



## Hydraulic Tiller

For

## Skid Steer Loaders

### Operator's Manual Maintenance and Parts Information

**Do not use or operate this machine until this  
manual has been read and understood.**



Read the Operation & Maintenance Manual entirely. When you see this symbol, the subsequent instructions and warnings are serious – follow without exception. Your life and the lives of others depend on it!

## **IMPORTANT**

**If this machine is used by an employee or is loaned or rented to others, make certain that the operator(s) prior to operating:**

- **Is instructed in safe and proper use.**
- **Reviews and understands the operation and maintenance manual(s) pertaining to the machine.**

**Remember, the operator is responsible for the safe operation and maintenance of the machine. Most accidents can be prevented. Good safety practices not only protect you, but also the people around you.**

**NOTE:** *Tecnomec Agrícola S.A. de C.V. reserves the right to make improvements in design or changes in specifications at any time without notice and without incurring any obligations to install them on units previously sold.*

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## REFERENCE INFORMATION

**Write the serial number for your attachment in the spaces below. Always refer to this serial number when calling for service or parts.**

Serial Number..... \_\_\_\_\_

## YOUR ATTACHMENTS DEALER

\_\_\_\_\_  
**ADDRESS:**

\_\_\_\_\_  
**PHONE:**

\_\_\_\_\_  
**CONTACT:**

# FOREWORD

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## To The Owner/Operator:

**DO NOT use or operate this machine until this manual has been read and understood. If you require additional information, contact your Dealer or Tecnomec Agrícola S.A. de C.V.**

Operation and Maintenance Manuals are written to give the owner/operator instructions on the safe operation and maintenance of the product. For your safety and the safety of other persons, you must not operate, service, inspect or otherwise handle this equipment before you have reviewed and understood the Operation and Maintenance Manual(s) pertaining to the Bison Hydraulic tiller and the "Skid Steer Loader".

Throughout this manual reference may be made to the left hand (LH) or right hand (RH) side. These terms are used as viewed from the operator's seat facing forward.

In order to get the optimum performance and efficiency that has been designed into this product, read this manual thoroughly before setting-up, operating, or performing maintenance procedures on the machine.

It is the responsibility of the user to read the operators manual and comply with the safety instructions, operating instructions and maintenance guidelines set forth in this manual.

The user is responsible for inspecting the machine daily, and for having parts repaired or replaced when continued use of the machine would cause damage, excessive wear to other parts or make the machine unsafe for continued operation.

The signal words **CAUTION**, **WARNING**, or **DANGER** are used to indicate degree of hazards and to warn against unsafe practices that may cause personal injury and are used with appropriate safety instructions. These signal words are not to be ignored; your safety is involved.



**CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



**WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**DANGER:** Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

The word **NOTE** is used to convey information that is out of context with the manual text; special information such as specifications, techniques, reference information, and other information of a supplementary nature.

The word **IMPORTANT**, is used in the text when immediate damage will occur to the machine due to improper technique or operation. **IMPORTANT** will apply to the same information specified by **NOTE**, only of an immediate and urgent nature.

Tecnomec Agrícola S.A. de C.V. cannot anticipate every possible circumstance that might involve potential hazard. The safety messages found in this manual and on the machine are therefore not all inclusive. If an operating procedure, tool device, maintenance or work method not specifically recommended is used; you must satisfy yourself that it is safe for you and others. You must also ensure that the machine will not be damaged or made unsafe by the procedures you choose.



**Whenever you see this symbol, it means Attention!  
Become Alert! Your Safety is involved.  
Failure to obey warnings or instructions can cause  
personal injury or death.**

Operating instructions must be given to everyone before operating this machine and at least once a year thereafter in accordance with OSHA regulations.

### General Safety Instructions

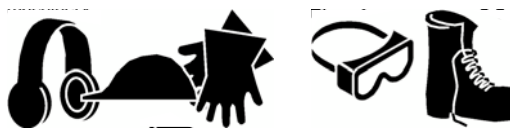
- Read the operators manual for the "Skid Steer Loader" to become totally familiar with the controls and instruments. Know how to stop all equipment operation in case of emergency.
- Avoid the possibility of personal injury and/or machine damage. NEVER exceed the maximum recommended input power or speed specifications for the attachment.
- Check and be sure all operating controls are in neutral before starting the engine.
- Disengage hydraulic drive, lower the attachment to rest flat on the skid shoes, stop engine, set park brake, and wait for all motion to stop before leaving the operator's seat for any reason.



**WARNING:** *Before adjusting, or servicing the unit, stop the engine and relieve all hydraulic pressure by opening the control valve.*

- Keep all shields, guards, and covers in place.
- Stay clear of the attachment when loader is in operation.
- **NEVER** make adjustments, lubricate, or perform any service on the machine while it is in operation.
- **NEVER** operate this attachment within 50 feet (15m) of people, pets, structures or other property.
- **NEVER** operate near embankments or terrain that is so steep that rollover could occur.
- **NEVER** allow children or untrained persons to operate.
- **DO NOT** permit riders on equipment.
- Use adequate safety warning lights and devices as required by local regulations.
- Obey all local laws and regulations regarding machine operation on public property.

- This attachment is designed for tilling topsoil only. **NEVER** operate the attachment in a manner other than the intended use.
- Do not modify equipment or add attachments that are not approved by Tecnomec Agricola S.A. de C.V.
- Remember, **YOU** are responsible for the safe operation and maintenance of the equipment. Most accidents can be prevented. Good safety practices not only protect you, but also the people around you.



### Wear Protective Equipment

- Protective clothing and equipment should be worn.
- Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating equipment.



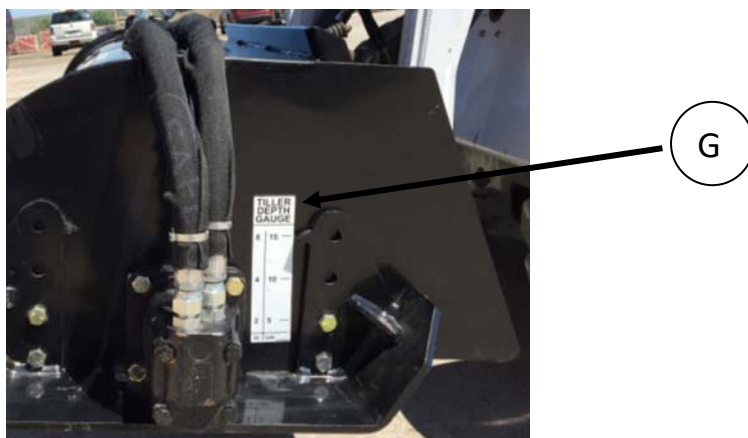
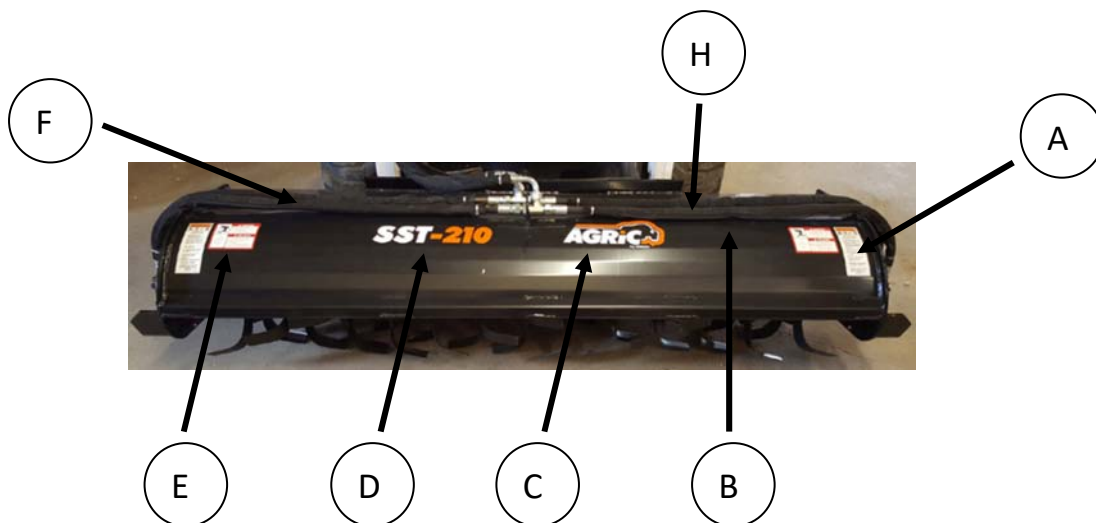
### Avoid High Pressure Fluids Hazard

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving the pressure before disconnecting hydraulic lines.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

# SERIAL NUMBER AND SAFETY DECAL LOCATIONS

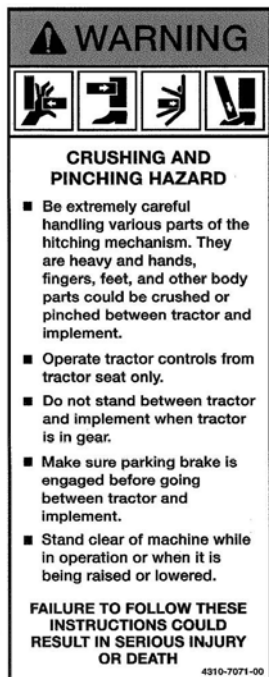
## Serial Number Location:

It is important to refer to the serial number of your attachment when making repairs or ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use different procedures in doing a specific operation.



# SERIAL NUMBER AND SAFETY DECAL LOCATIONS

A

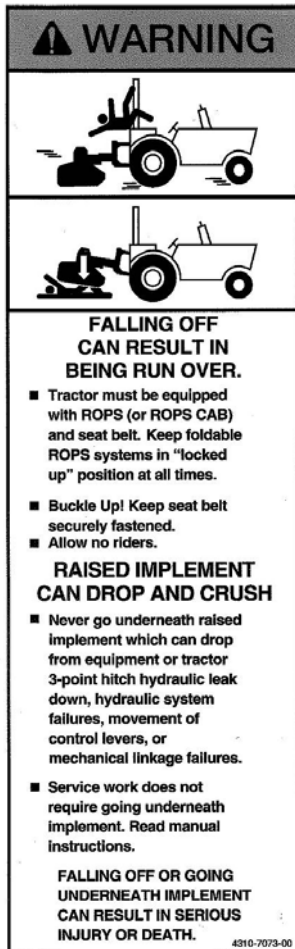


Location: Left side at front.

Quantity: 2

Part Number: 4310-7071-00

B



Location: Left side at back.

Quantity: 1

Part Number: 4310-7073-00

C

## LARGE BRAND DECAL

Location: Centered at front.

Quantity: 1

Part Number: 4310-1050-00

D

## MODEL DECAL

Location: Centered at front.

Quantity: 1

Part Number: 4310-1050-00

E



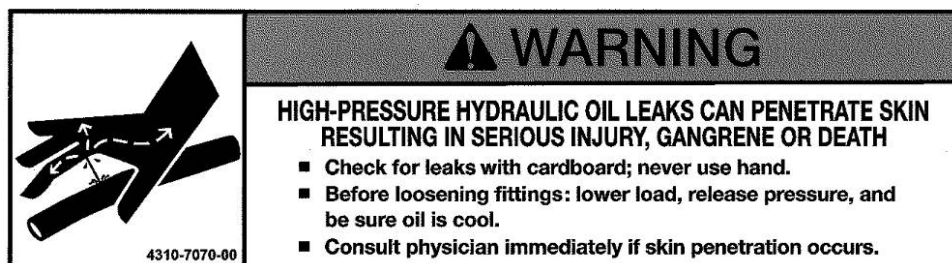
Location: Left side at front.

Quantity: 2

Part Number: 4310-7120-06

## SERIAL NUMBER AND SAFETY DECAL LOCATIONS

F

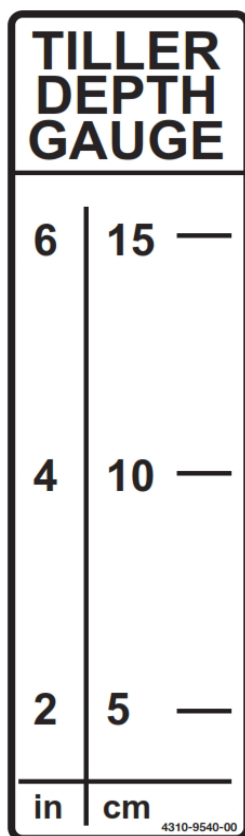


Location: Right side at back

Quantity: 1

Part Number: 4310-7070-00

G



Location: On right and left sides.

Quantity: 2

Part Number: 4310-9540-00

H

**ANTI SKIT-TAPE 6 X 28**

Location: On top of main frame.

Quantity: 2

Part Number: 4310-7501-03



# MOUNTING INSTRUCTIONS

After uncrating the attachment, use the following procedure to mount the tiller to the loader.

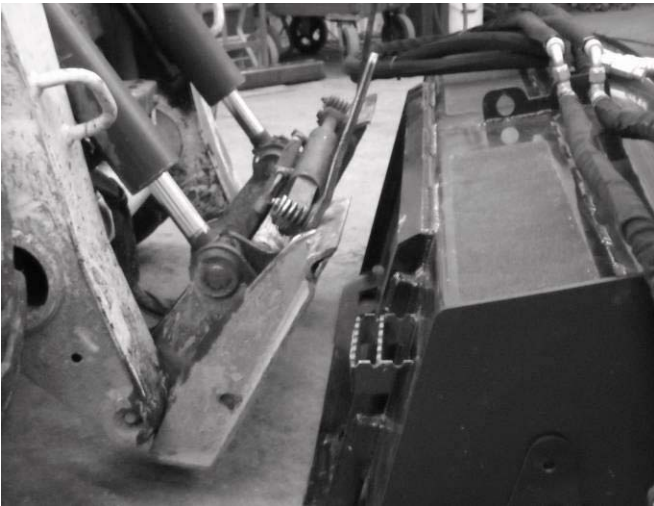


1. Use the step, safety treads, and grab handles to get in and out of the loader.
2. Sitting in the operator's seat, lower seat bar and fasten the seat belt.



**WARNING:** *Always enter and exit the loader on the right side. Hoses can be a trip hazard and could cause serious injury.*

3. Drive the loader to the rear of the attachment. Place the loader quick attach mounting coupler into the tiller mounting bracket.
4. Tilt the loader coupler backward a small amount until it is fully engaged in the tiller mounting bracket.
5. Stop the engine and engage the park brake.
6. Secure the coupler locking mechanism that attaches the attachment to the loader. (If your loader is equipped with hydraulic locking mechanism, you will need to do this step before stopping the engine.)



**WARNING:** *Coupler wedges or pins must extend through the holes in attachment. Levers must be fully down and locked. Failure to secure wedges or pins can allow attachment to come off and cause injury or death.*

**NOTE:** Attachment is shipped with 12FJX (1-1/16" Female JIC Swivel) fittings on the ends of the lead hoses.

7. Connect the hydraulic quick couplers from the attachment to the loader. Be sure to thread the hoses through the hose holder on the loader arm, if so equipped. If no hose holders are installed, contact the dealer that services your loader for assistance. Bungee straps can be used as an alternate method of securing the hoses.

**NOTE:** *Make sure the quick couplers are fully engaged.* If the quick couplers do not fully engage, check to see that the couplers are the same size and brand. **Do not force the quick couplers together.**

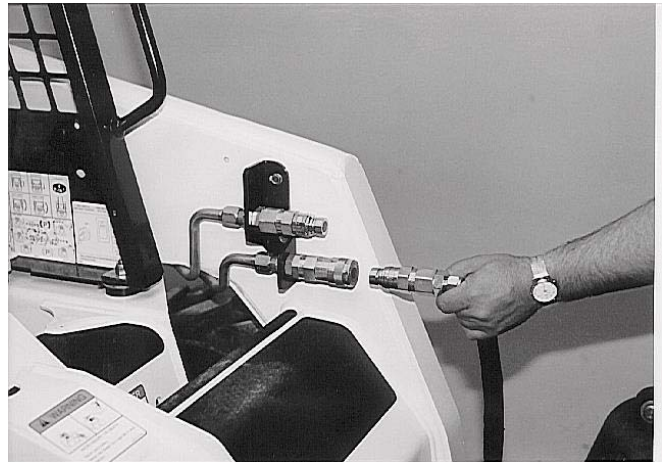
If the quick couplers will not connect together due to thermal expansion of the fluid in the hoses, stop the engine and activate the auxiliary hydraulic control to relieve the pressure.

**NOTE:** See the Loader's operation and maintenance manual.

8. Mounting is now complete and you are ready to use the attachment. Use reverse order of above instructions to dismount the attachment from the loader.

**NOTE:** *Make sure the hoses are properly routed to fit your specific loader.* If the hoses are not routed correctly, hoses may get pinched or rub on tires. Be sure to check the hose routing through the full range of intended motion of the attachment before operating it. More than one routing may be acceptable depending on the loader. Pick the routing that best suits your loader.

**PROPER HOSE ROUTING IS THE RESPONSIBILITY OF THE OWNER AND/OR OPERATOR. PINCHED OR STRETCHED HOSES ARE NOT COVERED UNDER WARRANTY.**





# OPERATING INSTRUCTIONS



**WARNING:** *DO NOT* operate from any position except seated in the operator's seat with the seat belt fastened. *DO NOT* permit riders.



1. With the operator in the seat of the loader, the seat belt fastened and the seat bar lowered (if so equipped), start the engine.



**CAUTION:** *Keep bystanders away! Thrown objects and moving parts can cause serious injury or death.*

2. Activate the auxiliary hydraulic system to start turning the tiller. Make sure the tiller tines are moving in the right direction.



**CAUTION:** *Engine must be at idle speed when engaging auxiliary hydraulic system.*

**NOTE:** *Certain loaders may not operate in high flow mode without special wire harnesses. Others require the control switches to be operated in a specific way. It may also be necessary to switch the hose couplers around to match your loader. (See loader's operation and maintenance manual)*

**IMPORTANT:** **DO NOT OPERATE A LOW FLOW TILLER IN HIGH FLOW MODE.** *This can cause serious damage to the tiller and will void the warranty.*

3. With the loader boom lowered all the way and the auxiliary hydraulics engaged, slowly rotate the loader coupler forward until the tip of the tiller tines begin to engage the ground.
4. Rotate the skid steer quick attach coupler plate as you continue to till with the attachment until you reach the desired depth of cut. Begin to move slowly, allowing the tiller tines to properly mulch the material into a properly cultivated soil.

**NOTE:** *The tiller may be operated forward or backwards by simply reversing the hydraulic flow.*

5. If desired, the loader lift arms can be put in the float position. (See loader's operation and maintenance manual.)



## DANGER!

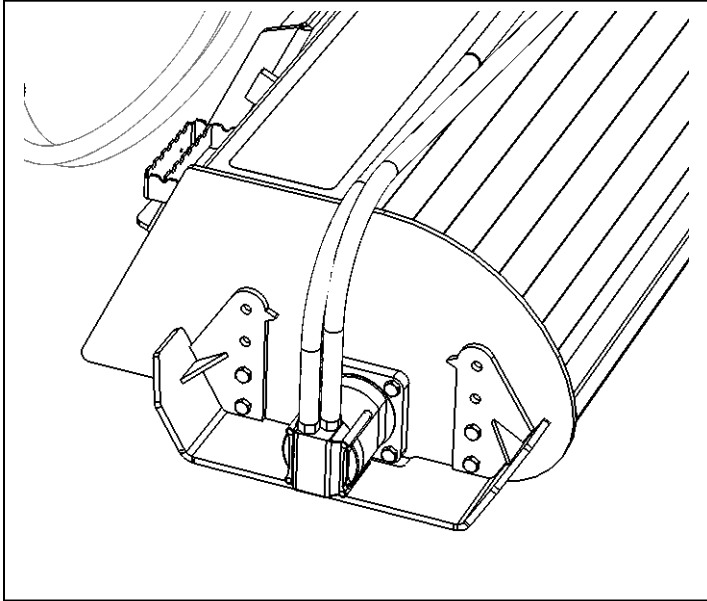
**CONTACT WITH UNDERGROUND GAS OR ELECTRIC UTILITIES CAN CAUSE SERIOUS INJURY OR DEATH!**

## OPERATING INSTRUCTIONS

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**WARNING:** *Tiller tines can throw debris, NEVER operate this attachment within 50 feet (15m) of people, pets, structures or other property.*



### TILLING DEPTH (Skid shoe height adjustment)

**IMPORTANT:** *The skid shoes can be adjusted in three different positions for proper digging depth.*

1. First, make sure that skid steer is turned off and the park brake is applied.
2. Loosen the four bolts on each skid shoe and pick the proper depth. The holes are designed in two inch increments ending with a 6 inch cutting depth. When skid shoe is level with bottom of tiller shield it is at a 6 inch cutting depth.
3. Tighten the four bolts on the side plate when skid shoe is in the desired location.

## ROUTINE MAINTENANCE

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It is the operator's responsibility to make daily inspections of the loader and attachment for damage, loose bolts, fluid leaks, or anything else that could cause a potential service or safety problem. Preventive maintenance is the easiest and least expensive type of maintenance.

**IMPORTANT:** *Bolts and set screws can loosen after initial usage. After the first hour of operation check all bolts, set screws and hydraulic connections.*



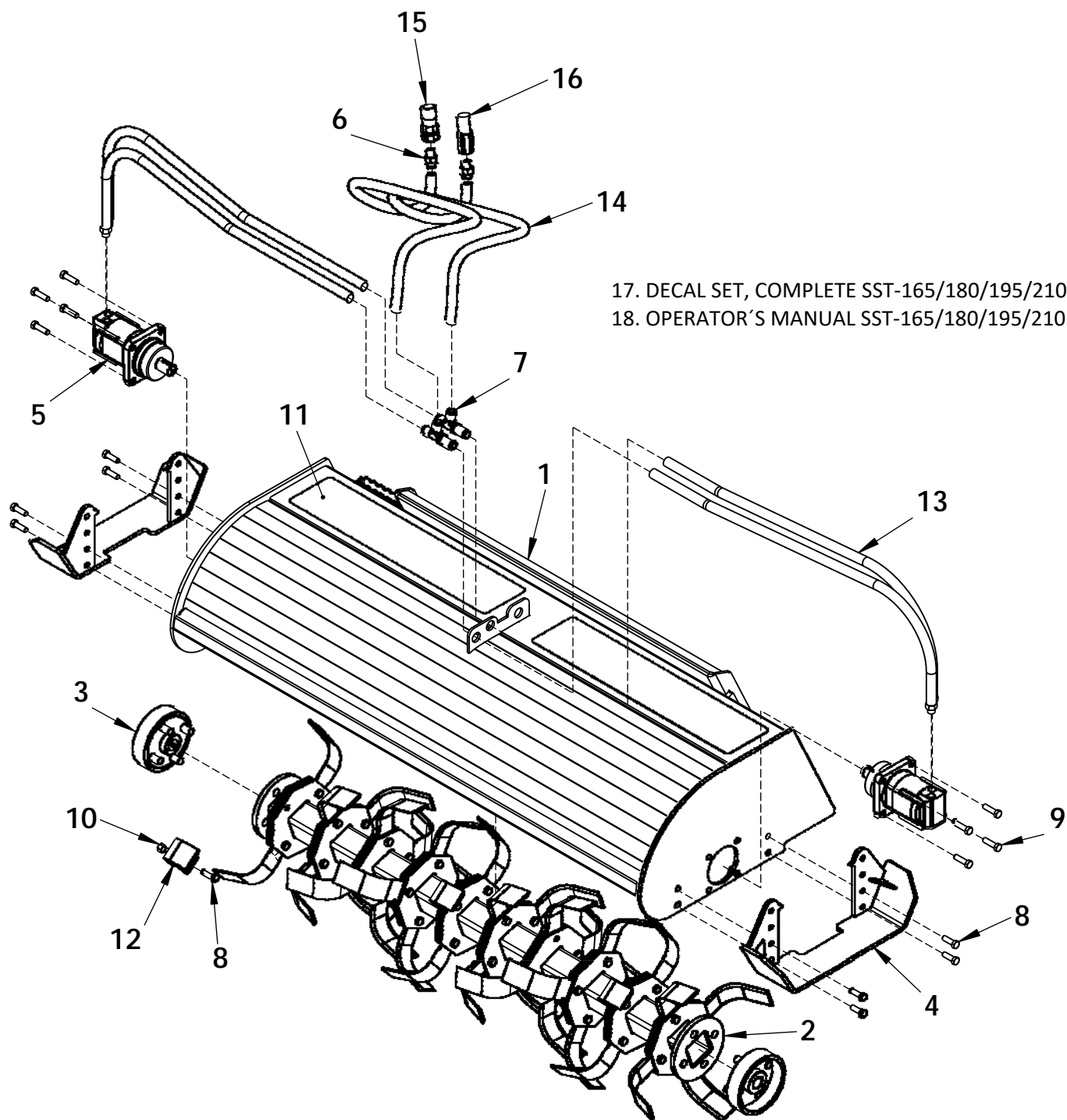
**WARNING:** *Lower loader boom to the lowest position, shut down the engine, relieve the hydraulic pressure to the tiller, wait for all motion to stop, and set park brake before leaving the operator's seat to perform service of any kind.*

## **PARTS LIST**

# **Hydraulic Tiller**

<b>SST-165</b>	<b>5.5' HYDRAULIC TILLER</b>
<b>SST-180</b>	<b>6' HYDRAULIC TILLER</b>
<b>SST-195</b>	<b>6.5' HYDRAULIC TILLER</b>
<b>SST-210</b>	<b>7' HYDRAULIC TILLER</b>

# SST-165 TILLER PARTS INFORMATION



## PARTS LIST SST-165 TILLER

ITEM	PART No.	DESCRIPTION	QTY
1	RO01550100W	CHASSIS	1
2	RO01550200W	ROTOR	1
3	RO01650300W	CLUCH DISC	2
4	RO01650400W	SKID SHOE	2
5	4110-9020-00	HYDRAULIC MOTOR 105-1340-006	2
6	4120-1034-50	12MB-12MJ COUPLER	2
7	4120-1110-31	TEE 12MJ-12MJ BULKHEAD-12MJ	2
8	*	1/2 X 1 1/2 - 13 UNC G5 H. SCREW	48
9	*	1/2 X 1 3/4 -13 UNC G5.H. SCREW	8
10	*	NUT GRIPCO 1/2-13 UNC (85D 8)	40
11	4310-7501-03	ANTI-SLIPPER TAPE 6 X 28	2
12	4370-1201-00	BLADE 0.25", LENGTH.8", R 2 1/8"	40
13	4430-7841-16	10M3K-10MB-12FJX-1.16 H. HOSE	4
14	4430-2852-11	10M3K-12FJX-12FJX90-2.11 H. HOSE	2
15	5110-6030-00	BC. COUPLER FEM. 1/2	1
16	5110-6031-00	BC. COUPLER MALE 1/2	1
17	RO01650001C	DECAL SET, COMPLETE SST-165/180/195/210	1
18	4350-2152-03	OPERATOR'S MANUAL SST-165/180/195/210	1

\* Standard Hardware; Obtain Locally.

# SST-180 TILLER PARTS INFORMATION

