

Farm King

OPERATOR AND PARTS MANUAL

Tedder

Model 10



TABLE OF CONTENTS

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.

INTRODUCTION7

SAFETY 11

OPERATION 19

MAINTENANCE37

PARTS IDENTIFICATION43

SPECIFICATIONS57

WARRANTY63

ALPHABETICAL INDEX67

Farm King



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.

OWNER'S INFORMATION9
 Serial Number Location9

EQUIPMENT IDENTIFICATION10
 Component Location10

Farm King



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.

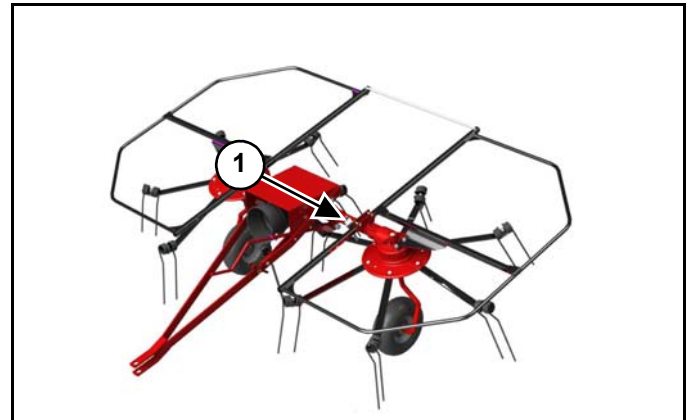
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.farm-king.com for a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

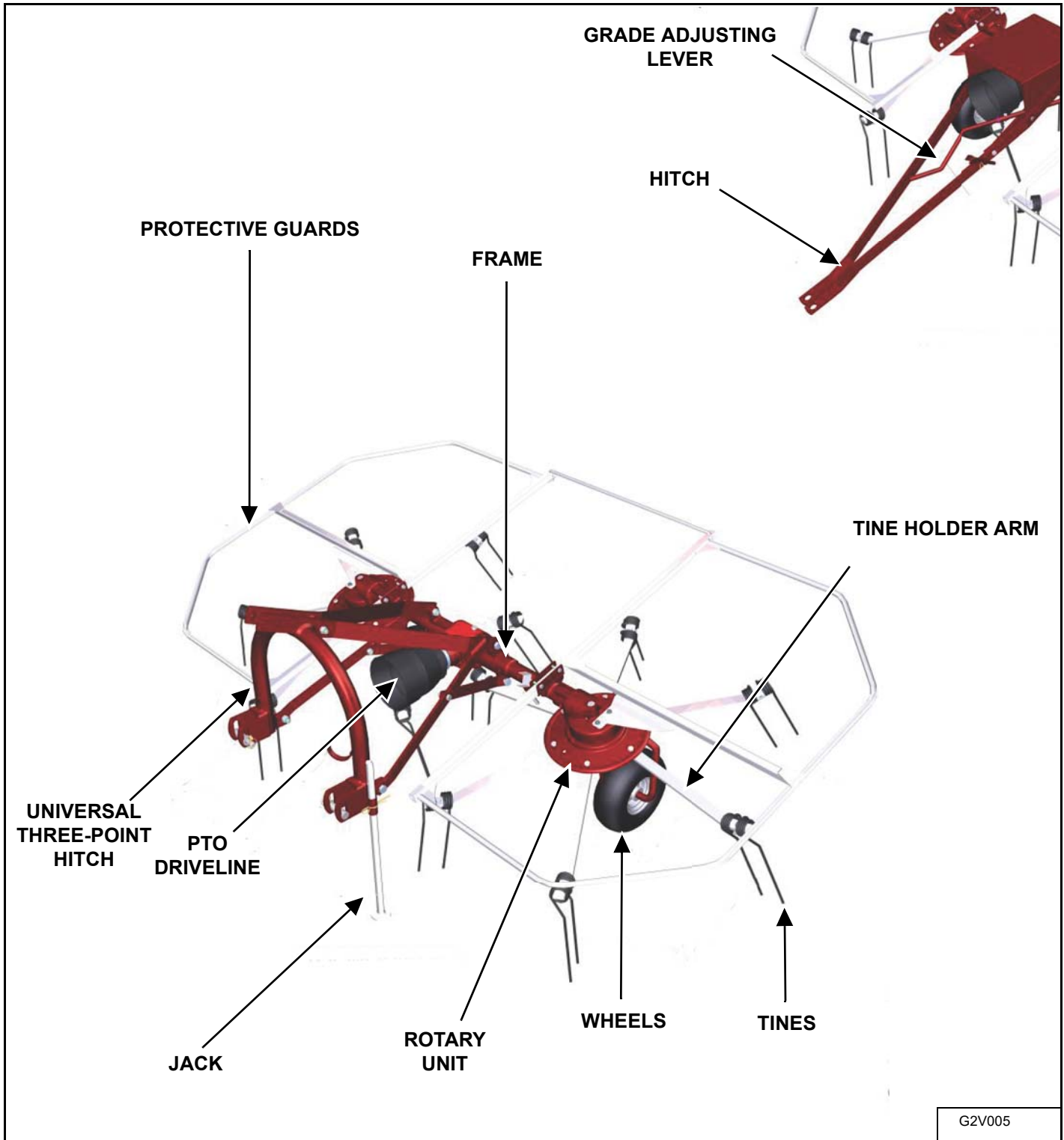
Serial Number: _____

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

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

EQUIPMENT IDENTIFICATION

Component Location



SAFETY

SAFETY INSTRUCTIONS 13

- Safe Operation Is The Operator’s Responsibility 13
- Safe Operation Needs A Qualified Operator 13
- Use Safety Rules 14
- Transport Safety 14
- Machine Requirements And Capabilities 15

FIRE PREVENTION 15

- Maintenance 15
- Operation 15
- Starting 15
- Electrical 16
- Hydraulic System 16
- Welding And Grinding 16
- Fire Extinguishers 16

SAFETY SIGNS (DECALS) 17


SAFETY SIGN-OFF FORM 18

Farm King



SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility

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



CAUTION

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.



DANGER

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.



WARNING

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.



IMPORTANT

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

Safe Operation Needs A Qualified Operator



WARNING

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 38.)

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

ROTATING HAZARD

CRUSHING HAZARD

PTO IMPORTANT

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

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

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

Confirm the PTO shaft rotates clockwise and at 540 rpm.



PTO IMPORTANT

DO NOT stop or pass near the machine.



REPAIRING DANGER

DO NOT repair or adjust when unit is operating.

OPERATION

GENERAL INFORMATION21
 Pre - Operation Checklist21
 Break - In Checklist22
 Tractor Requirements23
 Entering And Leaving The Operator's Position23

INITIAL SET-UP24
 Connecting Pull-Type Tedder To The Tractor24
 Connecting Three-Point Tedder To The Tractor26
 Adjusting Rotating Group Tilt27
 Connecting The PTO Driveline (Three-Point Models)28
 PTO Driveline29
 Operating Tedder (All Models)32

TRANSPORTING35
 Requirements35
 Transport Position35

Farm King



GENERAL INFORMATION

Pre - Operation Checklist

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



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.



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 38.)
2. Check the Tedder hitch for damaged, loose or missing parts. Repair as needed before operation.
3. Check tire pressure.
4. Check wheel bolt torque.
5. Fully clean the equipment.
6. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.



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.

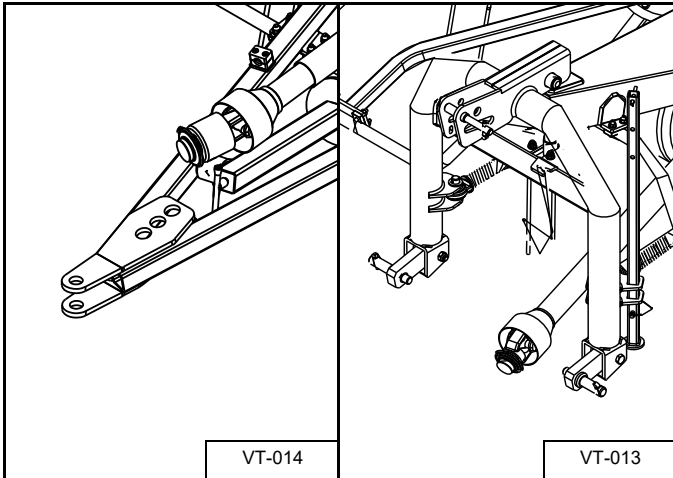
NOTE: Do not operate with hydraulic leaks.

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 tire pressure.
5. Check wheel bolt torque.

Tractor Requirements



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.



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

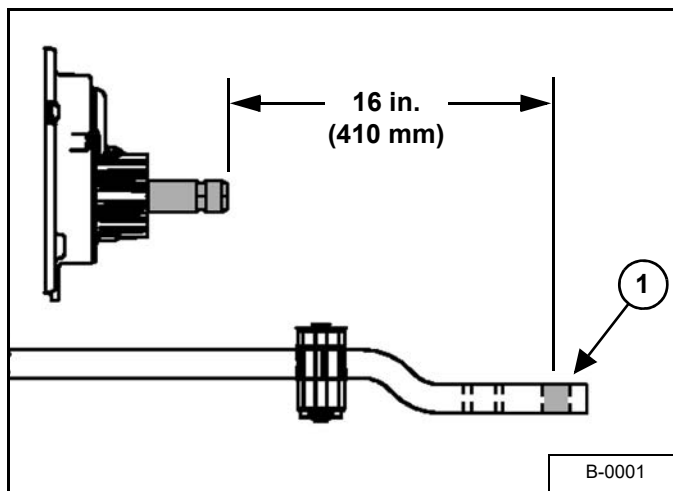
The Tedder will require a tractor with minimum 80 hp (60 kw) and one pair of remote outlets.



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.

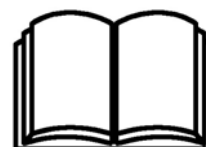
Drawbar Adjustment (Pull-Type Models)

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



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

WARNING
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 21.)

Enter the operator's position. (See "Entering The Operator's Position" on page 21.)

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.

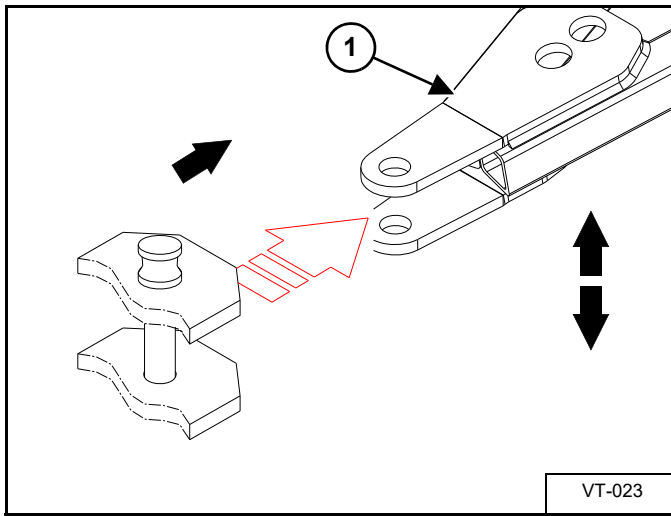
Move the tractor backwards, aligning the drawbar with the Tedder hitch.

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 22.)

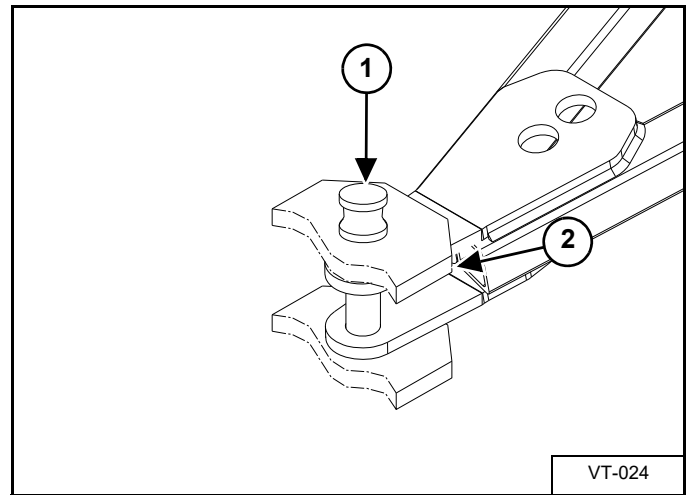
Figure 4



Lower or raise the Tedder hitch (Item 1) **[Figure 4]** until aligned with the tractor's drawbar.

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

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).



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.

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 21.)

Move the tractor into position in front of the Tedder.



AVOID INJURY OR DEATH

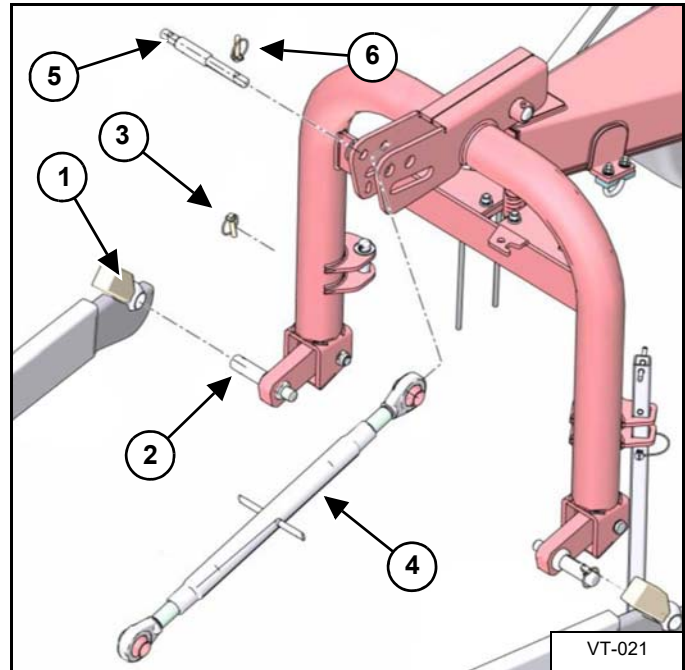
Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

Move the tractor backwards, aligning the 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 22.)

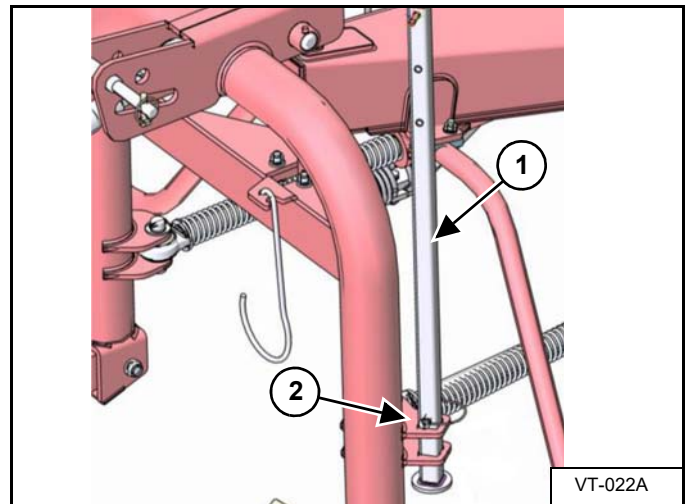
Figure 6



Install the lower lift arms (Item 1) and the lower pins (Item 2) on the Tedder frame (one side at a time), secure in place with safety pins (Item 3) [Figure 6].

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 6].

Figure 7



Remove the retaining pin and slide the jack (Item 1) up, reinstall retaining pin (Item 2) [Figure 7] into the lower hole on the jack.

Adjusting Rotating Group Tilt



AVOID INJURY OR DEATH

Before adjusting or servicing the machine:

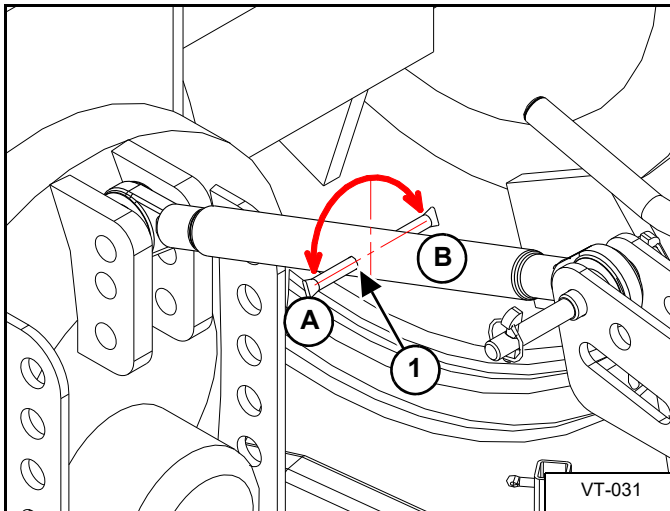
- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

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 22.)

Three-Point Hitch Models

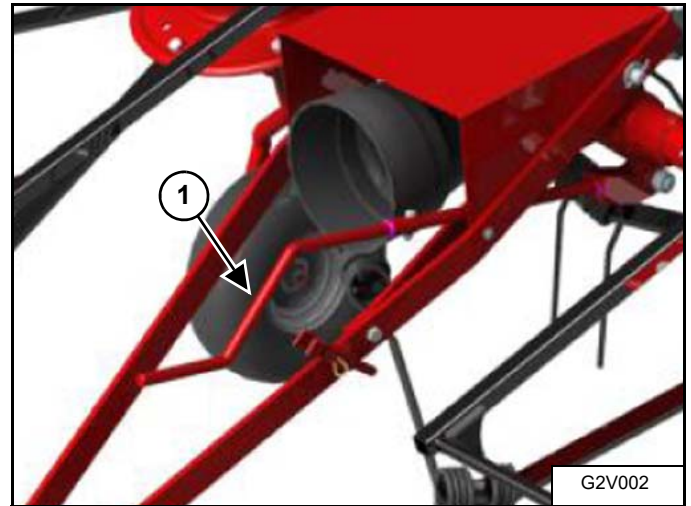
Figure 8



To adjust rotary groups angle, turn the adjustment arm (Item 1) **[Figure 8]** counterclockwise (direction A), moving the Tedder frame downwards and reducing the angle. Turn the adjustment arm clockwise (direction B), moving the Tedder frame upwards increasing the angle.

Pull-Type Models

Figure 9



To adjust rotary groups angle, turn the crank (Item 1) **[Figure 9]** until the desired angle is obtained.

Connecting The PTO Driveline (Three-Point Models)



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 22.)

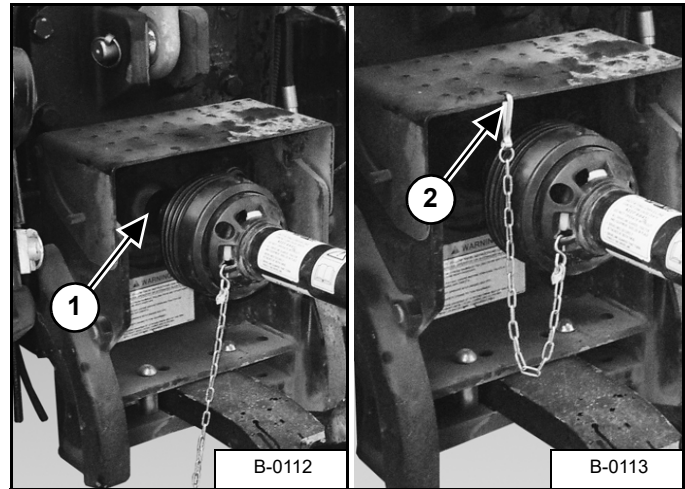


Improper hitch installation can cause PTO driveline damage.

- 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 10



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 10].

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



- 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.



AVOID INJURY OR DEATH

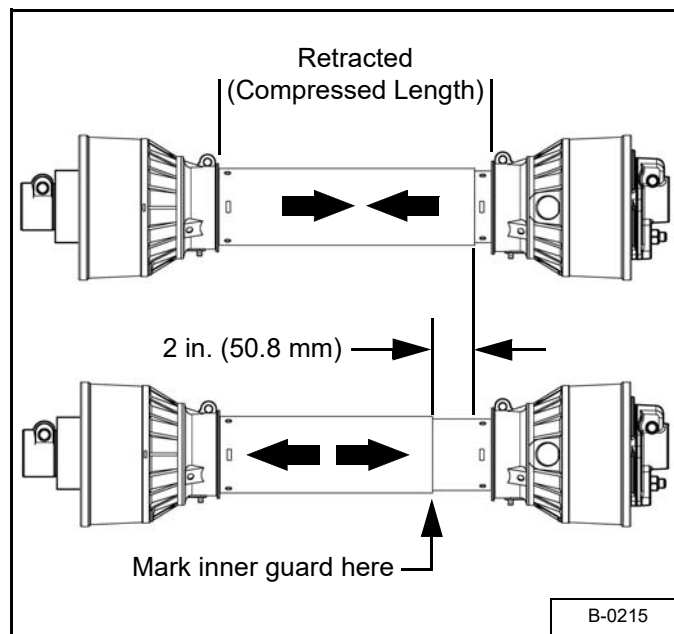
- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all 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 22.)

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

Figure 11



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 11].
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 11].
4. Reattach the PTO driveline to the tractor PTO shaft.
5. Enter the operator’s position. (See “Entering The Operator’s Position” on page 21.) 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 22.)

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).

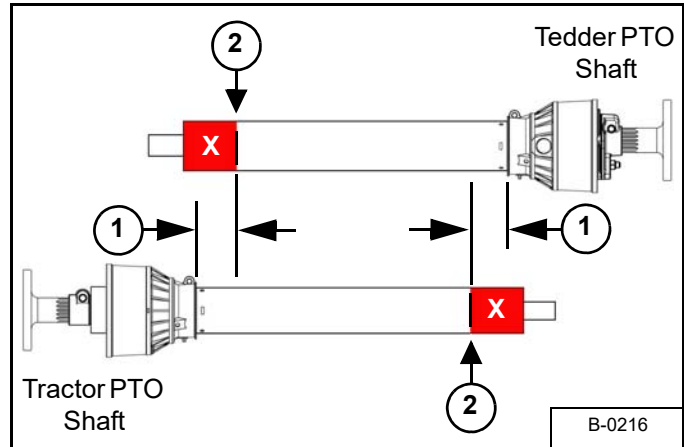
Enter the operator's position. (See "Entering The Operator's Position" on page 21.) Start the engine.

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 22.)

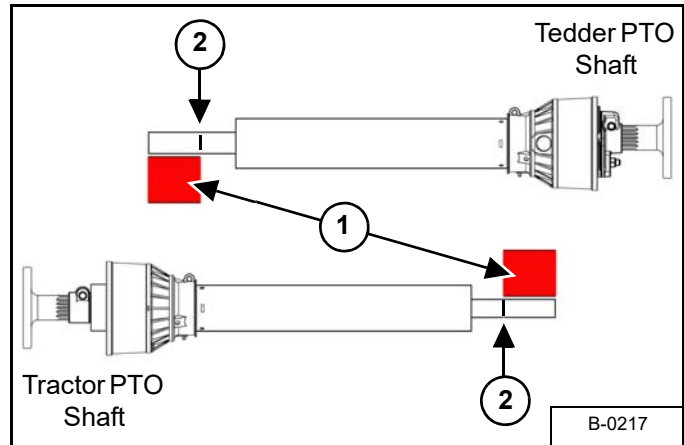
Pull the PTO driveline apart and reinstall each individual section; one half to the tractor PTO shaft and one half to the implement gearbox PTO shaft.

Figure 12



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 12].

Figure 13



2. Using the plastic guard lengths that were cut off in [Figure 12], align the cut off lengths (Item 1) with the end of the inner & outer shafts. Place a mark (Item 2) [Figure 13] 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 22.)

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

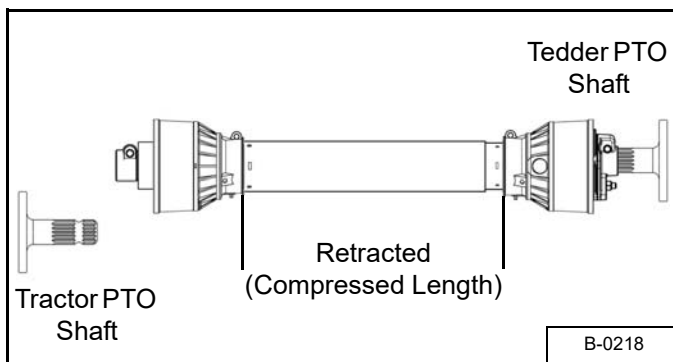


AVOID INJURY OR DEATH

- 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).

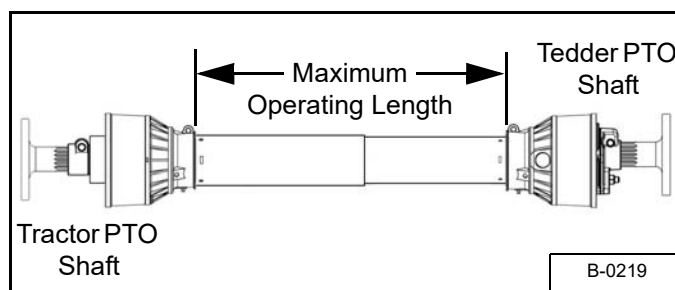
Figure 14



2. Measure the retracted (compressed) length of the PTO driveline between the bases of the plastic guards [Figure 14].

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 21.)
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 22.) Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.

Figure 15



8. Measure the length of the PTO driveline between the bases of the plastic shields [Figure 15] 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.

Operating Tedder (All Models)



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



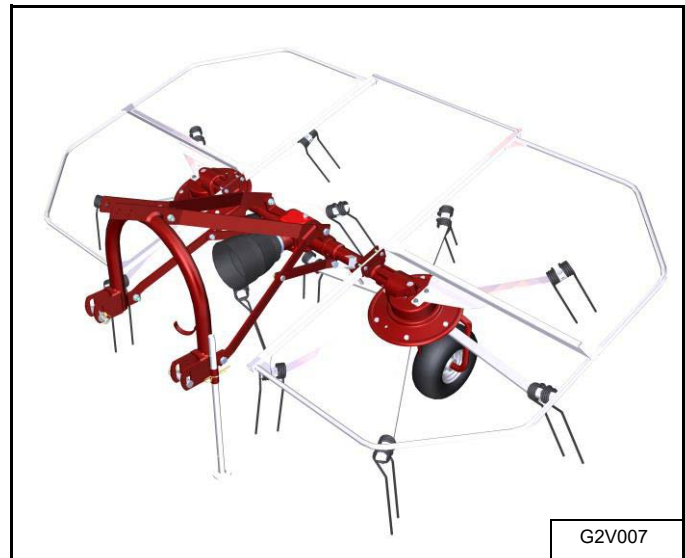
Before operating the equipment:

- 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 21.)

Move the tractor and Tedder to work area.

Figure 16



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, the lateral frames will automatically drop down because the machine is equipped with an independent overrun system. This operation is to be done on a flat surface [Figure 16].

Three-Point Models

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

Pull-Type Models

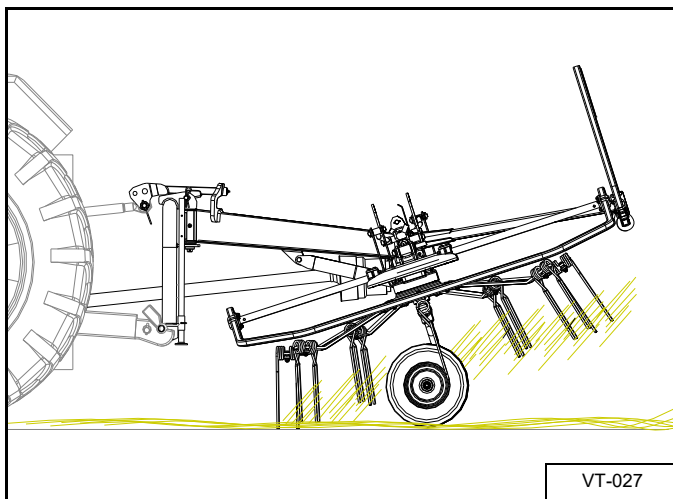
Verify the groups inclination in respect to the ground and, previously, the teeth positioning.

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.

Clear working area of all bystanders, especially small children and all obstacles that might be hooked or snagged, causing injury or damage.

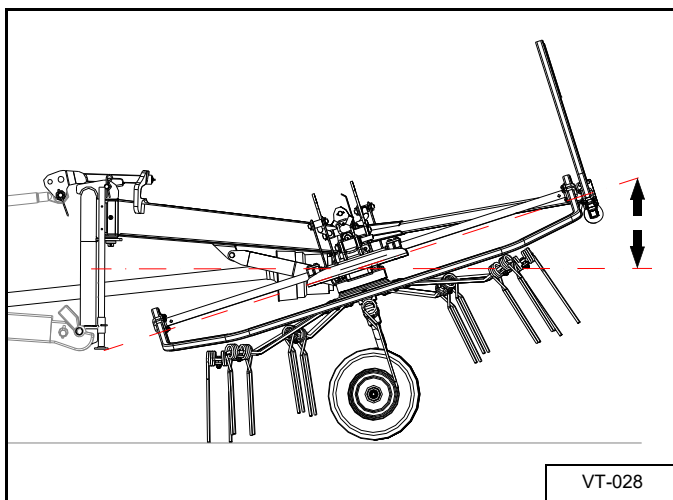
Move to the operator's position, start the engine and release the parking brake. Engage the PTO.

Figure 17



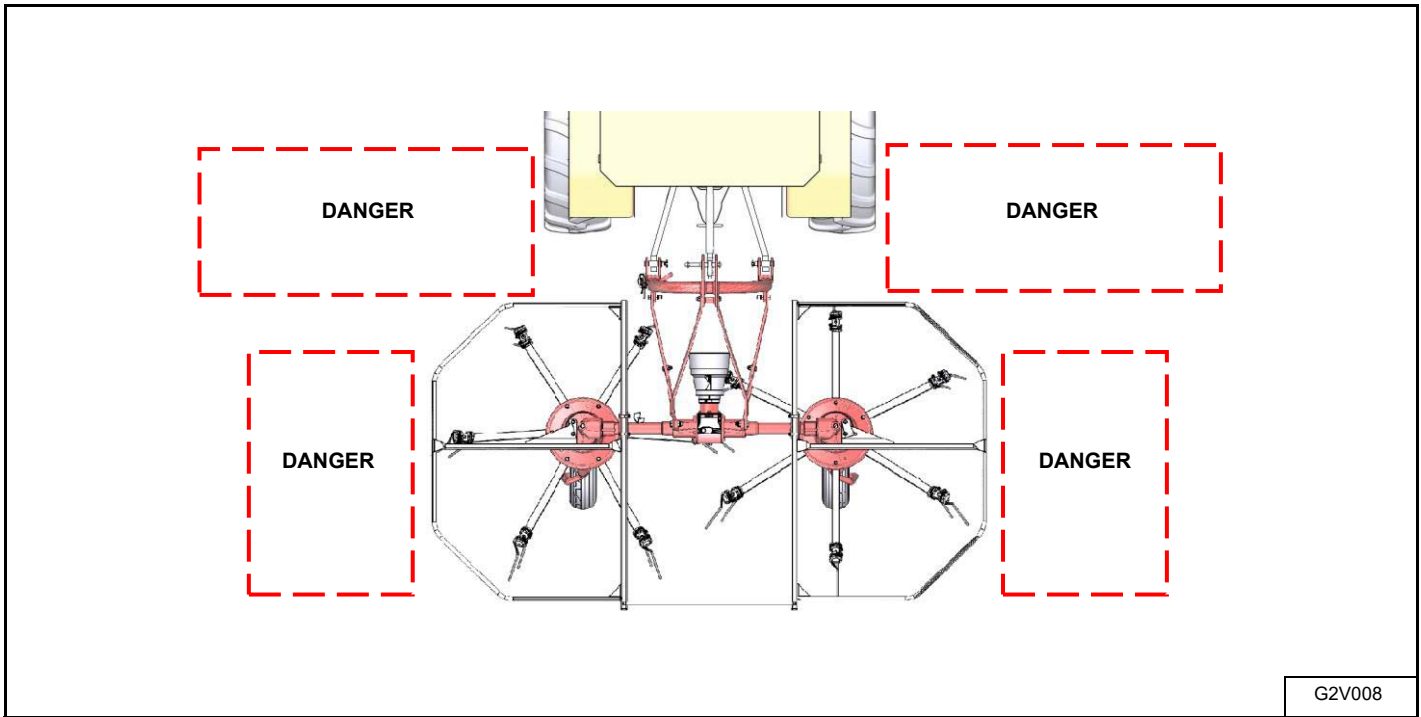
While operating in the field, the rotary groups will spin and the hay aeration process begins. The teeth skim and scrapes the surface and collects the cut crop pushing it to the rear in order to spread it evenly [Figure 17].

Figure 18



For best results, rotary groups must operate at an angle to the ground, which can vary from 7 to 10°, as shown in [Figure 18].

Figure 19



NOTE: The reference rotation of the rotary groups is determined by the central ones that rotate respectively clockwise on the left group and counter clockwise on the right group [Figure 19].

Operate for a few meters and then check the result of the process. Adjust the angle of the rotary groups if the work process needs improvement. (See "Adjusting Rotating Group Tilt" on page 25.)

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.

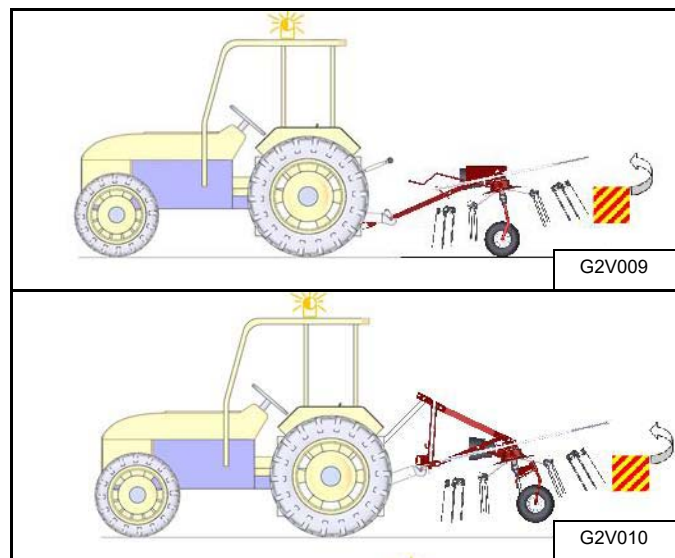
Verify that the tractor / tow vehicle is approved for transporting the equipment and that the equipment is securely attached to the tractor / tow vehicle.

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 20



Transporting Tedder [Figure 20].

NOTE: On three-point models, keep the Tedder wheels between 3 1/4" - 4" (8 - 10 cm) off the ground during road transportation.

Farm King



MAINTENANCE

TRUBLESHOOTING39
 Pull-Type Models39

SERVICE SCHEDULE40
 Maintenance Intervals40

TEETH REPLACEMENT41
 Removal And Installation41

SAFETY SIGN (DECAL) INSTALLATION41
 Procedure41

STORAGE AND RETURN TO SERVICE42
 Storage42
 Return To Service42

Farm King



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
Partial or insufficient forage harvesting.	Tines too high off the ground.	Adjust working rotary group angle.
Tines rapid wear out.	The tines are continuously in contact with the ground	Adjust working rotary group angle.

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.



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	•						
Weekly (or every 50 hours)								
3	Check All Hardware And Safety Devices.	•						
4	Tedder Condition	•	•					

TEETH REPLACEMENT

Removal And Installation

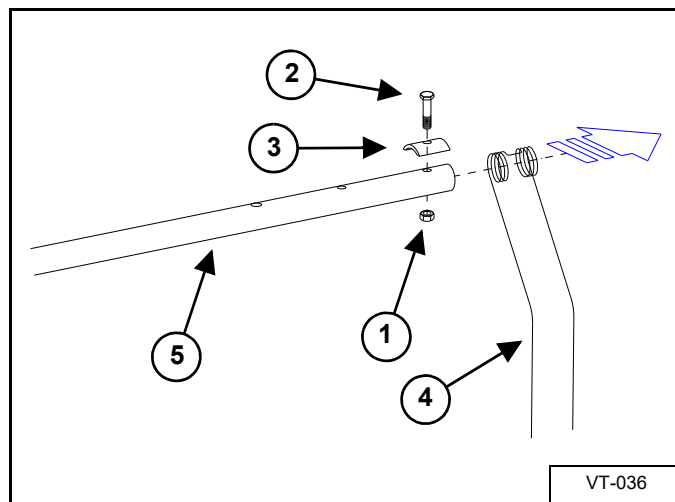


AVOID INJURY OR DEATH

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 21



If teeth replacement is necessary (worn or broken), you remove the locking nut (Item 1), remove the fastening screw (Item 2) and teeth-stop plate (Item 3). Remove the pair of teeth (Item 4) from the arm (Item 5) [Figure 21]. Insert a new pair of teeth and proceed in reverse order to assemble.

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.
- 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.
- 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.
- Review the Operator's Manual.

PARTS IDENTIFICATION

GENERAL INFORMATION45

BASE FRAME46

 Pull Style Assembly46

 Three-Point Style Assembly48

FRAME AND GUARD ASSEMBLY50

DRIVELINE ASSEMBLY54

Farm King



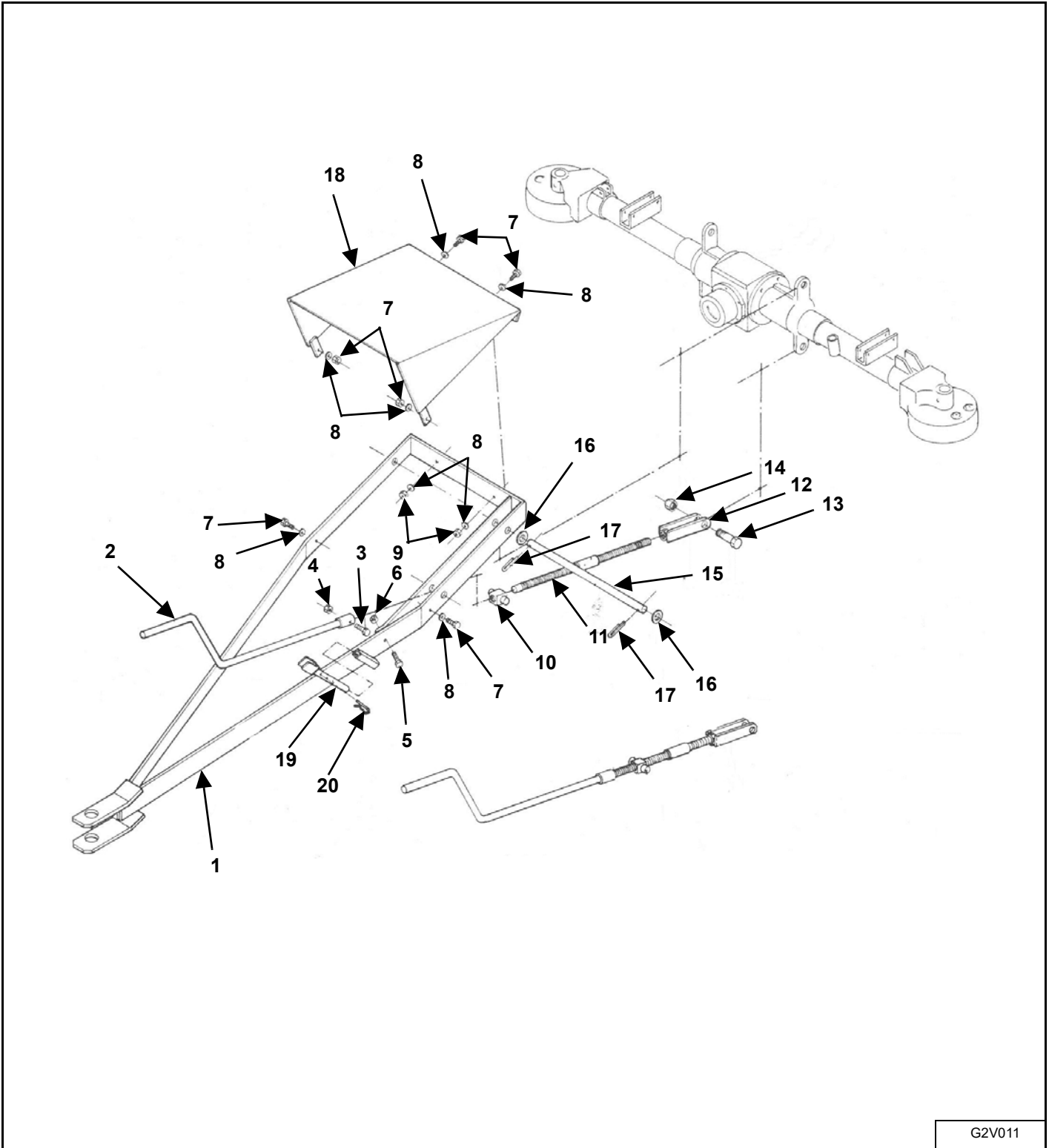
GENERAL INFORMATION

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

Pull Style Assembly

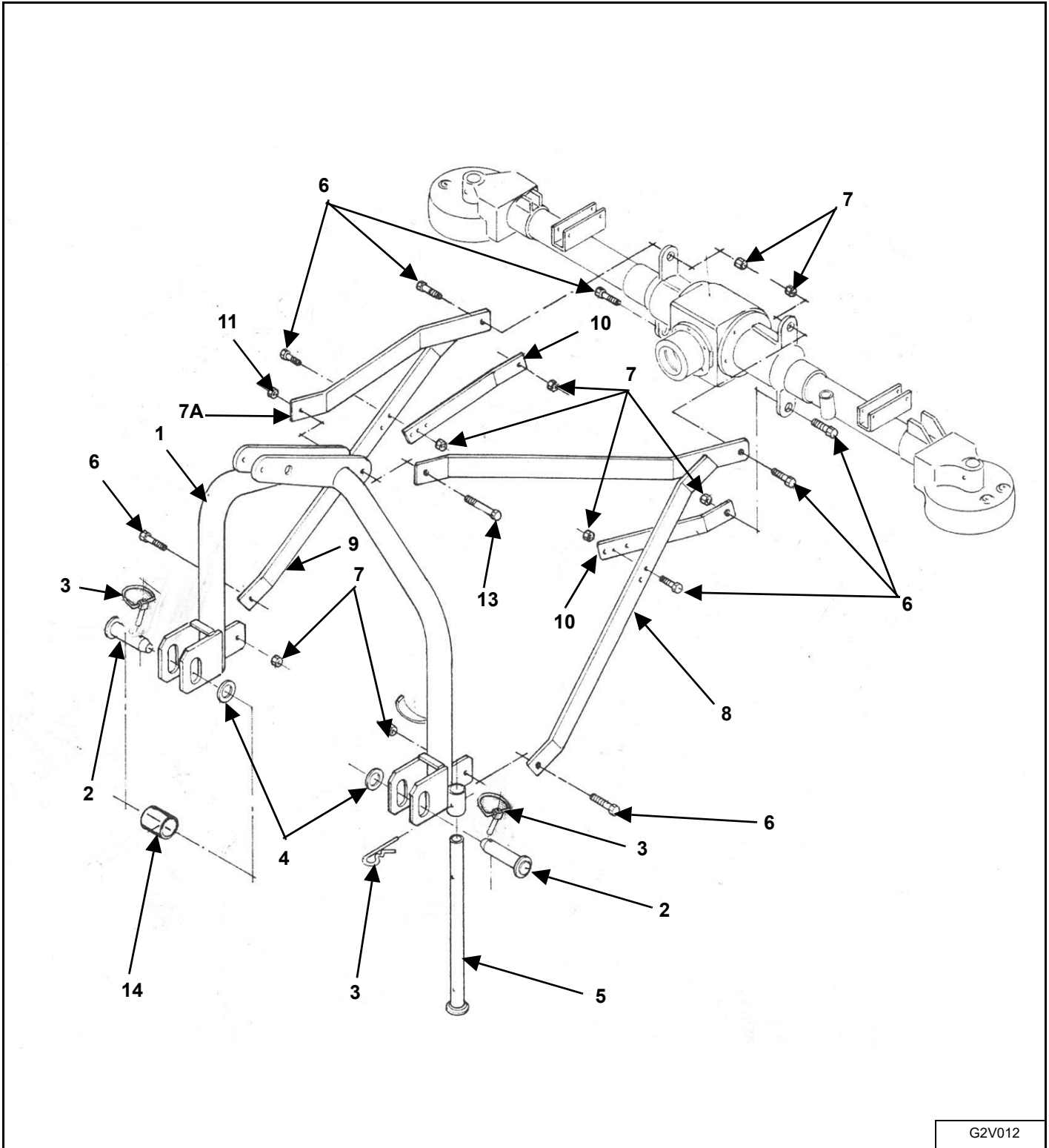


G2V011

ITEM	PART NUMBER	DESCRIPTION	QTY
1	16030651	DRAWBAR	
2	16030652	CRANK	
3	3011252	SCREW TE 8 X 35	
4	3020209	SELF LOCKING NUT 8 MA	
5	3011216	SCREW TE 12 X 35 UNI 5737	
6	3020202	SELF LOCKING NUT 12 MA	
7	3011601	SCREW TE 6 X 25	
8	3030160	WASHER 6 X 18	
9	3020213	SELF LOCKING NUT 6 MA	
10	12070316	SPLIT NUT 20 MA LEFT	
11	2760118	THREADED TIE ROD 20 MA (R&L)	
12	18030653	FORK	
13	3011299	SCREW TE 20 X 70	
14	3020216	SELF LOCKING NUT 20 MA	
15	18030654	DRAWBAR ROD	
16	3030134	WASHER 20	
17	3040103	ROLL PIN 4 X 40	
18	18030665	DRAWBAR CASING	
19	18030691	CRANK HOLDER	
20	3040201	CLIP PIN 3 X 60	

BASE FRAME (CONT'D)

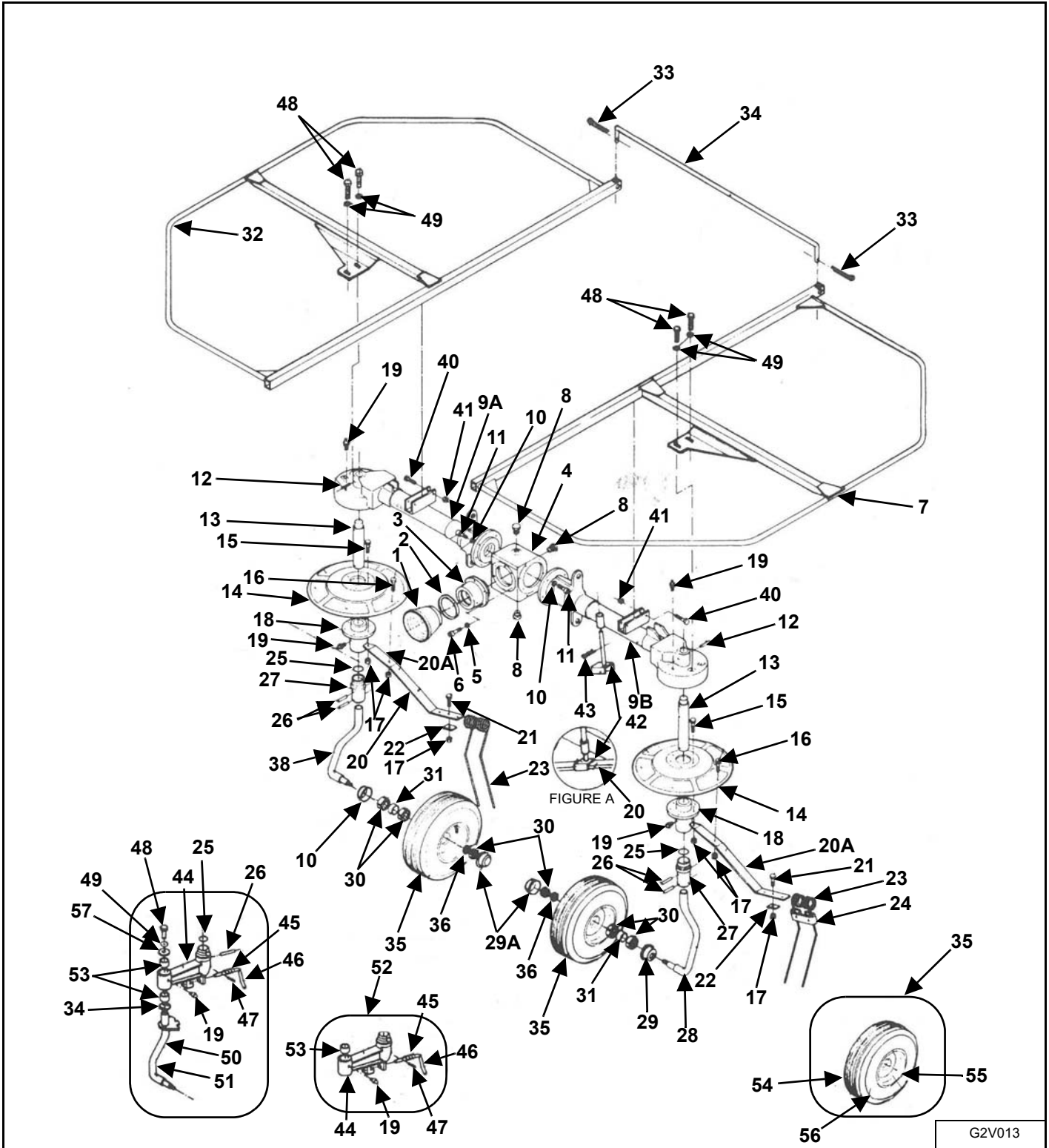
Three-Point Style Assembly



G2V012

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18030646	TRANSPOT FRAME	
2	12880513	ARMS ATTACHMENT PIN	
3	3080202	SAFETY PIN D.10	
4	3030176	FLAT WASHER 22	
5	18030647	LEG SUPPORT 26.89 L. 710	
6	3011218	BOLT 18 X 55	
7	3010214	SELF LOCKING NUT 18 MA	
7A	3020204	SELF LOCKING NUT 16 MA	
8	18030648	LEFT ATTACHMENT BAR	
9	18030649	RIGHT ATTACHMENT BAR	
10	18030650	LEFT HEIGHT ATTACHMENT BAR	
10A	18030617	RIGHT HEIGHT ATTACHMENT BAR	
11	3011632	SCREW TE 14 X 45	
12	3020203	SELF LOCKING NUT 14 MA	
13	3010405	SCREW TE 16 X 120	
14	12920101	BUSHING FOR PIN	

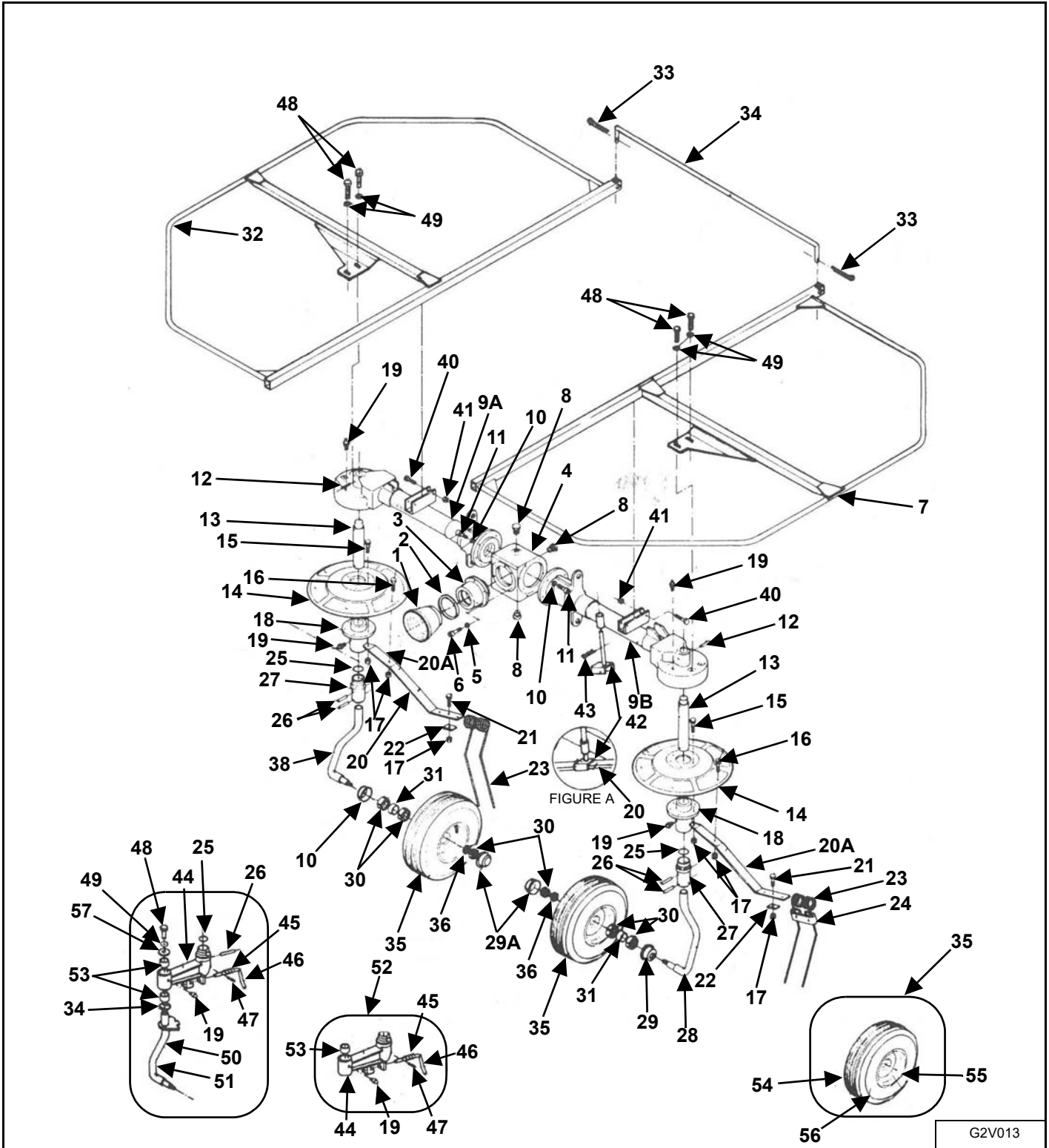
FRAME AND GUARD ASSEMBLY



G2V013

ITEM	PART NUMBER	DESCRIPTION	QTY
1	9070101	PROTECTIVE GUARD	
2	4010702	CLAMP 80 ÷ 100	
3	18030657	CENTRAL GEAR BOX COUPLING	
4	18030623	CENTRAL GEAR BOX 180	
5	3030704	SCHNOR WASHER Ø 8	
6	3010606	SCREW T.C.C.E.I. M 8 X 20	
7	18031502	LEFT PROTECTION GUARD	
8	4010822	CONICAL PLUG 3/8"	
9A	18030659	RIGHT ARM	
9B	18030661	LEFT ARM	
10	3030703	LOCK WASHER Ø 12	
11	3010607	SCREW T.C.C.E.I. M 12 X 25	
12	3080129	ROLL PIN 10 X 70	
13	12060901	TERMINAL PIN 35 X 240	
14	18030643	ARM. LINKAGE FLANGE	
15	3010601	SCREW T.C.C.E.I. 12 X 50	
16	3011241	SCREW TE 12 X 30	
17	3020202	SELF LOCKING NUT M12	
18	18030619	CROWN COUPLING	
19	3090101	GREASER 8 MB	
20			
20A	18030620	SPRING HOLDER ARM	
21	3011297	SCREW TE 12 X 45	
22	18030627	SPRING CLAMP	
23	18030616	SPRING	
24	18030644	TOOTH SAFETY CLAMP (OPTIONAL)	
25	10010604	O-RING 44, 45 X 3.53	
26	3080128	SPRING PIN Ø 10 X 60	
27	12880509	FIXED WHEEL AXLE BUSH	
28	18031508	FIXED WHEEL AXLE	
29	12707314	INTERNAL DUST SHIELD 25	
29A	12707315	EXTERNAL DUST SHIELD 16	
30	12240113	BEARING 6205 2RS	

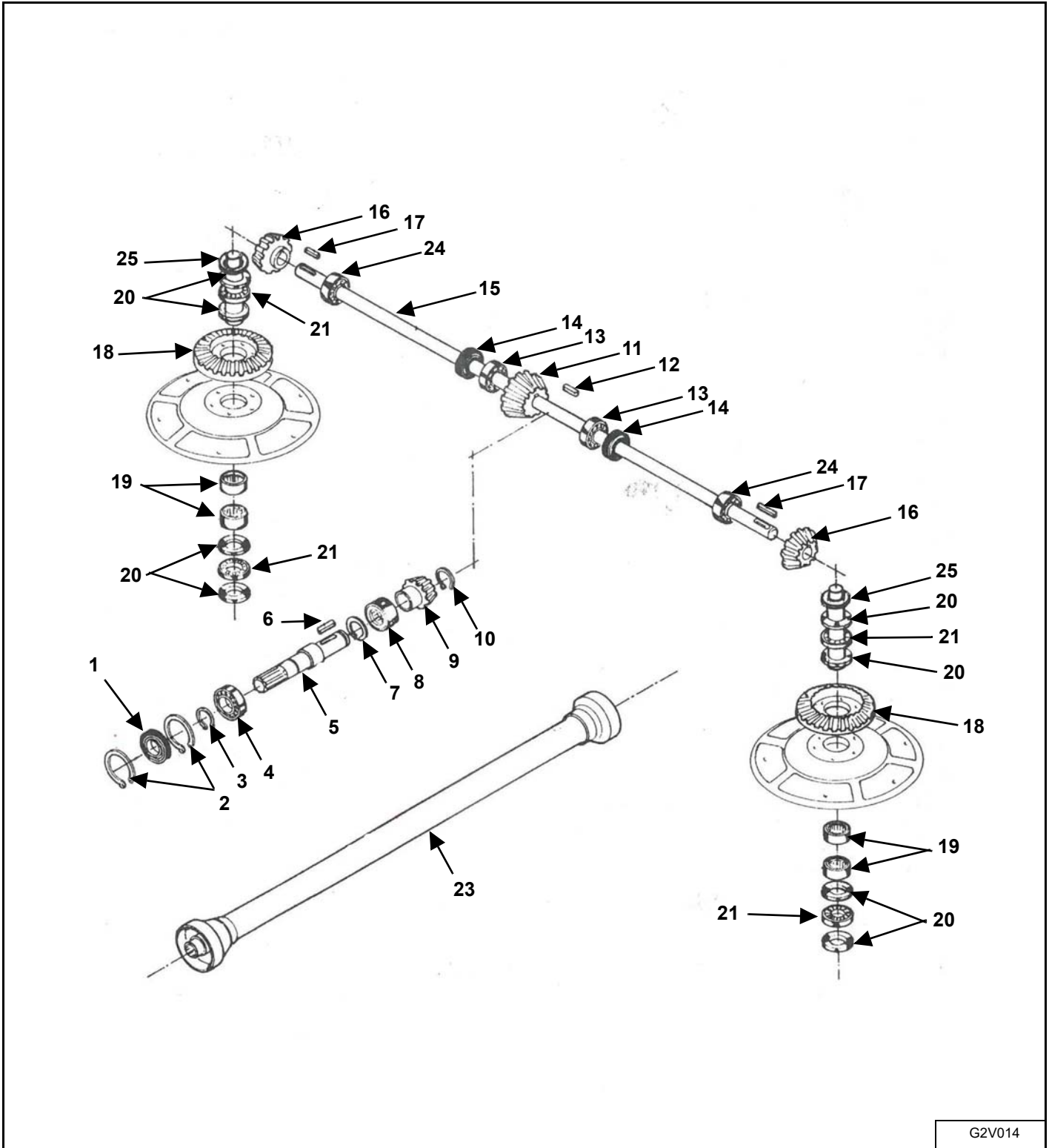
FRAME AND GUARD ASSEMBLY (CONT'D)



G2V013

ITEM	PART NUMBER	DESCRIPTION	QTY
31	12070307	SPACER Ø 25	
32	18031501	RIGHT PROTECTION GUARD	
33	3040201	COTTER PIN 3 X 60	
34	18031119	PROTECTION GUARD ROD	
35	12170103	COMPLETE WHEEL 15-600-6	
36	3030175	WASHER 16	
37	3020204	SELF LOCK. NUT 16MA	
38	18031507	RIGHT WHEEL AXLE	
39	12280203	GLYCODUR BEARING 32 X 54 X 45 F	
40	3011246	SCREW TE 10 X 50	
41	3020201	SELF LOCKING NUT M10	
42	18030637	ROTORS LOCK	
43	3040201	CLIP PIN 3 X 60	
44	18031103	PIVOT WHEELS ATTACHMENT	
45	11010603	SPRING	
46	12880504	LOCKING HANDLE	
47	3080103	SPRING PIN 6 X 40	
48	3011211	SCREW TE 10 X 25 5739	
49	3030159	WASHER M10	
50	18031101	CRAZY WHEEL AXLE R.	
51	18031102	CRAZY WHEEL AXLE L.	
52	18032357	COMPLETE PIVOTING WHEEL ATTACHMENT	
53	12240152	GLYCODUR BEARING 30 X 34 X 30 F	
54	12070313	TIRE 15.600.6	
55	12070311	WHEEL RIM	
56	12070312	AIR TUBE 15.600.6	
57	18031104	WASHER 55-11-6	

DRIVELINE ASSEMBLY



G2V014

ITEM	PART NUMBER	DESCRIPTION	QTY
1	12260003	OIL SEAL 35.72.10	
2	3120105	SNAP RING I 72-7437-75	
3	3120102	SNAP RING I 35-7435-75	
4	12240109	BEARING 6207	
5	12320301	SHAFT FOR P.T.O.	
6	3110003	KEY 8 X 7 X 40	
7	3120120	SPRING RING BR 52 INA	
8	12070302	ROLLER BUSH HK 4520	
9	8010302	BEVEL PINION GEAR Z 16	
10	3120101	SNAP RING E 30-7435-75	
11	8010304	RING BEVEL GEAR Z 23	
12	3110002	KEY 8 X 7 X 35	
13	12240108	BEARING 6206 2RS	
14	12260002	OIL SEAL 30.55.10	
15	12010202	CENTRAL SHAFT	
16	8010303	BEVEL PINION Z 17	
17	3110001	KEY 8 X 7 X 25	
18	18030655	RING BEVEL GEAR Z 34	
19	12070301	ROLLER BUSH HK 3520	
20	12280001	AXLE THRUST BEARING AS 3552	
21	12270001	AXIAL HOUSING AXK 3552	
22	18030656	COMPLETE AXLE CAGE (AXK + AS)	
23	8020428	CARDAN SHAFT	
	8020427	CARDAN SHAFT	
24	12240102	YAPER ROLLER BEARING 6006	
25	3120126	FLAT WASHER FROM 0.3-0.5 MM	

Farm King



SPECIFICATIONS

SPECIFICATIONS59
 Dimensions59
 Performance59

HARDWARE TORQUE VALUES60
 Metric Chart60
 Imperial Chart61

HYDRAULIC CONNECTION SPECIFICATIONS62
 O-Ring Fitting (Straight Thread)62
 O-ring Face Seal Connection62
 Flare Fitting62
 Port Seal (O-ring Boss) Fitting62
 Tubelines And Hoses62

Farm King



SPECIFICATIONS

Dimensions

DESCRIPTION	10 FT TEDDER
Transport Width	8 ft. 2 in. (250 cm)
Working Width	10 ft. (310 cm)

Performance

DESCRIPTION	10 FT TEDDER
Weight	490 lb. (222 kg)
Rotors / Arms Per Rotor	2 / 6
Working Speed	9 mph (14 kph)
Tires	2, 3.50 x 6
PTO Speed	540 rpm
Tractor HP	20 hp (15kW)

HARDWARE TORQUE VALUES

Metric Chart

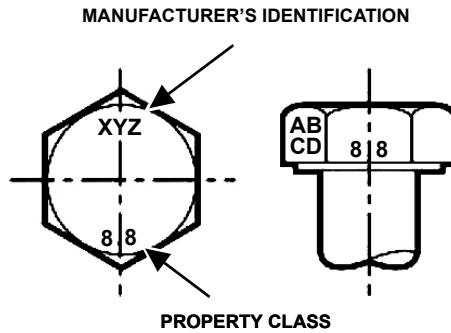
NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

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.**

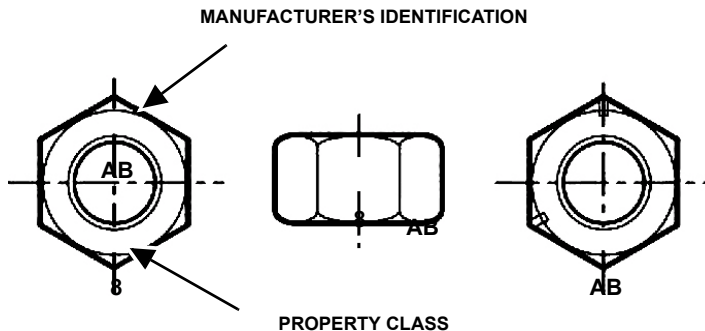
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 w/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	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

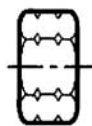


SAE GRADE 5 NUTS



SAE GRADE 8 NUTS

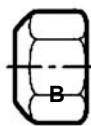
Identification of Hex Nuts and Lock Nuts



Grade A - No Notches

Grade B - One Circumferential Notch

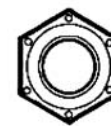
Grade C - Two Circumferential Notches



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 22

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 23

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 23] 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 24

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

WARRANTY65

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 to 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.

ALPHABETICAL INDEX

BASE FRAME	46
DRIVELINE ASSEMBLY	54
EQUIPMENT IDENTIFICATION	10
FIRE PREVENTION	15
FRAME AND GUARD ASSEMBLY	50
GENERAL INFORMATION	21
GENERAL INFORMATION	45
HARDWARE TORQUE VALUES	60
HYDRAULIC CONNECTION SPECIFICATIONS	62
INITIAL SET-UP	24
OWNER'S INFORMATION	9
SAFETY INSTRUCTIONS	13
SAFETY SIGN (DECAL) INSTALLATION ..	41
SAFETY SIGN-OFF FORM	18
SAFETY SIGNS (DECALS)	17
SERVICE SCHEDULE	40
SPECIFICATIONS	59
STORAGE AND RETURN TO SERVICE ...	42
TEETH REPLACEMENT	41
TRANSPORTING	35
TROUBLESHOOTING	39
WARRANTY REGISTRATION FORM	5
WARRANTY	65

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