

Farm King

OPERATOR AND PARTS MANUAL

Series II Rotary Cutter

Model 728

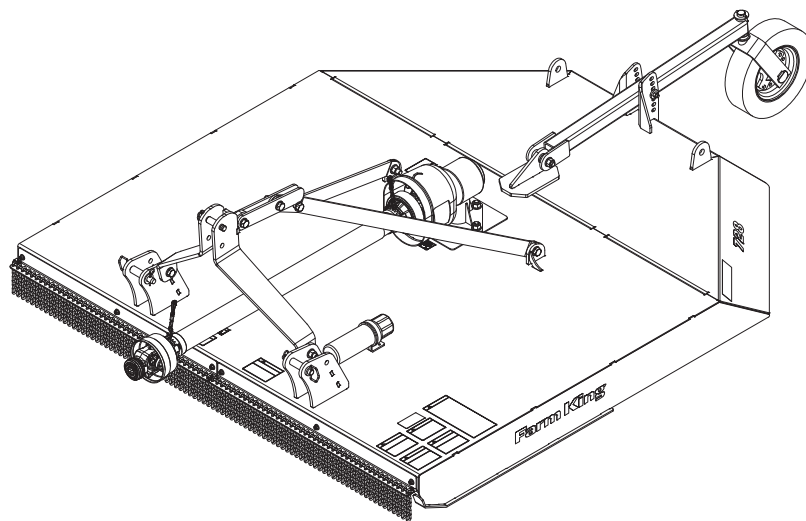


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Manufacturer’s Statement: For technical reasons, Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance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

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Warranty Registration Form

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

Customer Name:	
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:
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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
- 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 For Leaks

Date:	Dealer Rep. Signature:
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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:
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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.

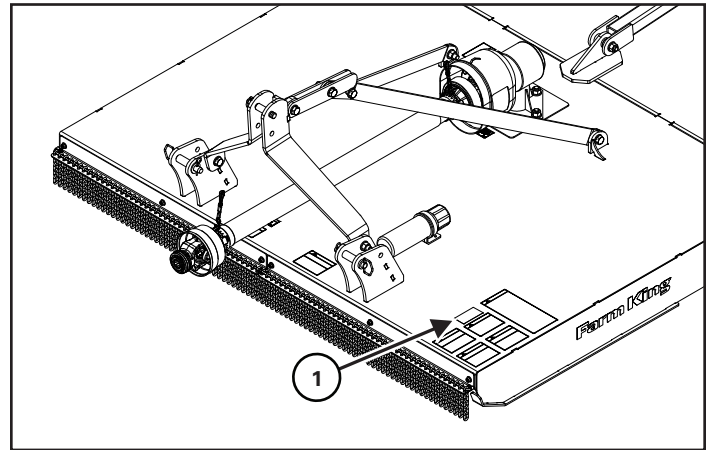
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.farm-king.com for a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

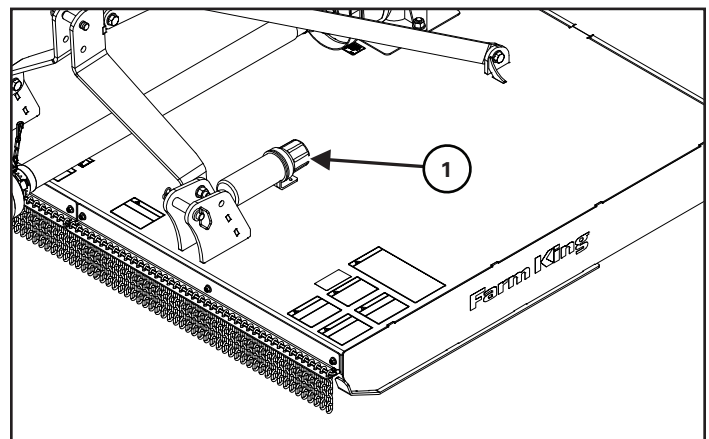
Serial Number: _____

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

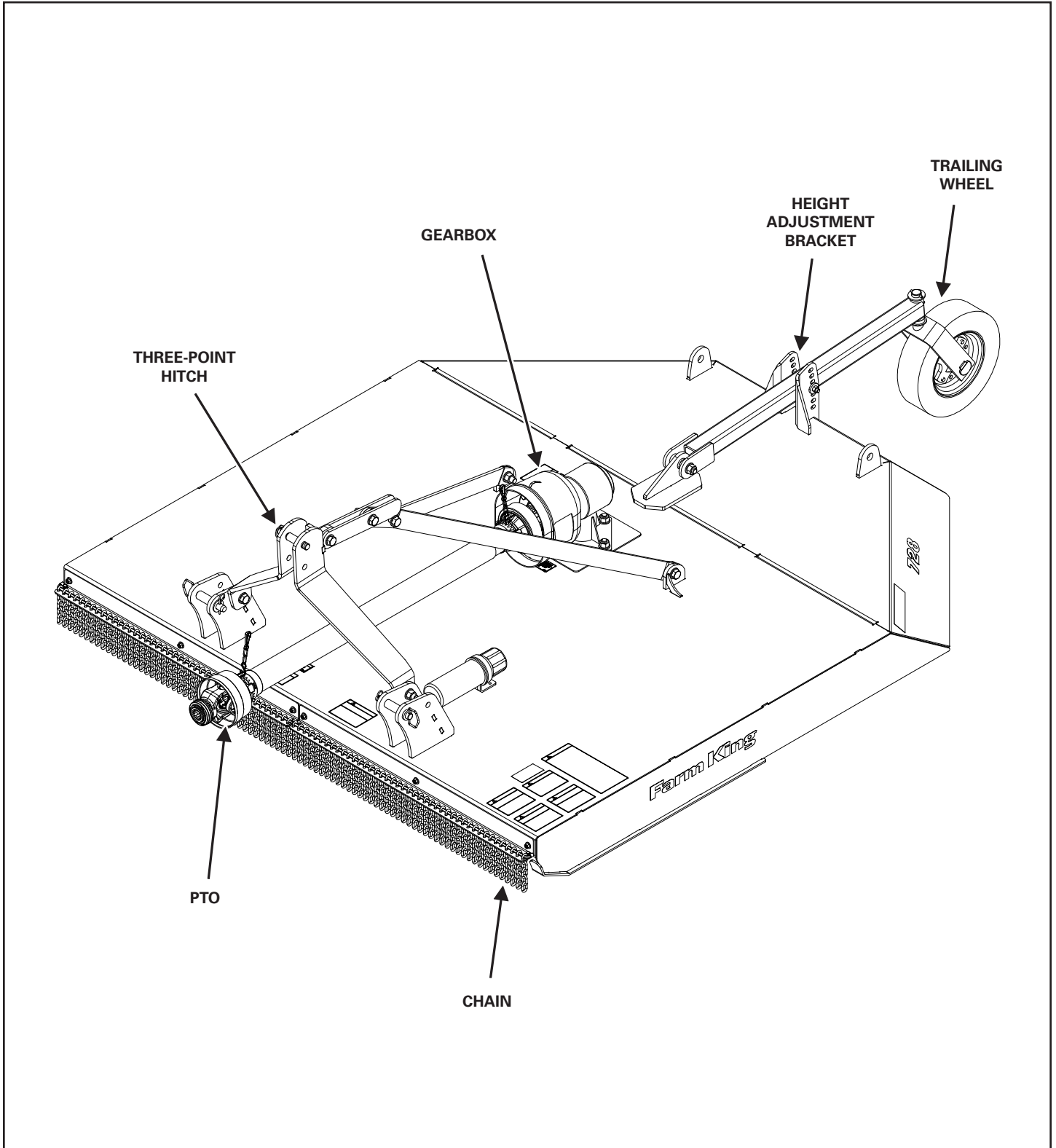
Figure 2



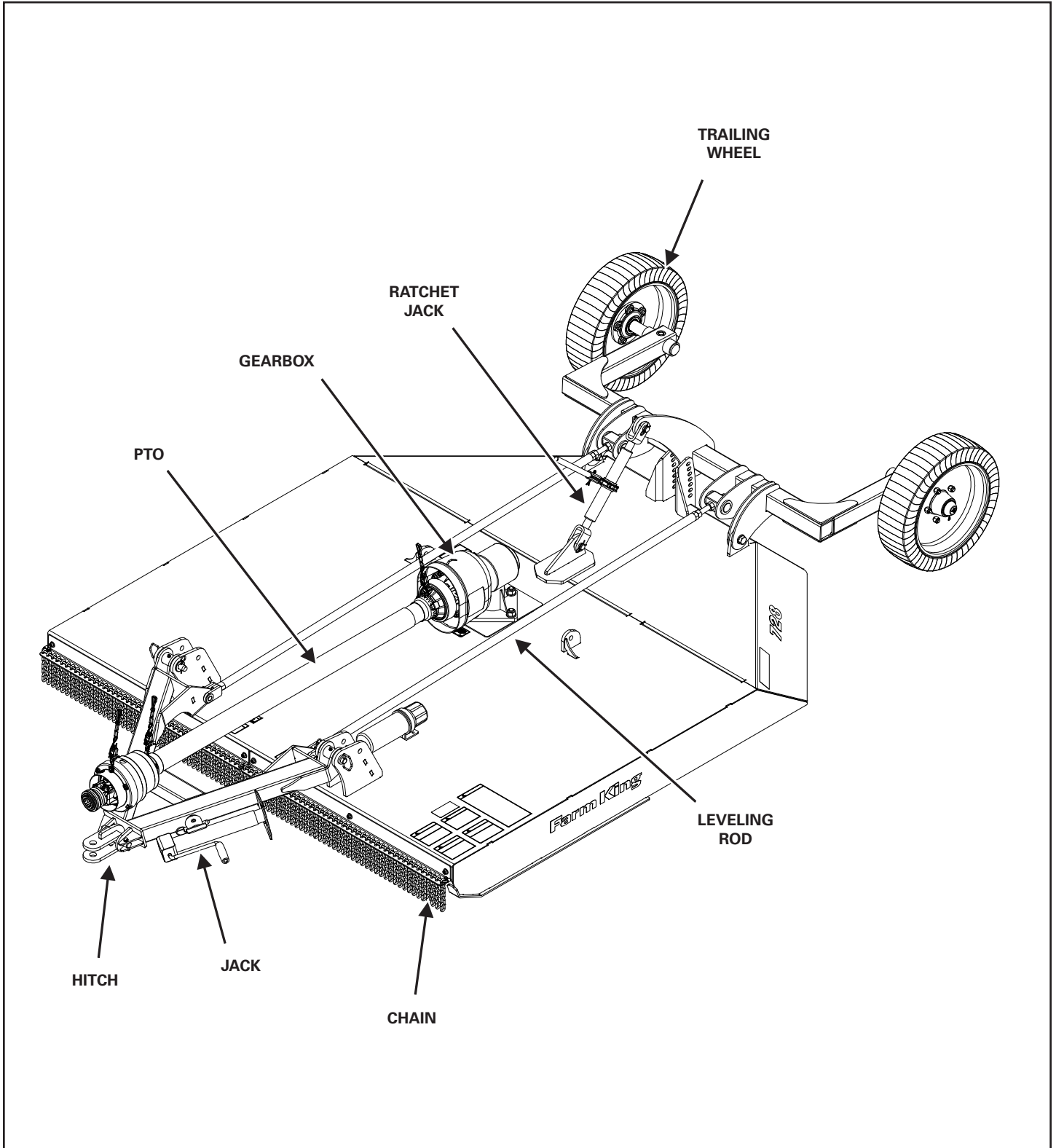
The operator and parts manual and other documents can be stored in the canister (Item 1) [Figure 2].

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


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

	DANGER
<p>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.</p>	

	WARNING
<p>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.</p>	

	IMPORTANT
<p>This notice identifies procedures which must be followed to avoid damage to the machine.</p>	

Safe Operation Needs A Qualified Operator

	WARNING
<p>Operators must have instructions before operating the machine. Untrained operators can cause injury or death.</p>	

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

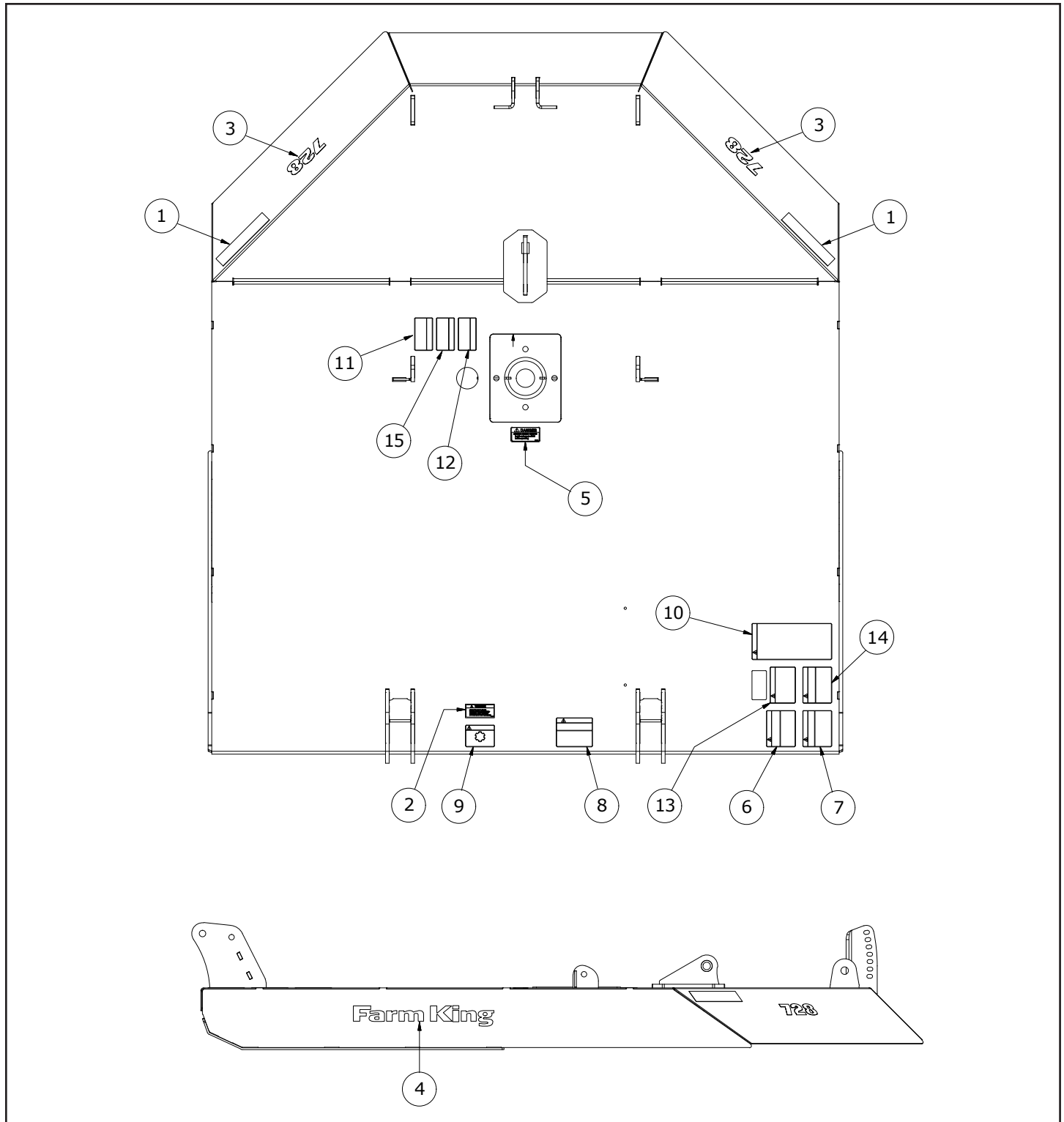


- Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

Safety Signs And Equipment Decals

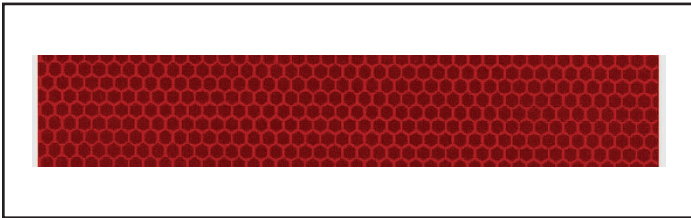
Follow the instructions on all the signs (decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.

Figure 3

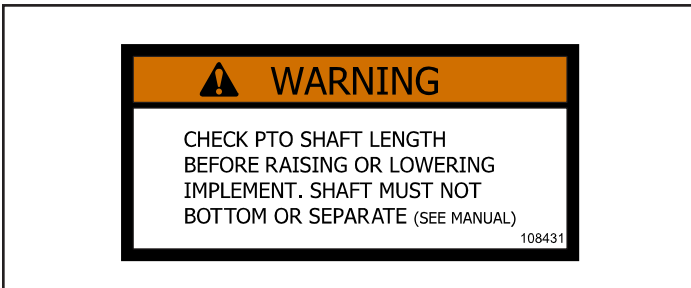


Safety Signs And Equipment Decals [Figure 3]

REFLECTIVE 2 X 9 RED - 967053 (Item 1)



WARNING CHECK PTO SHAFT - 108431 (Item 2)



728 ROTARY CUTTER - 820279 (Item 3)



FARM KING - 820270 (Item 4)



MISSING SHIELD HAZARD - 915861 (Item 5)



DANGER ROTATING BLADES - 918276 (Item 6)



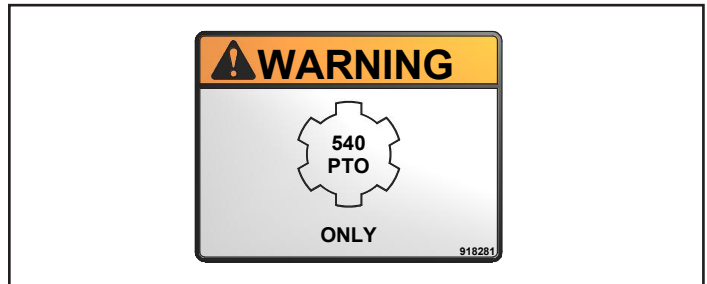
DANGER DAMAGED BLADES - 918277 (Item 7)



WARNING HIGH PRESSURE - 918280 (Item 8)



WARNING 540 PTO - 918281 (Item 9)



CAUTION SAFETY POINTS - 918283 (Item 10)

CAUTION

1. Read and understand Operator's Manual. Review annually.
2. Always keep bystanders and co-workers a minimum of 300 ft (100 m) away.
3. Perform routine inspections and corrective/preventative maintenance. Keep all shields and guards in place.
4. Operate only with tractor equipped with ROPS and seatbelts.
5. Before leaving seat: Set brake, stop engine, remove key, and wait until all moving parts have stopped.
6. Always inspect the area before cutting. Remove all foreign debris.
7. Never allow riders, especially children, on tractor or equipment.
8. Stay clear of rotating or moving parts.
9. Never allow the cutter blades to contact solid objects or foreign materials.
10. Inspect blades daily for chips, cracks, wear, and abnormal bends. Unbalanced blades are dangerous. Replace damaged blades in pairs with genuine Farm King blades only.
11. Do not operate with blades above specified operating position. See Operator's Manual for wing operating range.
12. Purge all air from hydraulic system before attempting to raise or lower this implement.
13. Lower the implement and relieve pressure before working on hydraulic system. Use a piece of cardboard or wood when searching for leaks.
14. Securely block up implement on firm ground before working underneath unit.
15. Transport with clean reflectors, SMV, and working lights as required by federal, provincial/state, and local laws.
16. Ensure transport safety chain and all hitch components are secure and in proper working order at all times.
17. Engage all safety locks before transporting.
18. Decrease speed when turning, be careful on slopes or uneven terrain when wings are in raised position.
19. Keep mower deck clear of debris. There is a risk of fire if too much debris accumulates.
20. Do not transport above speeds of 20 mph (32 km/h). Exceeding this speed may result in a loss of control.
21. Do not operate in raised position. Objects may be thrown under guards.

918283

CAUTION OWNERS MANUAL - 919219 (Item 13)

CAUTION

An OPERATOR'S MANUAL and a WARRANTY REGISTRATION CARD were attached to this implement during final assembly at the factory. If they were not attached at the time of purchase, please contact the selling dealer at once.

-Read and understand the Manual before operating the implement.

-Complete, sign and mail in the Warranty Registration Card immediately.

919219

DANGER THROWN OBJECT - 919272 (Item 14)

DANGER

THROWN OBJECT HAZARD

-Avoid bodily injury. Object may be thrown great distance by cutting blade rotating under deck.

-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.

919272

ATTENTION TORQUE - 918298 (Item 11)

ATTENTION

Torque blade nuts to 765 ft lbs before operating unit.

918298

ATTENTION TORQUE - 926844 (Item 15)

ATTENTION

Torque blade carrier castle nuts to 480 ft lbs before operating unit.

926844


ATTENTION OIL LEVEL - 918406 (Item 12)

ATTENTION

Check oil level in all gearboxes before operating unit.

918406

Safety Sign-Off Form

	WARNING
<p>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.</p>	

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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Operation


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Pre-Operation Checklist

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

	WARNING
AVOID INJURY OR DEATH	
<ul style="list-style-type: none"> • 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	
<p>Wear safety glasses to prevent eye injury when any of the following conditions exist:</p> <ul style="list-style-type: none"> • 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 laminated tire and yoke for damage.
4. Fully clean the equipment.
5. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.

Tractor Requirements

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

728 Models

- 35 HP Min. w/ Cat. I / II hitch

	WARNING
	
<ul style="list-style-type: none"> • Do NOT exceed 540 RPM PTO. • Keep PTO shields and all guards in place. • Keep away from moving parts. • Keep bystanders away. 	

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

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:	
<ul style="list-style-type: none"> • 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.

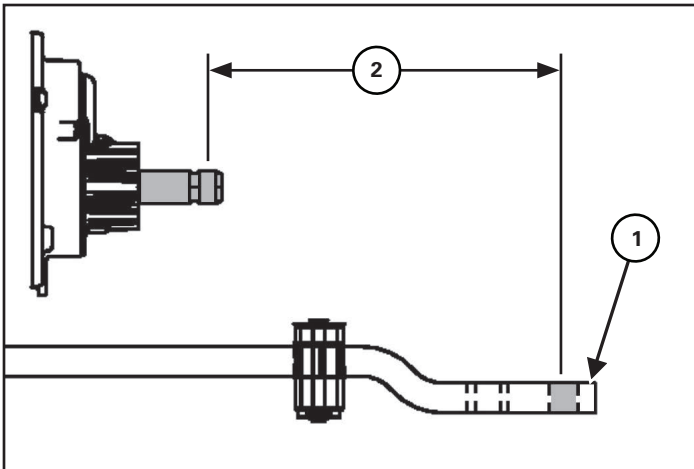
Move the tractor into position in front of the equipment.

	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

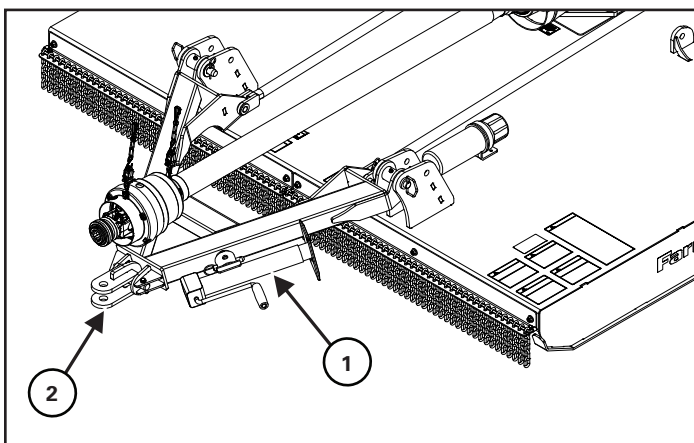
Figure 4



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) from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures [Figure 4].

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 5



Adjust the equipment jack (Item 1) to align the tractor drawbar and equipment hitch (Item 2) [Figure 5].

Turn the handle to 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.

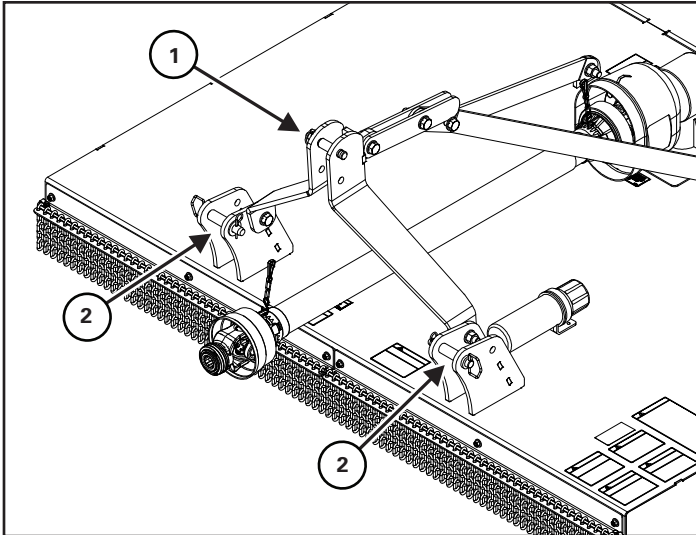
Install the hitch pin and retaining pin to securely fasten the equipment hitch to the tractor drawbar. Attach the safety chain around the drawbar.

	IMPORTANT
<p>Always use a hitch pin of adequate size and strength and a retaining pin with a locking device.</p>	

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 6



Remove the top implement mounting pin (Item 1) [Figure 6] and lynch pin from the equipment.

Remove the 7/8" washers and cotter pins from the left and right lower mounts (Item 2) [Figure 6].

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 between the clevis plates on the equipment.

!	IMPORTANT
<p>728 model rotary cutters are equipped with sleeves on the lower mounting pins to convert between Cat. I or II hitches.</p>	

Reinstall the 7/8" washers and cotter pins to lower mounting pins (Item 2) [Figure 6].

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

Reinstall the top mounting pin and lynch 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
<p>Always use a hitch pins of adequate size and strength and a retaining pin with a locking device.</p>	

Connecting The PTO Driveline

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

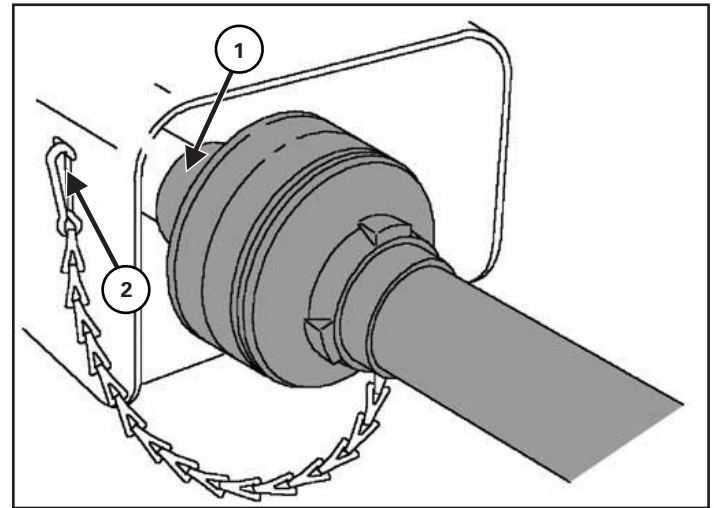
	WARNING
AVOID INJURY OR DEATH	
<p>Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.</p>	

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

	IMPORTANT
<p>Improper hitch installation can cause PTO driveline damage.</p> <ul style="list-style-type: none"> • 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 7



Retract the collar (Item 1) [Figure 7] 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 7].

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

	WARNING
	
<ul style="list-style-type: none"> • 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

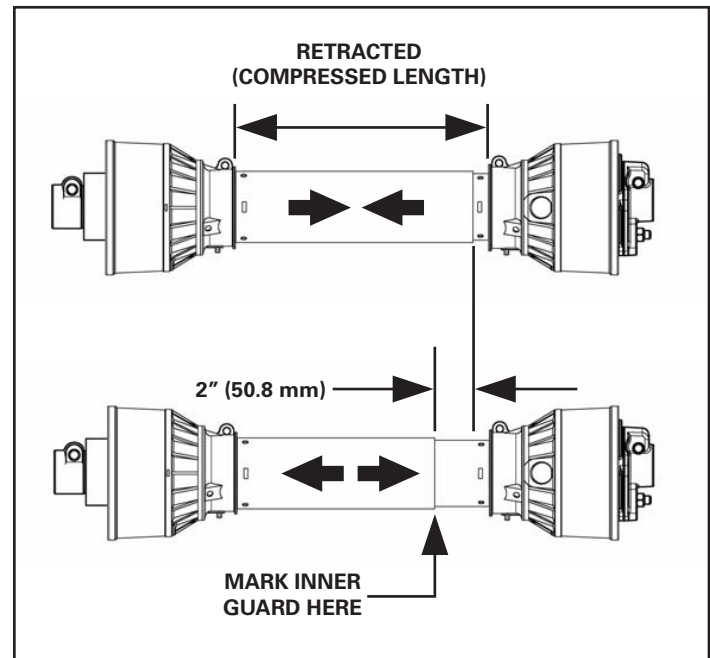
- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all 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 8



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 8].
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 8].
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	
<ul style="list-style-type: none"> • 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. 	

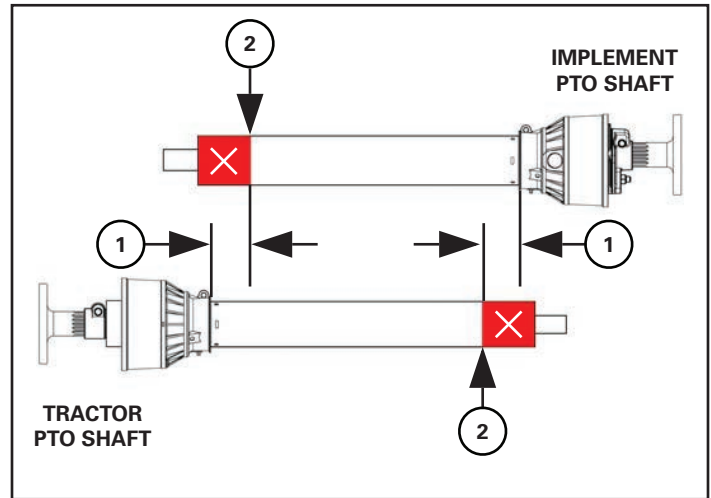
Remove the PTO driveline from the tractor and place in storage position (if equipped).

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.

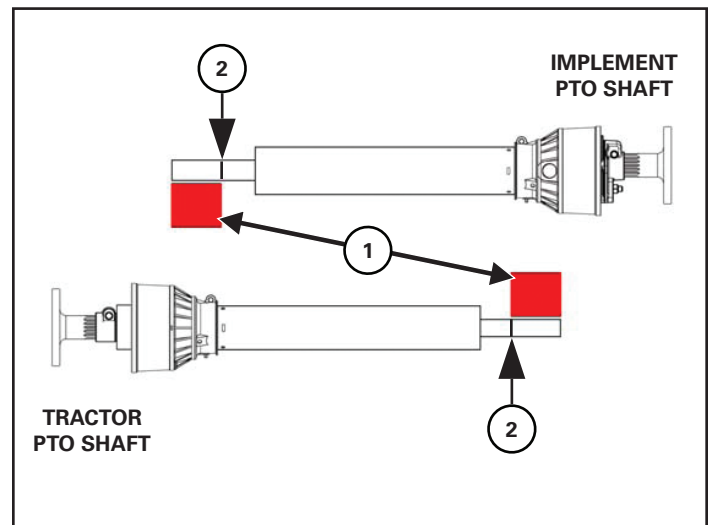
Pull the PTO driveline apart and reinstall each individual section; one half to the tractor PTO shaft and one half to the implement gearbox PTO shaft.

Figure 9



1. Hold PTO driveline sections parallel to one another and measure back 2 in. (50.8 mm) (Item 1) [Figure 9] from the yoke of each section and place mark on opposite section. Cut the plastic shield at this length (Item 2) [Figure 9].

Figure 10




2. Using the plastic guard lengths that were cut off in [Figure 9], align the cut off lengths (Item 1) [Figure 10] with the end of the inner & outer shafts. Place a mark (Item 2) [Figure 10] 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.

	<h2 style="margin: 0;">WARNING</h2>
<h3 style="margin: 0;">AVOID INJURY OR DEATH</h3>	
<ul style="list-style-type: none"> • 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. 	

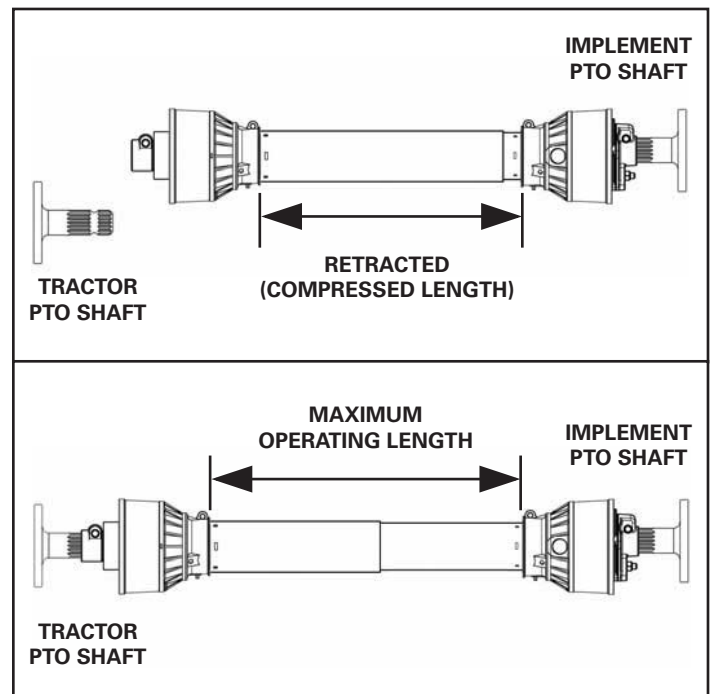
1. Disconnect the PTO driveline from the tractor and fully slide the driveline sections together (retracted).
2. Measure the retracted (compressed) length of the PTO driveline between the bases of the plastic guards [Figure 11].
3. Multiply the retracted driveline length by 1.667 to determine the PTO 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 11] 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 11




Adjusting Deck Height

Adjust the cutting height for the conditions:

Light Material / Normal Cutting - Set front of deck slightly lower or level to the rear.

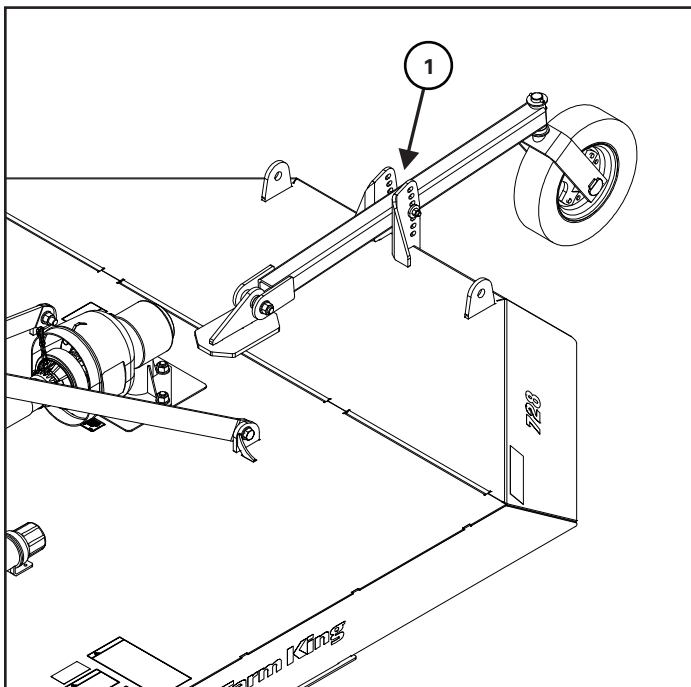
Brush / Dense Tall Weeds - Set front of deck higher than the rear.

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.

	<h1 style="margin: 0;">IMPORTANT</h1>
<p>Adjust the deck height to the tractor's drawbar.</p> <p>Drawbar heights vary depending on the tractor being used.</p> <p>The Rotary Cutter usually performs best with the front raised higher than the rear.</p>	

Three-Point Hitch

Figure 12



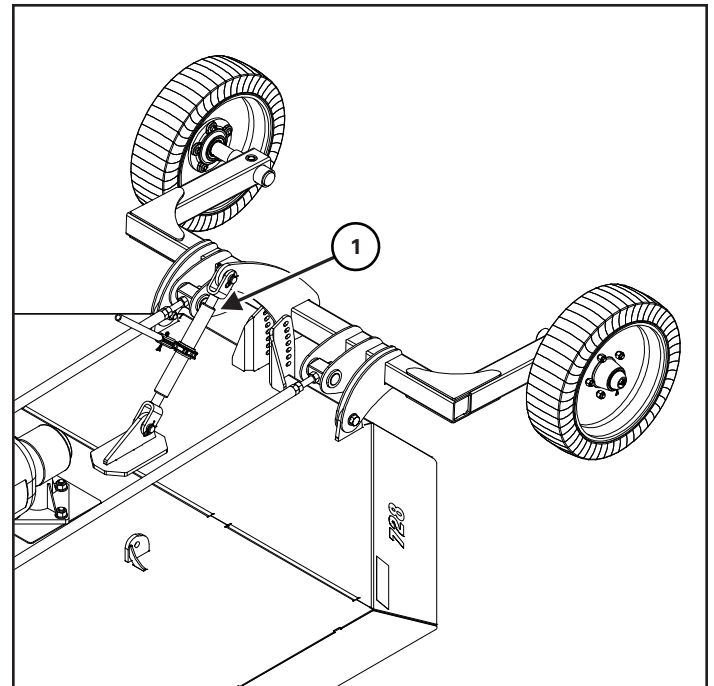
Adjust the deck height by raising or lowering the trailing wheel in the mount (Item 1) [Figure 12].

Attach the trailing wheel in mount using one 1/2" x 5" hex bolt, two 1.5" x 0.531" x 0.25" flat washers, and one 1/2" lock nut.

Deck height and angle may also be adjusted by the tractor's three-point top link (see the tractor operator manual for the correct procedure).


Trailing Hitch



Figure 13



Adjust the deck height by adjusting the ratchet jack (Item 1) [Figure 13].

Theory Of Operation

	<h1>CAUTION</h1>
<ul style="list-style-type: none"> • 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. • Do NOT exceed 540 RPM PTO speed. • Verify that the PTO driveine does not contact the cutter when raising, lowering, or cornering. 	

	<h1>DANGER</h1>
	
<h3>ROTATING BLADES CAN CAUSE SERIOUS INJURY OR DEATH</h3>	
<ul style="list-style-type: none"> • 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. 	

	<h1>DANGER</h1>
	
<h3>DAMAGED BLADES CAN CAUSE SERIOUS INJURY OR DEATH</h3>	
<ul style="list-style-type: none"> • 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. 	

	<h1>DANGER</h1>
	
<h3>THROWN OBJECT HAZARD</h3>	
<p>To prevent serious injury or death from thrown objects:</p> <ul style="list-style-type: none"> • 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. 	


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.

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
<p>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.</p>	


Finishing Operation


1. When the desired work has been completed, stop the tractor, lower the engine speed and disengage the tractor PTO.
2. Fully raise the rotary cutter into the transport position and move the tractor and equipment to next work site.


	CAUTION
<p>Do not fully raise the implement when the PTO is engaged. Damage to the tractor and implement may occur.</p>	

Transporting

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

	WARNING
AVOID INJURY OR DEATH	
<ul style="list-style-type: none"> • 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
<p>Use of an unapproved hitch or tractor / tow vehicle can result in loss of control, leading to serious injury or death.</p> <p>Tractor / tow vehicle and hitch must have the rated capacity to tow equipment.</p>	

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

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Farm King



Troubleshooting

	WARNING
<p>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.</p>	

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.
Blades loosening.	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 8 hours of use)							
1	Wheel Bolts	✓					
2	PTO Cross and Bearings	✓		✓			
3	Blades	✓					
BI-Weekly (or every 20 hours)							
4	PTO Telescoping Tubes			✓			
5	PTO Quick Disconnect			✓			
6	PTO Guard Bushings			✓			
Weekly (every 50 hours of use)							
7	Three-Point Hitch	✓					
8	Gearbox	✓		✓			
Annually (every 500 hours of use)							
9	Gearbox (Oil)				✓		✓

Lubrication

Recommendations

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

!	IMPORTANT
<p>Do not over-grease bearings. Greasing too often can damage seals and lead to premature bearing failure.</p>	

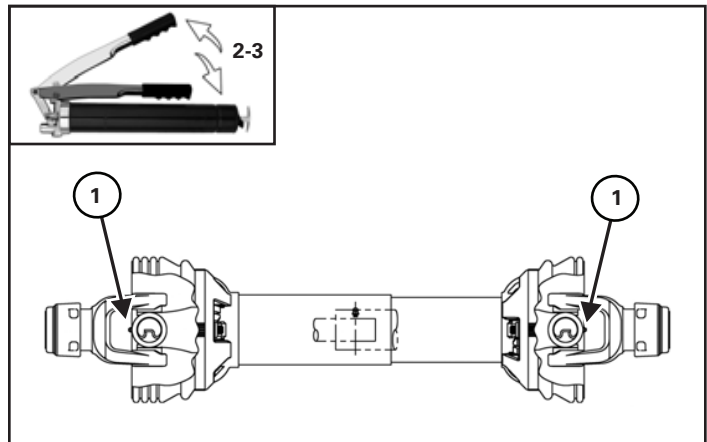
- Always use a hand-held grease gun.
- Clean fitting before greasing, to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.
- If fittings will not take grease, remove and clean thoroughly. Replace fitting if necessary.

!	WARNING
<p>AVOID INJURY OR DEATH</p> <p>Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.</p> <p>Support the equipment with blocks or safety stands before working beneath it.</p> <p>Follow good shop practices:</p> <ul style="list-style-type: none"> • Keep service area clean and dry • Be sure electrical outlets and tools are properly grounded • Use adequate light for the job. <p>Use only tools, jacks, and hoists of sufficient capacity for the job.</p> <p>Replace and secure all shields removed during servicing before operating.</p> <p>Use heavy leather gloves to handle sharp objects.</p>	

PTO Driveline Grease Locations

!	IMPORTANT
<p>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.</p>	

Figure 14

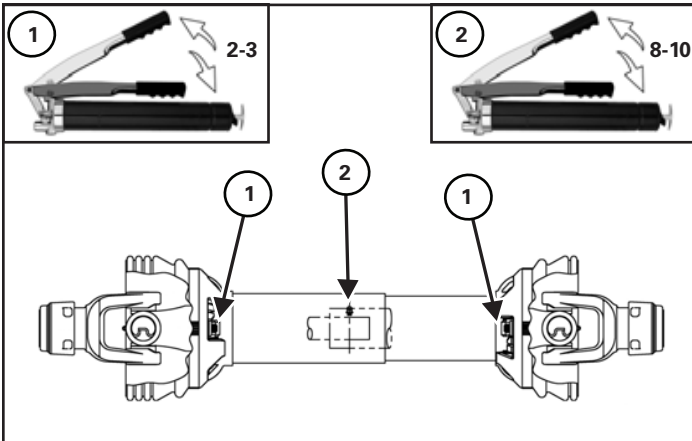


Apply two to three pumps of grease to the cross and bearings (Item 1) [Figure 14] on the PTO driveline.

Grease every **8 hours**.

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

Figure 15

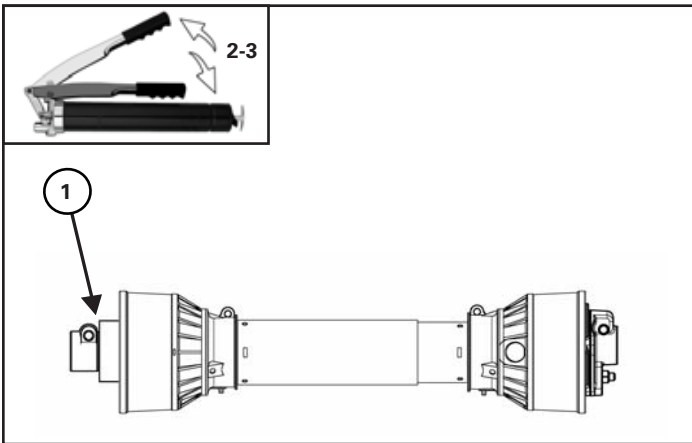


Apply two to three pumps of grease to the guard bushings (Item 1) [Figure 15].

Apply eight to ten pumps of grease to the telescoping member (Item 2) [Figure 15].

Grease every **20 hours**.

Figure 16

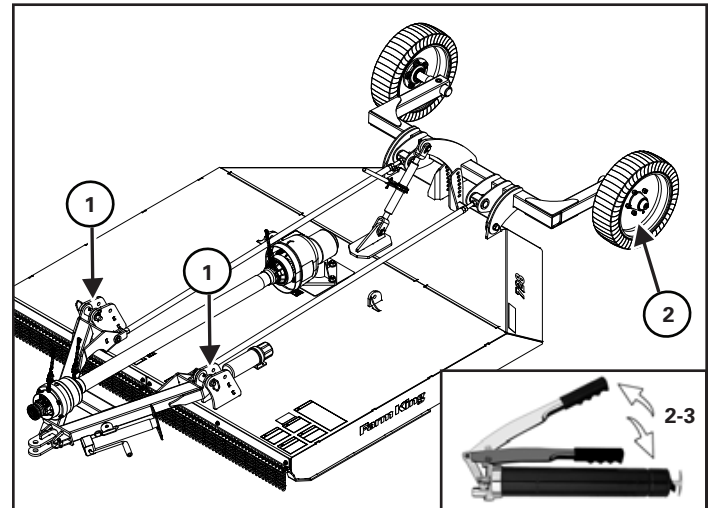


Apply two to three pumps of grease to the PTO quick disconnect (Item 1) [Figure 16].

Grease every **20 hours**.

Trailing Hitch Grease Locations

Figure 17



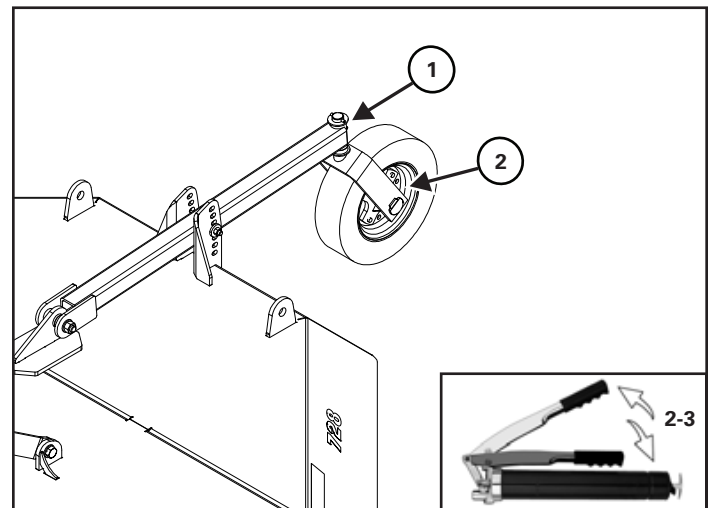
Apply two to three pumps of grease to the hitch pivots (Item 1) [Figure 17].

Apply grease to the tail wheel hub bushing (Item 2) [Figure 17].

Grease every **50 hours** of use.

Three-Point Hitch Grease Locations

Figure 18

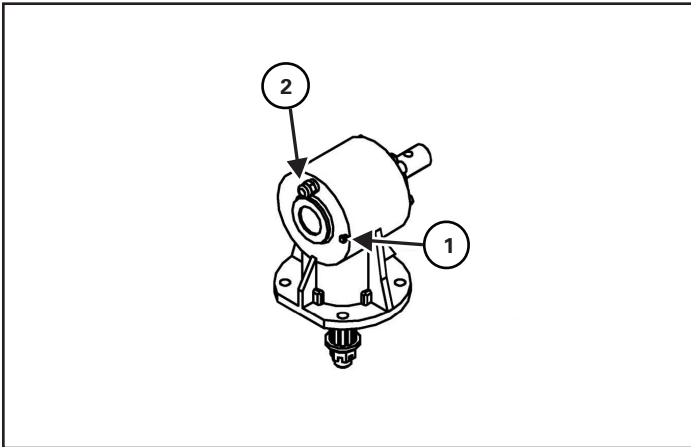


Apply two to three pumps of grease to the tail wheel spindle sleeve (Item 1) [Figure 18].

Apply grease to the tail wheel hub bushing (Item 2) [Figure 18].

Gearbox

Figure 19



Checking Gear Oil Level

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

	<h2 style="margin: 0;">IMPORTANT</h2>
<p>Allow gear oil to settle into the bottom cavity of the gearbox for approximately 15-20 min. before checking level.</p>	

Remove check plug (Item 1). Oil level should be at the bottom edge of the plug [Figure 19].

Changing Oil


Remove fill plug (Item 2) [Figure 19].

Add SAE 80W-90 gear oil and check oil level.

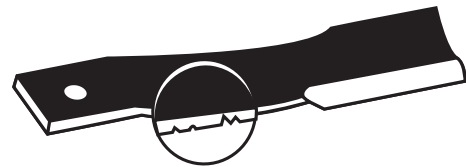
Blades

Removal And Installation

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

	<h2 style="margin: 0;">IMPORTANT</h2>
<p>Always use lifting devices, vehicles, chains, or straps of adequate size and strength when unloading and assembling components.</p>	

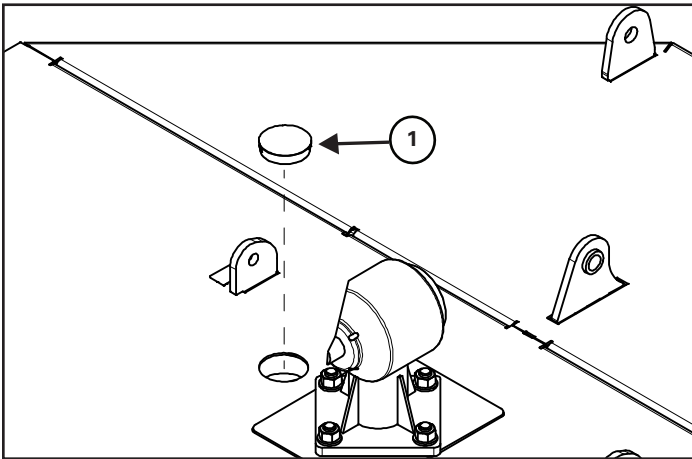
	<h2 style="margin: 0;">DANGER</h2>
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DAMAGED BLADES CAN CAUSE SERIOUS INJURY OR DEATH

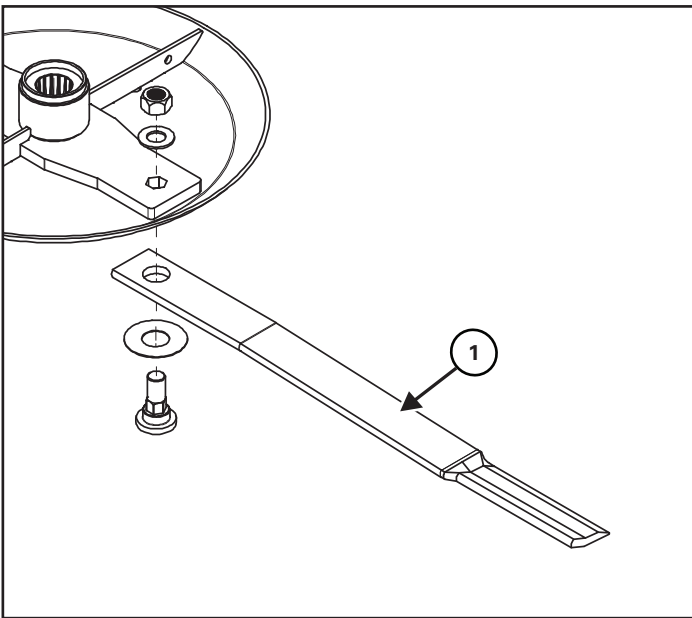
- Inspect blades daily for chips, cracks, wear and abnormal bends.
- Do Not modify blades in any way such as sharpening, straightening or welding.
- Replace blades with genuine Farm King blades only.
- Unbalanced blades are dangerous.
- Replace blades in pairs.

Figure 20



Remove access plug (Item 1). Rotate blade assembly until desired blade and hardware is visible [Figure 20].

Figure 21



Remove the 1-1/2" hex shoulder bolt, 0.048" blade shim, 1" ID flat washer, and 1" nut from blade (Item 1) [Figure 21].

Replace the blade and reinstall hardware.

Torque blade nuts to 765 FT LB.

Replace the access plug.



IMPORTANT

Both blades must be replaced at the same time to maintain the proper balance in the cutting unit.

Use Farm King replacement blades only. Using substitute blades may cause equipment damage or injury.

Farm King



Parts Identification

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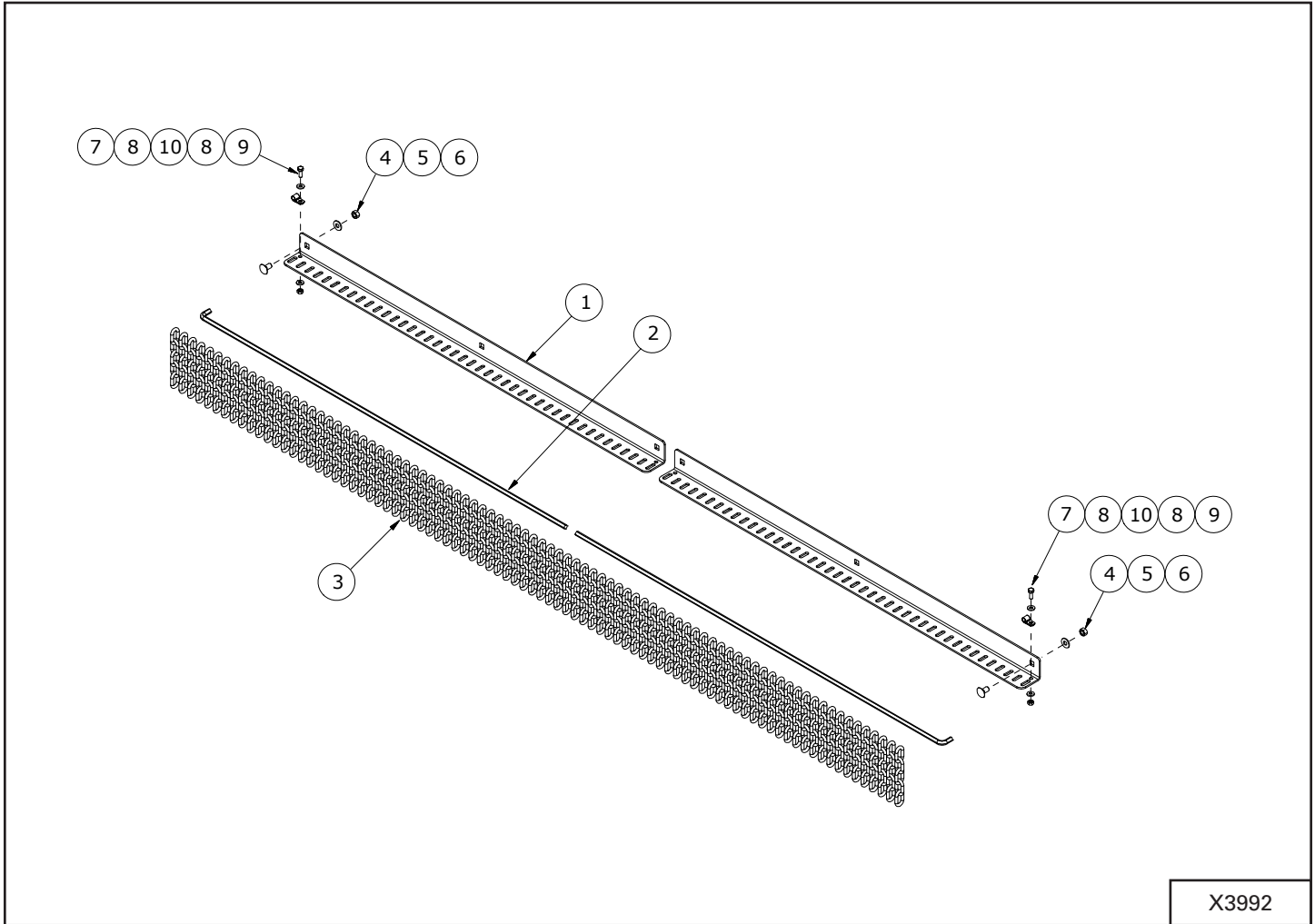
Farm King



General Parts Information

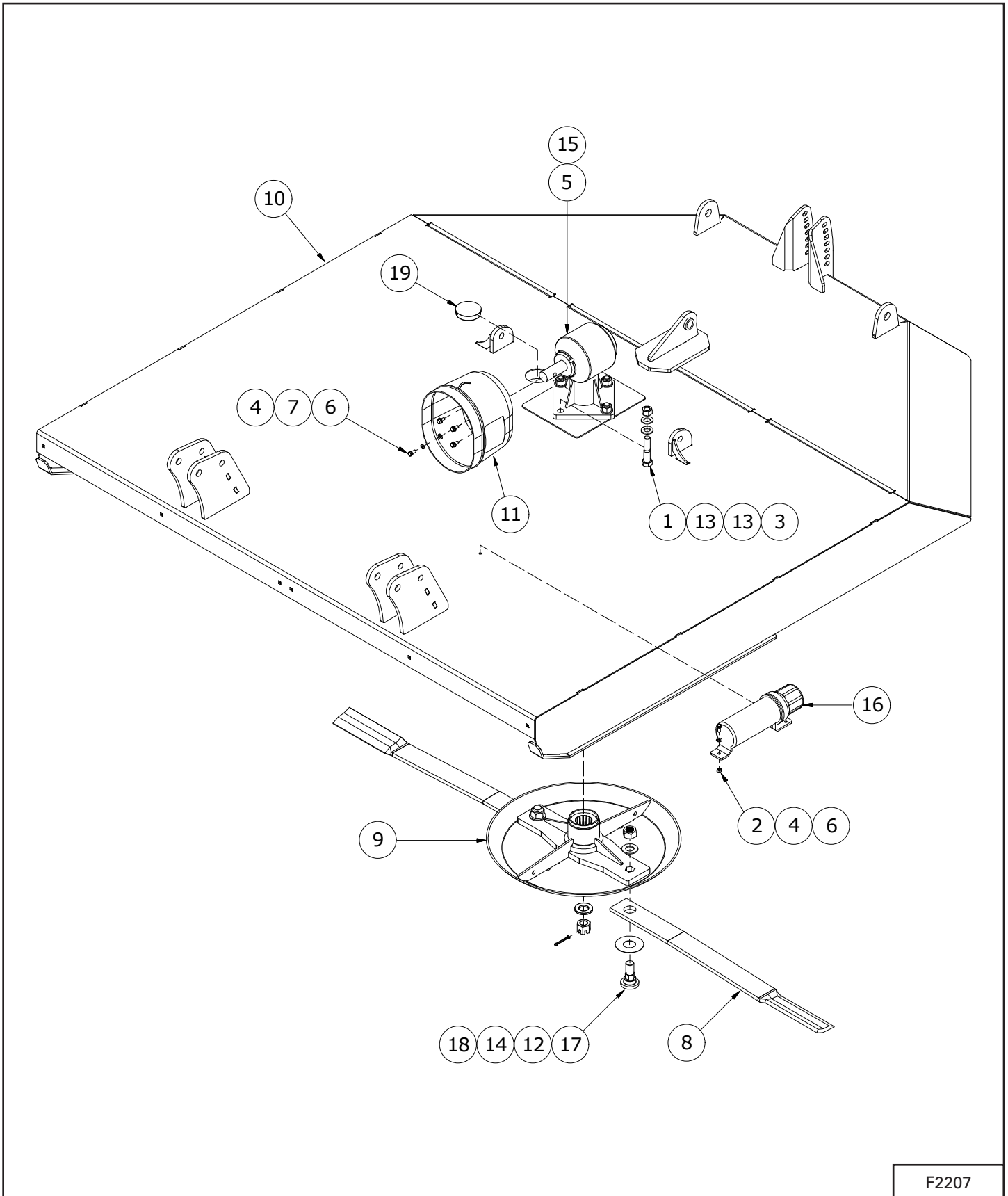
The parts identification section list descriptions, part numbers and quantities for all North American Base Model 728 Series II Rotary Cutters. Contact your Farm King dealer for additional parts information.

Chain Kit



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	818900	PLATE - CHAIN HOLDER 728 RC	2
2	818901	ROD - CHAIN ROD 728 RC	2
3	966596	CHAIN, 5 LINK_5&6RC	86
4	812363	3/8" LOCK NUT (PL)	6
5	81570	WASHER - 3/8" STD FLAT (PL)	6
6	81914	3/8" X 1" CARRIAGE BOLT (PL)	6
7	81525	1/4" X 3/4" HEX BOLT (PL)	2
8	812624	1/4" FLAT WASHER PL	4
9	84498	1/4" LOCK NUT (PL)	2
10	86050346	P-CLIP - 0.375	2

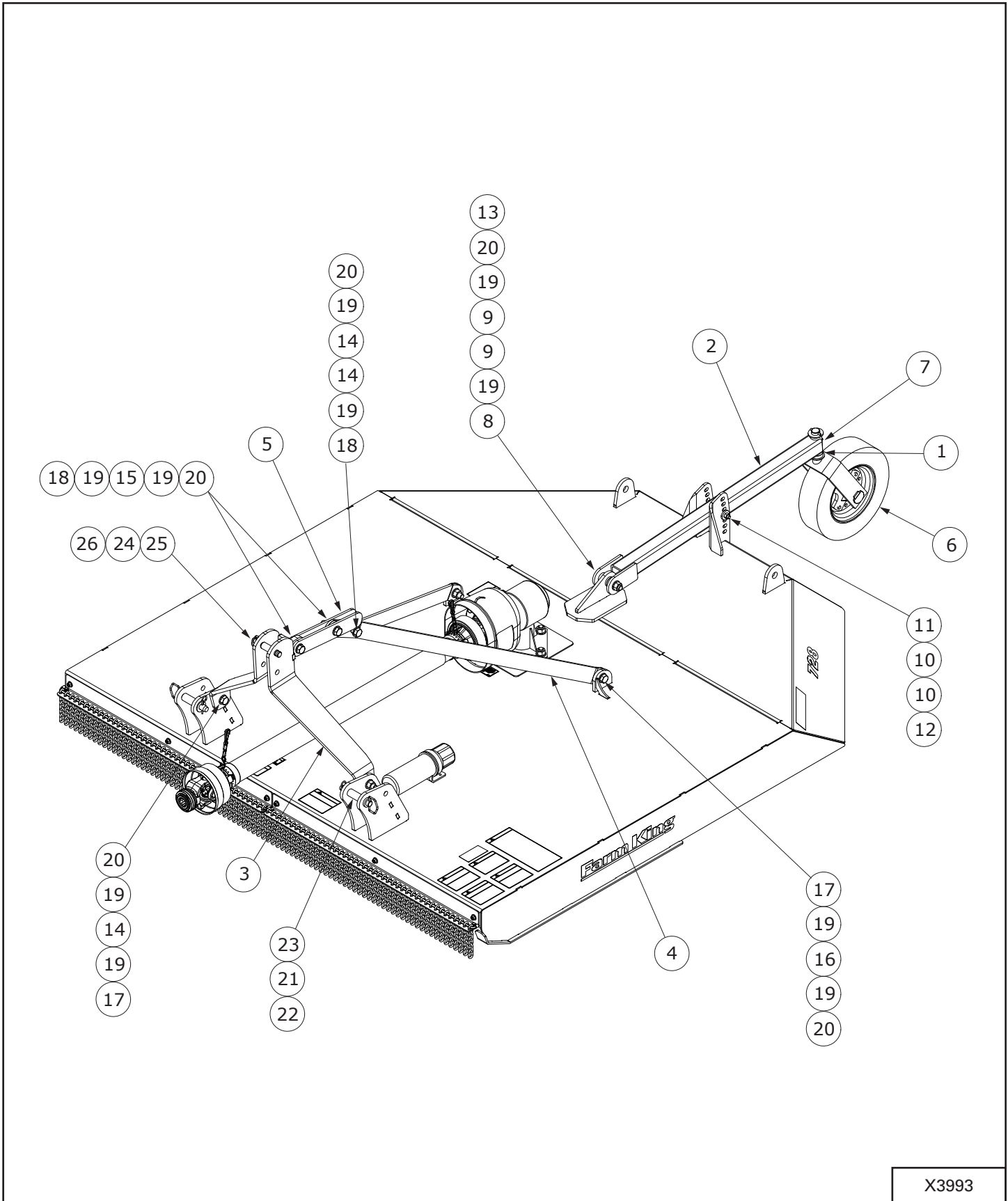
Deck Assembly



F2207

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	810149	3/4" X 3 1/2" HEX BOLT (PL)	4
2	812362	5/16" LOCK NUT (PL)	2
3	812365	3/4" LOCK NUT (PL)	4
4	812623	WASHER - 5/16" SAE FLAT (PL)	6
5	966194	SPEED UP GEARBOX RC30-250045	1
6	81549	5/16" X 3/4" HEX BOLT (PL)	6
7	81569	5/16" LOCK WASHER PL	4
8	817752	7' RC BLADE WITH 1.5" BOLT HOLE	2
9	818769	WELDMENT - STUMP JUMPER 6/7' RC	1
10	818887	WELDMENT - 728 RC DECK	1
11	819071	SHIELD - ROTARY CUTTER PTO	1
12	819145	PLATE - SHIM 0.048" THK	2
13	84050	3/4" S.A.E. FLAT WASHER (PL)	8
14	84522	1" ID SAE FLAT WASHER (PL)	2
15	908725	SAE 80W-90 GEAR OIL	1.36
16	909277	MANUAL HOLDER 3 1/2" X 12"	1
17	915848	BOLT-1.5" BLADE HOLE HEX SHOULDER	2
18	916025	NUT-1-14UNS DEFORMED THREAD	2
19	918201	HOLE PLUG-3.00 DIA X 0.250 THICK	1

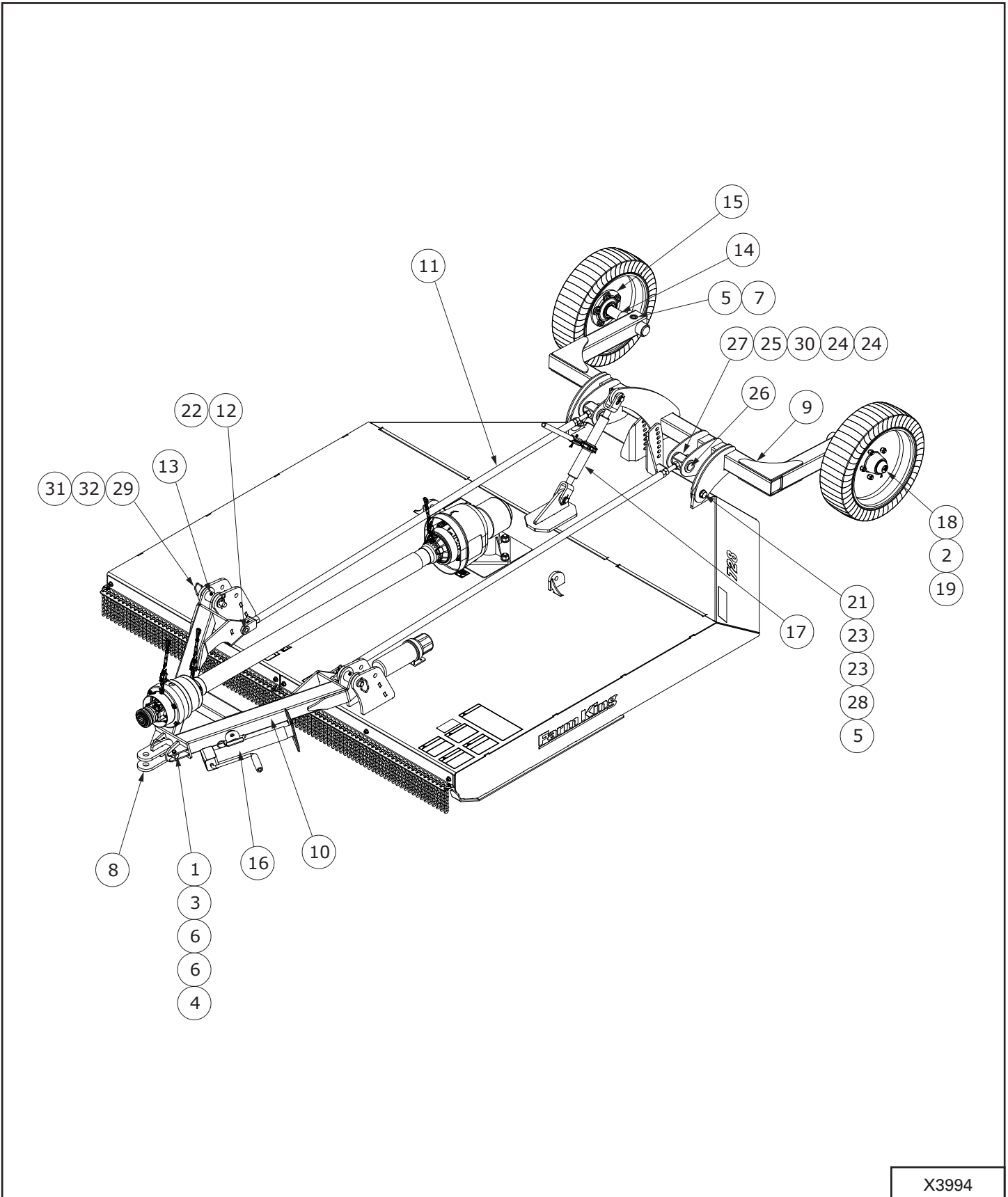
Three-Point Hitch



X3993

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	116786	SPACER 1.26ID, TAILWHEEL 4'RC/5'RC	1
2	818663	WELDMENT - TAIL WHEEL MOUNT	1
3	818877	WELDMENT - 3 PT HITCH 6/7' RC	1
4	818892	PLATE - REAR LINKAGE ARMS 728 RC	2
5	819294	PLATE-TOP LINKAGE 628/728 RC	2
6	819297	WHEEL - LAMINATED TIRE 15" W/YOKE	1
7	84583	SCREW IN GREASE FITTING	1
8	811790	3/4" X 4 1/2" HEX BOLT GR5 (PL)	1
9	819041	TUBE - TAILWHEEL SPACER	2
10	813581	WASHER FLAT 1.5 X 0.531 X 0.25 PL	2
11	81633	1/2 X 5" HEX BOLT (PL)	1
12	812364	1/2" LOCK NUT (PL)	1
13	818406	BUSHING - 1.000" OD x 0.782" ID	1
14	818612	BUSHING - 3 PT LINKAGE PIVOT (PL)	4
15	818882	BUSHING - 1.0 OD X .109W X .844	2
16	819336	BUSHING - 1.0 OD X .109W X .422	2
17	84346	3/4" X 2 1/2" HEX BOLT (PL)	4
18	88742	3/4" X 3" HEX BOLT GR.5 (PL)	3
19	84050	3/4" S.A.E. FLAT WASHER (PL)	16
20	812365	3/4" LOCK NUT (PL)	8
21	907315	84" HITCH PIN	2
22	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2
23	81972	WASHER - 7/8" FLAT SAE (PL)	2
24	818546	BUSHING - 1.000" OD x 0.782" ID x 2.00"	1
25	965807	CAT. 1 TOP LINK PIN	1
26	965911	LINCH PIN 7/16	1

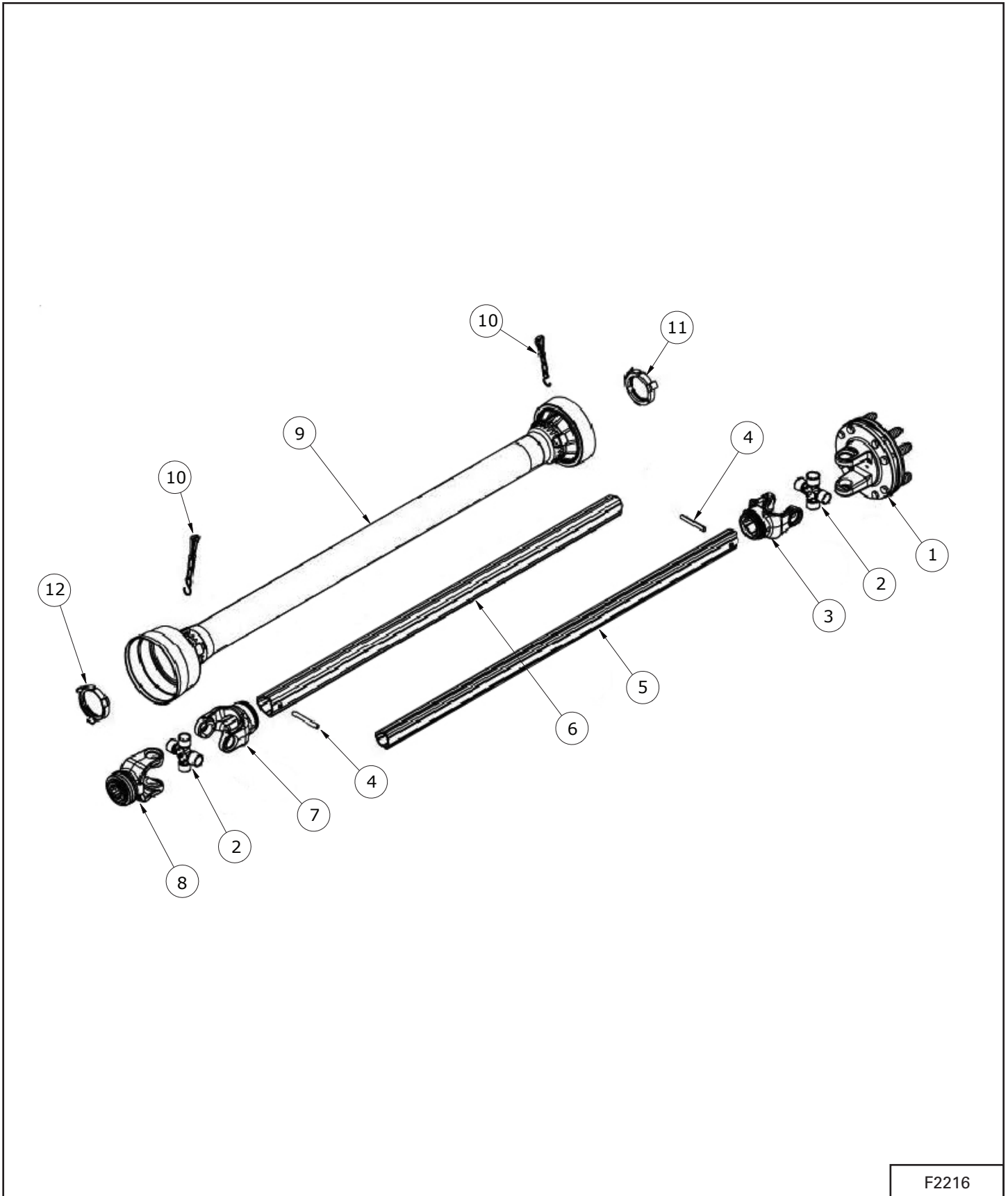
Trailing Hitch



X3994

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	104719	PIN 1.0 DIA X 6.0 LG	1
2	810010	NUT-SLOTTED 7/8 UNF (BR)	2
3	811688	BOLT-5/16" X 2 1/4" (PL) GR.5	1
4	812362	5/16" LOCK NUT (PL)	1
5	812364	1/2" LOCK NUT (PL)	4
6	812623	WASHER - 5/16" SAE FLAT (PL)	2
7	81627	1/2" X 3" HEX BOLT (PL)	2
8	818823	WELDMENT - CAT II SWIVEL CLEVIS	1
9	818920	WELDMENT - TRAILING ARM 728 RC	1
10	818924	WELDMENT - TRAILER HITCH 728 RC	1
11	818935	WELDMENT - LEVEL ROD 728 RC	2
12	9812433	3/16" X 1 1/2" COTTER PIN	2
13	84583	SCREW IN GREASE FITTING	2
14	915668	SHAFT-REMOVABLE SGL SPINDLE	2
15	915679	HUB-HA517	2
16	921284	JACK-5000 LB CAP, SIDE CRANK	1
17	967499	RATCHET JACK C/W HARDWARE & HANDLE	1
18	967713	7/8" SAE FLAT WASHER (BR)	2
19	9812486	1/8" X 1 1/2" COTTER PIN (BR)	2
21	811796	1/2" X 2 1/2" HEX BOLT GR5 (PL)	2
22	966524	PIN CTRL ROD	2
23	813581	WASHER FLAT 1.5 X 0.531 X 0.25 PL	4
24	81700	3/4" HEX NUT (PL)	4
25	819032	WELDMENT - CONTROL ROD BOLT	2
26	819037	BAR - CONTROL ROD KEEPER	2
27	819079	TUBE - CONTROL KEEPER SLEEVE	2
28	819338	BUSHING - 1.0 OD X .219W X 1.156	2
29	81972	WASHER - 7/8" FLAT SAE (PL)	2
30	84050	3/4" S.A.E. FLAT WASHER (PL)	2
31	907315	84" HITCH PIN	2
32	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2

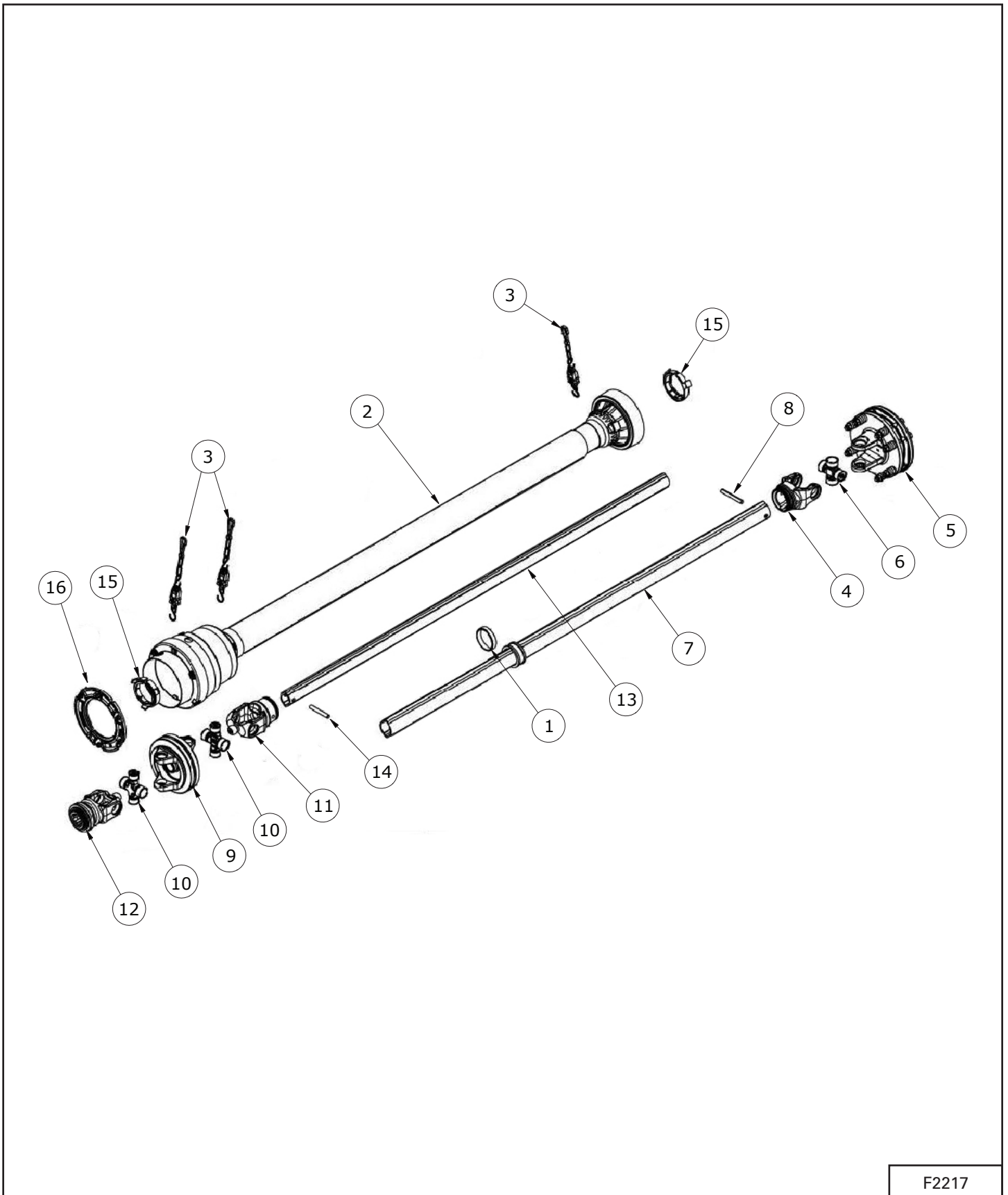
PTO - Three-Point Hitch



F2216

ITEM	PART NUMBER	DESCRIPTION
1	818226	FRICTION CLUTCH WITH CONIC BOLT HP TYPE
2	925293	CROSS KIT WITH GREASE NIPPLE
3	925308	INBOARD YOKE FOR INNER TUBE
4	925360	ELASTIC PIN
5	819261	TRIANGULAR TUBE L=1195 WITH PIN HOLE
6	819263	TRIANGULAR TUBE L=1195 WITH PIN HOLE
7	819061	INBOARD YOKE FOR OUTER TUBE
8	817804	YOKE WITH QL BALL TYPE
9	819264	SHAFT SHIELD
10	817774	CHAIN
11	817808	RETAINER
12	817809	RETAINER
-	F2216	PTO COMPLETE

PTO - Trailing Hitch



F2217

ITEM	PART NUMBER	DESCRIPTION
1	818578	RING FOR ANTI-VIBRATING SLEEVE
2	819265	SHAFT SHIELD
3	925361	CHAIN
4	818606	INBOARDYOKE FOR OUTERTUBE
5	819266	FRICTION CLUTCHES 4 PLATES - F4
6	925353	CROSS KIT WITH GREASE NIPPLE
7	819267	LEMONTUBE L=1500 WITH ANTI-VIBRATING SLEEVE AND PIN HOLE
8	925360	ELASTIC PIN
9	925366	CV WIDEANGLE DOUBLEYOKE 80 DEG
10	925355	CROSS KIT WITH GREASE NIPPLE
11	818603	CV WIDEANGLE INBOARDYOKE FOR INNERTUBE
12	818604	CV WIDEANGLE YOKE WITH QL BALL TYPE STEEL VERSION
13	819268	RILSAN LEMONTUBE L=1505 WITH PIN HOLE
14	925358	ELASTIC PIN
15	818610	RETAINER
16	925342	RETAINER
-	F2217	PTO COMPLETE

Farm King



Specifications And Shipping Kit Numbers

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Shipping Kit And Bundle Numbers..... 62

Hardware Torque Values..... 63

 Metric Chart..... 63

 Imperial Chart..... 64

Farm King



Specifications

Model	728	
Cutting Width	84"	
Cutting Height	2" - 12"	
Blade Tip Speed	14,369 fpm	
Spring Steel Blades	1/2" x 3" heat treated	
Deck Material	10 gauge (deck), 7 gauge (sides)	
Gearbox	Closed, 540 rpm	
Gearbox Rating	65 hp	
Tractor Requirement	35 hp minimum	
PTO Shaft	Slip clutch	
3-point Hitch	Category I / II	
Stump Jumper	24" diameter	
Weight	3-point model	1175 lbs.
	Trailing model	1476 lbs.
	Trailing model (hitch)	670 lbs.

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
Y728S - Model 728 Series 2 Rotary Cutter (3-point)		
1	F2207	728 Deck Assembly
1	X3993	Three-Point Hitch w/ PTO
Y728T - Model 728 Series 2 Rotary Cutter (Trailing)		
1	F2207	728 Deck Assembly
1	X3994	Trailing Hitch w/ PTO
Standard Chain Kit		
1	X3992	728 Chain Kit

Hardware Torque Values

Metric Chart

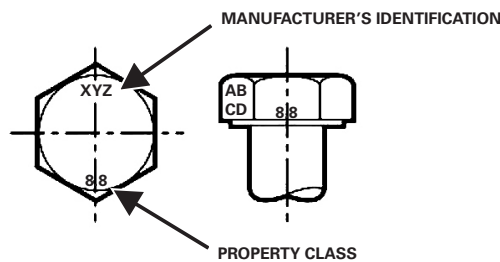
NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

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.**

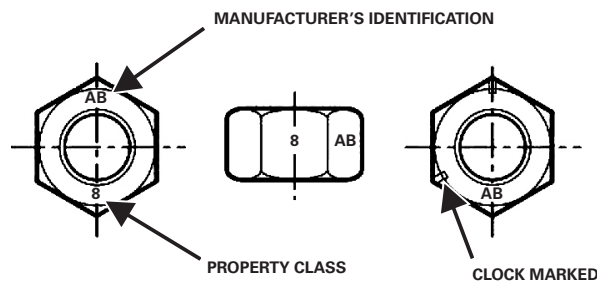
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 W/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8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



Hardware Torque Values (Cont'd)

Imperial Chart

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

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

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

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts



GRADE 2
SAE BOLT



GRADE 5
SAE BOLTS



GRADE 8
SAE BOLTS



GRADE 2
SAE NUTS

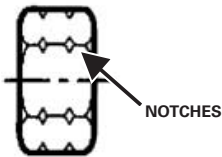


GRADE 5
SAE NUTS



GRADE 8
SAE NUTS

Identification of Hex Nuts and Lock Nuts

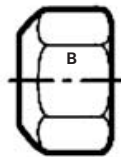


GRADE IDENTIFICATION

GRADE A: NO NOTCHES

GRADE B: ONE CIRCUMFERENTIAL NOTCH

GRADE C: TWO CIRCUMFERENTIAL NOTCHES

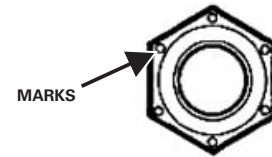


GRADE IDENTIFICATION

GRADE A: NO MARK

GRADE B: LETTER B

GRADE C: LETTER C



GRADE IDENTIFICATION

GRADE A: NO MARKS

GRADE B: THREE MARKS

GRADE C: SIX MARKS

MARKS NEED NOT BE LOCATED AT CORNERS

Warranty

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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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