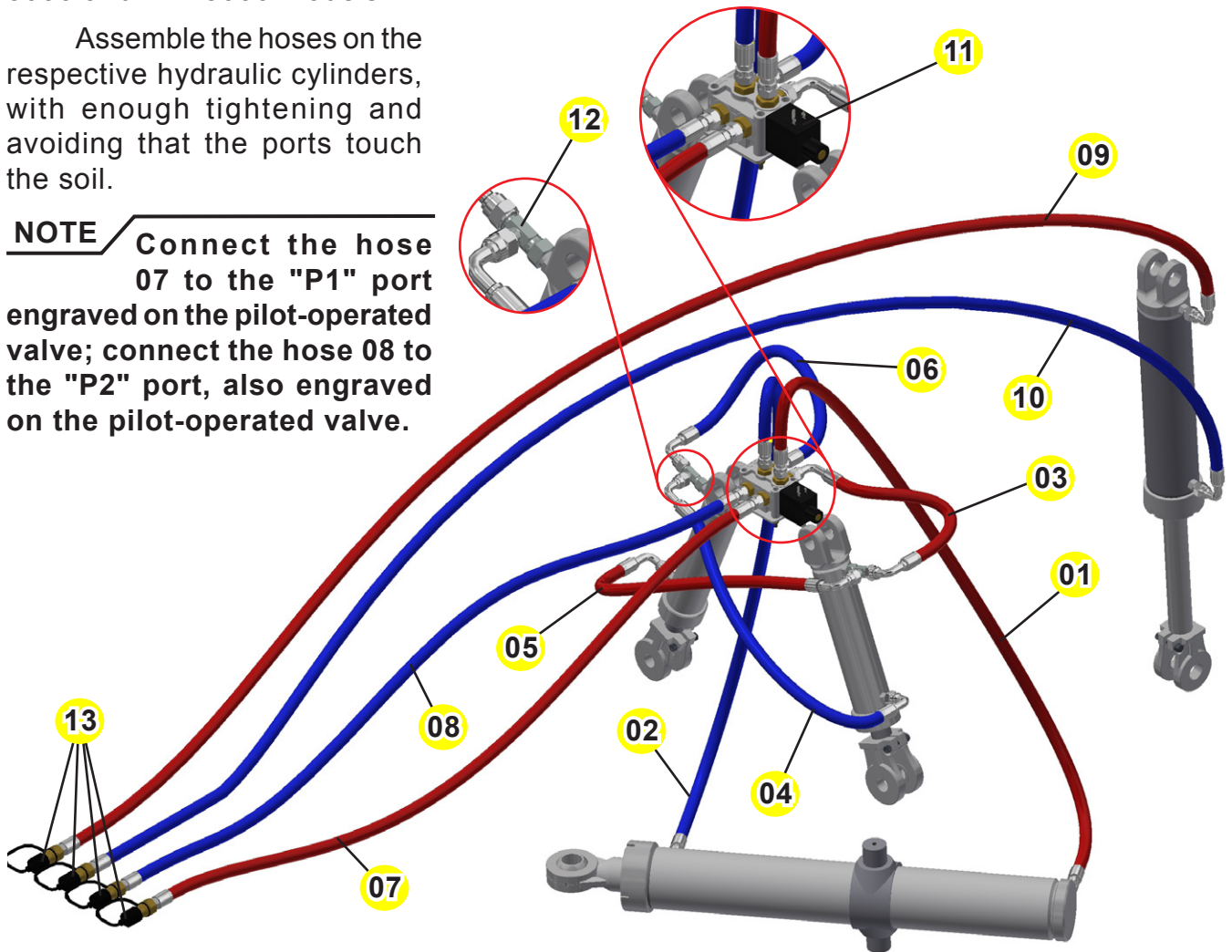
# Optional

## LTA hydraulic circuit with electric pilot-operated valve

Marchesan optionally supplies a hydraulic circuit with pilot-operated valve for LTA 3000 and LTA 5000 models.

Assemble the hoses on the respective hydraulic cylinders, with enough tightening and avoiding that the ports touch the soil.

**NOTE** Connect the hose 07 to the "P1" port engraved on the pilot-operated valve; connect the hose 08 to the "P2" port, also engraved on the pilot-operated valve.



Item	LTA 3000	Qty.	Item	LTA 5000	Qty.
01	3/8 X 1800 TR-TR hose	01 Pressure	01	3/8 X 1800 TR-TR hose	01 Pressure
02	3/8 X 1800 TR-TR hose	01 Return	02	3/8 X 1800 TR-TR hose	01 Return
03	3/8 X 600 TR-TC hose	01 Pressure	03	3/8 X 600 TR-TC hose	01 Pressure
04	3/8 X 800 TC-TC hose	01 Return	04	3/8 X 800 TC-TC hose	01 Return
05	3/8 X 800 TC-TC hose	01 Pressure	05	3/8 X 800 TC-TC hose	01 Pressure
06	3/8 X 600 TR-TC hose	01 Return	06	3/8 X 600 TR-TC hose	01 Return
07	3/8 X 4200 TR-TM hose	01 Pressure	07	3/8 X 4500 TR-TM hose	01 Pressure
08	3/8 X 4200 TR-TM hose	01 Return	08	3/8 X 4500 TR-TM hose	01 Return
09	3/8 X 5000 TC-TM hose	01 Pressure	09	3/8 X 5700 TC-TM hose	01 Pressure
10	3/8 X 5300 TC-TM hose	01 Return	10	3/8 X 6000 TC-TM hose	01 Return
11	Pilot-operated valve	01	11	Pilot-operated valve	01
12	"T" adapter with nut	02	12	"T" adapter with nut	02
13	Male quick coupler 1/2 NPT	04	13	Male quick coupler 1/2 NPT	04

**IMPORTANT** The hoses on the hydraulic cylinder of the blades are assembled in a reverse way, as both cylinders activate at the same time.

# Optional

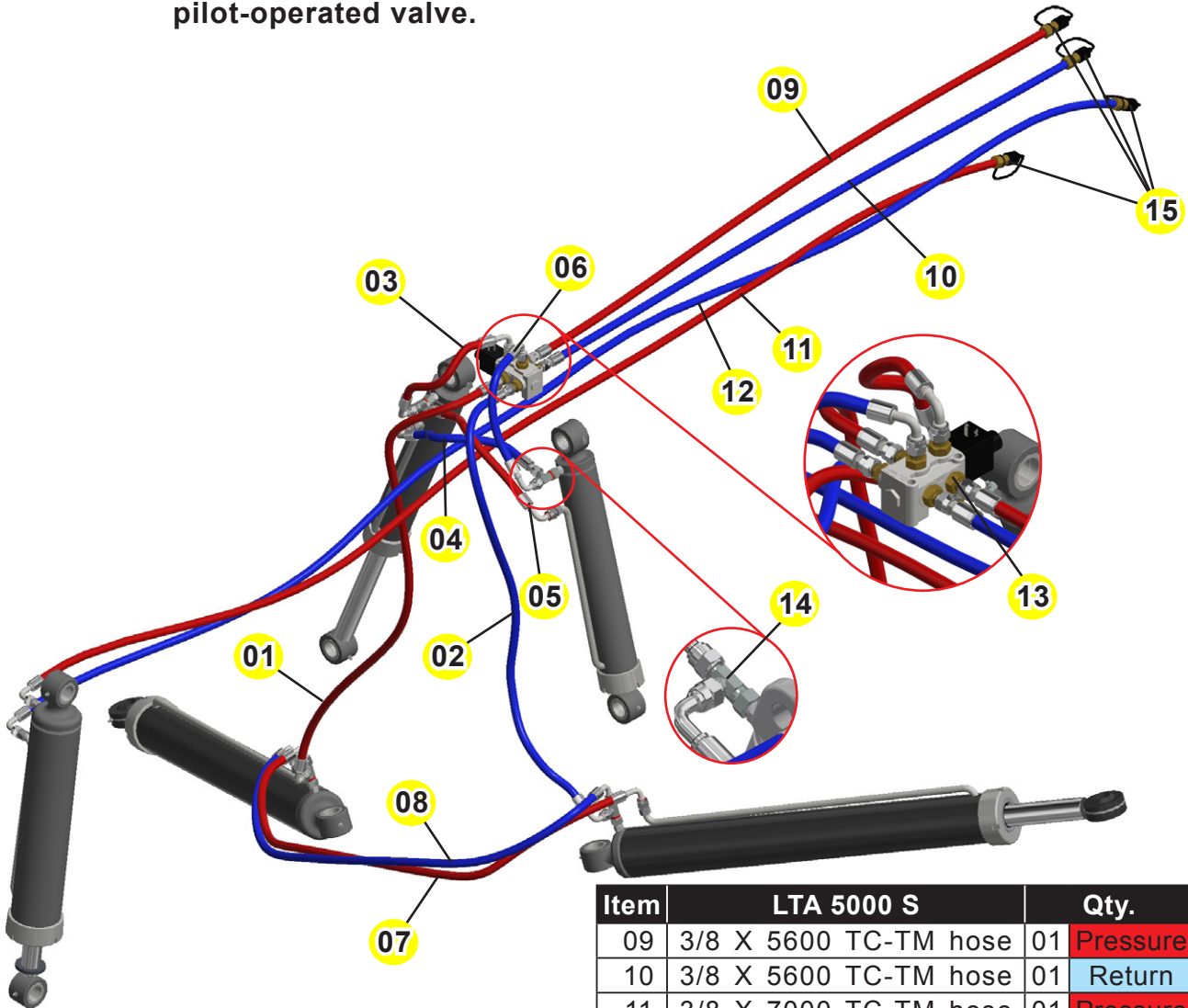
## LTA 5000 S hydraulic circuit with electric pilot-operated valve

Marchesan optionally supplies a hydraulic circuit with pilot-operated valve for the LTA 5000 S model.

Assemble the hoses on the respective hydraulic cylinders, with enough tightening and avoiding that the ports touch the soil.

### ATTENTION

Connect the hose 09 to the "P1" port engraved on the pilot-operated valve; connect the hose 10 to the "P2" port, also engraved on the pilot-operated valve.



Item	LTA 5000 S	Qty.
01	3/8 X 1700 TR-TC hose	01 Pressure
02	3/8 X 1700 TR-TC hose	01 Return
03	3/8 X 500 TC-TC hose	01 Pressure
04	3/8 X 500 TR-TC hose	01 Return
05	3/8 X 500 TR-TC hose	01 Pressure
06	3/8 X 500 TC-TC hose	01 Return
07	3/8 X 1700 TC-TC hose	01 Pressure
08	3/8 X 1700 TC-TC hose	01 Return

Item	LTA 5000 S	Qty.
09	3/8 X 5600 TC-TM hose	01 Pressure
10	3/8 X 5600 TC-TM hose	01 Return
11	3/8 X 7000 TC-TM hose	01 Pressure
12	3/8 X 7000 TC-TM hose	01 Return
13	Pilot-operated valve	01
14	"T" adapter with nut	04
15	Male quick coupler 1/2 NPT	04

### IMPORTANT

The hoses on the hydraulic cylinder of the blades are assembled in a reverse way, as both cylinders activate at the same time.



# Optional

## Electric circuit LTA with electric pilot-operated valve

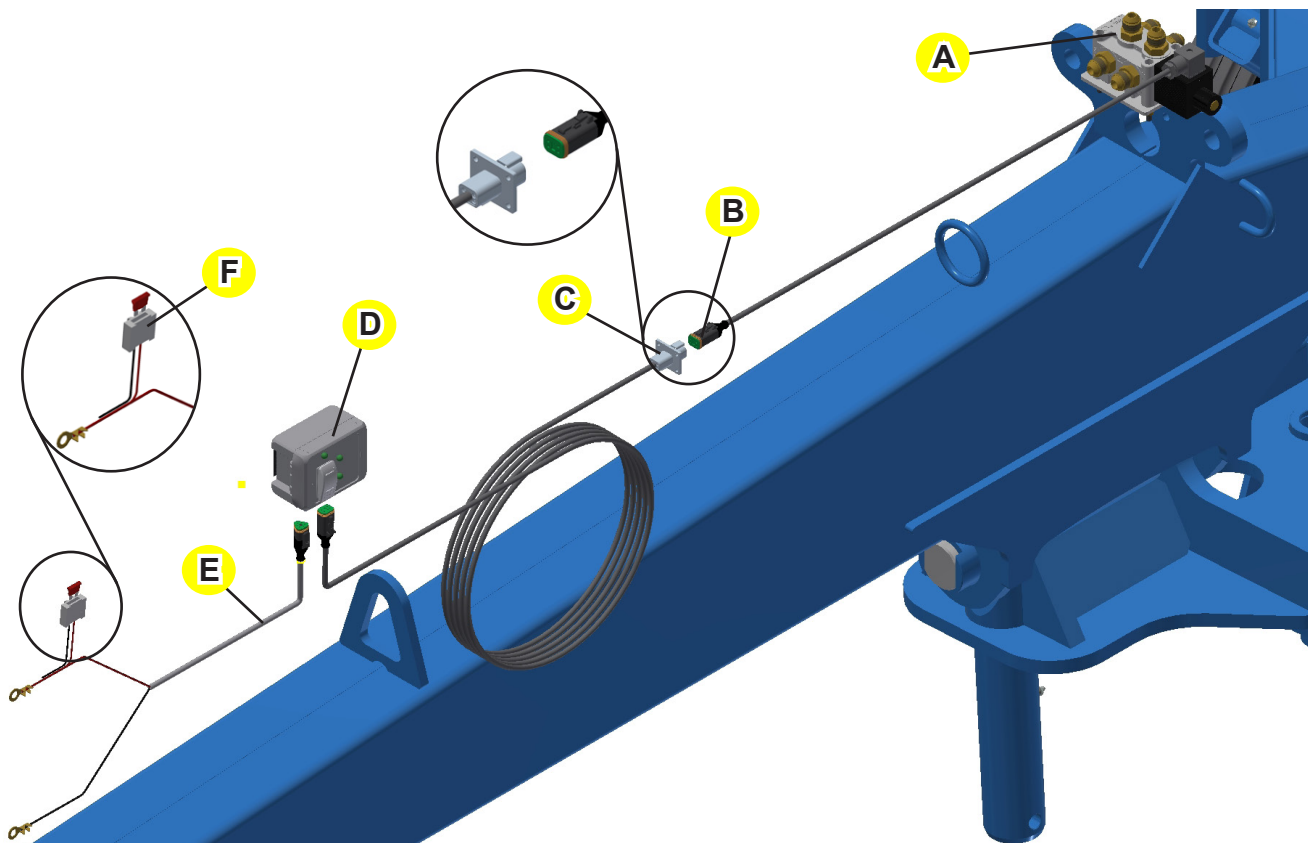
Only tractors with double command can operate the equipment, since the valve (A) is equipped.

The circuit is composed by:

- Valve (A) fixed with a bolt, flat washer, spring washer and nut to the LTA frame;
- Connection cable (B) coupled to the valve (A);
- Connection cable (C) that comes from the command box (D) to the connection (B);
- Command box (D) that must be fixed on the tractor cab, in an easy-to-access position to the operator;
- The box (D) has a button that allows the activation of the lifting cylinder or the cylinder that articulates the front part of the boom;
- Connection cable (E) that comes from the command box (D) and it is connected to the tractor battery.

### ATTENTION

The fuse (F) side must be coupled to the positive outlet on the tractor battery.  
The connection between the cable (B and C) is used so that the operator can couple or uncouple the circuit to/from the equipment.



**NOTE** Electric circuit available only for LTA 3000 and LTA 5000 (hydraulic).

# Maintenance

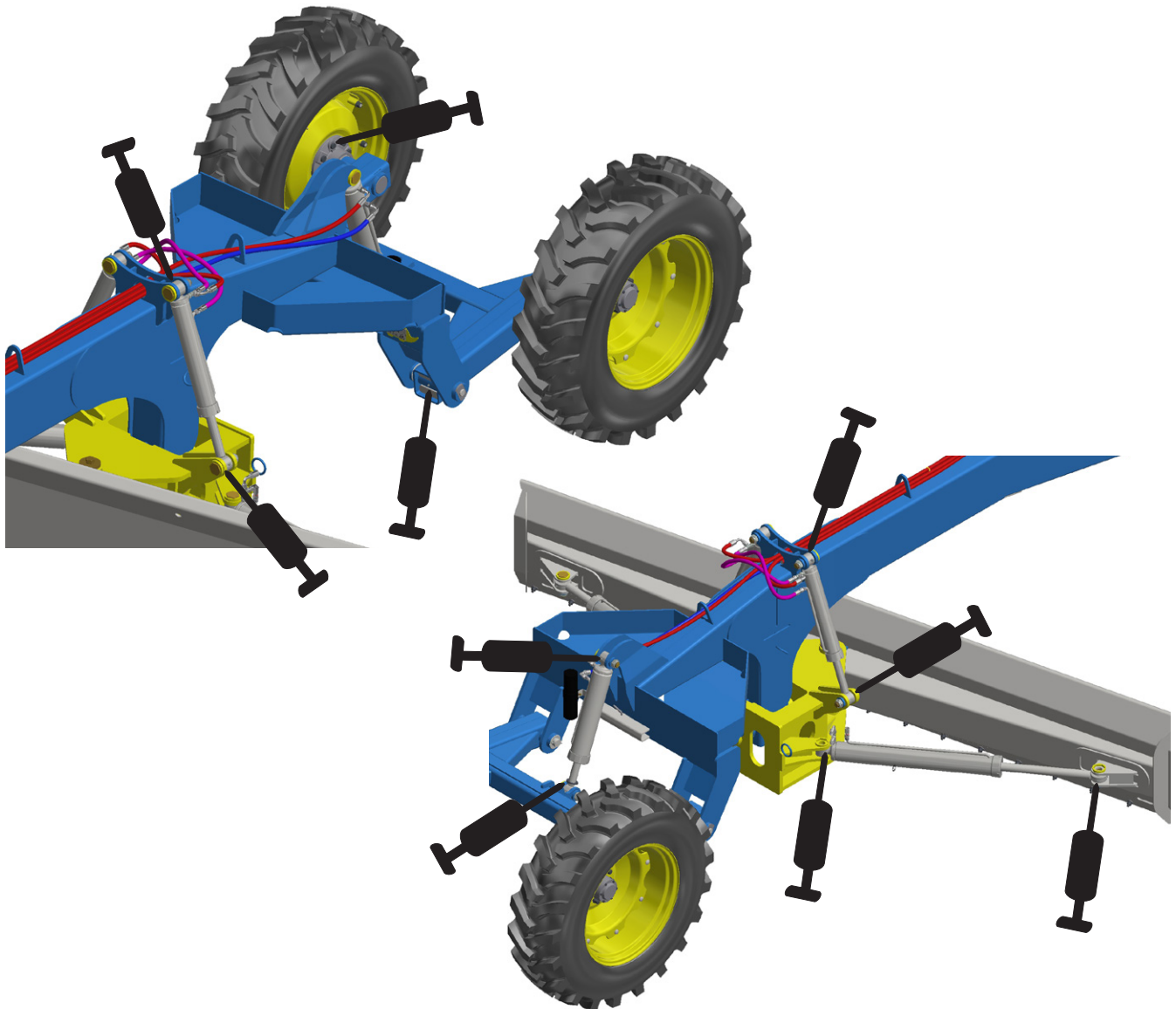
## Lubrication

In order to reduce wear caused by friction between moving parts of the blade, it is required to lubricate properly, as indicated below.

Lubricate the grease fittings in the following way:

- Be sure to use a good quality lubricant regarding its efficiency and purity, avoiding the use of products contaminated by water, earth, etc;
- Remove the remainder old grease around the articulations;
- Clean the grease fitting with a cloth before inserting the lubricant and replace those ones which are defective;
- Insert a sufficient amount of fresh grease;
- Use medium consistency grease.

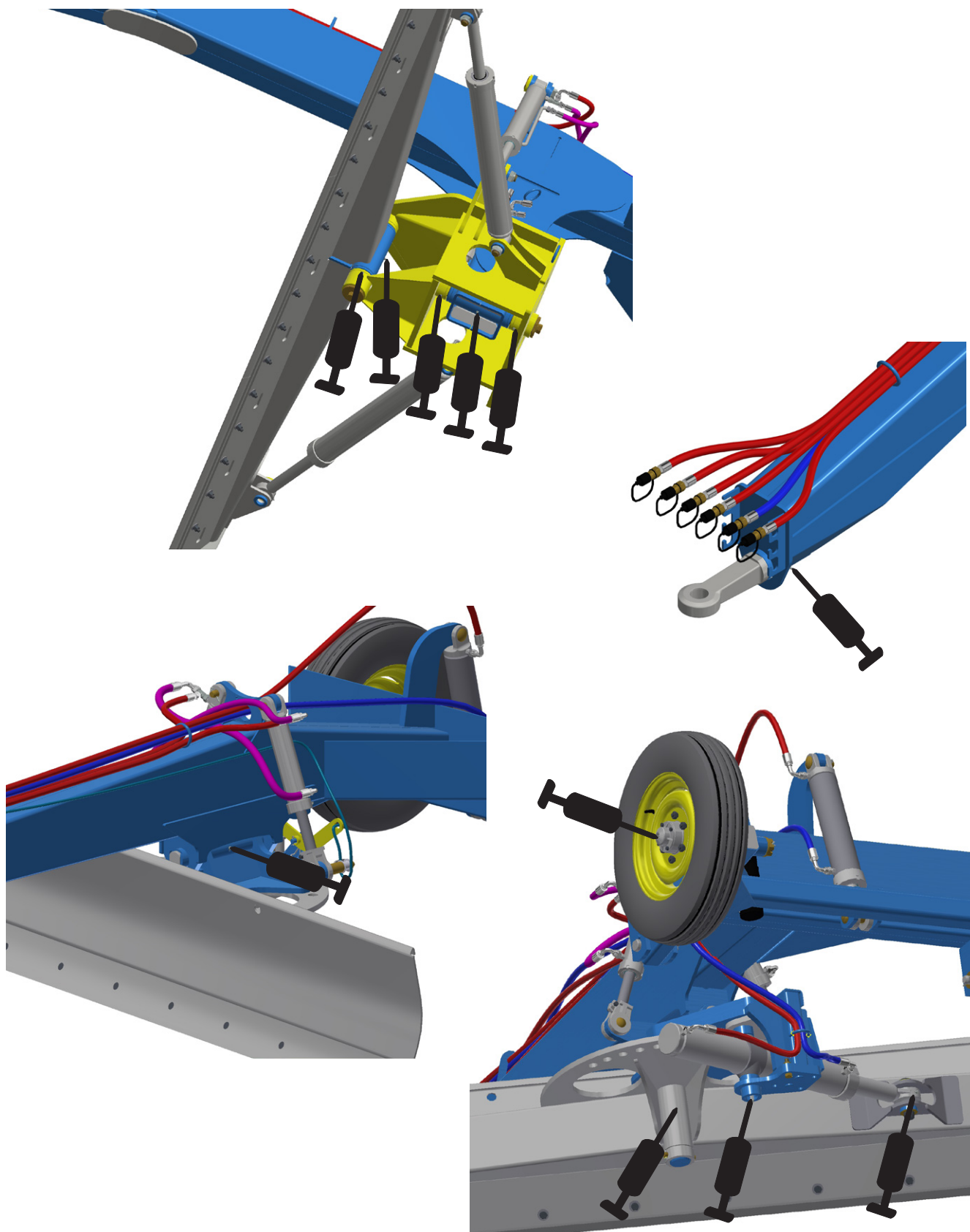
## Lubrication points



**ATTENTION** Lubricate the points shown above and all grease fittings as well.

# Maintenance

## Lubrication points



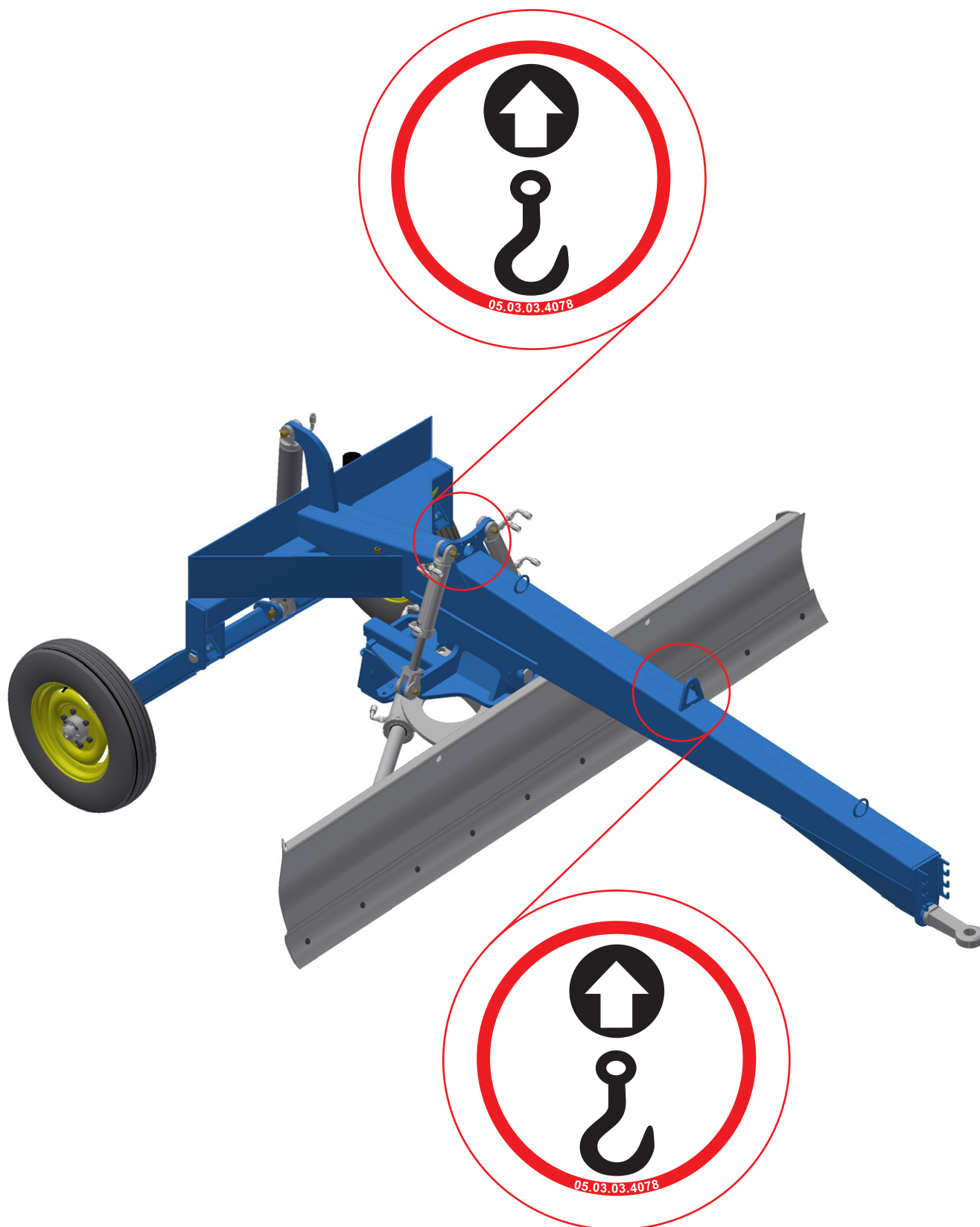
**ATTENTION** / Lubricate the points shown above and all grease fittings as well.



# Maintenance

## Lifting points

When transporting the equipment with hoists, always use the lifting points, which are properly identified.



# Maintenance

## Blade maintenance

- When the blade is not in use it entirely with water only;
- Repair any damaged paintwork of the equipment;
- Clean and lubricate all grease fittings;
- After all repair work is carried out and maintenance steps have been done, store the equipment in an appropriate place, i.e. sheltered and dry;
- Check all moving parts for wear. If required, replace the parts;
- Keep the equipment properly supported and prevent it from touching the ground.

## Tires inflation

The tires must always be properly inflated, so there will not be a premature wear for excess/lack of pressure and thus assuring precision on the distribution.

TIRE - Check pages 9 - 11.



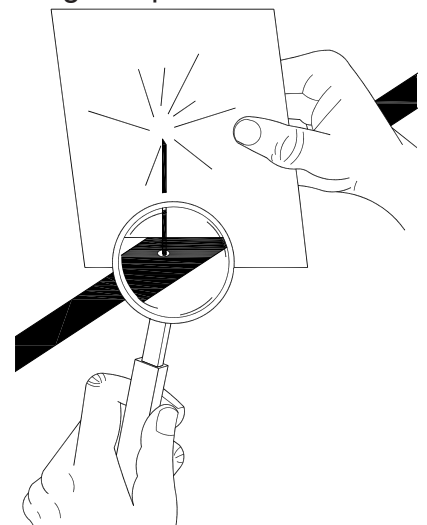
## Maintenance precautions



Caution! Hydraulic oil leakage may be strong enough to penetrate the skin and cause serious injuries to health. Oil leakage through a tiny hole may seem invisible; use a piece of cardboard or wood instead of your hand, to check a possible leakage.

Keep unprotected parts of the body, such as your face, eyes and arms as far as possible from a suspected leak. A splash of hydraulic oil can even cause gangrene or other maladies.

In case of such kind of accidents or any other, consult a physician immediately. If such doctor does not possess proper knowledge of this kind of problem ask for a referral or search to find the proper treatment.






**NOTE** Use TATU original parts only.

# Maintenance

## Torque table

TORQUE VALUES CHART						
Bolt Diameter	Grade 2		Grade 5		Grade 8	
	Coarse	Fine	Coarse	Fine	Coarse	Fine
1/4"	50 In. Lbs.	56 In. Lbs.	76 In. Lbs.	87 In. Lbs.	9 Ft. Lbs.	10 Ft. Lbs.
5/16"	8 Ft. Lbs.	9 Ft. Lbs.	13 Ft. Lbs.	14 Ft. Lbs.	18 Ft. Lbs.	20 Ft. Lbs.
3/8"	15 Ft. Lbs.	17 Ft. Lbs.	23 Ft. Lbs.	26 Ft. Lbs.	33 Ft. Lbs.	37 Ft. Lbs.
7/16"	25 Ft. Lbs.	27 Ft. Lbs.	37 Ft. Lbs.	41 Ft. Lbs.	52 Ft. Lbs.	58 Ft. Lbs.
1/2"	35 Ft. Lbs.	40 Ft. Lbs.	57 Ft. Lbs.	64 Ft. Lbs.	80 Ft. Lbs.	90 Ft. Lbs.
9/16"	50 Ft. Lbs.	60 Ft. Lbs.	80 Ft. Lbs.	90 Ft. Lbs.	115 Ft. Lbs.	130 Ft. Lbs.
5/8"	70 Ft. Lbs.	80 Ft. Lbs.	110 Ft. Lbs.	125 Ft. Lbs.	160 Ft. Lbs.	180 Ft. Lbs.
3/4"	130 Ft. Lbs.	145 Ft. Lbs.	200 Ft. Lbs.	220 Ft. Lbs.	280 Ft. Lbs.	315 Ft. Lbs.
7/8"	125 Ft. Lbs.	140 Ft. Lbs.	320 Ft. Lbs.	350 Ft. Lbs.	450 Ft. Lbs.	500 Ft. Lbs.
1"	190 Ft. Lbs.	205 Ft. Lbs.	480 Ft. Lbs.	530 Ft. Lbs.	675 Ft. Lbs.	750 Ft. Lbs.
1.1/8"	265 Ft. Lbs.	300 Ft. Lbs.	600 Ft. Lbs.	670 Ft. Lbs.	960 Ft. Lbs.	1075 Ft. Lbs.
1.1/4"	375 Ft. Lbs.	415 Ft. Lbs.	840 Ft. Lbs.	930 Ft. Lbs.	1360 Ft. Lbs.	1500 Ft. Lbs.
1.3/8"	490 Ft. Lbs.	560 Ft. Lbs.	1100 Ft. Lbs.	1250 Ft. Lbs.	1780 Ft. Lbs.	2030 Ft. Lbs.
1.1/2"	650 Ft. Lbs.	730 Ft. Lbs.	1450 Ft. Lbs.	1650 Ft. Lbs.	2307 Ft. Lbs.	2670 Ft. Lbs.

	GRADE 2 No Marks.		GRADE 3 3 Marks.		GRADE 8 6 Marks.
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[G:\VALSON\Manuais\_Ingles\Torque]

### NOTE

**For metric conversion:**

- Multiply inch-pounds by .113 to convert to newton-meters (Nm).
- Multiply foot-pounds by 1.356 to convert to newton-meters (Nm).

## ATTENTION

MARCHESAN S/A reserves the right at any time to make improvements in the design, material or specifications of machinery, equipment or parts without thereby becoming liable to make similar changes in machinery, equipment or parts previously sold.

Images are for illustration purposes only.

Some illustrations in this manual appear without the safety devices, removed to allow a better view and detailed instructions. Never operate the equipment without these safety devices.

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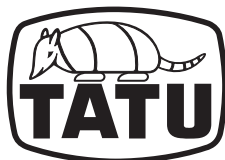
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