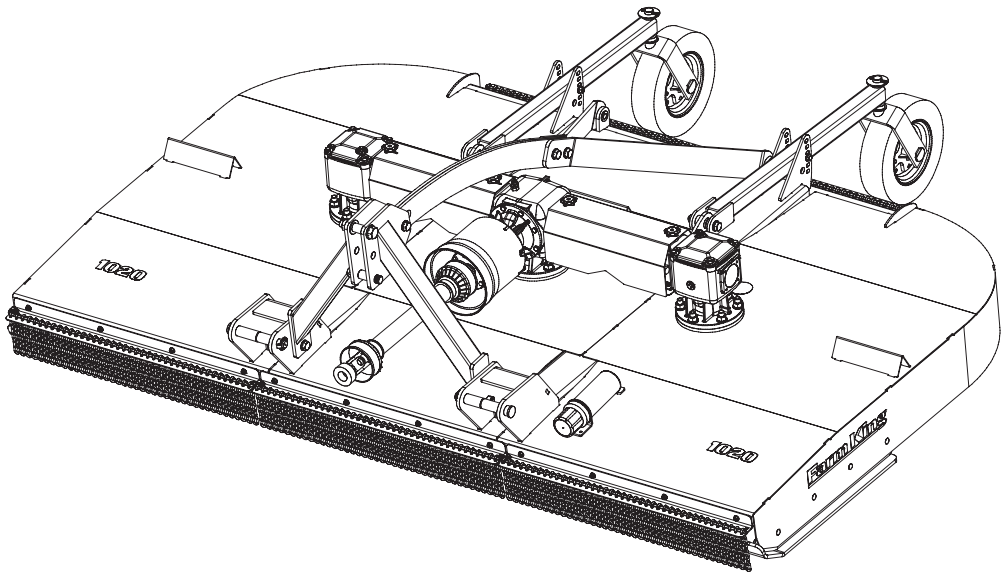
Farm King

OPERATOR AND PARTS MANUAL

Rotary Cutter

Model 1020



042018 FK413

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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 soil fertility, applied agricultural techniques, weather conditions, and other factors.

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:	
Customer Address:	
City:	Prov / State:
Postal / Zip Code:	Phone:

Dealer Name:	
Dealer Address:	
City:	Prov / State:
Postal / Zip Code:	Phone:

Equipment Model:	Serial Number:	Delivery Date:

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

Dealer Inspection Report

- ☐ Bearings Turn Freely
- ☐ Chain Tension Checked
- ☐ Check Gear Box Oil Level
- ☐ Tines Properly Oriented
- ☐ Fasteners Tight
- ☐ Lubricate Machine
- ☐ Skid Shoes Properly Adjusted
- ☐ Slip Clutch (If equipped) Is Properly Adjusted

Safety

- ☐ Safety Chain On Hitch
- ☐ All Decals Installed
- ☐ Guards And Shields Installed And Secure
- ☐ Review Operating And Safety Instructions
- ☐ Check Gear Box And Chain Case For Leaks

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 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 Rotary Cutter. 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.

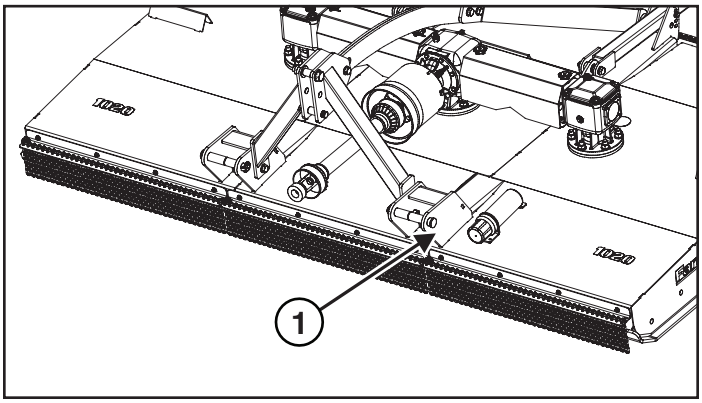
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at **www.farm-king.com** for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

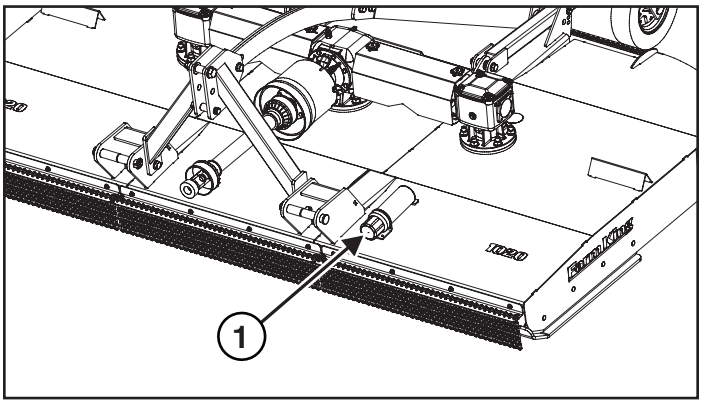
Serial Number: _____

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

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

Manual Storage

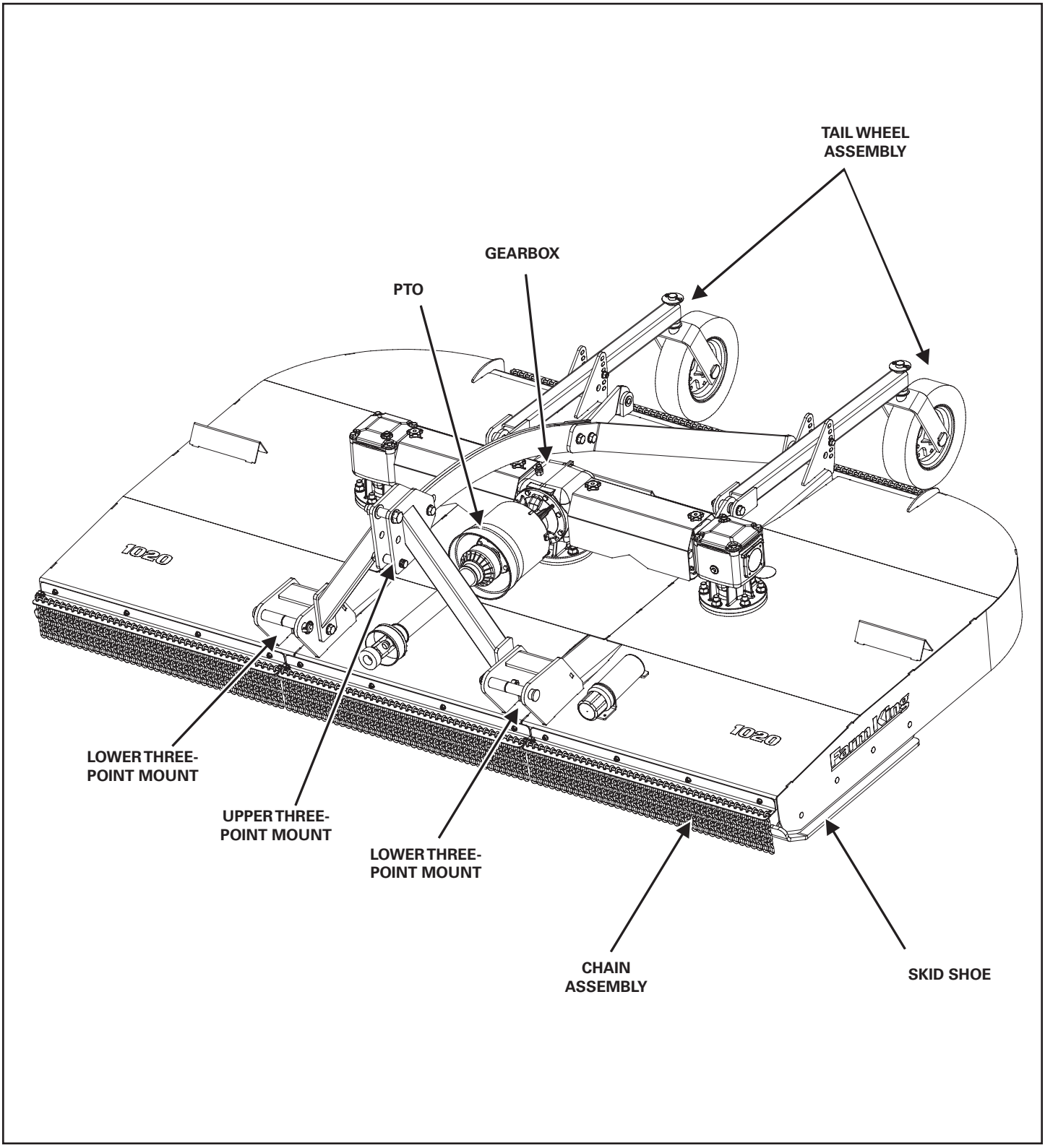
Figure 2



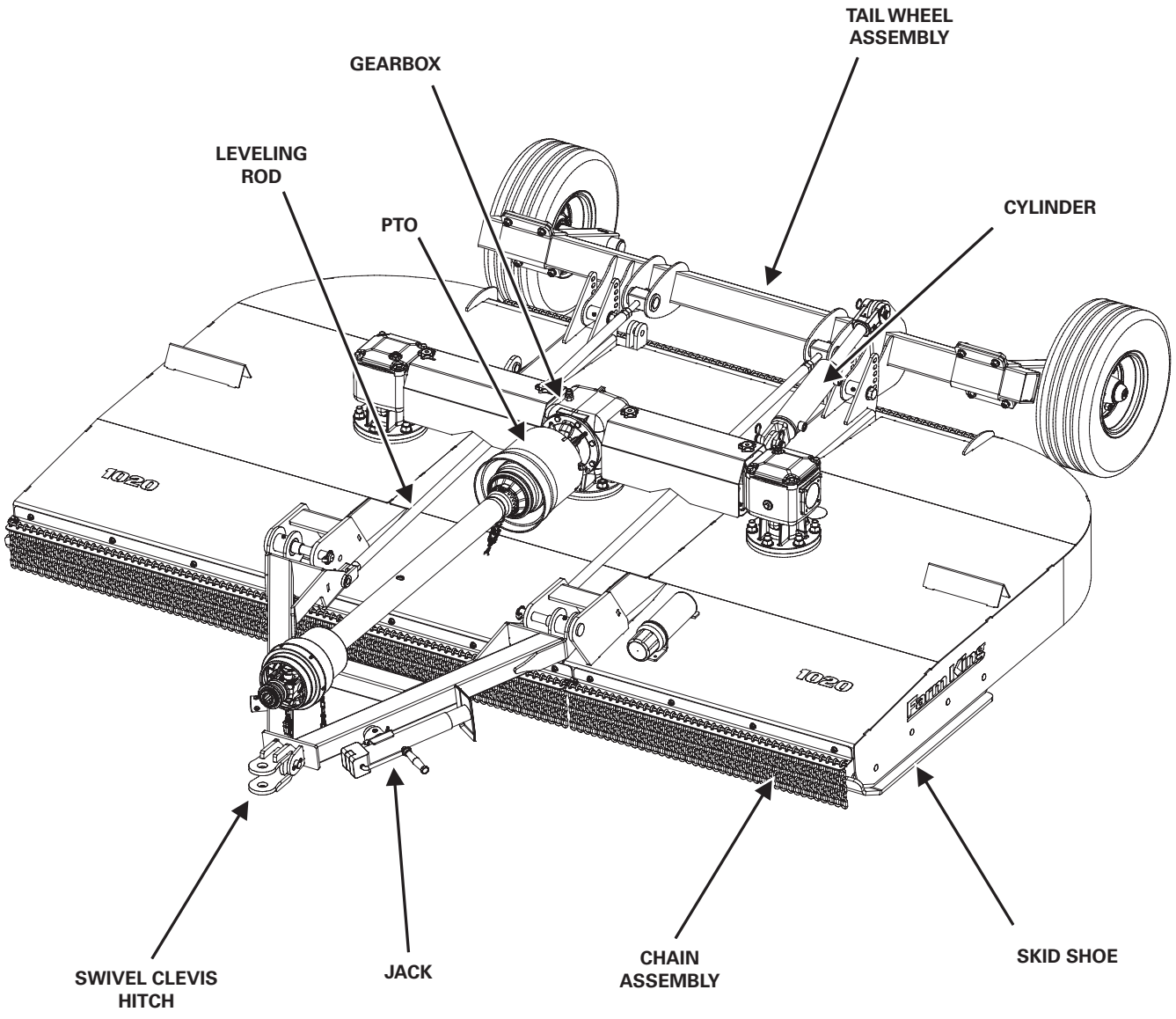
The operator and parts manual and other documents can be stored in the canister (Item 1) **[Figure 2]**.

Equipment Identification

Component Location - Three-Point Hitch Model



Component Location - Trailing Hitch Model



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Safety

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Safety Instructions

Safe Operation is The Operator's Responsibility

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

	**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 alcohol 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.

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.

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.
- 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.
- Stop tractor engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing, unplugging or filling.
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.
- Keep hands, feet, hair and clothing away from all moving parts.

Safety Rules For Power Take-Off (PTO) Driven Equipment

- Keep PTO shields and all guards in place. Replace damaged or missing shields and guards before operating.
- Follow warnings and instructions on machine signs (decals). Replace damaged or missing decals.
- Do not wear loose or bulky clothing around the PTO or other moving parts.
- Keep bystanders away from PTO driven equipment, and never allow children near machines.
- Read and understand the manuals for the PTO driven equipment and be aware of safe operating procedures and hazards that may not be readily apparent.
- Never operate over 540 rpm.
- Always walk around equipment to avoid coming near a turning PTO driveline. Stepping over, leaning across or crawling under a turning PTO driveline can cause entanglement.
- Position the machine and equipment hitch correctly to prevent driveline stress and separation.
- Use caution when raising PTO driven equipment.
- Excessive driveline angle can cause driveline damage.

Machine Requirements And Capabilities

- Fasten seat belt securely. If equipped with a foldable Roll-Over Protective Structure (ROPS), only fasten seat belt when ROPS is up and locked. DO NOT wear seat belt if ROPS is down.
- 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. Roll-away can occur because the transmission may not prevent machine movement.

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 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).

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. Flammable debris in the engine compartment is a potential fire hazard. The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.
- 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 before operation. (See Maintenance section)
- Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Starting

- Do not use ether or starting fluids on any engine that has glow plugs. These starting aids can cause explosion and injure you or bystanders.
- 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.
- Battery gas can explode and cause serious injury. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

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.

Fueling

- Stop the engine and let it cool before adding fuel. No smoking. Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

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.

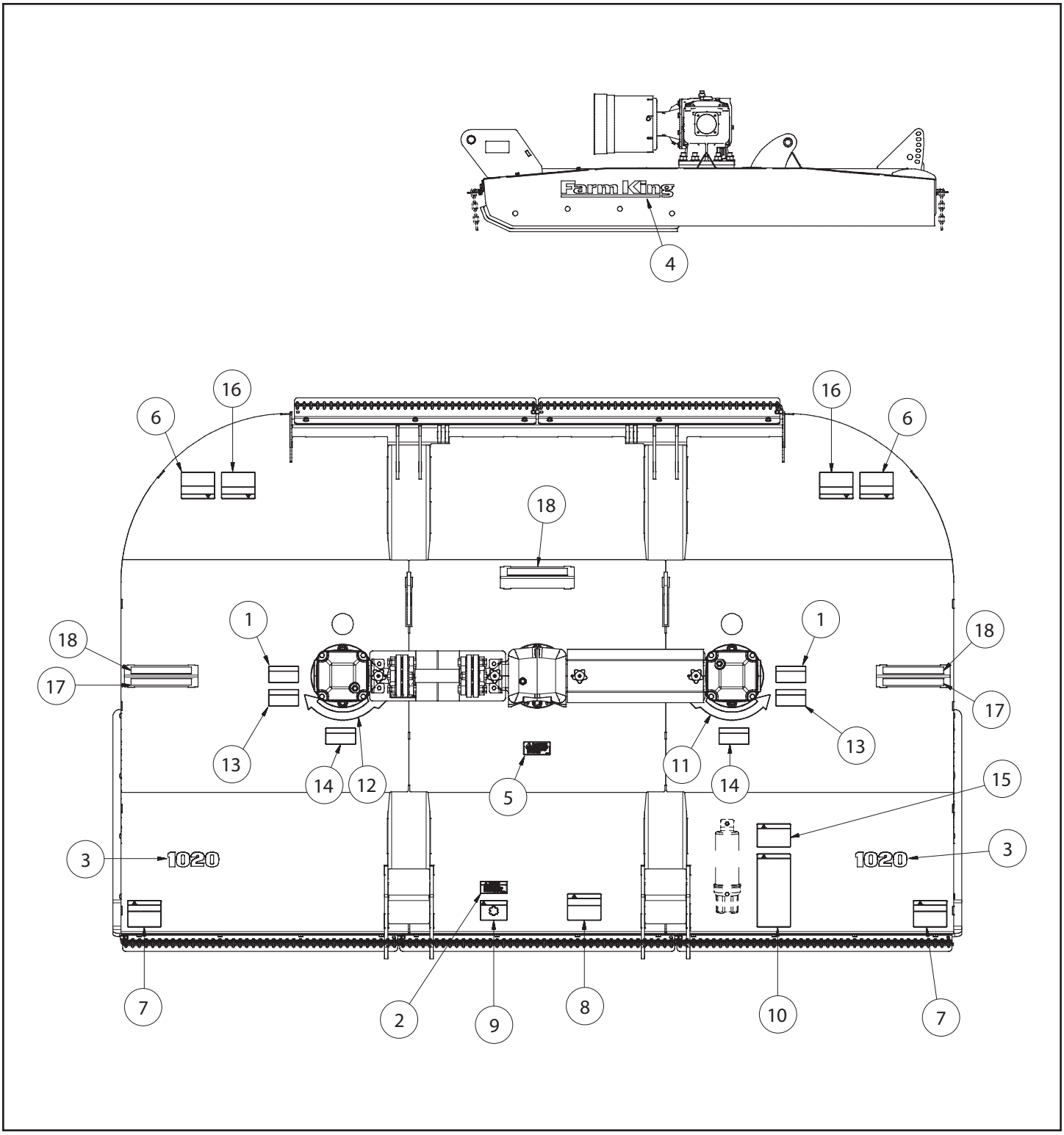
Fire Extinguishers

- 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 And Equipment Decals

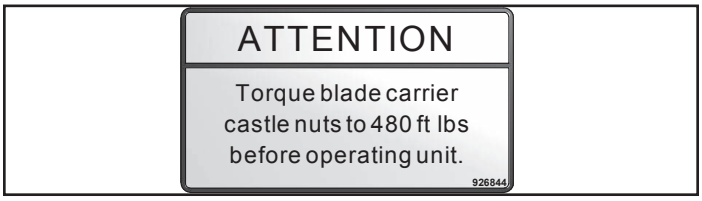
Follow the instructions on all the signs (decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.

Figure 3



Safety Signs And Equipment Decals [Figure 3]

ATTENTION TORQUE - 926844 (Item 1)



WARNING CHECK PTO SHAFT - 108431 (Item 2)

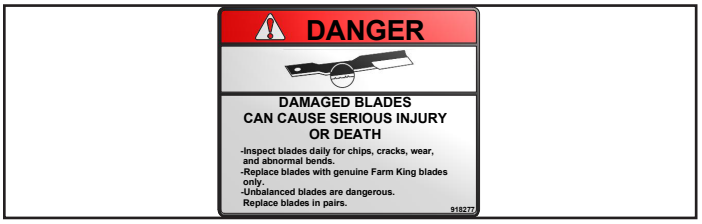
1020 ROTARY CUTTER - 818865 (Item 3)

FARM KING - 910626 (Item 4)

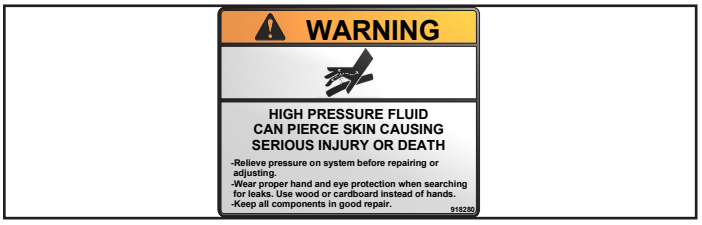
MISSING SHIELD HAZARD - 915861 (Item 5)

DANGER ROTATING BLADES - 918276 (Item 6)

DANGER DAMAGED BLADES - 918277 (Item 7)

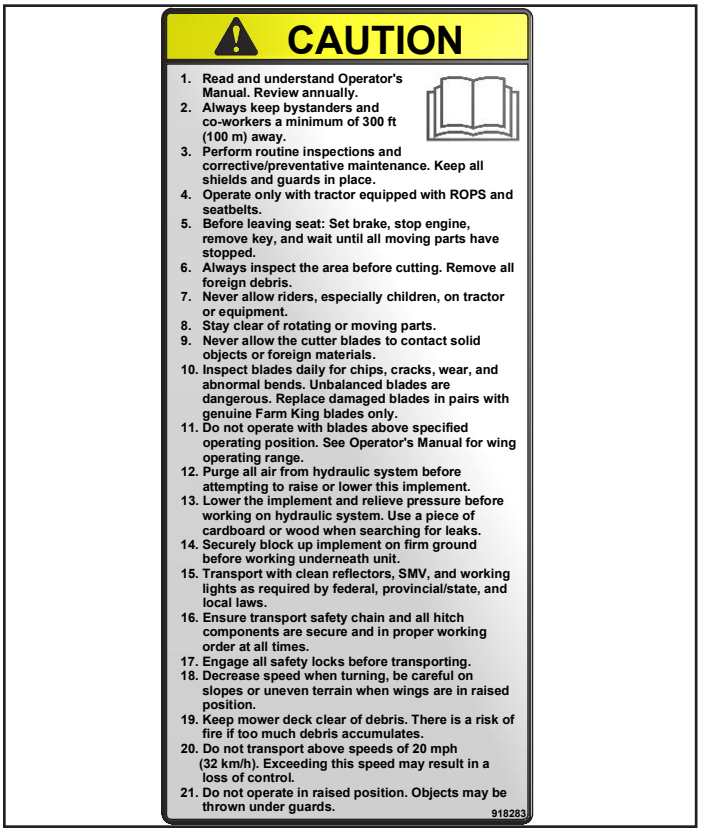


WARNING FLUID PRESSURE - 918280 (Item 8)

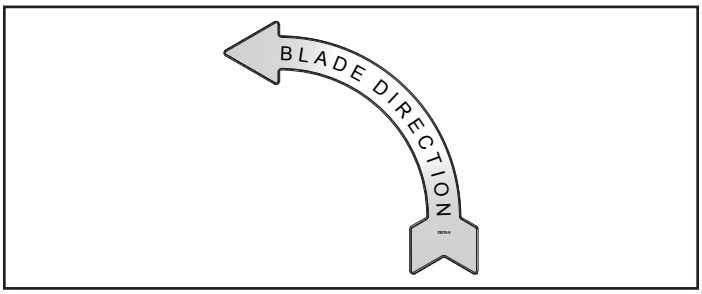


WARNING 540 PTO - 918281 (Item 9)

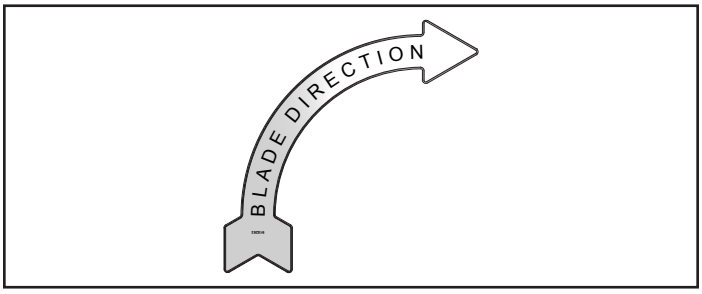
CAUTION SAFETY POINTS - 918283 (Item 10)



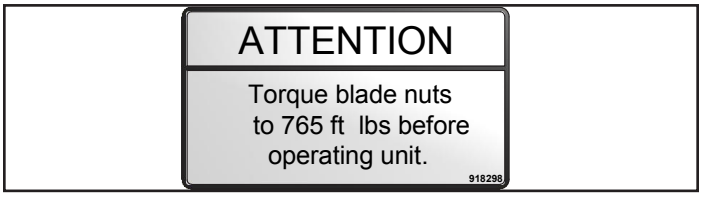
CCW BLADE DIRECTION - 918292 (Item 11)



CW BLADE DIRECTION - 918293 (Item 12)



ATTENTION TORQUE - 918298 (Item 13)

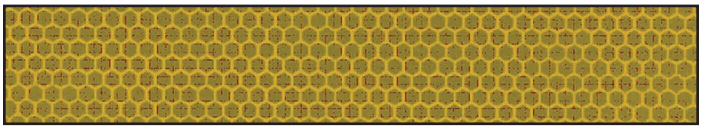


ATTENTION OIL LEVEL - 918406 (Item 14)

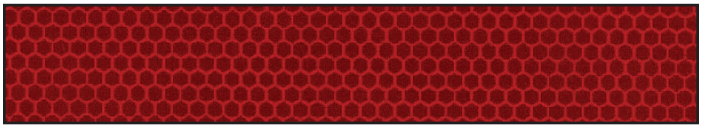
CAUTION OWNERS MANUAL - 919219 (Item 15)

DANGER THROWN OBJECT - 919272 (Item 16)

REFLECTIVE 2 X 9 AMBER - 967055 (Item 17)



REFLECTIVE 2 X 9 RED - 967053 (Item 18)



Safety Sign-Off Form

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.

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 equipment 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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Assembly

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Preparing For Assembly

IMPORTANT

Equipment may be shipped without some components installed due to transport restrictions.

- **Using the packing list, locate and count the individual components and verify that you have received the correct number of each component.**
- **Check all the components for damage. If any components are damaged or missing, contact your Farm King dealer.**

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, equipment and components to an area large enough for assembly.

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.

WARNING

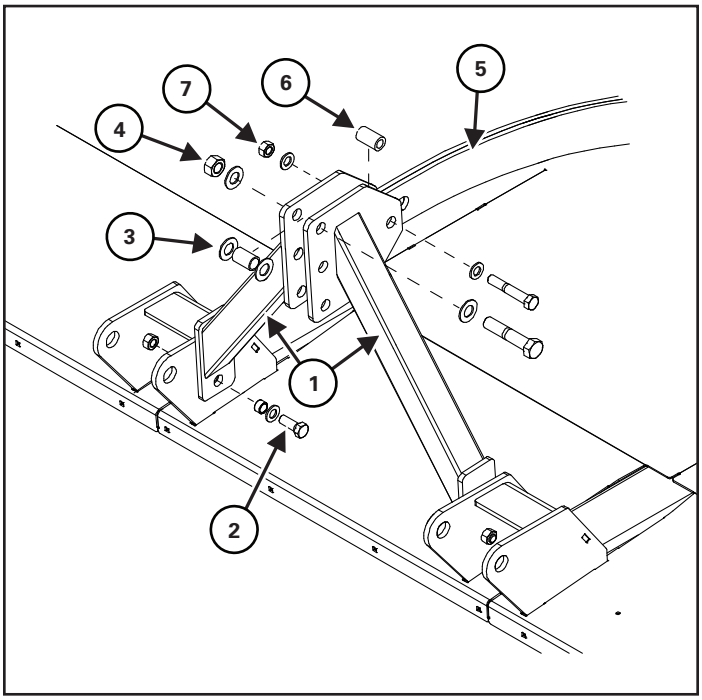
AVOID INJURY OR DEATH

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.**

Three-Point Hitch

Figure 4

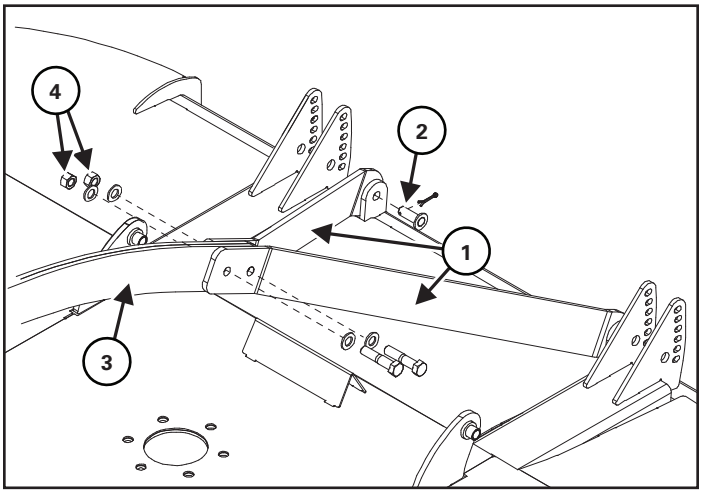


Install the LH and RH top link mount weldments (Item 1). Attach to the deck mounts using one 3/4" x 2" hex bolt, 3/4" flat washer, bushing, and 3/4" lock nut (Item 2) **[Figure 4]**.

Position one bushing (Item 3) and two 1" flat washers between the LH and RH top link mount weldments at the top hole. Attach using one 1" x 5" hex bolt, two 1" flat washers (both sides), and one 1" lock nut (Item 4) **[Figure 4]**.

Install the hitch linkage (Item 5) to the LH and RH weldments. Attach using one bushing (Item 6), two 3/4" flat washers (both sides), one 3/4" x 4-1/2" hex bolt, and one 3/4" lock nut (Item 7) **[Figure 4]**.

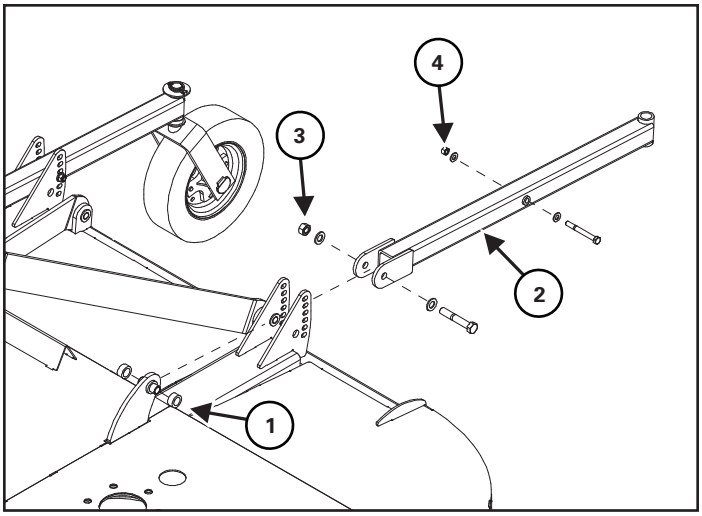
Figure 5



Install the LH and RH rear linkages (Item 1). Attach each linkage to the deck mounts using one 3/4" pin and retaining pin (Item 2) **[Figure 5]**.

Attach the rear linkages (Item 1) to the hitch linkage (Item 3) using two 3/4" x 3-1/2", four 3/4" flat washers (both sides), and two 3/4" lock nuts (Item 4) **[Figure 5]**.

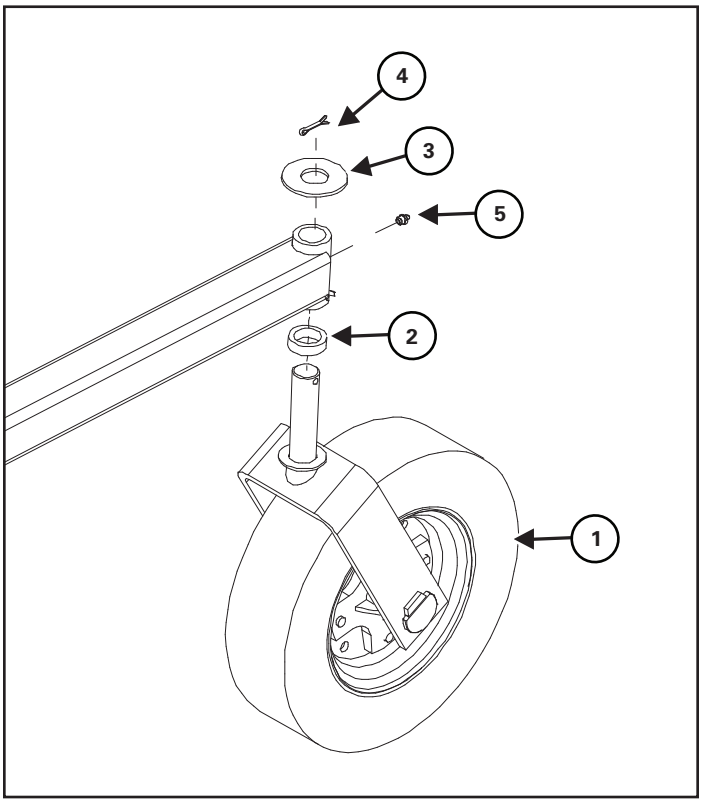
Figure 6



Install two spacers (both sides) (Item 1) to the LH and RH deck mounts. Install one tail wheel mount (Item 2) to the deck mounts. Attach using one 3/4" x 4-1/2" hex bolt, two 3/4" flat washers (both sides), and one 3/4" lock nut (Item 3) **[Figure 6]**.

Attach the tail wheel mount (Item 2) to the height adjustment bracket using one 1/2" x 4-1/2" hex bolt, two 1/2" flat washers (both sides), and one 1/2" lock nut (Item 4) **[Figure 6]**.

Figure 7

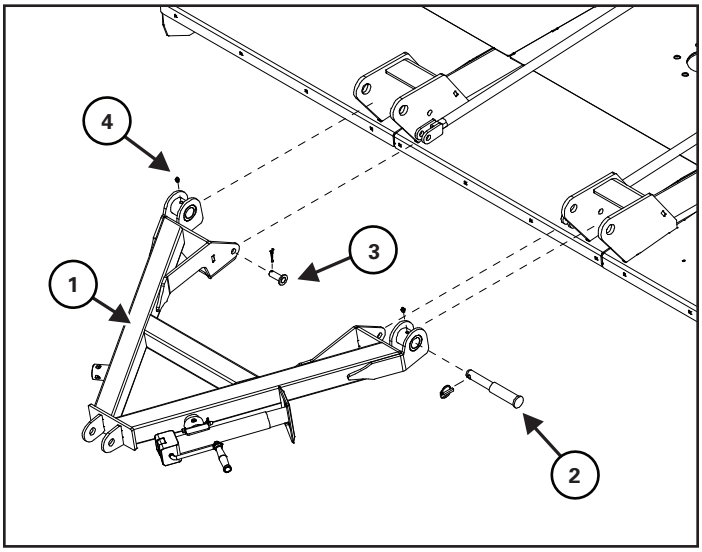


Install one tail wheel (Item 1) to the tail wheel mount. Attach the tail wheel using one spacer (Item 2), wide washer (Item 3), and cotter pin (Item 4) **[Figure 7]**.

Install one grease fitting (Item 5) **[Figure 7]** to the tail wheel mount.

Trailing Hitch

Figure 8

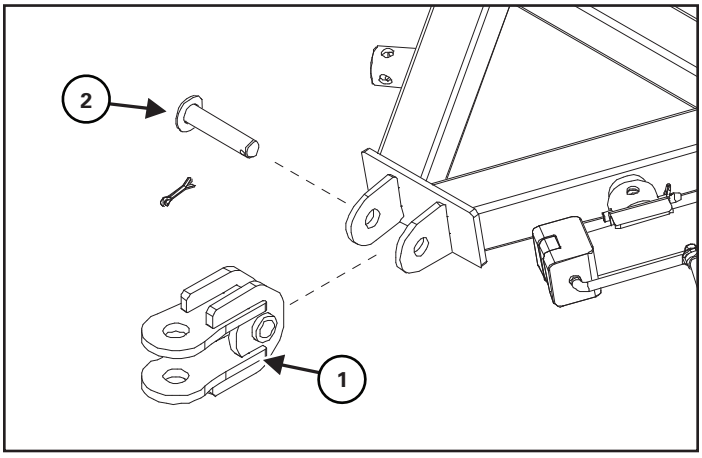


Install the trailing hitch weldment (Item 1) to the deck mounts. Attach using two lift pins and two 7/16" linch pins (Item 2) **[Figure 8]**.

Attach the hitch weldment (Item 1) to the two leveling rods using two 3/4" pins and two 3/16" x 1-1/2" cotter pins (Item 3) **[Figure 8]**.

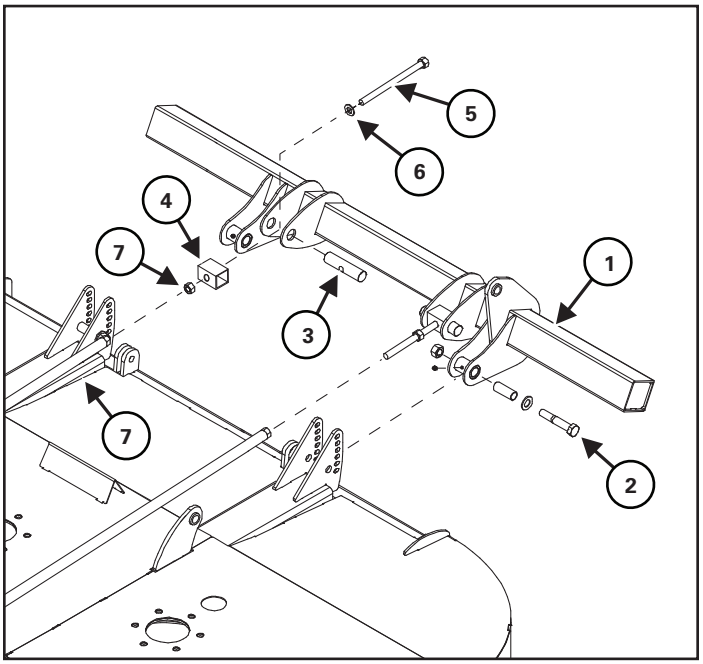
Install two grease fittings (Item 4) **[Figure 8]** to the trailing hitch weldment.

Figure 9



Install swivel clevis weldment (Item 1) to the trailing hitch weldment. Attach using one 1/4" X 1 1/2" cotter pin and one clevis pin (Item 2) **[Figure 9]**.

Figure 10



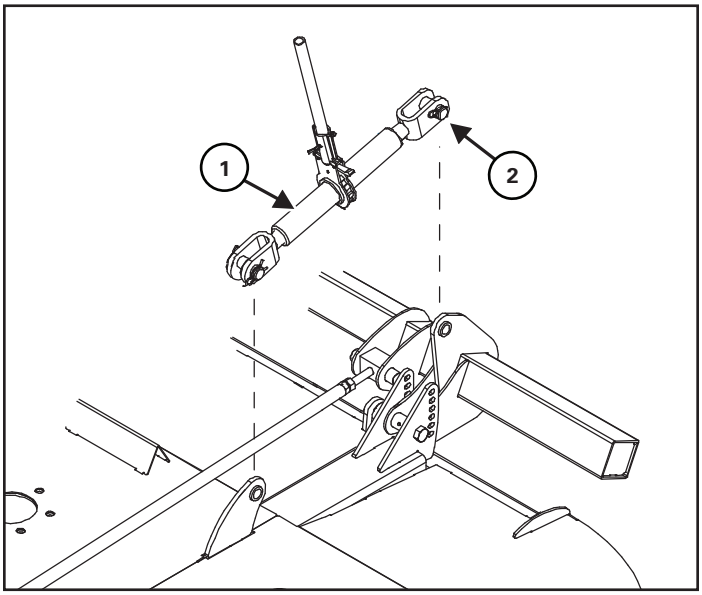
Install the trailing bar (Item 1) to the deck mounts. Attach to each mount using one 7/8" x 5" hex bolt, bushing, two 7/8" flat washers (both sides), and one 7/8" lock nut (Item 2) **[Figure 10]**.

Install one bushing with bolt hole (Item 3) and one sleeve (Item 4) to each trailing bar mount. Install one leveling rod bolt (Item 5) and 3/4" flat washer (Item 6) **[Figure 10]** through the bushing.

Thread one 3/4" hex nut (Item 7) onto the leveling rod bolt (Item 5). Attach the leveling rod bolt to the leveling rod (Item 7) **[Figure 10].**

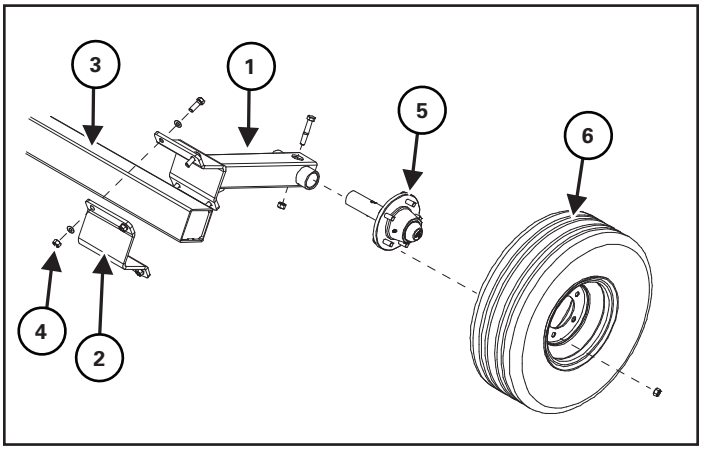
Back off the 3/4" hex nut and tighten against the leveling rod.

Figure 11



Install one ratchet jack (Item 1) or optional hydraulic cylinder to the deck and trailing bar mounts. Attach using two clevis pins and retaining pins (Item 2) **[Figure 11]**.

Figure 12



Install the trailing arm (Item 1) and bracket (Item 2) to the trailing bar (Item 3). Attach using four 1/2" x 1-1/2" hex bolts, eight 1/2" flat washers (both sides), and four 1/2" lock nuts (Item 4) **[Figure 12]**.

Attach the hub assembly (Item 5) to the trailing arm (Item 1) **[Figure 12]** using one 1/2" x 3" hex bolt and one 1/2" lock nut.

Attach the tire / wheel assembly (Item 6) **[Figure 12]** to the hub using five 1/2" wheel nuts. Tighten the wheel nuts in a criss-cross pattern.

Torque wheel nuts to 93 ft-lbs.

Operation

Farm King

Pre-Operation Checklist

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

WARNING

AVOID INJURY OR DEATH

- **Disengage the PTO, engage the machine's parking brake, stop the engine and make sure all rotating components are completely stopped before connecting, disconnecting, adjusting or cleaning any PTO driven equipment.**
- **Always keep PTO shields and all guards in place when using PTO driven equipment.**
- **Disengage PTO for road travel.**
- **Keep hands, feet and clothing away.**

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.
2. Check the rotary cutter hitch for damaged, loose or missing parts. Repair as needed before operation.
3. Check that tire pressure (air craft tires only) is 40 psi (276 kpa).
4. Check that wheel bolt torque is 93 ft. lb. (126 N•m).
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.

Tractor Requirements

The tractor must satisfy the following requirements, depending on model.

1020 Model:

- 50 HP w/ Cat. II / III hitch or swivel clevis hitch

WARNING

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

IMPORTANT

Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not exceed 20 mph (32 km/h).

Entering The Operator's Position

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

IMPORTANT

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

Leaving The Operator's Position

Always perform the following steps when leaving the operator's position:

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

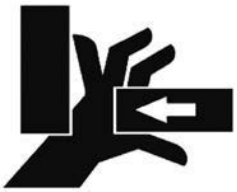
- **Always park on a flat level surface.**
- **Place all controls in NEUTRAL.**
- **Engage the park brake.**
- **Stop the engine and remove the key.**
- **Wait for all moving parts to stop.**

Connecting To Tractor

Always inspect the tractor's hitch and equipment's hitch before connecting. See the tractor's owner's manual.

Move the tractor into position in front of the equipment.

WARNING



AVOID INJURY OR DEATH

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

WARNING

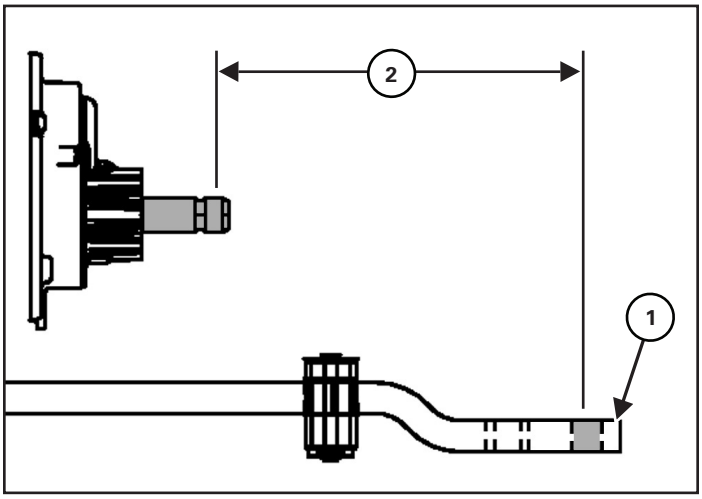
AVOID INJURY OR DEATH

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.

Trailing Hitch

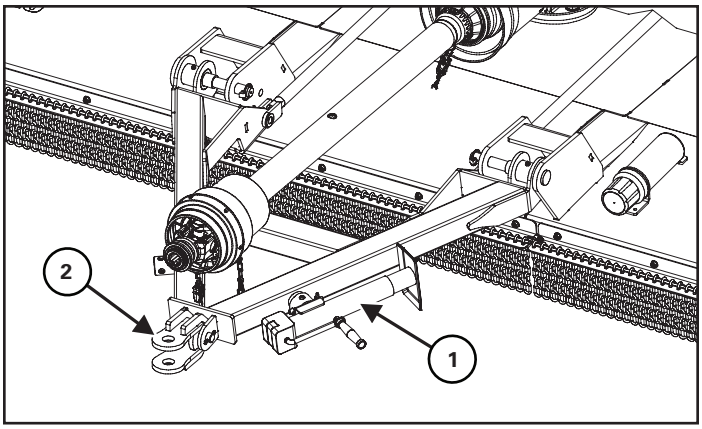
Figure 13



Adjust the tractor's drawbar in / out, until the center of the hitch pin hole (Item 1) is 13.78 inches (350 mm) (Item 2) **[Figure 13]** from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures.

Enter the operator's position. Move the tractor into position in front of the equipment. Move the tractor backwards, aligning the drawbar with the equipment hitch. Leave the operator's position.

Figure 14



Adjust the equipment jack (Item 1) to align the tractor drawbar and equipment hitch (Item 2) **[Figure 14]**.

Turn the handle clockwise to raise the hitch or counterclockwise to lower the hitch. Lower or raise the equipment hitch until aligned with the tractor's drawbar.

Enter the operator's position. Move the tractor backwards, aligning the drawbar hitch pin hole with the equipment. Leave the operator's position.

Install the hitch pin and retaining pin to securely fasten the equipment hitch to the tractor drawbar.

Attach the safety chain around the drawbar.

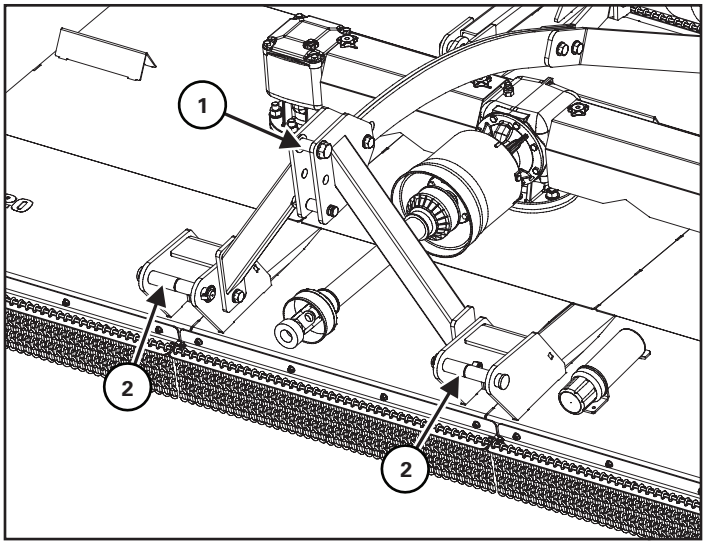
IMPORTANT

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

Three-Point Hitch

Move the tractor drawbar into the storage position or remove (if necessary) to prevent interference with operation (see the tractor's operator's manual for the correct procedure).

Figure 15



Remove the top implement mounting pin (Item 1) **[Figure 15]** and linch pin from the equipment.

Remove the linch pins from the left and right lower mounts (Item 2) **[Figure 15].**

Enter the operator's position. Move the tractor backwards, aligning the tractor's three-point hitch and equipment's three-point mounts. Leave the operator's position.

Install the left and right lower three-point mounts of the tractor to the equipment's left and right lower mounting pins.

Reinstall the linch pins.

Lower the top link of the three-point hitch until it aligns with the equipment's upper mount.

Reinstall the mounting pin and linch pin.

Note: It may be necessary to lengthen or shorten the top link to align it with the equipment's mounting hole (see the tractor's operator's manual for the correct procedure).

The equipment can be leveled front to back by adjusting the top link (see the tractor's operator's manual for the correct procedure).

Adjust the lower link sway chains or blocks on the tractor to restrict side movement of the equipment when operating.

IMPORTANT

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

Connecting The PTO Driveline

Stop the engine and leave the operator's position (See "Leaving The Operator's Position" in Operator's section).

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.

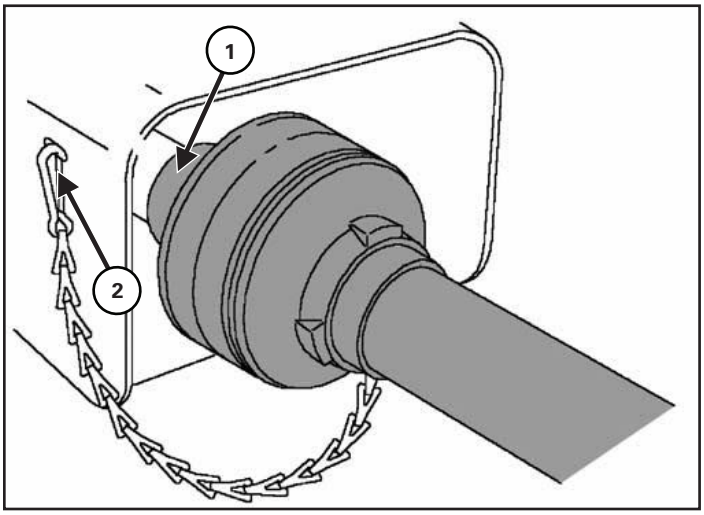
IMPORTANT

Improper hitch installation can cause PTO driveline damage.

- **Do not modify the three point 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 16



Retract the collar (Item 1) **[Figure 16]** and slide the PTO driveline onto the tractor PTO shaft. Release the collar and the driveline will lock onto the shaft. Push and pull the PTO driveline back and forth several times and make sure it is securely attached to the PTO shaft.

Install PTO driveline safety chain (Item 2) **[Figure 16]**.

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 Length Check

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

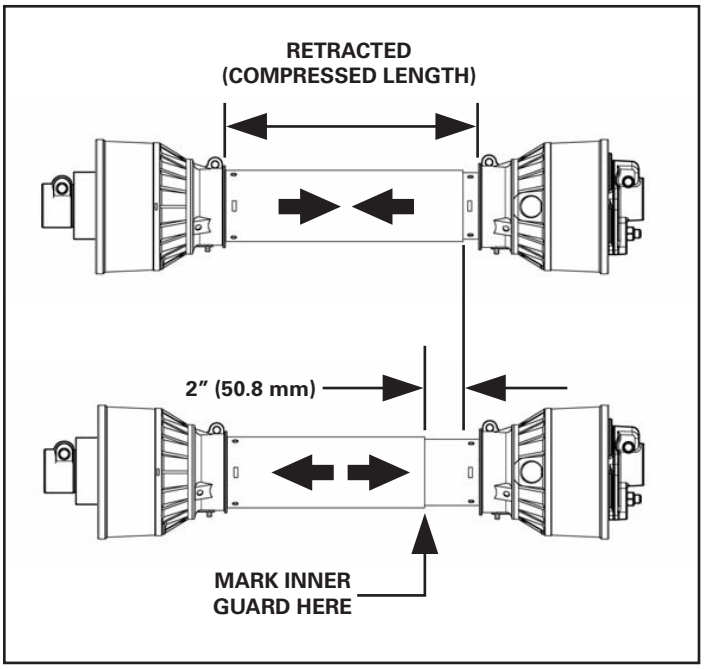
- **Do NOT exceed the rated implement PTO speed.**
- **Stay clear of rotating driveline.**
- **Keep bystanders away.**
- **Keep hands, feet, clothing and long hair away.**
- **Keep PTO shields and all guards in place.**
- **Disengage PTO, move the tractor controls to the Neutral position, stop the engine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

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

Figure 17



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 17]**.
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 17]**.
4. Reattach the PTO driveline to the tractor PTO shaft.
5. Enter the operator's position. 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" in the Operation section). Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.

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.**

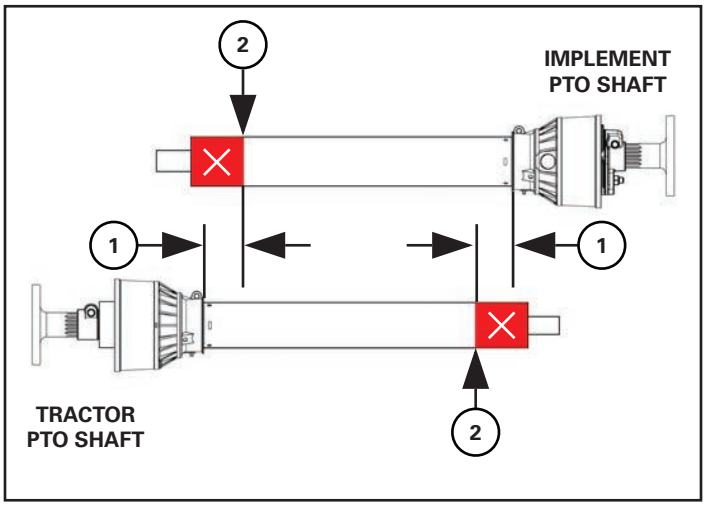
Remove the PTO driveline from the tractor and place in storage position (if equipped).

Enter the operator's position (See "Entering The Operator's Position" in the Operation section). Start the engine.

Raise or lower the three-point implement to get the shortest distance between the tractor PTO shaft and three-point implement gearbox PTO shaft. Stop the engine and leave the operator's position.

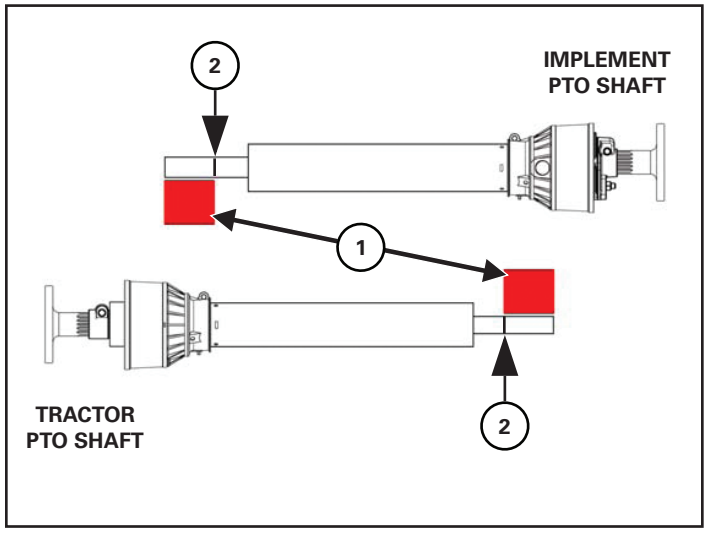
Pull the PTO driveline apart and reinstall each individual section; one half to the tractor PTO shaft and one half to the implement gearbox PTO shaft.

Figure 18



1. Hold PTO driveline sections parallel to one another and measure back 2 in. (50.8 mm) (Item 1) **[Figure 18]** from the yoke of each section and place mark on opposite section. Cut the plastic shield at this length (Item 2) **[Figure 18]**.

Figure 19



2. Using the plastic guard lengths that were cut off in **[Figure 18]**, align the cut off lengths (Item 1) **[Figure 19]** with the end of the inner & outer shafts. Place a mark (Item 2) **[Figure 19]** 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" in the Operation section).

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

WARNING

AVOID INJURY OR DEATH

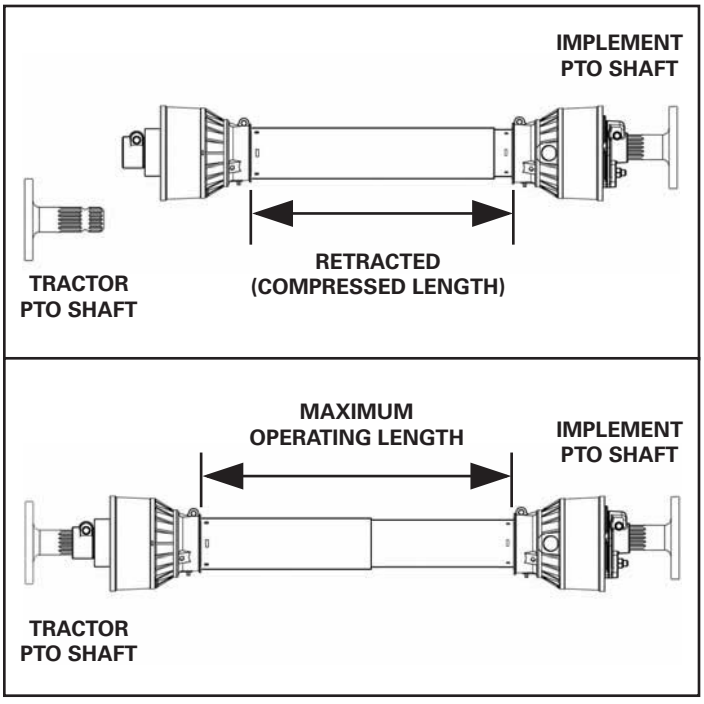
- **Do NOT exceed the rated implement PTO speed.**
- **Stay clear of rotating driveline.**
- **Keep bystanders away.**
- **Keep hands, feet, clothing and long hair away.**
- **Keep PTO shields and all guards in place.**
- **Disengage PTO, move the tractor controls to the Neutral position, stop the engine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

1. Disconnect the PTO driveline from the tractor and fully slide the driveline sections together (retracted).
2. Measure the retracted (compressed) length of the PTO driveline between the bases of the plastic guards **[Figure 20]**.
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" in the Operation section)
6. With the PTO driveline attached, position the three-point implement to where the telescoping PTO driveline is at its maximum operating extension.
7. Stop the engine and leave the operator's position. Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.
8. Measure the length of the PTO driveline between the bases of the plastic shields **[Figure 20]** to determine the maximum operating length.

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

   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.

Figure 20



Adjusting Deck Height

Adjust the cutting height for the conditions:

Light Material / Normal Cutting - Set front of deck level to one inch (25.4 mm) higher than the rear.

Brush / Dense Tall Weeds - Set front of deck two - three inches (51 - 76 mm) higher than the rear.

Rough Ground Cutting - Adjust the front of the cutter two - three inches (51 - 76 mm) higher than the rear to hold the front blade up, keeping the front blade from contacting the rough ground.

IMPORTANT

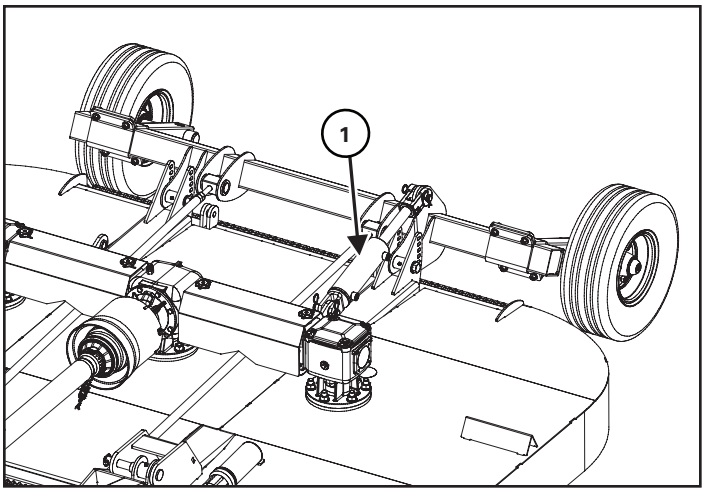
Adjust the deck height to the tractor's drawbar.

Drawbar heights vary depending on the tractor being used.

The Rotary Cutter usually performs best with the front raised higher than the rear.

Trailing Hitch

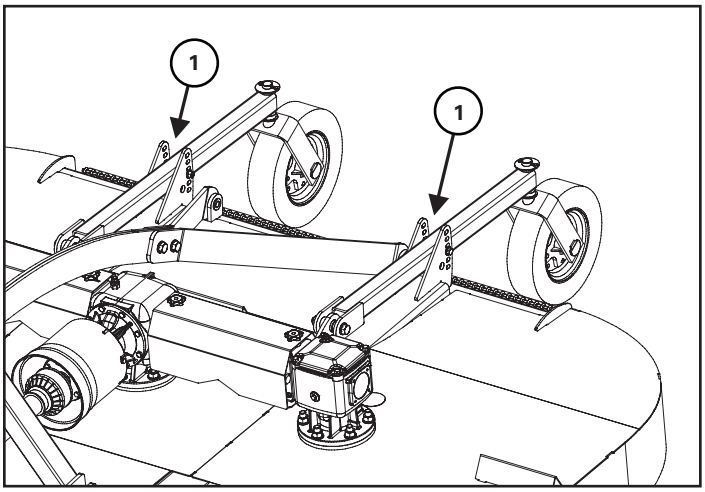
Figure 21



Adjust the deck height by adjusting the ratchet jack or hydraulic cylinder (if equipped) (Item 1) **[Figure 21]**.

Three-Point Hitch

Figure 22



Adjust the deck height by raising or lowering the trailing wheels in the mounts (Item 1) **[Figure 22]**.

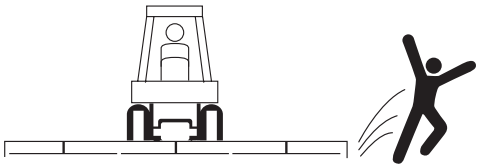
Attach the trailing wheel in mount using one 1/2" x 4-1/2" hex bolt, two 1/2" flat washers (both sides), and one 1/2" lock nut.

Theory Of Operation

CAUTION

- Read operator and parts manual before operating the implement.
- Do not permit riders.
- Stop engine, set brake, remove key and wait for all moving parts to stop before servicing, adjusting, repairing and unplugging.
- Remove bystanders, especially children, before starting or while operating.
- Block up before working beneath unit.
- Review safety instructions annually.

DANGER



THROWN OBJECT HAZARD

To prevent serious injury or death from thrown objects:

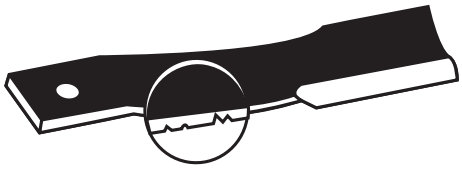
- Stay clear and watch out for bystanders. Stop if bystanders come close to work area. Keep all shields in place. Use protective shields on all discharge openings at front and rear of deck whenever possible.
- Before working on mower: Disengage power, shut off engine, remove key and make sure all blades have stopped turning.

DANGER

ROTATING BLADES CAN CAUSE SERIOUS INJURY OR DEATH

- Stay clear of rotating parts.
- Blades may rotate for several minutes after power shut off.
- Do not place hands or feet under or into cutter.
- Disengage power, stop engine, set park brake, remove ignition key and make sure blades have stopped turning before leaving cab.

DANGER



DAMAGED BLADES CAN CAUSE SERIOUS INJURY OR DEATH

- Inspect blades daily for chips, cracks, wear and abnormal bends.
- Replace blades with genuine Farm King blades only.
- Unbalanced blades are dangerous.
- Replace blades in pairs.

Starting Operation

1. Connect the rotary cutter to the tractor.
2. Adjust rotary cutter to the desired height.
3. Move the tractor and rotary cutter to work area.
4. Adjust engine speed to low idle.
5. Slowly engage the tractor PTO to start blade rotation.
6. Slowly increase engine speed to 540 RPM. Do not exceed 540 RPM.

WARNING

AVOID INJURY OR DEATH

- **Do NOT exceed 540 RPM PTO speed.**
- **Keep PTO shields and all guards in place.**
- **Keep away from moving parts.**
- **Keep bystanders away.**
- **Verify that the PTO driveline does not contact the cutter when raising and lowering or when cornering.**

Cutting Process

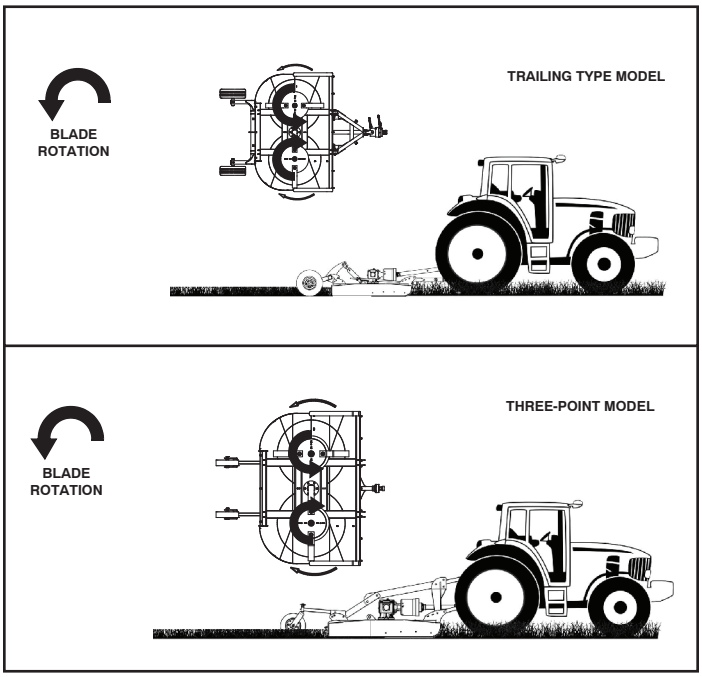
1. Start driving forward at the desired speed. Watch for and avoid obstructions and obstacles that may cause damage to the rotary cutter.

NOTE: Loss of power / PTO speed will result in uneven cutting. Adjust travel speed as required for material being cut, while maintaining the rated operating PTO speed (540 rpm PTO speed).

IMPORTANT

Recommended operating ground speed is 0 - 5 mph (0 - 8 km/h). Use slower speeds when operating on or near steep slopes, ditches, drop-offs, rough terrain, overhead obstructions, power lines, or when avoiding obstacles and other foreign debris.

Figure 23



Finishing Operation

1. When the desired work has been completed, stop the tractor, lower the engine speed and disengage the tractor PTO.

CAUTION

Do not fully raise the implement when the PTO is engaged. Damage to the tractor and implement may occur.

2. Fully raise the rotary cutter into the transport position and move the tractor and equipment to next work site.

Transporting

Always comply with federal, state, local and provincial laws regarding the transport of farm equipment on pubic roadways.

WARNING

AVOID INJURY OR DEATH

- **Disengage PTO for road travel.**
- **Keep PTO shields and all guards in place**
- **Keep bystanders away.**
- **Do not allow riders.**
- **Always use hazard flashers on the tractor when transporting unless prohibited by law.**
- **Always follow local regulations when transporting on public roadways. Check with your local authorities.**

IMPORTANT

Never exceed 20 mph (32 kph).

WARNING

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.

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.

The ratio of the tractor / tow vehicle weight to the loaded equipment weight plays an important role in defining acceptable travel speed.

TRAVEL SPEED - Acceptable travel speed.

WEIGHT RATIO - Weight of fully equipped or loaded implement(s) relative to weight of tractor / tow vehicle.

Travel Speed	Weight Ratio
20 mph (32 kph)	Less than 1 to 1
10 mph (16 kph)	Less than 2 to 1
DO NOT TOW	More than 2 to 1

Maintenance

Farm King

Troubleshooting

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.

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
Slip clutches slipping under light load.	Scalping the ground.	Raise cutting height.
	Clutch out of adjustment.	Adjust clutch.
	Worn clutch plates	Replace clutch plates.
	Debris or foreign object caught between clutch plate.	Remove foreign object.
PTO driveline failure.	Slip clutch seized.	Adjust or replace slip clutch.
	Shock load.	Avoid blades from contacting solid objects.
	PTO driveline dry.	Lubricate PTO driveline.
Bent PTO driveline shaft.	PTO driveline contacting cutter frame.	Reduce lift height in transport position.
	PTO driveline contacting tractor draw bar.	Re-position draw bar.
	PTO driveline bottoming out.	Shorten driveline.
	PTO driveline binding.	Lubricate PTO driveline.
PTO driveline telescoping tube failure.	Shock load.	Keep blades from contacting solid objects.
PTO driveline telescoping tube wearing.	PTO driveline dry.	Lubricate PTO driveline.
Excessive skid wear.	Ground contact.	Adjust cutter height.
	Rotary cutter set too low.	Adjust cutter height.

PROBLEM	CAUSE	CORRECTION
Gearbox seal leaking.	Gearbox over-filled.	Drain excess gear oil from gearbox.
	Damaged or worn seals.	Replace seals.
	Debris wrapped around shaft.	Remove debris and inspect seals. Replace as needed.
Blades do not rotate.	Tractor equipped with instant on PTO.	Engage PTO at low RPM, then slowly increase engine RPMs to full PTO speed.
	Tractor equipped with instant off PTO.	Decrease engine RPMs slowly to an idle before disengaging PTO.
Excessive blade wear.	Operating on sandy ground.	Adjust cutter height.
	Blades contacting the ground.	Adjust cutter height.
Blade carrier loose.	Shaft nut loose.	Tighten shaft nut to correct torque.
	Gearbox bearings or shaft damaged.	Replace bearings, shaft or gearbox as needed.
Damaged blade carrier.	Contacting solid objects.	Keep blades from contacting solid objects.
Blade bolts loosening.	Blades not tightened correctly.	Tighten blades.
	PTO operating RPMs too high.	Lower RPMs speed to correct operating speed.
	Blade bolts not torqued properly.	Tighten blade bolts to proper torque.
	Lock nut worn out.	Replace lock nut.
	Cutting in very wet conditions.	Allow work area to dry.
	Cutting too low, scalping ground.	Raise cutting height.
	Cutting too low in rocky conditions.	Raise cutting height.
Blades breaking.	Cutting too low in rocky conditions.	Raise cutting height.
	Damaged or extremely worn blades.	Replace blades.

Service Schedule Chart

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 equipment.

#	DESCRIPTION	SERVICE PROCEDURES					
		CHECK	CLEAN	LUBE	CHANGE	COVER	DRAIN
Daily Maintenance (every 4 hours of use)							
1	Splitter Driveline CV body	✔		✔			
Daily Maintenance (every 8 hours of use)							
2	Tire Pressure	✔					
3	Wheel Bolts	✔					
4	PTO Cross and Bearings	✔		✔			
5	Blades	✔					
6	Blade Pan	✔					
BI-Weekly (or every 20 hours)							
7	PTO Telescoping Tubes			✔			
8	Slip Clutch Connector			✔			
9	PTO Quick Disconnect			✔			
10	PTO Guard Bushings			✔			
Weekly (every 50 hours of use)							
11	Axle And Hitch Pivots	✔		✔			
12	Gearboxes	✔		✔			
Annually (every 500 hours of use)							
13	Wheel Bearings	✔		✔			
14	Gearbox Oil				✔		✔
15	Gearbox Splines	✔		✔			

Lubrication

Recommendations

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

IMPORTANT

Do not over-grease bearings. Greasing too often can damage seals and lead to premature bearing 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.

WARNING

AVOID INJURY OR DEATH

Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.

Support the equipment with blocks or safety stands before working beneath it.

Follow good shop practices:

- **Keep service area clean and dry**
- **Be sure electrical outlets and tools are properly grounded**
- **Use adequate light for the job.**

Use only tools, jacks, and hoists of sufficient capacity for the job.

Replace and secure all shields removed during servicing before operating.

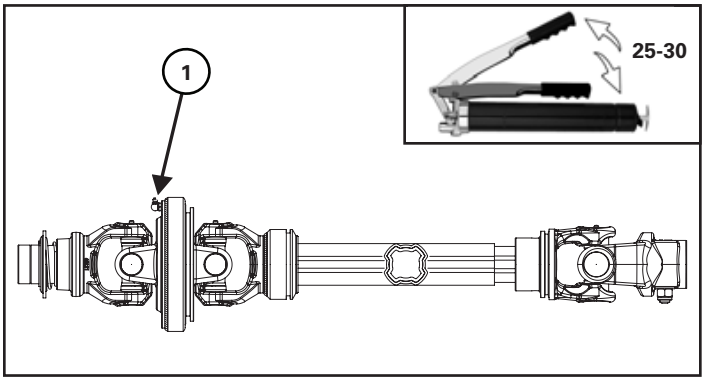
Use heavy leather gloves to handle sharp objects.

PTO And Driveline 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.

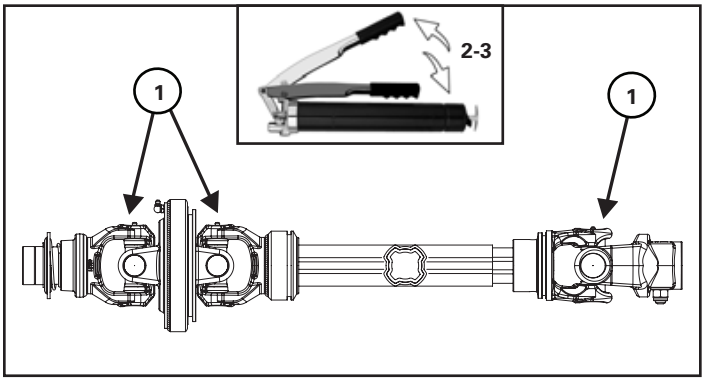
Figure 24



Apply twenty five to thirty pumps of grease to splitter driveline CV (Constant Velocity) body (Item 1) **[Figure 24]**.

Grease every **4 hours** of use.

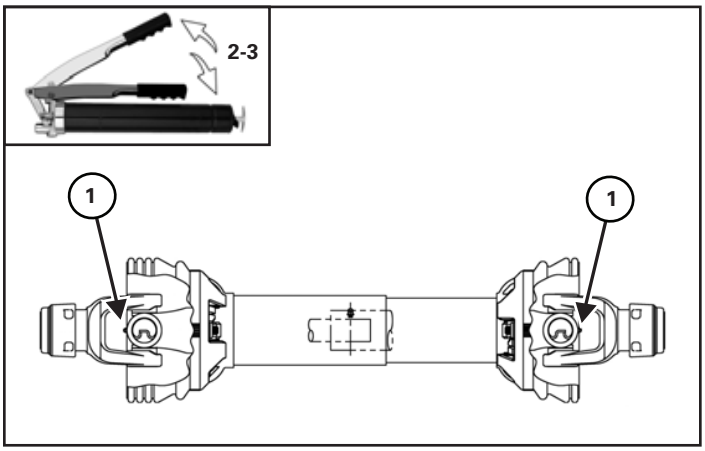
Figure 25



Apply two to three pumps of grease to the u-joints (Item 1) **[Figure 25]**.

Grease every **8 hours** of use.

Figure 26

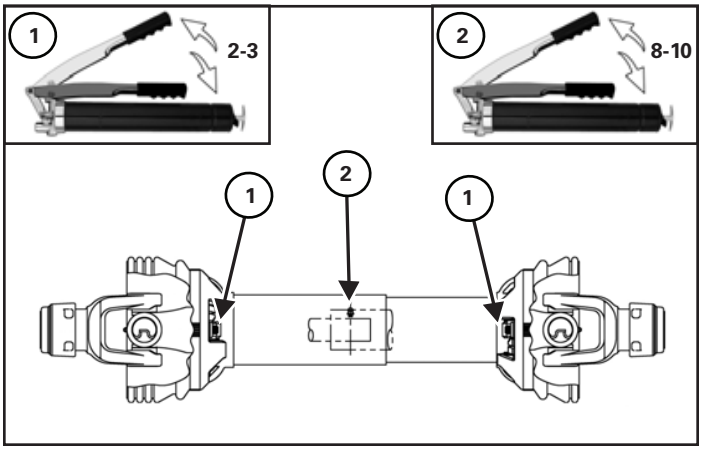


Apply two to three pumps of grease to the cross and bearings (Item 1) **[Figure 26]** on the PTO driveline.

Grease every **8 hours**.

Note: Images may not show your exact PTO driveline but the procedure is correct.

Figure 27

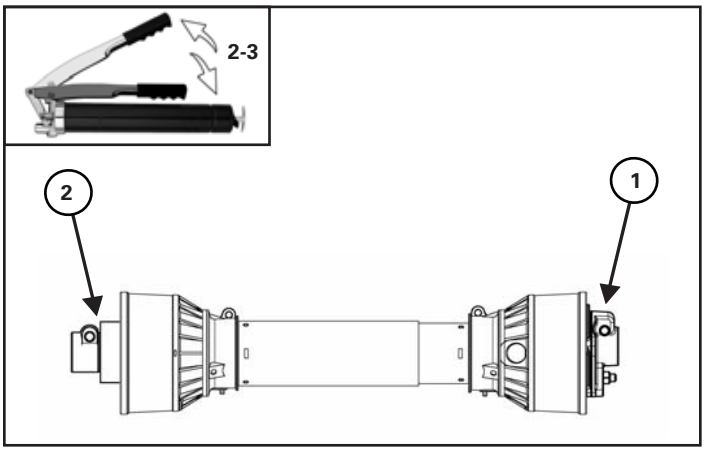


Apply two to three pumps of grease to the guard bushings (Item 1) **[Figure 27]**.

Apply eight to ten pumps of grease to the telescoping member (Item 2) **[Figure 27]**.

Grease every **20 hours**.

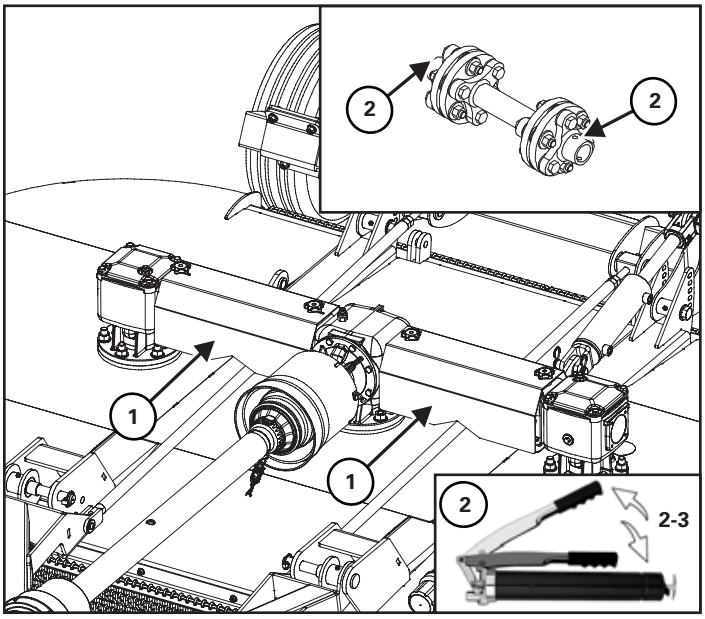
Figure 28



Apply two to threee pumps of grease to the slip clutch (Item 1) and PTO quick disconnect (Item 2) **[Figure 28]**.

Grease every **20 hours**.

Figure 29

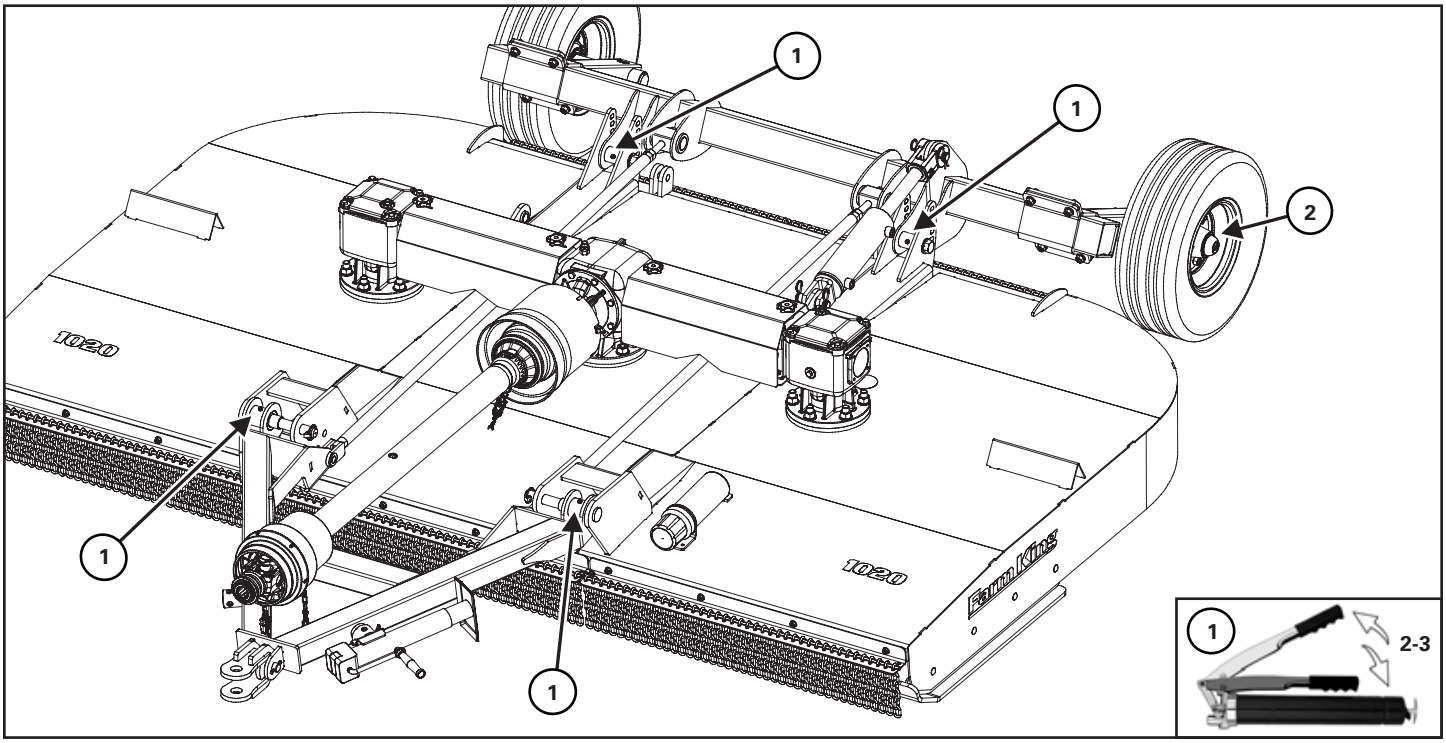


Remove the covers (Item 1) and apply two to three pumps of grease to the gearbox splines (Item 2) **[Figure 29]**.

Grease every **500 hours** (annually).

Trailing Hitch Model Locations

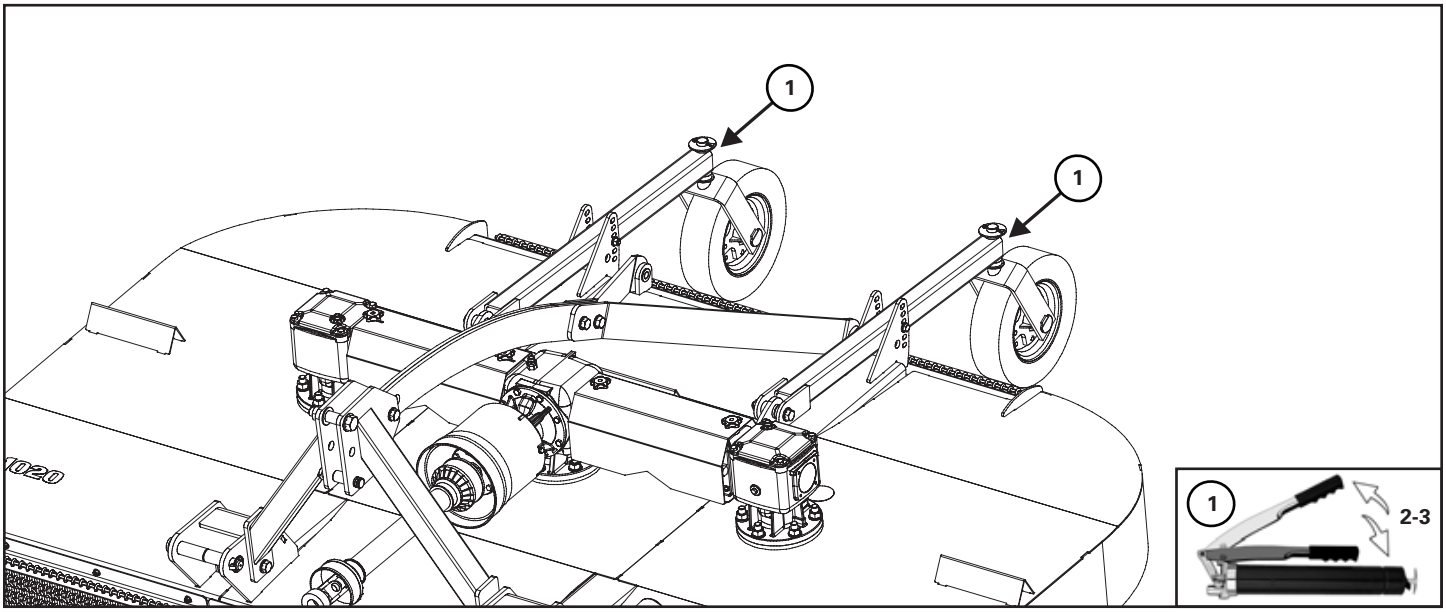
Figure 30



Apply two to three pumps of grease to trailing hitch pivots (Item 1) and wheel hub locations (Item 2) **[Figure 30]**. Grease every **50 hours** of use.

Three-Point Hitch Model Locations

Figure 31



Apply two to three pumps of grease to the wheel mounts (Item 1) **[Figure 31]**. Grease every **50 hours** of use.

Gearbox

Checking Gear Oil Level

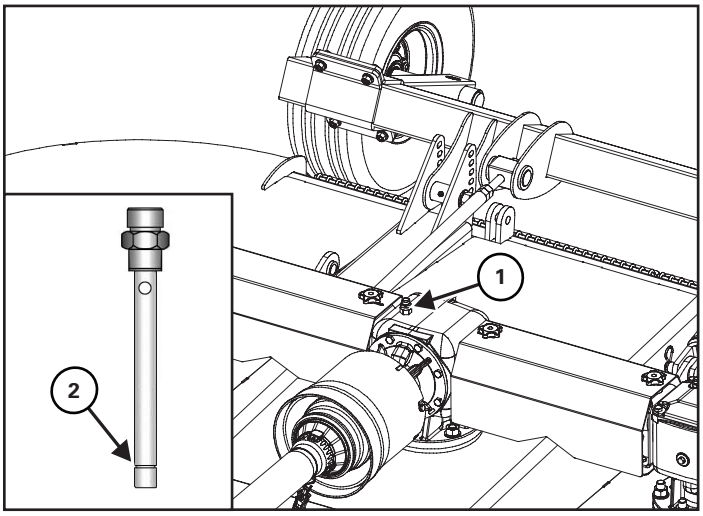
Park the tractor and Rotary Cutter on a flat level surface.

IMPORTANT

Allow gear oil to settle into the bottom cavity of the gearbox for approximately 15-20 min. before checking level on dipstick.

Splitter Gearbox

Figure 32



NOTE: To get an accurate reading of oil level, do not screw in the dipstick.

Remove dipstick / vent plug (Item 1) **[Figure 32]**.

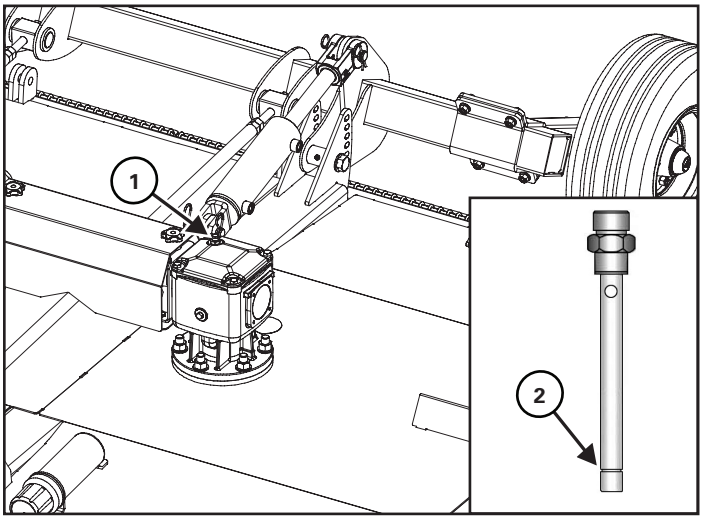
Wipe the dipstick clean. Place the dipstick back into the splitter gearbox until the dipstick makes contact with the splitter gearbox. Pull dipstick out and check gear oil level.

The gear oil level should be at the fill line (Item 2) **[Figure 32]**.

Add SAE 80W-90 gear oil until oil reaches the dipstick fill line (Item 2). Install and tighten dipstick / vent plug (Item 1) **[Figure 32]**.

Left And Right Spindle Gearbox

Figure 33



NOTE: To get an accurate reading of oil level, do not screw in the dipstick.

Remove dipstick / vent plug (Item 1) **[Figure 33]**.

Wipe the dipstick clean. Place the dipstick back into the splitter gearbox until the dipstick makes contact with the splitter gearbox. Pull dipstick out and check gear oil level.

The gear oil level should be at the fill line (Item 2) **[Figure 33]**.

Add SAE 80W-90 gear oil until oil reaches the dipstick fill line (Item 2). Install and tighten dipstick / vent plug (Item 1) **[Figure 33]**.

Changing Gear Oil

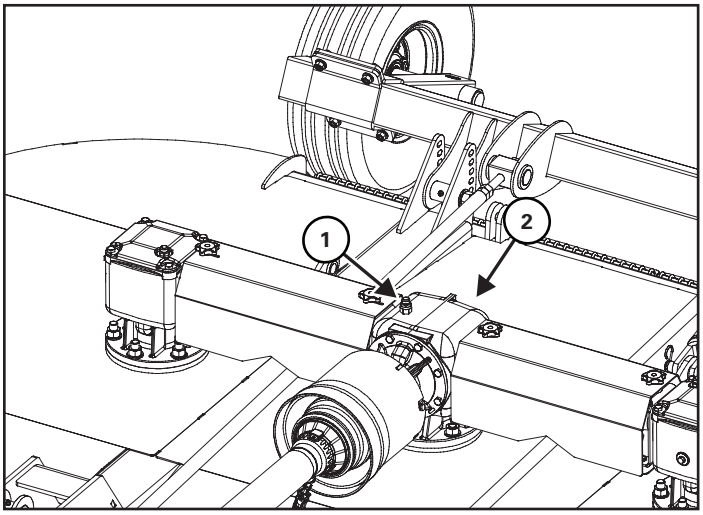
Park the tractor and Rotary Cutter on a flat level surface.

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.

Splitter Gearbox

Figure 34



Remove dipstick / vent plug (Item 1) **[Figure 34]**.

Place a collection container under the drain plug (Item 2) **[Figure 34]** located on the rear side of the splitter gearbox.

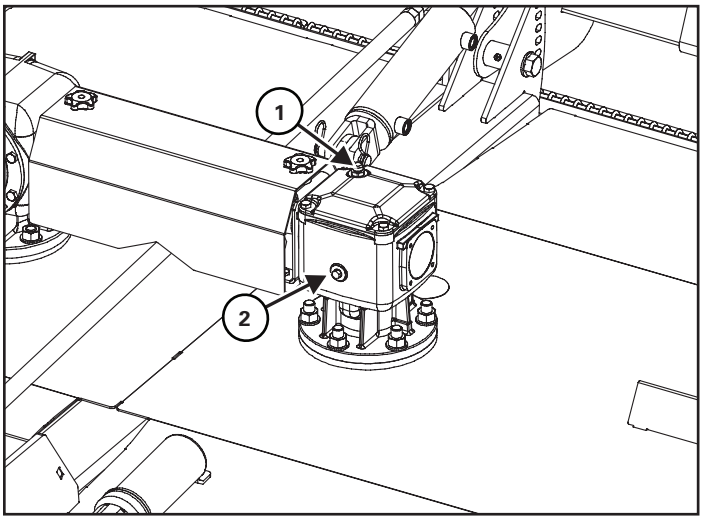
Remove drain plug and drain the gear oil into the collection container.

Once the oil is drained, install the drain plug.

Add SAE 80W-90 gear oil until oil reaches the dipstick fill line. Install and tighten dipstick / vent plug (Item 1) **[Figure 34]**.

Left And Right Spindle Gearbox

Figure 35



Remove dipstick / vent plug (Item 1) **[Figure 35]**.

Place a collection container under the drain plug (Item 2) **[Figure 35]** located on the front side of the gearbox.

Remove drain plug and drain the gear oil into the collection container.

Once the oil is drained, install the drain plug.

Add SAE 80W-90 gear oil until oil reaches the dipstick fill line. Install and tighten dipstick / vent plug (Item 1) **[Figure 35]**.

Blades

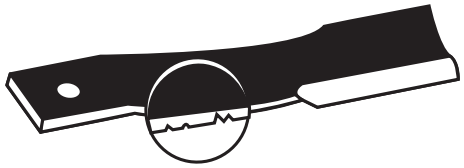
Removal And Installation

Fully raise the rotary cutter and position blocking under skid shoes, allowing access to blades.

IMPORTANT

Always use lifting devices, vehicles, chains, or straps of adequate size and strength when unloading and assembling components.

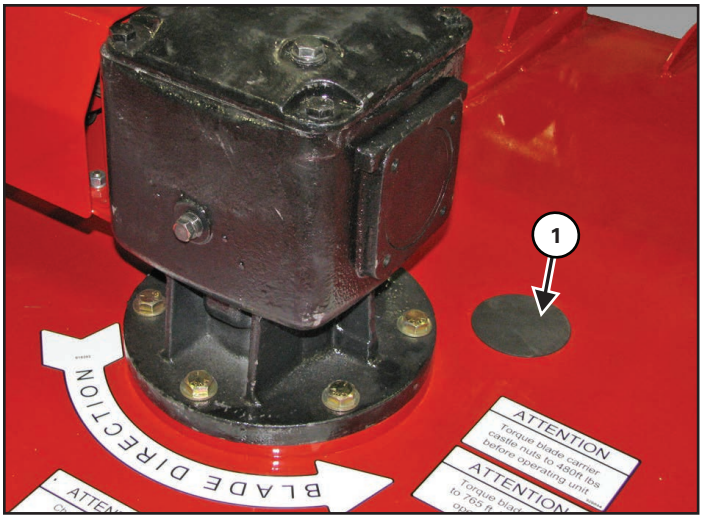
DANGER



DAMAGED BLADES CAN CAUSE SERIOUS INJURY OR DEATH

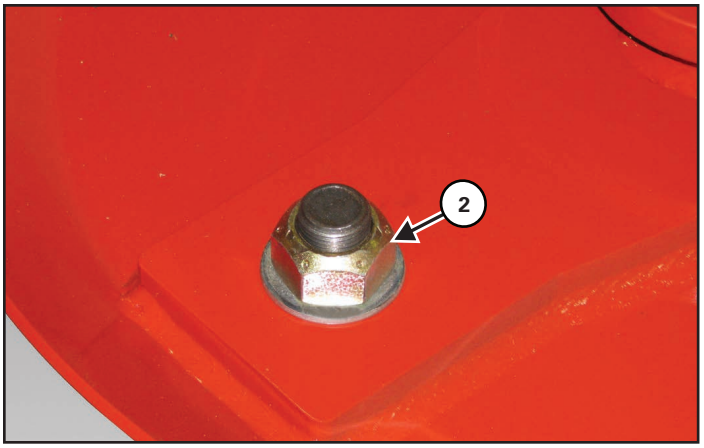
- **Inspect blades daily for chips, cracks, wear and abnormal bends.**
- **Do Not modify blades in any way such as sharpening, straightening or welding.**
- **Replace blades with genuine Farm King blades only.**
- **Unbalanced blades are dangerous.**
- **Replace blades in pairs.**

Figure 36



Remove access plug (Item 1) **[Figure 36]** from the deck (above blades to be replaced).

Figure 37



Rotate the blade pan until the desired blade hardware (Item 1) **[Figure 37]** is visible through the access hole in the deck.

Remove blade nut by placing wrench through the access hole of the deck. Remove blade bolt and blade.

Align new blade with the mounting hole. Using a hammer, tap the new blade bolt in place (flush against blade pan).

Install a new blade nut.

Tighten to 765 ft-lb (1037 N•m) torque.

Repeat as needed until the desired blades have been replaced.

Blade Pans

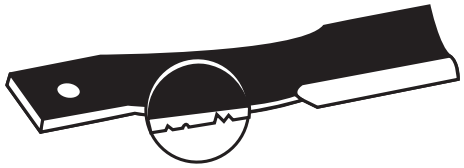
Removal And Installation

Fully raise the rotary cutter and position blocking under skid shoes, allowing access to blades.

IMPORTANT

Always use lifting devices, vehicles, chains, or straps of adequate size and strength when unloading and assembling components.

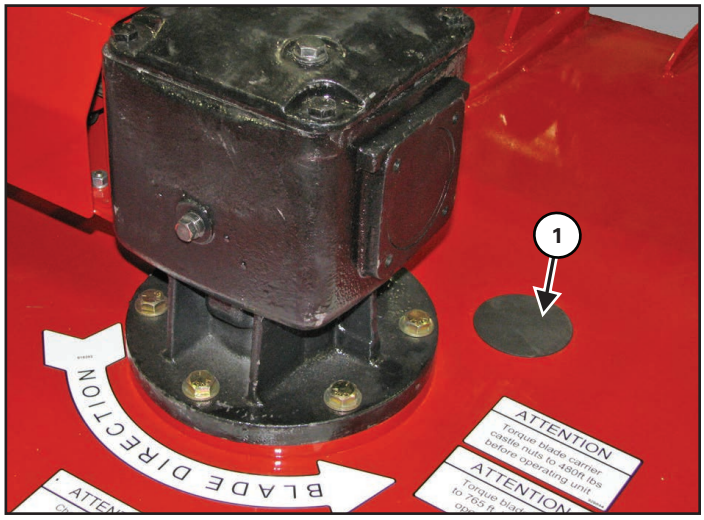
DANGER



DAMAGED BLADES CAN CAUSE SERIOUS INJURY OR DEATH

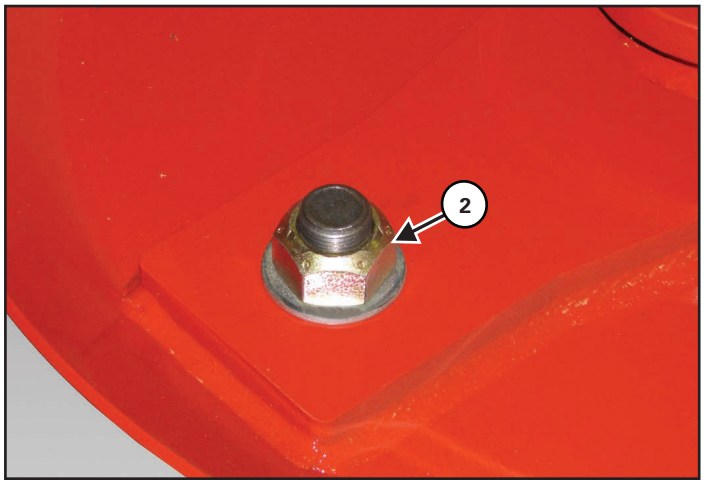
- **Inspect blades daily for chips, cracks, wear and abnormal bends.**
- **Do Not modify blades in any way such as sharpening, straightening or welding.**
- **Replace blades with genuine Farm King blades only. Replace blades in pairs.**
- **Unbalanced blades are dangerous.**

Figure 38



Remove access plug (Item 1) **[Figure 38]** from the deck (above blades to be replaced).

Figure 39



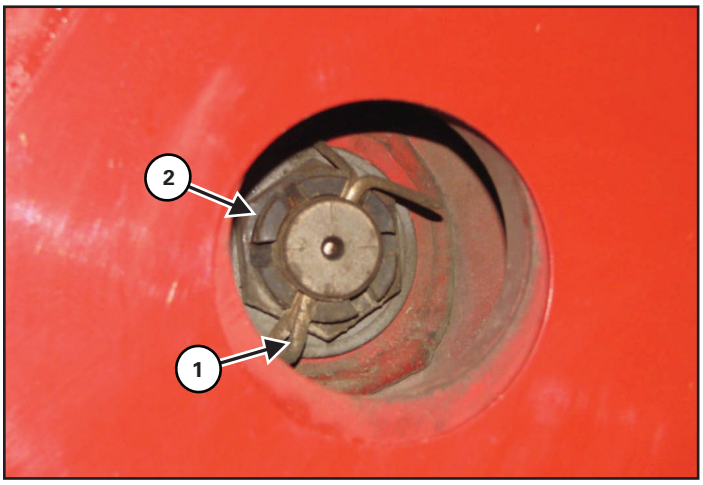
Rotate the blade pan until the desired blade hardware (Item 1) **[Figure 39]** is visible through the access hole in the deck.

Remove one blade nut by placing wrench through the access hole of the deck. Remove blade bolt and blade.

Rotate blade pan the align second blade hardware.

Remove second blade nut, bolt and blade.

Figure 40



Remove cotter pin (Item 1) and castle nut (Item 2) **[Figure 40]**. Remove blade pan.

Align new blade pan with the gearbox shaft.

Install castle nut (Item 2) **[Figure 40]**.

Tighten castle nut to 480 ft. lb. (651 N•m) torque.

Install cotter pin (Item 1) **[Figure 40]**.

Align one new blade with the mounting hole. Using a hammer, tap the new blade bolt in place (flush against blade pan).

Install a new blade nut.

Tighten blade nuts to 765 ft-lb (1037 N•m) torque.

Rotate blade pan to align second blade hardware.

Align second new blade with the mounting hole. Using a hammer, tap the new blade bolt in place (flush against blade pan).

Install a new blade nut and tighten to proper torque.

Axle

Tire / Wheel Replacement

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.

WARNING

AVOID INJURY OR DEATH

- **The parking brake must be engaged before leaving the operator's position. Rollaway can occur because the transmission may not prevent machine movement.**
- **Always chock tires before performing any maintenance or service.**

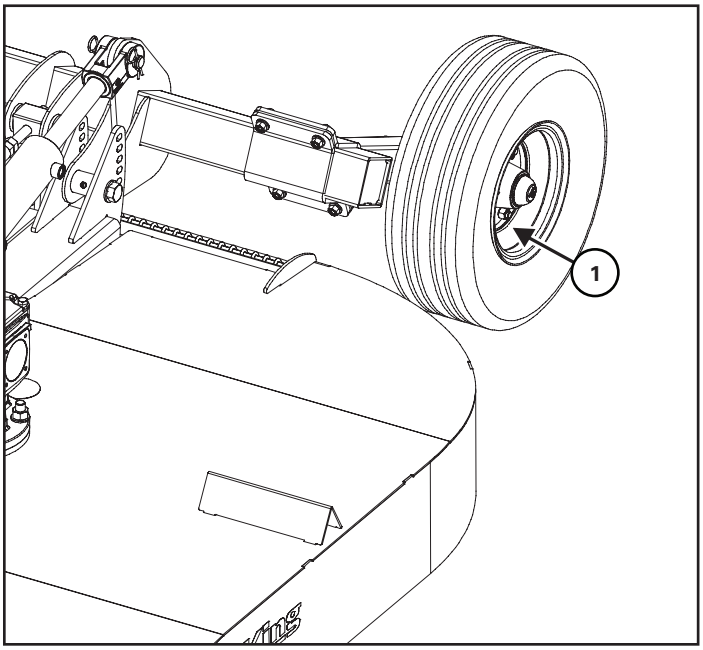
Place chock blocks behind and in front of the opposite tire to be removed.

Place a jack under the axle frame close to the tire / wheel being replaced. Raise the jack until the tire / wheel is slightly off the ground.

NOTE: Place blocks under the frame to help secure the Rotary Cutter when tire / wheel is raised off the ground.

Remove the five wheel nuts and remove the tire / wheel.

Figure 41



Install the five wheel nuts (Items 1) **[Figure 41]**. Tighten wheel nuts in a criss-cross pattern.

Tighten wheel nuts to 93 ft. lb. (126 N•m) of torque.

Wheel Bearings

Inspect and re-pack the wheel bearings annually with a quality SAE multi purpose type grease.

Tire Pressure (Aircraft Type)

Check tire pressure daily.

Fill tires to 40 psi (276 kPa).

Wheel Nut Torque

Check the torque on wheel bolts daily.

Tighten wheel bolts to 93 ft. lb. (126 N•m) torque.

CAUTION

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly.

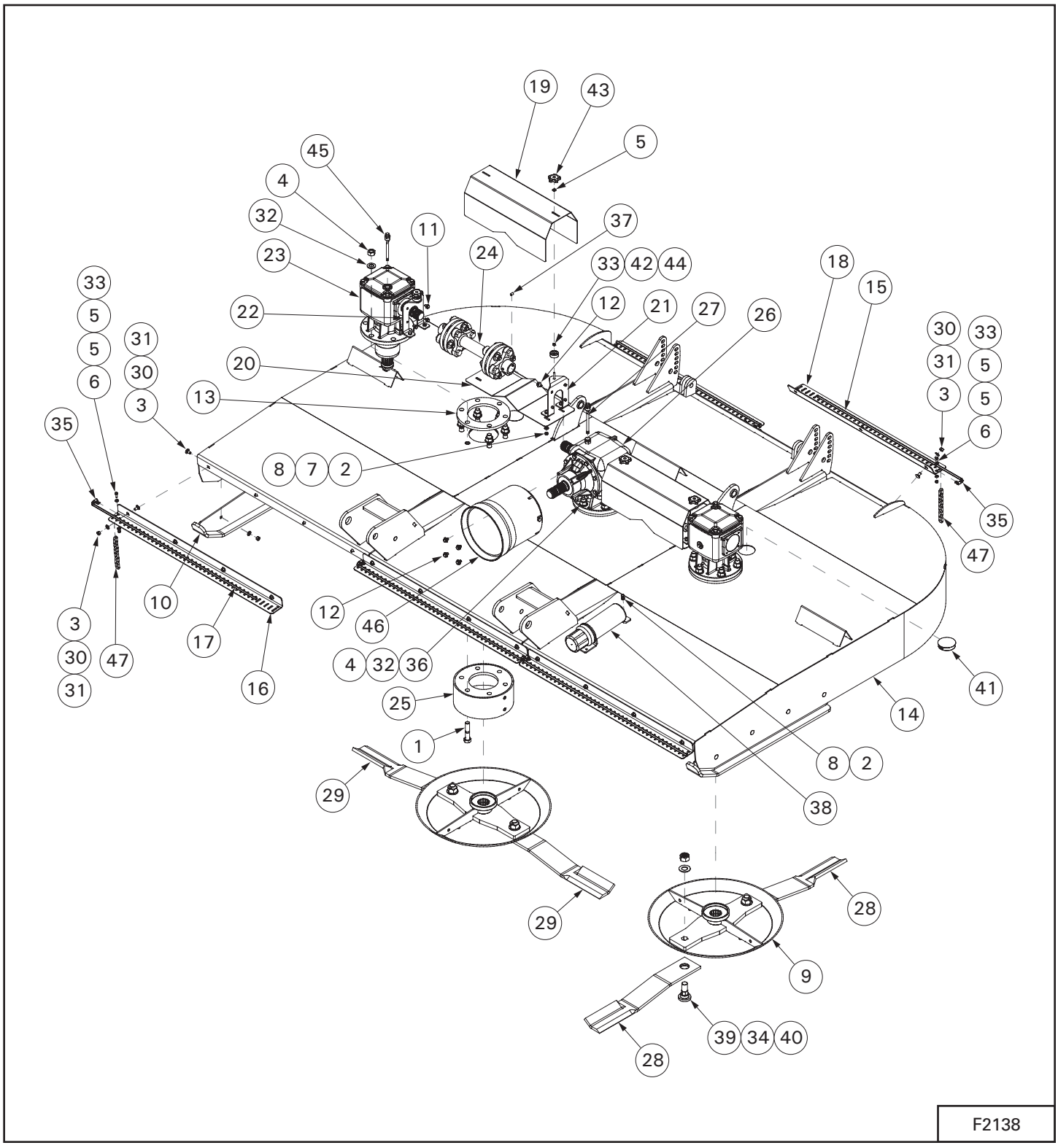
Parts Identification

Farm King

General Parts Information

The parts identification section list descriptions, part numbers and quantities for all North American Base Model 1020 rotary cutters. Contact your Farm King dealer for additional parts information.

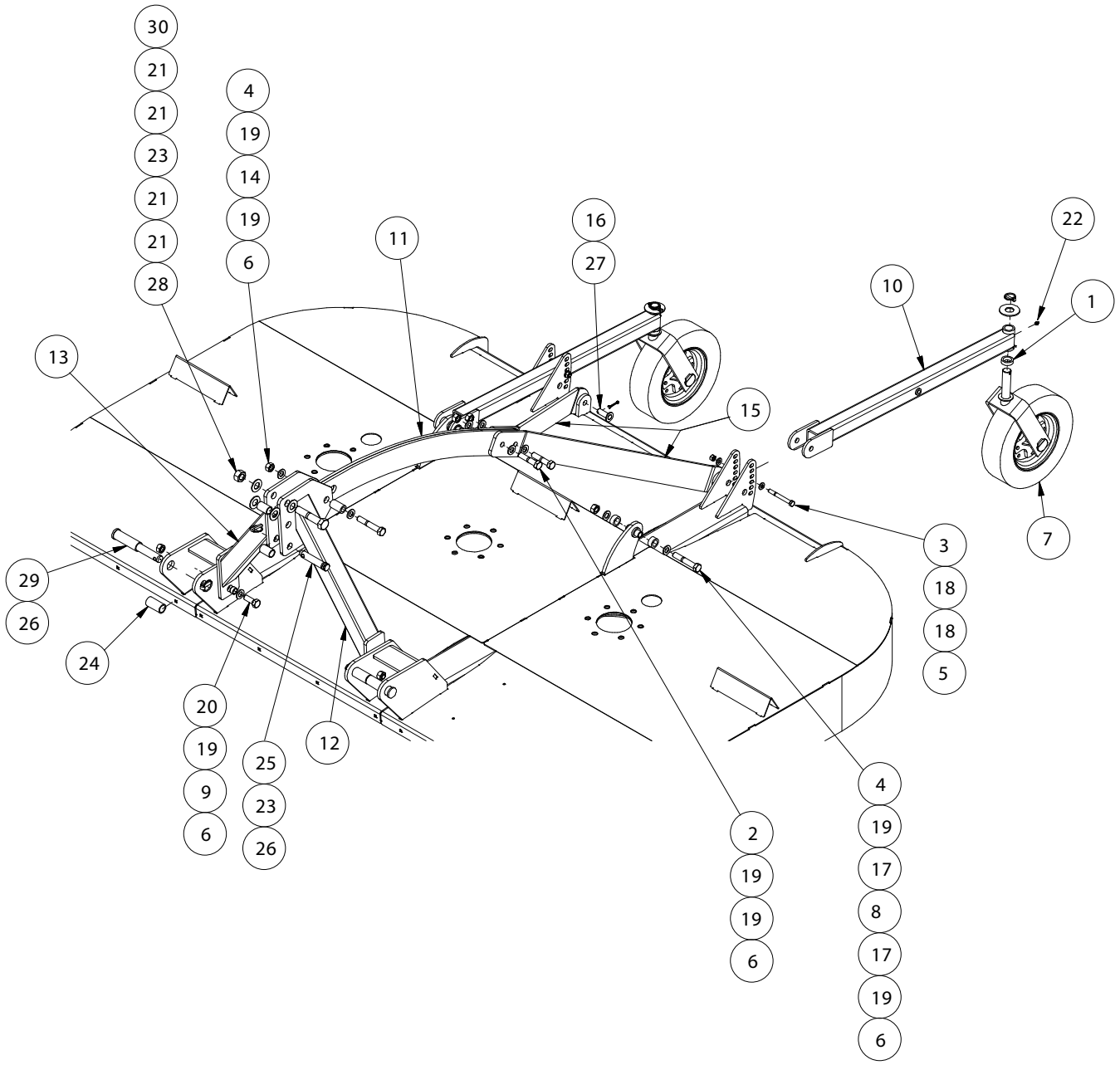
Deck



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	810149	3/4" X 3 1/2" HEX BOLT (PL)	12
2	812362	5/16" LOCK NUT (PL)	10
3	812363	3/8" LOCK NUT (PL)	26
4	812365	3/4" LOCK NUT (PL)	18
5	812624	1/4" FLAT WASHER PL	14
6	81525	1/4" X 3/4" HEX BOLT (PL)	5
7	81546	5/16" FLAT WASHER (PL)	8
8	81549	5/16" X 3/4" HEX BOLT (PL)	10
9	818007	WELDMENT - 8' RC STUMP JUMPER	2
10	818018	WELDMENT - 8' RC SKID SHOE	2
11	818062	M8-1.25X12MM FLANGE BOLT	8
12	818063	M10-1.5X12MM FLANGE BOLT	12
13	818317	PLATE - GEARBOX MOUNT	3
14	818660	WELDMENT - DECK 10' TWIN SPINDLE	1
15	818664	PLATE - CHAIN KIT REAR	2
16	818665	PLATE - CHAIN KIT FRONT	3
17	818666	ROD - CHAIN KIT FRONT	3
18	818667	ROD - CHAIN KIT REAR	2
19	818672	PLATE - OUTBOARD SHAFT SHIELD	2
20	818673	PLATE - LOWER SHIELD	2
21	818712	PLATE - SPLITTER BOX SHIELD MOUNT	2
22	818713	PLATE - RIGHT ANGLE BOX SHIELD MOUNT	2
23	818945	GEARBOX - 1000 RPM, RATIO 1:1, R	2
24	818974	17 1/4" DOUBLE FLEX COUPLER - 1 3/4"-20	2
25	818998	WELDMENT - GEARBOX GUARD	2
26	819045	GEARBOX - 540 RPM SPLITTER, RATIO 1:1.87	1
27	819088	OIL BREATHER DIPSTICK PLUG 1/2" GAS	1
28	819097	BLADE - 23.25" UPLIFT CCW	2
29	819098	BLADE - 23.25" UPLIFT CW	2
30	81914	3/8" X 1" CARRIAGE BOLT (PL)	26
31	84039	WASHER - 3/8" SAE FLAT (PL)	26
32	84050	3/4" S.A.E. FLAT WASHER (PL)	18
33	84498	1/4" LOCK NUT (PL)	9
34	84522	1" ID SAE FLAT WASHER (PL)	4
35	86050346	P-CLIP - 0.375	5
36	88742	3/4" X 3" HEX BOLT GR.5 (PL)	6
37	985639	Ø3/8" X 1/2" SOCKET SET SCREW (BR)	4
38	909277	MANUAL HOLDER 3 1/2" X 12"	1
39	915848	BOLT-1.5" BLADE HOLE HEX SHOULDER	4
40	916025	NUT-1-14UNS DEFORMED THREAD	4

ITEM	PART NUMBER	DESCRIPTION	QTY.
41	918201	HOLE PLUG-3.00 DIA X 0.250 THICK	2
42	920985	BUMPER-1.50" DIA W/WASHER	4
43	920986	KNOB-2.25" DIA THROUGH HOLE	4
44	920988	BOLT FULL CARR 0.250NC X 1.50 GR5PL	4
45	925178	VENT PLUG-1/2" GAS OIL FILLER LEVEL	2
46	925182	GUARD-SAFETY CONE W/FLANGE	1
47	966591	CHAIN .25" (6 LINK)	195

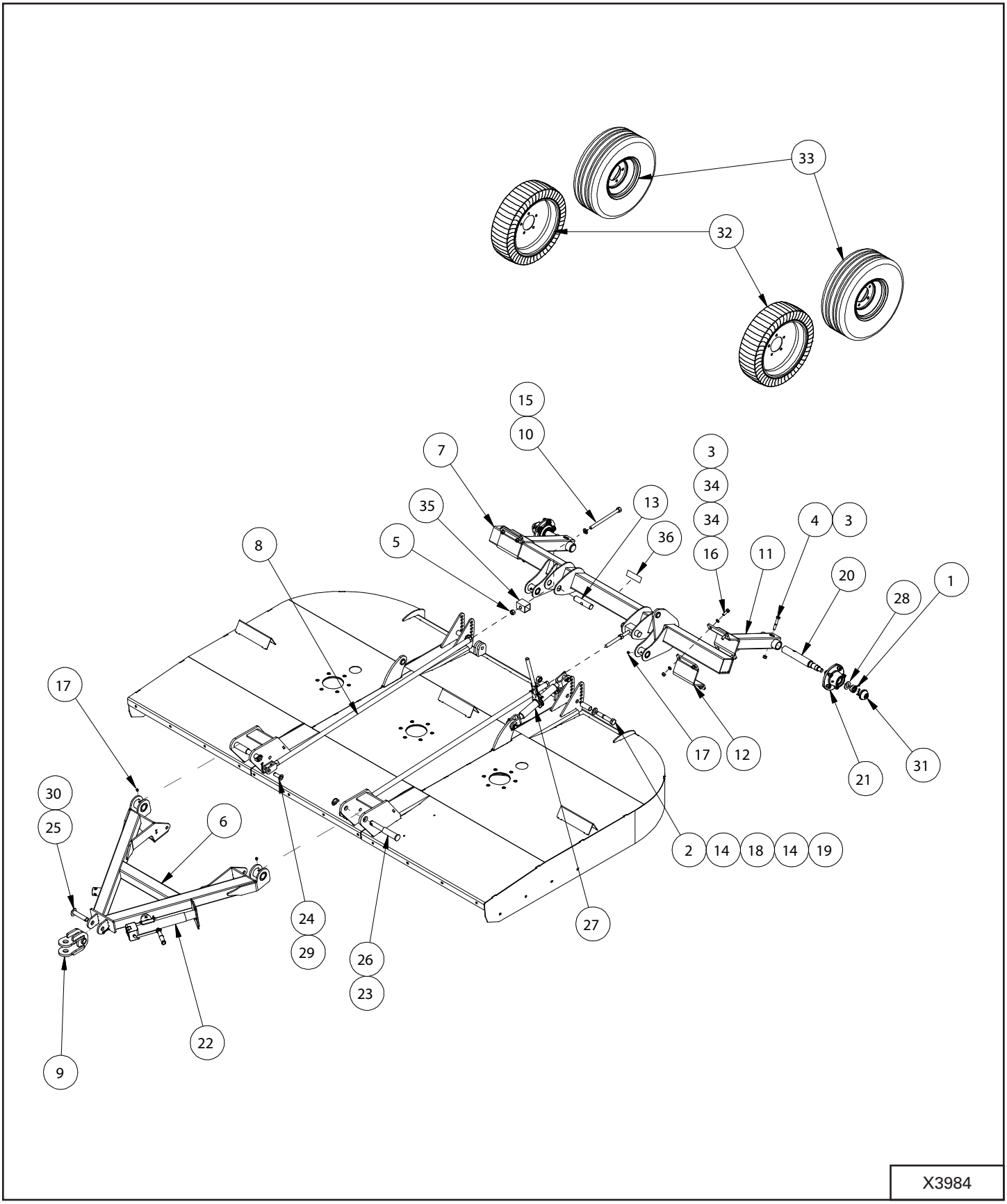
Three-Point Hitch



X3982

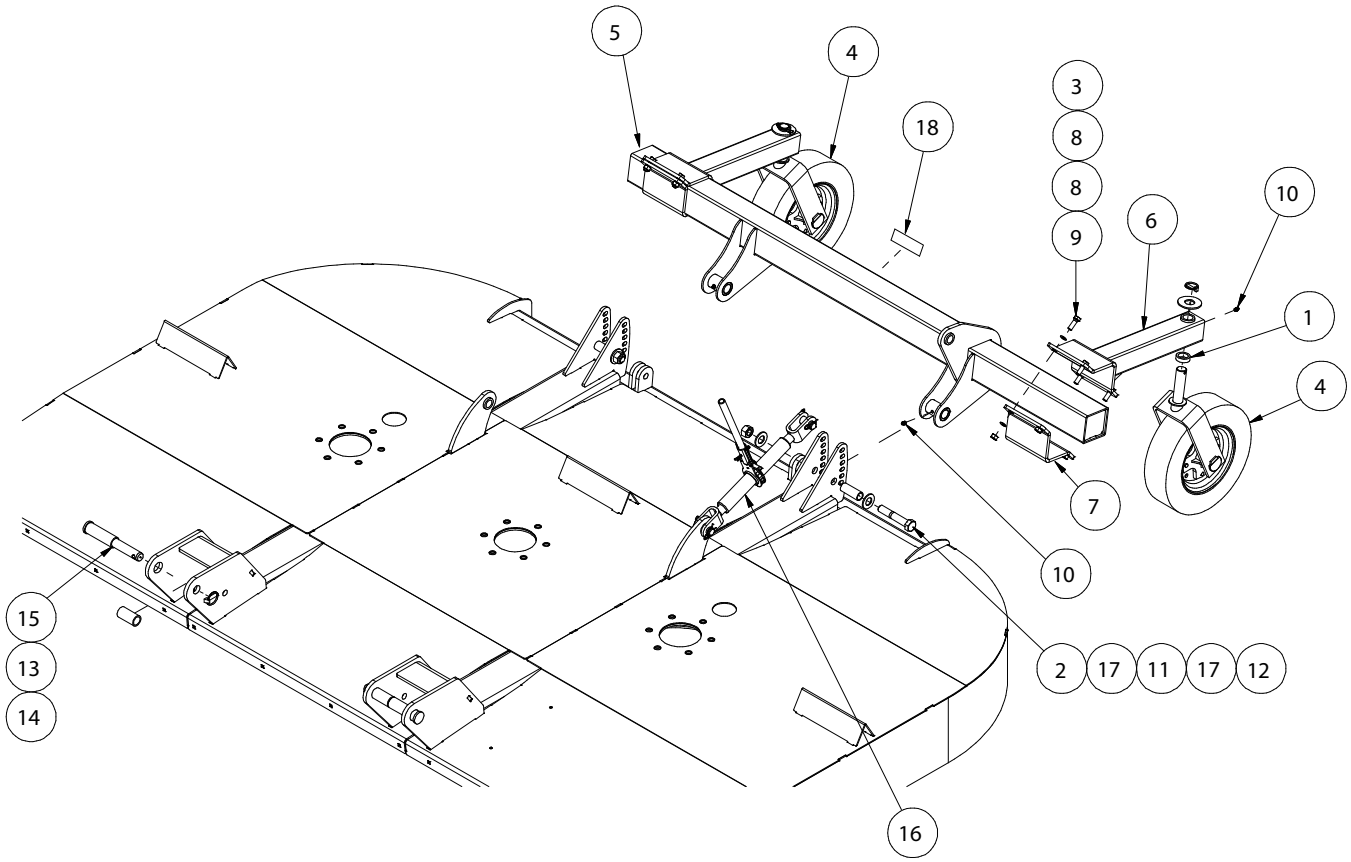
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	116786	SPACER 1.26ID, TAIL WHEEL 4'RC/5'RC	2
2	810149	3/4" X 3 1/2" HEX BOLT (PL)	2
3	811691	1/2" X 4 1/2" HEX BOLT (PL)	2
4	811790	3/4" X 4 1/2" HEX BOLT GR5 (PL)	3
5	812364	1/2" LOCK NUT (PL)	2
6	812365	3/4" LOCK NUT (PL)	7
7	814432	WHEEL TAIL 15"	2
8	818406	BUSHING - 1.000" OD x 0.782" ID	2
9	818612	BUSHING - 3 PT LINKAGE PIVOT (PL)	2
10	818663	WELDMENT - TAIL WHEEL MOUNT	2
11	818675	PLATE - 3 POINT LINKAGE	2
12	818703	WELDMENT - TOP LINK MOUNT LHS	1
13	818704	WELDMENT - TOP LINK MOUNT RHS	1
14	818721	BUSHING - 1.250 OD X 0.764 ID X 2.15	1
15	818851	PLATE - REAR LINKAGE	2
16	9812433	3/16" X 1 1/2" COTTER PIN	2
17	819041	TUBE - TAIL WHEEL SPACER	4
18	813581	WASHER FLAT 1.5 X 0.531 X 0.25 PL	4
19	84050	3/4" S.A.E. FLAT WASHER (PL)	12
20	84467	3/4" X 2" HEX BOLT (PL)	2
21	84522	1" ID SAE FLAT WASHER (PL)	4
22	84583	SCREW IN GREASE FITTING	2
23	965266	CAT 2-3 LINK PIN BUSHING	2
24	965267	LIFT PIN BUSHING	2
25	965910	CAT 2 TOP LINK PIN	1
26	965911	7/16" LINCH PIN	3
27	966524	PIN CTRL ROD	2
28	967148	1" LOCK NUT (PL)	1
29	967461	CAT 2-3 LIFT PIN	2
30	967527	1" X 5" HEX BOLT (PL)	1
-	F2208	PTO DRIVELINE - 10′ RC 3 POINT	1

Trailing Hitch



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	810010	NUT-SLOTTED 7/8 UNF (BR)	2
2	811826	7/8" X 5" HEX BOLT (PL)	2
3	812364	1/2" LOCK NUT (PL)	10
4	81627	1/2" X 3" HEX BOLT (PL)	2
5	81700	3/4" HEX NUT (PL)	2
6	818695	WELDMENT -TRAILER HITCH	1
7	818696	WELDMENT -TRAILING BAR	1
8	818699	WELDMENT - LEVEL ROD	2
9	818906	WELDMENT - CAT II / III SWIVEL CLEVIS	1
10	819032	WELDMENT - CONTROL ROD BOLT	2
11	819033	WELDMENT -TRAILING ARM	2
12	819035	PLATE - ARM BRACKET	2
13	819037	BAR - CONTROL ROD KEEPER	2
14	81972	WASHER - 7/8" FLAT SAE (PL)	4
15	84050	3/4" S.A.E. FLAT WASHER (PL)	2
16	84277	1/2" X 1 1/2" HEX BOLT (PL)	8
17	84583	SCREW IN GREASE FITTING	4
18	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2
19	907674	7/8" LOCK NUT	2
20	915668	SHAFT-REMOVABLE SGL SPINDLE	2
21	915679	HUB-HA517	2
22	921284	JACK - 5000 LB CAP, SIDE CRANK	1
23	965911	7/16" LINCH PIN	2
24	966524	PIN CTRL ROD	2
25	966531	CLEV PIN RC	1
26	967461	CAT 2-3 LIFT PIN	2
27	967499	RATCHET JACK C/W HARDWARE & HANDLE	1
28	967713	7/8" SAE FLAT WASHER (BR)	2
29	9812433	3/16" X 1 1/2" COTTER PIN	2
30	9812434	1/4" X 1 1/2" COTTER PIN (PL)	1
31	9812486	1/8" X 1 1/2" COTTER PIN (BR)	2
32	F1989	ASSY-LAMINATED WHEEL	2
33	F1990	ASSY-AIRCRAFT TIRE	2
34	84048	1/2″ SAE FLAT WASHER (PL)	16
35	819079	TUBE - CONTROL KEEPER SLEEVE	2
36	967053	DECAL - REFLECTIVE 2 X 9 RED	1
-	F2209	PTO DRIVELINE - 10′ RC TRAILING CV	1

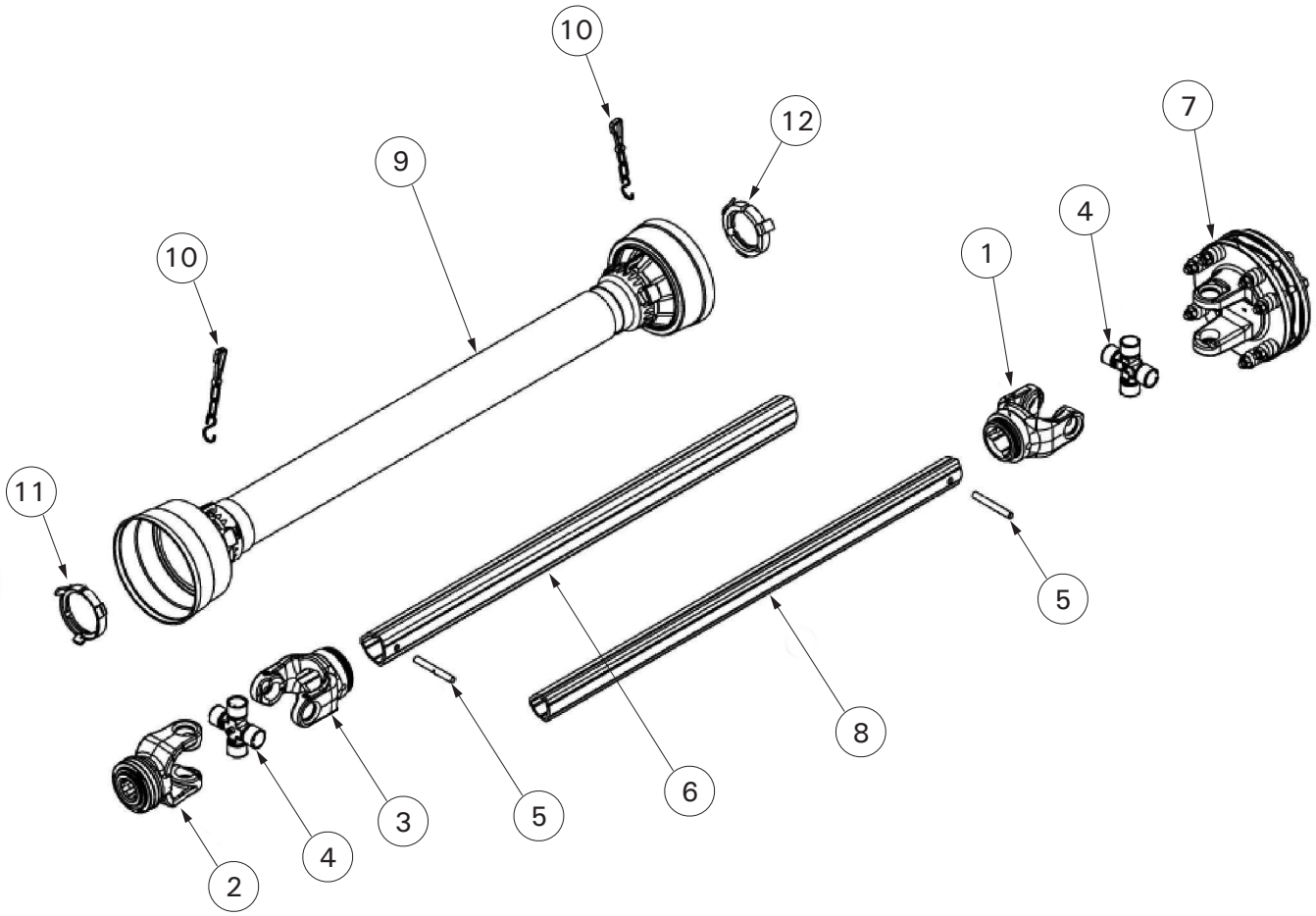
Semi Mount Hitch



X3983

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	116786	SPACER 1.26ID, TAIL WHEEL 4'RC/5'RC	2
2	811826	7/8" X 5" HEX BOLT (PL)	2
3	812364	1/2" LOCK NUT (PL)	8
4	814432	WHEEL TAIL 15"	2
5	818697	WELDMENT - TAIL WHEEL BAR	1
6	819034	WELDMENT - TRAILING ARM	2
7	819035	PLATE - ARM BRACKET	2
8	84048	1/2″ SAE FLAT WASHER (PL)	16
9	84277	1/2" X 1 1/2" HEX BOLT (PL)	8
10	84583	SCREW IN GREASE FITTING	4
11	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2
12	907674	7/8" LOCK NUT	2
13	965267	LIFT PIN BUSHING	2
14	965911	7/16" LINCH PIN	2
15	967461	CAT 2-3 LIFT PIN	2
16	967499	RATCHET JACK C/W HARDWARE & HANDLE	1
17	967713	7/8" SAE FLAT WASHER (BR)	4
18	967053	DECAL - REFLECTIVE 2 X 9 RED	1
-	F2208	PTO DRIVELINE - 10′ RC 3 POINT	1

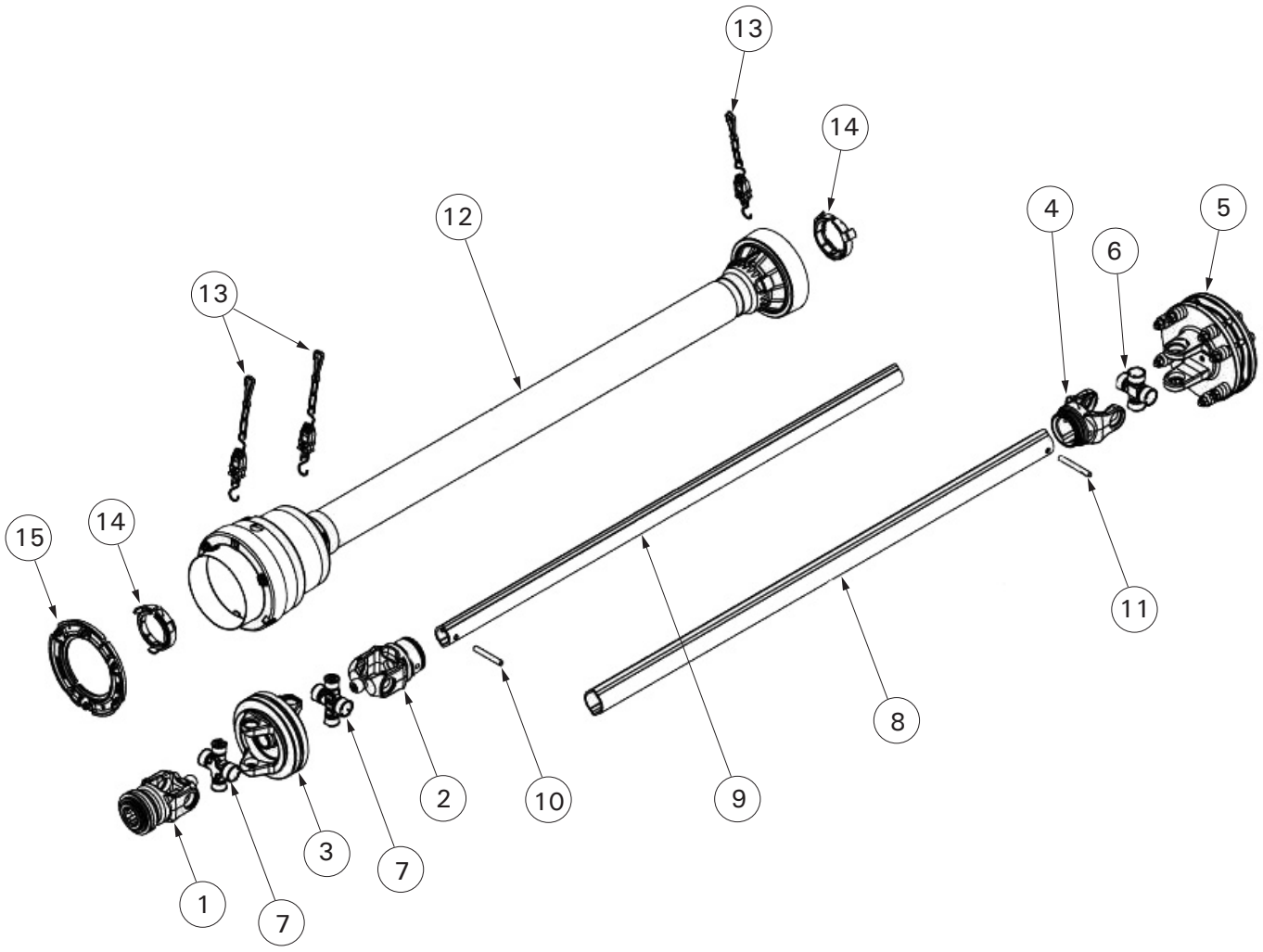
PTO - Three-Point Hitch



F2208

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	819060	INBOARD YOKE FOR INNER TUBE	1
2	817804	YOKE WITH QL BALL TYPE	1
3	819061	INBOARD YOKE FOR OUTER TUBE	1
4	925293	CROSS KIT WITH GREASE NIPPLE	2
5	925360	ELASTIC PIN	2
6	819062	TRIANGULAR TUBE L = 895 W/ PIN HOLE	1
7	818566	FRICTION CLUTCH - 1350Nm	1
8	819063	TRIANGULAR TUBE L = 895 W/ PIN HOLE	1
9	819064	SHAFT SHIELD	1
10	817774	CHAIN	2
11	817809	RETAINER	1
12	817808	RETAINER	1
-	F2208	PTO COMPLETE	1

PTO - Trailing Hitch



F2209

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	818604	CV WIDEANGLE YOKE	1
2	818603	CV WIDEANGLE YOK FOR INNER TUBE	1
3	925366	CV WIDEANGLE DOUBLE YOKE 80°	1
4	818606	INBOARD YOKE FOR OUTER TUBE	1
5	818607	FRICTION CLUTCH	1
6	925353	CROSS KIT WITH GREASE NIPPLE	1
7	925355	CROSS KIT WITH GREASE NIPPLE	2
8	819065	OUTER LEMON TUBE L = 1200	1
9	819066	RILSAN LEMON TUBE L = 1205	1
10	925358	ELASTIC PIN	1
11	925360	ELASTIC PIN	1
12	819067	SHAFT SHIELD	1
13	925361	CHAIN	3
14	818610	RETAINER	2
15	925342	WIDEANGLE RETAINER	1
-	F2209	PTO COMPLETE	1

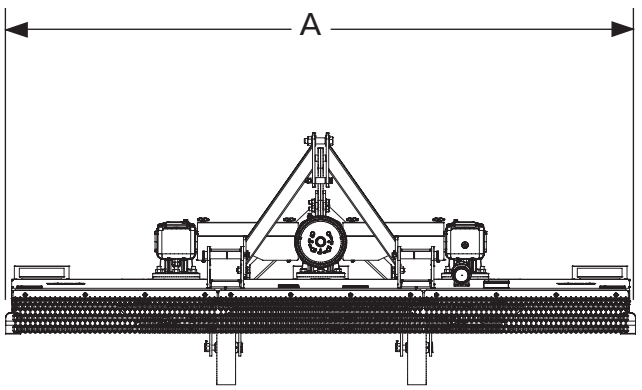
Farm King

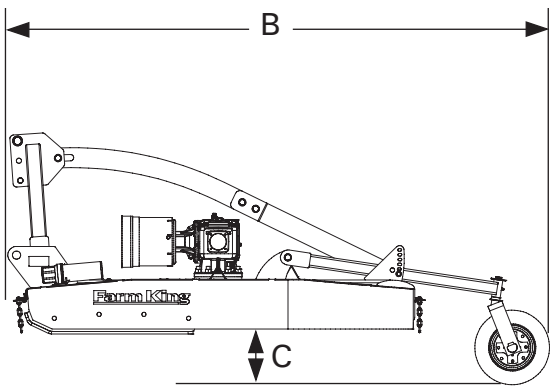
Specifications And Shipping Kit Numbers

Farm King

Specifications

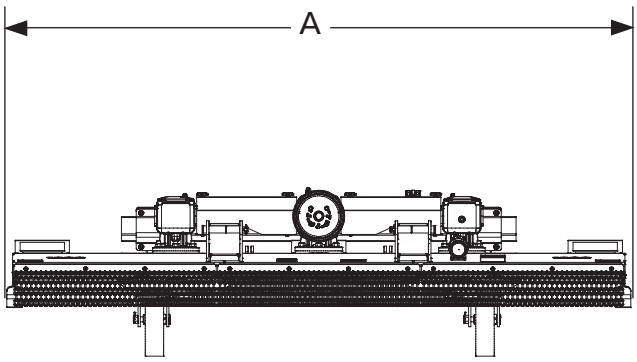
Three-Point Model Specifications

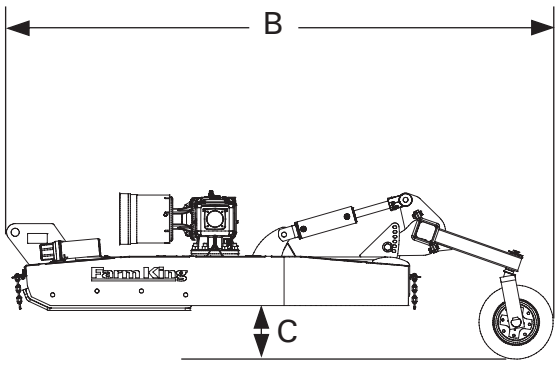




Model	1020
Overall Width (A)	126.5 in.
Overall Length (B)	110.75 in.
Transport Deck Height (C)	10 in.
Cutting Height	2 - 12 in.
Weight	2,150 lbs.
Tractor HP Requirement (Min)	50 hp
Blade Tip Speed	16,390 ft/min
Blade Overlap	4 in.
Blade	0.5 x 4 Uplift
Stump Jumper	Symmetric die pressed (7 Ga.)
Side Skid	Replaceable
Hitch	Cat II / III 3-Point
Tires	15 in. Solid Rubber Caster Wheels

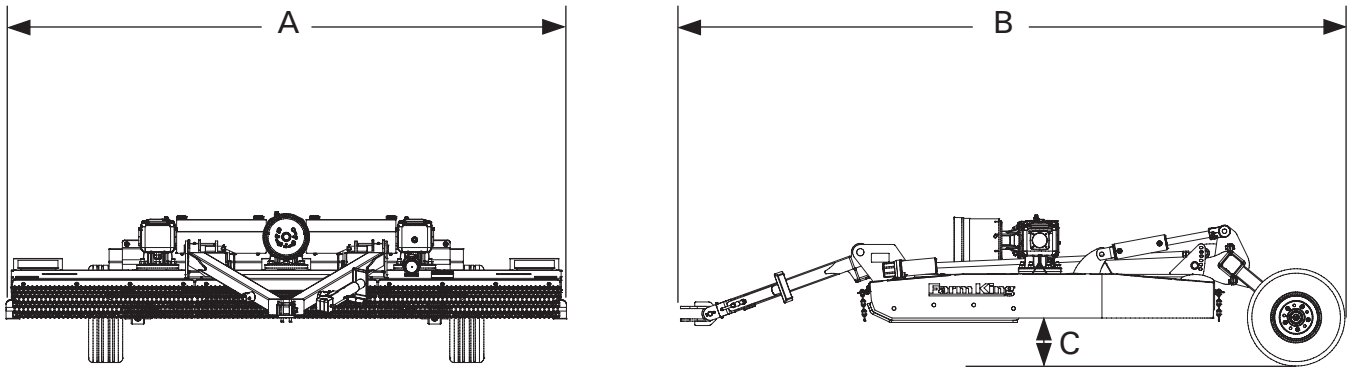
Semi Mount Model Specifications





Model	1020
Overall Width (A)	126.5 in.
Overall Length (B)	114.95 in.
Transport Deck Height (C)	18 in.
Cutting Height	2 -12 in.
Weight	2,200lbs.
Tractor HP Requirement (Min)	50 hp
Blade Tip Speed	16,390 ft/min
Blade Overlap	4 in.
Blade	0.5 x 4 Uplift
Stump Jumper	Symmetric die pressed (7 Ga.)
Side Skid	Replaceable
Hitch	Cat II / III 3-Point
Tires	15 in Solid Rubber Caster Wheels

Trailing Model Specifications



Model	1020
Overall Width (A)	126.5 in.
Overall Length (B)	152.8 in.
Transport Deck Height (C)	10 in.
Cutting Height	2 -12 in.
Weight	2,225 lbs.
Trailing Hitch Weight	1,000 lbs.
Tractor HP Requirement (Min)	50 hp
Blade Tip Speed	16,390 ft/min
Blade Overlap	4 in.
Blade	0.5 x 4 Uplift
Stump Jumper	Symmetric die pressed (7 Ga.)
Side Skid	Replaceable
Hitch	Swivel Clevis
Tires	24 x 7.7 x 10 Aircraft Tires (Air Filled)
	21 in. Laminated Wheels (Solid Rubber)

Shipping Kit And Bundle Numbers

The following is a list of Kit Numbers for this product and the Bundle Numbers, Descriptions, and Quantities for each Kit.

Qty.	Bundle	Description
Y1020S RC W/ 3-Point Hitch		
1	F2138	1020 Deck Assembly
1	X3982	10’ RC 3-Point Kit
Y1020T RC W/ Trailing Hitch		
1	F2138	1020 Deck Assembly
1	X3984	10’ RC Trailing Kit
Y1020M RC W/ Semi-Mount Hitch		
1	F2138	1020 Deck Assembly
1	X3983	10’ RC Semi-Mount Kit

Hardware Torque Values

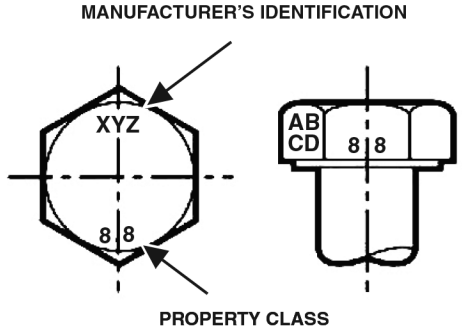
Metric Chart

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.

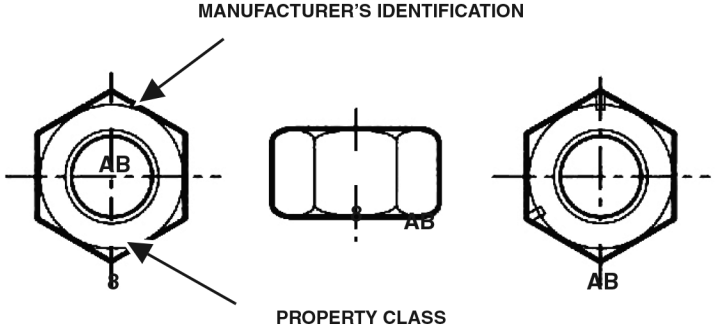
Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

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



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.

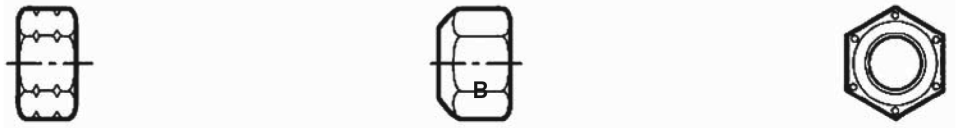
Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

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 2 NUTS | SAE GRADE 2 NUTS

Identification of Hex Nuts and Lock Nuts



Grade A - No Notches
Grade B - One Circumferential Notch
Grade C - One 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)

Warranty

Farm King

Farm King 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.

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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