

Farm King

OPERATOR AND PARTS MANUAL

Grading Scraper

Model GS60, GS72, GS84

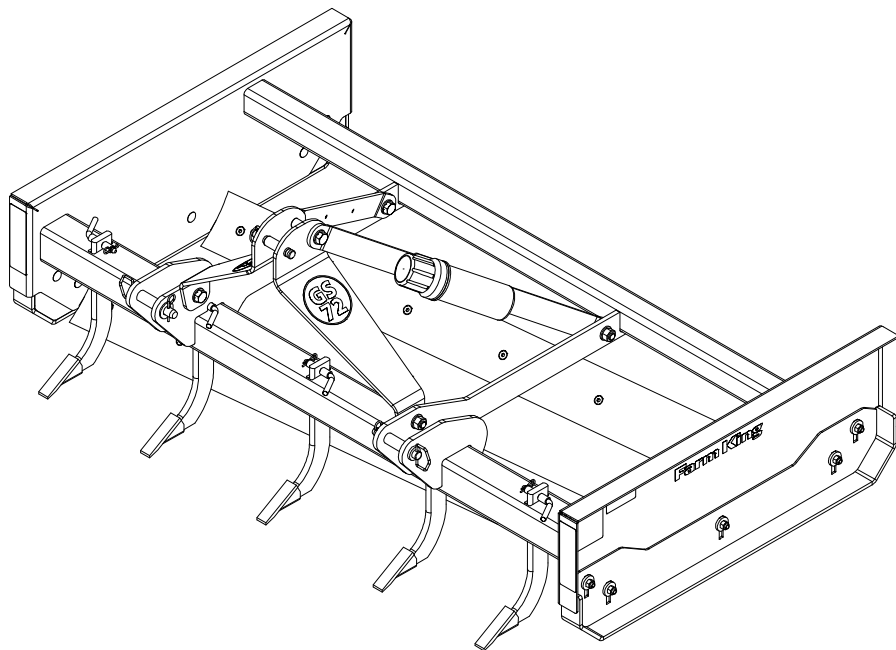


TABLE OF CONTENTS

Manufacturer's Statement: For technical reasons, Farm King 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.

INTRODUCTION.....	5
SAFETY.....	9
ASSEMBLY.....	17
OPERATION.....	23
MAINTENANCE.....	31
PARTS IDENTIFICATION.....	37
SPECIFICATIONS AND SHIPPING KIT NUMBERS.....	45
WARRANTY.....	51

Farm King



WARRANTY REGISTRATION FORM

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

Customer Name:

Dealer Name:

Customer Address:

Dealer Address:

City: Prov / State:

City: Prov / State:

Postal / Zip Code: Phone:

Postal / Zip Code: Phone:

Equipment 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

Safety

- Inspect Hitch
- Shanks Properly Oriented
- Skid Shoes Properly Oriented
- Cutting Edges Properly Oriented
- Fasteners Tight

- All Decals Installed
- Guards And Shields Installed And Secure
- Review Operating And Safety Instructions

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.

Farm King



INTRODUCTION

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

OWNER'S INFORMATION..... 7

 Serial Number Location..... 7

 Manual Storage..... 7

EQUIPMENT IDENTIFICATION..... 8

 Component Location..... 8

Farm King



OWNER’S INFORMATION

Thank you for your decision to purchase a Farm King Grading Scraper. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator And Parts Manual and follow all 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.

All personnel shall read this manual and understand the proper operation, installation and maintenance procedures before being allowed to work with it.

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.

This publication has been professionally created ensuring its accuracy, 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.

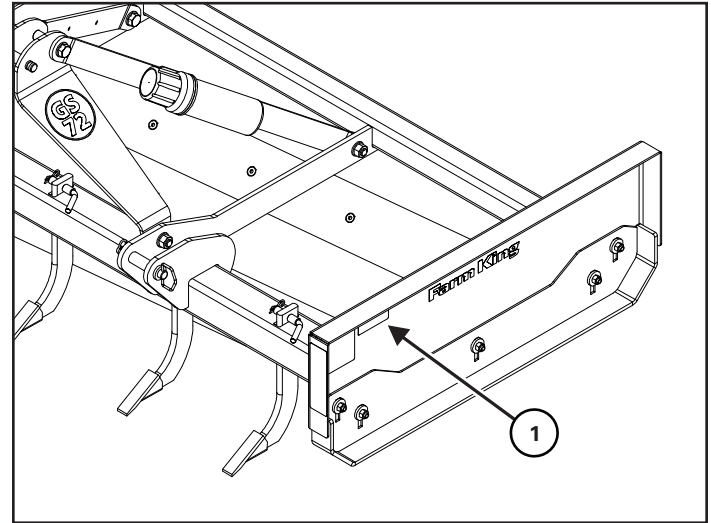
Visit our website at www.farm-king.com for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as seen facing in the direction of travel of the implement.

Serial Number Location

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

Figure 1



Model Number: _____

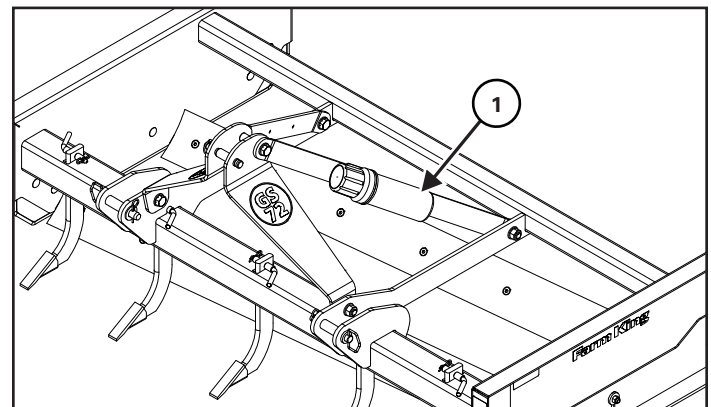
Serial Number: _____

The serial number plate (Item 1) is located on the LH side of the main frame [Figure 1].

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

Manual Storage

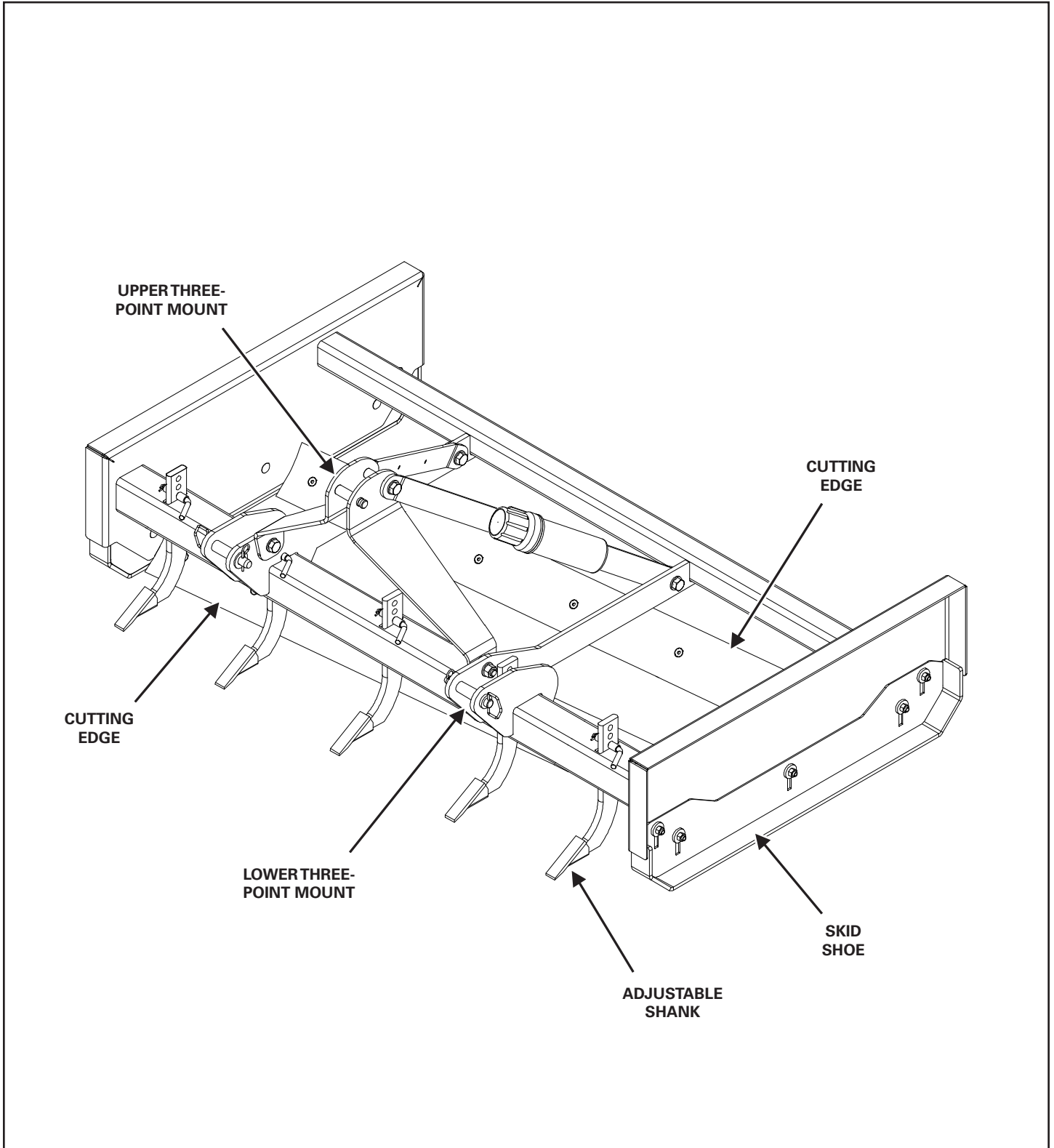
Figure 2



The Operator And Parts Manual and other documents can be stored in the canister (Item 1) located on the hitch weldment [Figure 2].

EQUIPMENT IDENTIFICATION

Component Location



SAFETY

SAFETY INSTRUCTIONS.....	11
Safe Operation is The Operator’s Responsibility.....	11
Safe Operation Needs A Qualified Operator.....	11
Safety Rules.....	12
Transport Safety.....	12
Machine Requirements And Capabilities.....	13
SAFETY AND EQUIPMENT DECALS.....	14
SAFETY SIGN-OFF FORM.....	16

Farm King



SAFETY INSTRUCTIONS

Safe Operation is The Operator's Responsibility

	<h3>Safety Alert Symbol</h3>
<p>This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.</p>	



CAUTION

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



DANGER

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



WARNING

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



IMPORTANT

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

Safe Operation Needs A Qualified Operator



WARNING

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

For an operator to be qualified, he or she must not use drugs or 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.

A Qualified Operator Must Do The Following:

Understand the written instructions, rules and regulations:

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

Have training with actual operation:

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

Know the work conditions:

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

Safety Rules

- Read and follow instructions in this manual and the tractor's operators manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- 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.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the equipment only from the operator's position.
- 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.
- DO NOT modify the equipment in any way. Unauthorized modification may impair the function and / or safety and could affect the life of the equipment.
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.
- When operating on hillsides, use extreme care. The tractor may tip over if it strikes a hole, ditch or other irregularity.

Transport Safety

- Do not exceed 10 mph (16 kph). Reduce speed on rough roads and surfaces.
- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- Use the SMV emblem and warning light. Local laws should be checked for all highway lighting and marking requirements.
- Check all reflectors for visibility and cleanliness before transport.
- 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 in a lower gear at all times when traveling down steep grades.
- Maintain proper brake settings at all times (if equipped).

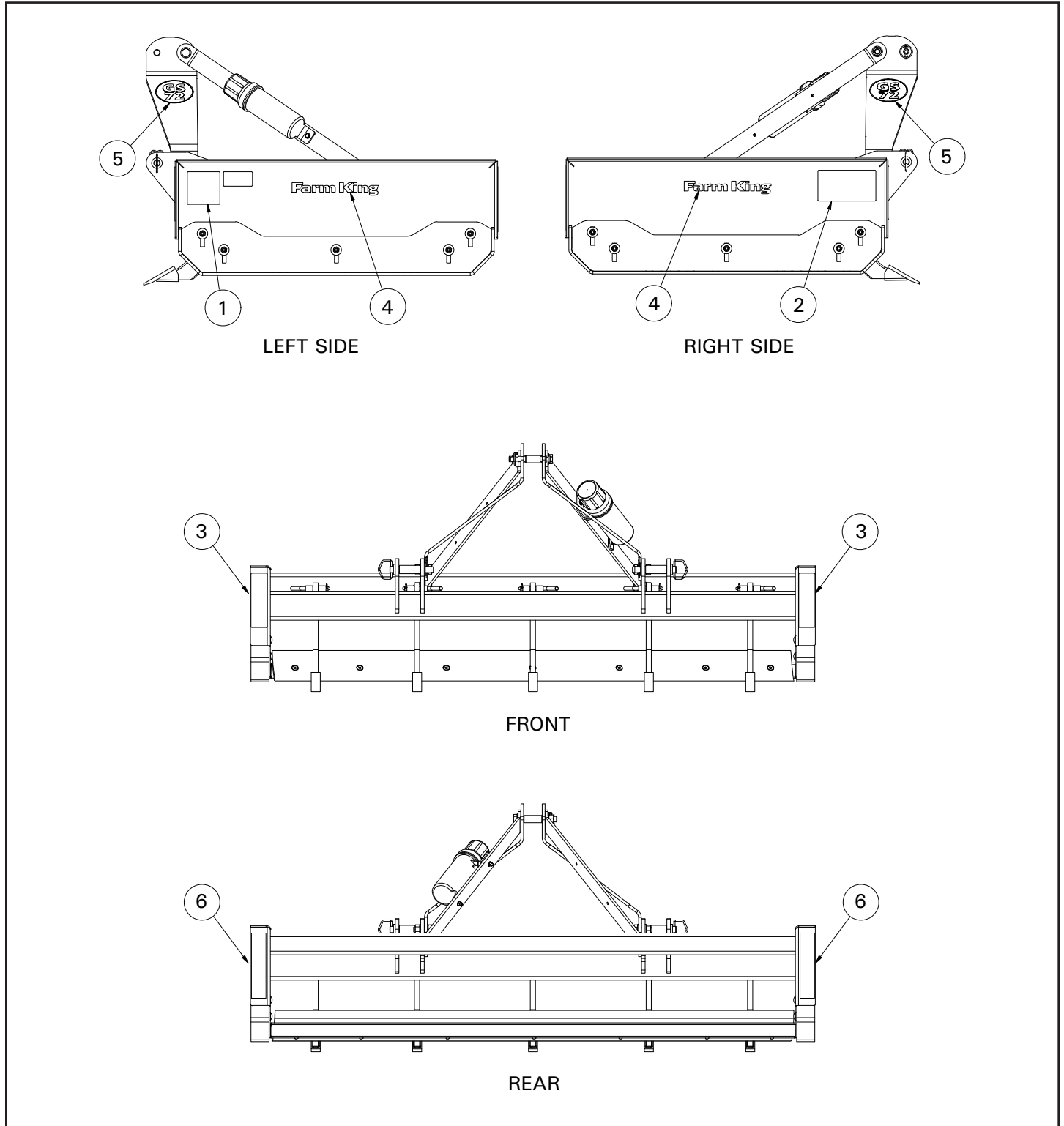
Machine Requirements And Capabilities

- Stop the machine and engage the parking brake. Install blocks in front of and behind the rear tires of the machine. Install blocks underneath and support the equipment securely before working under raised equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Use increased caution on slopes and near banks and ditches to prevent overturn.
- Make certain that the Slow Moving Vehicle (SMV) emblem is installed so that it is visible and legible. When transporting the equipment, use the flashing warning lights (if equipped) and follow all local regulations.
- Operate this equipment with a machine equipped with an approved Roll-Over Protective Structure (ROPS). Always wear seat belt when the ROPS is up. Serious injury or death could result from falling off the machine.
- Before leaving the operator's position:
 1. Always park on a flat level surface.
 2. Place all controls in neutral.
 3. Engage the parking brake.
 4. Stop engine.
 5. Wait for all moving parts to stop.
- Carry passengers only in designated seating areas. Never allow riders on the machine or equipment. Falling off can result in serious injury or death.
- Start the equipment only when properly seated in the operator's seat.
- 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.

SAFETY 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



Decal Identification [Figure 3]

819072 - Warning Injury Or Death (Item 1)

⚠ WARNING


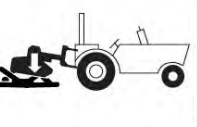
TO AVOID SERIOUS INJURY OR DEATH:

- Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from your selling dealer.)
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Operate from tractor seat only.
- Keep all shields in place and in good condition.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- Never allow children or untrained persons to operate equipment.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH. 819072

819073 - Warning Fall Or Crushing (Item 2)

⚠ WARNING

FALLING OFF CAN RESULT IN BEING RUN OVER.

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.





RAISED IMPLEMENT CAN DROP AND CRUSH.

- Never go underneath raised implement which can drop from equipment or tractor 3-point hitch due to hydraulic leak down, hydraulic system failures, movement of control levers or mechanical linkage failures.
- Service work does not require going underneath implement. Read manual instructions.

FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH. 819073

819074 - Warning Fall Or Pinching (Item 3)

⚠ WARNING

CRUSHING AND PINCHING HAZARD

- Be extremely careful handling various parts of the machine, as they are heavy. Hands, fingers, feet and other body parts could be crushed or pinched between tractor and implement.
- Operate tractor controls from tractor seat only.
- Do not stand between tractor and implement when tractor is in gear.
- Make sure parking brake is engaged before going between tractor and implement.
- Stand clear of machine while in operation or when it is being raised or lowered.

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH. 819074

820282 - Farm King 1.75" X 12" (Item 4)



820283 - GS60 (Item 5)



820284 - GS72 (Item 5)



820285 - GS84 (Item 5)



967053 - Red Reflector 2" X 9" (Item 6)



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

ASSEMBLY

GENERAL ASSEMBLY INFORMATION.....	19
Component Unloading And Identification.....	19
SHANKS.....	20
THREE-POINT HITCH.....	20
CUTTING EDGES.....	22
SKID SHOES.....	22

Farm King



GENERAL ASSEMBLY INFORMATION

Component Unloading And Identification



AVOID INJURY OR DEATH

Keep fingers and hands out of pinch points when assembling the equipment.



DO NOT permit bystanders to be in the work area when unloading and assembling components.

DO NOT work under suspended parts.

Keep away from moving parts.

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

Unload the crate(s) and components on a flat level area of adequate size to assemble the equipment.



Unload crate(s) and other components carefully to prevent damage to any of the components.

NOTE: If any components are damaged, missing or replacement parts are required, contact your Farm King Dealer.

Assemble the equipment in the following order on a flat and level surface:

1. Shank assembly
2. Three point hitch assembly
3. Cutting edge assembly
4. Skid shoe assembly

Using the packing list, locate and place all components and hardware in one area. Count the individual components and verify that you have received the correct number of components to fully assemble the equipment.



The directions front, left, right, and rear are viewed as the operator sitting in the operator's seat with the equipment hitched to the tractor.

SHANKS

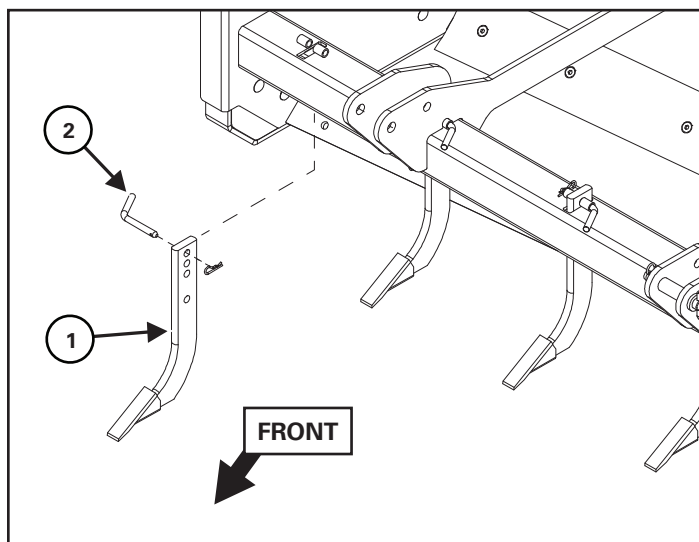
Assemble the components on a flat and level surface.

Raise the main frame off the ground and support with blocks.



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

Figure 4



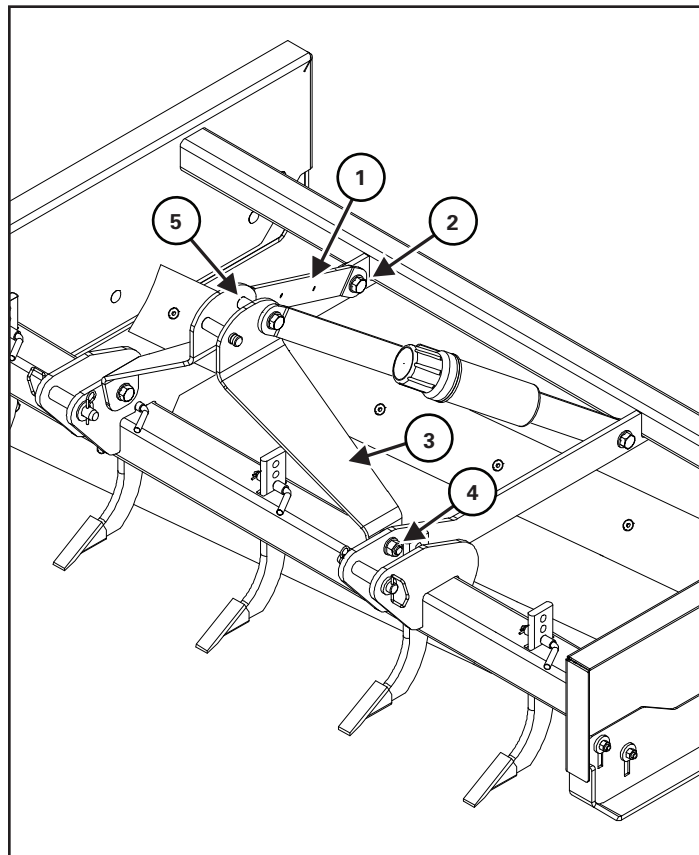
Slide the shank (Item 1) through the bottom of the main frame. Attach using one locking pin and retaining pin (Item 2) [Figure 4].

Continue attaching the rest of the shanks.

Position each shank at the same depth. Each shank blade must face forward.

THREE-POINT HITCH

Figure 5



Position the LH and RH rear hitch support plates (Item 1) on the main frame. Attach each plate using one 3/4" x 2" hex bolt, two 3/4" flat washers, and one 3/4" lock nut (Item 2) [Figure 5].

Do not tighten hardware at this time.

Position the LH and RH front hitch support plates (Item 3) on the main frame. Attach each plate using one 3/4" x 2" hex bolt, two 3/4" flat washers, and one 3/4" lock nut (Item 4) [Figure 5].

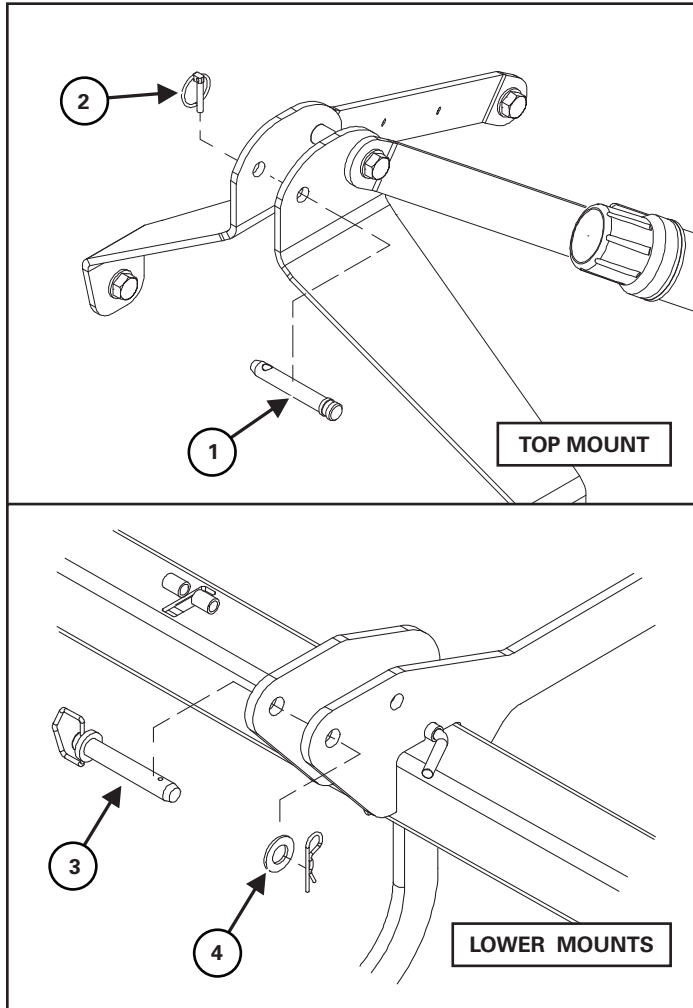
Do not tighten hardware at this time.

Attach the LH / RH rear and front support plates using one 3/4" x 5-1/2" hex bolt (Item 5), 1" bushing (between the plates), two 3/4" flat washers, and one 3/4" lock nut [Figure 5].

Tighten all hardware.

CAT I Hitch

Figure 6

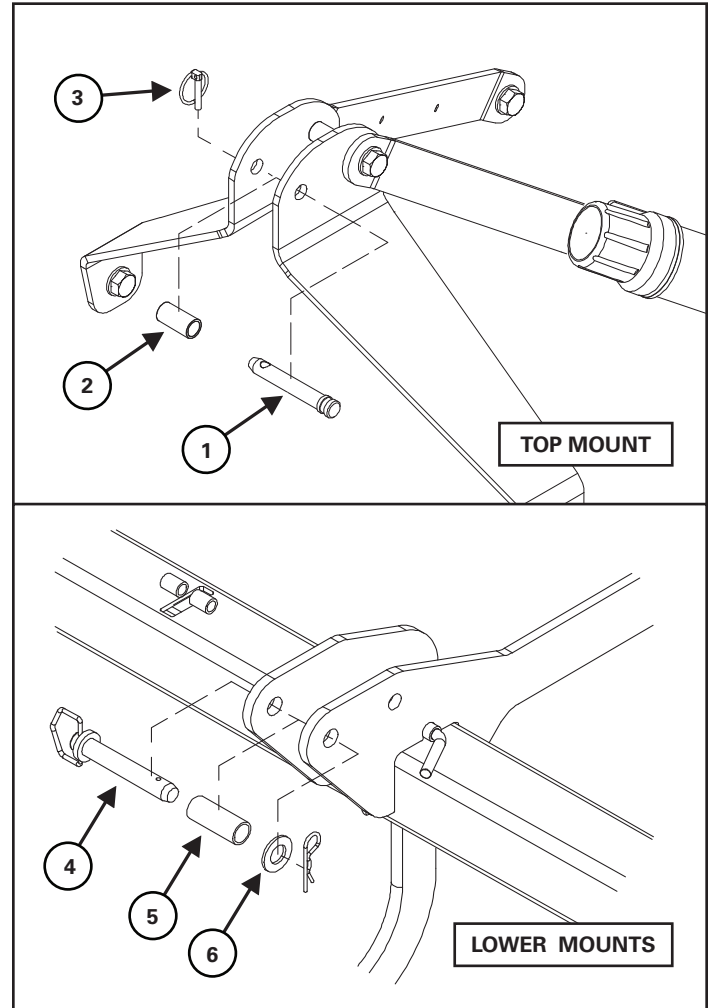


Attach one CAT I top link pin (Item 1) and 7/16" linch pin (Item 2) to the top mount **[Figure 6]**.

Attach one round handle hitch pin (Item 3), 7/8" flat washer (Item 4), and retaining pin to each of the lower mounts **[Figure 6]**.

CAT II Hitch

Figure 7

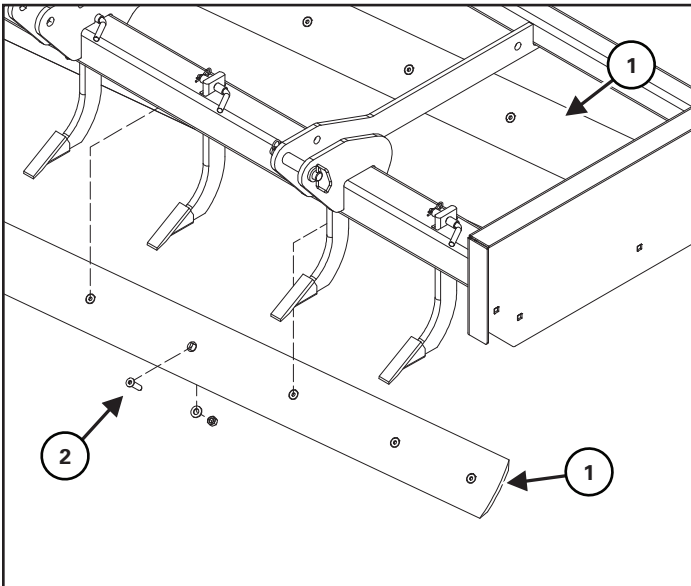


Attach one CAT I top link pin (Item 1), 1"OD x 2" bushing (Item 2), and 7/16" linch pin (Item 3) to the top mount **[Figure 7]**.

Attach one round handle hitch pin (Item 4), 1-1/8"OD x 2-7/8" bushing (Item 5), 7/8" flat washer (Item 6), and retaining pin to each of the lower mounts **[Figure 7]**.

CUTTING EDGES

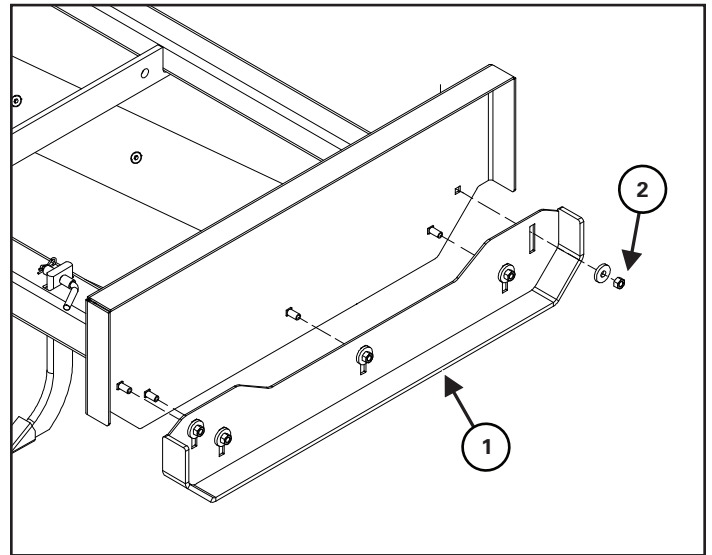
Figure 8



Position the two cutting edges (Item 1) beneath the main frame on the angled blade support brackets. Attach using 1/2" x 2" flat head bolts (Item 2), 1/2" flat washers, and 1/2" lock nuts (as required depending on cutting edge length) [Figure 8].

SKID SHOES

Figure 9



Position the LH and RH skid shoes (Item 1) on the sides of the main frame. Attach using 1/2" x 1-1/4" carriage bolts (Item 2), 1/2" thickened flat washers, and 1/2" lock nuts [Figure 9].

OPERATION

GENERAL INFORMATION.....	25
Pre - Operation Checklist.....	25
Break - In Checklist.....	25
TRACTOR REQUIREMENTS.....	25
ENTERING AND LEAVING THE OPERATOR'S POSITION.....	26
CONNECTING TO TRACTOR.....	26
ADJUST SHANK DEPTH.....	27
ADJUST SKID SHOE HEIGHT.....	27
FIELD OPERATION.....	28
TRANSPORTING.....	29

Farm King



GENERAL INFORMATION

Pre - Operation Checklist

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



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. Check the hitch for damaged, loose or missing parts. Repair as needed before operation.
 2. Fully clean the equipment.
 3. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.
 4. Verify that the equipment is properly connected to the tractor.

Break - In Checklist

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

1. Check the upper and lower three point hitch mounts for damaged, loose or missing parts. Repair as needed before operation.
2. Check for loose fasteners and hardware. Tighten as required.
3. Check the shanks for loose or missing blades or shanks. Repair as required.
4. Check the cutting edges for loose or missing hardware. Repair as required.

TRACTOR REQUIREMENTS

The following information will depend on tilling depth, soil type, field speed, etc.

The tractor must be equipped with a CAT I or CAT II three-point hitch.

The tractor must operate at the following horsepower:

Model	Tractor HP
GS60	20-50 HP
GS72	25-55 HP
GS84	30-65 HP



WARNING

AVOID SERIOUS INJURY OR DEATH

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



WARNING

Keep shields and all guards in place.

Keep away from moving parts.

Keep bystanders away.

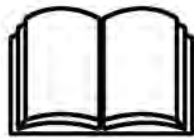


CAUTION

Using a tractor with greater HP than the recommended range may cause severe damage to frame or components of implement and thereby void warranty.

ENTERING AND LEAVING THE OPERATOR’S POSITION

 **IMPORTANT**



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

Entering The Operator’s Position

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

Leaving The Operator’s Position

 **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.

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.

CONNECTING TO TRACTOR

Always inspect the tractor’s three point hitch and equipment three point mounts before connecting (see the tractor’s owner’s manual).

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).

Remove the retaining pins from the equipment three point mounts.

Enter the operator’s position.

Move the tractor into position in front of the 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.

Move the tractor backwards, aligning the tractor and equipment three point mounts.

Leave the operator’s position.

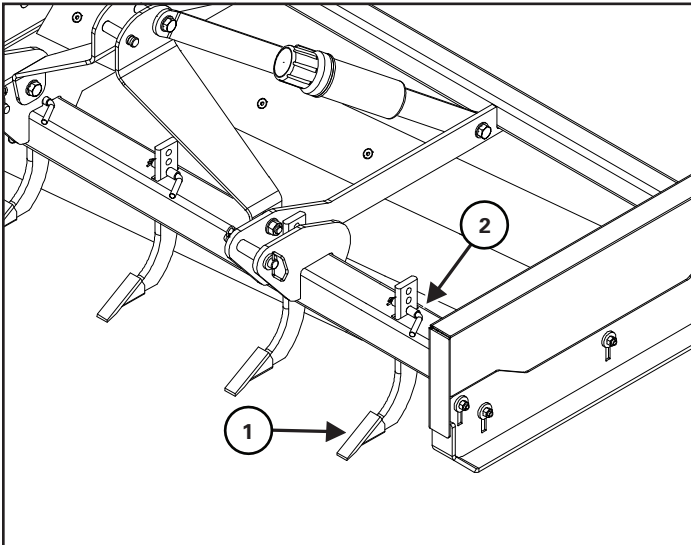
Connect tractor and equipment three point mounts. Attach securely using retaining pins.

 **IMPORTANT**

Always use implement mounting pins of adequate size and strength and a retaining pin with a locking device.

ADJUST SHANK DEPTH

Figure 10



Adjust each shank to the desired depth.

Move the shank (Item 1) and attach using one locking pin and retaining pin (Item 2) [Figure 10].

Position each shank at the same depth. Each shank blade must face forward.

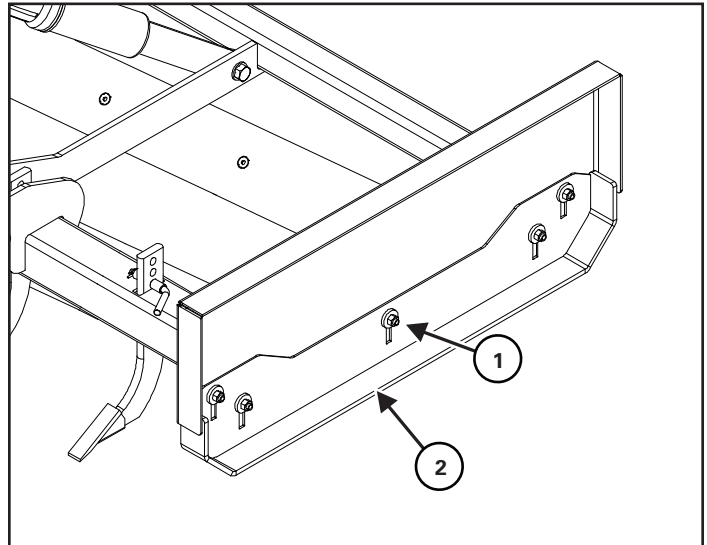


AVOID INJURY OR DEATH

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

ADJUST SKID SHOE HEIGHT

Figure 11



Loosen the carriage bolts (Item 1) on the skid shoe. Adjust the shoe (Item 2) to the desired height. Tighten carriage bolts. Position the LH and RH skid shoes at the same height [Figure 11].



The cutting edges and skid shoes are reversible to provide a new wear surface.

Replace or reverse worn components.

FIELD OPERATION

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

Move the tractor / equipment to the starting point of the work area.

! IMPORTANT

AVOID EQUIPMENT DAMAGE

- Always keep implement level when operating.
- Do not make sharp turns with the implement in ground.
- Always lift the implement out of ground before making sharp turns.

! WARNING

MACHINE TIPPING OR ROLL OVER CAN CAUSE SERIOUS INJURY OR DEATH

- Turn on level ground. Slow down when turning.
- Go up and down slopes, not across them.
- Check for adequate traction.

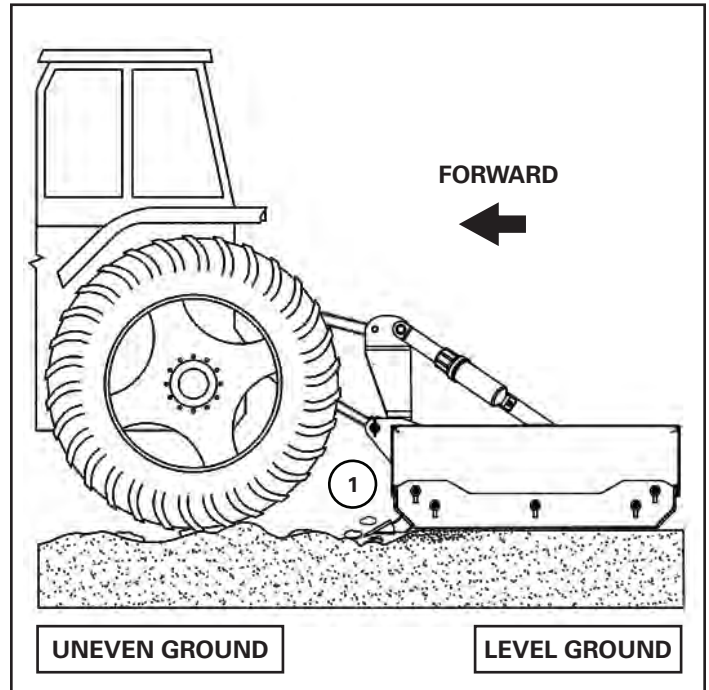
! WARNING

AVOID INJURY OR DEATH

Check work area for underground lines such as electrical, gas, oil, water, etc.

Consult local information before tilling. Extreme caution must be used in areas where utility lines are present.

Figure 12



The grading scraper must be level and operated in the forward direction.

Adjust the skid shoes and shanks to the desired height.

Lower the grading scraper to the ground and begin operation.

The shanks (Item 1) are used to break up hard or packed surfaces [Figure 12].

The two cutting edges are used to scrape and level the ground.

! IMPORTANT

Maintain the recommended operating speed of 2-5 MPH.

Fully raise the equipment using the tractor’s three-point hitch when finished work or when moving to a new work area.

TRANSPORTING

With the equipment connected to the tractor, enter the operator’s position.

Fully raise the equipment using the tractor’s three point hitch during transporting.

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



AVOID SERIOUS INJURY OR DEATH

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

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



AVOID SERIOUS INJURY OR DEATH

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

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

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
Up to 20 mph (32 kph)	1 to 1 (or less)
Up to 10 mph (16 kph)	2 to 1 (or less)
DO NOT TOW	More than 2 to 1

Farm King



MAINTENANCE

TROUBLESHOOTING.....	33
Chart.....	33
SHANK AND CUTTING EDGE REPLACEMENT	34
SAFETY SIGN (DECAL) INSTALLATION.....	34
STORAGE AND RETURN TO SERVICE.....	35
Storage.....	35
Return To Service.....	35
CLEANING	35

Farm King



TROUBLESHOOTING

Chart



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.

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

PROBLEM	CAUSE	CORRECTION
Uneven tillage, machine leaves furrows or ridges.	Frame is not level.	Level the machine by adjusting skid shoes, shanks, and three-point hitch.
	Exceeding recommended operating speed.	Slow down to recommended operating speed.
Machine buckles or drifts side to side.	Frame is not level.	Level the machine by adjusting the three point hitch.
	Shanks are cutting too deep.	Adjust depth.
Poor soil tilling.	Exceeding recommended operating speed.	Slow down to recommended operating speed.
	Hard / compacted soil.	Reduce travel speed and make additional passes.
	Loose or missing shanks.	Replace shanks, locking pins, or retaining pins as needed.
	Shanks or blades worn.	Reverse shanks or blades to unworn surface.

SHANK AND CUTTING EDGE 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.



WARNING

AVOID INJURY OR DEATH

Securely block up the implement before working underneath.

Always wear proper hand and eye protection when servicing the implement.

Lower the equipment onto supports.

Stop the engine and leave the operator's position.

Check shanks and cutting edges for damage or wear.

Replace shanks, locking pins, or retaining pins as required.

Replace cutting edge and hardware as required.



IMPORTANT

The cutting edges and skid shoes are reversible to provide a new wear surface.

Replace or reverse worn components.

SAFETY SIGN (DECAL) INSTALLATION

Remove all portions of the damaged safety sign (decal).

Thoroughly clean the area with glass cleaner.

Removing all adhesive residue.

Allow the area to dry completely before installing the new safety sign (decal).

Position the safety sign (decal) in the correct location.

Remove a small portion of the backing paper on the safety sign (decal).

Press on the safety sign (decal) where the backing paper has been removed.

Slowly remove the remaining backing paper, pressing on the safety sign (decal) as the backing paper is removed.

Using the backing paper, pressing firmly, move the backing paper over the entire safety sign (decal) area.

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



IMPORTANT

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

STORAGE AND RETURN TO SERVICE

Storage

Sometimes it may be necessary to store the equipment for an extended period of time. Below is a list of items to perform before storage.

Thoroughly clean the equipment.

Inspect the hitch and all welds on the equipment for wear and damage. Check for loose hardware, missing guards, or damaged parts.

Check for damaged or missing safety signs (decals). Replace if necessary.

Replace worn or damaged parts. Touch up all paint nicks and scratches to prevent rusting.

Place the equipment in a dry protected shelter.

NOTE: If a dry protected shelter is not available, cover with a waterproof tarp and tie down securely.

Place the equipment flat on the ground. Place planks under support stand if required.

Return To Service

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

Be sure all shields and guards are in place.

Connect to a tractor and operate equipment, verify all functions operate correctly.



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

CLEANING

Fully clean the equipment EVERY 50 HOURS of use.

Keep equipment free of any debris. Remove buildup from shanks.

Farm King



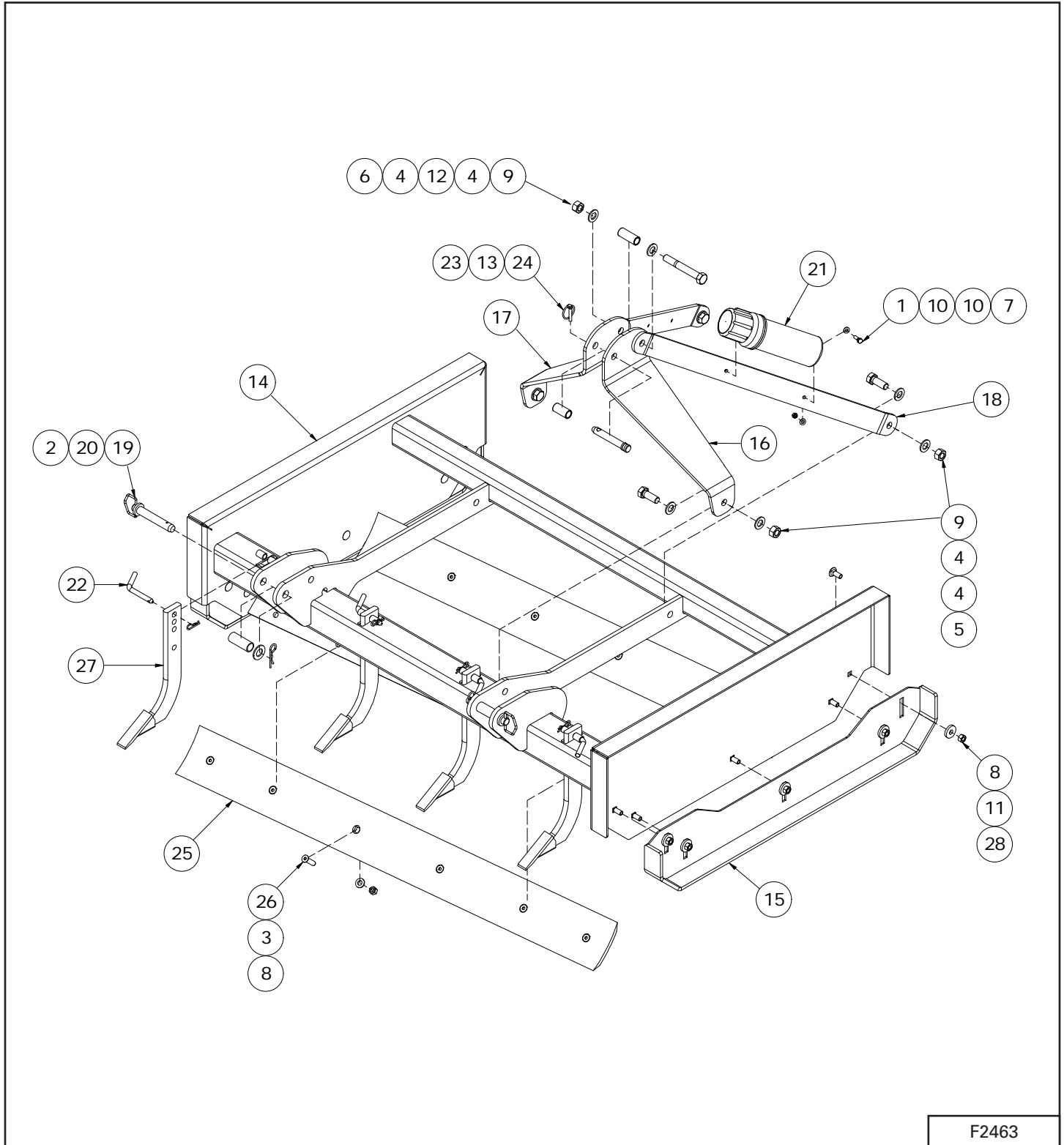
PARTS IDENTIFICATION

GENERAL PARTS INFORMATION.....	38
GS60 GRADING SCRAPER.....	38
GS72 GRADING SCRAPER.....	40
GS84 GRADING SCRAPER.....	42

GENERAL PARTS INFORMATION

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

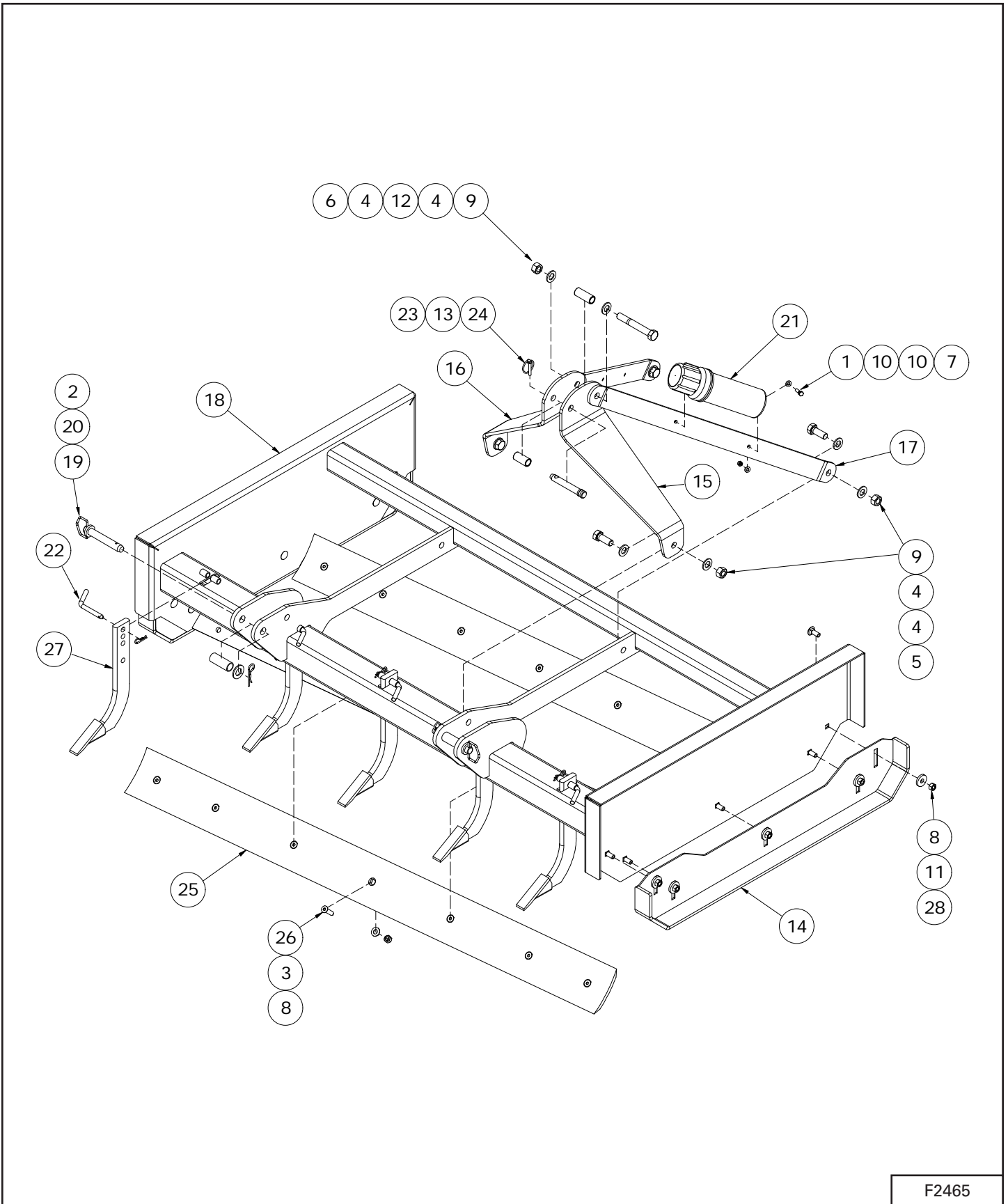
GS60 GRADING SCRAPER



F2463

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	81552	5/16" X 1 1/4" HEX BOLT (PL)	2
2	81972	WASHER - 7/8" FLAT SAE (PL)	2
3	84048	1/2" SAE FLAT WASHER (PL)	12
4	84050	3/4" S.A.E. FLAT WASHER (PL)	10
5	84467	3/4" X 2" HEX BOLT (PL)	4
6	812114	3/4" X 5 1/2" HEX BOLT (PL)	1
7	812362	5/16" LOCK NUT (PL)	2
8	812364	1/2" LOCK NUT (PL)	22
9	812365	3/4" LOCK NUT (PL)	5
10	812623	WASHER - 5/16" SAE FLAT (PL)	4
11	813581	WASHER FLAT 1.5 X 0.531 X 0.25 PL	10
12	818406	BUSHING - 1.000" OD x 0.782" ID	1
13	818546	BUSHING - 1.000" OD x 0.782" ID x 2.00"	1
14	819949	WELDMENT - 60" GRADING SCRAPER	1
15	819955	WELDMENT - GS SKID SHOE	2
16	819960	PLATE - 3PT LEFT ARM	1
17	819961	PLATE - 3PT RIGHT ARM	1
18	819962	PLATE - REAR LINKAGE	2
19	907315	84" HITCH PIN	2
20	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2
21	909277	MANUAL HOLDER 3 1/2" X 12"	1
22	918604	PIN - SCARIFIER LOCK	4
23	965807	CAT. 1 TOP LINK PIN	1
24	965911	LINCH PIN 7/16	1
25	967520	CUTTING EDGE - 60"	2
26	967525	FLAT HEAD SOCKET CAP SCREW 0.50" X 2.00"	12
27	967576	SCARIFIER SHANK	4
28	9812288	1/2" X 1 1/4" CARR BOLT (PL)	10

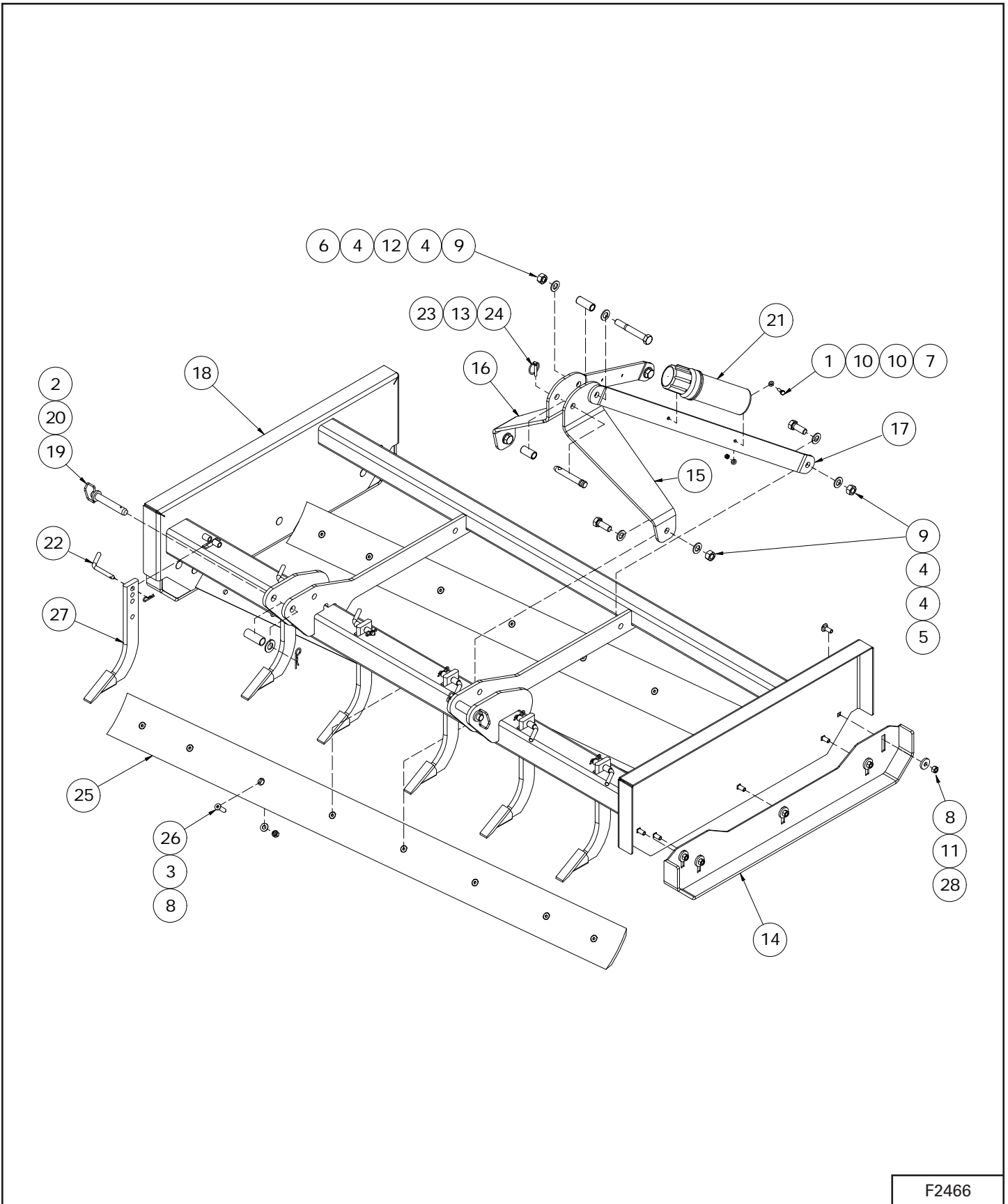
GS72 GRADING SCRAPER



F2465

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	81552	5/16" X 1 1/4" HEX BOLT (PL)	2
2	81972	WASHER - 7/8" FLAT SAE (PL)	2
3	84048	1/2" SAE FLAT WASHER (PL)	14
4	84050	3/4" S.A.E. FLAT WASHER (PL)	10
5	84467	3/4" X 2" HEX BOLT (PL)	4
6	812114	3/4" X 5 1/2" HEX BOLT (PL)	1
7	812362	5/16" LOCK NUT (PL)	2
8	812364	1/2" LOCK NUT (PL)	24
9	812365	3/4" LOCK NUT (PL)	5
10	812623	WASHER - 5/16" SAE FLAT (PL)	4
11	813581	WASHER FLAT 1.5 X 0.531 X 0.25 PL	10
12	818406	BUSHING - 1.000" OD x 0.782" ID	1
13	818546	BUSHING - 1.000" OD x 0.782" ID x 2.00"	1
14	819955	WELDMENT - GS SKID SHOE	2
15	819960	PLATE - 3PT LEFT ARM	1
16	819961	PLATE - 3PT RIGHT ARM	1
17	819962	PLATE - REAR LINKAGE	2
18	819963	WELDMENT - 72" GRADING SCRAPER	1
19	907315	84" HITCH PIN	2
20	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2
21	909277	MANUAL HOLDER 3 1/2" X 12"	1
22	918604	PIN - SCARIFIER LOCK	5
23	965807	CAT. 1 TOP LINK PIN	1
24	965911	LINCH PIN 7/16	1
25	967521	CUTTING EDGE - 72"	2
26	967525	FLAT HEAD SOCKET CAP SCREW 0.50" X 2.00"	14
27	967576	SCARIFIER SHANK	5
28	9812288	1/2" X 1 1/4" CARR BOLT (PL)	10

GS84 GRADING SCRAPER



F2466

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	81552	5/16" X 1 1/4" HEX BOLT (PL)	2
2	81972	WASHER - 7/8" FLAT SAE (PL)	2
3	84048	1/2" SAE FLAT WASHER (PL)	16
4	84050	3/4" S.A.E. FLAT WASHER (PL)	10
5	84467	3/4" X 2" HEX BOLT (PL)	4
6	812114	3/4" X 5 1/2" HEX BOLT (PL)	1
7	812362	5/16" LOCK NUT (PL)	2
8	812364	1/2" LOCK NUT (PL)	26
9	812365	3/4" LOCK NUT (PL)	5
10	812623	WASHER - 5/16" SAE FLAT (PL)	4
11	813581	WASHER FLAT 1.5 X 0.531 X 0.25 PL	10
12	818406	BUSHING - 1.000" OD x 0.782" ID	1
13	818546	BUSHING - 1.000" OD x 0.782" ID x 2.00"	1
14	819955	WELDMENT - GS SKID SHOE	2
15	819960	PLATE - 3PT LEFT ARM	1
16	819961	PLATE - 3PT RIGHT ARM	1
17	819962	PLATE - REAR LINKAGE	2
18	819966	WELDMENT - 84" GRADING SCRAPER	1
19	907315	84" HITCH PIN	2
20	907316	PIN SLEEVE 7/64"W X 1 1/8" X 2 7/8"	2
21	909277	MANUAL HOLDER 3 1/2" X 12"	1
22	918604	PIN - SCARIFIER LOCK	6
23	965807	CAT. 1 TOP LINK PIN	1
24	965911	LINCH PIN 7/16	1
25	967522	CUTTING EDGE - 84"	2
26	967525	FLAT HEAD SOCKET CAP SCREW 0.50" X 2.00"	16
27	967576	SCARIFIER SHANK	6
28	9812288	1/2" X 1 1/4" CARR BOLT (PL)	10

Farm King



SPECIFICATIONS AND SHIPPING KIT NUMBERS

SPECIFICATIONS.....	47
HARDWARE TORQUE VALUES.....	48
Metric Chart.....	48
Imperial Chart.....	49

Farm King



SPECIFICATIONS

Model	GS60	GS72	GS84
Working Depth	1-1/2" Below Grade To 1/2" Above Grade		
Reversible Cutting Edge	1/2" x 6" Reversible		
No. of Cutting Edges	2	2	2
No. of Shanks	4	5	6
Shank Tip Width	1-1/4"	1-1/4"	1-1/4"
Three Point Hitch	CAT I / II	CAT I / II	CAT I / II
Tractor HP Requirements	20-50 HP	25-55 HP	30-65 HP
Weight	534 LBS	590 LBS	648 LBS
Overall Width	66"	78"	90"
Length	49"	49"	49"
Height	34"	34"	34"

SHIPPING KIT 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
YGS60 - 60" Grading Scraper c/w 4 Shanks		
1	F2463	Complete Assembly
YGS72 - 72" Grading Scraper c/w 5 Shanks		
1	F2465	Complete Assembly
YGS84 - 84" Grading Scraper c/w 6 Shanks		
1	F2466	Complete Assembly

HARDWARE TORQUE VALUES

Metric Chart

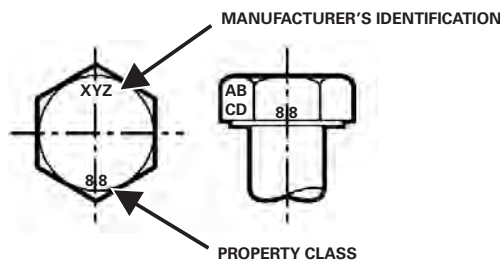
NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

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.

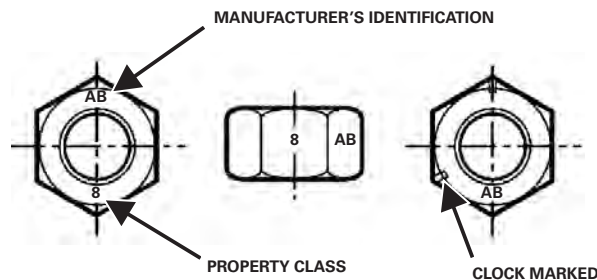
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 W/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8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

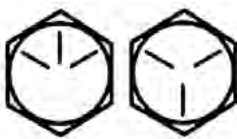
Nominal Size	SAE Grade 5		SAE Grade 8		LOCK NUTS			
	Unplated or Plated Silver	Plated W / ZnCr Gold"	Unplated or Plated Silver	Plated W / ZnCr Gold"	Unplated or Plated Silver	Plated W / ZnCr Gold"	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	12.6 (112*)	13.6 (121*)	17.7 (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

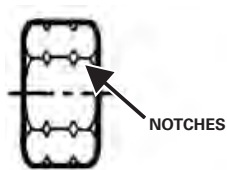


GRADE 5 SAE HEX NUTS

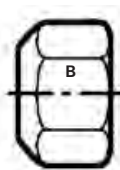


GRADE 8 SAE HEX NUTS

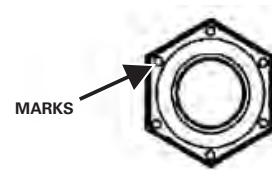
Identification of Hex Nuts and Lock Nuts



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

Farm King



WARRANTY

WARRANTY.....53

Farm King



WARRANTY



Base Limited Warranty

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

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

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

Repair Parts Limited Warranty

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

What Is Not Covered

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

Authorized Dealer And Labor Costs

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

Warranty Requirements

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

Exclusive Effect Of Warranty And Limitation Of Liability

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

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

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

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

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

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

www.farm-king.com

Farm King

1330 43rd Street North
Fargo, ND, 58102
E-mail: info@buhler.com
www.farm-king.com

Equipment shown is subject to change without notice.
©2019 Buhler Trading Inc. Printed in USA TSX: BUI