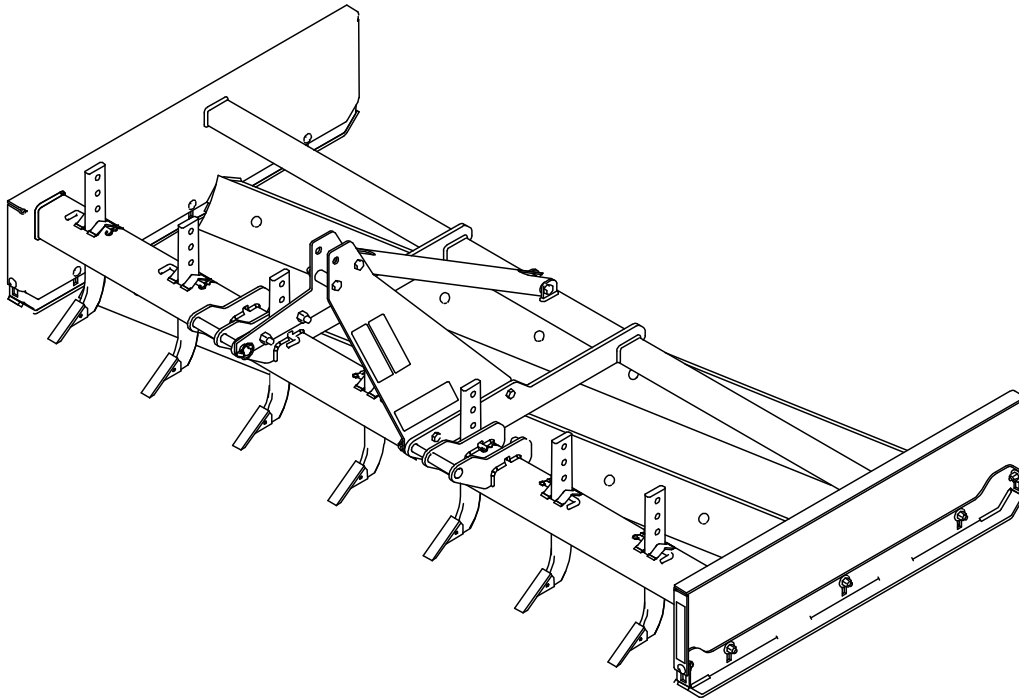




Land Grader with Scarifiers ALG260, ALG272, ALG396



Operator's Manual

ALG4000837 / Revision A

Introduction

Thank you for purchasing the Land Grader with Scarifiers. With proper use and maintenance, it will provide years of reliable service. Read this manual carefully to ensure safe and correct operation—improper use may cause injury or equipment damage.

Intended Use

The Land Grader with Scarifiers is designed to break up compacted soil or gravel, level and grade surfaces, and fill potholes using a 3-point hitch tractor (see p. 22 for hitch specifications). It is intended solely for the purposes outlined in this manual.

Using this Manual

This manual provides detailed guidelines for the safe assembly, operation, adjustment, troubleshooting, and maintenance of the Land Grader with Scarifiers. It is intended to ensure optimal performance, minimize downtime, and enhance operator safety by identifying potential hazards and emphasizing accident prevention.

All users must read and understand the information in this manual prior to operation. **DO NOT** allow anyone who has not fully read and understood this manual to operate or maintain the equipment. Failure to follow the procedures described in this manual could result in equipment damage or physical injury or death to you or bystanders.

Please keep this manual with the machine for future reference, as it is considered part of your machine. The lifespan of any machine depends on the care it receives. Refer to and review the manual often for preventative maintenance.

The information contained within this manual was current at the time of printing. Some parts or information are subject to change to ensure the best performance of the machine. The manufacturer reserves the right to make changes in materials or design of the product and its manual at any time without notice.

Throughout this manual, references are made to right and left directions. These are determined by standing behind the tractor and facing the direction of forward travel.

Owner Assistance

Use only genuine service parts available from an authorized dealer. **DO NOT** modify the implement or use with attachments other than the options and accessories specified in this manual.

Contact an authorized dealer if service or repair parts are needed. Authorized dealers have trained personnel, repair parts, and equipment needed to service this implement.

For quick reference and prompt service, record the model number and any other identifying information, such as a dealer-applied serial number or UPC, in the space provided below and again in the warranty section on **page 27**. These numbers will be needed when ordering service parts.

There may be times when circumstances not covered in the manual occur. At those times, or if this manual's instructions or safety requirements are not understood, please contact an authorized dealer.

Dealer Contact Information

Name

Address

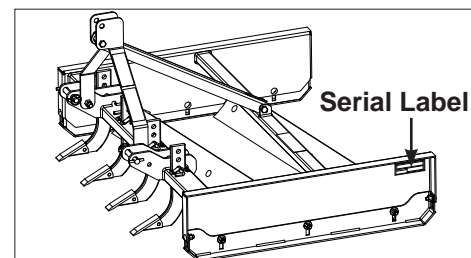
Phone

Email

Purchase Date

Serial Number / UPC

Serial Label Location



Serial number label located at top rear corner of left side endplate.

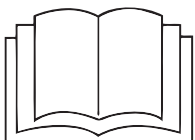
Table of Contents

Introduction	i
Product Description	1
Safety Guidelines	2
Safety and Instructional Labels	6
Assembly and Setup.....	8
Model ALG260 and ALG272 Assembly	8
Model ALG396 Assembly	10
Attaching.....	13
Attaching to Tractor 3-Point Hitch.....	13
Attaching to Tractor Quick Coupler Hitch	14
Detaching from Tractor 3-Point Hitch	15
Detaching from Tractor Quick Coupler Hitch	15
Operation.....	15
Operational Readiness Checklist	16
Adjusting Implement Tilt	16
Scarifying.....	16
Scraping and Leveling.....	16
Adjusting Skid Shoes	17
Cleaning	17
Storage.....	17
Maintenance.....	18
Blocking Up Land Grader	18
Removing and Replacing Scarifier Shanks	19
Rotating and Replacing Cutting Blade	19
Rotating and Replacing Skid Shoes.....	20
Troubleshooting.....	21
Product Specifications	22
Parts	23
Torque Specifications Chart.....	25
Warranty	27

Customer Support:

Phone: 1.252.822.7140

E-mail: sales@tarrivermfg.com

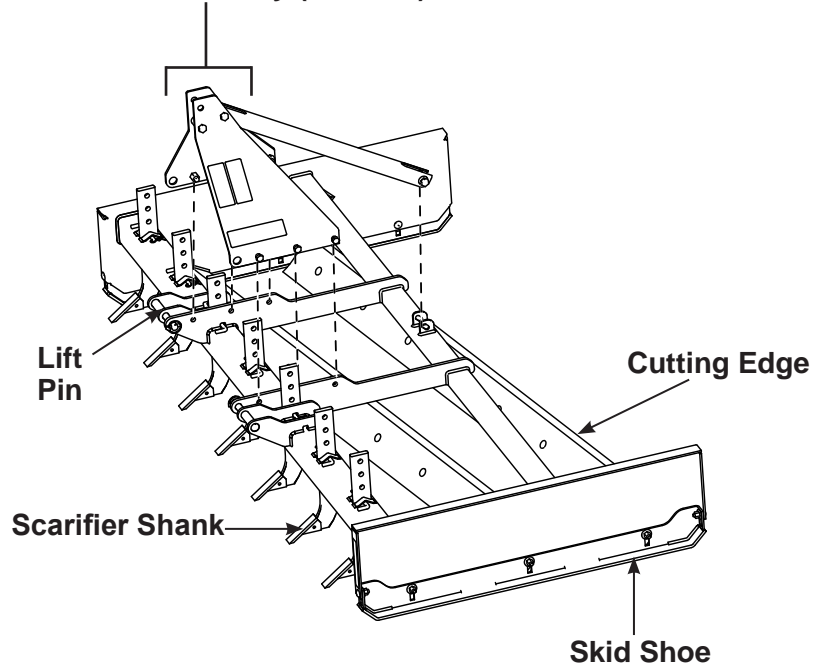


This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must supply this manual with the machine. Replacement manuals are available from authorized dealers or Tar River Implements Customer Support.

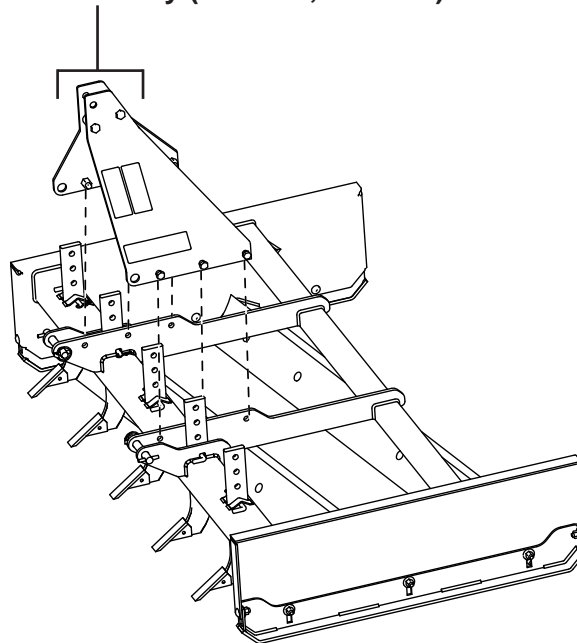
PRODUCT DESCRIPTION

The Land Grader with Scarifiers features two parallel grading blades set at a 10° angle for efficient grading, leveling, and filling. Its welded steel frame includes adjustable, replaceable skid shoes and scarifier shanks. The skid shoes can be rotated for even wear, and the 3/8" x 6" heat-treated cutting edges can be rotated 180° for extended use.

A-Frame Assembly (ALG396)



A-Frame Assembly (ALG260, ALG272)



SAFETY GUIDELINES

 **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

Safety is a primary concern in the design and manufacture of the Land Grader with Scarifiers. Unfortunately, efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgment, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe procedures can cause damage to equipment. The terms **DANGER**, **WARNING**, and **CAUTION** are used in conjunction with the Safety Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety.

Safety Alert Symbol



This **SAFETY ALERT SYMBOL** identifies important safety messages on the equipment and in the operator's manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Safety Signal Words

The safety labels on the machine and safety messages in this manual use a combination of symbols, signal words, and color-coding to identify the following hazardous situations or safety practices:



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



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



The signal word **CAUTION** on the machine and in the manual 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.



The signal word **IMPORTANT** identifies procedures which must be followed to avoid damage to the machine.



Notes indicate important information. This information may be repeated in other areas of the manual.

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known in the State of California to cause cancer, birth defects, and other reproductive harm.

For more information, visit: www.p65warning.ca.gov

SAFETY GUIDELINES

Training

Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from authorized Tar River Implements dealers.) Failure to follow instructions or safety rules can result in serious injury or death.

Operators needing assistance understanding any part of this manual should contact an authorized Tar River Implements dealer.

Operators must be instructed in and capable of operating the power unit, its attachments, and all controls safely. No one should operate the equipment without proper instructions. Operators must know how to stop the tractor engine and attached implement quickly in an emergency.

Never allow children or untrained persons to operate the equipment.

Preparation

Check that all hardware is installed. Always tighten hardware to torque chart specifications unless instructed otherwise in this manual.

Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, ears, and head; wear respirator or filter mask where appropriate.

Make sure implement is properly secured to power unit, adjusted, and in good operating condition.

Remove accumulated debris from the power unit and implement before operating.

Power unit must be equipped with Roll-Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.

A minimum of 20% of tractor and equipment weight must be on the tractor’s front wheels when implements are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. **DO NOT ESTIMATE!**

Make sure all safety decals are installed. Replace if damaged. (See pp. 6-7, **SAFETY AND INSTRUCTIONAL LABELS** section for location.)

Inspect and clear the area of large debris that could damage the implement during use.

Transportation

Always comply with all state and local lighting and marking requirements.

Transport only in daylight or satisfactory artificial light.

DO NOT allow riders on the power unit or implement.

DO NOT operate or transport on steep slopes.

Use extreme care and reduce ground speed on slopes and rough terrain.

DO NOT stop, start, or change directions suddenly on slopes.

DO NOT operate or transport equipment while under the influence of alcohol or drugs.

Power unit must be equipped with Roll-Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.

Always sit in the power unit seat when operating controls or starting power unit engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.

Operation

DO NOT operate or transport equipment while under the influence of alcohol or drugs.

Operate only in daylight or satisfactory artificial light.

Always comply with all state and local lighting and marking requirements.

DO NOT allow bystanders in the area when operating, attaching, removing, assembling, or servicing the implement.

SAFETY GUIDELINES

Operation Continued

DO NOT allow riders on the power unit or implement.

Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.

Keep hands, feet, hair, and clothing away from the power unit engine and attached implement while the power unit engine is running. Stay clear of all moving parts.

Always sit in the power unit seat when operating controls or starting power unit engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.

Look down and to the rear to make sure area is clear before operating in reverse.

Be aware that tight turns may cause the implement to come into contact with the rear wheels of the power unit, potentially causing damage to the equipment or personal injury.

Watch for hidden hazards on the terrain during operation.

DO NOT operate or transport on steep slopes.

DO NOT stop, start, or change directions suddenly on slopes.

Use extreme care and reduce ground speed on slopes and rough terrain. When encountering rough terrain, reduce power unit speed to minimize horizontal movement of the implement.

Stop the power unit and implement immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

Before leaving operator's seat, lower lift arms and set attached implement on the ground. Engage parking brake, stop engine, remove key, and unfasten seat belt.

Power unit must be equipped with Roll-Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

Maintenance

Make certain all movement of the power unit and implement components has stopped before approaching for service.

Follow these steps before detaching the implement from the power unit or performing any maintenance:

1. Lower the 3-point hitch and all raised components to the ground
2. Set parking brake
3. Stop engine
4. Remove key
5. Unfasten seat belt

DO NOT go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath the power unit or implement or between movable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause implement to drop suddenly, causing severe injury or death.

Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, ears, and head. Wear respirator or filter mask when appropriate.

Eye protection must be used when removing or installing scarifier shank clips.

Keep all persons away from operator control area while performing adjustments, service, or maintenance.

DO NOT perform service or maintenance on the implement while it is attached to the power unit and the engine is running.

Frequently check blades/tines/shanks. They should be sharp, free of nicks and cracks, and securely fastened. **DO NOT** handle blades/tines/shanks with bare hands. Careless or improper handling may result in serious injury.

DO NOT modify or permit anyone else to modify or alter the power unit, implement, or any of their components in any way, except as outlined in this manual.

Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting implement into service.

SAFETY GUIDELINES

Storage

Always use a power unit to position the implement for storage. **DO NOT** attempt to move the equipment by hand.

Securely block up the equipment for storage using supports sufficient to sustain the implement's weight.

Keep children, bystanders, and livestock away from the storage area.

SAFETY AND INSTRUCTIONAL LABELS

! ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
Replace immediately if damaged!

The Land Grader with Scarifiers comes equipped with all safety labels in place. These safety labels are designed to help users safely operate the equipment. They inform users about possible hazards associated with the normal operation or foreseeable misuse of the product and how to properly avoid those hazards to prevent physical injury or death. Users are required to read and follow their directions.

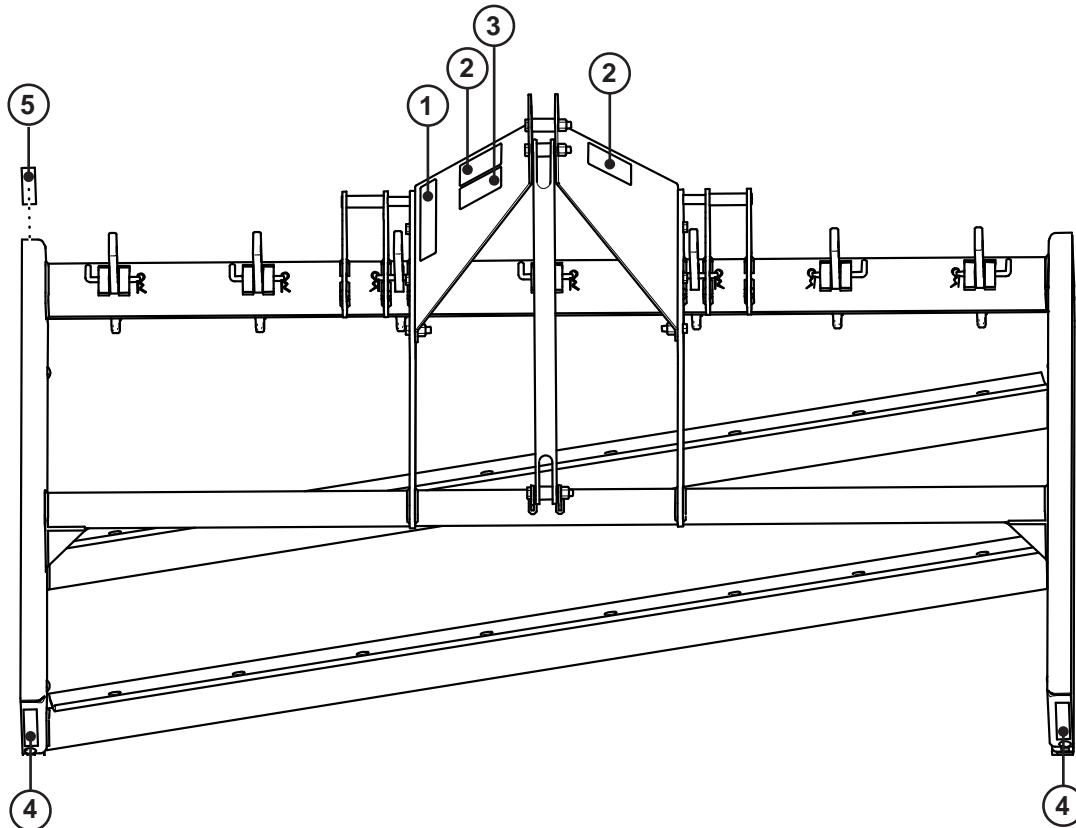
Safety Label Guidelines

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels.
3. New equipment installed during repairs may require replacement safety labels to be affixed to the replaced part, if missing.
4. Contact an authorized Tar River Implements dealer to order replacement labels.
5. Refer to Figure 1 correct label placement.
6. When installing new labels:
 - a. Clean placement surface with soapy water or surface cleaning solution and allow to dry.
 - b. Peel backing from label, carefully center and place label in proper location ensuring no creases or air pockets.
 - c. Press label firmly onto the surface and use a straight edge to smooth the label on the machine for a secure adhesion.

Figure 1


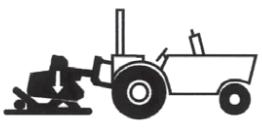
Top View - Model ALG396

NOTE: Models ALG260, ALG272, ALG396 have identical placement for labels 1, 2, & 3.




SAFETY AND INSTRUCTIONAL LABELS

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
 Replace immediately if damaged!

⚠ WARNING	
<p>SERIOUS INJURY OR DEATH</p> <p>Falling off can result in being run over.</p> <ul style="list-style-type: none"> • DO NOT allow riders. • Keep seat belt securely fastened. • Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems locked in the raised position at all times. 	<p>SERIOUS INJURY OR DEATH</p> <p>Implement may lower from hydraulic leaks, movement of control levers, or mechanical failure.</p> <ul style="list-style-type: none"> • DO NOT go underneath raised implement. • DO NOT place body parts underneath raised implement. • Service work does not require going under raised implement. Read Operator's Manual for instructions.
	
	

① FALLING OFF

⚠ WARNING

<p>CRUSHING AND PINCHING HAZARD</p>
<ul style="list-style-type: none"> • Be extremely careful handling various parts of the machine. They are extremely heavy and 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 when in operation or when it is being raised or lowered.

② CRUSHING & PINCHING

⚠ CAUTION
<p>To Avoid Serious Injury:</p> <ul style="list-style-type: none"> ■ 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.

③ AVOID INJURY

RED REFLECTOR
 1.25" X 7.25"
 (2 Needed)

④ RED REFLECTOR
 MODEL ALG396 ONLY
 PART# TAR-7140920

YELLOW REFLECTOR
 1.25" X 7.25"

⑤ YELLOW REFLECTOR
 MODEL ALG396 ONLY
 PART# TAR-7189199

ASSEMBLY AND SETUP

Model ALG260 , ALG272 Assembly

The ALG260 and ALG272 model Land Grader with Scarifiers ships with the A-Arms secured flat to the Land Grader frame. The top of each A-Arm is bolted to the main hitch brace. Follow the assembly steps below before attempting to use the implement.

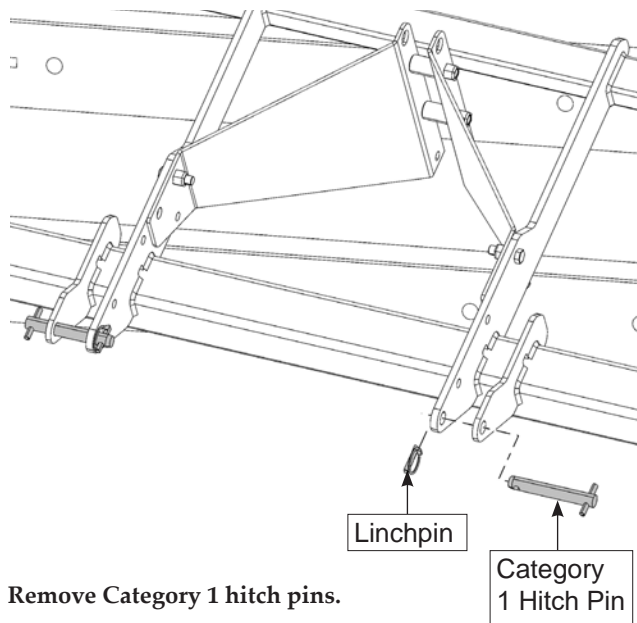
WARNING

Avoid serious injury or death!

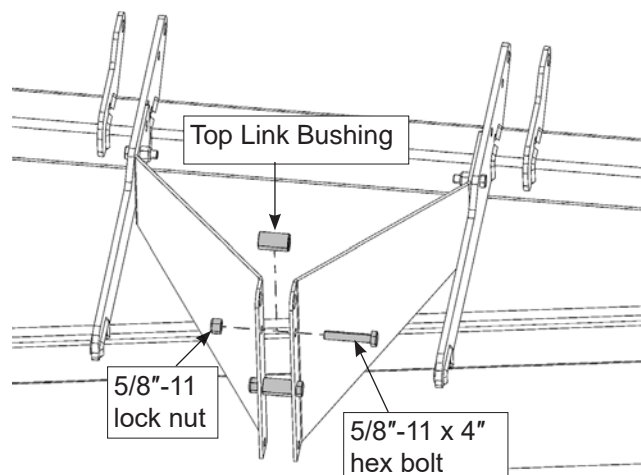
- Assemble implement on level ground.
- Wear appropriate personal protective gear.
- Watch for possible pinch points and crushing hazards.

NOTE: Scarifier shanks not shown in assembly diagrams.

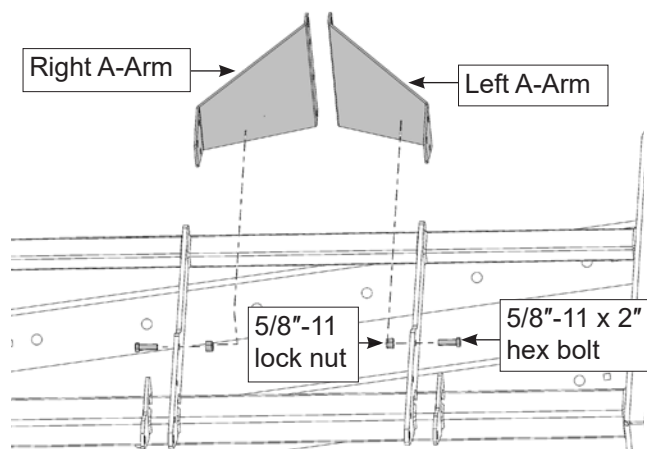
1. Remove the two Category 1 hitch pins from the Land Grader frame and set aside.



2. The two top link bushings ship bolted to the bottom of the A-Arms. Loosen the 5/8"-11 nylon lock nut and 5/8"-11 x 4" hex bolts securing the bushings to the A-Arms. Remove the hardware and bushings and set aside.



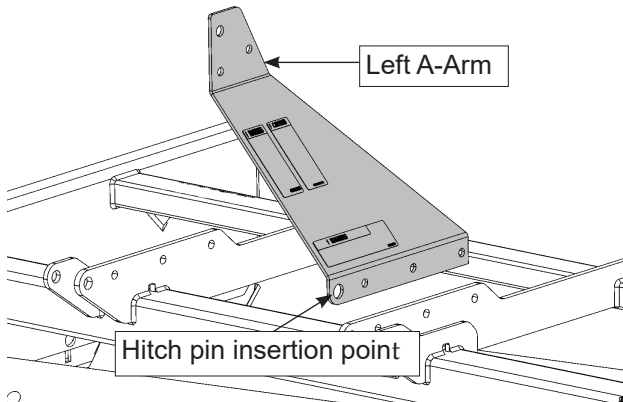
3. Loosen and remove the two 5/8"-11 x 2" hex bolts securing A-Arms to Land Grader hitch brace and lift each A-Arm away from the frame.



4. Each A-Arm connects to the Land Grader main hitch brace with three 5/8"-11 x 2" hex bolts secured with 5/8"-11 nylon lock nuts (six bolts and nuts total for both A-Arms). Align the bolt holes of one A-Arm with bolt holes on the inside of the main hitch brace. The forwardmost bottom connection point should align with the insertion point for the Category 1 hitch pin. The two vertical bolt holes on the top of the A-Arm should face forward.

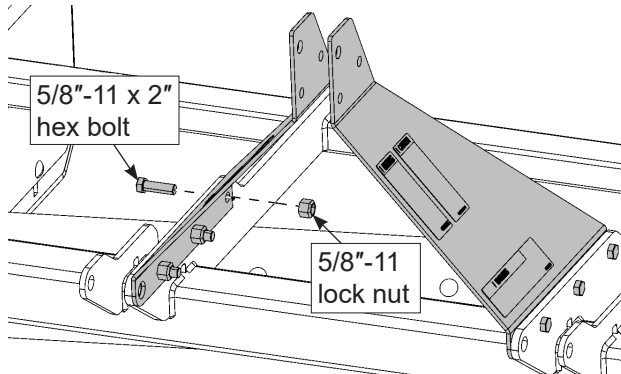
ASSEMBLY AND SETUP

Model ALG260 , ALG272 Assembly Continued



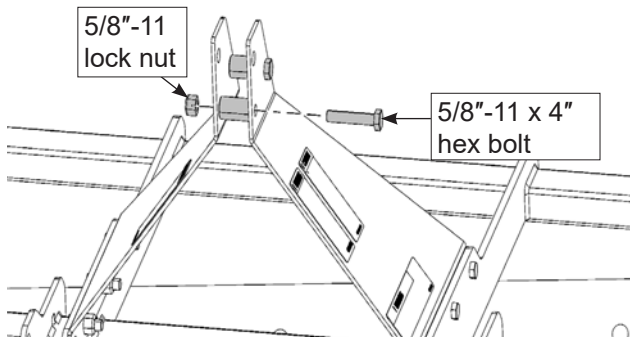
Align A-Arm with Land Grader frame.

5. Insert a 5/8"-11 x 2" bolt from the supplied hardware kit through each bolt hole. Secure each bolt with a 5/8"-11 nylon lock nut (**DO NOT** fully tighten the bolts and lock nuts at this time).
6. Repeat Step 4 and 5 for the second A-Arm.



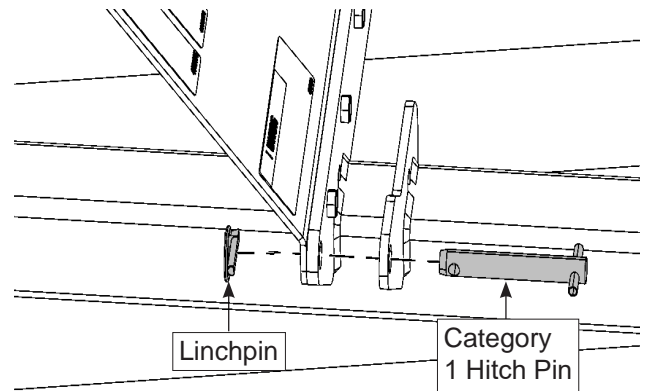
Loosely secure each A-Arm with bolt and lock nut.

7. Install the two top link bushings onto the A-Arms using the 5/8"-11 x 4" hex bolts and 5/8"-11 nylon lock nuts. Tighten lock nuts until they are snug tight.



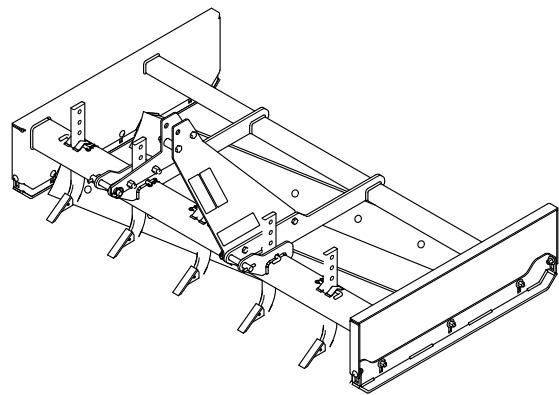
Align bushings and secure with hex bolts and lock nuts.

8. Tighten all lock nuts on the A-Arm bolts until they are snug tight.
9. Insert the Category 1 hitch pins through Land Grader main hitch braces and A-Arms.



Insert Category 1 Hitch Pin. Secure with Linchpin.

10. Check that the A-Arms are aligned with one another, then tighten all lock nuts to proper torque specifications. (See chart on page 25)
11. The Land Grader is now fully assembled and ready for use.



Fully assembled Model ALG272.

ASSEMBLY AND SETUP

Model ALG396 Assembly

The ALG396 model Land Grader with Scarifiers ships with the A-Arms and Hitch Support Brace secured flat to the Land Grader frame. The bottom of each A-Arm is bolted to the main hitch brace. Follow the assembly steps below before attempting to use the implement.

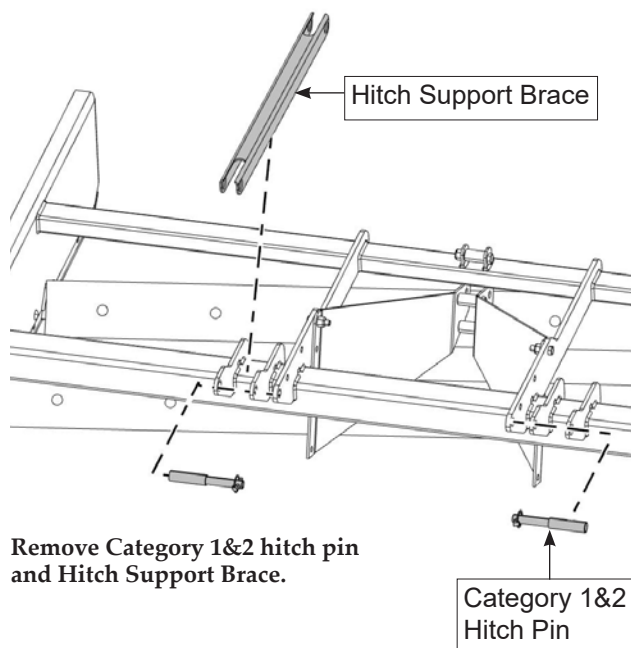
WARNING

Avoid serious injury or death!

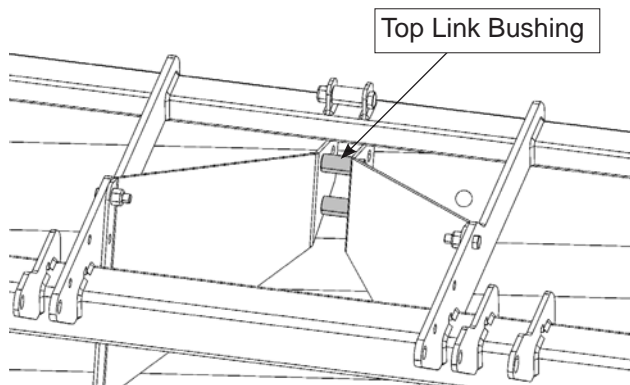
- Assemble implement on level ground.
- Wear appropriate personal protective gear.
- Watch for possible pinch points and crushing hazards.

NOTE: Scarifier shanks not shown in assembly diagrams.

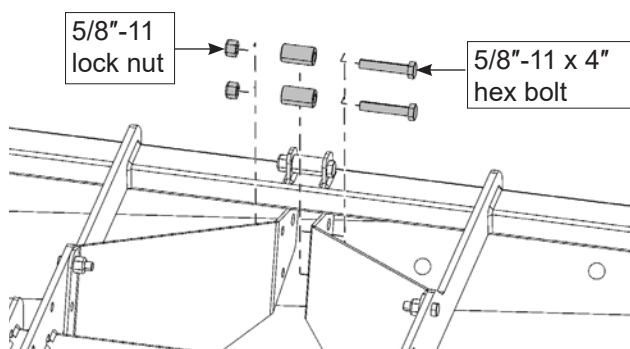
1. Cut the zip tie securing the Hitch Support Brace to Land Grader frame. Discard zip tie and cardboard padding.
2. Remove the Category 1 & 2 hitch pin securing the other end of the Hitch Support Brace. Set Hitch Support Brace and Category 1 & 2 hitch pin aside.
3. Remove the other Category 1 & 2 hitch pin and set aside.



4. The two top link bushings ship bolted to the top of the A-Arms. Loosen the 5/8"-11 x 4" hex bolt and 5/8"-11 nylon lock nut securing the bushings to the A-Arms. Remove the hardware and bushings and set aside.

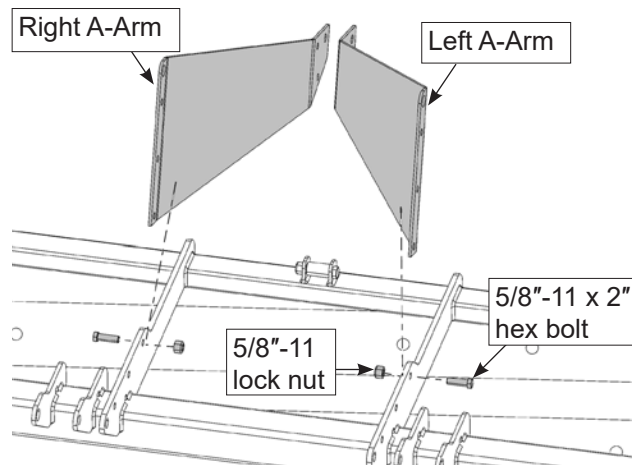


Top link bushings ship bolted to A-Arms.



Remove lock nuts, hex bolts, and top link bushings.

5. Loosen and remove the two 5/8"-11 x 2" hex bolts securing A-Arms to Land Grader main hitch brace and lift each A-Arm away from the frame.

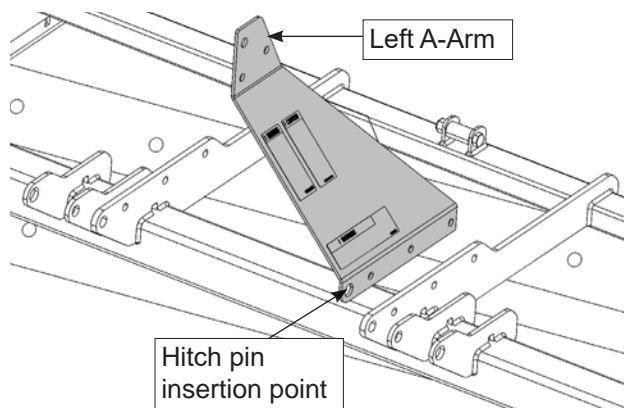


Remove lock nuts, hex bolts, and A-Arms.

ASSEMBLY AND SETUP

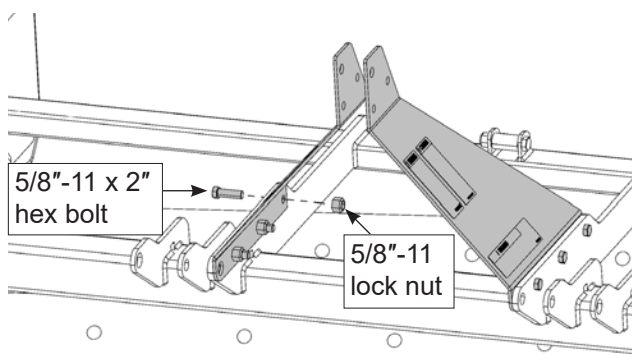
Model ALG396 Assembly Continued

6. Each A-Arm connects to the Land Grader main hitch brace with three 5/8"-11 x 2" hex bolts secured with 5/8"-11 nylon lock nuts (six bolts and nuts total for both A-Arms). Align the bolt holes of one A-Arm with bolt holes on the inside of the main hitch brace. The forwardmost bottom connection point should align with the insertion point for the Category 1 & 2 hitch pin. The two vertical bolt holes on the top of the A-Arm should face forward.



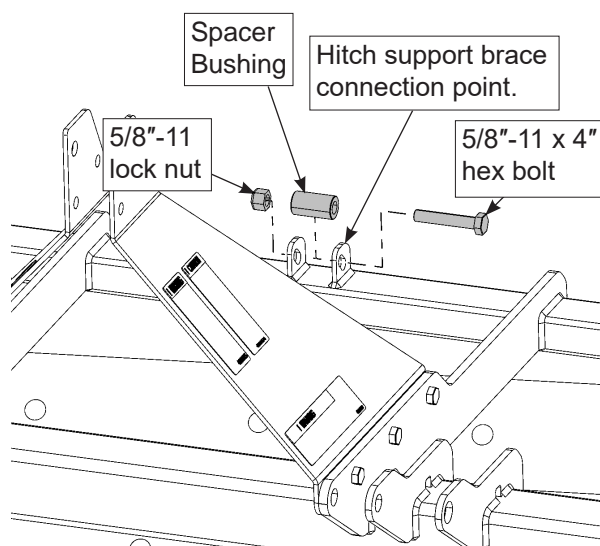
Align A-Arm with Land Grader frame.

7. Insert a 5/8"-11 x 2" bolt from the supplied hardware kit through the three bolt holes. Secure each bolt with a 5/8"-11 nylon lock nut (**DO NOT** fully tighten the bolts and lock nuts at this time).
8. Repeat Step 6 and 7 for the second A-Arm.



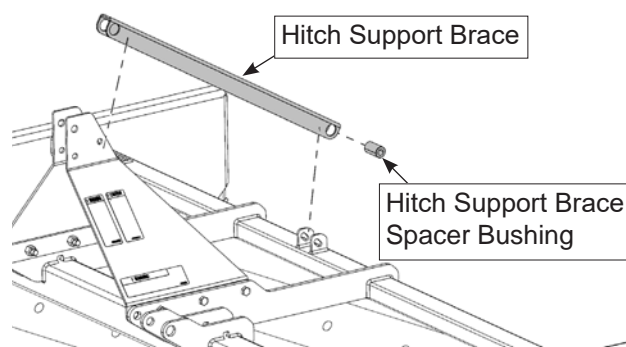
Loosely secure each A-Arm with bolt and lock nut.

9. Remove the 5/8"-11 x 4" hex bolt and the spacer bushing from the hitch support brace attachment point located on the center support tube of the Land Grader frame and set hardware aside.



Remove lock nut, hex bolt, and spacer bushing.

10. Align the spacer bushing from Step 9 with the bolt holes on one end of the Hitch Support Brace.
11. Align the bolt holes of the Hitch Support Brace and spacer bushing with the attachment point located on the center support tube of the Land Grader frame. (Ensure the curved edge of the Hitch Support Brace faces down).

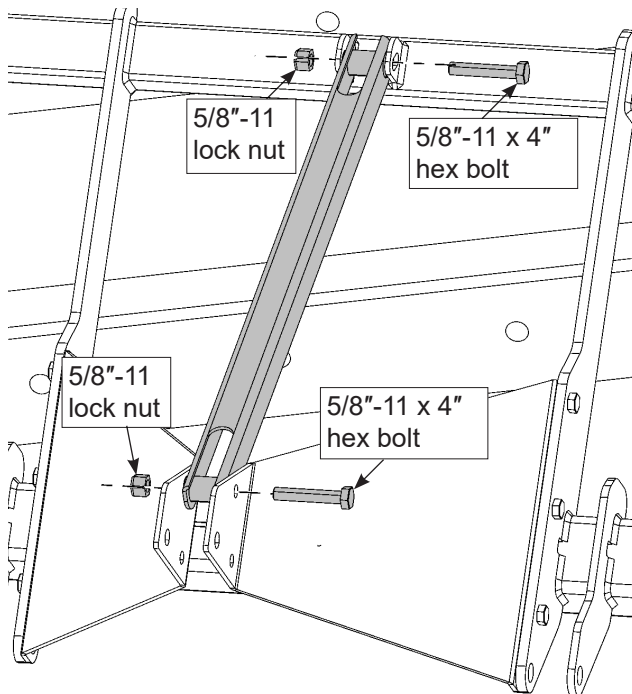


Align spacer bushing with Hitch Support Brace.

12. Insert a 5/8"-11 x 4" hex bolt through the hitch support brace attachment point, Hitch Support Brace, and spacer bushing. Secure with 5/8"-11 lock nut (**DO NOT** fully tighten the bolt and lock nut at this time).
13. Align an A-Arm spacer bushing from Step 4 with the bolt holes on the other end of the Hitch Support Brace.

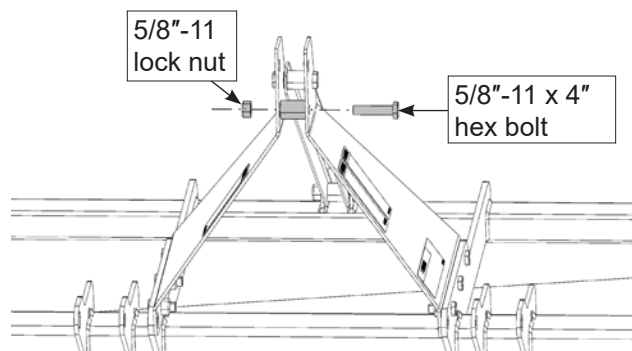
ASSEMBLY AND SETUP

14. Align the bolt holes of the Hitch Support Brace and spacer bushing with A-Arm bolt holes, then insert a 5/8"-11 x 4" hex bolt through the A-Arm, Hitch Support Brace, and spacer bushing. Secure the bolt with 5/8"-11 nylon lock nut. (**DO NOT** fully tighten the bolt and lock nut at this time).



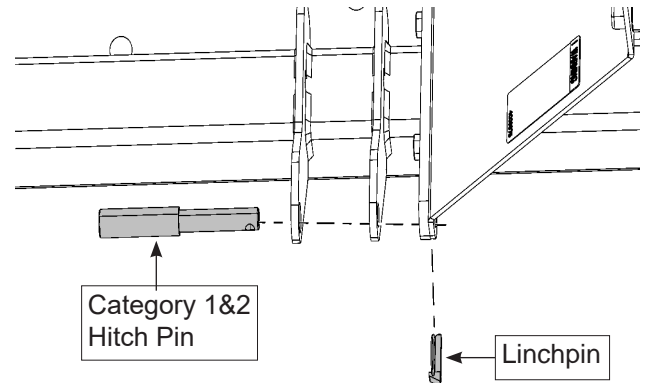
Secure Hitch Support Brace and spacer bushings with hex bolt and lock nuts.

15. Install the second spacer bushing from Step 4 into the lower bolt holes at the top of the A-Arms. This spacer bushing serves as a quick hitch attachment point and connects to the A-Arms with a 5/8"-11 x 4" hex bolt secured with a 5/8"-11 nylon lock nut (Tighten lock nut until it is snug tight).



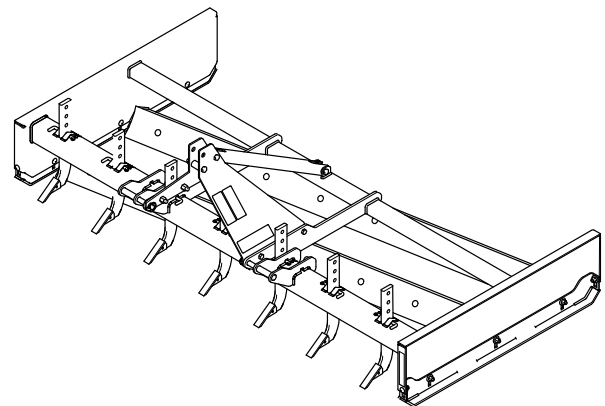
Align bushing and secure with hex bolt and lock nut.

16. Tighten all lock nuts on the Hitch Support Brace and A-Arm bolts until they are snug tight.
17. Insert the Category 1&2 hitch pins through Land Grader frame and A-Arms and secure with linchpins.



Insert Category 1&2 Hitch Pin. Secure with Linchpin.

18. Check that the A-Arms are aligned with one another, then tighten all lock nuts to proper torque specifications. (See chart on page 25)
19. The Land Grader is now fully assembled and ready for use.



Fully assembled Model ALG396.

ATTACHING

Attaching to Tractor 3-Point Hitch

WARNING

Avoid serious injury or death!

When implement is attached:

- Put transmission in **PARK** and engage parking brake as applicable.
- Check full range of hitch for interference or binding.
- **DO NOT stand between tractor and implement.**

1. Back up tractor to Land Grader with hitch points approximately in alignment.
2. Engage tractor parking brake and/or place transmission in "PARK".
3. Shut off tractor engine and remove key.
4. Remove tractor center link mounting hardware, and the hitch pins from both sides of the implement.
5. Install tractor draft links on hitch pins. Secure with linchpins. (Make sure to use correct CAT 1 or CAT 2 placement on ALG396 model.)



Attach tractor draft link to hitch pin.

6. Align center link with upper hole in Land Grader A-arms and install center link mounting hardware.



Install center link and mounting hardware.

7. Start tractor engine.
8. Slowly pull hitch control lever to raise Land Grader. Check for interference.
9. Lower Land Grader and adjust tractor center link until implement is level with the ground when in the down position.



Ensure implement is level when lowered to the ground.
NOTE: Scarifier shanks not shown.

ATTACHING

Attaching to Tractor Quick Coupler Hitch

IMPORTANT

Avoid Damage!

DO NOT remove the sleeve and 5/8" bolt in the lower mast hole, as they provide an attachment point for a Category 1 quick hitch.

1. Install quick hitch bushings on hitch pins.



Install bushings before attaching to quick hitch.

2. Slowly push hitch control lever to lower hitch until quick hitch hooks are lower than Land Grader hitch pins.



Lower quick hitch hooks.

3. Back up tractor to Land Grader hitch.
4. Raise hitch high enough to engage Land Grader hitch pins in hooks.



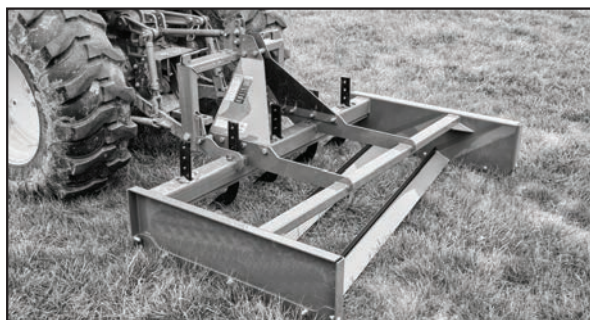
Raise quick hitch and engage hitch pins.

5. Engage tractor parking brake and/or place transmission in "PARK". Turn off tractor and remove key.
6. Check that quick hitch is properly engaged on Land Grader hitch pins and top bushing, then lower quick hitch handles to lock position.



Lower handles to lock quick hitch.

7. Start tractor engine.
8. Slowly pull hitch control lever to raise Land Grader. Check for interference.
9. Lower Land Grader and adjust tractor center link until implement is level with the ground when in the down position.



Ensure implement is level when lowered to the ground.

DETACHING / OPERATION

Detaching from Tractor 3-Point Hitch

1. Lower Land Grader to the ground, then set tractor parking brake and shut off tractor engine.
2. Remove linchpins from hitch pints, then detach draft links. Re-install pins on unit after detaching draft links.
3. Disconnect center link from A-arms. Position tractor center link in transport location. Reinstall center link pin/hardware.
4. Start tractor engine, disengage parking brake and carefully drive tractor away.

Detaching from Tractor Quick Coupler Hitch

1. Shut off tractor engine, set parking brake, then raise both handles on quick hitch to unlocked position.
2. Start tractor engine.
3. Lower Land Grader to the ground. Continue lowering quick hitch until hooks clear Land Grader hitch pins.
4. Disengage parking brake and carefully drive tractor away.

Operation

The operator is responsible for safely operating the equipment and must be properly trained. Before use, operators should familiarize themselves with the equipment, the tractor, and safety practices, as outlined in the safety rules and decals on pages 2 through 7.

The Land Grader with Scarifiers is designed for scarifying, scraping, leveling, and grading.

WARNING

Avoid serious injury or death!

- Power unit must be equipped with ROPS or ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.
- DO NOT allow children or untrained persons to operate the equipment.
- Keep bystanders away from equipment.
- Keep hands feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.

CAUTION

Avoid injury!

- Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.
- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head. Wear respirator or filter mask where appropriate.

OPERATION

Operational Readiness Checklist

Operators should verify the following before using the Land Grader with Scarifiers.

1. Operator has reviewed the entire Operation and Maintenance Manual.
2. Overall condition good (i.e. paint, welds).
3. Tractor ROPS or ROPS Cab and seat belt must be in good working condition. Operators must keep seat belt securely fastened during operation.
4. Land Grader is completely assembled. (pp. 8-12)
5. All fasteners torqued to specifications in torque chart. (p. 25)
6. All safety and instructional labels in place and legible. (pp. 6-7)
7. Implement is correctly and securely attached to tractor. (pp. 13-14)

Adjusting Implement Tilt

1. Level the front and rear of the Land Grader by adjusting the tractor's 3-point top link (See Figure 2).
 - a. Shortening the top link raises the rear of the Land Grader and lowers the front.
 - b. Lengthening the top link lowers the rear of the Land Grader and raises the front.
2. Level the right and left side of the Land Grader by shortening or lengthening the tractor's 3-point draft arms.

NOTE: For effective grading, the most common position is level both front to back and side to side. Experience will help the operator find the optimal setting to achieve desired results.



Figure 2: Use tractor top link to tilt front and rear of Land Grader.

Scarifying

1. Place the scarifier shanks in position with shank points facing toward the tractor (See Figure 3).
2. Adjust scarifier depth with 4 position pin settings.
3. Lower the Land Grader and drive tractor forward to begin scarifying operation.

NOTE: For aggressive scarifying, shorten the tractor top link to tilt the unit forward and engage the scarifying shanks. To scarify and grade simultaneously, lengthen the top link to ensure proper ground clearance with the rear blade.



Figure 3: Place shank points down and forward to scarify.

Scraping and Leveling

1. Raise or remove the scarifier shanks.
2. Lower the Land Grader and drive forward to move material.
 - a. Grade above plane by raising tractor draft arms and setting draft control on tractor for consistency.
 - b. Grade below plane by adjusting skid shoes (See **ADJUSTING SKID SHOES** section).

NOTE: When the top link is adjusted properly, both the front and rear grading blades should engage the ground and/or material being leveled.

3. Adjust the tractor top link to change the blade tilt and achieve the correct slope.
4. To spread large piles of material:
 - a. Raise the Land Grader and back over the pile.
 - b. Lower Land Grader and drive forward.
 - c. Once material is moved to desired location, begin raising the Land Grader to leave material behind.
 - d. Make final leveling passes once material is spread.

NOTE: Top link adjustment for loose or previously scarified material will differ from adjustment for hard or compacted material.

OPERATION

Adjusting Skid Shoes

1. Safely place the Land Grader on wooden blocks or other sufficient supports capable of sustaining implement weight.



2. Use a 3/4" wrench to loosen the five 1/2" nylon lock nuts on each skid shoe.



3. Raise or lower skid shoe to desired height. Use a tape measure to ensure front and rear of skid shoe is level.
 - a. Crown by adjusting skid shoes low on one side and higher on the other.
4. Tighten all nuts to correct torque specifications (See p. 25).

NOTE: Crowning may also be achieved by adjusting the tractor's 3-point draft links.

NOTE: Adjusting skid shoes above the bottom of the grading blade allows for a more aggressive cut.

Cleaning

AFTER EACH USE

1. Remove large debris such as dirt clumps, grass, and crop residue from the implement.
2. Inspect the implement for worn or damaged parts. Replace parts as needed.
3. Replace any safety labels that are missing or illegible. Safety labels are available from authorized Tar River Implements dealers.

Cleaning

PERIODICALLY OR BEFORE EXTENDED STORAGE

1. Remove large debris such as dirt clumps, grass, and crop residue from the implement.
2. Clean the implement using a low-pressure water spray.
 - a. Be careful when spraying near edges of safety labels as water spray can peel label off surface.
 - b. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 - c. If pressure washer is used, follow the advice of the pressure washer manufacturer.
3. Inspect the implement for worn or damaged parts. Replace parts as needed.
4. Sand down scratches and the edges of areas of missing paint and coat with spray paint of matching color.
5. Replace any safety labels that are missing or illegible. Safety labels are available from authorized Tar River Implements dealers.

Storage



Avoid serious injury or death!

- Always use a tractor to position the implement for storage. Never attempt to move the implement by hand.
 - Securely block up the implement on wooden blocks or other sufficient supports capable of sustaining implement weight.
 - Keep children, bystanders, and livestock away from the storage area.
1. Park the implement on a dry, level surface shielded from atmospheric agents.

MAINTENANCE

This section is intended for operators with basic mechanical skills. Block up the Land Grader for service, but note that working underneath the implement is not required. Operators should read and follow the safety information in this manual. For service assistance, contact an authorized Tar River Implements dealer.

WARNING

Avoid serious injury or death!

- **Never go underneath equipment or between movable parts, even if the tractor engine is off. Hydraulic or mechanical failures, or movement of control levers, can cause unexpected drops or movement, resulting in severe injury or death.**
- **Service work does not require going underneath.**
- **Read the Operator's Manual for service instructions or have an authorized dealer perform service.**
- **Keep all persons away from the operator control area during adjustments or maintenance.**
- **Before dismounting tractor or performing service, disengage power, lower 3-point hitch and raised components, release hydraulic pressure, set the parking brake, stop the engine, remove the key, and unfasten seat belt.**

CAUTION

Avoid injury!

- **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head. Wear respirator or filter mask where appropriate.**

Blocking Up Land Grader with Scarifiers

1. Place two 4" x 4" wooden blocks or other sufficient supports capable of sustaining implement weight under Land Grader cutting blades (See Figure 4).
2. DO NOT block the Land Grader any higher than needed for removing the scarifier shanks or cutting edges.
3. Use tractor to lower Land Grader to rest securely on supports.



Figure 4: Land Grader blocked up on 4" x 4" wooden supports.

MAINTENANCE

Removing and Replacing Scarifier Shanks

Scarifier shanks have three or four operating positions depending on the model. They may be removed if scarifying action is not needed.

1. Follow **BLOCKING UP LAND GRADER WITH SCARIFIERS** instructions.
2. Remove clip pin (1) and "L" pin (2) (See Figure 5).
3. Remove scarifier shank (3) or adjust operating position.
4. Replace "L" pin (2) and clip pin (1).

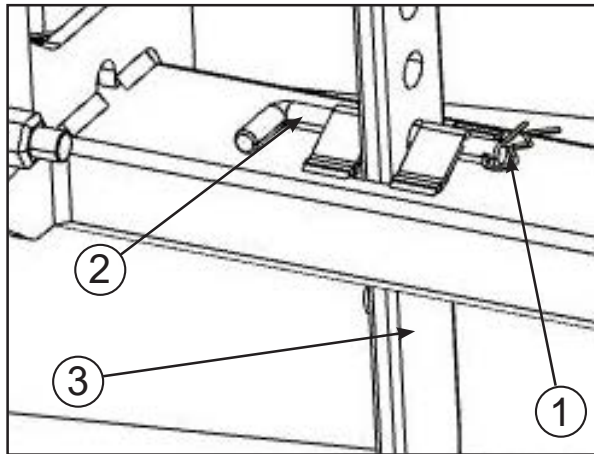
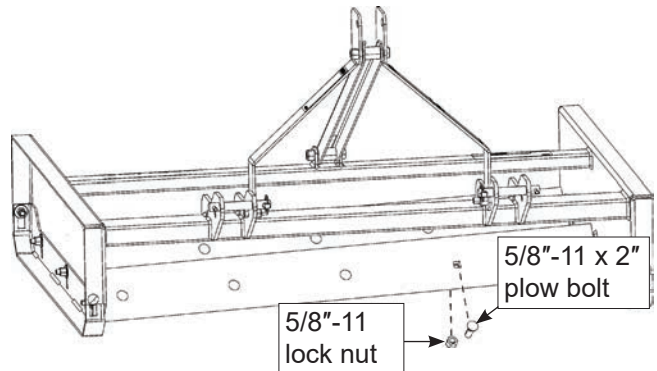


Figure 5: Remove clip pin (1) and "L" pin (2) to adjust scarifier shank.

Rotating and Replacing Cutting Blades

All Land Grader models use two replaceable 3/8" x 6" cutting edges, which are also reversible for extended wear.

1. Follow **BLOCKING UP LAND GRADER WITH SCARIFIERS** instructions.
2. Use a 5/16" wrench to remove each 5/8"-11 nylon lock nut and 5/8"-11 x 2" plow bolt securing the cutting edge to the Land Grader frame.

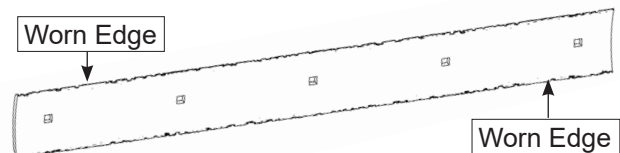


Remove bolts and lock nuts to reverse/replace cutting edge. Note: Model shown without scarifier shanks.

3. Rotate cutting edge 180° to use new edge, or replace if both edges are worn.



One worn edge: Rotate blade 180° to use new edge.



Two worn edges: Replace blade.

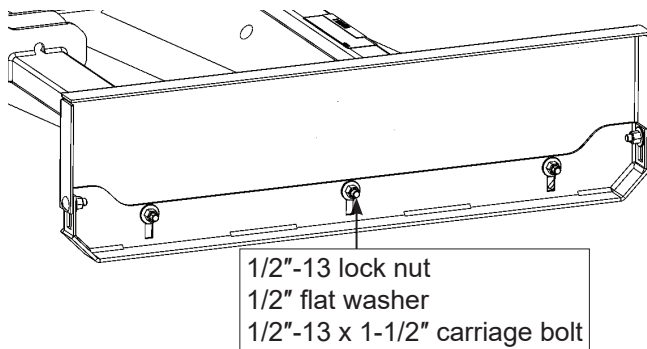
4. Attach cutting edge to Land Grader and secure with plow bolts and hex nuts removed during Step 2.
5. Torque plow bolts to correct torque specification (See p. 25).

MAINTENANCE

Rotating and Replacing Skid Shoes

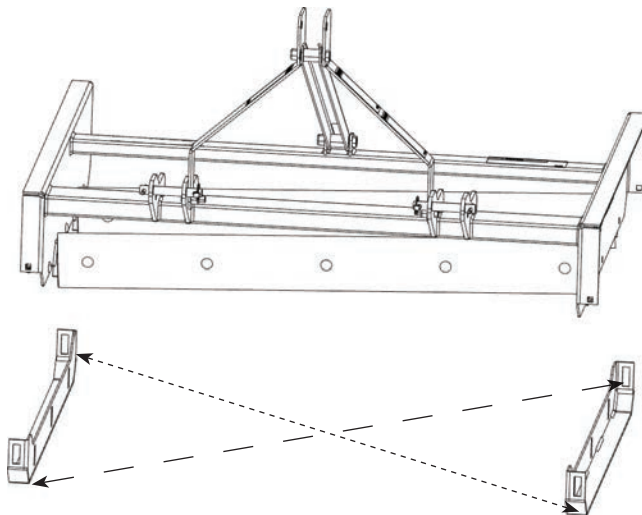
All Land Grader models come equipped with replaceable skid shoes that can be rotated for extended wear.

1. Follow **BLOCKING UP LAND GRADER WITH SCARIFIERS** instructions.
2. Use a 3/4" wrench to remove each 1/2"-13 lock nut, 1/2" flat washer, and 1/2"-13 x 1 1/2" carriage bolt securing the skid shoe to the Land Grader frame, then remove the skid shoe.



Remove hex nuts, flat washers, and carriage bolts.

3. Install new skid shoe or rotate 180° and reinstall on the opposite side from which it was removed.



Rotate skid shoes 180° and install on opposite side.

4. Reinstall the carriage bolts with threads facing outward.
5. Secure each bolt with flat washer and lock nut. Tighten all bolts to correct torque specifications (See p. 25)

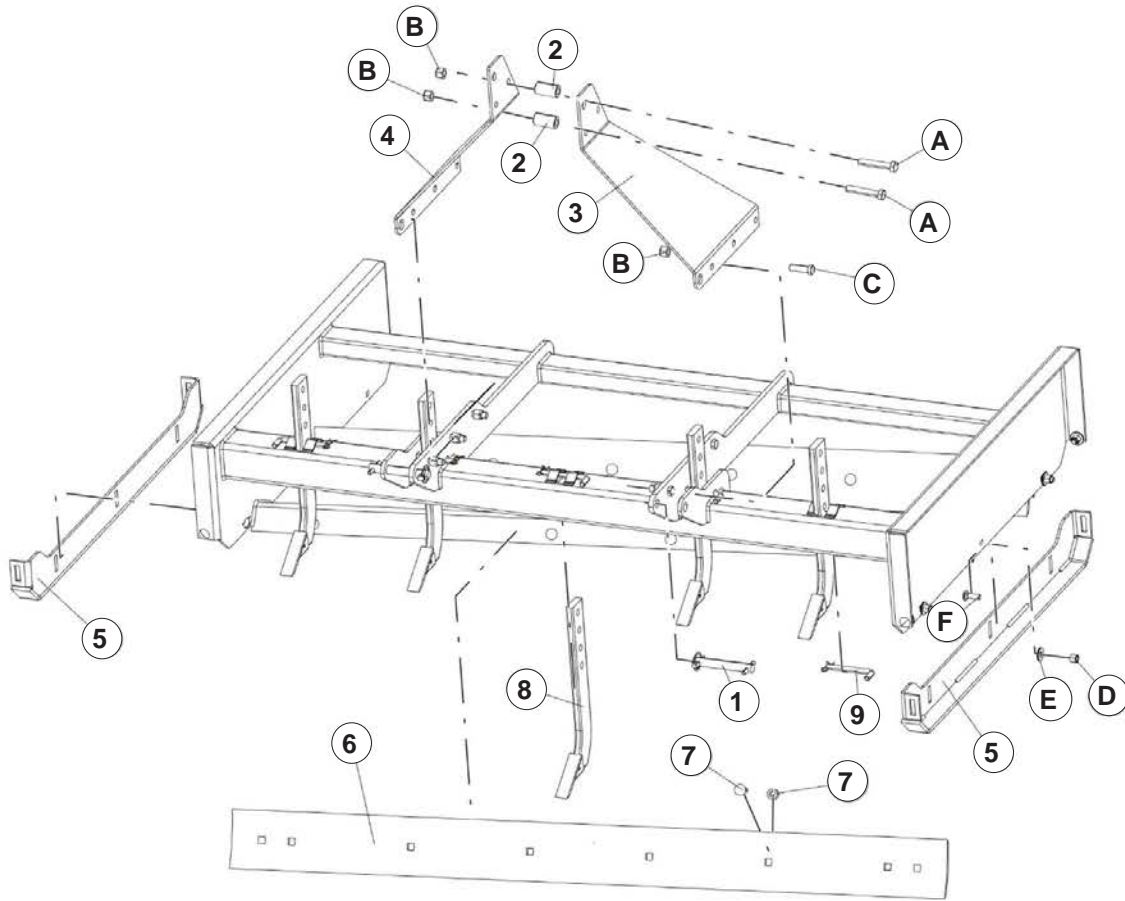
TROUBLESHOOTING

Problem	Possible Cause	Possible Remedy
Material building up on first blade.	Unit tilted forward.	Lengthen top link.
Material not being graded by first blade/building up on second blade.	Unit tilted back.	Shorten top link.
Unit tips up in the back when using scarifier shanks.	Front down pressure caused by scarifier shanks.	Lengthen top link more than usual when using scarifier shanks and leveling at same time.
Material spread is not level.	Skid shoes not adjusted evenly.	Measure skid shoe position on each side and make even.
Material/rock getting bound up in the front.	Scarifier shanks not allowing adequate material flow.	When leveling or spreading large media, it may be necessary to raise or remove the scarifier shanks.

SPECIFICATIONS

Model	ALG260	ALG272	ALG396
Dimensions			
Working Width	60"	72"	96"
Overall Width	65"	76"	100"
Overall Height	35"		
Overall Length	48"		54"
Height to Hitch Pins	16"		
Weight			
Operating	484 lb	528 lb	653 lb
Tractor Requirements			
Engine HP	25-50 HP	35-50 HP	40-90 HP
Construction			
Side Panel Length	44"		50"
Side Panel Height	14.5"		
Side Panel Thickness	1/4" w/ Formed Edges		
Skid Shoe Thickness	3/8"		
Main (Front) Beam	4" X 4" X 1/4" Tubing		
Scarifier Shank			
Type	Heat Treated 4 Position		
Quantity	4	5	7
Scarifier Depth Range	2", 0", -2", -4"		
Cutting Edges			
Quantity	2		
Features	Reversible and Replaceable, 3/8" X 6" High Carbon Heat Treated Blades		
Placement	Two Parallel Grading Blades Positioned at a 10° Angle		
Grading Depth			
Skid Shoe Adjustment	Infinitely adjustable blade depth from 0 to -2.5" via skid shoes		
Hitch			
Style	Clevis w/ Pin		
Category	Cat 1		Cat 1 & 2
Quick Hitch Compatible	Yes		Yes Cat 1 & 2

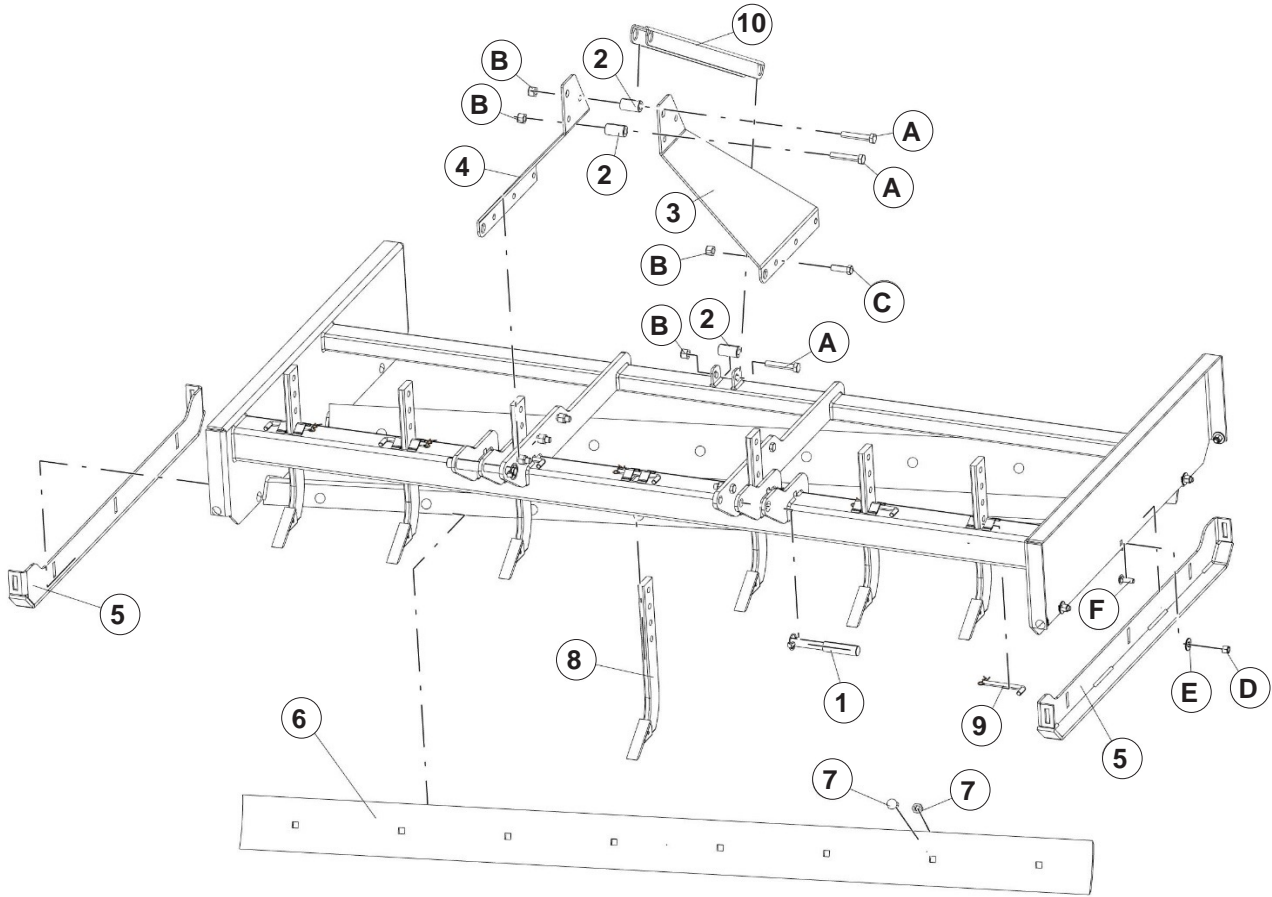
PARTS



LAND GRADER WITH SCARIFIERS MODEL ALG260 and ALG272

Item#	Service Number	QTY	Description
1	HP9000285	2	Cat 1 Hitch Pin w/Linchpin
2	TLS9000556	2	Top Link Spacer (Gray)
3	ALG9001207	1	Land Grader LH A-Arm (Gray)
4	ALG9001209	1	Land Grader RH A-Arm (Gray)
5	ALG9001211	2	5' & 6' Land Grader Skid Shoe (Gray)
6	CERB5	2 (ALG260)	60" Cutting Edge
6	CERB6	2 (ALG272)	72" Cutting Edge
7	BCEM	2	Bolt Set for Cutting Edge (6pk)
8	SS9000408	4 (ALG260) 5 (ALG272)	4-hole Scarifier
9	LCP124	4 (ALG260) 5 (ALG272)	Scarifier Pin 1/2" x 4" L Pin w/ Clip
A	—	2	5/8"-11 x 4" GR5 Hex Bolt
B	—	8	5/8"-11 Nylon Lock Nut
C	—	6	5/8"-11 x 2" GR5 Hex Bolt
D	—	10	1/2"-13 Nylon Lock Nut
E	—	10	1/2" Flat Washer
F	—	10	1/2"-13 x 1-1/2" GR5 Carriage Bolt

PARTS



LAND GRADER WITH SCARIFIERS MODEL ALG396

Item#	Service Number	QTY	Description
1	HP9001214	2	Cat 1 & 2 Step Hitch Pin w/ Linchpin
2	TLS9000556	2	Top Link Spacer (Gray)
3	ALG9001207	1	Land Grader LH A-Arm (Gray)
4	ALG9001209	1	Land Grader RH A-Arm (Gray)
5	ALG9001211	2	8' Land Grader Skid Shoe
6	CERB8	2	96" Cutting Edge
7	BCEM	3	Bolt Set for Cutting Edge (6pk)
8	SS9000408	7	4-hole Scarifier
9	LCP124	7	Scarifier Pin 1/2" x 4" L Pin w/ Clip
10	ALG9001202	1	Land Grader Hitch Support (Gray)
A	—	3	5/8"-11 x 4" GR5 Hex Bolt
B	—	9	5/8"-11 Nylon Lock Nut
C	—	6	5/8"-11 x 2" GR5 Hex Bolt
D	—	10	1/2"-13 Nylon Lock Nut
E	—	10	1/2" Flat Washer
F	—	10	1/2"-13 x 1-1/2" GR5 Carriage Bolt

BOLT TORQUE CHART

Proper torque for American fasteners used on manufactured implement.
Recommended Torque in Foot Pounds (Newton Meters).*

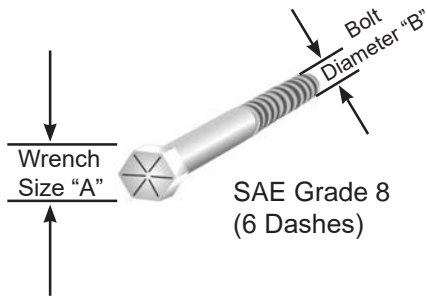
AMERICAN Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)



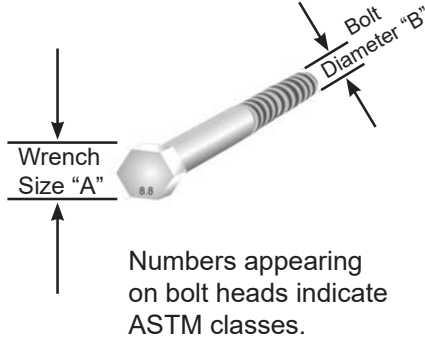
SAE Grade 8
(6 Dashes)

WRENCH SIZE(IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 24 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (406)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288 (1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

BOLT TORQUE CHART

Proper torque for metric fasteners used on manufacturer implement.
Recommended Torque in Foot Pounds (Newton Meters).*

METRIC



*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
31	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

WARRANTY

Limited Warranty

Belco Resources Equipment warrants to the original purchaser of any new piece of machinery from Belco Resources Equipment, purchased from an authorized Belco Resources Equipment dealer, that the equipment be free from defects in material and workmanship for a period of one (1) year for non-commercial, state, and municipalities' use, ninety (90) days for commercial use from date of retail sale. Warranty for rental purposes is thirty (30) days. The obligation of Belco Resources Equipment to the purchaser under this warranty is limited to the repair or replacement of defective parts.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Belco Resources Equipment dealer during regular working hours. Belco Resources Equipment reserves the right to inspect any equipment or parts, which are claimed to have been defective in material or workmanship.

This limited warranty does not apply to and excludes wear items such as shear pins, tires, tubes, knives, blades or other wear items. Oil or grease is not covered by this warranty.

All obligations of Belco Resources Equipment under this limited warranty shall be terminated if:

Proper service is not performed on the machine.

The machine is modified or altered in any way.

The machine is being used or has been used for purposes other than those for which the machine was intended.

Disclaimer of Implied Warranties & Consequential Damages

Belco Resources Equipment obligation under this limited warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Belco Resources Equipment; duty taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery.

Registration

The online Warranty Registration must be completed in order to qualify for coverage on this Limited Warranty. Visit br-equipment.com, click on "Warranty Registration" and completely fill out the for to register the new piece of equipment.

WARRANTY

Additional Information

Contact your authorized dealer for complete warranty information and assistance with warranty claims. Retain original sales receipt, and record the model number, serial number, and the date of purchase in the spaces provided below. This information will be helpful to the dealer if parts or service are required.

Warranty Claim Information

Dealer Name.....

Dealer Address.....

Dealer Phone.....

Dealer Email.....

Purchase Date.....

Model Number.....

Serial Number/UPC.....



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