



MK MARTIN

Operator's Manual

GRADER LEVELER / ANGLED GRADER LEVELER

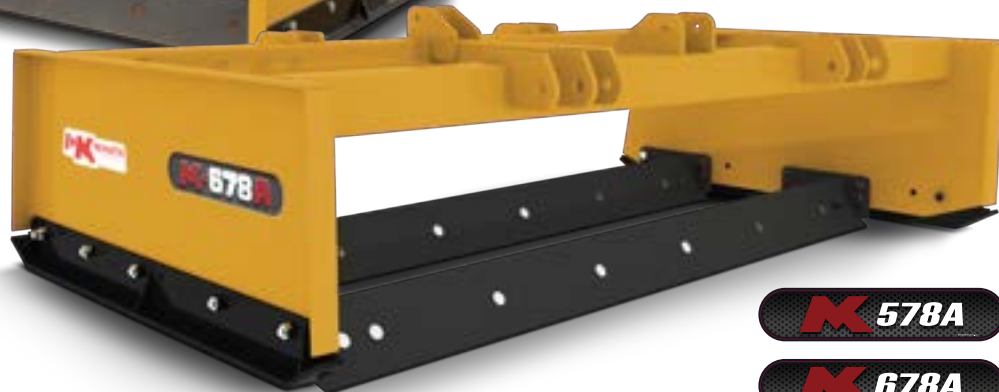


MK 578

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Keep this manual with the machine at all times.

Do not attempt to operate equipment without thoroughly reviewing this manual for safe and proper operation.

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Effective for products retailed on or after October 1st, 2022.

**Seven Year Limited Consumer Warranty.
90 Day Limited Commercial Warranty including Gearboxes.
Commercial includes rental and industrial applications.
Warranty coverage is null and void unless the Warranty Registration form has been
completed in full and is on file at MK Martin Enterprise Inc.
Keep your registration copy in a safe place, it is required as
proof of warranty activation.**

This new and unused product is warranted by MK Martin Enterprise Inc., to be free from defects in material and workmanship under normal use and regular service as described in the owner's manual; for a consumer period of 7 years from the date of delivery, and commercial period of 90 days, including gearboxes, from the date of delivery. Warranty is limited to the replacement of parts and/or repair of the product.

If issues develop within the warranty period with the product, contact the local dealer from which you purchased the unit. Only MK Martin authorized dealers may make repairs to the product or affect the replacement of defective parts, unless otherwise approved by MK Martin. Repairs/replacement will be done at no charge within a reasonable time after the receipt of the product. This warranty does not cover the following items:

1. Normal replacement of service items.
2. Normal maintenance or adjustments.
3. Machines or parts lost or damaged during shipment.
4. Accessory items/parts not supplied by MK Martin.
5. Damages resulting from:
 - a. misuse, negligence, accident, theft or fire.
 - b. use of improper or insufficient fuel, fluids or lubricants.
 - c. use of aftermarket parts or accessories, unless approved by MK Martin.
 - d. modifications, alteration, tampering or improper repair.
 - e. any device or accessories installed other than an authorized dealer.
6. Tires are covered by the manufacturer of the tire and the warranty period specified by the manufacturer. Please contact the tire manufacturer for warranty on these items.

MK Martin Enterprise Inc. shall not, in any event, be liable for any losses, damages or costs; to include profits, travel, transportation, pick up, delivery, towing cost, tow vehicle, or loss of use, wether special, incidental, consequential or otherwise, in any way. Unit or parts are returned at the customer's expense. Include a copy of your completed Warranty registration form with any claim as proof of warranty activation.

There are no warranties, expressed or implied, other than those specified herein. No agent, employee or other person has any authority to vary any of the foregoing provisions.

Warranty coverage is null and void unless the Warranty Registration form has been completed in full and is on file at MK Martin Enterprise Inc. Warranty begins at the time of customer deliver and is activated upon Warranty Registration receipt at MK Martin Enterprise Inc.

Introduction

Thank you for purchasing your new **MK Grader Leveler/Angled Grader Leveler**. Your implement has been designed and manufactured to give you many years of dependable service. The **Grader Leveler** and the **Angled Grader Leveler** were both built with bolt-on skid shoes, two reversible and adjustable hardened steel cutting edges and a flow over design that helps you complete your grading and leveling tasks efficiently. For more information on these features, see section **Product Features** on p.17.



WARNING

- You, or any other person who will be assembling, operating, maintaining or working with this product, must read and completely understand the information and instructions contained in this manual.
- Keep this operator's manual available for reference by the operator and to pass on to new owners and operators.



NOTE

- The Hitch is **not included** in your purchase of the **Grader Leveler/Angled Grader Leveler** and must be purchased separately. There are two hitch options available: the Skid Steer Adaptor and the 3PH Adaptor. For more information, see Section **Product Features** on p.17, or contact **MK Martin**.
- Assembly may be required depending on how you purchased your machine. Follow the assembly procedures as outlined in section **Assembly & Inspection** on p.18.

Intended Use:

Mk Martin's Grader Leveler and Angled Grader Leveler were designed with a two in one combination of leveling and scraping to increase the efficiency of your grading jobs. Both machines can be used for tasks such as: leveling fields for crops, preparing construction sites, smoothing driveways, leveling sloped land and creating draining ditches.

To see the **MK Grader Leveler** in action, scan the QR code:



Review the following task descriptions:

- **Leveling:** Assuring the ground is completely flat and even.
- **Grading:** Reshaping a surface by raising or lowering the ground level.
- **Scraping:** Scraping the soil to breakdown the hard surface layer.

General Information

The purpose of this manual is to assist you in safely operating and maintaining your **Grader Leveler/Angled Grader Leveler**. Read this manual carefully to obtain valuable information and instructions that will ensure you a safe, efficient and trouble-free operation.



NOTE

- The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and or production changes, this product may vary slightly in detail. MK Martin reserves the right to update and or change components as necessary without notification.

If you require further assistance, have questions related to this manual, or would like to order a new manual:

- contact the dealer from which this product was purchased,
or
- contact **MK Martin** using the information provided on the front of this manual.

Terminology:

In this manual the **MK Grader Leveler** and **Angled Grader Leveler** may be referred to as: attachment, equipment, machine, or implement. The tractor and skid steer loader may be referred to as: power unit. All hardware is Grade #5 unless otherwise specified. When a direction is mentioned, such as: front, rear, left or right, assume you are in the position of the operator; sitting and facing forwards.

California Proposition 65:

You may see a warning like the following:

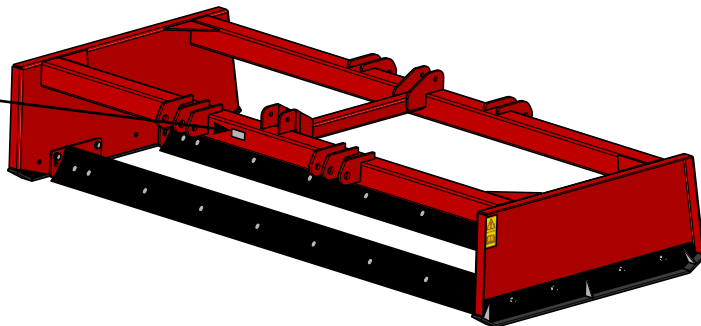


This warning is required by California Proposition 65 (Prop 65), which is meant to notify California residents of exposures to Prop 65-listed chemicals. For more information, go to www.P65Warnings.ca.gov.

Serial Number Location

The serial number and model number for your **Grader Leveler/Angled Grader Leveler** is located in between the lift pin plates.

Please record your serial number here as a handy reference. In the case there is an issue with your implement, your dealer will need your serial number to verify your warranty.



Model Number: _____

Serial Number: _____

Safety



The Safety Alert symbol means:
Attention!
Become Alert!
Your safety is involved!

The Safety Alert symbol identifies important safety messages on the implement and in the manual. When you see this symbol, read and understand the message, be alert to the potential hazard in the message. Follow the instructions in the safety message.

Safety Messages:

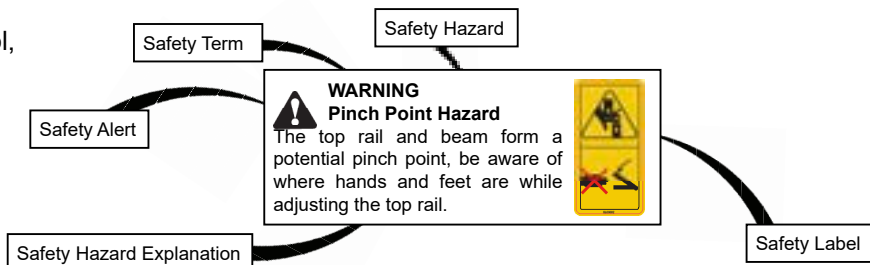
Throughout this manual, the terms in the table below are used to indicate the degree of hazard if safety procedures are not followed. The appropriate term for each message has been selected using the following guide-lines:

Symbol	Alert	Description
	DANGER	Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury, and includes most extreme situations typically for implement components which, for functional purposes, cannot be guarded.
	WARNING	Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.
	CAUTION	Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
	IMPORTANT	Indicates a situation that could result in damage to the implement or other property.
	NOTE	Indicates additional information that may assist you in operating your machine safely.
	TIP	Indicates a helpful hint to improve the efficiency or ease of using your machine.

In the owner's manual, when a hazard is present, you will see a safety message box. The box may contain:

- The safety alert symbol,
- The safety term
- The safety hazard
- The safety hazard explanation

When applicable you may also see the appropriate safety label displayed with the message, as shown below.



The safety information given in this manual does not replace any safety codes, insurance needs, government and local laws.

Accident Prevention:

Accidents can be prevented with your help! You are responsible for the safe operation and maintenance of your implement. You must ensure that you and anyone else who is going to use, maintain or work around the implement, be familiar with the work and related safety information contained in this manual. This manual will take you step-by-step through your working day and provide you with the best safety practices.



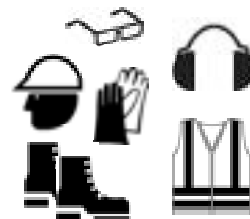
Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices an effective part of your day to day work habits. Be certain that **EVERYONE** using this implement is familiar with the recommended maintenance and work procedures and follow all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

The best accident prevention is a careful operator. MK Martin and your dealer ask that YOU be that careful, responsible equipment operator.

Read the accident prevention guidelines below.



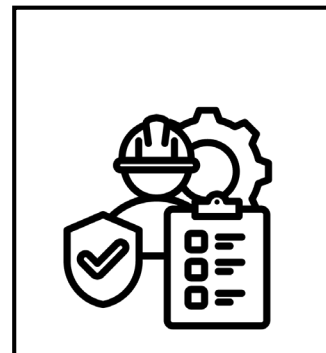
1. Familiarize yourself, and anyone else who will operate, maintain, or work around this product, with the safety and operation information contained in this manual.
2. Read and understand the safety labeling which appears on the implement.
3. Have a first-aid kit available for use should the need arise and know how to use it.
4. Pay attention to the job at hand. Do not let your mind lose concentration on what you are doing. No accident prevention program can be successful without the whole hearted cooperation of the person who is directly responsible for the operation of the implement.
5. Have a fire extinguisher ready for use should the need arise and know how to use it.
6. Reduce the risk of injury or death by following all safety precautions and by using good safety practices.
7. Never exceed the limits of the implement. Safety of the operator and safe operation are the main concerns in designing a safe product, however ignoring implement specifications by the operator can result in an accident which could have been prevented.
8. Do not allow riders on the implement, loaded or empty.
9. Do not operate this implement under the influence of drugs or alcohol.
10. Be responsible for the **SAFE** operation and **MAINTENANCE** of **YOUR** implement.
11. Wear appropriate personal protective equipment (PPE). This list includes but is not limited to:
 - a. Hard hat
 - b. Heavy gloves
 - c. Hearing Protection
 - d. Protective foot wear
 - e. Protective eye wear
 - f. Safety Vest



Safety Guidelines:

Safety of the operator and bystanders is one of the chief concerns when developing and designing equipment. However, every year many accidents occur which could have been avoided by only a few seconds of thought, and a more cautious approach to handling the equipment.

You, the operator, can avoid many accidents by observing the precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them as well.



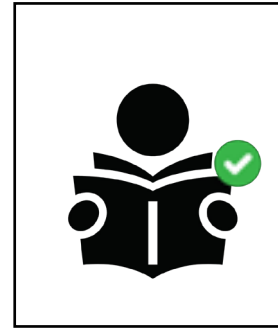
Your **MK Grader Leveler/Angled Grader Leveler** was designed and configured with safety labels and safety devices. However, hazard control and accident prevention are dependent upon the awareness, concern, and proper training of personnel involved in the *assembly, operation, transport, maintenance, and storage* of the implement. Refer to safety messages and operation instructions in each of the appropriate sections of the **skid steer** and implement manuals. Pay close attention to the safety labeling affixed to the implement.

Read through the safety guidelines below that must be followed at all times.

1. In order to provide a better view, certain illustrations in this manual may show an assembly with a safety device removed. However, equipment should never be used in this condition. Keep all safety devices in place, if removal becomes necessary for repairs, replace the device prior to use.
2. Replace any safety label or instruction sign that is unreadable or is missing. Location of safety signs is indicated in this manual.
3. Never use alcoholic beverages or drugs which can hinder alertness or coordination while using this implement. Consult your doctor about using this implement while taking prescription medications.
4. Under no circumstances should young children be allowed to work with, operate, or ride on this implement.
5. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated. Assistants should be a responsible, properly trained and physically-able person familiar with machinery and trained in this implement's operations.



6. Never exceed the limits of the implement. If its ability to do a job, or to do so safely, is in question - DON'T TRY IT.
7. Do not modify the implement in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the implement.
8. This implement is dangerous to persons unfamiliar with its operation. Do not allow persons to use or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and how it works. Review the safety instructions with all users annually.



Safety Training:

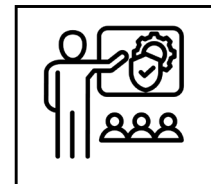
Read through the safety training guidelines below that must be followed at all times.

1. Train all new personnel with the instructions alongside the implement. Be certain only a properly trained and physically-able person will use the machinery.
2. Working with unfamiliar equipment can lead to careless injuries. If this implement is used by any person other than yourself, or is loaned or rented, it is the implement owner's responsibility to make certain that the operator, prior to using:
 - a. Reads and understands the operator's manuals.
 - b. Is instructed in safe and proper use of the implement.
3. If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.
4. Operators or maintenance personnel who are not fully able to read and understand this manual should not operate or work on the implement.
5. Make certain that all operators and maintenance personnel have a complete understanding of the full and exact contents of this manual and safety labeling.
6. ALL information contained in this manual and labeling on the implement must be conveyed CLEARLY and FULLY, in order to be able to operate safely and knowledgeably.
7. Review the implement and instructions regularly with existing workers.
8. All trainees must be fully equipped with PPE, even when simply observing.



DANGER

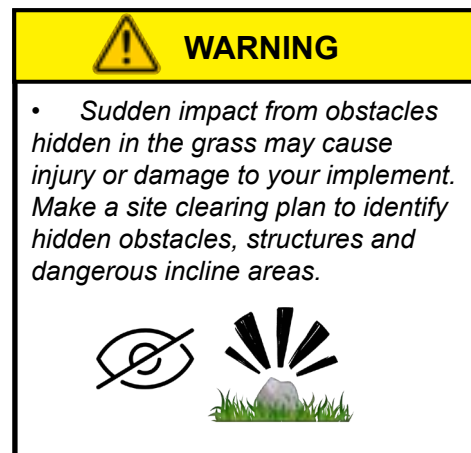
• *A person who has not been trained or has not read and understood all use and safety instructions is not qualified to use the implement. An untrained operator exposes himself and bystanders to possible serious injury or death.*



Work Area Safety:

Not all work spaces are the same, but the principles presented here can be applied to any work space.

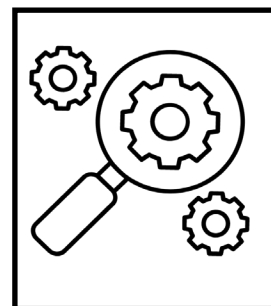
1. For worker safety, a pre-season site visit is recommended.
2. Make note of any nearby or overhead obstructions, knowing your work area will make the clearing job easier and safer.
3. Mark any potential hazards that cannot be removed such as tree stumps, rocks, holes, or posts.
4. Ensure bystanders or anyone not directly involved with the work is only permitted outside of the work area to minimize hazards.
5. Workers helping the operator must wear the appropriate PPE and must always make eye contact with the operator before entering the work area. Unauthorized workers or bystanders are not allowed in the work area. Hazards are present.
6. Do not operate the **Grader Leveler/ Angled Grader Leveler** outside of the designated work area.
7. Drive at the lowest speed possible to perform your task safely and effectively. Making contact with hidden objects at a high-speed can cause damage to your implement, loss of steering, personal injury, or injury to bystanders and animals.



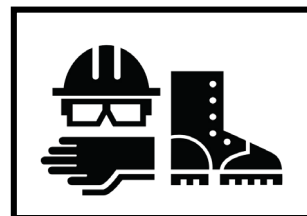
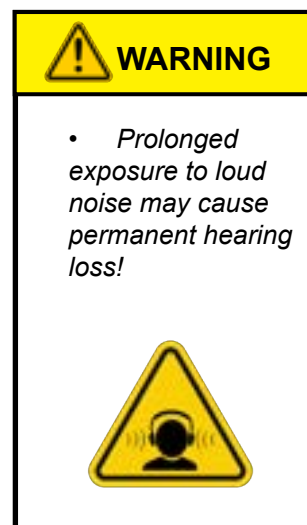
Assembly & Inspection Safety:

Read the safety guidelines below that must be followed when inspecting and assembling your machine.

1. Inspect implement for shipping damage. If damage does exist, do not use. Notify **MK Martin** or your dealer immediately to have damaged parts replaced or repaired.
2. Assembly may be required depending on how you purchased your equipment. Follow the assembly procedures as outlined in the manual.
3. Ensure all hardware is secure.



4. Inspect all fasteners are not loose or missing.
5. Ensure all fasteners and wheel bolts are torqued according to the **Bolt Torque Table** on p.31.
6. Ensure that all applicable safety decals are installed and legible. See section **Replacing Labels** on p.14.
7. Personal protection equipment (PPE) including hard hat, safety glasses, safety shoes, and gloves are recommended during *assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving* the unit. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.
8. Gas or diesel powered equipment can often be noisy enough to cause permanent, or partial hearing loss. We recommend that you wear hearing protection on a full-time basis. Noise over 85dB on a long-term basis can cause severe hearing loss. Noise over 90dB adjacent to the Operator over a long-term basis may cause permanent, total hearing loss.
9. Block the implement to prevent movement.



Operation Safety:

Read the safety guidelines below that must be followed when operating your machine.

1. NEVER allow helpers or bystanders under or near the machine.
2. Ensure the implement is securely attached to the power unit before moving.
3. Inspect all fastening devices, do not use if worn or damaged.
4. Make sure that bystanders and children are clear before using or moving the implement.
5. NEVER position yourself between the power unit and the implement while the power unit is running.
6. Avoid distractions: wait until it is safe to operate mobile communication equipment such as cell phones, text messaging devices, pagers or two-way radios. Always give undivided attention to the machine, the job at hand and your surroundings.
7. NEVER put hands or feet near or under the **Grader Leveler/ Angled Grader Leveler**.
8. Obey all federal and local laws.
9. Always wear the seat belt. Sudden contact with a hidden object can result in serious personal injury.



10. Never raise the **Grader Leveler/Angled Grader Leveler** more than a few feet off the ground. The weight imbalance could cause your implement to tip over resulting in serious injury, property damage and/or death.
11. NEVER operate the **Grader Leveler/Angled Grader Leveler** when under the influence of alcohol, drugs, or impairing medication.
12. Watch for traffic when driving near roadways.
13. Do not permit riders while operating this implement.
14. Exercise extreme caution when on or crossing drives, walks, or roads.
15. Where possible, avoid operating near ditches, embankments and holes.
16. Operate the machine up and down the face of slopes. Avoid changing direction on slopes, wait until you are on level ground if possible.
17. NEVER operate on slopes greater than 20 degrees, or wet, or slippery slopes.
18. NEVER park the power unit on a steep grade or slope.
19. Before beginning the job inspect areas of operation for potential hazards, and mark obstructions with stakes or flags that will be seen in tall grass.
20. Drive slowly. If operating on uneven ground, increased speed could result in a loss of steering. Making contact with a hidden object at an increased speed could result in damage to the implement, personal injury or death.
21. Keep all shields and guards in place.
22. Never dismount from your power unit while it is moving and never leave your implement unattended when the engine is running.
23. Do not lubricate attachment while it is in operation.
24. Always be aware of weather conditions before operating. Never operate the implement without good visibility and light.
25. Always dress appropriately for the job. Wear PPE and avoid loose clothing, jewelry, and clothing with pull strings. Clothing, accessories, and long hair can get caught in your implement which could result in severe personal injury or death.
26. Shut down the power unit immediately if the machine is making any unusual noises, or if there is excessive vibration. This can be an indication that there are hidden objects underneath the attachment, that parts of your implement have been damaged, broken or blocked. Wait five (5) minutes for the engine to cool before dismounting your power unit. When it is safe to do so, carefully inspect the machine for stuck debris, loose parts or damages.



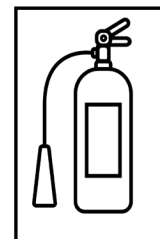
Transport Safety:

1. The safest way to transport the implement from job to job is with the use of a trailer attached to a motor vehicle.
2. Use a towing vehicle and trailer of adequate size and capacity.
3. Do not tow your equipment with a truck or passenger car.
4. Secure the attachment to your trailer using tie downs and chains.
5. Stay alert for overhead objects such as tree and wires.
6. The attachment is not designed for travel on public roads or highway speeds. The loss of control can result in death, serious injury or property damage.
7. Adhere to all federal, state and local laws when transporting equipment. When applicable, ensure slow moving vehicle (smv) sticker and lights are working properly.
8. Drive at a lower speed if your trailer is not equipped with breaks. Sudden breaking an accident or damage to the **Grader Leveler/Angled Grader Leveler**.



Maintenance Safety:

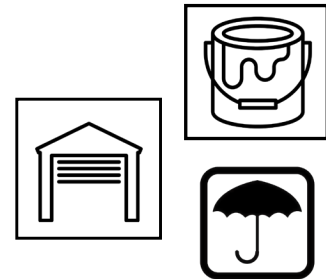
1. Good maintenance is your responsibility, follow the maintenance schedule. Poor maintenance is an invitation for trouble.
2. Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
3. Never work under or around the implement unless it is blocked securely. See **Blocking up Grader Leveler** on p.28.
4. Use personal protection equipment (PPE) such as eye, hand and hearing protectors.
5. Always have a fire extinguisher and first aid kit nearby.
6. Never adjust, service, clean or lubricate the implement until all power is shut off when attached to the tow unit.
7. Ensure hardware is torqued according to the **Bolt Torque Table** on p.31.
8. Use heavy gloves when handling heavy or sharp components.
9. Read and obey manufacturer instructions when handling solvents, chemicals or oils.
10. Collect and dispose of any waste material once repairs to the implement are completed.



11. Be cautious when using a ladder or raised stand to access high spots. Slipping or falling can result in serious injury and death. Stand on solid surfaces to ensure good footing and consider asking someone for assistance.
12. Call **MK Martin** or your dealer to replace any missing or broken parts. Attempting to use other parts or “makeshift” parts can cause damage to your implement and jeopardize your warranty.

Storage Safety:

1. Store the unit in an area away from human activity.
2. Do not allow children to play on or around the stored implement.
3. Store the unit in a dry, level area. Cover if stored outside.
4. Guard any sharp corners.
5. Ensure components and safety features are not damaged and in good condition before storing the implement. Make repairs now to be ready for the following season.
6. Secure the implement to prevent unwanted movement.



Safety Labels

Safety labeling is an important part of the overall safe use of the implement. Safety labeling can alert and warn you of potential injury or death. It is important to follow these points to help keep your implement safe for you and others who may be using it.

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or that have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety signs are available from your authorized distributor or the factory order desk.

Safety Label Descriptions:



	CAUTION
• <i>Read and understand all safety and operating instructions in the manual. Read and understand ALL safety labels located on the machine. The most important safety device on this equipment is an informed SAFE operator.</i>	



	CAUTION
• <i>Personal Protection Equipment (PPE) is required when operating or maintaining this machine. Failure to wear PPE will result in personal injury.</i>	



NOTE

- This label is required by California Proposition 65 (Prop 65), which is meant to notify California residents of exposures to prop 65-listed chemicals.

Replacing Labels:

Follow the instructions below if a label needs to be replaced.

1. Be sure that the installation area is clean and dry.
2. Be sure temperature is above 50 °F (10 °C).
3. Determine exact position before you remove the backing paper.
4. Remove the smallest portion of the split backing paper.
5. Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
6. Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
7. Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.



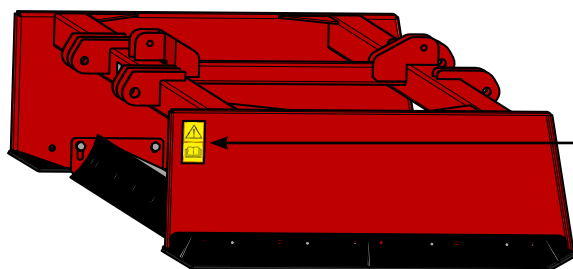
NOTE

- If safety labels have been damaged or removed, new labels must be applied. Contact **MK Martin** for new safety signs.



Safety Label Layout:

Safety signs and locations on the equipment are shown in the illustrations below. Good safety practice requires that you familiarize yourself with the label and the safety message it is delivering. Be aware of the equipment or particular equipment feature that requires your safety awareness.



Specifications & Dimensions

The table below specifies characteristics for each of the **MK Grader Leveler** and **Angled Grader Leveler** models.

Model	GL578	GL678	GL778	GL878
Working Width	60"	72"	84"	96"
Overall Width	65"	77"	89"	101"
Skid Shoes	3/8" X 2 Reversible			
Moldboard Thickness	1/4"			
Cutting Edge	1" Adjustment			
Angled Cutting Edge	1" to "-0.5"			
Cutting Angle (Deg.)	9	7	6	5
Weight (LBS.)	600	665	730	796
Angled Weight (LBS.)	568	632	697	761

Adaptor	Skid Steer Loader	3 Point Hitch (Cat.1 & Cat.2)
Weight (LBS.)	156	36

Components & Features

Read this section carefully to learn about components and features that allow you to adjust and operate your **Grader Leveler/ Angled Grader Leveler** safely and efficiently.



WARNING

- Do not operate if you are not familiar with the components and features of your implement.

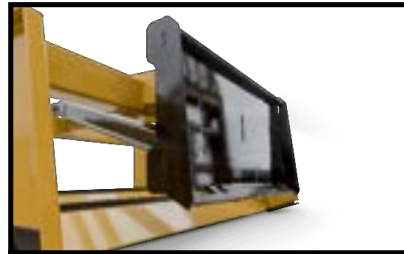
Review the names of the components and their position. These names will be used to describe where they are and how they work throughout the manual.

MK Grader Leveler Components:

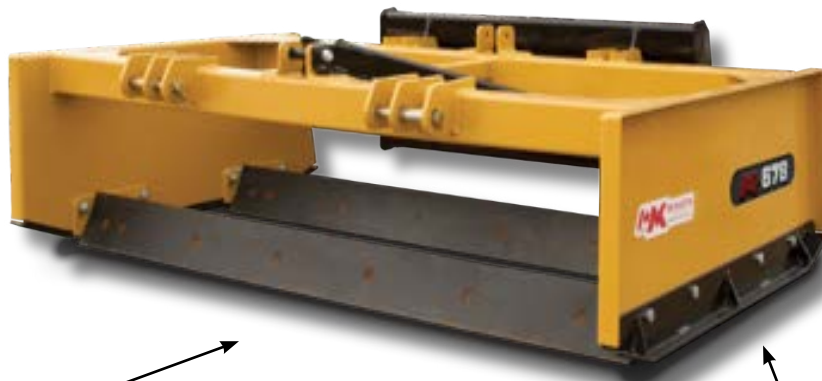
1



3PH Adaptor



Skid Steer Loader Adaptor



2



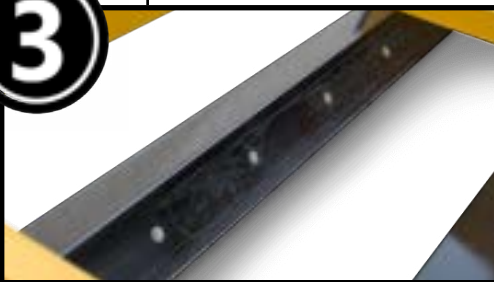
Flow Over Design

4



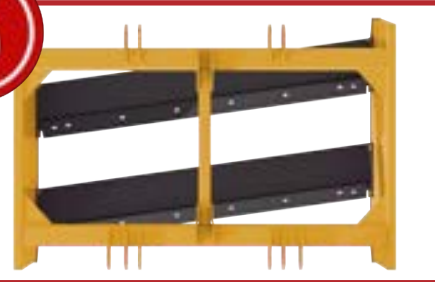
Reversible Bolt-On Skid Shoes

3



Reversible Hardened Steel Cutting Edges

5



Two Angled 1/2"x6" Reversible Hardened Cutting Edges

Product Features:

For a video representation of these features, scan the QR code under section **Intended Use** on p.3.

1

Optional Adaptors:

- The **Grader Leveler** can be mounted with either a 3PH Adaptor that attaches to Cat.1 and Cat.2 tractors or it can be mounted with a Skid Steer Adaptor that attaches to skid steer loaders. For information on how to:
- Assemble the adaptors, see Section **Assembly & Inspection** on p.17.
- Attach the adaptors to your power unit, see Section **Operation**, on p.21.

2

Flow Over Design:

- The Flow Over design allows for an even distribution of material without the operator raising the machine. The first blade attacks the high spots cutting them down to size, the second blade further scrapes anything that the first missed and fills in the hollows. With two blades biting and filling it takes much less time and fewer passes to achieve the even distribution of material you are looking for.

3

Reversible Hardened Steel Cutting Edges:

- The two half-inch reversible cutting edges are made with hardened steel to make them stronger and more resistant to deformation and corrosion. They allow material to be quickly leveled or redistributed to fill low points as the unit passes. The cutting edges can also manually be adjusted to your desired cutting depth for optimal performance. For information on how to:
- Adjust the cutting edges, see section **Operation**, p.23.
- Reverse or replace the cutting edges, see section **Service & Maintenance** on p.28.

4

Reversible Bolt-On Skid Shoes:

- The bolt-on skid shoes allow the **Grader Leveler** to effortlessly run over your path without damaging the product, or damaging the area you're leveling. For information on how to reverse or replace the skid shoes, see Section **Service & Maintenance** on p.28.

5

Two Angled 1/2"x6" Reversible Hardened Cutting Edges:

- The **Angled Grader Leveler** has two half inch reversible hardened cutting edges (angled between 5°-9° depending on the model). This helps to quickly level or redistribute material to fill low points as the unit passes.

Assembly & Inspection

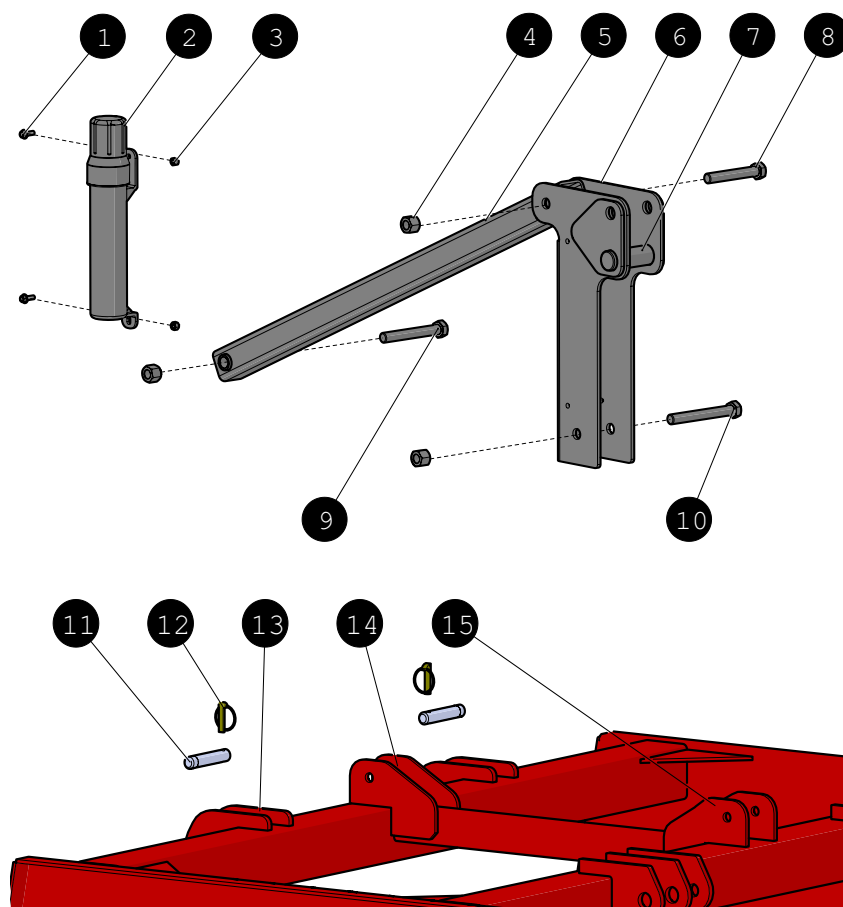
The **Grader Leveler** and **Angled Grader Leveler** models were designed to fit a variety of power units. Although the size of our models may differ, assembly instructions remain consistent. The hitch is packaged separately and requires assembly. Assembly instructions are different for the Skid steer Adaptor and the 3PH Adaptor. Follow the instructions that apply to your power unit.

Inspection Steps:

Before operating, it is important to inspect your implement. Doing so can prevent accidents and personal injury.

Inspection Checklist	☒
Review section <i>Assembly & Inspection Safety</i> on p.9.	
The power unit engine is turned off and the implement is on ground level.	
The Operator's Manual is in the canister.	
All safety decals are in place and legible.	
There are no signs of cracks or stress on machine.	
The Grader Leveler is free of debris and compacted mud.	
All bolts and pins are secure.	
Cutting edges are in good condition.	
Cutting edges have been adjusted for the task at hand.	
Work area is clear of obstacles and hidden objects.	
Work area is clear of bystanders.	
Operator is wearing all necessary PPE.	

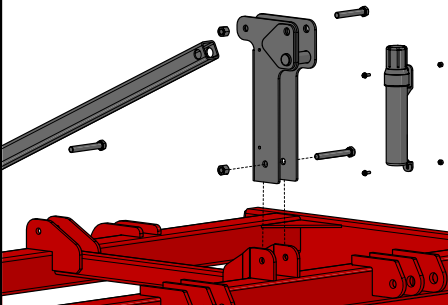
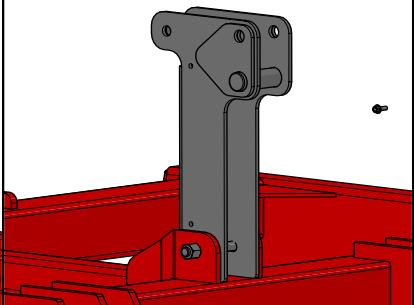
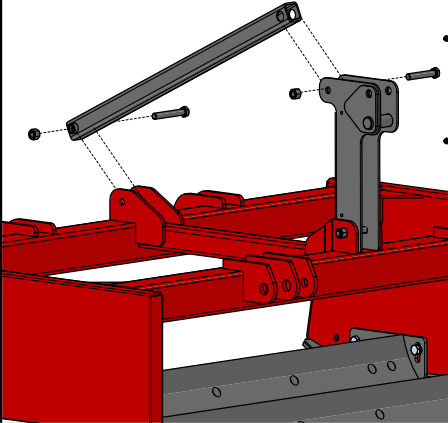
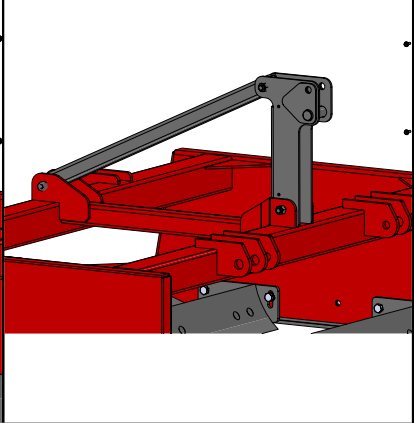
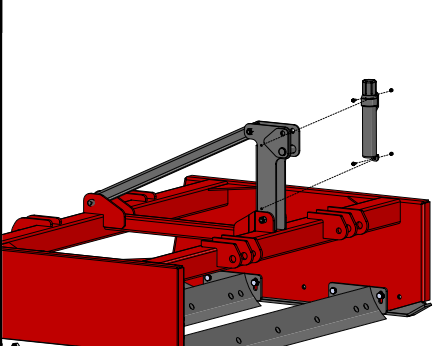
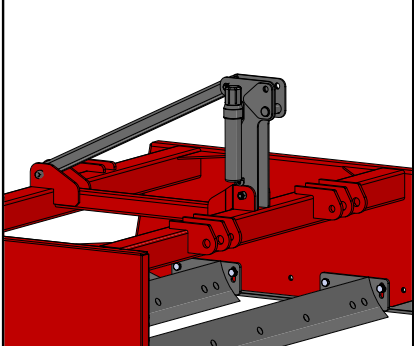
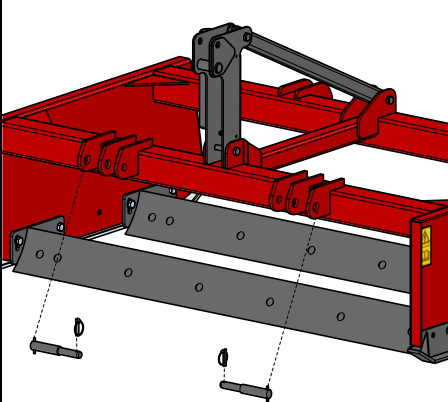
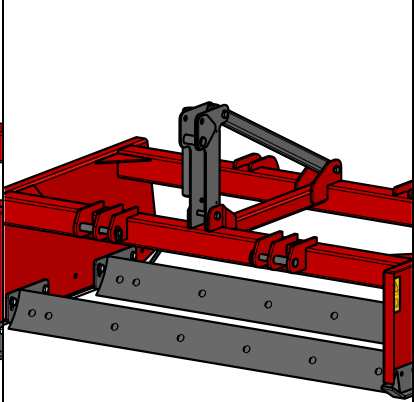
3PH Adaptor Assembly Steps:



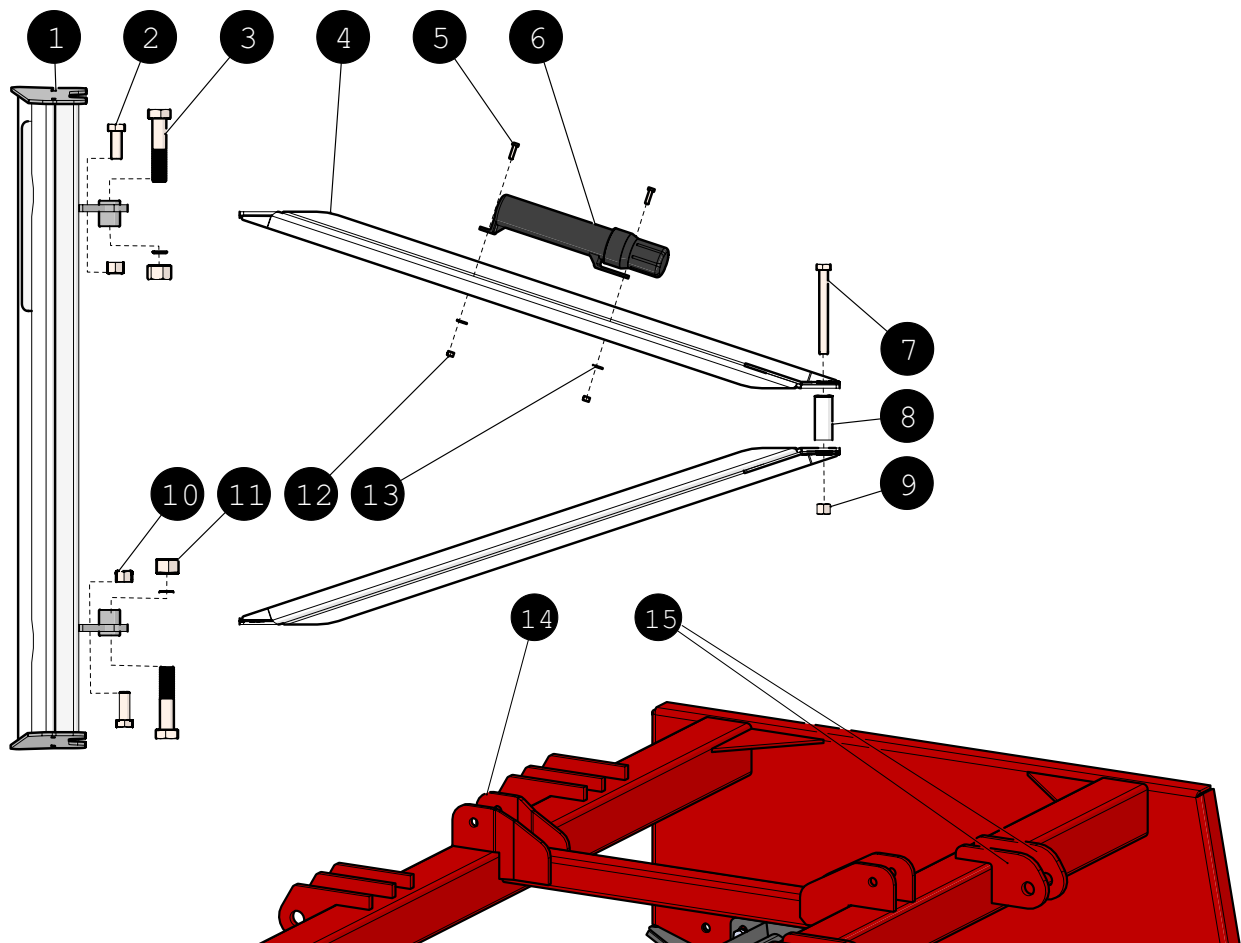
#	Part
1	1/4 x 3/4 Flange Serrated Screw
2	Operator's Manual Canister
3	1/4-20 Nylon Locknut
4	5/8 x 11 Nylon Locknut
5	Top Link Brace
6	Top Point Mask
7	Pin Top Link Quick Hitch
8	5/8-11 x 4 Bolt
9	5/8-11 x 4 1/2 Bolt
10	5/8-11 x 5 Bolt
11	Cat 1-2 Hitch Pin
12	7-16 Standard Lynch Pin
13	Lift Pin Plate
14	Brace Mount
15	Mast & Brace Mount

Follow the assembly steps in the order they are presented in the **3PH Adaptor Assembly Steps** table below using the part images and table on p.19. For a more detailed list, see **Parts** on p.32. Call your dealer or **MK Martin** to replace any missing or damaged parts.

3PH Adaptor Assembly Steps

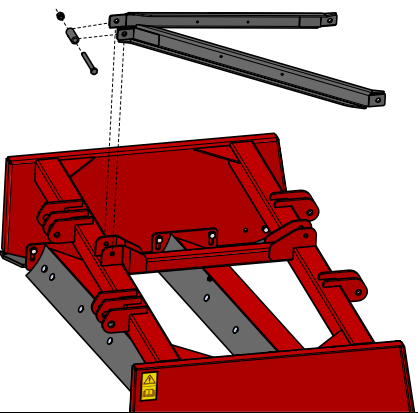
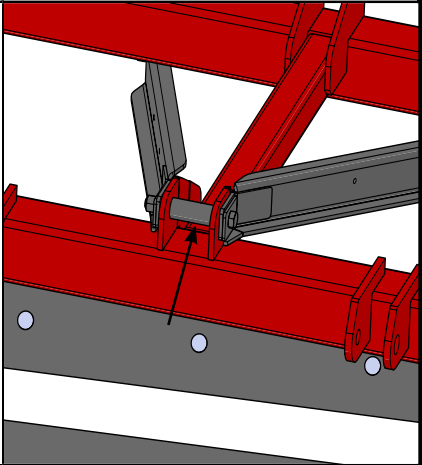
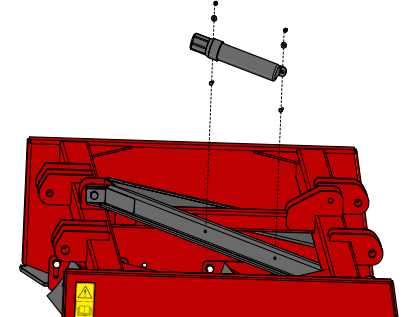
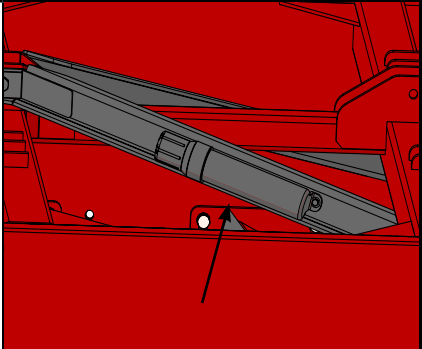
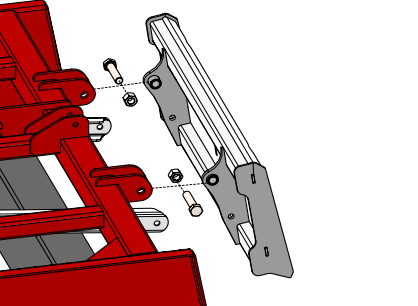
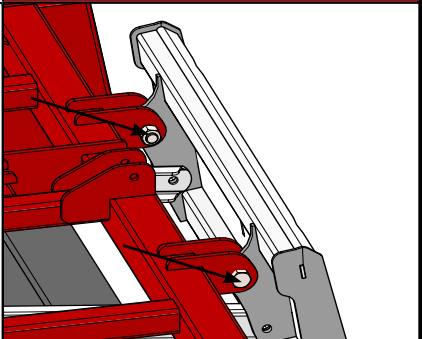
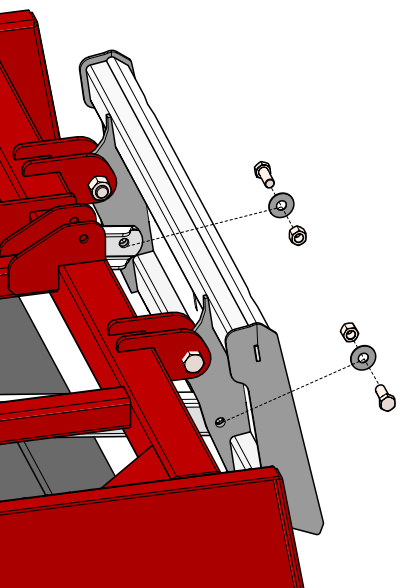
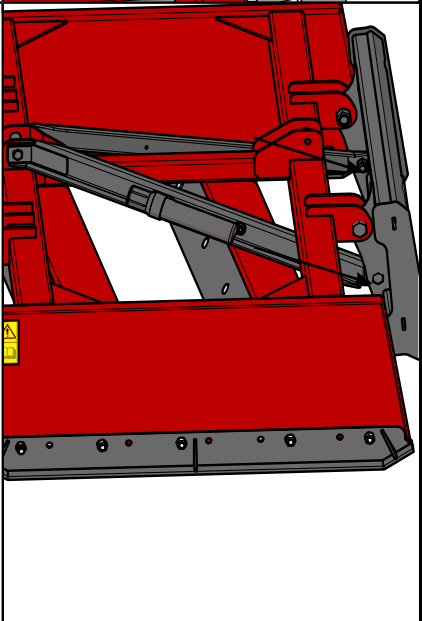
Step	Before	After
1. Bolt Top Point Mask Bolt the bottom of the Top Point Mask (6) to the Mast & Brace Mount (15) with the 5/8-11 x 5 Bolt (10) and 5/8 x 11 Nylon Locknut (4).		
2. Bolt Brace Bolt the bottom of the Top Link Brace (5) to the Brace Mount (14) using the 5/8-11 x 4 1/2 Bolt (9) and 5/8 x 11 Nylon Locknut (4). Bolt the top of the brace to the Top Point Mask using the 5/8-11 x 4 Bolt (8) and 5/8 x 11 Nylon Locknut (4).		
3. Attach Manual Attach the operator's manual (2) to the side of the Top Point Mask (6) using two of the 1/4 x 3/4 Hex Flange Serrated Screw (1) and two of the 1/4-20 Nylon Locknuts (3).		
4. Secure Hitch Pins Slide the hitch pins (11) through the lift pin plates (13) located on the opposite side of the Top Point Mask (6). Secure them with the lynch pins (12). The hitch pins will be removed and re-inserted when attaching the Grader Leveler/Angled Grader Leveler to your power unit.		

Skid Steer Adaptor Assembly Steps:



Item #	Description
1	Grader Leveler Loader Plate
2	3/4-10 x 2 Gr.2 Bolt
3	1-8 x 4 1/2 Bolt
4	SS Brace
5	1/4-20 x 1 Bolt
6	Operator's Manual
7	5/8 x 6 Bolt
8	Skid Steer Brace Spacer
9	5/8-11 Nylon Locknut
10	3/4-10 Nylon Locknut
11	1-8 Nylon Locknut
12	1/4-20 Nylon Locknut
13	1/4 Flatwasher
14	Mast & Brace Mount
15	Lift Pin Plate

Skid Steer Adaptor Assembly Steps

Step	Before	After
1. Bolt Braces Bolt the two Skid Steer Braces (4) to the Mast & Brace Mount (14) by inserting the 5/8 x 6 Bolt (7) through the braces (4) and the Skid Steer Brace Spacer (8) and securing it with the 5/8-11 Nylon Locknut (9).		
2. Attach Manual Attach the operator's manual (6) to either of the Skid Steer Braces (4) using the 1/4-20 x 1 Bolt (5), 1/4 Flatwasher (13) and 1/4-20 Nylon Locknut (12).		
3. Bolt Plate to Lift Plates Bolt the Grader Leveler Loader Plate to the Lift Pin Plates (15) using two of the 1-8 x 4 1/2 Bolts (3) and two of the 1-8 Nylon Locknuts (11).		
4. Bolt Plate to Braces Bolt the Grader Leveler Loader Plate (1) to the Skid Steer Braces (4) using two of the 3/4-10 x 2 Bolts (2) and two of the 3/4-10 Nylon Locknut (10).		

Operation

This section describes how to operate your **Grader Leveler** or **Angled Grader Leveler** and the procedures necessary to complete various tasks safely and efficiently. Not all situations will be addressed, proceed with caution and use the safety guidelines. Following the procedures below will help provide a safe working environment for the operator, bystanders, and anyone else on the work site.

The owner or operator has the responsibility of being familiar with the operation of the implement and must train all other operators before they start working with the machine.



DANGER

- *First time operators must read and completely understand the material in this manual before operating the **Grader Leveler**, and review this manual at least once per season there after.*
- *Attaching the **Grader Leveler** or **Angled Grader Leveler** will add extra weight to your power unit. It is necessary that a minimum 20% of tractor weight be put on the front wheels of your tractor to keep the machine balanced. If the tractor or skid steer is unbalanced, there is a risk of tipping over, or losing steering control which could result in property damage, personal injury, or death.*

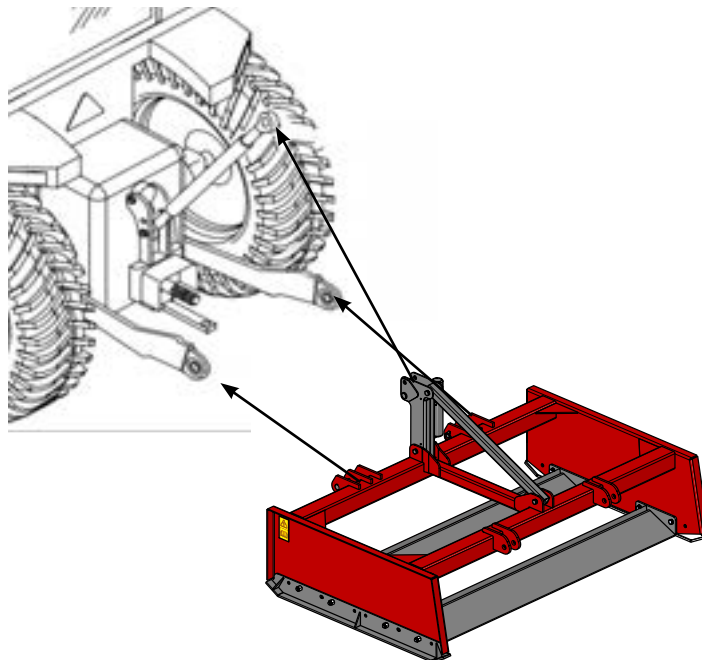


NOTE

- *The following operation procedures apply to **BOTH** the **GRADER LEVELER** and the **ANGLED GRADER LEVELER**.*

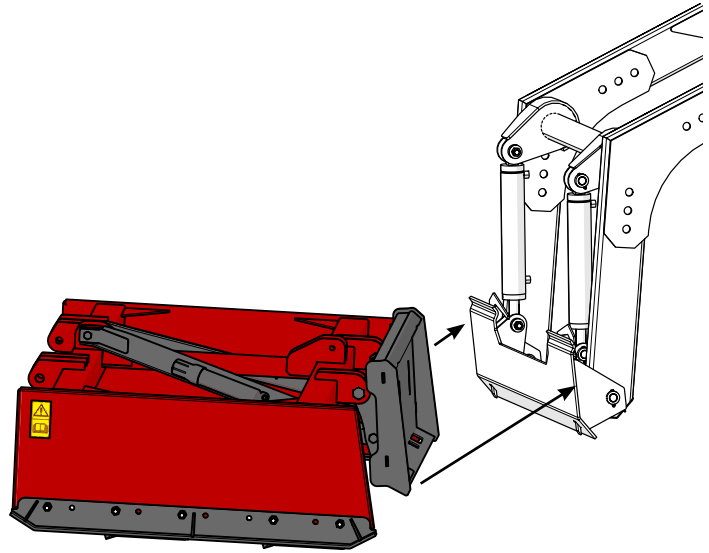
Attaching MK Grader Leveler to 3PH Tractor:

1. Back the tractor up to the **Grader Leveler** that is on level ground.
2. Line up the tractor's lift arms so that they are sitting between the **Grader Leveler's** lift pin plates.
3. Turn off the power unit before proceeding.
4. Fasten the lower 3PH link to the lower hitch mount.
5. Lengthen or shorten the top link until the link can be pinned onto the top hitch mount.
6. Insert the Lift Pins and use the Lynch pins to secure the tractor's lift arms to your implement.



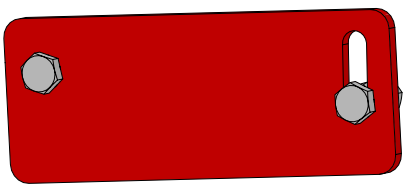
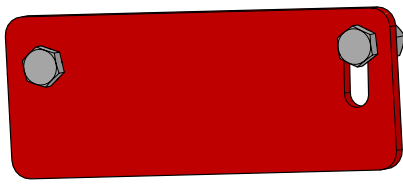
Attaching MK Grader Leveler to Skid Steer Loader:

1. Drive the Skid Steer forwards to the **Grader Leveler** that is on level ground.
2. Line up the skid steer arms and coupler with the **Grader Leveler's** Loader Plate.
3. If your skid steer has quick attach capabilities, press and hold the quick attach engagement button on your side panel until the implement is secured. If your skid steer does not have quick attach capabilities, turn off the power unit before proceeding.
4. To manually attach the skid steer to the **Grader Leveler**, use the latch pins on the quick attach plate.



Adjusting Cutting Edges:

The cutting edges on the **Grader Leveler** and the **Angled Grader Leveler** are both adjustable by 1". See the **Adjusting Angle of Cutting Edges** table on p.25.

NOTE	
Adjustment	Result
Tilt Cutting edge up	Less aggressive
	
Tilt cutting edge down	More aggressive
	

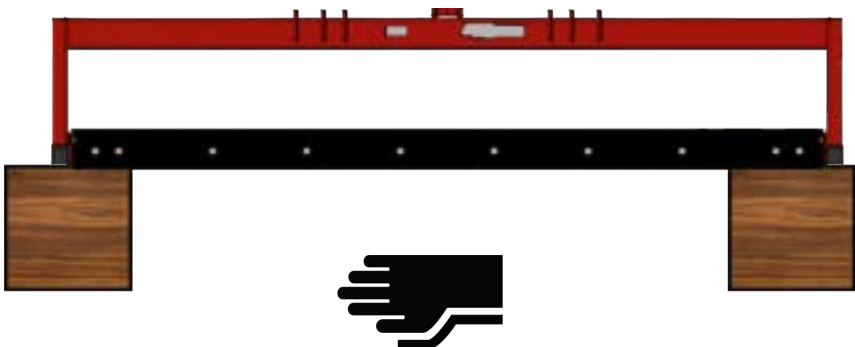
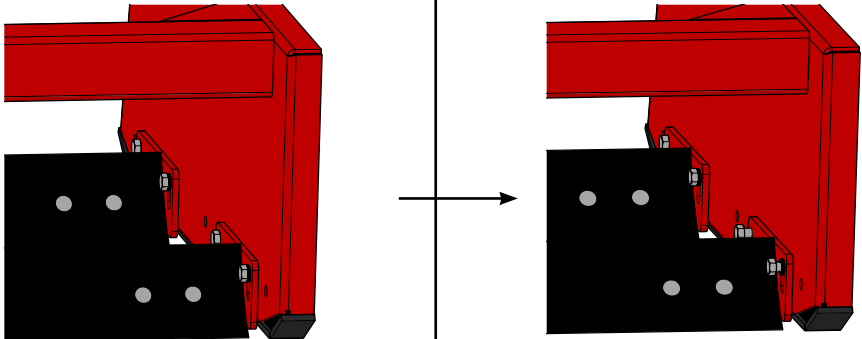
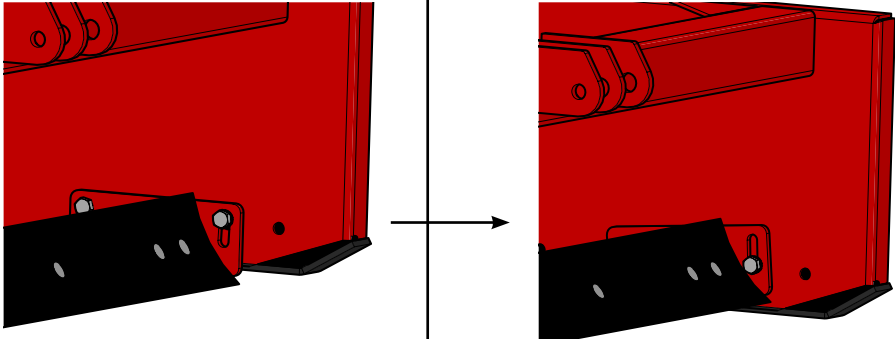
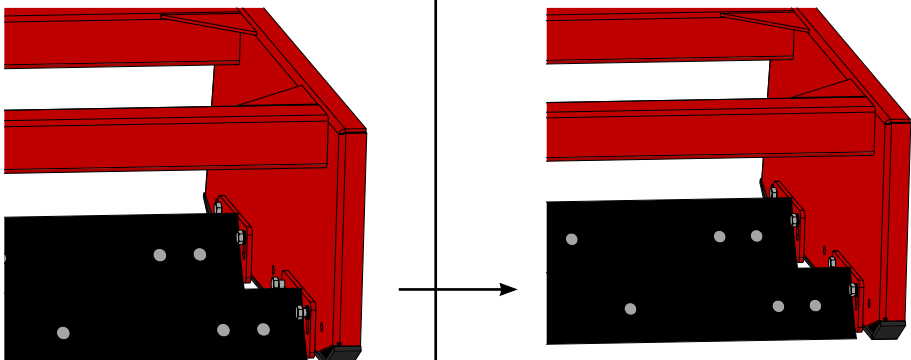


WARNING

- **Do not** begin adjustments to the implement until it has been securely attached to the power unit, and the unit is turned off.
- **Never** go under the cutting edges while adjusting them.
- The cutting edges are heavy and sharp, use heavy gloves to avoid injury.



Adjusting Angle of Cutting Edges

Step	Image
1. Block Up Turn off the power unit, and block up your implement while it is still attached. See <i>Blocking up Grader Leveler</i> on p.28. Ensure you are wearing all necessary PPE, including heavy gloves to protect you from the sharp cutting edges.	
2. Loosen Bolts Adjust only one cutting edge at a time. Loosen all four bolts, repeat for 2nd cutting edge.	
3. Adjust Cutting Edge Adjust the cutting edge by tilting the cutting edge upwards or downwards, see p.24.	
4. Tighten Bolts Tighten the bolts according to the <i>Bolt Torque Table</i> on p.31.	

Best Practices:

The **Grader Leveler** is intended to move materials such as soil, gravel, and sand etc. Unintended use risks damaging your implement. Review **Intended Use** on p.3.

The following procedures explain how to safely operate your **Grader Leveler** to for specific tasks and how to avoid damaging your machine.

It is important to know the soil conditions or the density of the material you will be grading and leveling prior to operating your **Grader Leveler**.



TIP

- Place a level on the top of your **Grader Leveler** to make sure it is leveled with the ground before starting your task.
- If you are new to operating a **Grader Leveler**, perform your tasks while driving slowly until you have adjusted to using the implement.



WARNING

- The **MK Grader Leveler** is **NOT** designed for excavating! Be careful when backing up as you can now push the implement into the load causing some of the power unit's weight to transfer to the **Grader Leveler** which may buckle it.



CAUTION

- To prevent damaging your **Grader Leveler**, avoid working with hard soil or dense material.
- Depending on your task, consider obtaining additional material to spread and level with the machine.

If you notice the cutting edges getting stuck, or hitting rocks and other hidden objects that are obstructing your path:

1. Stop operation.
2. Turn off your power unit to inspect your machine.
3. Ensure you are wearing proper PPE and following best safety practices.
4. Remove any objects from your work area.
5. Slowly reverse your power unit while lifting the **Grader Leveler** slightly from the ground to relieve the cutting edges.
6. Drive forward to continue operation.

For tougher material or a task such as grading driveways and pathways:

1. Begin with your cutting edges adjusted at a steeper angle so that they are tilting downwards and can cut deeper. See **Adjusting Angle of Cutting Edges** on p.25.
2. Once the material has been graded, you can re-adjust your cutting edges by tilting them upwards to begin leveling.

To begin leveling material:

1. Make sure the **Grader Leveler** is level with the ground.
2. Drive slower to avoid damaging the machine.
3. Push materials towards low spots, and go over high spots a few times until your material is leveled.

Storage

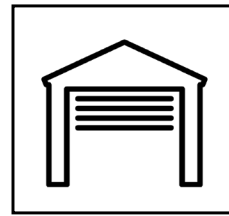
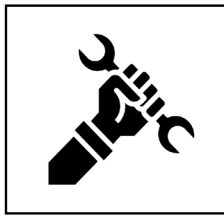
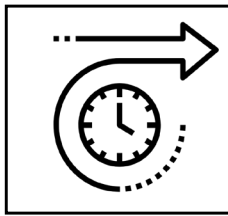


NOTE

- The following section applies to the **GRADER LEVELER** and the **ANGLED GRADER LEVELER**.

After the season's use or when the machine will not be used for a period of time, completely inspect all parts of the **Grader Leveler**. Replace or repair any damaged components to prevent any unnecessary down time at the beginning of the next season.

Your implement is an important investment. Spending some time to protect it from rust and corrosion will result in a safer, longer service life and better performance.



Storage Checklist



Review section **Storage Safety** on p.13.

Carefully scrape off any compacted soil from the **Grader Leveler**. Use a low-pressured water-spray to clean off any pieces of mud, grass, packed yard or other remaining debris.

Remove all remaining materials from around and inside the machine.

Check the cutting edges and plow bolts for wear and follow the replacement instructions under **Reversing & Replacing Cutting Edge** on p.29.

Inspect the **Grader Leveler** for any loose, worn, or damaged parts. Tighten and replace as necessary.

Sand down scratches and the edges of areas that are missing paint.

Repaint any chipped or scraped areas to prevent rust and corrosion.

Replace any safety decals that are missing or not readable. See section **Safety Labels** on p.13.

Guard any sharp corners.

Ensure all pins, latches, and locks are secure.

Store your implement on a level surface, in a clean and dry area. If that is not possible, cover your **Grader Leveler** with a waterproof tarpaulin and tie it down securely.

Block the implement to prevent any unwanted movement.



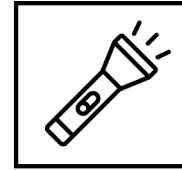
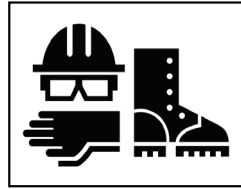
CAUTION

- Use caution when spraying near the edges of safety decals or spraying near torn or damaged safety decals as water-spray could peel them off.



Service & Maintenance

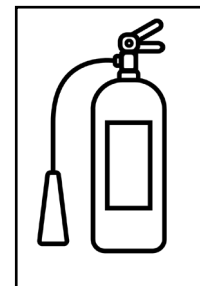
Good maintenance is your responsibility. To keep your **Grader Leveler** in good condition, we suggest carefully following a service and maintenance program.



Maintenance Checklist	☒
Review section Maintenance Safety on p.12.	
Keep service area clean and dry.	
Use adequate light for the job at hand.	
<u>Never work under equipment</u> unless it is supported securely to prevent any movement.	
A fire extinguisher and first aid kit are readily accessible.	
Parts replacement should be performed by qualified personnel to ensure safe and complete installation.	
Always use PPE such as eye, hand, foot, and hearing protectors.	
Use heavy gloves when handling heavy or sharp components.	
The power unit is turned off prior to beginning any maintenance on your implement.	

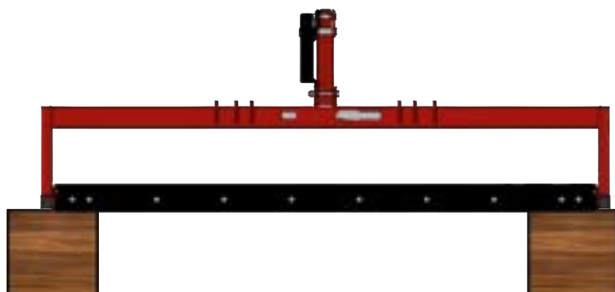
WARNING

- The service & maintenance instructions are only to be followed by qualified personnel.



Blocking up Grader Leveler:

- Place a skid or two 6" x 6" blocks under each side frame of the **Grader Leveler**.
- Lower the **Grader Leveler** until it is securely placed on the blocks to stop movement.



NOTE

- To service the **Grader Leveler** while it is attached to the power unit, it must be blocked up off the ground. Do not block higher than needed.



DANGER

- When adjusting or replacing parts, do not place yourself or other persons or any part of your body under a raised **Grader Leveler**!

Reversing & Replacing Cutting Edge:

Follow the steps below to remove, reverse and replace the cutting edges. Only replace the cutting edges when both the top and bottom of the cutting edges are worn out. Block up your implement before beginning and use the parts pages as a reference. See **Blocking Up Grader Leveler** on p.28, and **Parts** on p.32.



WARNING

- Cutting edge is heavy!
Handle with care and use heavy gloves!



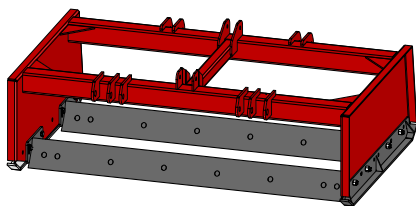
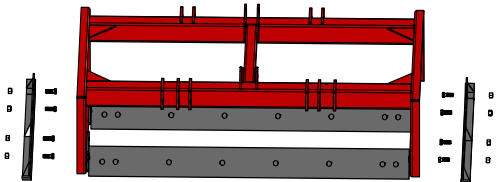
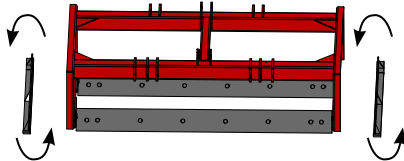
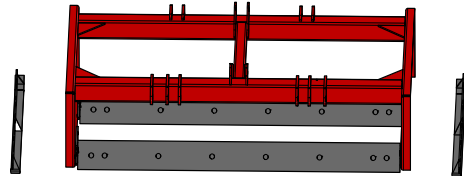
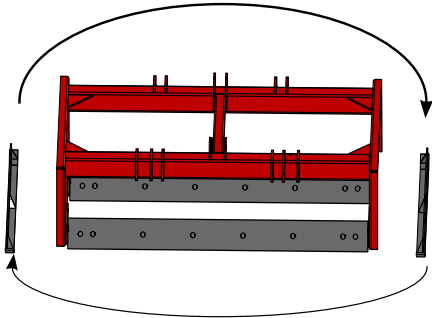
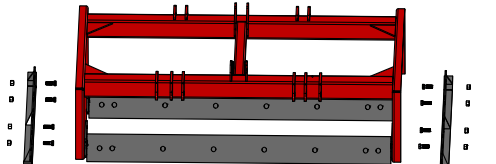
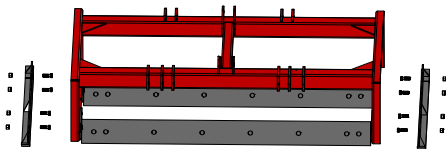
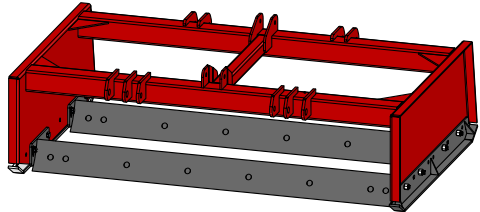
Reversing Cutting Edge Steps

Step	Before	After
1. Unbolt Cutting Edges Unbolt one cutting edge at a time, detaching them from their lower cross members.		
2. Replace/Reverse Cutting Edges Inspect the cutting edges. If the top and bottom of both edges are completely worn out, remove and replace them. If only the bottom is worn out, reverse them by rotating both cutting edges 180 degrees.		
3. Re-attach Cutting Edges Re-attach the cutting edges to their lower cross members using the 5/8 x 1 3/4 Plow Bolts and 5/8 x 11 Nuts. See section Bolt Torque Table on p.31.		

Reversing & Replacing Skid Shoes:

Overtime the front of the skid shoes may wear down. When the front of both skid shoes have lost 1/2 of their metal thickness, they need to be reversed or replaced to perform properly and to avoid damaging the frame of your **Grader Leveler**. If the front of the skid shoes are worn down and the backs are in good condition, follow the steps below to reverse them. Ensure the **Grader Leveler** is boxed up to prevent movement. See **Blocking Up Grader Leveler** on p.28 before beginning.

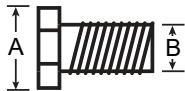
Reversing Skid Shoes Steps

Step	Before	After
1. Unbolt Unbolt both skid shoes.		
2. Rotate Rotate both skid shoes 180 degrees.		
3. Swap Swap the skid shoes so the left skid shoe is now on the right side of the Grader Leveler and the right skid shoe is now on the left side.		
4. Bolt Reattach the skid shoes using the 5/8 -11 x 2 Bolts and 5/8 x 11 Nylon Locknuts. See section Bolt Torque Table on p.31.		

Bolt Torque Table

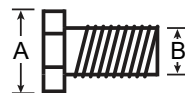
These tables are offered as the suggested maximum torque values for dry (not lubricated) threaded products and are only a general guide. Check tightness of bolts periodically and replace hardware with the same strength bolt when needed. Torque specification for bolts are identified by their head markings as shown below.

METRIC TORQUE SPECIFICATIONS



Wrench Size: "A"	Thread Size: "B" Fine	Class 8.8		Class 10.9		Thread Size: "B" Coarse	Class 8.8		Class 10.9	
		N-m	lbs-ft	N-m	lbs-ft		N-m	lbs-ft	N-m	lbs-ft
10 mm	6 x 0.75	---	---	---	---	6 x 1.0	11.3	8.3	16.5	12.2
13 mm	8 x 1.0	27	20	38	28	8 x 1.25	27.3	20.1	40.1	29.6
16 mm	10 x 1.25	52	38	73	54	10 x 1.5	54	40	49	36
18 mm	12 x 1.25	95	70	135	100	12 x 1.75	93	69	137	101
21 mm	14 x 1.5	150	111	210	155	14 x 2.0	148	109	218	161
24 mm	16 x 1.5	225	166	315	232	16 x 2.0	230	170	338	249
27 mm	18 x 1.5	325	240	460	339	18 x 2.5	329	243	469	346
30 mm	20 x 1.5	460	339	640	472	20 x 2.5	464	342	661	487
34 mm	22 x 1.5	610	450	860	634	22 x 2.5	634	468	904	667
36 mm	24 x 2.0	780	575	1100	811	24 x 3.0	798	588	1136	838
41 mm	27 x 3.0	---	---	---	---	27 x 3.0	1176	867	1674	1234
46 mm	30 x 2.0	---	---	---	---	30 x 3.0	1597	1178	2274	1677

SAE TORQUE SPECIFICATIONS



Wrench Size: "A"	Thread Size: "B" Fine	SAE 2		SAE 5		SAE 8		Thread Size: "B" Coarse	SAE 2		SAE 5		SAE 8	
		lbs-ft.	N-m	lbs-ft.	N-m	lbs-ft.	N-m		lbs-ft.	N-m	lbs-ft.	N-m	lbs-ft.	N-m
7/16"	1/4-28	6	8.1	10	13.6	14	19.0	1/4-20	5	6.8	8	10.8	12	16.3
1/2"	5/16-24	13	17.6	19	25.7	27	36.6	5/16-18	11	14.9	17	23.0	25	33.9
9/16"	3/8-24	23	31.2	35	47.4	49	66.4	3/8-16	20	27.1	31	42.0	44	59.6
5/8"	7/16-20	36	48.8	55	74.5	75	101.6	7/16-14	32	43.4	49	66.4	70	94.9
3/4"	1/2-20	55	74.5	85	115.2	120	162.6	1/2-13	49	66.4	75	101.6	107	145.0
13/16"	9/16-18	79	107.0	122	165.3	172	233.1	9/16-12	70	94.9	109	147.7	154	208.7
15/16"	5/8-18	110	149.1	170	230.4	240	325.2	5/8-11	97	131.4	150	203.3	212	287.3
1-1/8"	3/4-16	192	260.2	297	402.4	420	569.1	3/4-10	173	234.4	266	360.4	376	509.5
1-5/16"	7/8-14	184	249.3	474	642.3	668	905.1	7/8-9	166	224.9	429	581.3	606	821.1
1-1/2"	1.0-12	274	371.3	705	955.3	995	1348.2	1.0-8	250	338.8	644	872.6	909	1231.7

Troubleshooting

The following table describes issues you could encounter with your **Grader Leveler** or **Angled Grader Leveler**, the possible cause, and the proposed solution. For any issue not listed below, call your local dealer or MK Martin.

Issue	Possible Cause	Solution
Moldboard is bent.	Small curve is normal from weld pull.	Can be removed but will not affect operation.
	Hitting hidden objects.	Drive at a slower speed when in unknown soil conditions.
Cutting edges will not penetrate soil.	Cutting edge is dull.	Reverse or replace cutting edge.
	Blade set to straight.	Adjust the angle of the cutting edges to tilt downwards.
	Soil too hard.	Add loose material on top and level or wait for soil condition to improve.
Skid shoes digging in too much.	Grader Leveler is not leveled.	Adjust top link on your power unit.
Machine not leveled.	Cutting Edge bent from hidden objects.	Complete inspection checklist prior to operation and drive slower.
	Front/Back of Skid Shoes are worn out.	Reverse or replace after the skid shoe has gone through half of it's metal thickness.

Parts

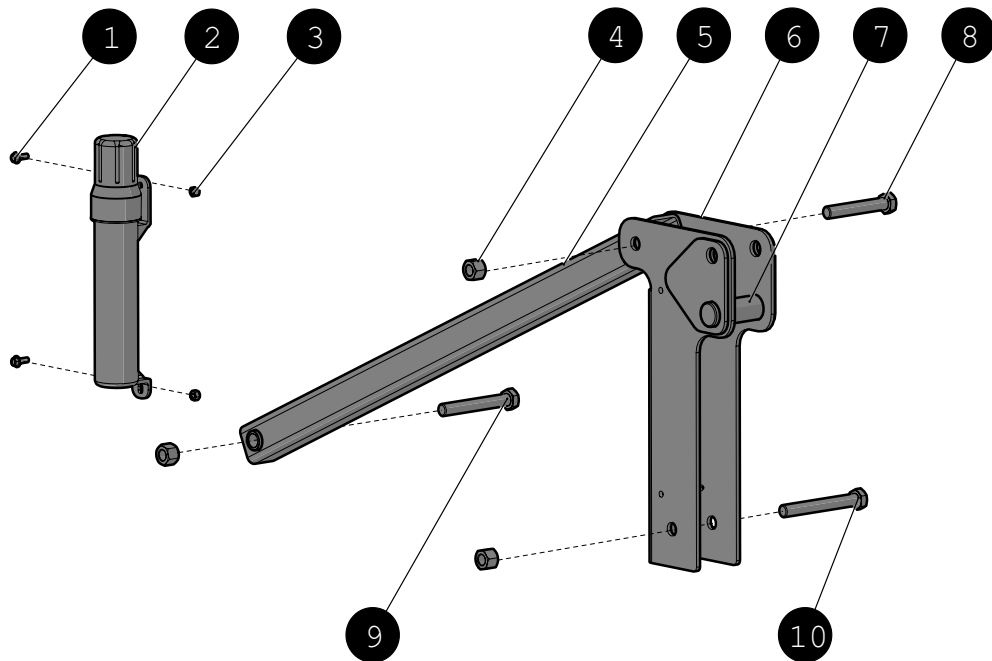
The following pages contain illustrations of the **MK Grader Leveler** and **Angled Grader Leveler** along with the part descriptions, numbers, and quantities for each of their respective models.



NOTE

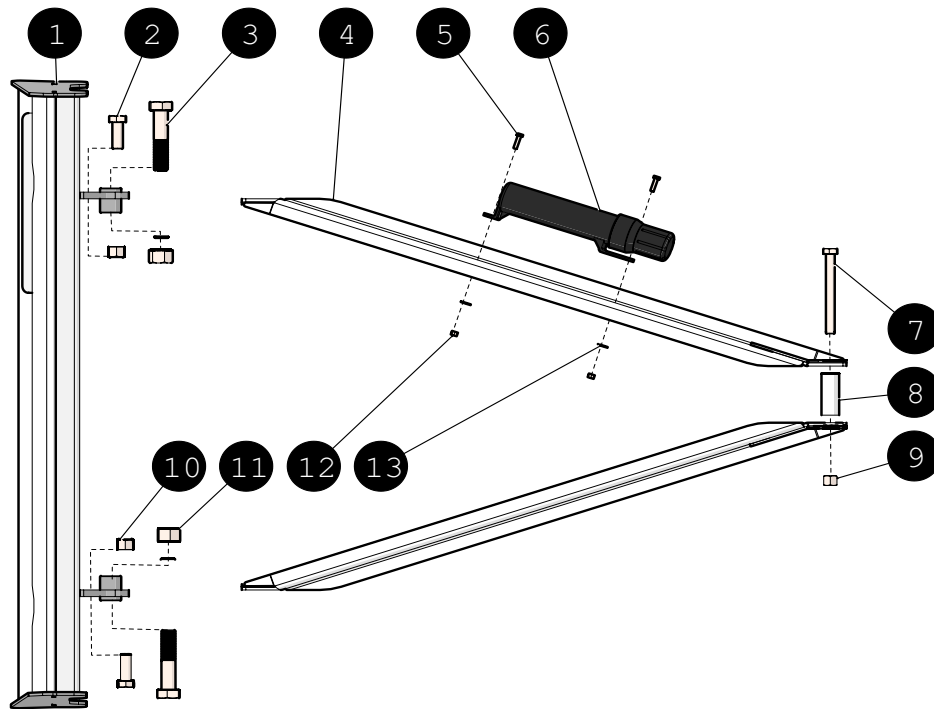
- In some cases, the quantity of a part may not be listed. Instead, it will say "n/a" or "--" in the qty column. This indicates that the part is being used in multiple places and the quantity has already been accounted for.*

MK Grader Leveler 3PH Adaptor:



Item #	Part #	Description	Qty
1	xzhfss2507nc5	1/4 x 3/4 Flange Serrated Screw	2
2	DJA70111	Operator's Manual	1
3	xznylnut25nc	1/4-20 Nylon Locknut	2
4	xznylnut62	5/8-11 Nylon Locknut	3
5	50724	Top Link Brace	1
6	50723	Top Point Mask	1
7	33214	Pin Top Link Quick Hitch	1
8	xzhcs6240nc5	5/8-11 x 4 Bolt	1
9	xzhcs6245nc5	5/8-11 x 4 1/2 Bolt	1
10	xzhcs6250nc5	5/8-11 x 5 Bolt	1
--	37970	Kit Mk GL 3Pth	1
--	MKGL3PTMNT	3PH Adaptor	1

MK Grader Leveler Skid Steer Loader Adaptor:

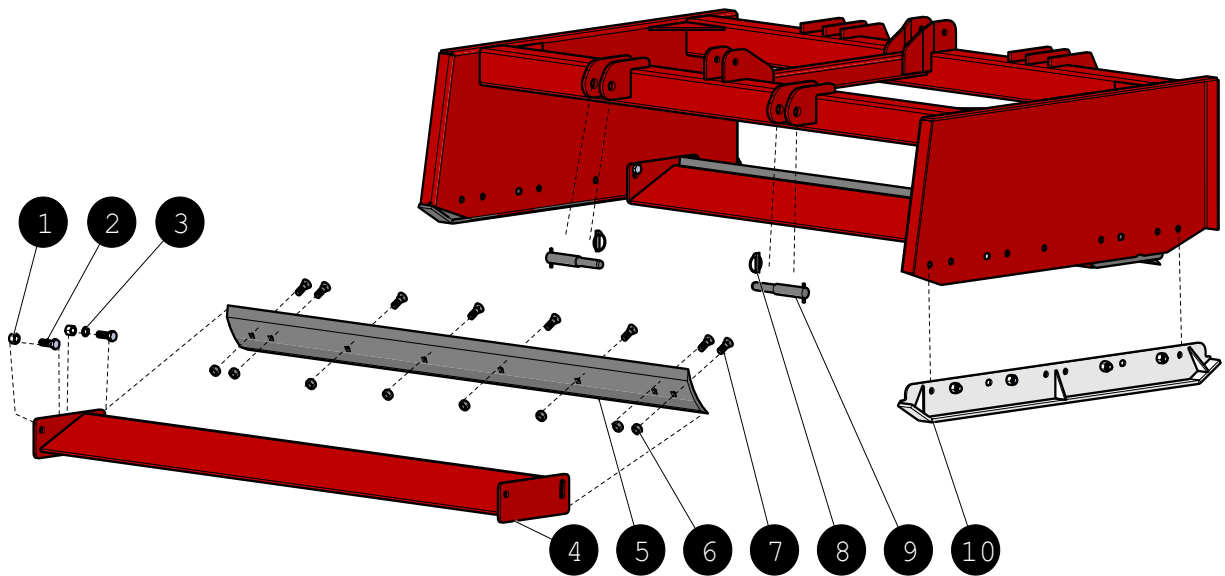


NOTE

- The parts for both adaptors are compatible with each of the **Grader Leveler** and **Angled Grader Leveler** models.

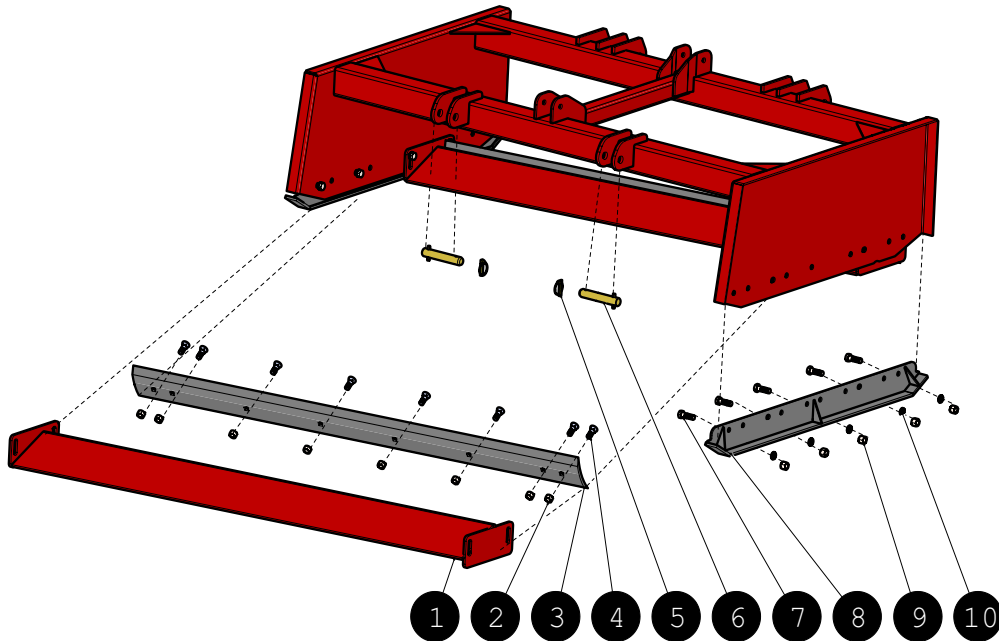
Item #	Part #	Description	Qty
1	23786	Grader Leveler Loader Plate	1
2	xzhcs7520nc	3/4-10 x 2 Gr. 2 Bolt	2
3	xzhcs10045nc5	1-8 x 4 1/2 Bolt	2
4	50521	SS Brace	2
5	xzhcs2510nc	1/4-20 x 1 Bolt	2
6	DJA70111	Operator's Manual	1
7	xzhcs6260nc	5/8 x 6 Bolt	1
8	50510	Skid Steer Brace Spacer	1
9	xznylnut62	5/8-11 Nylon Locknut	1
10	xznylnut75nc	3/4-10 Nylon Locknut	2
11	xznylnut100nc	1-8 Nylon Locknut	2
12	xznylnut25nc	1/4-20 Nylon Locknut	2
13	xzfw25	1/4 Flatwasher	2
--	37969	Kit Skid Steer Mount	1
--	MKGLSSMNT	Skid Steer Adaptor	1

MK Grader Leveler Series



Item #	Part #	Description	GL578	GL678	GL778	GL878
			Qty			
1	xznylnut62	5/8-11 Nylon Locknut	8	8	8	8
2	xzhcs6220nc	5/8-11 x 2 Bolt	8	8	8	8
3	knp677-A75-1M	5/8 nord lock washer set	4	4	4	4
4	32866	Lower Cross Member (5ft)	2			
	32872	Lower Cross Member (6ft)		2		
	32800	Lower Cross Member (7ft)			2	
	62876	Lower Cross Member (8ft)				2
5	letco5	1/2 x 6 x 60 Cutting Edge	2			
	letco6	1/2 x 6 x 72 Cutting Edge		2		
	letco7	1/2 x 6 x 84 Cutting Edge			2	
	letco8	1/2 x 6 x 96 Cutting Edge				2
6	xznut62nc	5/8-11 Gr.2 Nut	14	16	18	20
7	xbpb6217nc5	5/8 x 1 3/4 Plow Bolt Bare	14	16	18	20
8	wal385507	7-16 Standard Lynch Pins	2	2	2	2
9	50370	Cat 1-2 Hitch Pin	2	2	2	2
10	61886	Skid Shoe Grader Leveler	2	2	2	2

MK Angled Grader Leveler Series



Item #	Part #	Description	GL578A	GL678A	GL778A	GL878A
			Qty			
7	32866	Cut Edge MNT Angle (5ft)	2			
	32872	Cut Edge MNT Angle (6ft)		2		
	32800	Cut Edge MNT Angle (7ft)			2	
	62876	Cut Edge MNT Angle (8ft)				2
8	xznut62nc	5/8-11 Gr.2 Nut	14	16	18	20
9	letco5	1/2 x 6 x 60 Cutting Edge	2			
	letco6	1/2 x 6 x 72 Cutting Edge		2		
	letco7	1/2 x 6 x 84 Cutting Edge			2	
	letco8	1/2 x 6 x 96 Cutting Edge				2
10	xbpb6217nc5	5/8 x 1 3/4 Plow Bolt Bare	14	16	18	20
11	wal385507	7-16 Standard Lynch Pins	2	2	2	2
12	50370	Cat 1-2 Hitch Pin	2	2	2	2
13	xzhcs6220nc	5/8-11 x 2 Bolt	10	10	10	10
14	61886	Skid Shoe Grader Leveler	2	2	2	2
15	xznylnut62	5/8-11 Nylon Locknut	10	10	10	10
16	knp677-A75-1M	5/8 nord lock washer set	10	10	10	10



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