

Farm King

OPERATOR AND PARTS MANUAL

Vortex Tedder

17 & 19

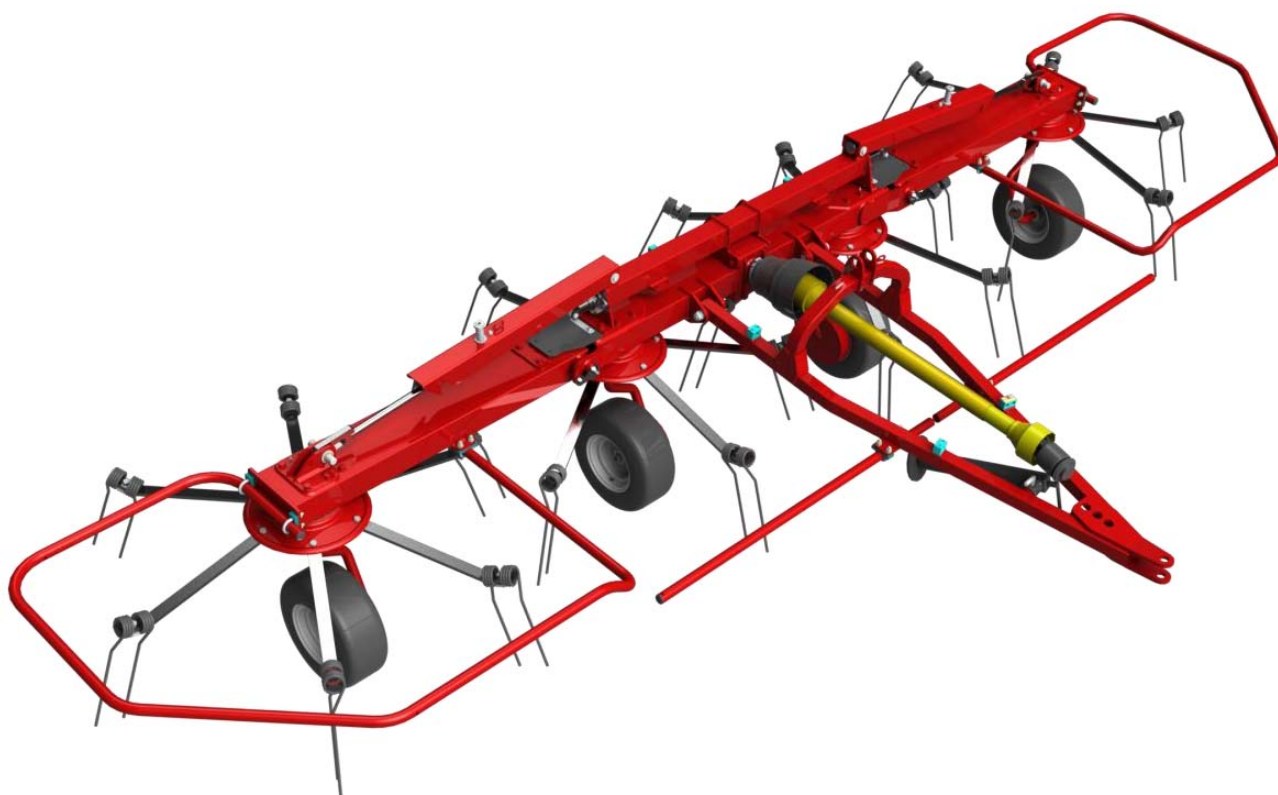


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Manufacturer's Statement: For technical reasons, Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance quality may depend on bale structure, applied techniques, weather conditions and other factors.

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WARRANTY REGISTRATION FORM

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer Name:

Dealer Name:

Customer Address:

Dealer Address:

City:

Prov / State:

City:

Prov / State:

Postal / Zip Code:

Phone:

Postal / Zip Code:

Phone:

Equipment Name Model:

Serial Number:

Delivery Date:

I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Dealer Inspection Report

- | | |
|--------------------------|-------------------|
| <input type="checkbox"/> | Bearing Seals |
| <input type="checkbox"/> | Lubricate Machine |
| <input type="checkbox"/> | Wheel Bolt Torque |
| <input type="checkbox"/> | Fasteners Tight |
| <input type="checkbox"/> | Tire Pressure |
| <input type="checkbox"/> | Hydraulic Hoses |

Safety

- | | |
|--------------------------|---|
| <input type="checkbox"/> | All Lights And Reflectors Installed |
| <input type="checkbox"/> | All Lights And Reflectors Cleaned And Working |
| <input type="checkbox"/> | Safety Chain On Hitch |
| <input type="checkbox"/> | All Decals Installed |
| <input type="checkbox"/> | Guards And Shields Installed And Secure |
| <input type="checkbox"/> | Review Operating And Safety Instructions |
| <input type="checkbox"/> | General Adjustment And Set-up Procedures |
| <input type="checkbox"/> | Transportation Requirements And Regulations |

Date:

Dealer Rep. Signature:

The above equipment and Operator And Parts Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date:

Customer / Owner's Signature:

Remove this Warranty Registration Form from the Operator And Parts Manual. Make two copies of the form. Send original Warranty Registration Form to Farm King. Give one copy to the customer and the dealer will keep one copy.

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INTRODUCTION

This Operator And Parts Manual was written to give the owner / operator instructions on the safe operation, maintenance and part identification of the Farm King equipment. READ AND UNDERSTAND THIS OPERATOR AND PARTS MANUAL BEFORE OPERATING YOUR FARM KING EQUIPMENT. If you have any questions, see your Farm King dealer. This manual may illustrate options and accessories not installed on your Farm King equipment.

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OWNER'S INFORMATION

Thank you for your decision to purchase a Farm King Tedder. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator And Parts Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and / or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator and Parts Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Farm King is continually working to improve its products. Farm King reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Farm King makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Farm King assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

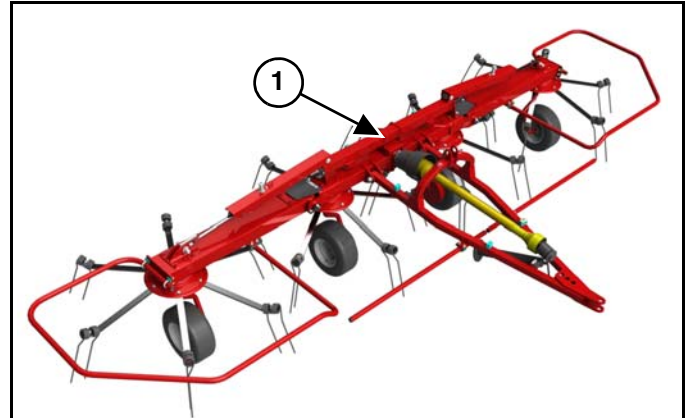
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at **www.farm-king.com** for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the rear of the equipment.

Serial Number Location

Please enter the model and serial number in the space provided for easy reference.

Figure 1



Model Number: _____

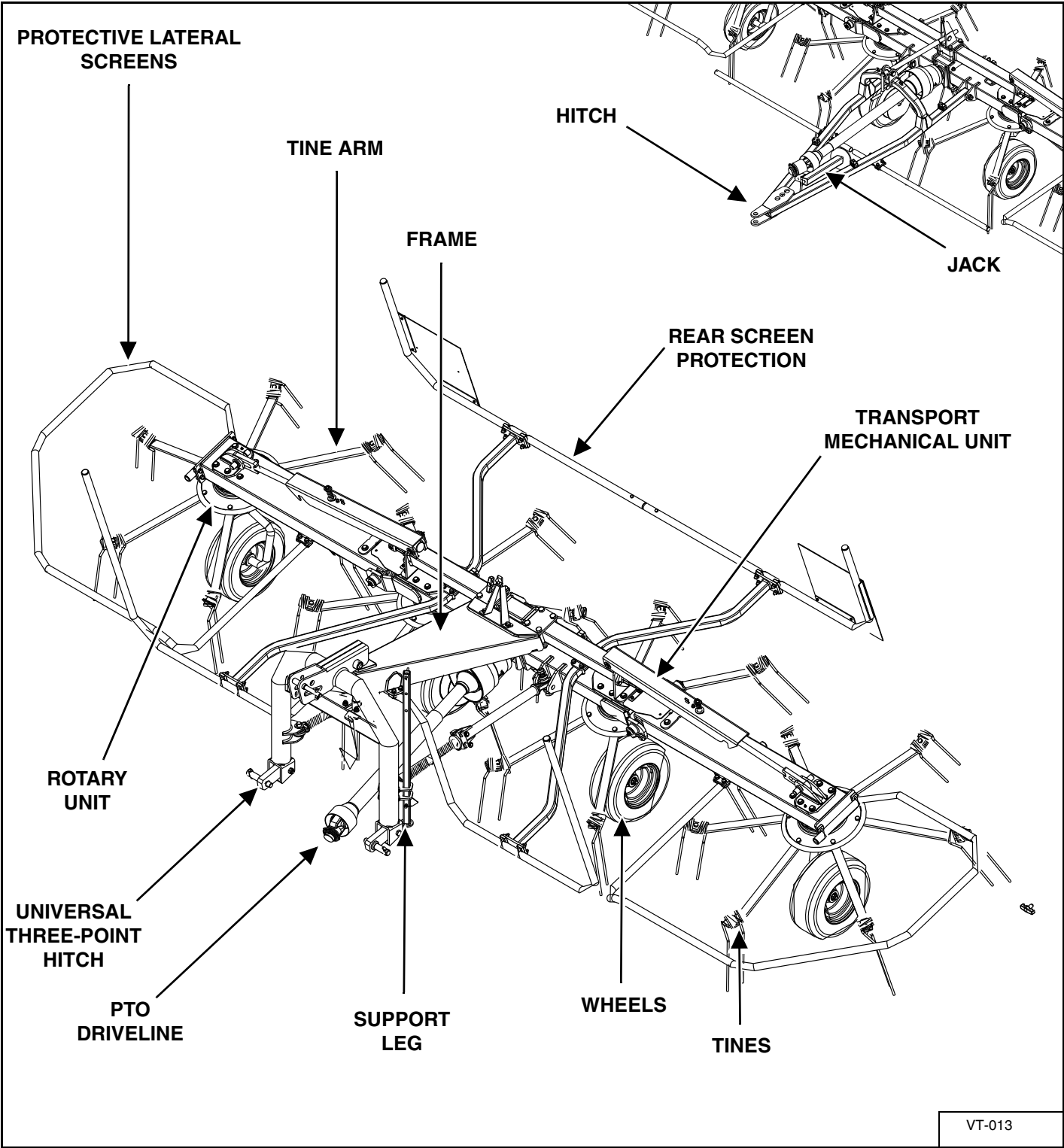
Serial Number: _____

The serial number plate (Item 1) **[Figure 1]** is located on the rear crossmember.

Always use your serial number when requesting information or when ordering parts.

EQUIPMENT IDENTIFICATION

Component Location



SAFETY

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SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility

	Safety Alert Symbol
<p>This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.</p>	



The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



This notice identifies procedures which must be followed to avoid damage to the machine.

Safe Operation Needs A Qualified Operator



Operators must have instructions before operating the machine. Untrained operators can cause injury or death.

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Farm King include the Warranty Registration, Dealer Inspection Report, Operator And Parts Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by the machine owner prior to operation.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area. Always fasten seat belt before operating.

Know the Work Conditions

- Clear working area of all bystanders, especially small children and all obstacles that might be hooked or snagged, causing injury or damage.
- Know the location of any overhead or underground power lines. Call local utilities and have all underground power lines marked prior to operation.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service.

SAFETY INSTRUCTIONS (CONT'D)**Use Safety Rules**

- Read and follow instructions in this manual and the tractor's Operators Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- Stay clear of overhead power lines. Electrocutation can occur without direct contact.
- Check for overhead and / or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the equipment is securely fastened to the tractor / towing vehicle.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator And Parts Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders, especially small children.
- DO NOT permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved tractors / transport vehicles.
- DO NOT modify the equipment in any way. Unauthorized modification may impair the function and / or safety and could affect the life of the equipment.
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.

Transport Safety

- DO NOT exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- Always install transport locks, pins or brackets before transporting.
- Always yield to oncoming traffic in all situations and move to the side of the road so any following traffic may pass.
- Always enter curves or drive up or down hills at a low speed and at a gradual steering angle.
- Never allow riders on either tractor or equipment.
- Keep tractor / towing vehicle in a lower gear at all times when traveling down steep grades.
- Maintain proper brake settings at all times (if equipped).
- Stay away from overhead power lines. Electrocutation can occur without direct contact.

Machine Requirements And Capabilities

- Stop the machine and engage the parking brake. Install blocks in front of and behind the rear tires of the machine. Install blocks underneath and support the equipment securely before working under raised equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Use increased caution on slopes and near banks and ditches to prevent overturn.
- Make certain that the Slow Moving Vehicle (SMV) emblem is installed so that it is visible and legible. When transporting the equipment, use the flashing warning lights (if equipped) and follow all local regulations.
- Operate this equipment with a machine equipped with an approved Roll-Over Protective Structure (ROPS). Always wear seat belt when the ROPS is up. Serious injury or death could result from falling off the machine.
- Before leaving the operator's position:
 1. Always park on a flat level surface.
 2. Place all controls in neutral.
 3. Engage the parking brake.
 4. Stop engine.
 5. Wait for all moving parts to stop.
- Carry passengers only in designated seating areas. Never allow riders on the machine or equipment. Falling off can result in serious injury or death.
- Start the equipment only when properly seated in the operator's seat. Starting a machine in gear can result in serious injury or death.
- Operate the machine and equipment from the operator's position only.
- The parking brake must be engaged before leaving the operator's seat. Rollaway can occur because the transmission may not prevent machine movement.

FIRE PREVENTION



Maintenance

The machine and some equipment have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

The Farm King machine must be in good operating condition before use.

Check all of the items listed on the service schedule under the 8 hour column. (See "SERVICE SCHEDULE" on page 40.)

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Starting

Use the procedure in the tractor's operator's manual for connecting the battery and for jump starting.

Electrical

Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Welding And Grinding

Always clean the machine and equipment, disconnect the battery, and disconnect the wiring from the machine controls before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Fire Extinguishers

Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SAFETY SIGNS (DECALS)

Follow the instructions on all the Signs (Decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.



**FLYING DEBRIS
HAZARD**

Stay back a minimum of 66 ft. (20 m) when machine is in operation.



ROTATING HAZARD

As the star wheel rotates, there is a risk the teeth will snag on the operator clothes or other objects on the operator body.



CRUSHING HAZARD

Stay back a minimum of 10 ft. (3 m) when lowering and raising arms.

SAFETY SIGN-OFF FORM



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

Farm King follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and / or maintaining the Tedder must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Annually review this information before the season start-up and make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. An untrained operator is unqualified to operate this machine.

The following sign-off sheet is provided for your record and to show that all personnel who will be working with the equipment have read and understand the information in this Operator And Parts Manual and have been instructed in the operation of the equipment.

SIGN-OFF SHEET		
Date	Employee's Signature	Employer's Signature

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GENERAL INFORMATION

Pre - Operation Checklist

Before operating the Tedder for the first time and each time thereafter, check the following items:

WARNING

MOVING PART HAZARD

To prevent serious injury or death from moving parts:

- Keep hands, feet, hair and clothing away from moving parts.
- Disconnect and lockout power source before adjusting or servicing.
- Do not stand or climb on machine when operating.

WARNING

AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
 - Flying debris or loose material is present.
 - Engine is running.
 - Tools are being used.
-
1. Lubricate the equipment per the schedule outline in the Maintenance Section. (See "SERVICE SCHEDULE" on page 40.)
 2. Check the Tedder hitch for damaged, loose or missing parts. Repair as needed before operation.
 3. Check that tire pressure.
 4. Check that wheel bolt torque.
 5. Fully clean the equipment.
 6. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.

WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

7. Check condition of all hydraulic components for leaks. Repair as required.

NOTE: Do not operate with hydraulic leaks.

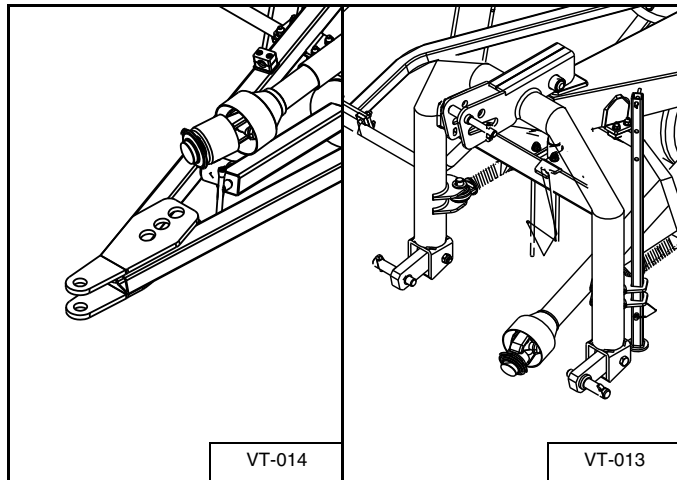
8. Verify that the mobile chassis lock has been removed.
9. Verify that the Tedder is properly connected to the tractor with the safety chain.

Break - In Checklist

Check the following mechanical items after 1 hour of operation and again after 10 hours of operation:

1. Check condition of all hydraulic components for leaks. Tighten fittings to correct leaks or replace components. Do not operate with hydraulic leaks.

Figure 2



2. Check the Tedder hitch for damaged, loose or missing parts **[Figure 2]**. Repair as needed before operation.
3. Check for loose fasteners and hardware. Tighten as required.
4. Check that tire pressure.
5. Check that wheel bolt torque.

Tractor Requirements

WARNING

AVOID SERIOUS INJURY OR DEATH

The tractor must be equipped with an approved Roll Over Protection Structure (ROPS) and safety belts to help prevent personal injury or death caused by tractor roll over.

WARNING



- Keep shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

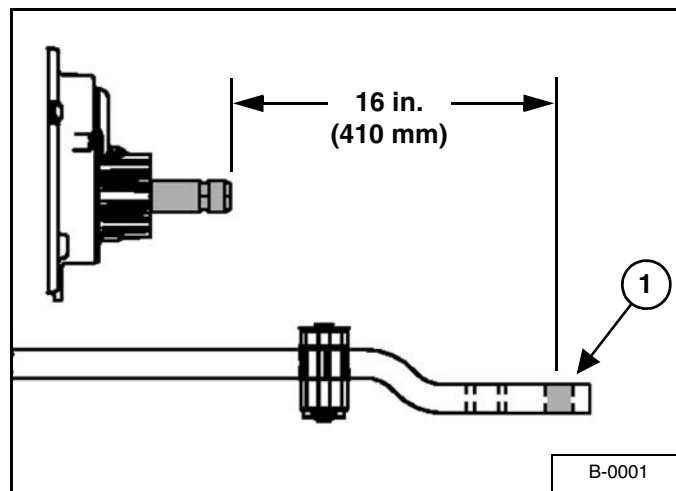
The Tedder will require a tractor with minimum 80 hp (60 kw) and one pair of remote outlets.

IMPORTANT

Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not tow over 20 mph (32 km/h). Towing Vehicle / Tractor unit should weigh approximately 67% of GVW.

Drawbar Adjustment (Pull-Type Models)

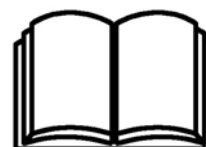
Figure 3



Adjust the tractor's drawbar in / out, until the center of the hitch pin hole (Item 1) [Figure 3] is 16 inches (410 mm) from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures.

Entering And Leaving The Operator's Position

IMPORTANT



Follow the instructions in your tractor's operation manual for the correct procedure.

Entering The Operator's Position

Move to the operator's position, start the engine and release the parking brake.

Leaving The Operator's Position



AVOID INJURY OR DEATH

Before you leave the operator's position:

- **Always park on a flat level surface.**
- **Place all controls in NEUTRAL.**
- **Engage the park brake.**
- **Stop the engine and remove the key.**
- **Wait for all moving parts to stop.**

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

INITIAL SET-UP

Connecting Pull-Type Tedder To The Tractor

Always inspect the tractor's drawbar / three-point arms and Tedder hitch before connecting. See the tractor's owner's manual.

Verify that the tractor's drawbar is adjusted correctly for use with the Tedder. (See "Drawbar Adjustment (Pull-Type Models)" on page 23.)

Enter the operator's position. (See "Entering The Operator's Position" on page 23.)

Move the tractor into position in front of the Tedder.



AVOID INJURY OR DEATH

Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

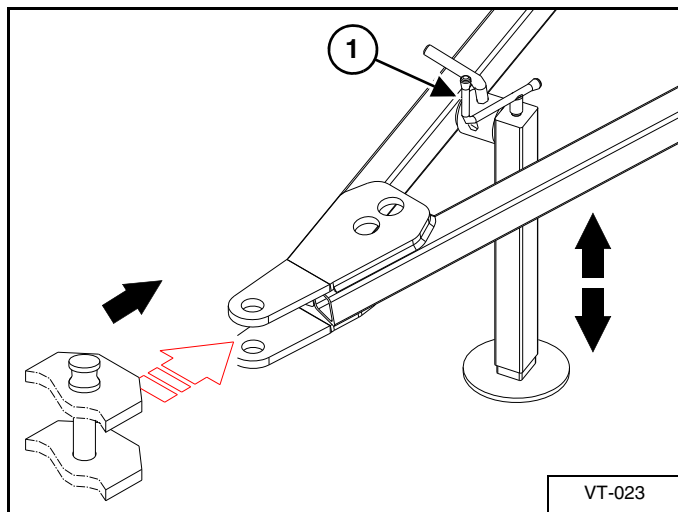
Move the tractor backwards, aligning the drawbar with the Tedder hitch.

NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.

If the Tedder hitch needs to be adjusted, stop the tractor when drawbar is just in front of the Tedder hitch.

Leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

Figure 4



Turn the handle (Item 1) **[Figure 4]** clockwise to raise the hitch or counterclockwise to lower the hitch.

Lower or raise the Tedder hitch until aligned with the tractor's drawbar.

Move to the operator's seat, start the engine and release the parking brake.

Move the tractor backwards, aligning the drawbar hitch pin hole with the Tedder hitch pin hole(s).

Stop the tractor and leave operator's position.

! WARNING

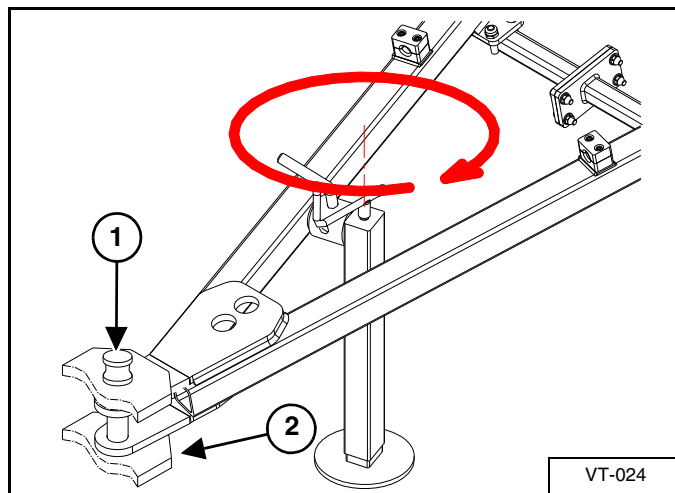


AVOID INJURY OR DEATH

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

NOTE: Always use a hitch pin of adequate size and strength and a retaining pin with a locking device.

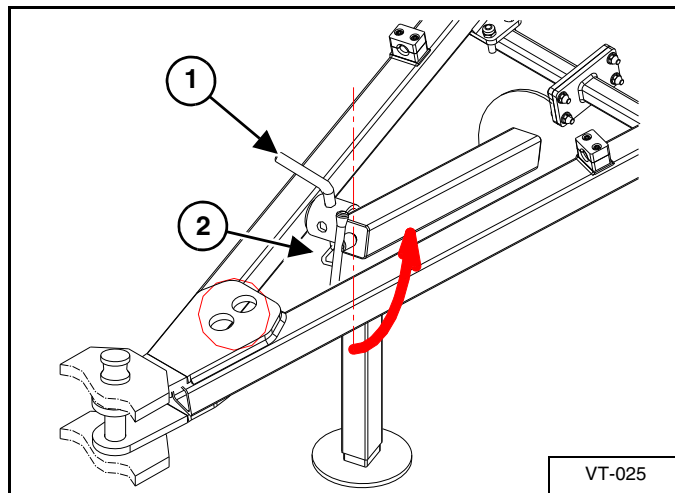
Figure 5



Install the hitch pin (Item 1) and retaining pin (Item 2) **[Figure 5]** to securely fasten the Tedder hitch to the tractor drawbar.

Attach the safety chain (if equipped).

Figure 6



Turn the handle counterclockwise to lower the hitch, placing Tedder weight on the tractor's drawbar.

Remove retaining pin (Item 1) and pin (Item 2) **[Figure 5]**. Remove jack.

Rotate jack 1/4 turn, install jack through the hitch mounting brackets. Reinstall pin and retaining pin securing the jack in the transport position.

Connecting Three-Point Tedder To The Tractor

Always inspect the tractor's three-point arms and Tedder hitch before connecting. See the tractor's owner's manual.

Enter the operator's position. (See "Entering The Operator's Position" on page 23.)

Move the tractor into position in front of the Tedder.

WARNING



AVOID INJURY OR DEATH

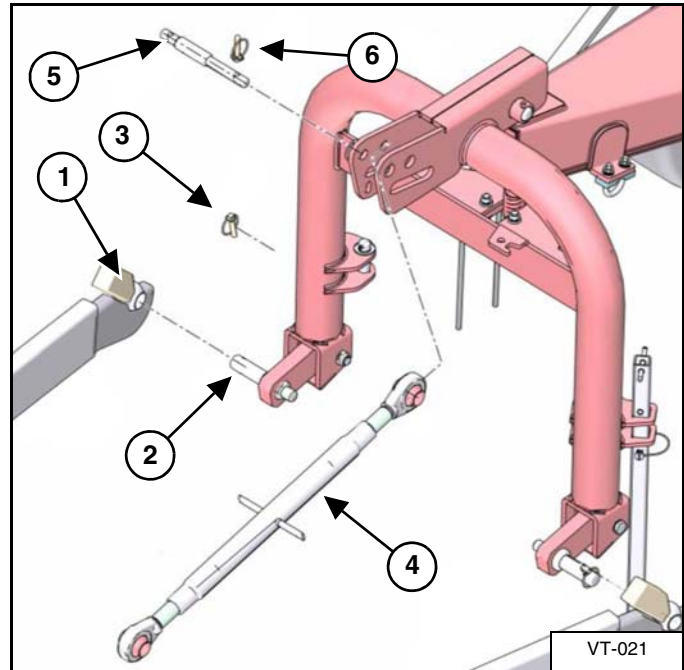
Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

Move the tractor backwards, aligning the three-point arms with the Tedder hitch.

NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.

Leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

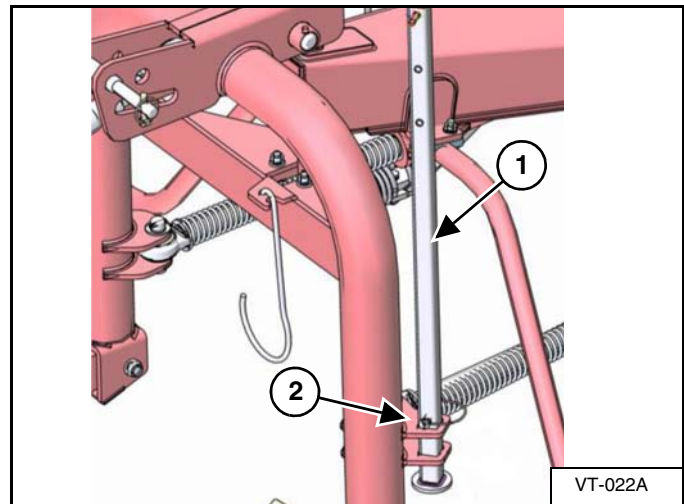
Figure 7



Install the lower lift arms (Item 1) the lower pins (Item 2) on the tedder frame (one side at a time), secure in place with safety pins (Item 3) [Figure 7].

Align the upper adjustable arm (Item 4) in the with tedder frame, install pin (Item 5) through the tedder frame and upper adjustable arm. Install safety pin (Item 6) [Figure 7].

Figure 8



Remove the retaining pin and slide the jack (Item 1) up, reinstall retaining pin (Item 2) [Figure 10] into the lower hole on the jack.

Adjusting Rotating Group Tilt



WARNING

AVOID INJURY OR DEATH

Before adjusting or servicing the machine:

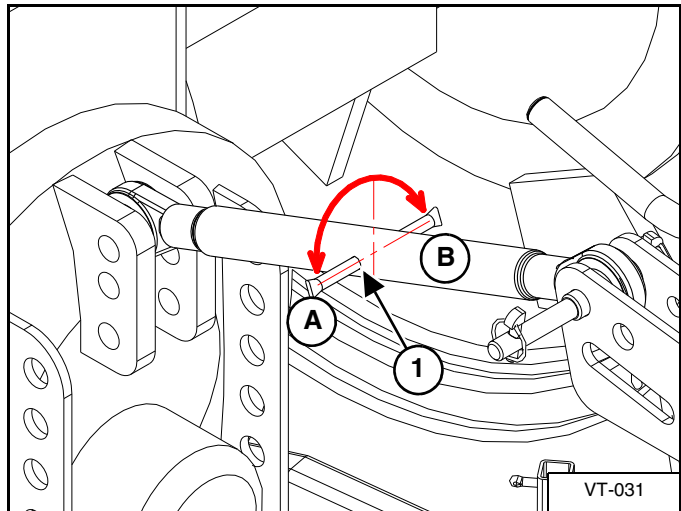
- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

Three-Point Hitch Models

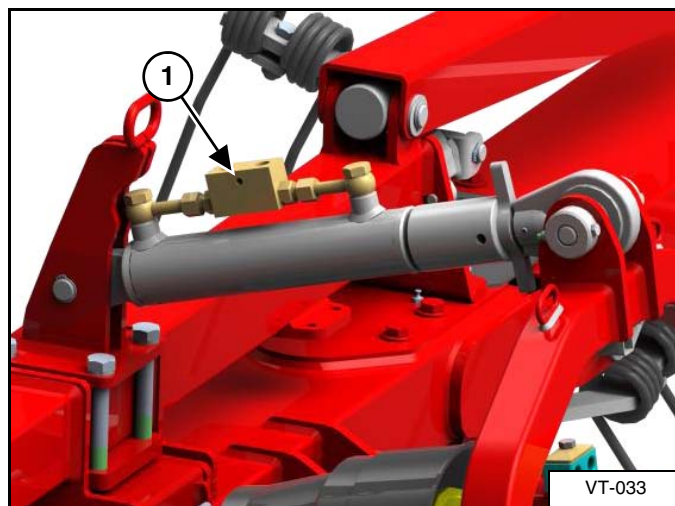
Figure 9



To adjust rotary groups angle, turn the lever (Item 1) [Figure 9] counterclockwise (direction A), moving the tedder frame downwards and reducing the angle. Turn the lever clockwise (direction B), moving the tedder frame upwards increasing the angle.

Pull-Type Models

Figure 10



To adjust rotary groups angle, inclination in respect to the ground operate on the adjustable device placed on the specific ram (Item 1) [Figure 10]. Once the angle has been adjusted the device will maintain the rotary groups angle unchanged since it will act as the limit of the ram full retraction. The adjustment is operated on the rear side of the machinery screwing or unscrewing the adjustable device. So rotating the device counterclockwise it will move away from its final point reducing the ram length and therefore also the rotary groups angle in respect to the ground. Rotating the device clockwise it will move towards its final point increasing the ram length and also the rotary groups angle. The ram movements are obtained operating the corresponding lever into the tractor cabin.

Connecting The PTO Driveline (Three-Point Models)

WARNING

AVOID INJURY OR DEATH

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

NOTE: Clean and grease tractor's PTO shaft and PTO driveline coupling each time driveline is connected.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

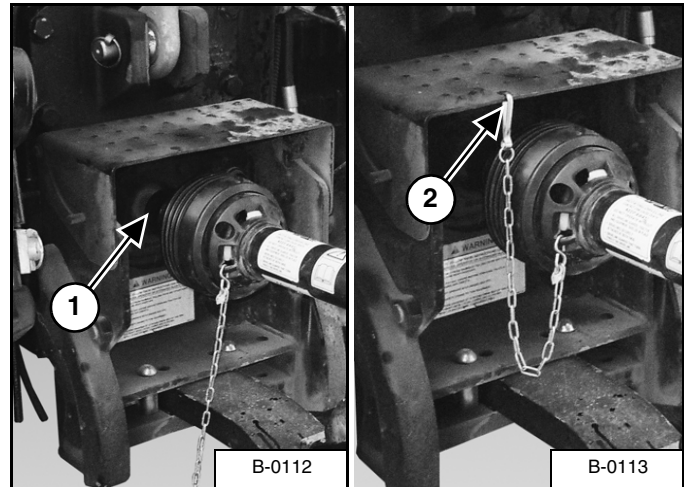
IMPORTANT

Improper hitch installation can cause PTO driveline damage.

- Do not modify the hitch or use an unapproved hitch.
- Make sure the PTO driveline is of adequate length and that u-joints are in the correct phase.

Remove the PTO driveline from the storage position (if applicable).

Figure 11



Retract the collar and slide the PTO driveline (Item 1) onto the tractor PTO shaft until it locks onto the shaft. Push and pull on the PTO driveline to verify it is securely attached to the PTO shaft. Install PTO driveline safety chain (Item 2) [Figure 11].

NOTE: The PTO driveline must have a means to retain it to the PTO shaft on the tractor.

WARNING



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

PTO Driveline

PTO Driveline Length Check

NOTE: Due to variations in distances between tractor PTO shafts and implement input shafts, drivelines may need to be shortened or a longer shaft may be required. When fitting the implement to the tractor, the PTO driveline, with telescoping sections, must be inspected. When the sections are at the most compressed operating position, the sections must not “bottom out”. At its shortest length, there must be at least 2 in. (50,8 mm) of clearance between each section end and opposite section end at the most compressed operating position. When the sections are at the most extended position, there must be sufficient engagement between the sections. At its farthest operating extension, a minimum section engagement of 33% of shaft length must be maintained.



WARNING

AVOID INJURY OR DEATH

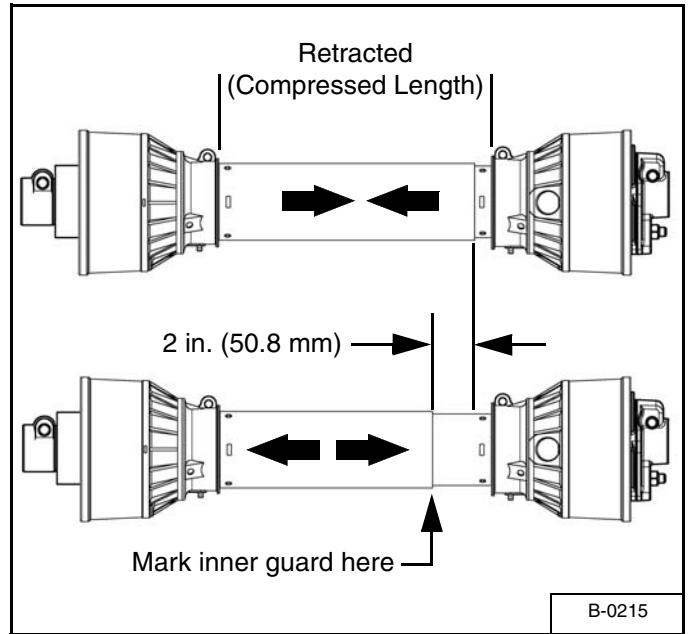
- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.
- Do NOT service the tractor or implement with the PTO engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO for road travel.

PTO Driveline Bottoming Out Check

Stop the engine and leave the operator's position. (See “Leaving The Operator's Position” on page 24.)

Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position (if applicable).

Figure 12



1. Disconnect the PTO driveline from the tractor and slide the PTO driveline together until fully retracted (compressed).
2. Measure the retracted (compressed) length of PTO driveline [Figure 12].
3. Extend the PTO driveline 2 in. (50,8 mm) from the retracted length and place a mark on the inner guard at the end of the outer guard [Figure 12].
4. Reattach the PTO driveline to the tractor PTO shaft.
5. Enter the operator's position. (See “Entering The Operator's Position” on page 23.) Start the engine.
6. With the rear PTO DISENGAGED, raise and lower the implement and watch the PTO driveline extend and retract.
7. If the outer PTO driveline guard slides in (retracts) over the mark at any point of travel, the PTO driveline needs to be shortened.

Reducing The PTO Driveline Length

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.



AVOID INJURY OR DEATH

- **Do NOT** exceed the rated implement PTO speed.
- **Stay clear** of rotating driveline.
- **Keep bystanders away.**
- **Keep hands, feet, clothing and long hair away.**
- **Keep PTO shields and all guards in place.**
- **Disengage PTO**, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.
- **Do NOT** service the tractor or implement with the PTO engaged.
- **Do NOT** service the implement in a raised position unless properly blocked and with all rotating components stopped.
- **Disengage PTO** for road travel.

Remove the PTO driveline from the tractor and place in storage position (if equipped).

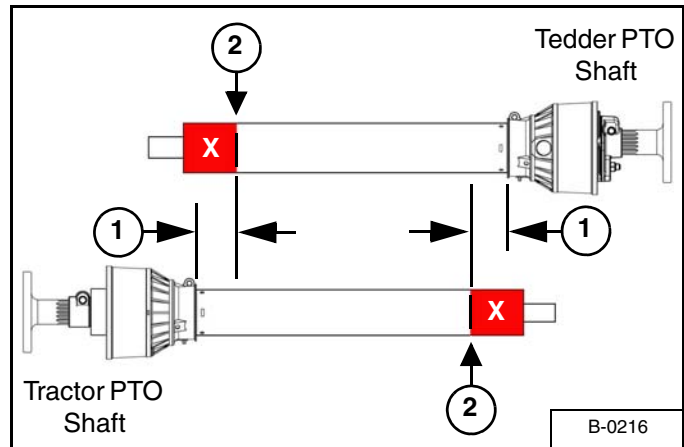
Enter the operator's position. (See "Entering The Operator's Position" on page 23.) Start the engine.

Raise or lower the Tedder to get the shortest distance between the tractor PTO shaft and Tedder gearbox PTO shaft.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

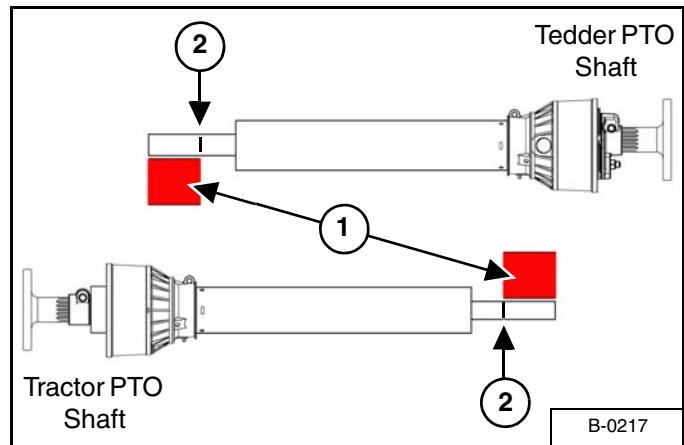
Pull the PTO driveline apart and reinstall each individual section; one half to the tractor PTO shaft and one half to the implement gearbox PTO shaft.

Figure 13



1. Hold PTO driveline sections parallel to one another and measure back 2 in. (50,8 mm) (Item 1) from the yoke of each section and place mark on opposite section. Cut the plastic shield at this length (Item 2) [Figure 13].

Figure 14



2. Using the plastic guard lengths that were cut off in [Figure 13], align the cut off lengths (Item 1) with the end of the inner & outer shafts. Place a mark (Item 2) [Figure 14] on the inner & outer shafts and cut the inner & outer shafts off at this length.
3. Round off all sharp edges and debur.
4. Thoroughly grease and install the PTO driveline halves together.
5. Recheck for proper operation.

PTO Driveline Engagement Check

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 24.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor.

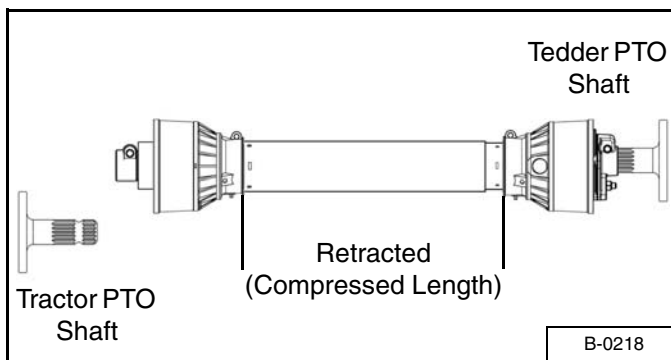


AVOID INJURY OR DEATH

- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.
- Do NOT service the tractor or implement with the PTO engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO for road travel.

1. Disconnect the PTO driveline from the tractor and fully slide the driveline sections together (retracted).

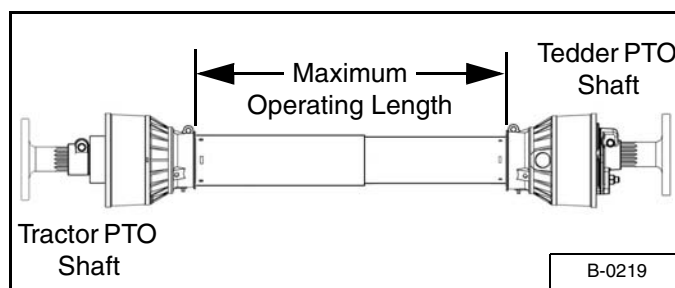
Figure 15



2. Measure the retracted (compressed) length of the PTO driveline between the bases of the plastic guards [Figure 15].

3. Multiply the retracted driveline length by 1.667 to determine the PTO driveline Maximum Operating Length. (i.e.: 25.5 in. (647,7 mm) x 1.667= 42.5 in. (1079,7 mm) Maximum Operating Length).
4. Attach the PTO driveline to the tractor PTO output shaft.
5. Enter the operator's position. (See "Entering The Operator's Position" on page 23.)
6. With the PTO driveline attached, position the Tedder to where the telescoping PTO driveline is at its maximum operating extension.
7. Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 24.) Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.

Figure 16



8. Measure the length of the PTO driveline between the bases of the plastic shields [Figure 16] to determine the maximum operating length.

A. If the measured maximum operating length is less than the Maximum Operating Length calculation (from Step 3), the PTO driveline has adequate engagement

B. If the measured maximum operating length is equal to or more than the Maximum Operating Length calculation (from Step 3), the PTO driveline does not have adequate engagement and should be replaced with a longer driveline. See your Farm King dealer for available PTO drivelines.

Connecting Hydraulic Lines (Pull-Type Models)

WARNING



HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

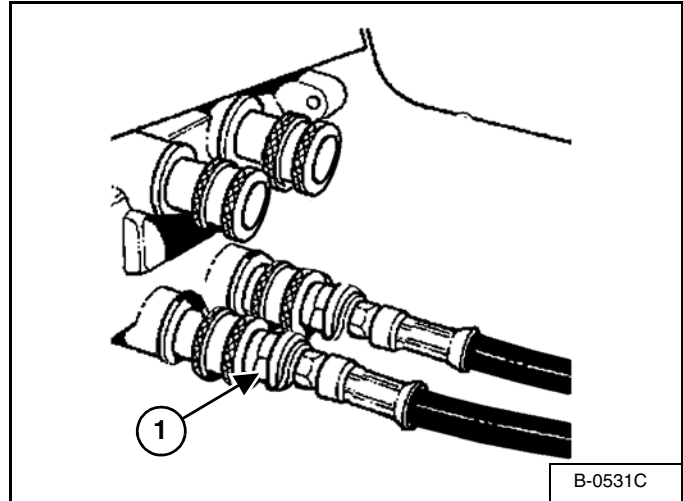
IMPORTANT

- Contain and dispose of any oil leakage in an environmentally safe manner.
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.

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 type.

To Connect:

Figure 17



Connect the two hydraulic lines to the tractor [Figure 17].

1. Supply Line.

To Disconnect:

WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running equipment. Be careful when connecting and disconnecting quick couplers.

Pull on the hydraulic lines to disconnect.

Operating Tedder (All Models)

WARNING



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

WARNING



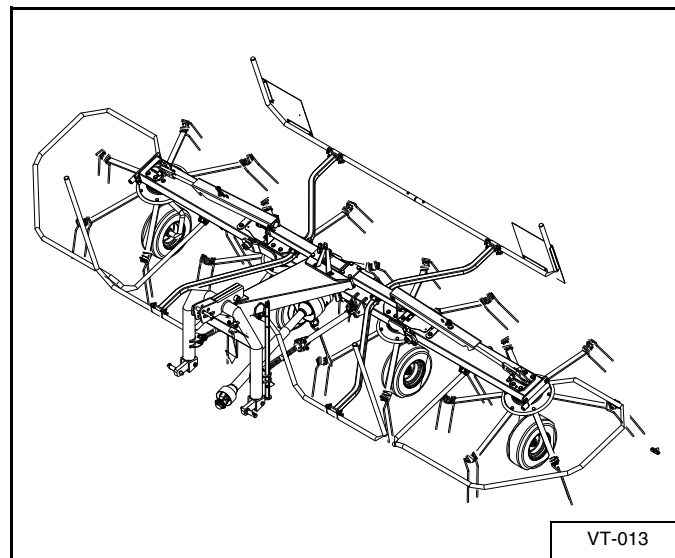
Before operating the equipment:

- Clear the work area of all bystanders, especially small children and animals.
- Clear the work area of all obstacles.
- Keep shields and all guards in place.
- Keep away from moving parts.

Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 23.)

Move the tractor and Tedder to work area.

Figure 18



From the operator's position, manually and simultaneously pull the two strings to unlock the two rams from their mechanical blocking devices.

Once they are unlocked from the mechanical blocking device, pulling the strings in the cabin, the lateral frames will automatically go down because the machine is equipped with an independent overrun system. This operation is to be done on a flat surface [Figure 18].

Three-Point Models

Lower the hydraulic lifter until the groups front teeth skim the soil.

Pull-Type Models

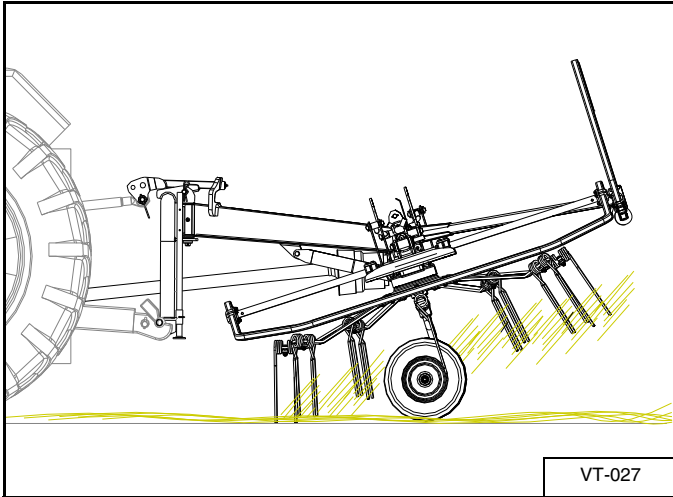
Verify the groups inclination in respect to the ground and, previously, the teeth positioning.

Make sure the support foot (or feet) is in a safe position. It should already be in this position since such operation completes the hay tedder installation to the tractor.

Make sure there are no people or animals in one of the machinery dangerous areas (or range), if not provide to send them away.

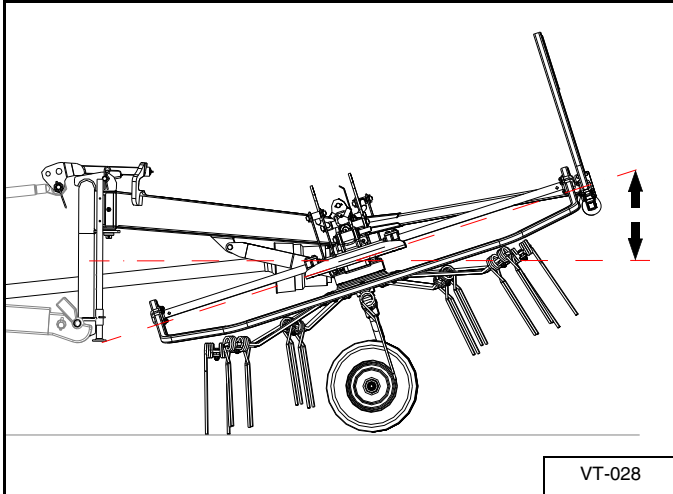
Get back on the tractor, start the engine and release the parking brake and operating on the corresponding lever, insert the PTO.

Figure 19



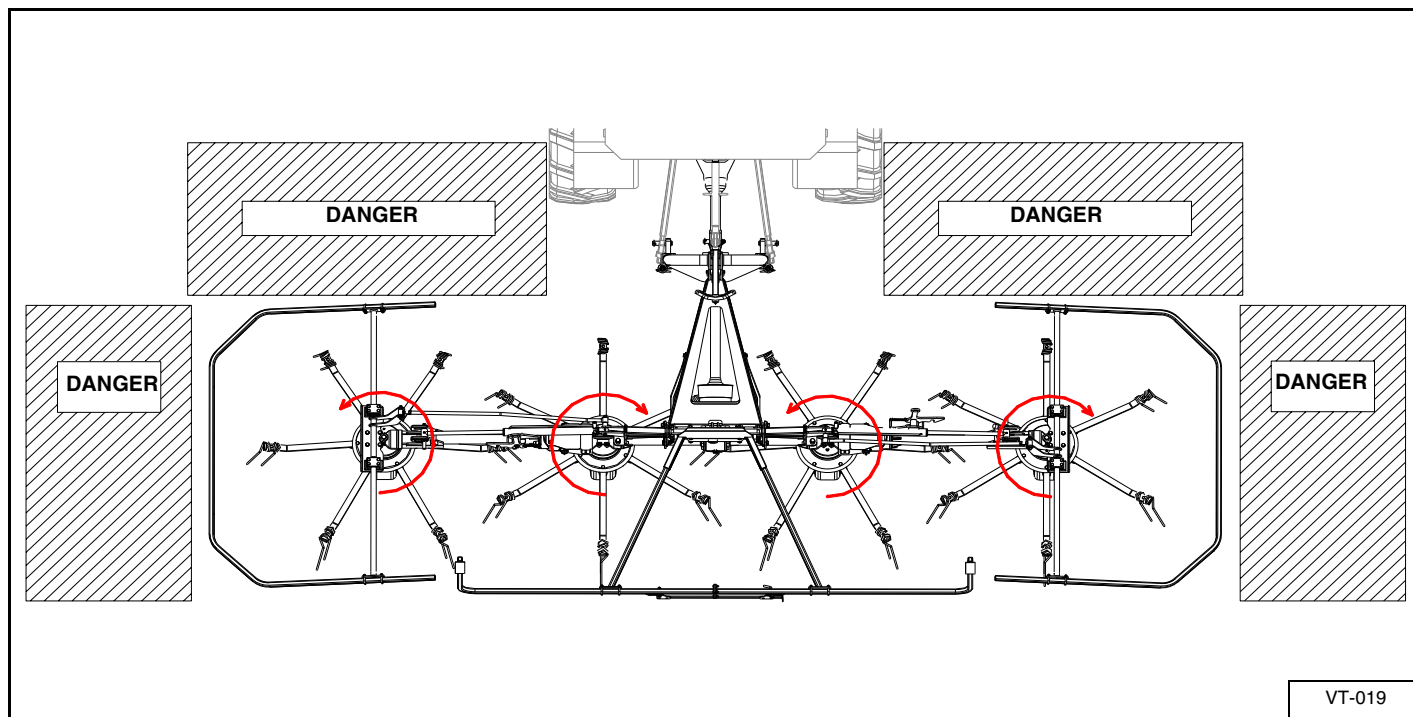
With the tractor proceeding and the working rotary group's rotation and therefore of the teeth, the hay aeration process begins. The teeth skim and scrapes the surface and collects the cut crop pushing it the rear in order to spread it evenly [Figure 19].

Figure 20



For best results rotary groups must operate at an angle to the ground, which can vary from 7 to 10°, as shown in [Figure 20].

Figure 21



NOTE: The reference rotation of the rotary groups is determined by the central ones that rotate respectively clockwise the left group and counter clockwise the right group [Figure 21].

Operate for a few meters and then check the result of the process. If the operator deems appropriate to increase or decrease the angle of the rotary groups to the ground to improve the work process. (See “Adjusting Rotating Group Tilt” on page 27.)

TRANSPORTING

Requirements

Comply with federal, state, local and provincial laws regarding the transport of farm equipment on public roadways.



AVOID SERIOUS INJURY OR DEATH

Use of an unapproved hitch or tractor / tow vehicle can result in loss of control, leading to serious injury or death.

Tractor / tow vehicle and hitch must have the rated capacity to tow equipment.



AVOID SERIOUS INJURY OR DEATH

Excess weight will greatly increase tractor stopping distance and may cause the operator to lose control of the tractor or tow vehicle.



Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not tow over 20 mph (32 km/h). Towing Vehicle / Tractor unit should weigh approximately 67% of GVW.

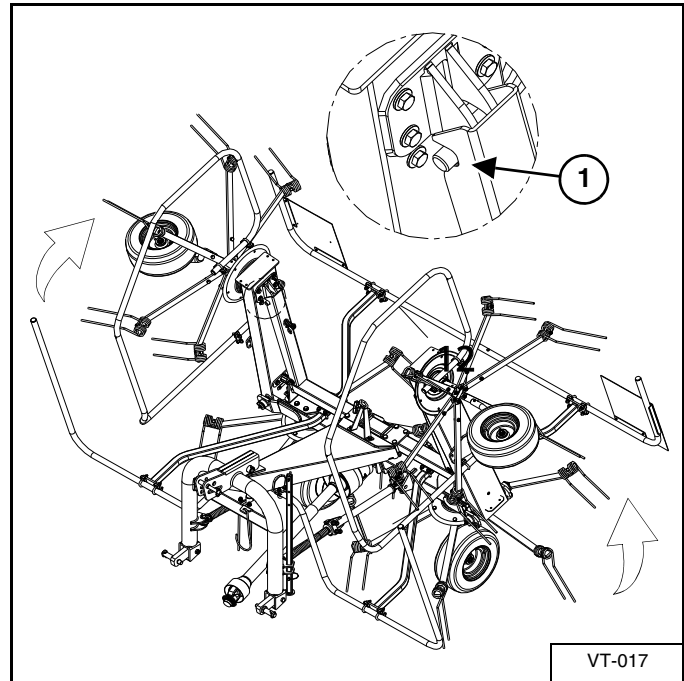
Verify that the tractor / tow vehicle is approved for transporting the equipment and that the equipment is securely attached to the tractor / tow vehicle.

Verify safety chain is installed and properly connected before transporting equipment.

Verify that the SMV (Slow Moving Vehicle) emblem, all lights and reflectors are clean and visible.

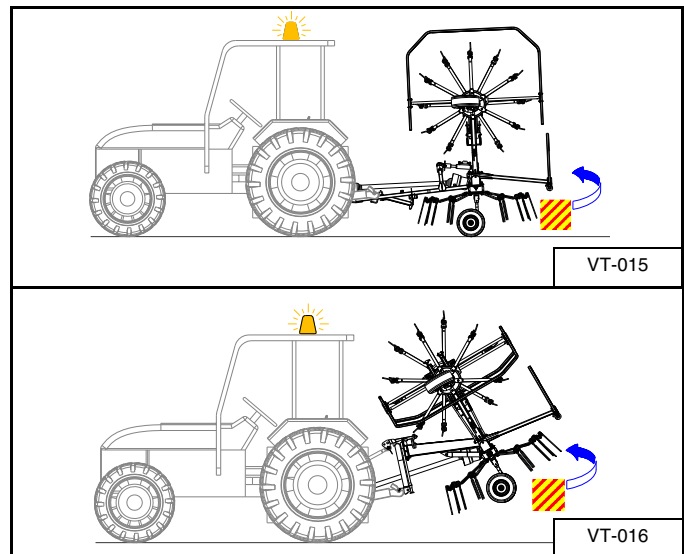
Transport Position

Figure 22



Acting on the corresponding lever in the cabin, give completely retract the two rams and raise the two external sections until the two mechanical locking devices (Item 1) [Figure 22] (one for each side) attach to their corresponding stops placed on them. Lock in transport position.

Figure 23



Transporting Tedder [Figure 23].

MAINTENANCE

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TROUBLESHOOTING

Pull-Type Models



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

NOTE: If a problem is encountered that is difficult to solve, even after having read through this troubleshooting section, please call your local distributor or dealer. Before you call, please have this Operator And Parts Manual and the serial number of your machine at hand.

PROBLEM	CAUSE	CORRECTION
Hydraulic functions operating.	Hydraulic oil level low.	Check hydraulic oil level. Fill hydraulic oil as needed.
	Damaged hydraulic hose or loose connection.	Check all hoses and connections. Repair or replace as needed.
	Hydraulic pump damaged.	Check tractor's hydraulic system.
	Hydraulic oil filter plugged.	Clean or replace hydraulic oil filter.
Hydraulic functions operating intermittently.	Air in hydraulic system.	Remove air from hydraulic system.
Hydraulic cylinders not holding position.	Worn hydraulic seals in cylinders.	Replace seals.
Overheated hydraulic oil.	Hydraulic oil filter plugged.	Clean or replace hydraulic oil filter.
	Crushed hydraulic hose / line.	Repair or replace hydraulic hose / line.
	Oil level low.	Fill hydraulic oil as needed.
Losing hydraulic oil.	Damaged hydraulic hose or loose connection.	Check all hoses and connections. Repair or replace as needed.
	Worn hydraulic seals in cylinders.	Replace seals.

SERVICE SCHEDULE

Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Tedder.



WARNING

Instructions are necessary before operating or servicing equipment. Read and understand the Operator and Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

#	DESCRIPTION	SERVICE PROCEDURES						
		Check	Clean	Lube	Change	Adjust	Drain	Locations
Daily Maintenance (or every 8 hours)								
1	Tire Pressure	•						
2	Wheel Bolts	•						
3	Hydraulic Hoses And Connections	•		•				
4	Hydraulic Cylinders	•		•				
Weekly (or every 50 hours)								
5	Hydraulic Hoses And Connections	•						
6	Hydraulic Cylinders	•						
7	Check All Hardware And Safety Devices.	•						
8	Tedder Condition	•	•					

LUBRICATION

Recommendations

Always use a good quality multi-purpose / lithium base grease when lubricating the equipment.

! IMPORTANT

Do not over-grease. Greasing too often can lead to premature component failure.

- Always use a hand-held grease gun.
- Clean fitting before greasing, to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.
- If fittings will not take grease, remove and clean thoroughly. Replace fitting if necessary.

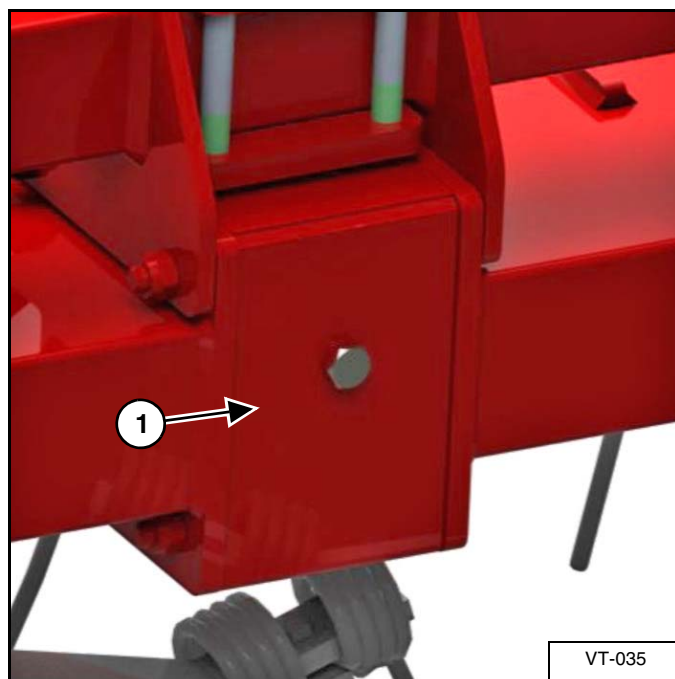
NOTE: Note: all types of hay tedders have a grease lubricated transmission transfer case which means that all internal components can only operate if they are immersed in the lubricant. Consequently, if they are not grease lubricated they are subject to a rapid wear out and therefore to seizure. Therefore, if the operator observes any loss or leakages from the box, it is essential to check the grease level inside. To check simply unscrew the cap level on the side of the head as shown in the figure.

Locations

! IMPORTANT

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

Figure 24



Periodically check the grease level inside the case (Item 1) [Figure 24], in order to refilling it using a pump. For filling the case use only grease type AGIP GREASE MU EP2 (ISO L-X-BCHB 2. o DIN 51825 KP2K-20).

TEETH REPLACEMENT

Removal And Installation

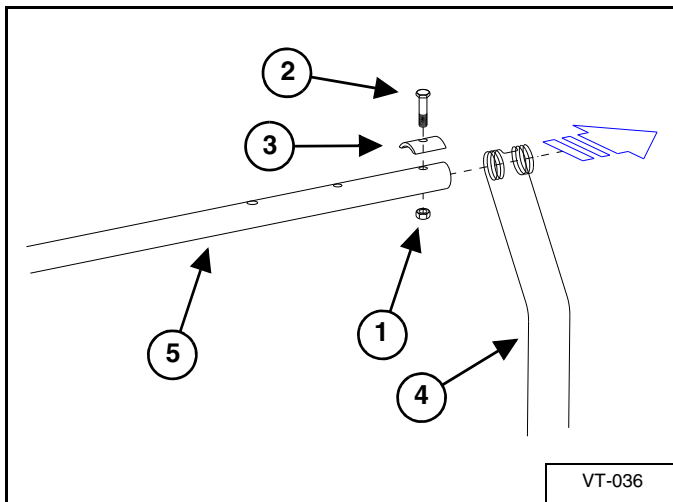


AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in **NEUTRAL**.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Figure 25



If teeth replacement were necessary (worn or broken), you must completely unscrew the locking nut (Item 1), extract from its seat the fastening screw (Item 2) with its teeth-stop plate (Item 3) and then pull the pair of teeth (Item 4) from the machinery's arm (Item 5) [Figure 25]. Insert a new pair and proceed in reverse order the phases described for the removal.

SAFETY SIGN (DECAL) INSTALLATION

Procedure



When replacing safety signs (decals), the temperature must be above 10° C (50° F).

- Remove all portions of the damaged safety sign (decal).
- Thoroughly clean the area with glass cleaner. Remove all adhesive residue.
- Allow the area to dry completely before installing the new safety sign (decal).
- Position the safety sign (decal) in the correct location. Remove a small portion of the backing paper on the safety sign (decal).
- Press on the safety sign (decal) where the backing paper has been removed.
- Slowly remove the remaining backing paper, pressing on the safety sign (decal) as the backing paper is removed.
- Using the backing paper, pressing firmly, move the backing paper over the entire safety sign (decal) area.

NOTE: Small air pockets can be pierced with a pin and smoothed out using the piece of the backing paper.

STORAGE AND RETURN TO SERVICE

Storage

Sometimes it may be necessary to store your Farm King Tedder for an extended period of time. Below is a list of items to perform before storage.



DO NOT permit children to play on or around the stored machine.

- Thoroughly clean the equipment.
- Lubricate the equipment.
- Inspect the hitch and all welds on the equipment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing safety signs (decals). Replace if necessary.
- Replace worn or damaged parts.
- Touch up all paint nicks and scratches to prevent rusting.
- Store the Tedder in a clean, dry, sheltered area.
- Place the equipment flat on the ground.

Return To Service

After the Farm King Tedder has been in storage, it is necessary to follow a list of items to return the equipment to service.

- Be sure all shields and guards are in place.
- Lubricate the equipment.
- Clean and inspect pusher chain for excessive wear or stiffness. Check for proper adjustment and alignment.
- Inspect and repack wheel bearings with a SAE multi purpose type grease.
- Check that tires are properly inflated.
- Connect to a tractor and operate equipment, verify all functions operate correctly.
- Check for leaks. Repair as needed.
- Review the Operator's Manual.

Farm King



PARTS IDENTIFICATION

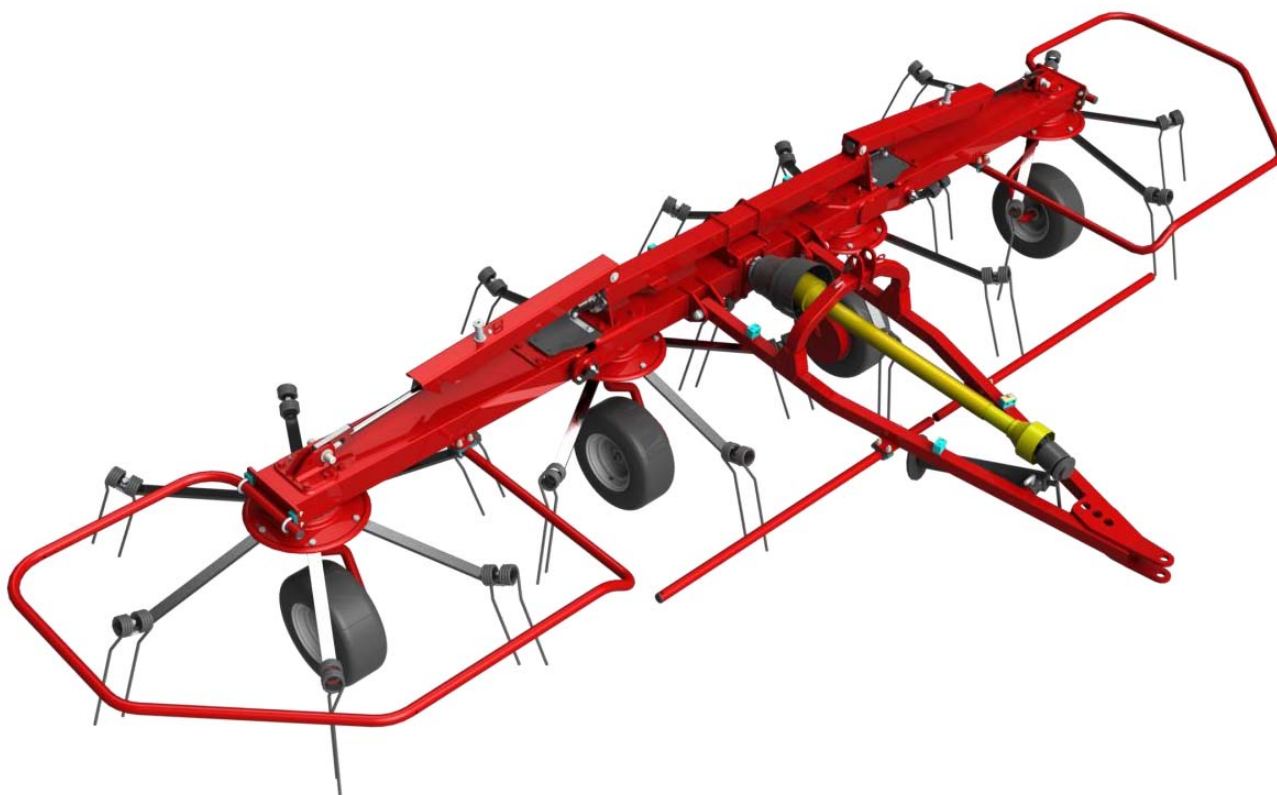
GENERAL INFORMATION	49
BASE FRAME	50
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Hydraulic Assembly	61
Guard Assembly	62
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Farm King



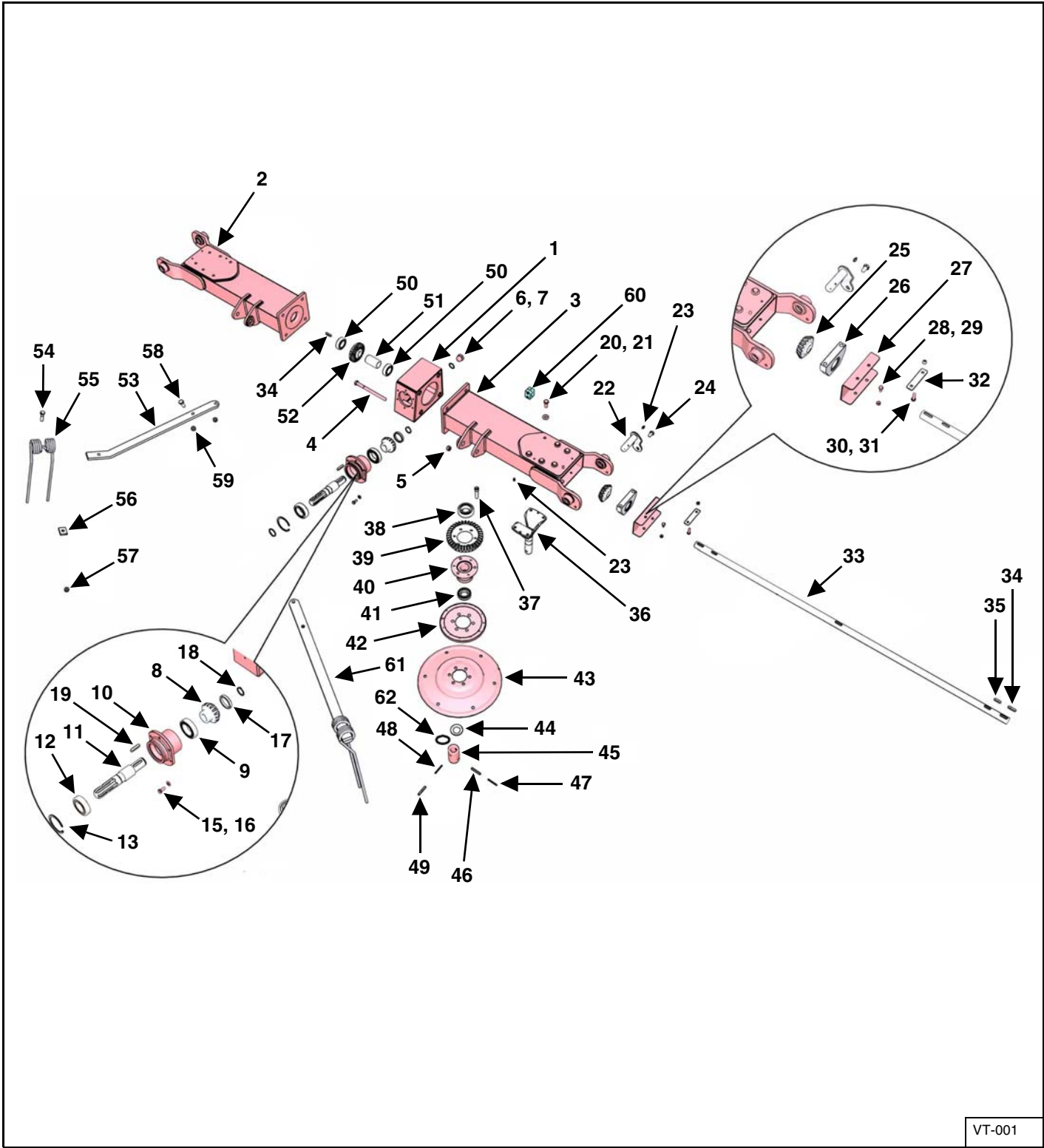
GENERAL INFORMATION

The parts identification section lists descriptions, part numbers and quantities for the Tedder. Contact your Farm King dealer for additional Tedder parts information.



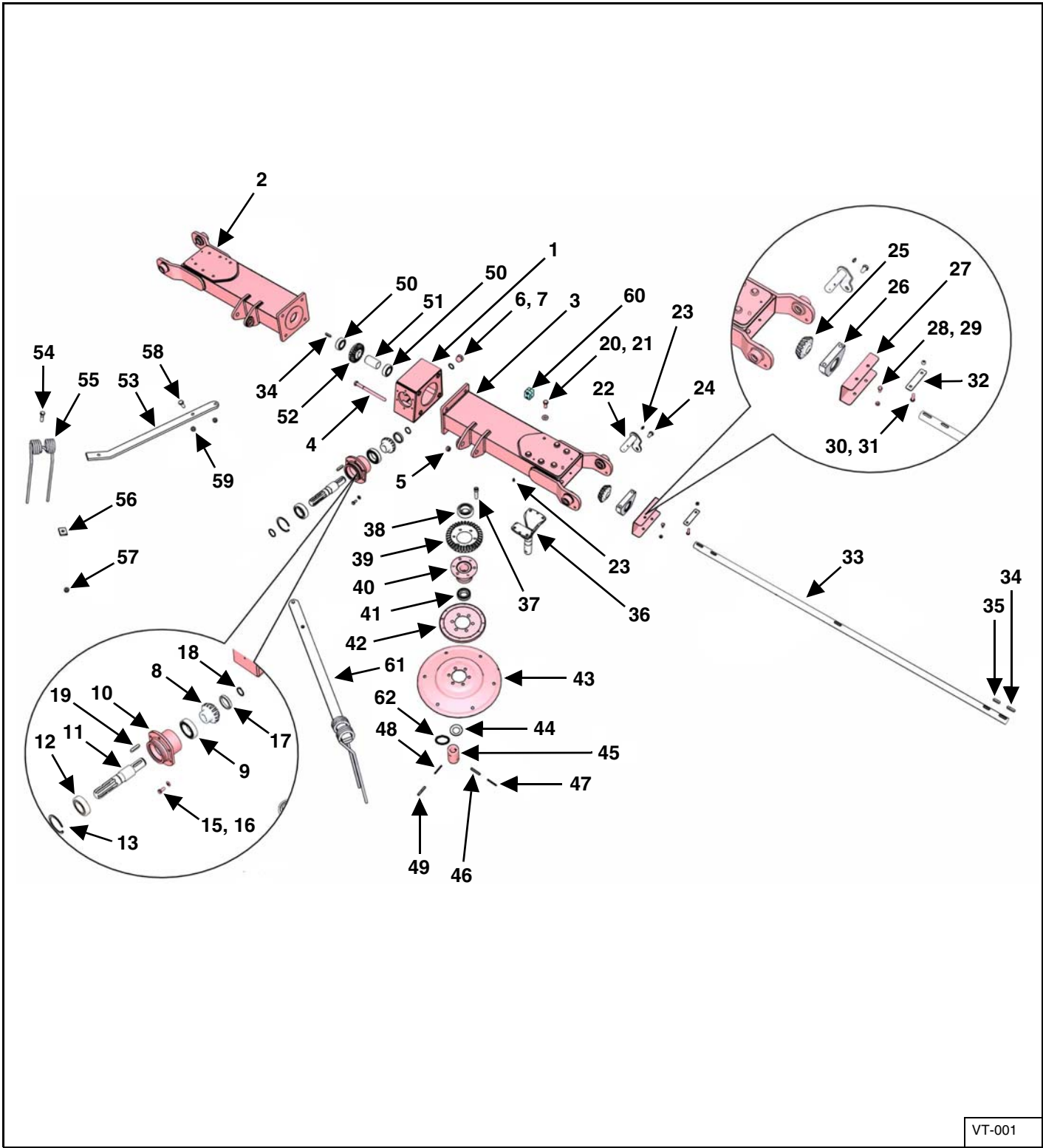
BASE FRAME

Lateral Arm Assembly



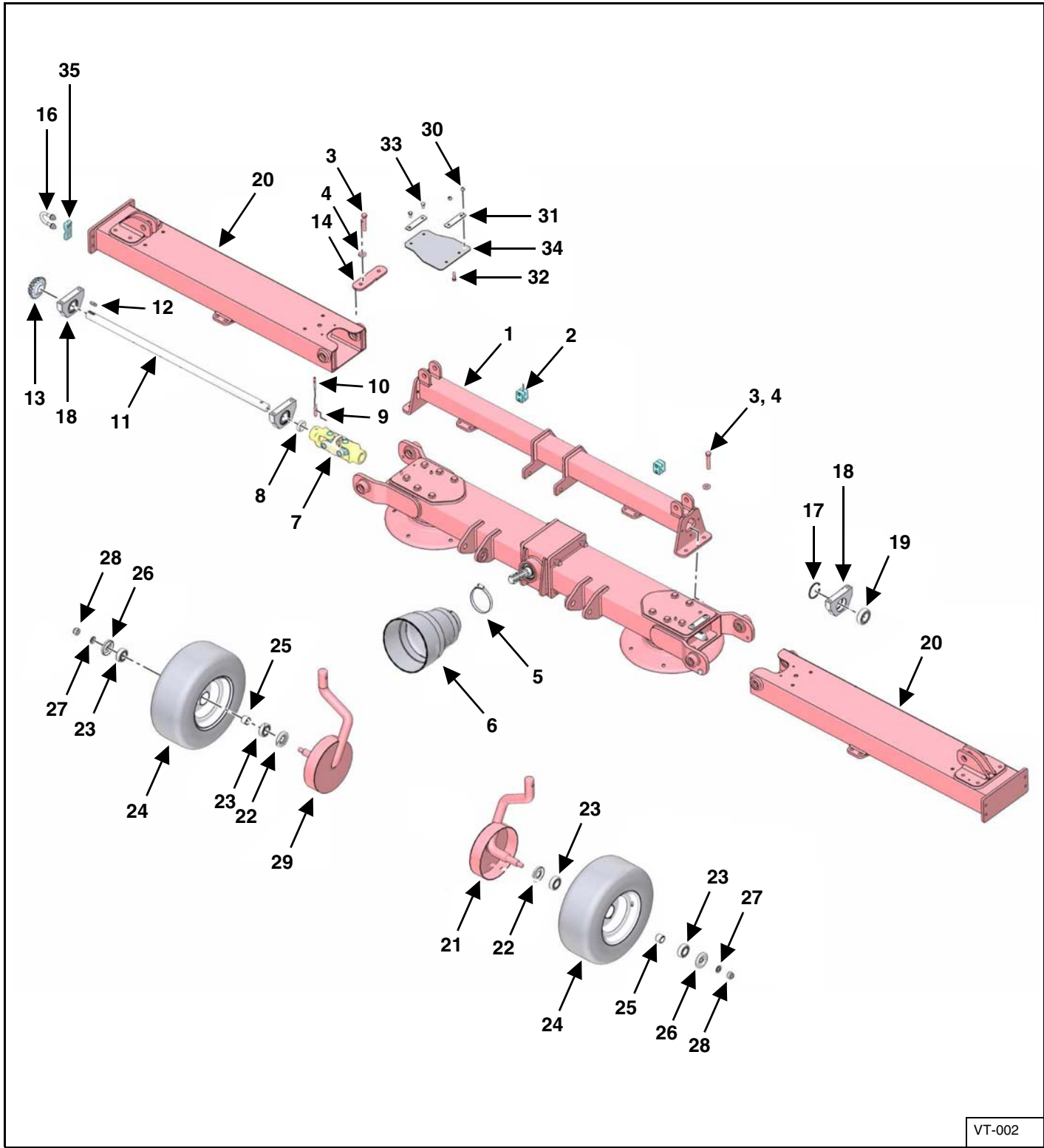
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033776	HAY TEDDEER GEARBOX	
2	R-18033479	LATERAL ARM DX GVL	
2A	R-18033977	LATERAL ARM DX GV	
2B	R-18033728	LATERAL ARM DX GVEL	
3	R-18033727	LATERAL ARM SX GVL	
3A	R-18033976	LATERAL ARM SX GV	
3B	R-18033729	LATERAL ARM SX GVEL	
4	R-3010814	SCREW, TE M14 x 190 ZN	
5	R-3020203	SELF LOCKING NUT, M10	
6	R-4010816	PLUG, 3/4"	
7	R-3030409	COPPER WASHER, 3/4"	
8	R-8010302	BEVEL PINION CENTRAL BOX	
9	R-12240190	BEARING, 6009 2RS	
10	R-18033775	SLEEVE	
11	R-12320301	SHAFT PDF	
12	R-12240145	BEARING, 6207 2RS	
13	R-3120105	SNAP RING E.72	
14	R-3120102	CIR CLIP D.35	
15	R-3010294	SCREW, TE 8 x 20	
16	R-3030802	WASHER, M12 S.E.	
17	R-12061035	SPACER, 54 x 45 x 8	
18	R-3120101	CIR CLIP D.30	
19	R-3110003	TAB, 8 x 7 x 40	
20	R-3010228	SCREW, TE M12 x 30	
21	R-3030800	WASHER, M12 S.E.	
22	R-18033491	PIN, Ø30 L.119	
23	R-3090101	GREASE ZERK, M8 x 1	
24	R-3011268	SCREW, TE M12 x 120 ZN	
25	R-8010303	BEVEL PINION FOR ROTOR	
26	R-18033601	COMPLETE DRAFT SUPPORT	
27	R-1015252	CENTRAL CLOSING HOUSING	
28	R-3010250	SCREW, TE M8 x 16	
29	R-3020302	NUT, M8	
30	R-3010780	SCREW, TE M8 x 30 ZN	
31	R-3020209	SELF LOCKING NUT, M8	
32	R-18033544	PLATE	
33	R-18033777	SHAFT TRASMISSION GVL L. 1560	
33A	R-12010210	SHAFT TRASMISSION GV.1418 MM	
33B	R-12010211	SHAFT TRASMISSION GVEL L.1783 MM	

Lateral Arm Assembly (Cont'd)



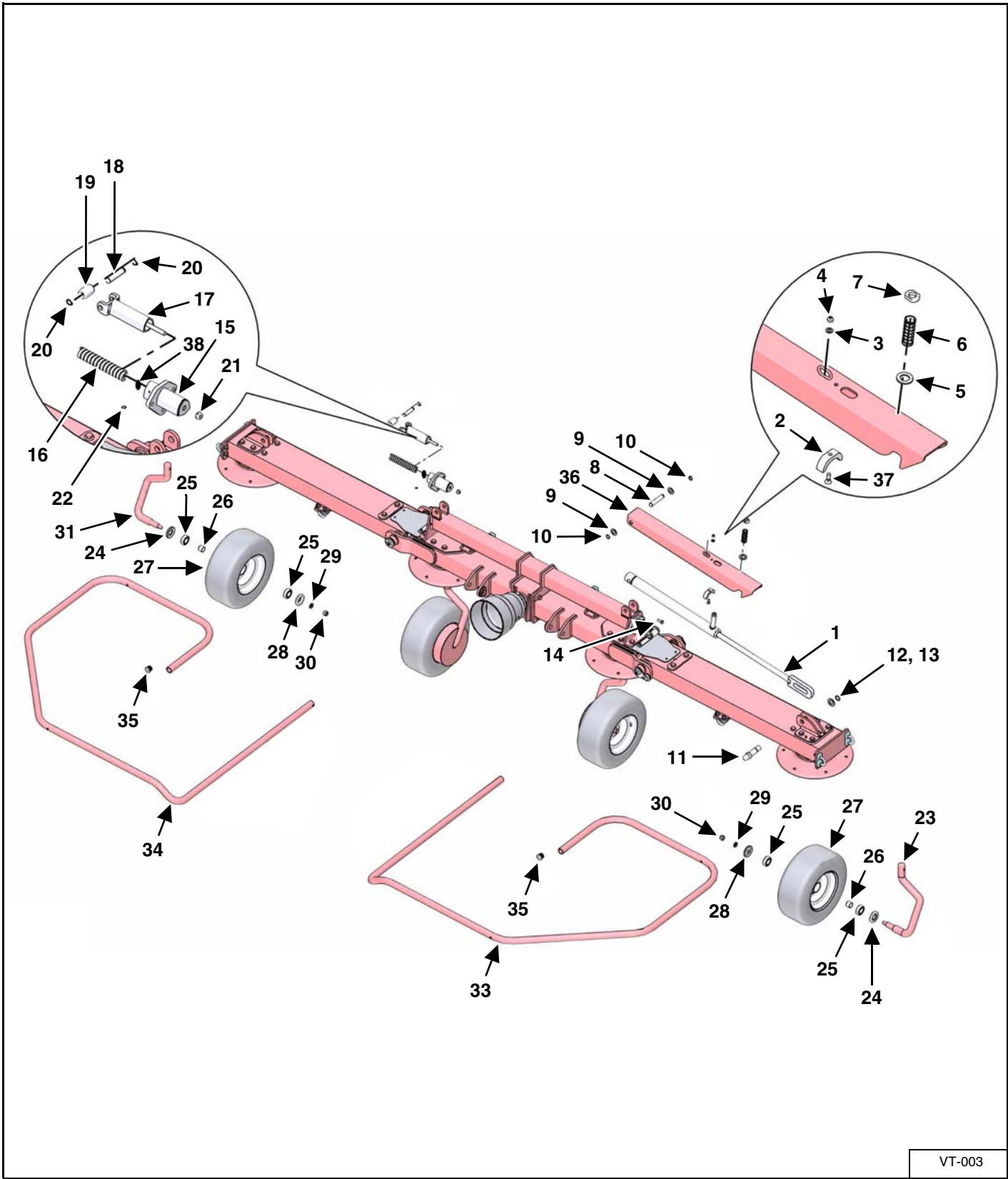
ITEM	PART NUMBER	DESCRIPTION	QTY
34	R-3110002	TAB, 8 x 7 x 35	
35	R-3110008	TAB, 8 x 7 x 30	
36	R-18034226	CENTRAL PIN WITH BRACKET	
37	R-3010605	SCREW, TCEI M12 x 55	
38	R-12240109	BEARING 6207	
39	R-18031169 or R-8010317	BEVEL CROWN FOR ROTOR	
40	R-18031171 or R-2010422	SAFETY LOOP	
41	R-12240160	BEARING 32007A	
42	R-18033532	PROTECTION SCREEN	
43	R-18031170	ARM CONNECTION FLANGE	
44	R-10011315	NILOS RING, 32007 AV	
45	R-18032308	BUSHING, D 54 L 106	
46	R-3080141	ELASTIC PIN, 10 x 55	
47	R-3080142	ELASTIC PIN, 6 x 55	
48	R-		
49	R-		
50	R-12240108	BEARING 6206 2RS	
51	R-12070330	SPACER, 42 x 8 x 74	
52	R-8010304	CROWN FOR CENTRAL BOX	
53	R-18031828	ARM GV	
53A	R-18030620	ARM GVL	
53B	R-18032339	ARM GVEL	
54	R-3011297	SCREW, TE M12 x 45 ZN	
55	R-18030616	TINE	
56	R-18030627	SPRING CLAMP	
57	R-3020202	SELF LOCKING NUT, M12	
58	R-3011241	SCREW, TE M12 x 30 ZN	
59	R-		
60	R-18033216	COLLAR	
61	R-18033723	ARM COMPLETE GV	
61A	R-18033631	ARM COMPLETE GVL	
61B	R-18033736	ARM COMPLETE GVEL	
62	R-3120126	AXIAL WASHER PS 355205	

Crossmember Assembly



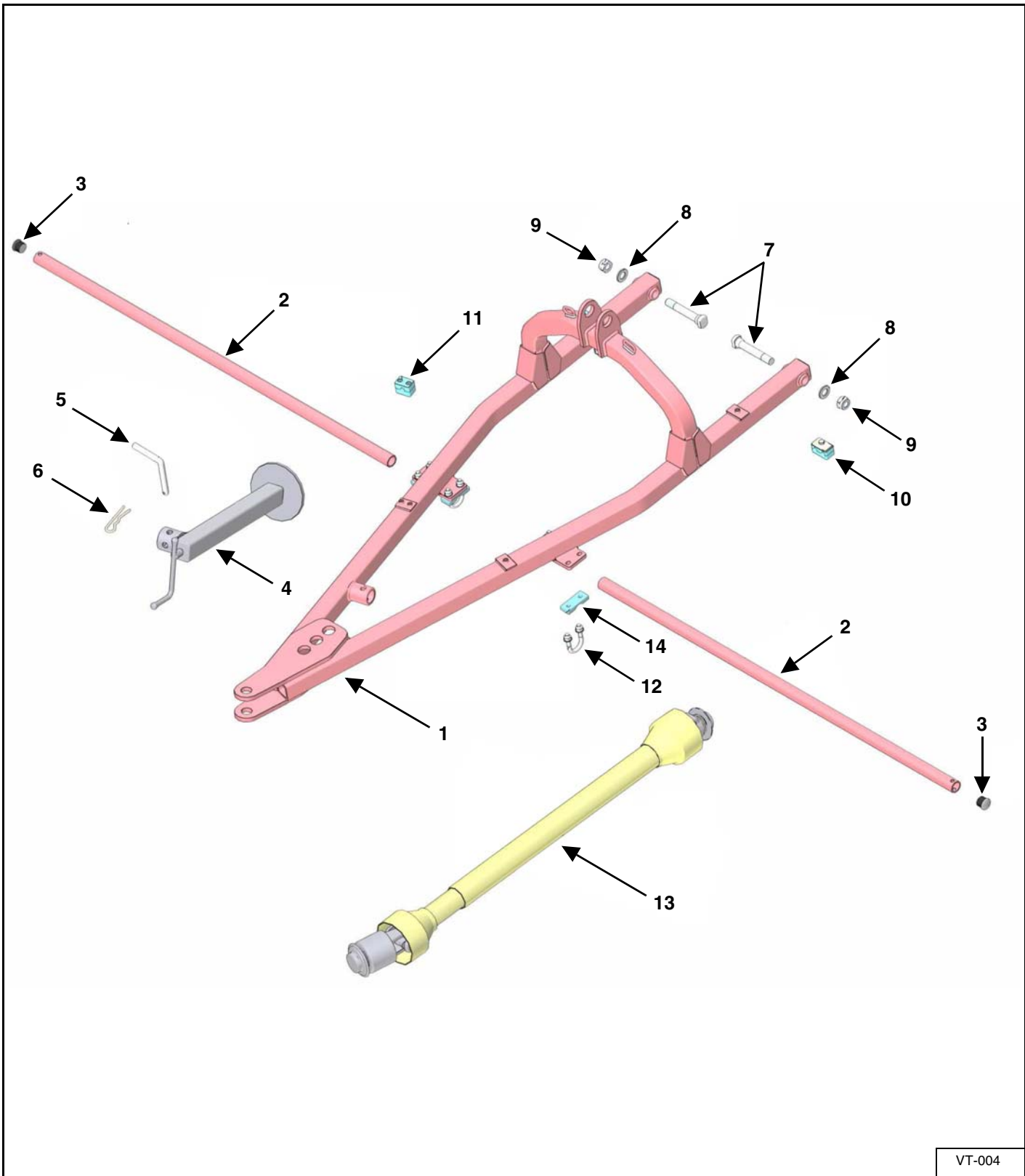
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033535	CROSS ATTACK GVL L.1365 MM	
1A	R-18033730	CROSS ATTACK GVEL L.1590 MM	
1B	R-18033978	CROSS ATTACK GV L.1224 MM	
2	R-18033216	COLLAR C3	
3	R-3010231	SCREW, TE M12 x 70	
4	R-3030800	WASHER M12 S.E.	
5	R-4010702	BAND	
6	R-9070101	COVER	
7	R-8020702	JOINT DOUBLE DG2	
8	R-18033703	SPACER D.42 L.8	
9	R-3080141	ELASTIC PIN 10 x 55	
10	R-3080142	ELASTIC PIN 6 x 55	
11	R-12010103	SHAFT GVL L.916 MM	
11A	R-12010111	SHAFT GV L.616 MM	
11B	R-12010104	SHAFT GVEL L.1041 MM	
12	R-3110008	TAB, 8 x 7 x 30	
13	R-8010303	BEVEL PINION FOR ROTOR	
14	R-1015143	SHEET METAL SCROLL	
15	R-9170006	DUST COVER CUP	
16	R-3070118	U-BOLT, M10	
17	R-3120108	RING SEEGER I62	
18	R-18033702	SUPPORT SHAFT	
19	R-12240108	BEARING 6206 2RS	
20	R-18033486	LATERAL ARM GVL	
20A	R-18033979	LATERAL ARM GV	
20B	R-18033731	LATERAL ARM GVEL	
21	R-18032307	AXLE FENDER SX	
22	R-12070314	INTERNAL SHIELD	
23	R-12240113	BEARING 6205 2RS	
24	R-12170106	WHEEL, 16 / 650 / 8	
25	R-12070307	SPACER	
26	R-12070315	EXTERNAL SHIELD	
27	R-3030175	WASHER M16 ZN	
28	R-3020204	SELF LOCKING NUT M16	
29	R-18032315	AXLE FENDER DX	
30	R-3020209	SELF LOCKING NUT M8	
31	R-18033544	PLATE	
32	R-3010780	SCREW, TE M8 x 30	
33	R-3011221	SCREW, TE M8 x 16 ZN	
34	R-9170006	DUST COVER CUP	
35	R-14080901	BASE COLLAR	

Rear Frame Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033725	CYLINDER G4V	
1A	R-18033536	CYLINDER G4VL	
1B	R-18033732	CYLINDER G4VLEL	
2	R-12881406	END POINT D.50	
3	R-3030156	WASHER, M16 ZN	
4	R-3020209	SELF LOCKING NUT, M8	
5	R-3030176	WASHER, M22 ZN	
6	R-11010906	SPRING, D.27 L.78	
7	R-18033542	STOP FRAME	
8	R-18033700	PIN HYDRAULIC CYLINDER D20 L100	
9	R-3030168	WASHER, M20	
10	R-3120157	SEEGER, E20	
11	R-18033538	PIN	
12	R-3030115	WASHER, 53 x 26 x 5	
13	R-3120127	RING SEEGER, D.25	
14	R-3011211	SCREW, TE M10 x 25 ZN	
15	R-18033541	SEAT SHAFT, GVL GVEL	
15A	R-18034151	SEAT SHAFT GV	
16	R-11010635	SPRING GVL GVEL	
16A	R-11010643	SPRING GV	
17	R-18032378	SLIDING SHAFT GVL GVEL	
17A	R-18033788	SLIDING SHAFT GV	
18	R-18033704	PIN HYDRAULIC CYLINDER D16 L72	
19	R-18032373	ROLLER	
20	R-3120128	RING SEEGER D.16	
21	R-3020202	SELF LOCKING NUT M12	
22	R-3090102	GREASE ZENK M6 x 1	
23	R-18032318 or R-14013144	AXLE DX	
24	R-12070314	INTERNAL SHIELD	
25	R-12240113	BEARING 6205 2RS	
26	R-12070307	SPACER	
27	R-12170106	WHEEL COMPLETE, 16 / 650 / 8	
28	R-12070315	EXTERNAL SHIELD	
29	R-3030175	WASHER M16 ZN	
30	R-3020204	SELF LOCKING NUT M16	
31	R-18032316	AXLE SX	
32			
33	R-18033551	PROTECTION SX GVL	
33A	R-18033738	PROTECTION SX GVEL	
33B	R-18033724	PROTECTION SX GV	
34	R-18033550	PROTECTION DX GVL	
34A	R-18033737	PROTECTION DX GVEL	
34B	R-18033560	PROTECTION DX GV	
35	R-9190018	RUBBER CUP	
36	R-18033537	BLOCK GVL	
36A	R-18033733	BLOCK GVEL	
36B	R-18033721	BLOCK GV	
37	R-3010936	SCREW, TPSEI M8 x 25 ZN	
38	R-3030800	WASHER, S.E. M12	

Hitch Assembly



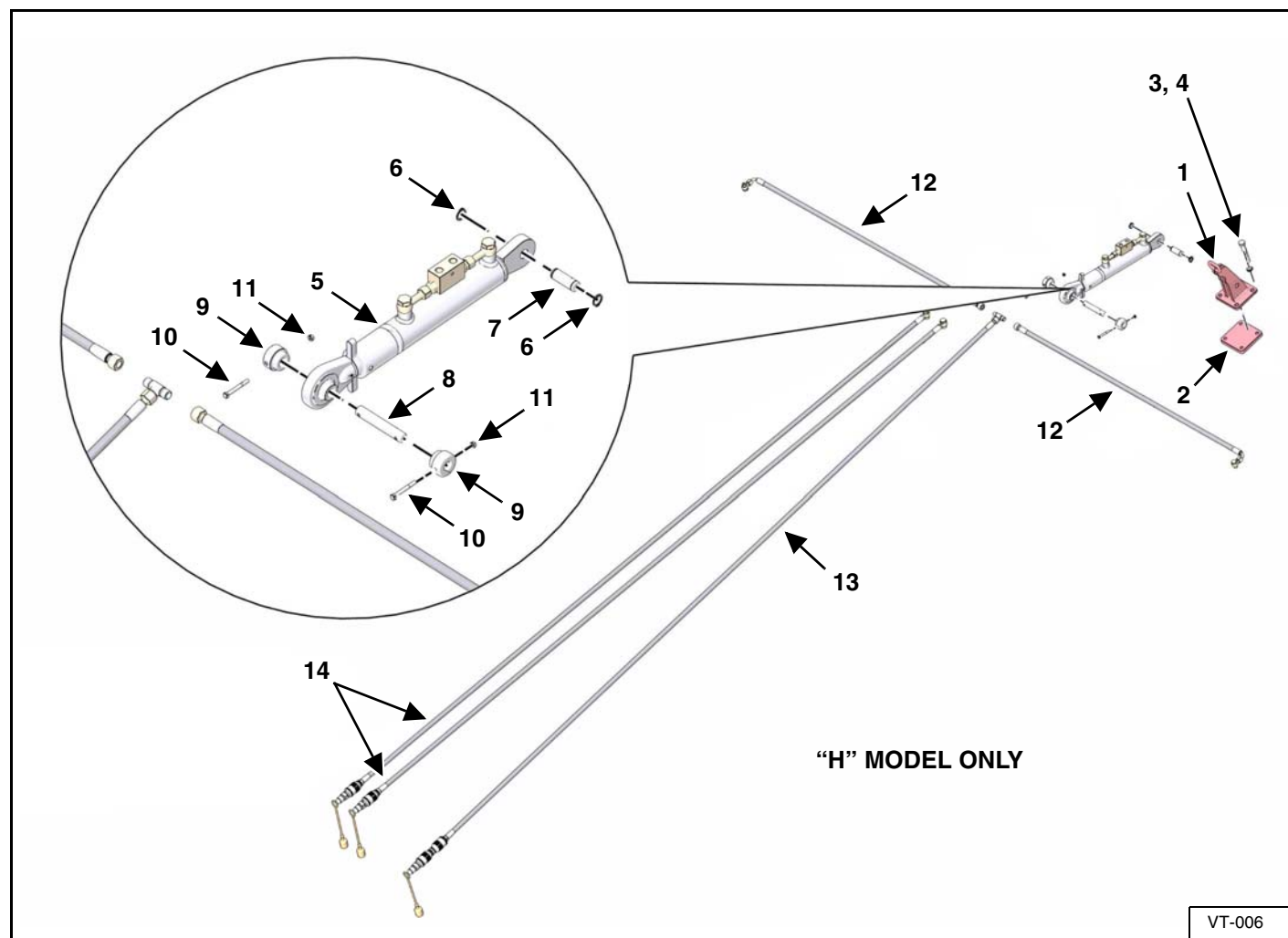
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033556	HITCH	
2	R-14013151	FRONT PROTECTION GVL L.1300	
2A	R-14013220	FRONT PROTECTION GV L.1200	
3	R-9190018	RUBBER CUP Ø32	
4	R-18032774	STAND	
5	R-18033195	PIN	
6	R-3040202	ELASTIC PIN, 5 x 100	
7	R-18033636	PIN	
8	R-3030168	WASHER, M20 ZN	
9	R-3020216	SELF LOCKING NUT, M20	
10	R-18033342	COLLAR, CF2	
11	R-18033216	COLLAR, C3	
12	R-3070118	U-BOLT, M10	
13	R-8020438	CARDAN SHAFT, GV-GVL 90 KG/M L.1480	
13A	R-8020426	CARDAN SHAFT, GVEL 120 KG/M L.1520	
14	R-14080901	BASE COLLAR	

This diagram illustrates the assembly of a mechanical component, likely a bracket or support arm. The parts are numbered 1 through 16:

- 1**: A long, thin metal rod or shaft.
- 2**: A small metal bracket or connector.
- 3**: A long, cylindrical metal tube or sleeve.
- 4**: A small metal bracket or connector.
- 5**: A small metal pin or clip.
- 6**: A small metal pin or clip.
- 7**: A curved metal arm or bracket.
- 8**: A small metal pin or clip.
- 9**: A small metal pin or clip.
- 10**: A small metal bracket or connector.
- 11**: A square metal plate or base.
- 12**: A small metal pin or clip.
- 13**: A small metal pin or clip.
- 14**: A small metal bracket or connector.
- 15**: A small metal pin or clip.
- 16**: A small metal bracket or connector.

The diagram shows the relative positions and orientations of these components, with dashed lines indicating the assembly path. The components are color-coded: red for the main bracket/plate (11), green for the sleeve (3), and grey for the other parts.

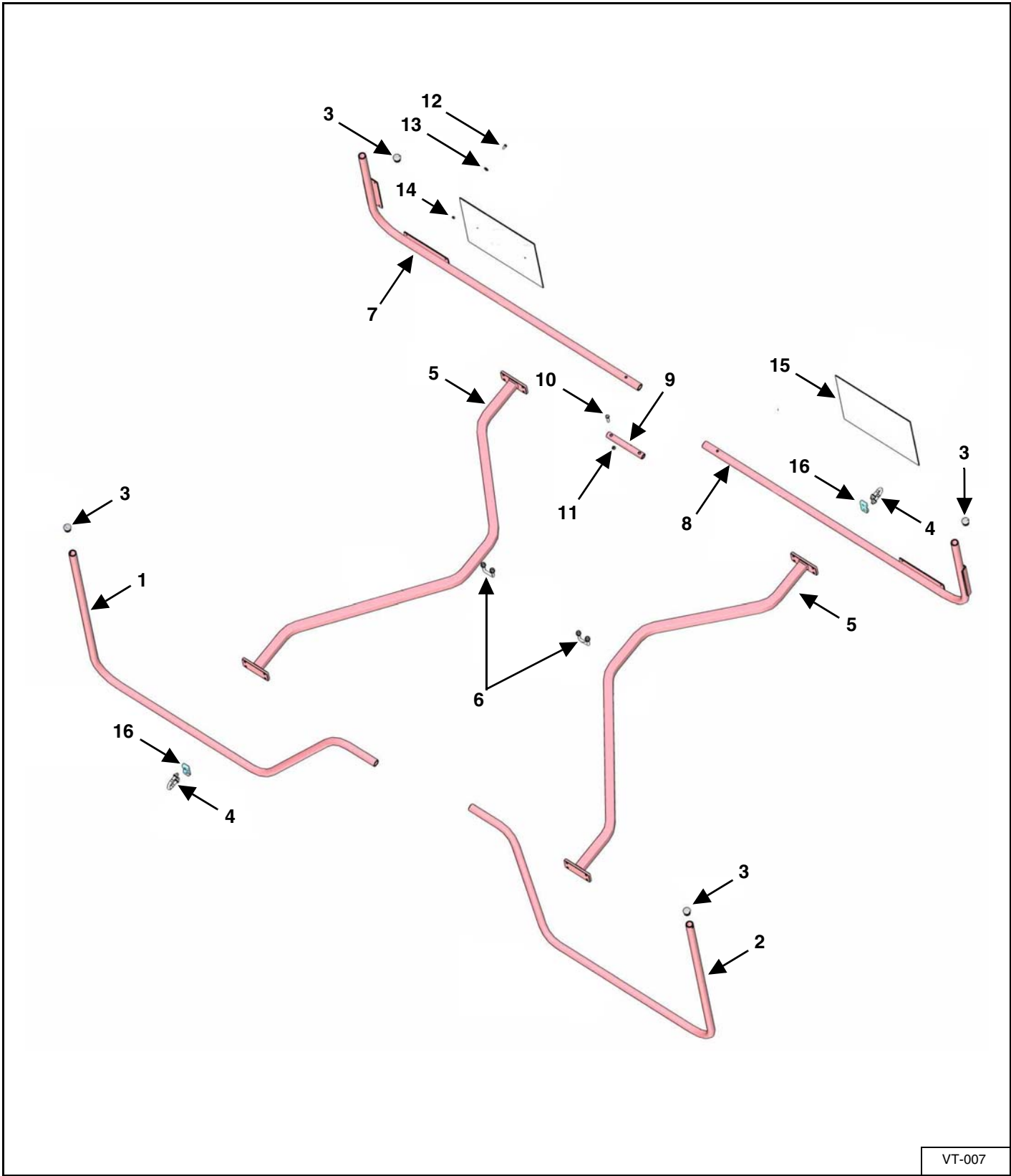
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033715	ROPE	
2	R-9060108	HANDLE	
3	R-18033712	SCREW REGULATION	
4	R-18033714	SNAIL M24 L.55	
5	R-3080102	ELASTIC PIN, 6 x 36	
6	R-12280003	WASHER, AS2035	
7	R-18030697	HANDLE	
8	R-18033711	FRONTE SNAIL	
9	R-3120146	SEEGER, D.35	
10	R-18033648	ATTACK REGULATION	
11	R-18033706	PLATE ATTACK	
12	R-3030322	GROWER WASHER, M16	
13	R-3010408	SCREW, TE M16 x 110 ZN	
14	R-18030691	HANDLE STOP	
15	R-3040201	SPLIT PIN, 3 x 60	
16	R-3160101	CRICKET, Ø8	

Hydraulic Assembly


VT-006

ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033559	ATTACK CYLINDER	
2	R-18033706	PLATE ATTACK	
3	R-3010408	SCREW, TE M16 x 110 ZN	
4	R-3030322	GROWER WASHER, M16	
5	R-18033957	CYLINDER	
6	R-3120157	SEEGER, E20	
7	R-18033713	PIN HYDRAULIC CYLINDER, D20 L100	
8	R-18033321	PIN Ø25 L.160	
9	R-18033716	BUSH	
10	R-3010760	SCREW, TEM 6 x 55 ZN	
11	R-3020213	SELF LOCKING NUT, M6	
12	R-12760724	HYDRUALIC HOSE L.1350	
13	R-12760722	HYDRUALIC HOSE L.3300	
14	R-12760723	HYDRUALIC HOSE L.3400	

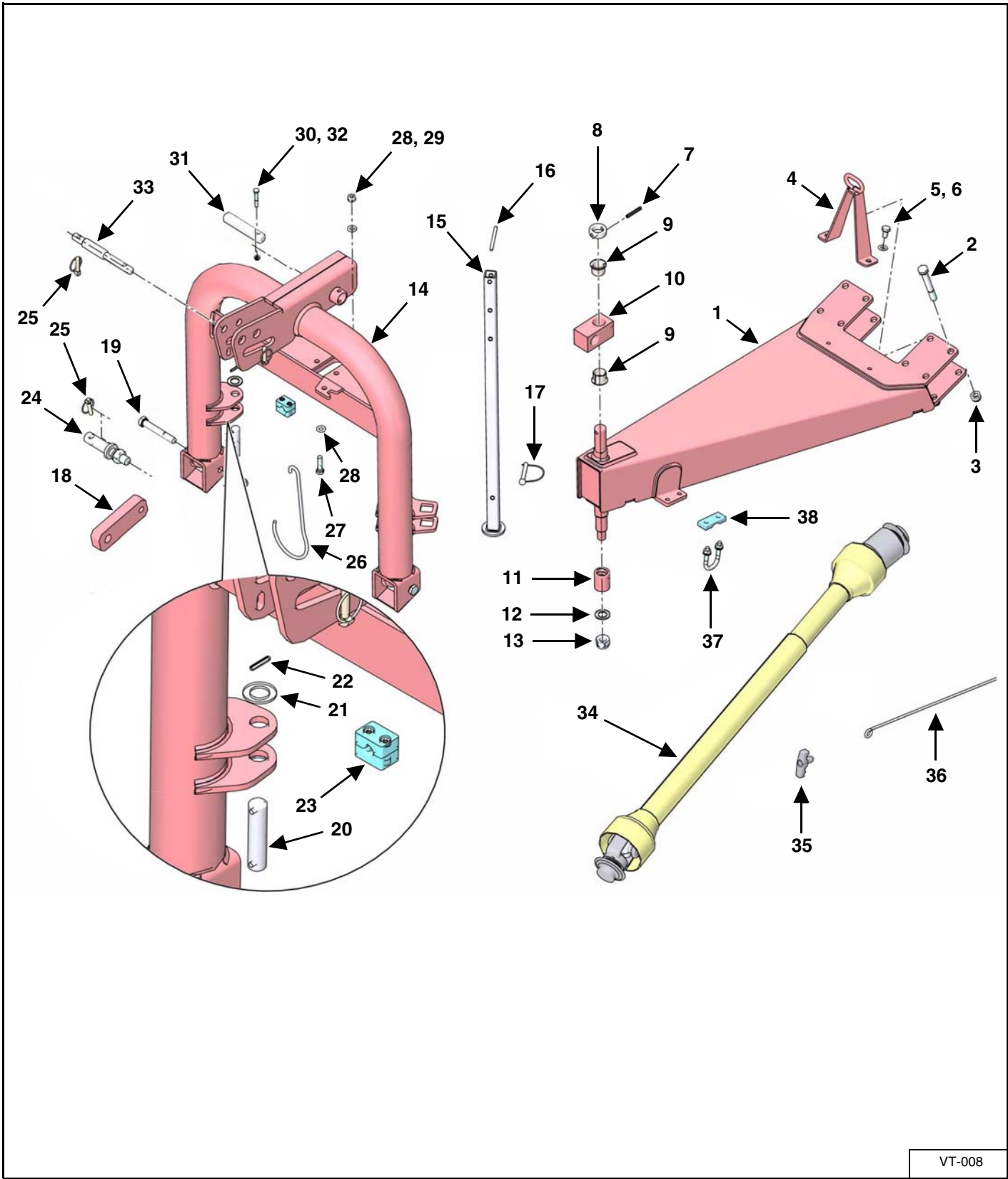
Guard Assembly



VT-007

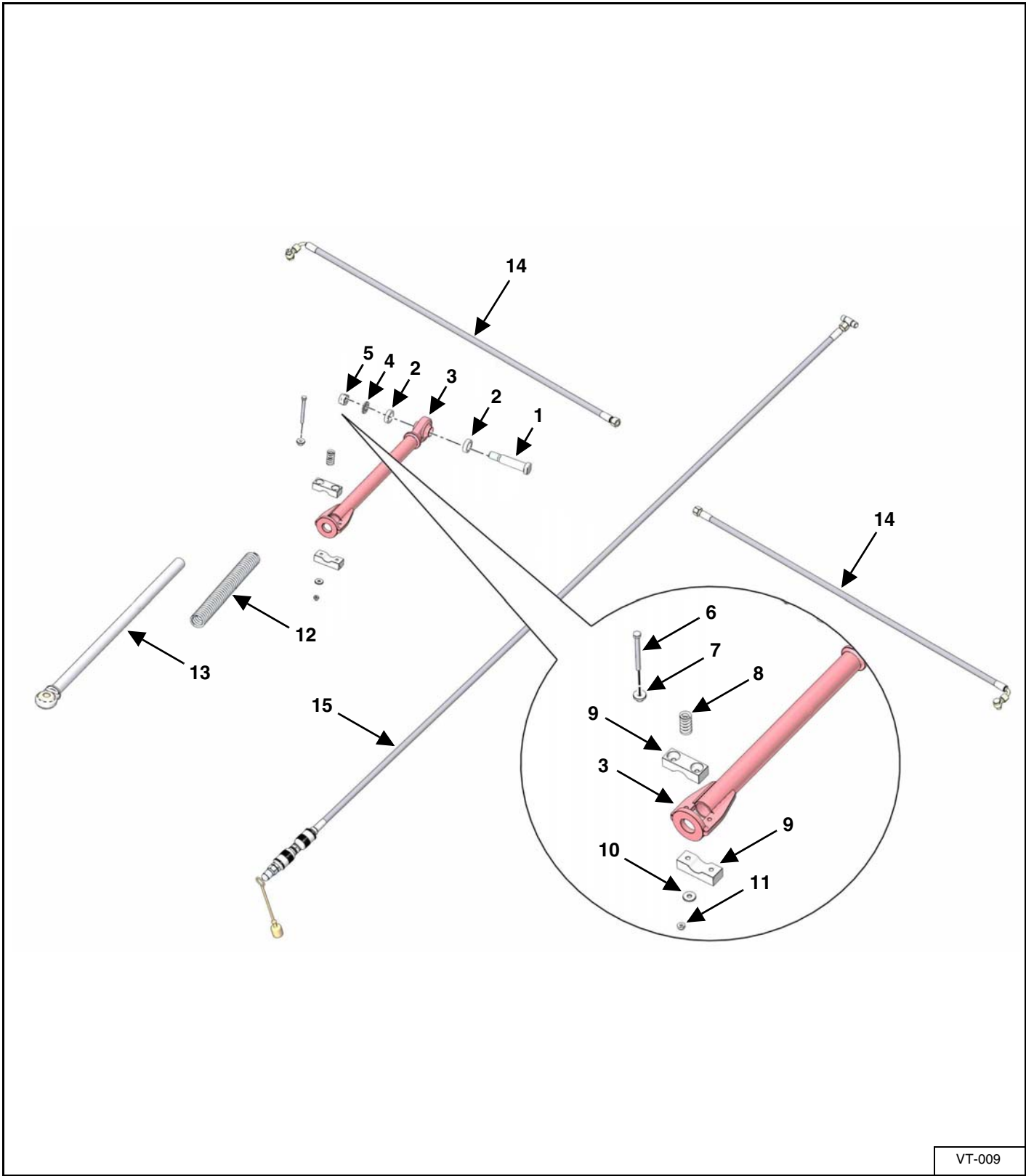
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033553	FRONT PROTECTION DX GVL	
1A	R-18033562	FRONT PROTECTION DX GV	
2	R-18033554	FRONT PROTECTION SX GVL	
2A	R-18033563	FRONT PROTECTION SX GV	
3	R-9190018	RUBBER CUP Ø32	
4	R-3070118	U-BOLT, M10	
5	R-18033552	UNION PROTECTION	
6	R-3170120	U-BOLT, M10 x 40	
7	R-18033708	PROTECTION BACK DX G4VL	
7A	R-18033722	PROTECTION BACK DX G4V	
8	R-18033555	PROTECTION BACK SX GVL	
8A	R-18033649	PROTECTION BACK SX G4V	
9	R-14013219	CONNECTION PROTECTION	
10	R-3011258	SCREW, TE M8 x 45 ZN	
11	R-3020209	SELF LOCKING NUT M8	
12	R-3011672	SCREW, TE M16 x 16 ZN	
13	R-3030160	WASHER, M6 EXL ZN	
14	R-3020213	SELF LOCKING NUT M6	
15	R-12880422	PANEL	
16	R-14080901	BASE COLLAR	

Front Frame Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033546	FRAME	
2	R-3010405	SCREW, TE M16 x 120 ZN	
3	R-3020204	SELF LOCKING NUT, M16	
4	R-18033973	SUPPORT ROPE, 3P	
5	R-3011268	SCREW, TE M12 L20 ZN	
6	R-3030162	WASHER, M12 ZN	
7	R-3080105	ELASTIC PIN, 8 x 50	
8	R-18032266	BUSHING	
9	R-12240237	BUSH GLYCODUR, 3030426	
10	R-18032257	SUPPORT	
11	R-12071212	BUSHING	
12	R-3030176	WASHER, M22 ZN	
13	R-3020222	SELF LOCKING NUT, M22	
14	R-18032254	3P ATTACK	
15	R-18032260	STAND	
16	R-3040117	ELASTIC PIN	
17	R-3080204	PIN, Ø10	
18	R-18033185	BRACKET	
19	R-3010408	SCREW, TE M16 x 110 ZN	
20	R-18032362	PIN, Ø22 L.91	
21	R-3030176	WASHER, M22 ZN	
22	R-3080109	ELASTIC PIN, 6X30	
23	R-18033216	COLLAR	
24	R-12310307	PIN 2°	
25	R-3080202	PIN	
26	R-18032512	HOOK	
27	R-3011707	SCREW, TE M12 L45 10.9 ZN	
28	R-3030162	WASHER, M12 ZN	
29	R-3020202	SELF LOCKING NU,T M12	
30	R-3011210	SCREW, TE M8 x 50	
31	R-18032256	PIN, Ø28 L.135	
32	R-3020209	SELF LOCKING NUT, M8	
33	R-12310115	PIN, 3 POINT	
34	R-8020438	CARDAN SHAFT, 900 NM L.1480 GVL GV	
35	R-9060108	HANDLE	
36	R-18033715	ROPE	
37	R-3070118	U-BOLT, M10	
38	R-14080901	BASE COLLAR	

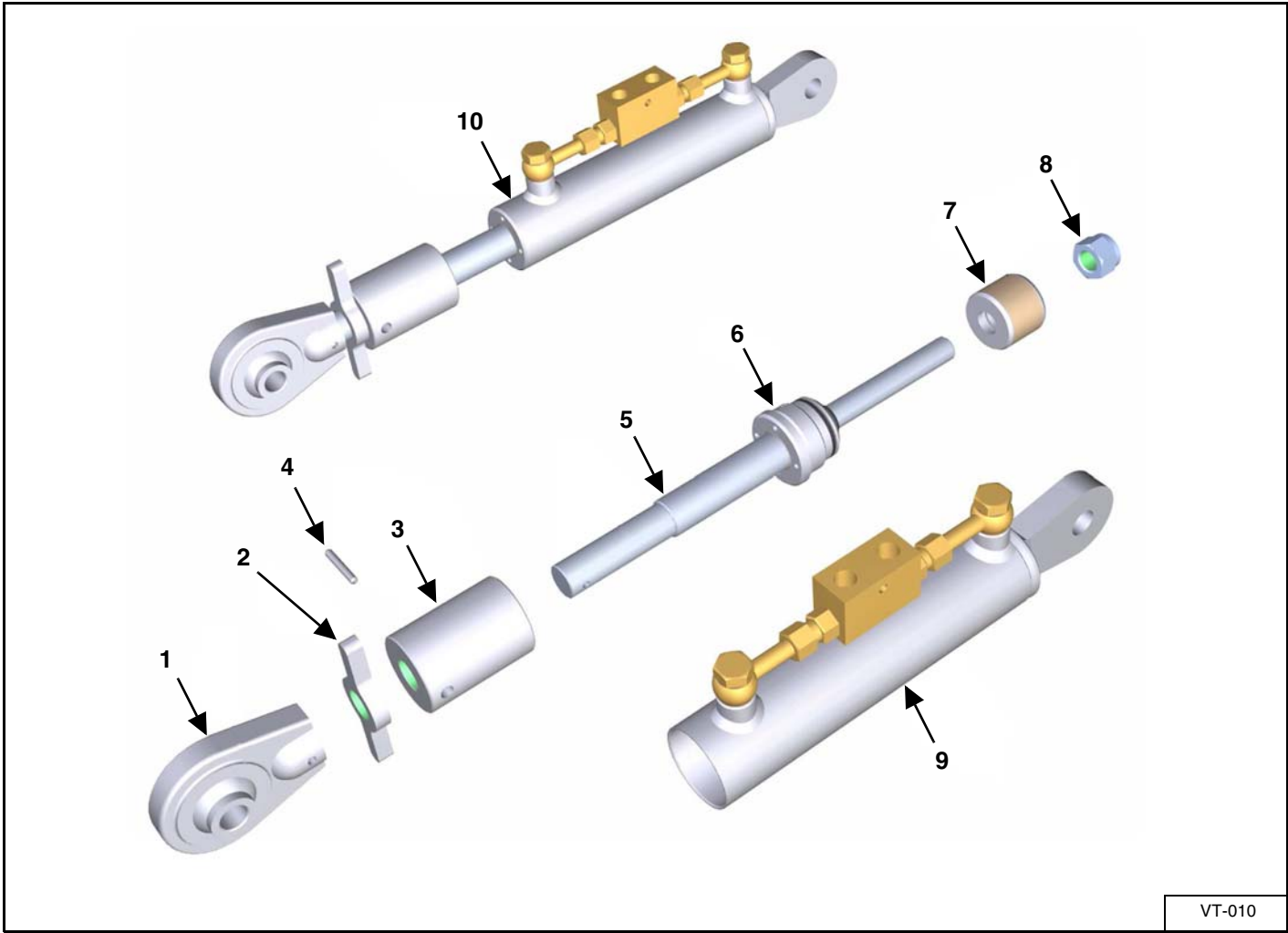
Tension Cylinder Assembly



VT-009

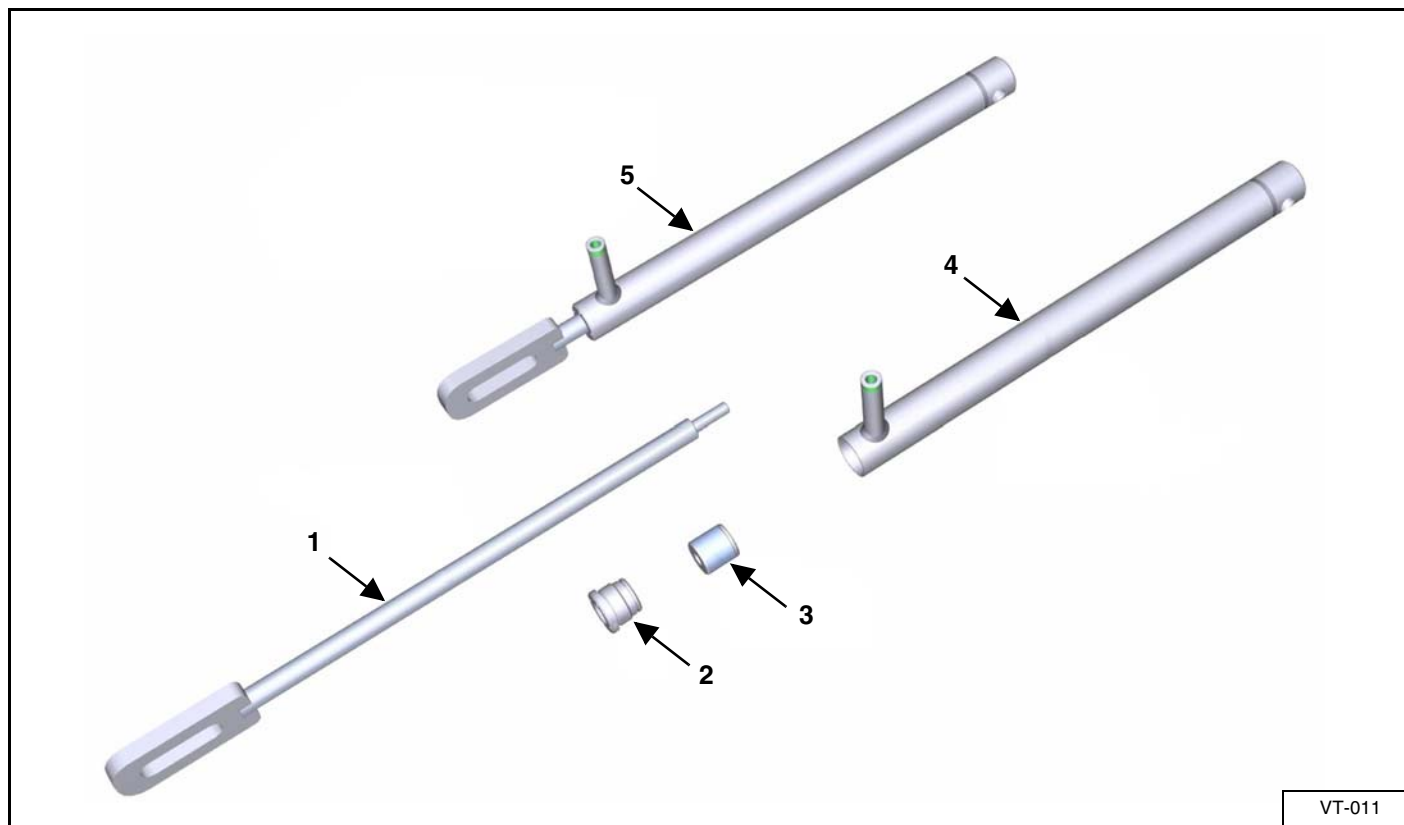
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18033543	PIN	
2	R-18033572	WASHER, Ø40	
3	R-18033548	CILINDER	
4	R-3030168	WASHER, M20 ZN	
5	R-3020216	SELF LOCKING NUT, M20	
6	R-3011312	SCREW, TE M8 x 90 ZN	
7	R-18033165	SUPPORT SPRING	
8	R-11010708	SPRING	
9	R-18033569	BRAKE	
10	R-3030157	WASHER, M8 EXL ZN	
11	R-3020209	SELF LOCKING NUT, M8	
12	R-11010536	SPRING	
13	R-18033549	ROD	
14	R-12760724	HYDRUALIC HOSE, L.1350 MM	
15	R-12760725	HYDRUALIC HOSE, L.2400	

Hydraulic Cylinder Assembly



VT-010

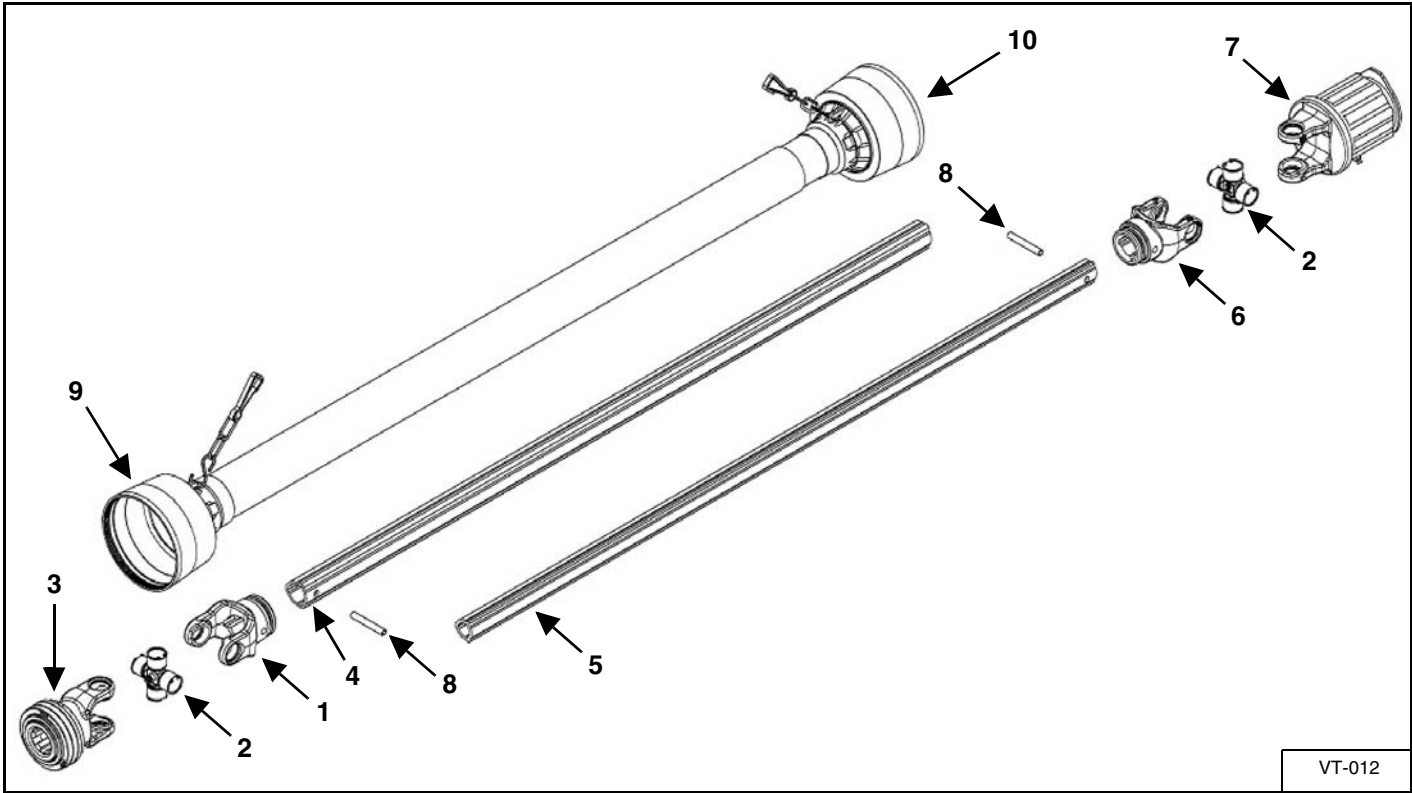
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18053185	SUPPORT	
2	R-18053179	HANDLE	
3	R-18053180	BUSHING	
4	R-3080103	ELASTIC PIN, 6 x 40	
5	R-18053181	ROD	
6	R-18053182	HEAD	
7	R-18033666	COMPLETE SEAL KIT	
8	R-3020232	SELF LOCKING NUT, M20	
9	R-18053184	CYLINDER W / VALVE	
10	R-18033957	COMPLETE CYLINDER, Ø50 C.100	

Rod Assembly


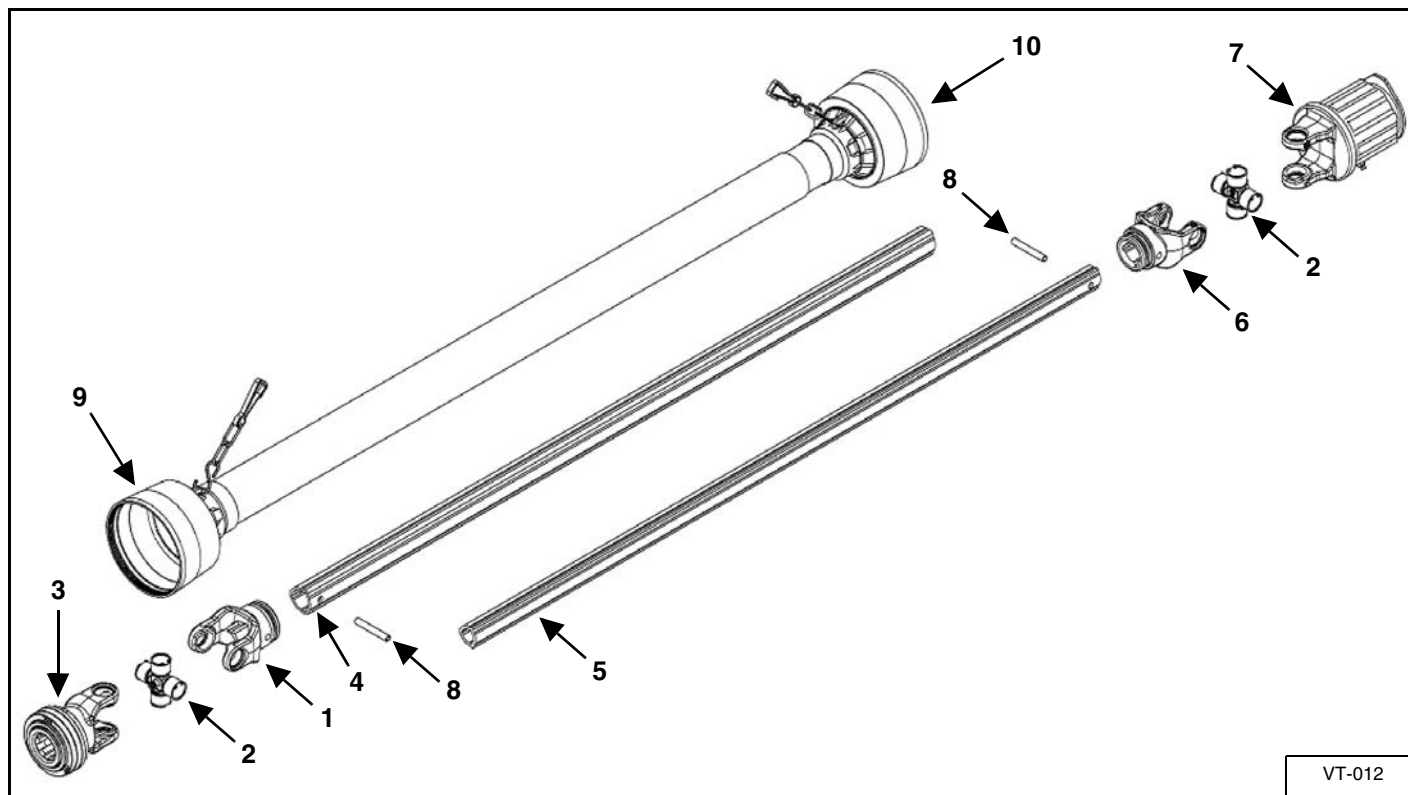
VT-011

ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18053173	ROD GV	
1A	R-18053172	ROD GVL	
1B	R-18053174	ROD GVEL	
2	R-18053175	HEAD	
3	R-18033667	SEAL KIT GV	
3A	R-18033665	SEAL KIT GVL	
3B	R-18033667	SEAL KIT GVEL	
4	R-18053176	CYLINDER GV	
4A	R-18053177	CYLINDER GVL	
4B	R-18053178	CYLINDER GVEL	
5	R-18033725	COMPLETE CYLINDER GV	
5A	R-18033536	COMPLETE CYLINDER GVL	
5B	R-18033732	COMPLETE CYLINDER GVEL	

PTO Driveline Assembly (GV & GVL)



ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-12881456	FORK	
2	R-12881457	CROSS	
3	R-12881458	FORK SPLINED	
4	R-12881459	TUBE EXT. L.1085	
5	R-12881460	TUBE INT. L.1085	
6	R-12881461	FORK INT.	
7	R-12881462	LIMITING	
8	R-12881463	ELASTIC PIN 8X55 DIN 1481	
9	R-12881464	EXTERNAL PROTECTION L.1210	
10	R-12881465	INTERNAL PROTECTION L.1210	

PTO Driveline Assembly (GVEL)


VT-012

ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-12881466	FORK	
2	R-12881467	CROSS	
3	R-12881468	FORK SPLINED	
4	R-12881469	TUBE EXT. L.1060	
5	R-12881470	TUBE INT. L.1060	
6	R-12881471	FORK INT.	
7	R-12881472	LIMITING	
8	R-12881473	ELASTIC PIN 8 x 55 DIN 1481	
9	R-12881474	EXTERNAL PROTECTION L.1210	
10	R-12881475	INTERNAL PROTECTION L.1210	

Farm King



SPECIFICATIONS

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Farm King



SPECIFICATIONS**Dimensions**

DESCRIPTION	17 FT	19 FT
Transport Width	9 ft. 2 in. (280 cm)	10 ft. 5 in. (320 cm)
Working Width	17 ft. (520 cm)	19 ft. (570 cm)

Performance

DESCRIPTION	17 FT	19 FT
Weight	1275 lb. (578 kg)	1400 lb. (635 kg)
Rotors / Arms Per Rotor	4 / 6	4 / 6
Tires	4, 16 x 6.50 x 8 ply	4, 16 x 6.50 x 8 ply
PTO Speed	540 rpm	540 rpm
Tractor HP	20 hp (15kW)	20 hp (15kW)

HARDWARE TORQUE VALUES

Metric Chart

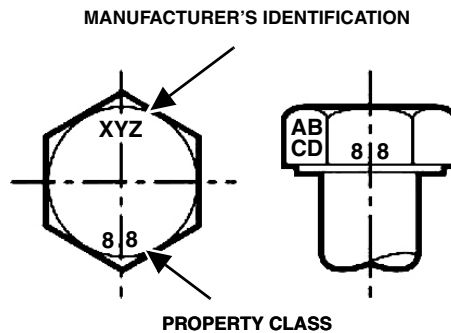
NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

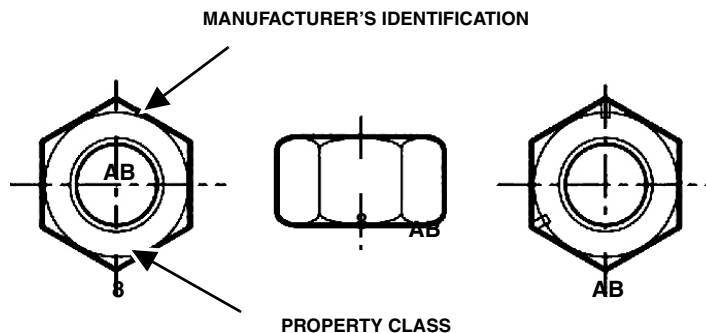
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 w/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts - Classes 5 and up



Identification of Hex Nuts and Lock Nuts - Classes 5 and up



HARDWARE TORQUE VALUES (CONT'D)

Imperial Chart

NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

Nominal Size	SAE Grade 5		SAE Grade 8		LOCK NUTS			
	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	12.6 (112*)	13.6 (121*)	17.7 (157*)	6.9 (61*)	9.8 (86*)
5/16	13 (115*)	17 (149*)	20 (178*)	26 (229*)	28 (250*)	37 (324*)	14 (125*)	20 (176*)
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	26 (19)	35 (26)
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	41 (30)	57 (42)
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	61 (45)	88 (64)
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	88 (65)	125 (92)
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	122 (90)	172 (127)
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	217 (160)	306 (226)
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	350 (258)	494 (364)
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	523 (386)	739 (545)
NOTE: Torque values shown with * are inch pounds.								

Identification of Hex Cap Screws and Carriage Bolts



SAE GRADE
2 BOLTS



SAE GRADE
5 BOLTS



SAE GRADE
8 BOLTS



SAE GRADE
2 NUTS

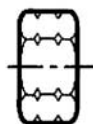


SAE GRADE
5 NUTS



SAE GRADE
8 NUTS

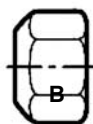
Identification of Hex Nuts and Lock Nuts



Grade A - No Notches

Grade B - One Circumferential Notch

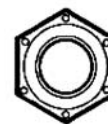
Grade C - Two Circumferential Notches



Grade A - No Mark

Grade B - Letter B

Grade C - Letter C



Grade A - No Marks

Grade B - Three Marks

Grade C - Six Marks

(Marks not always located at corners)

HYDRAULIC CONNECTION SPECIFICATIONS

O-Ring Fitting (Straight Thread)

Lubricate the O-ring before installing the fitting. Loosen the jam nut and install the fitting. Tighten the jam nut until the washer is tight against the surface.

O-ring Face Seal Connection

Figure 26

O-ring Face Seal Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	9/16" - 18	13 (18)
3/8"	11/16" - 16	22 (30)
1/2"	13/16" - 16	40 (54)
5/8"	1" - 14	60 (81)
3/4"	1-3/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-7/16" - 12	118 (160)
1-1/4"	1-11/16" - 12	154 (209)
1-1/2"	2" - 12	163 (221)

When the fitting is tightened, you can feel when the fitting is tight to eliminate leakage caused by under or over torqued fittings. Use petroleum jelly to hold the O-ring in position until the fittings are assembled.

Flare Fitting

Figure 27

Flare Fitting Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
5/16"	1/2" - 20	17 (23)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/4"	1-5/8" - 12	154 (209)
1-1/2"	1-7/8" - 12	163 (221)
2"	2-1/2" - 12	252 (342)

Tighten until the nut makes contact with the seat. Use the chart [Figure 27] to find the correct tightness needed.

NOTE: If the fitting leaks, disconnect and inspect the seat area for damage.

Port Seal (O-ring Boss) Fitting

Figure 28

Port Seal And O-ring Boss Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/8"	1-7/16" - 12	154 (209)
1-1/4"	1-5/8" - 12	163 (221)

NOTE: Port seal and nut, washer and O-ring (O-ring Boss) fittings use the same tightening torque valve chart.

If a torque wrench cannot be used, use the following method.

Tighten the nut until it just makes metal to metal contact, you can feel the resistance.

Tighten the nut with a wrench no more than one hex flat maximum.

Do not over tighten the port seal fitting.

NOTE: If a torque wrench cannot be used, use the hex flat tightening method as an approximate guideline.

NOTE: Port seal fittings are not recommended in all applications. Use O-ring boss fittings in these applications.

Tubelines And Hoses

Replace any tubelines that are bent or flattened. They will restrict flow, which will slow hydraulic action and cause heat.

Replace hoses which show signs of wear, damage or weather cracked rubber.

Always use two wrenches when loosening and tightening hose or tubeline fittings.

WARRANTY

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Farm King



WARRANTY

Farm King

Limited Warranty

BASE LIMITED WARRANTY

Farm King provides this warranty only to original retail purchasers of its products. Farm King warrants to such purchasers that all Farm King manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of one (1) year. This limited warranty applies only to those parts and components manufactured by Farm King. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Farm King will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Farm King. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance.

REPAIR PARTS LIMITED WARRANTY

Farm King warrants genuine Farm King replacement parts purchased after the expiration of the Farm King Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to the Farm King factory at the purchaser's expense.

WHAT IS NOT COVERED

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Farm King; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and / or authorized by Farm King.

AUTHORIZED DEALER AND LABOR COSTS

Repairs eligible for labor under this limited warranty must be made by Farm King or an authorized Farm King dealer. Farm King retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Farm King determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Farm King will not approve or pay invoices sent for repairs that Farm King has not previously approved. Warranty service does not extend the original term of this limited warranty.

Farm King

Limited Warranty

WARRANTY REQUIREMENTS

To be covered by warranty, each new product must be registered with Farm King within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Farm King will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON FARM KING'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON FARM KING'S PRODUCTS ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL FARM KING BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT. (Note that some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Farm King neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Farm King to the purchaser, and Farm King shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Farm King's ability to obtain materials or manufacturer replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

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