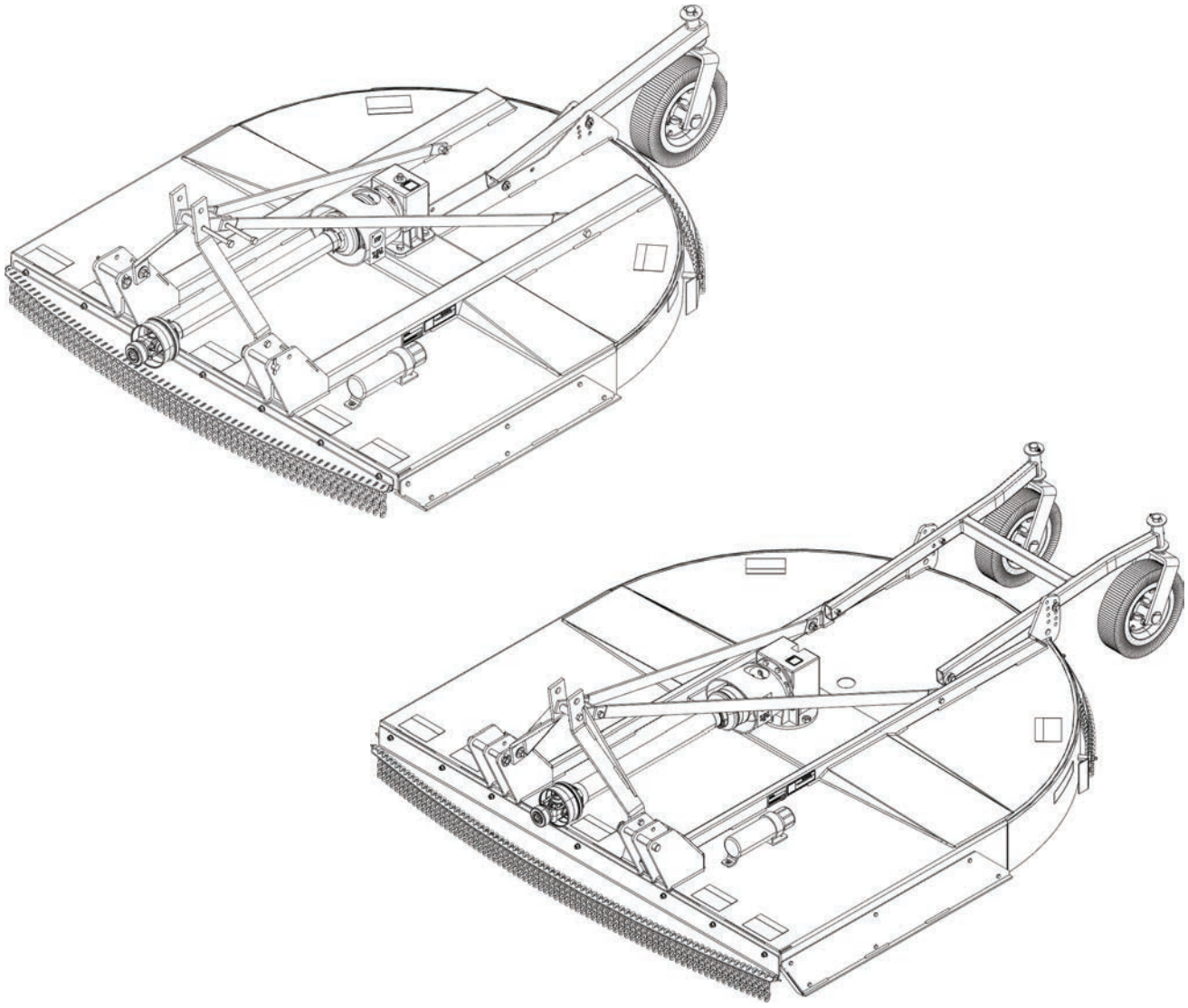
Medium Rotary Cutter
ARC372, ARC384



Operator's Manual

ARC4000835 / Revision A

Introduction

Thank you for purchasing the Medium Rotary Cutter. You can expect many years of reliable service when this implement is maintained and used within the limits of its capabilities. **READ THIS MANUAL CAREFULLY** to learn how to operate and service the implement correctly. Failure to do so could result in personal injury or equipment damage.

Intended Use

The Medium Rotary Cutter is designed to cut grass and light brush using a 3-point hitch tractor (see **p. 37, PRODUCT SPECIFICATIONS** for correct hitch category). It is intended solely for the purposes outlined in this manual.

Using this Manual

This manual is designed to help familiarize the operator with the Medium Rotary Cutter's safety, assembly, operation, adjustments, troubleshooting, and maintenance expectations and create awareness of the hazards that operators may encounter because of its use. This manual intends to provide specific machine guidelines and help owners and operators obtain the best results and safe operation from their investment with a focus on accident and injury 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 longevity 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 49.** 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 .....

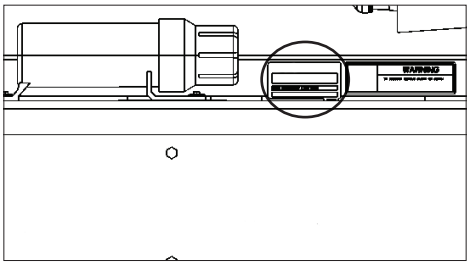
Phone .....

Email .....

Purchase Date .....

Serial Number / UPC .....

Serial Label Location



Serial number label located on left side backstrap weldment near manual holder.

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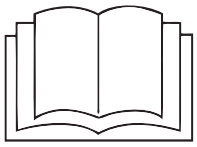
Customer Support:

Phone: 1.252.822.7140

E-mail: sales@tarrivermfg.com

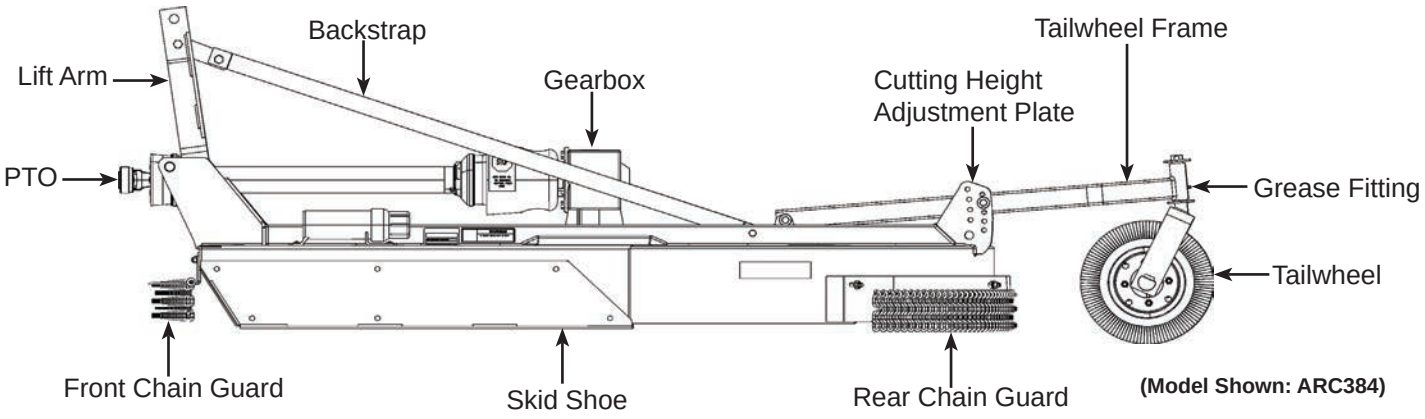


This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must supply this manual with the machine. Replacement manuals are available from authorized dealers or Tar River Implements Customer Support.

PRODUCT DESCRIPTION

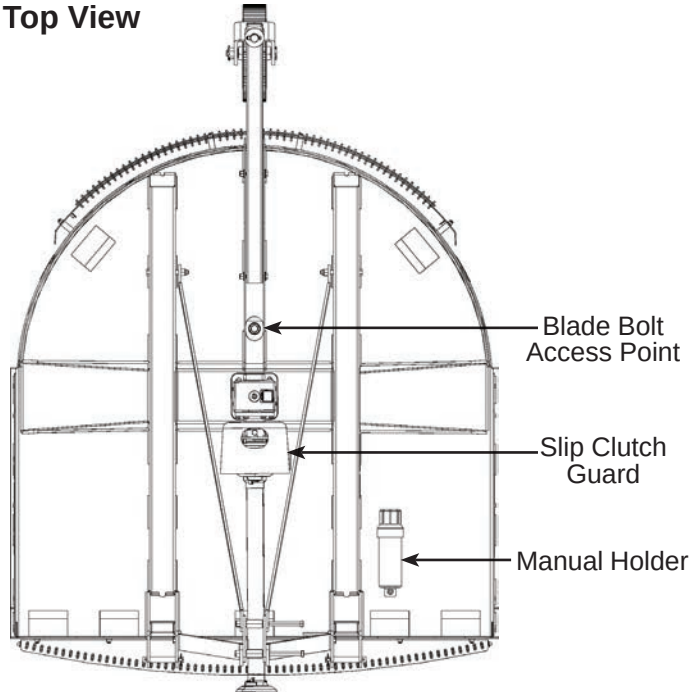
The Medium Rotary Cutter is intended for cutting grass and light brush. Model ARC372 attaches to a Category 1 tractor hitch, and Model ARC384 attaches to a Category 1 *or* Category 2 hitch. Both models are perfect for creating trails, mowing fields, and clearing overgrown areas for wildlife. The welded steel deck features a replaceable blade pan and skid shoes, and tailwheel height adjustment plates accommodate various terrains.

Side View



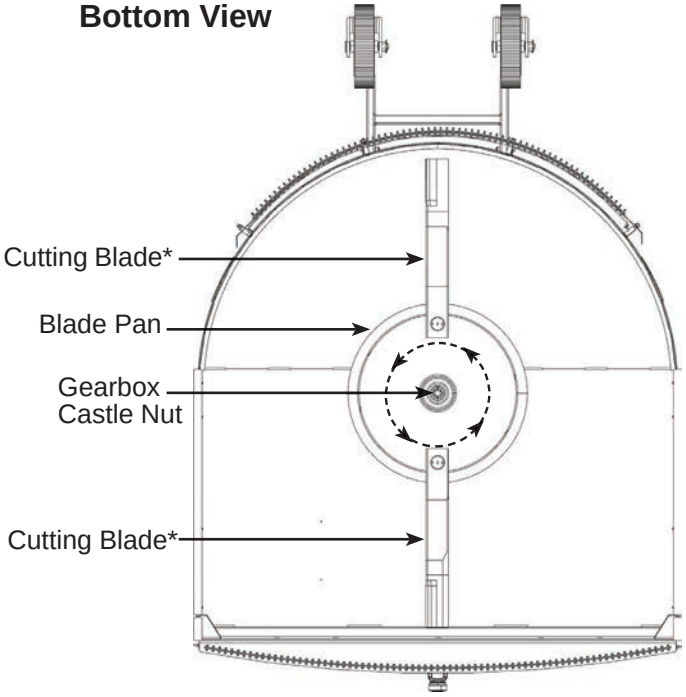
(Model Shown: ARC384)

Top View



(Model Shown: ARC372)

Bottom View



(Model Shown: ARC384)

*Blades rotate counterclockwise.

⚠ IMPORTANT SAFETY MESSAGE FOR OWNERS/OPERATORS OF ROTARY CUTTERS

From members of the Farm Equipment Manufacturers Association

Rotary Cutter Manufacturer Product Council

Safety is a primary concern in the design, manufacture, sale, and use of rotary cutters. As manufacturers of rotary cutters, we want to confirm to you, our customers, our concern for safety. We also want to remind you about the simple, basic, and common sense rules of safety when using a rotary cutter. Failure to follow these rules can result in severe injury or death to operators or bystanders.

It is essential that everyone involved in the assembly, operation, transport, maintenance, and storage of this equipment be aware, concerned, prudent, and properly trained in safety. The majority of accidents involve entanglement on the driveline or thrown objects. These risks become greater when you do not use proper shielding specified by the manufacturer.

Our current production machines include, as standard equipment, guards or shields for drivelines and input shafts, safety signs and operators manuals. If you have an older machine which does not have current standard safety equipment, please contact your dealer about bringing your machine up to the current level of safety.

Below are some of the most important safety rules to be understood and followed by anyone who works with rotary cutters:

- Before operating a rotary cutter, an operator must read and understand all the information in the owner's manual and in the safety signs attached to the product. A person who has not read or understood the owner's manual and safety signs is not qualified to operate the cutter. Accidents occur often on machines that are loaned or rented to someone who has not read the owner's manual and is not familiar with a rotary cutter. If you do not have an owner's manual or current production safety signs, contact the manufacturer or your dealer immediately.
- Rotary cutters are designed for one-man operation. Never operate the cutter with anyone near, or in contact with, any part of the implement or PTO driveline. Be sure no one else, including bystanders, is near you when you operate this product.
- If operation of a rotary cutter around bystanders, animals, or property that may sustain damage (such as highway, park, or airport) is absolutely necessary, use safety guarding recommended by the manufacturer for thrown object prevention.

Following these simple, basic safety rules, as well as others identified in the owner's manual and in product safety signs, will help minimize the possibility of accidents and increase your productivity in using this product. Be careful and make sure that everyone who operates the cutter knows and understands that it is a very powerful piece of machinery, and if used improperly, serious injury or death may result. The final responsibility for safety rests with the operator of this machine.

FEMA

A safety manual for Rotary Cutters is available through the FEMA office.

Phone: 314.878.2304
E-mail: staff@FarmEquip.org

SAFETY GUIDELINES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Safety is a primary concern in the design and manufacture of the Medium Rotary Cutter. 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:

DANGER 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.

WARNING 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.

CAUTION 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.

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

NOTE 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 attachments 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 equipment, 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 equipment.

Preparation

Check that all hardware is properly installed.

Always tighten 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, adjusted, and in good operating condition.

Make sure collar slides freely and is seated firmly in tractor PTO spline groove.

Before servicing equipment, check and adjust driveline length as instructed in Operator's Manual. Driveline must not bottom out or pull apart throughout the full range of the tractor hitch. **DO NOT** operate until driveline length is correct. Make sure driveline shield safety chain is attached as shown in this manual. Replace if damaged or broken.

Check that driveline guards rotate freely on driveline before servicing equipment.

Before starting power unit, check all equipment driveline guards for damage. Replace any damaged guards.

Make sure all guards rotate freely on all drivelines. If guards do not rotate freely on drivelines, repair and replace bearings before servicing equipment.

Inspect chain or rubber guards before each use. Replace if damaged.

Remove accumulated debris from this equipment, power unit, and engine to avoid fire hazard.

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 labels are installed. Replace if damaged. (See pp. 8-10, **SAFETY AND INSTRUCTIONAL LABELS** section for location.)

Make sure shields and guards are properly installed and in good condition. Replace if damaged.

Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.

Starting and Stopping

Check the tractor master shield over the PTO (power take off) stub shaft. Make sure it is in good condition and fastened securely to the tractor. Purchase a new shield if old shield is damaged or missing.

All tractors that are not equipped with a "live" power take-off (PTO) must be equipped with an over-running PTO clutch. These are available through most farm equipment stores.

NOTE: The addition of an over-running PTO clutch may change the length of the PTO driveline required. Be sure to refer to the installation instructions on page 14 for ARC372 models or page 19 for ARC384 models. Be sure that the driveline system guarding is adequate. Implement operating power is supplied from the tractor PTO. Refer to the tractor manual for PTO engagement and disengagement instructions.

SAFETY GUIDELINES

Starting and Stopping Cont.

Understand how to stop tractor and implement quickly in case of an emergency.

When engaging the PTO, the engine RPM should always be at idle speed. Once engaged and ready to start, raise PTO speed to 540-RPM and maintain throughout operation.

Transportation

Power unit must be equipped with a 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!**

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

Never allow riders on power unit or implement.

DO NOT operate PTO during transport.

Watch for hidden hazards on the terrain.

DO NOT operate or transport on steep slopes.

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

When encountering rough terrain during transport, reduce tractor speed to minimize the horizontal movement of implement.

Stabilizer bars should be used during transport to reduce lateral movement of implement.

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

Operation

Never discharge directly toward people, animals, or property.

Use both front and rear guards to reduce the possibility of object being thrown.

This implement is intended for agricultural applications only. **DO NOT** operate within 300 feet of bystanders or public roads or highways.

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

Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.

Operate only in daylight or satisfactory artificial light.

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

Never allow riders on power unit or implement.

Operate tractor PTO at 540 RPM. **DO NOT exceed!**

Power unit must be equipped with a 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 power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.

DO NOT operate PTO during transport.

Look down and to the rear and make sure area is clear before operating in reverse (operating in reverse is not recommended).

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.

SAFETY GUIDELINES

Operation Cont.

Watch for hidden hazards on the terrain during operation. Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

Leak down or failure of mechanical or hydraulic system can cause equipment to lower.

Maintenance

Before detaching power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, set parking brake, stop engine, remove key, and unfasten seat belt.

Before performing any service or maintenance, disconnect driveline from tractor PTO.

Before working underneath, carefully read Operator's Manual instructions, disconnect driveline, securely block up all corners, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failures, or mechanical component failures.

DO NOT modify, alter, or permit anyone else to modify or alter the equipment or any of its components in any way.

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, adjusted, and in a safe operating condition.

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

Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment 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 equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking procedures.

Make certain all movement of equipment components has stopped before approaching for service.

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.

Storage

Block equipment securely for storage.

Keep children and bystanders away from storage area.

Follow operator's manual instructions for storage.

Always use a tractor to position equipment for storage. Never attempt to move equipment by hand.

Equipment Safety Guidelines

Safety of the operator and bystanders is one of the main concerns in design and development. However, accidents always occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. Operators and others working with them can avoid many accidents by observing the following precautions.

In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

Replace any safety label that is illegible or missing. Location of such safety signs are indicated in this manual.

Never use alcoholic beverages or drugs that can hinder alertness or coordination while operating this equipment. Operators should consult their doctor about operating this machine while taking prescription medications.

Under no circumstances should children under the age of 18 be allowed to operate this equipment. DO NOT allow persons to operate 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.

Equipment Safety Guidelines Cont.

This equipment can be dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with farm machinery and trained in this equipment's operations.

Use a tractor equipped with a Roll-Over Protection System (ROPS) and seat belts.

Never exceed the limits of a piece of machinery. If its ability to perform a job safely, is in question, DON'T TRY IT.

DO NOT modify the equipment in any way. Unauthorized modification could result in serious injury or death and may impair the function and life of the equipment.

In addition to the design and the confirmation of this implement, including safety labels and safety equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to safety messages and operation instructions in each of the appropriate sections of the tractor and implement manuals. Heed the safety labels affixed to both the tractor and implement.

SAFETY AND INSTRUCTIONAL LABELS

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

The Medium Rotary Cutter comes equipped with all safety labels in place. These labels instruct the operator on the safe use of the equipment. They inform operators about hazards associated with normal operation or foreseeable product misuse and how to avoid them to prevent physical injury or death. All operators are required to read and follow directions on the safety labels.

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 and 2 for proper label placement. **NOTE: ARC372** and **ARC384** models have identical label placement locations.
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 the correct 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 **(Model Shown: ARC384)**

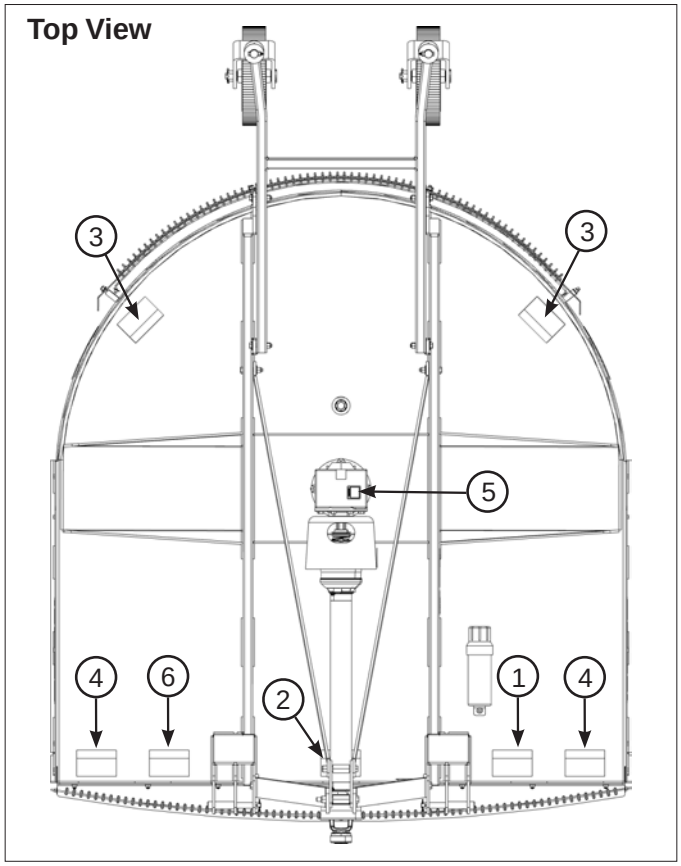
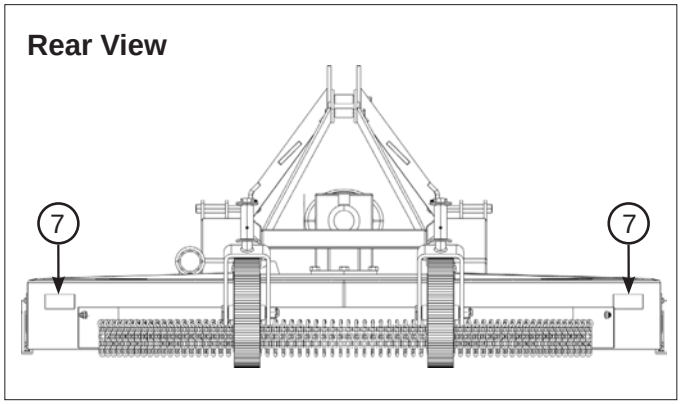


Figure 2 **(Model Shown: ARC384)**



SAFETY AND INSTRUCTIONAL LABELS

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

WARNING

To prevent serious injury or death:

- Read and understand Operator's Manual bere using. Review annually.
- Do not permit riders on the tractor or mower. Never carry children on tractor seat.
- Do not allow children to operate mower.
- Operate only with guards installed and in good condition.
- Keep away from moving parts.
- Operate only with tractor equipped with ROPS and seatbelts.
- Before mowing, clear debris from mowing area.
- Do not operate in the raised position.
- Stop engine, set brake and wait for all moving parts to stop before dismounting.
- Support mower securely before working beneath unit.
- Transport with clean reflectors, SMV and working lights as required by federal, state, and local laws.

ITEM 1

1 SERIOUS INJURY

DANGER

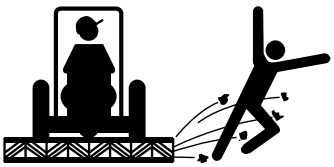
ROTATING DRIVELINE HAZARD KEEP AWAY

- Do not operate unless PTO guards, tractor master shield and implement guards are in place.
- PTO guards must turn freely and be properly attached and maintained.
- U-joint yokes must be securely locked onto tractor and implement shafts.
- Be sure tractor drawbar and implement hitch are adjusted correctly.
- Grease shaft regularly.
- This implement is designed to operate at 540 RPM maximum tractor PTO speed.
- Failure to heed these warnings may result in personal injury or death.

ITEM 2

2 ROTATING DRIVELINE

DANGER



THROWN OBJECT HAZARD

To prevent serious injury or death:

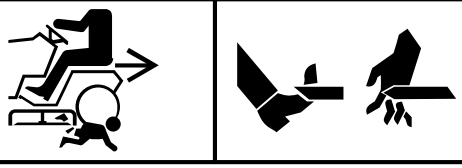
- Do not operate unless all guards are installed and in good condition.
- Stop blade rotation if bystanders come within several hundred feet.

ITEM 3

(2 needed)

3 THROWN OBJECT

DANGER



ROTATING BLADES KEEP AWAY

To prevent serious injury or death when the engine is running and the blades are rotating:

- Never allow riders, especially children, on tractor or mower.
- Do not operate with bystanders in mowing area.
- Do not operate with deflectors/guards removed.
- Do not place hands or feet under deck.

ITEM 4

(2 needed)

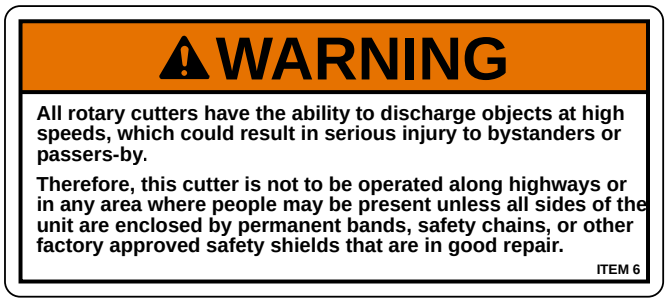
4 ROTATING BLADES

Warning Label Sheet - ARC-DECALS (includes labels 1-6)

SAFETY AND INSTRUCTIONAL LABELS

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

5 NEEDS OIL



6 THROWN OBJECT

(2 needed)

7 RED REFLECTOR

ARC372 - Part ARCFT4003 (2″ x 4 1/2″)
ARC384 - Part ARC9001157 (2″ x 9″)

Warning Label Sheet - ARC-DECALS (includes labels 1-6)

ASSEMBLY AND SETUP

ARC372 - Assembly Information

The ARC372 Model ships in an upright position, securely attached to shipping stands. The lift arms and tailwheel assembly must be transitioned to user position for the rotary cutter to operate as intended. An authorized Tar River Implements dealer may have already performed some or all of the assembly steps outlined on pages 11-14. All operators should review these instructions before attempting to use the rotary cutter to ensure that it is properly assembled.

INCLUDED HARDWARE:

Kit 1 - Tailwheel Hardware

1/2″-13 X 4″ Gr. 5 Hex Bolt (x2)

1/2″ Flat Washer (x4)

1/2″-13 Nylon Lock Nut (x2)

Kit 2 - Slip Clutch Shield Hardware

5/16″-18 x 1/2″ Gr. 2 Hex Cap (x4)

5/16″ Flat Washer (x4)

Kit 3 - Chain Guard Hardware

3/8″-16 x 1-1/4″ Carriage Bolt (x7)

3/8″ Flat Washer (x11)

3/8″-16 Nylon Lock Nut (x11)

3/8″-16 x 3″ Carriage Bolt (x4)

1/2″ x 2″ Tube (x4)

SHIPPING POSITION:

(Zip ties and protective cardboard not shown.)

TOOLS NEEDED:

- Tie Cutters
- 1/2″ Wrench or Socket
- 9/16″ Wrench or Socket
- 3/4″ Wrench or Socket
- 15/16″ Wrench or Socket
- Lifting or hoisting vehicle
- Lifting chain or strap
- (4) 4″ x 4″ solid wood blocks or shop stands

⚠ WARNING

Avoid serious injury or death!
Lifting/hoisting vehicle, chain/strap, and blocking equipment must be capable of sustaining implement weight. The ARC372 Rotary Cutter weighs 761 lb.

NOTE: Fabric lift strap recommended to minimize paint damage.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:

- Hard hat
- Safety glasses
- Work gloves
- Sturdy, rough-soled work shoes

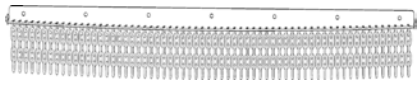
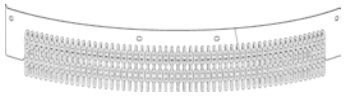
ASSEMBLY AND SETUP

ARC372 Tailwheel and Lift Arm Assembly Instructions

WARNING

Avoid serious injury or death!

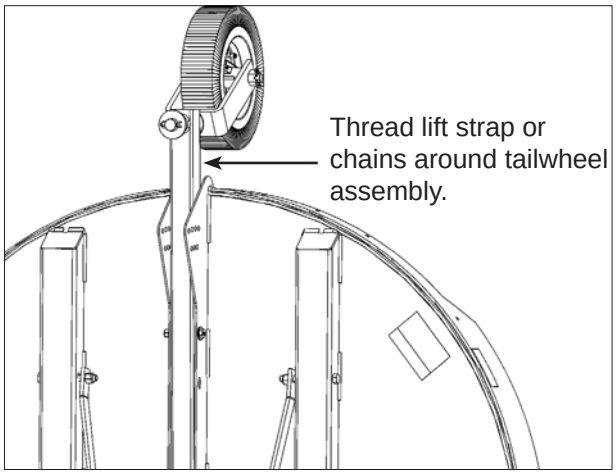
- **Assemble rotary cutter on level ground.**
- **Watch for possible pinch points and crushing hazards.**
- **Wear appropriate personal protective equipment.**
- **Keep bystanders and persons not involved with assembly away from the assembly area.**

1. With rotary cutter still in shipping position, cut zip ties to remove:
   - Front Chain Guard 
   - Rear Chain Guard 
   - PTO Shaft 
   - Slip Clutch Shield 

   Set items aside.

2. Remove all hardware kits from manual holder and set aside.

3. Thread a lift strap or chains around tailwheel assembly and securely attach to lifting vehicle or hoist.

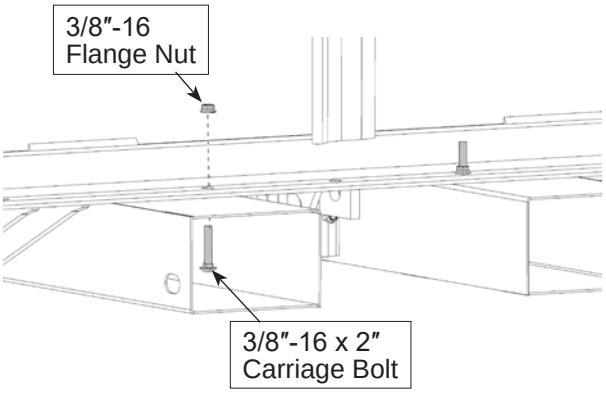


WARNING

Avoid serious injury or death!

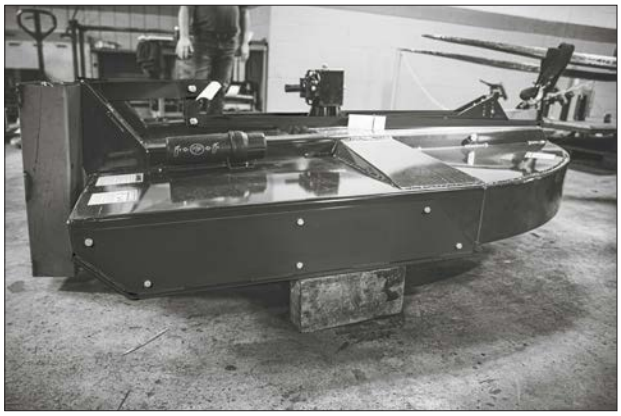
Step 4 requires assemblers to position themselves between the rotary cutter and the lifting/hoisting vehicle. Before performing this step, disengage power to the lifting/hoisting vehicle. Turn off engine, set parking brake, and remove key if applicable. Watch for pinch points and crushing hazards.

4. Use a 9/16″ wrench or socket to remove the 3/8″-16 flange nut and 3/8″-16 x 2″ carriage bolt connecting each shipping stand to the front of the rotary cutter deck. Discard hardware.



Remove flange nuts and carriage bolts.

5. Use lifting vehicle or hoist to lower the rotary cutter onto support blocks. Remove the lift straps or chains and move the lifting vehicle away from the assembly area.



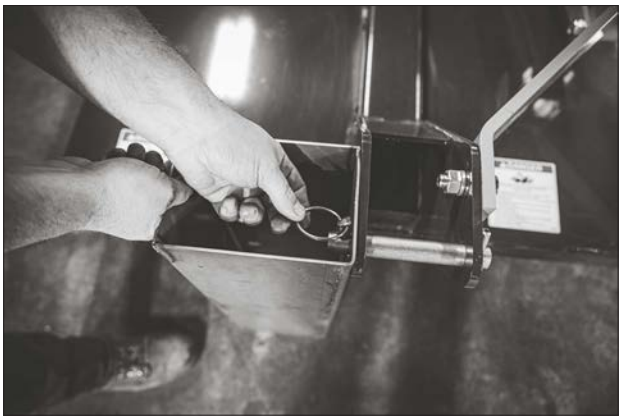
Lower rotary cutter onto support blocks.

6. Cut zip ties and remove protective cardboard from rotary cutter backstraps.

ASSEMBLY AND SETUP

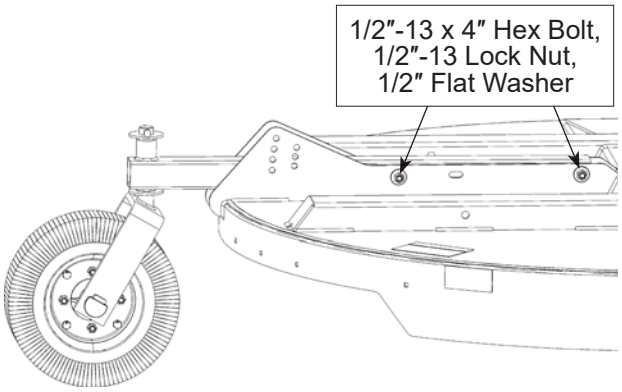
ARC372 Tailwheel and Lift Arm Assembly Instructions Cont.

7. Remove clip and hitch pin to allow removal of shipping stands. Discard shipping stands and replace hitch pins and clips.



Remove hitch pins, then remove shipping stands.

8. Use a 3/4″ wrench and socket to remove the two 1/2″-13 x 4″ hex bolts, 1/2″-13 lock nuts, and 1/2″ flat washers from the tailwheel assembly. Set hardware aside for use during Step 9 and 10.

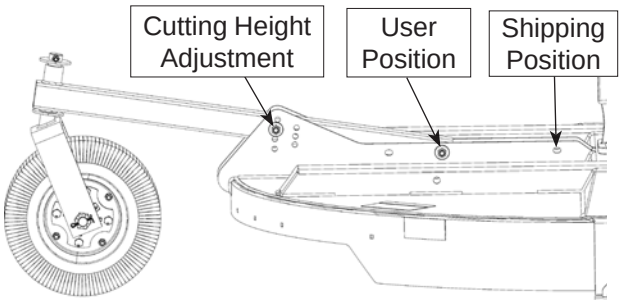


Remove hex bolts, lock nuts and flat washers.

9. Slide the tailwheel back from shipping position into user position, then insert one 1/2″-13 x 4″ hex bolt with flat washer into the user position bolt hole (see Figure 3, next column). Secure with 1/2″ flat washer and 1/2″-13 lock nut. **DO NOT** fully tighten the hardware at this time.

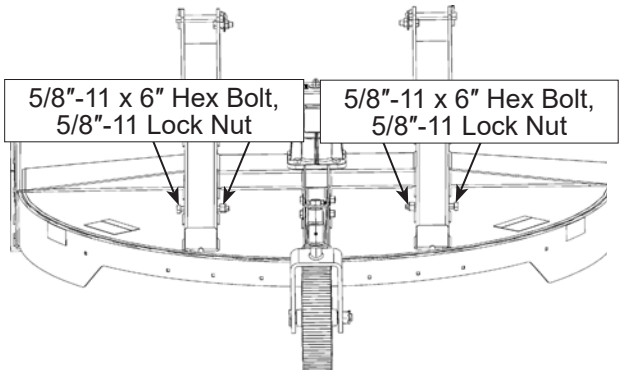
10. Determine desired cutting height, then insert one 1/2″-13 x 4″ hex bolt with flat washer through the cutting height adjustment plate and tailwheel assembly. Secure bolt with 1/2″ flat washer and 1/2″-13 lock nut. Tighten hardware, along with hardware installed during Step 9, to correct torque specifications (see p. 47).

Figure 3



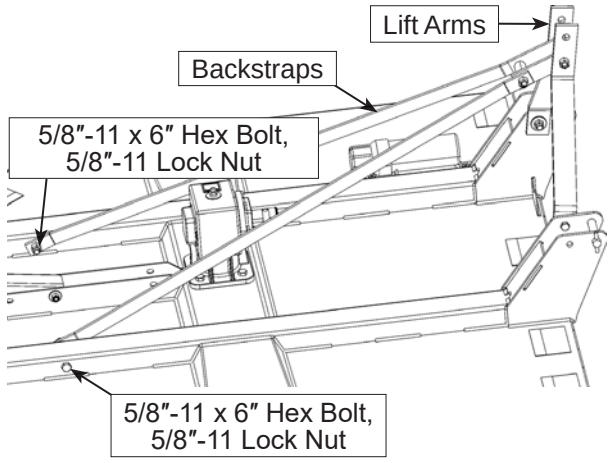
Move tailwheel to user position and secure with hardware.

11. Use a 15/16″ socket and wrench to remove the two 5/8″-11 x 6″ hex bolts and 5/8″-11 nylon lock nuts from the rotary cutter deck channel. Set hardware aside for use during Step 12.



Remove hex bolts and lock nuts from tailwheel channel. (Note: Lift arms and backstraps hidden for illustration purposes.)

12. Raise the lift arms and backstraps into user position, then replace the 5/8″-11 x 6″ hex bolt and 5/8″-11 lock nut removed during Step 11. Tighten lock nuts to correct torque specifications (see p. 47).

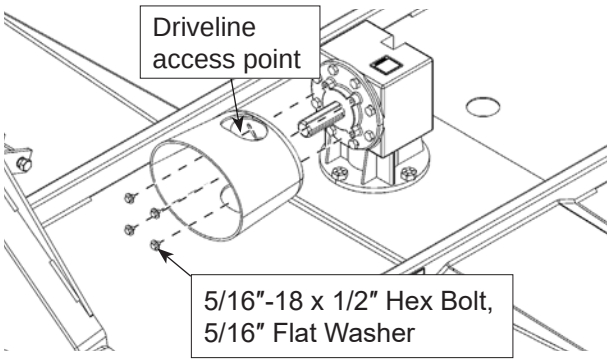


Raise lift arms and backstraps, then secure with hex bolts and lock nuts.

13. Continue assembly with **ARC372 PTO DRIVELINE INSTALLATION** below.

ARC372 PTO Driveline Installation

1. Remove the snap ring from the gearbox input shaft.
2. Position the Slip Clutch Shield onto the rotary cutter gearbox. Align the shield so that one of the driveline access panels faces upward.
3. Insert the four 5/16″-18 x 1/2″ hex bolts and 5/16″ flat washers from the supplied hardware kit. Tighten bolts to correct torque specifications using a 1/2″ wrench.

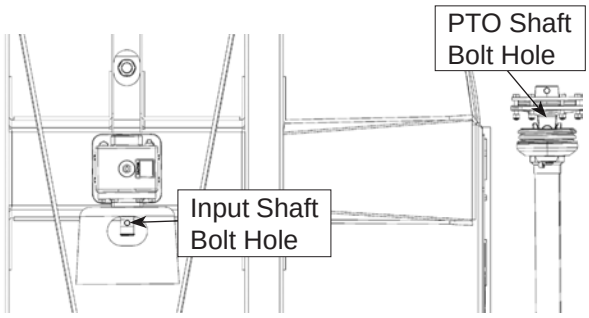


Install Slip Clutch Shield using supplied hardware. (Backstraps removed for illustration purposes.)

⚠ WARNING

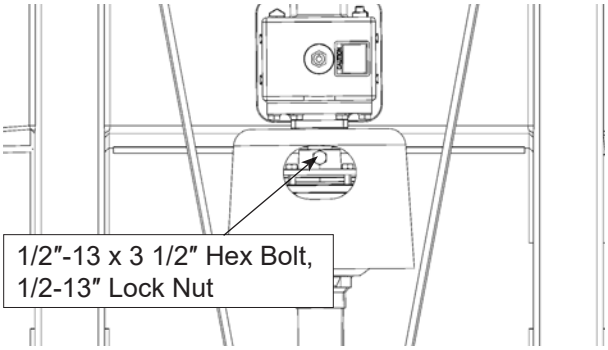
Watch for possible pinch points.

4. Push PTO driveline onto input shaft towards gearbox, aligning the holes for the retaining bolt.



Push PTO driveline onto input shaft and align bolt holes.

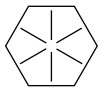
5. Utilizing the driveline access point in the Slip Clutch Shield, insert the 1/2″-13 x 3 1/2″ Grade 8 hex bolt through the PTO and gearbox input shafts. Secure hex bolt with 1/2″-13 nylon lock nut. Use a 3/4″ wrench and socket to tighten hex bolt and lock nut to correct torque specifications.



Install Grade 8 hex bolt and secure with lock nut.

IMPORTANT

Avoid Damage!
Only use a 1/2″ x 3 1/2″ Grade 8 hex bolt, identified by six radial lines located on the bolt head.



Grade 8 Hex Bolt

6. Close the driveline access panel on the Slip Clutch Shield.
7. Remove the safety chain from the bag on the PTO driveline shaft and attach the clip to the side of the Slip Clutch Shield.

Attach PTO driveline safety chain.

8. Continue assembly with page 20, **ATTACHING FRONT CHAIN GUARDS.**

ASSEMBLY AND SETUP

ARC384 - Assembly Information

The ARC384 ships in an upright position, securely attached to shipping stands. The lift arms and tailwheel H-frame assembly are folded flat and must be transitioned to user position for the rotary cutter to operate as intended. An authorized Tar River Implements dealer may have already performed some or all of the assembly steps outlined on pages 15-19. All operators should review these instructions before attempting to use the rotary cutter to ensure that it is properly assembled.

INCLUDED HARDWARE:

Kit 1 - Tailwheel Adjustment Plate Hardware

1/2″-13 X 3″ Gr. 5 Hex Bolt (x2)

1/2″ Flat Washer (x2)

1/2″-13 Nylon Lock Nut (x2)

Kit 2 - Slip Clutch Shield Hardware

5/16″-18 x 1/2″ Gr. 2 Hex Cap (x4)

5/16″ Flat Washer (x4)

Kit 3 - Chain Guard Hardware

3/8″-16 x 1-1/4″ Carriage Bolt (x7)

3/8″ Flat Washer (x7)

3/8″-16 Nylon Lock Nut (x7)

7/16″-14 x 3″ Carriage Bolt (x4)

7/16″ Flat Washer (x4)

7/16″-14 Nylon Lock Nut (x4)

1/2″ x 2″ Tube (x4)

TOOLS NEEDED:

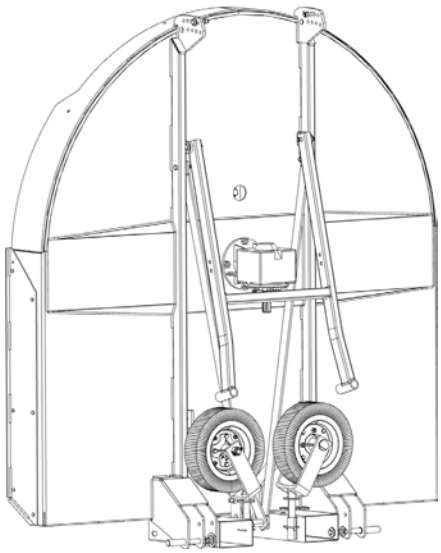
- Tie Cutters
- 1/2″ Wrench or Socket
- 9/16″ Wrench or Socket
- 5/8” Wrench or Socket
- 3/4″ Wrench or Socket
- 15/16″ Wrench or Socket
- Lifting or hoisting vehicle
- Lifting chain or strap
- (4) 4″ x 4″ solid wood blocks or shop stands

⚠ WARNING

Avoid serious injury or death!
Lifting/hoisting vehicle, chain/strap, and blocking equipment must be capable of sustaining implement weight. The ARC384 Rotary Cutter weighs 1,100 lb.

NOTE: Fabric lift strap recommended to minimize paint damage.

SHIPPING POSITION:



(Zip ties and protective cardboard not shown.)

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:

- Hard hat
- Safety glasses
- Work gloves
- Sturdy, rough-soled work shoes

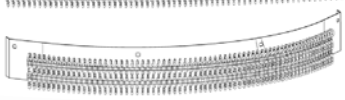
ASSEMBLY AND SETUP

ARC384 Tailwheel H-frame and Lift Arm Assembly Instructions

⚠ WARNING

Avoid serious injury or death!

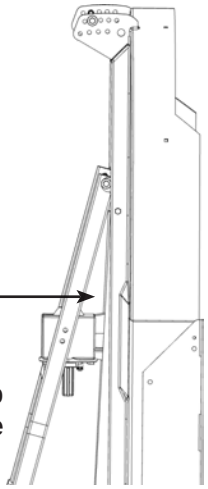
- **Assemble rotary cutter on level ground.**
- **Watch for possible pinch points and crushing hazards.**
- **Wear appropriate personal protective equipment.**
- **Keep bystanders and persons not involved with assembly away from assembly area.**

1. With rotary cutter still in shipping position, cut zip ties to remove:
   - Front Chain Guard 
   - Rear Chain Guard 
   - PTO Shaft 
   - Slip Clutch Shield 

   Set items aside.

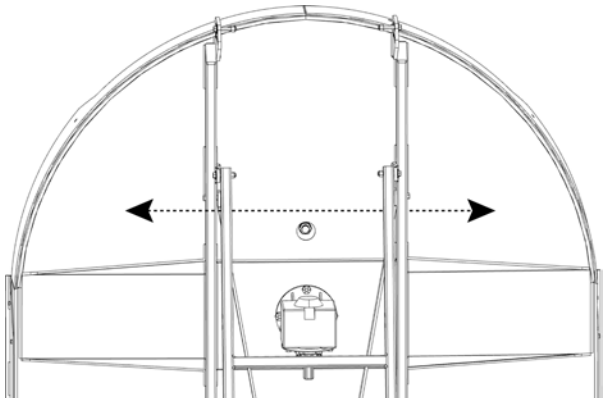
2. Remove all hardware kits from manual holder and set aside.

3. Thread a lift strap or chains underneath folded H-frame tailwheel assembly and securely attach to lifting vehicle or hoist.



Shown without zip ties or protective cardboard.

3. (Continued)

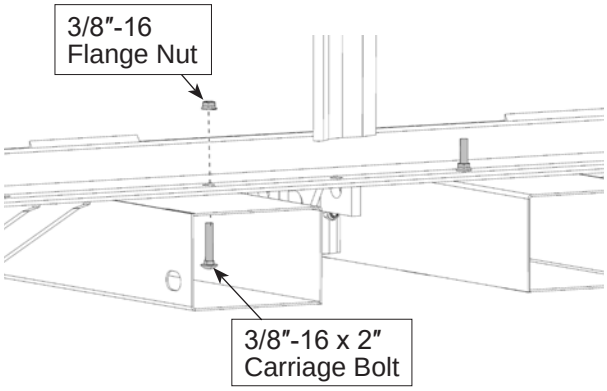


Thread lift strap or chains underneath H-frame.

⚠ WARNING

Avoid serious injury or death!
Step 4 requires assemblers to position themselves between the rotary cutter and the lifting/hoisting vehicle. Before performing this step, disengage power to the lifting/hoisting vehicle. Turn off engine, set parking brake, and remove key if applicable. Watch for pinch points and crushing hazards.

4. Use a 9/16″ wrench or socket to remove the 3/8″-16 flange nut and 3/8″-16 x 2″ carriage bolt connecting each shipping stand to the front of the rotary cutter deck. Discard hardware.

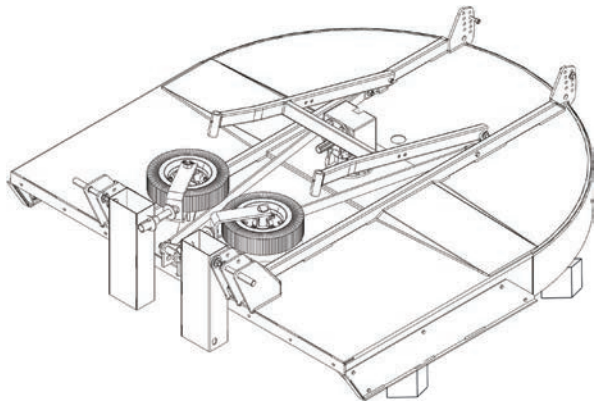


Remove Flange Nuts and Carriage Bolts.

ASSEMBLY AND SETUP

ARC384 Tailwheel H-frame and Lift Arm Assembly Instructions Cont.

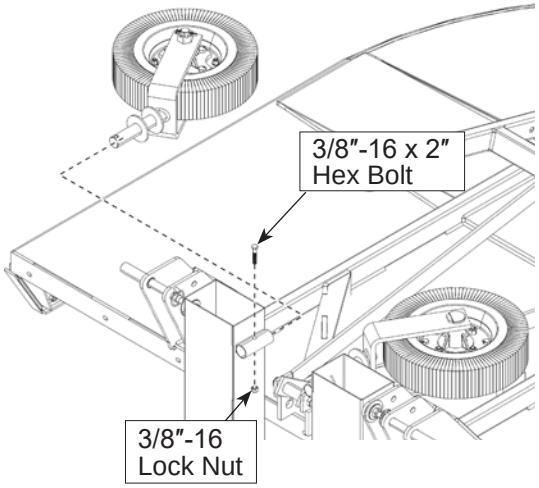
5. Use lifting vehicle or hoist to lower the rotary cutter onto support blocks. Remove the lift straps or chains and move the lifting vehicle away from the assembly area.



Lower rotary cutter onto support blocks.

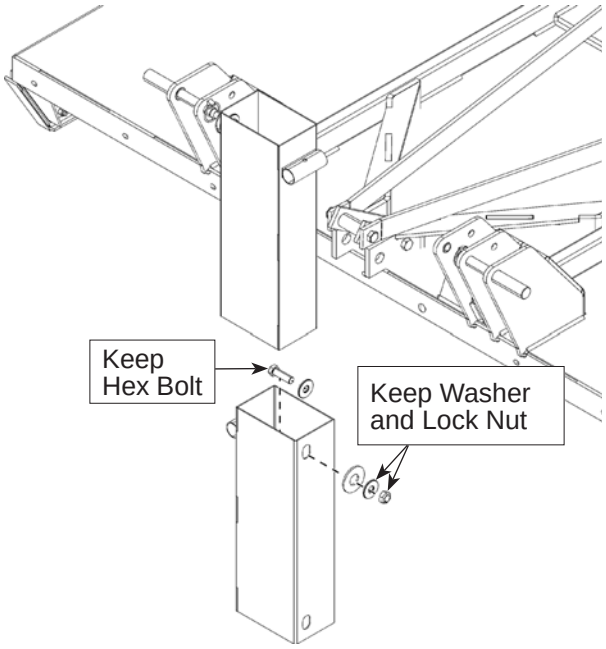
6. Cut zip ties and remove protective cardboard from hitch support straps.

7. Use a 9/16″ wrench or socket to remove the 3/8″-16 nylon lock nut and the 3/8″-16 x 2″ hex bolt securing each tailwheel to the shipping stands. Remove tailwheels from shipping stands and set aside. Keep all hardware for Step 11 - tailwheel installation.



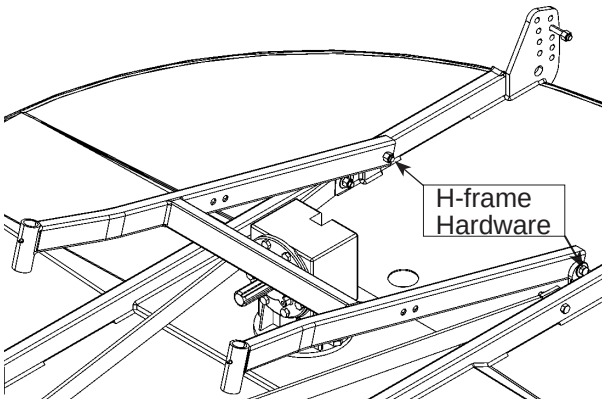
Remove tailwheels from shipping stands.

8. Use a 15/16″ wrench or socket to remove the 5/8″-11 stover lock nut, 5/8″-11 x 2″ hex bolt, and three flat washers securing shipping stands to rotary cutter hitch weldment, then remove shipping stands. Keep the lock nut, hex bolt and one 5/8″ flat washer from each shipping stand; this hardware is needed for Step 17-18 - lift arm installation. Discard shipping stands.



Remove and discard shipping stands.

9. Using a 3/4″ wrench or socket, loosen but do not remove the hardware securing tailwheel H-frame to rotary cutter.

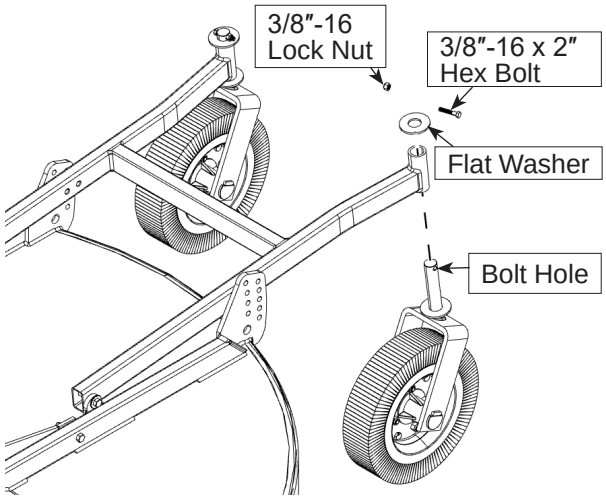


Loosen tailwheel H-frame hardware.

10. Fold tailwheel H-frame towards the back of the rotary cutter and into operating position.

ASSEMBLY AND SETUP

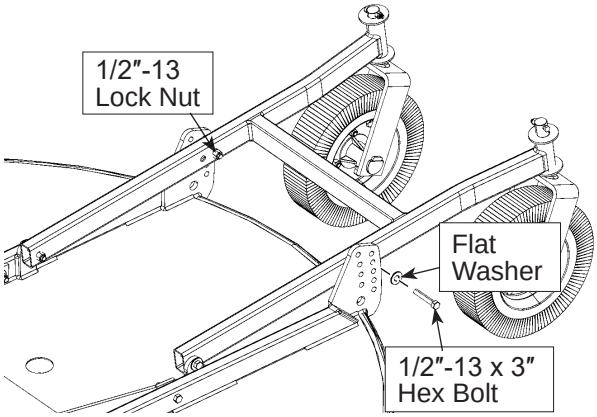
11. Install tailwheels onto the tailwheel H-frame by passing the tailwheel fork through the tailwheel attachment point. Place the flat washer removed during Step 7 onto the tailwheel fork, then insert the 3/8″-16 x 2″ hex bolt retained from Step 7 into the hole at the top of the tailwheel fork. Secure the hex bolt with 3/8″-16 nylon lock nut. Tighten to correct torque specifications.



Attach tailwheels. Secure with washer and bolt.

12. Set tailwheel H-frame to desired height by passing a supplied 1/2″-13 x 3″ hex bolt with 1/2″ flat washer through each cutting height adjustment plate and the tailwheel H-frame. Ensure bolt threads face inward. Both bolts should be inserted into adjacent holes on the cutting height adjustment plates so the tailwheel H-frame rests evenly.

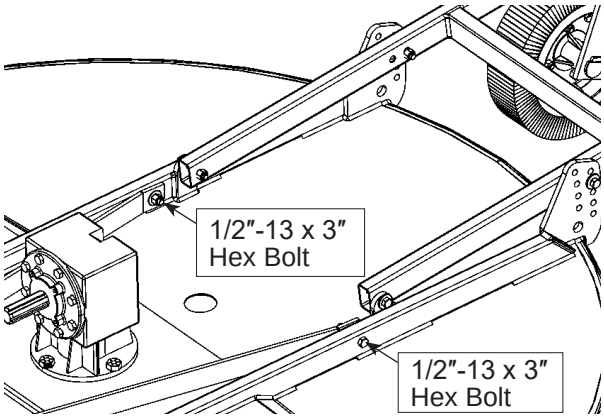
13. Use a 3/4″ wrench or socket to secure each height adjustment bolt with a supplied 1/2″-13 nylon lock nut. Tighten to correct torque specifications.



Install cutting height adjustment hardware.

14. Tighten hardware securing tailwheel H-frame to rotary cutter deck.

15. Using a 3/4″ wrench or socket, loosen but do not remove the 1/2″-13 x 3″ hex bolts securing the backstraps to the rotary cutter frame.

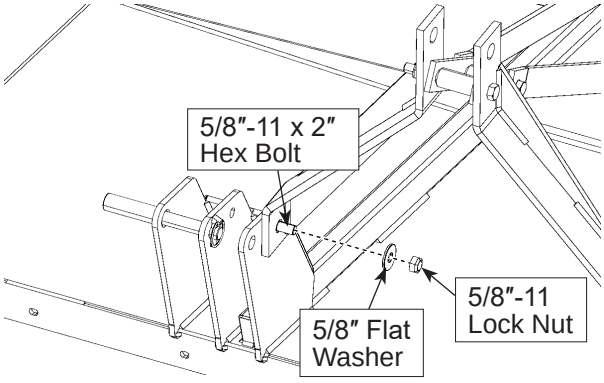


Loosen backstrap hardware.

16. Raise lift arms from shipping position into operating position.

17. Using the hardware from Step 8, pass a 5/8″-11 x 2″ hex bolt through the right hitch weldment and lift arm. Ensure bolt threads face inward. Repeat on the left side.

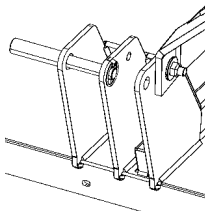
18. Secure each lift arm bolt with a 5/8″ flat washer and a 5/8″-11 stover lock nut. Tighten lift arm and backstrap hardware to correct torque specifications.



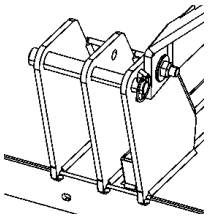
Secure lift arms with bolt, washer, and lock nut.

ARC384 Tailwheel H-frame and Lift Arm Assembly Instructions Cont.

19. Remove hitch pins from hitch weldment and reinstall in the correct operating position.



Hitch pin in shipping position.



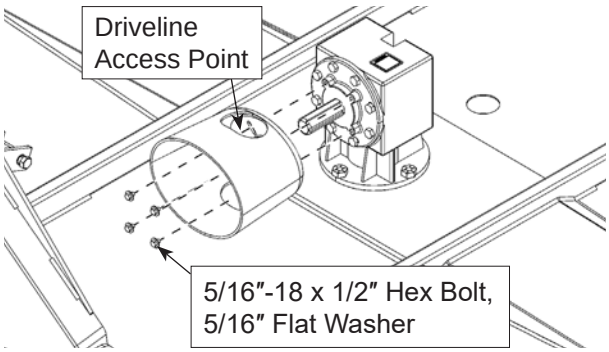
Hitch pin in user position.

20. Continue assembly with **ARC384 PTO DRIVELINE INSTALLATION** instructions below.

ARC384 PTO Driveline Installation

1. Position the Slip Clutch Shield onto the rotary cutter gearbox. Align the shield so that one of the driveline access panels faces upward.

2. Insert the four 5/16″-18 x 1/2″ hex bolts and 5/16″ flat washers from the supplied hardware kit. Tighten bolts to correct torque specifications using a 1/2″ wrench.



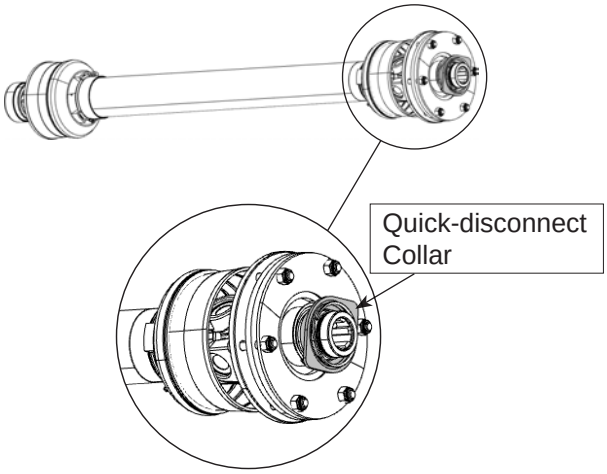
Install Slip Clutch Shield using supplied hardware. (Backstraps removed for illustration purposes.)

3. Open the driveline access panel on the Slip Clutch Shield.

⚠ WARNING

Watch for possible pinch points.

4. Position the implement end of the PTO driveline toward the gearbox. Compress the quick-disconnect collar, then push the driveline onto the gearbox shaft. Release the quick-disconnect collar and pull forward on the PTO driveline so that it meshes with the gearbox shaft. Ensure a secure connection by pulling and pushing on the PTO driveline.



5. Close the driveline access panel on the Slip Clutch Shield.

6. Remove the safety chain from the bag on the PTO driveline shaft and attach the clip to the side of the Slip Clutch Shield.

Attach PTO driveline safety chain.

7. Continue assembly with page 20, **ATTACHING FRONT CHAIN GUARDS.**

ASSEMBLY AND SETUP

Attaching Front Chain Guards

Use the supplied hardware listed below to install the front chain guards.

Front Chain Guard Hardware

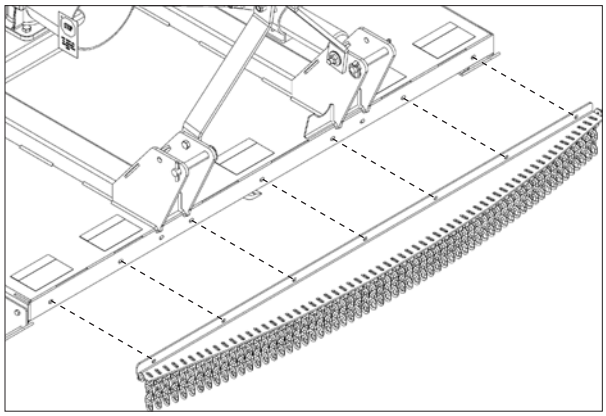
3/8″-16 x 1-1/4″ Carriage Bolt (x7)

3/8″ Flat Washer (x7)

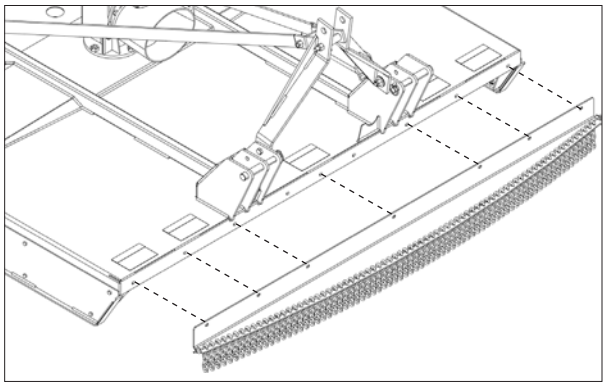
3/8″-16 Nylon Lock Nut (x7)

1. Align Front Chain Guard bolt holes with bolt holes on rotary cutter deck.

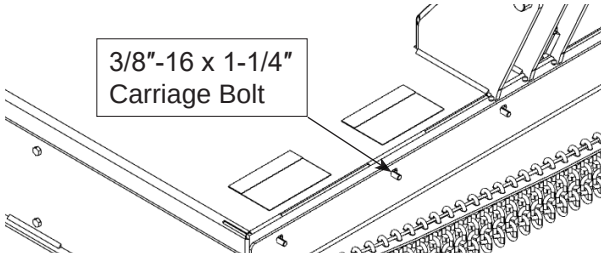
ARC372



ARC384

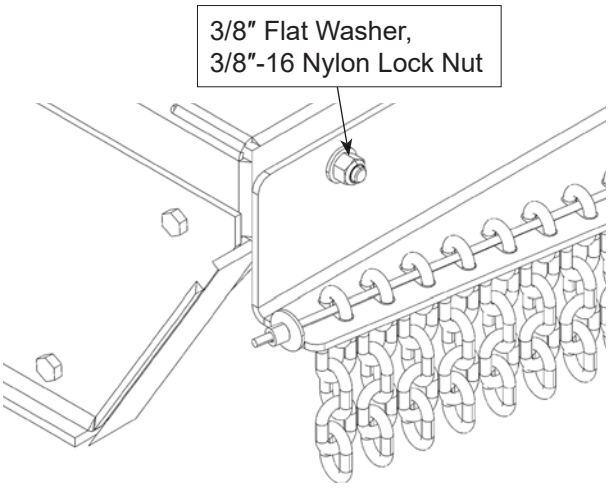


2. Insert one 3/8″-16 x 1-1/4″ carriage bolt through the bolt holes on the rotary cutter deck and chain guard. Bolt threads should face outward, away from the cutting blades.



Insert carriage bolts with threads facing outward.

3. Secure each bolt with a 3/8″ flat washer and 3/8″-16 nylon lock nut.



Secure bolts with flat washer and lock nut.

4. Use a 9/16″ wrench and socket to tighten the lock nuts and carriage bolts to correct torque specifications. (See torque chart on page 47.)

5. Continue assembly with p. 21, **ATTACHING REAR CHAIN GUARDS.**

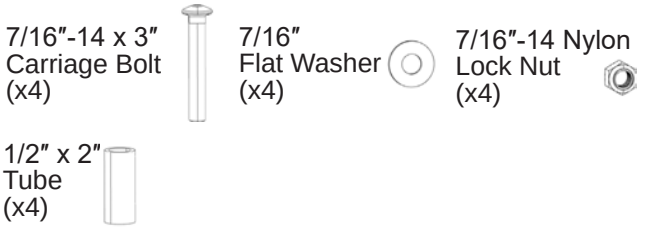
ASSEMBLY AND SETUP

Attaching Rear Chain Guards

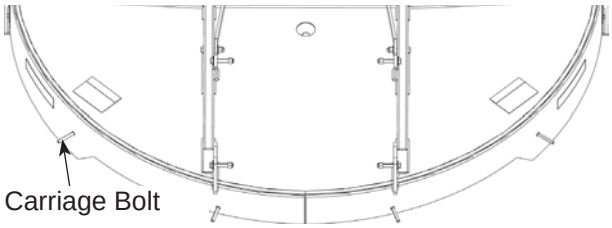
Use the supplied hardware listed below to install the rear chain guards.

ARC372 Rear Chain Guard Hardware

ARC384 Rear Chain Guard Hardware

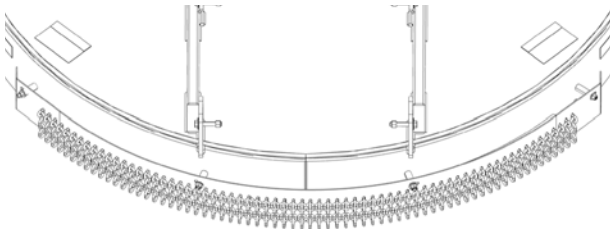


1. Insert one carriage bolt through each bolt hole on the rotary cutter deck. Bolt threads should face outward, away from the cutting blades.



Insert carriage bolts with threads facing outward. Model shown: ARC384 (Tailwheels removed for illustration purposes).

2. Slide one 1/2″ x 2″ tube spacer onto each carriage bolt.
3. Hang the rear chain guard onto the bolts and spacers.
4. Secure each bolt with a flat washer and nylon lock nut. Hand-tighten the lock nuts.



Install spacers, rear chain guard, flat washers, and nylon lock nuts.

5. Use a socket and wrench to tighten the lock nuts and carriage bolts to correct torque specifications. (See torque chart on page 47.)

NOTE: Tighten the carriage bolts and lock nuts in sequential order, starting at one end and moving towards the opposite end.

6. Continue assembly with page 22, **INITIAL LUBRICATION.**

ASSEMBLY AND SETUP

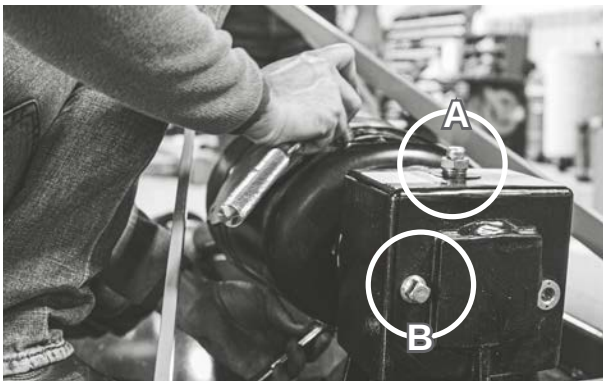
Initial Lubrication

IMPORTANT

Avoid Damage!
New rotary cutters ship without oil in the gearbox and without grease in the grease fittings. UNIT MUST BE SERVICED BEFORE FIRST USE!

1. Remove the breather plug (see Figure 4, A), and check plug (see Figure 4, B).

Figure 4



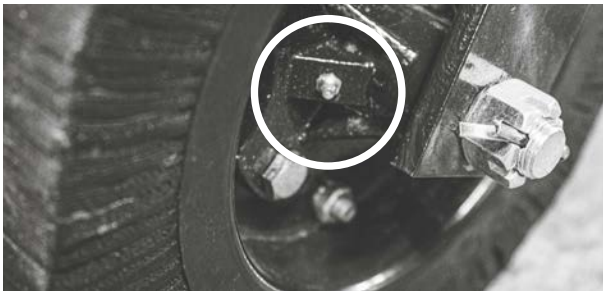
2. Add EP 80W-90 gear oil until level with check plug hole, then reinstall the breather plug and check plug.

3. Use TYPE/Grade II tube grease to lubricate the tailwheel pivot point(s) (see Figure 5).

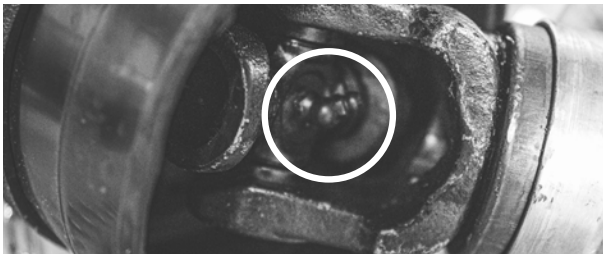
Figure 5

Model shown: ARC372. The ARC384 model has two tailwheels that must be greased.

4. Use TYPE/Grade II tube grease to lubricate each tailwheel hub.



5. Use TYPE/Grade II tube grease to lubricate PTO Shaft cross bearings.



6. Continue with page 23, **ATTACHING TO TRACTOR 3-POINT LINKAGE,** and **DETACHING ROTARY CUTTER FROM TRACTOR,** then read page 24, **CHECKING DRIVELINE / CUTTER CLEARANCE.**

ATTACHING / DETACHING

Attaching to Tractor 3-Point Linkage

DANGER

Avoid serious injury or death!
Whenever rotary cutter is attached, put transmission in PARK position and check the full range of the hitch for interference, binding, or PTO separation. DO NOT stand between tractor and rotary cutter.

1. Back up tractor to rotary cutter 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 center link mounting hardware and hitch pin assemblies at both hitch masts.
5. Install tractor draft links on hitch pins. Secure with quick lock pins (stored on tractor draft links).
6. Align center link with upper hole in rotary cutter lift arms and install center link mounting hardware.

DANGER

Avoid serious injury or death!
Shut off tractor engine before attaching or detaching PTO driveline. Entanglement in rotating driveline can cause serious injury or death.

IMPORTANT

Avoid Damage!
Keep driveline and powershaft splines clean of paint, dirt and chaff. Apply grease to tractor PTO shaft before attaching PTO driveline.

7. Shut off tractor engine.
8. Raise tractor PTO shield, if equipped.

IMPORTANT

Avoid Damage!
DO NOT use shielding bell on driveline to lift driveline into position. Damage to shielding can occur.

9. Support driveline, cradling it in your hand.
10. Pull pin back toward rotary cutter. Align splines by rotating rotary cutter driveline. Push driveline onto tractor PTO shaft until pin snaps into place.
11. Pull back on shield to make sure driveline is locked.
12. DO NOT pull back on pin, this will release latch.
13. Lower tractor PTO shield, if equipped.

Detaching Rotary Cutter from Tractor

CAUTION

Avoid injury!
To prevent personal injury caused by unexpected movement:

- **a. Park rotary cutter on a level surface.**
- **b. Engage tractor parking brake and/or place transmission in PARK.**
- **c. Disengage PTO.**
- **d. Shut off tractor engine and remove key.**

1. Park rotary cutter on a level surface, or block tail wheel(s) so rotary cutter cannot roll after detaching from the tractor.
2. Slowly push hitch control lever to lower rotary cutter close to the ground.
3. Engage tractor parking brake and/or place transmission in PARK.

DANGER

Avoid serious injury or death!
Shut off tractor engine before attaching or detaching PTO driveline. Entanglement in rotating driveline can cause serious injury or death.

4. Shut off tractor engine and remove key.
5. Raise tractor PTO shield, if equipped.

DANGER

Avoid serious injury or death!
Ensure that all movement of PTO driveline and blades has stopped before detaching the rotary cutter. Entanglement in rotating driveline or being struck by blades can cause serious injury or death.

DETACHING / ADJUSTMENTS

Detaching Rotary Cutter from Tractor Cont.

IMPORTANT

Avoid Damage!
DO NOT use shielding bell on driveline to lift driveline into position. Damage to shielding can occur.

6. Push pin in and slide driveline off tractor shaft.
7. Support and collapse driveline completely and lower onto PTO holder or onto rotary cutter deck.
8. Lower tractor PTO shield, if equipped.
9. Remove quick-lock pins from hitch pins and install in storage position on tractor draft links.
10. Remove and lower tractor draft links from hitch pins.
11. Disconnect center link from mast straps. Position tractor center link in transport location. Reinstall center link pin/hardware.
12. Carefully drive tractor away.

Checking Driveline/Cutter Clearance

IMPORTANT

Avoid Damage!
Prevent driveline damage from contact with frame or machine damage from contact with tractor tires. Raise rotary cutter slowly and check for interference. If necessary, shorten center link or lengthen lift links to provide clearance to full lift height.

1. Raise rotary cutter slowly and check for clearance between driveline shield and rotary cutter deck.
2. Check clearance between tractor tires and foot guards or chain deflector.
3. Check to see if hitch height position will provide clearance desired.

NOTE: Final adjustments should be made before operating the rotary cutter. (See p. 27, **ADJUSTING CUTTING HEIGHT AND ANGLE.**) Center link should be installed in lowest hole at tractor end if there are multiple holes. Lift height may also be limited by installing stops on rockshaft control lever bracket.

4. Shorten center link or lengthen lift links to provide clearance. (See tractor Operator's manual.)

IMPORTANT

Avoid Damage!
PTO driveline may be too long for some tractor models, causing tractor transaxle damage. Hold driveline sections parallel to each other and check for a minimum of six (6) inches overlap.

5. Raise and lower rotary cutter slowly to check for binding or interference. Check cutter-to-tractor driveline telescoping length to ensure that it does not bottom out. Modify driveline if necessary. (See pp. 25-26, **SIZING THE PTO SHAFT, CHECK DRIVELINE MAXIMUM LENGTH, CHECK DRIVELINE MAXIMUM ANGLE.**)

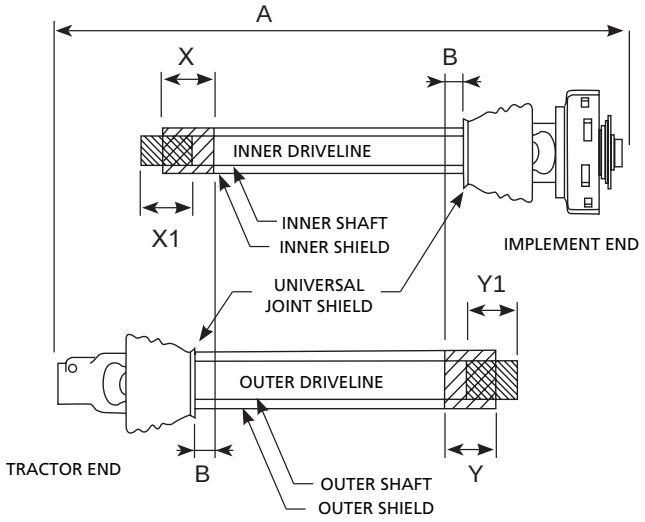
ADJUSTMENTS

Sizing the PTO Shaft

Refer to Figure 6

1. Detach the driveline from tractor PTO shaft and pull outer and inner drivelines apart.
2. Reattach outer driveline to tractor PTO shaft. Pull on inner and outer drivelines to ensure universal joints are properly secured.
3. Hold inner and outer drivelines parallel to each other:
   a. Measure 1″ (“B” dimension) back from outer driveline universal joint shield and make a mark at this location on the inner driveline shield.
   b. Measure 1″ (“B” dimension) back from inner driveline universal joint shield and make a mark at this location on the outer driveline shield.
4. Remove driveline from tractor and gearbox shafts.
5. Measure from end of inner shield to scribed mark (“X” dimension). Cut off inner shield at the mark. Cut same amount off the inner shaft (“X1” dimension).
6. Measure from end of outer shield to scribed mark (“Y” dimension). Cut off outer shield at the mark. Cut same amount off the outer shaft (“Y1” dimension).
7. Remove all burrs.
8. Continue with **CHECK DRIVELINE MAXIMUM LENGTH.**

Figure 6 - Driveline Shortening



Check Driveline Maximum Length

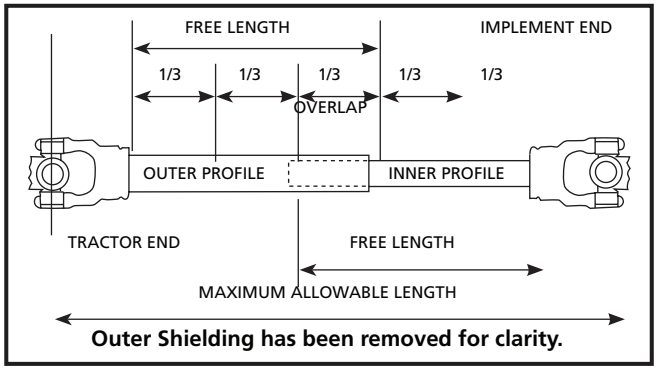
Refer to Figure 7

Make sure driveline’s collapsible length is acceptable.

The driveline maximum allowable length must, when fully extended, have a minimum overlap of the profile tubes by not less than 1/3 the free length with both inner and outer profile tubes being of equal length.

1. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline.
2. Assemble the two driveline profiles together with 1/3 of the profile tubes overlapping as shown in Figure 7. Once assembled, measure and record the maximum allowable length for future reference.

Figure 7 - Driveline Maximum Extended Length



3. Attach inner driveline yoke to the rotary cutter’s gearbox shaft. Attach outer driveline yoke to the tractor’s PTO shaft.
4. Move yoke ends of driveline back and forth to ensure they are secured to the tractor and rotary cutter shafts. Reattach any end that is loose.

IMPORTANT

Avoid Damage!
Small chains are supplied with the driveline. They must be attached to the inner and outer driveline shields and to the rotary cutter and tractor to restrict shield rotation.

5. Hook driveline safety chain on the tractor end of driveline to rotary cutter frame. Re-latch safety chain to the driveline shield.

Check Driveline Maximum Length Cont.

6. Hook driveline safety chain on the rotary cutter end of driveline to the rotary cutter frame. Re-latch safety chain to driveline shield.
7. Start tractor and raise rotary cutter just enough to remove support blocks.
8. Slowly engage tractor hydraulic 3-point control lever to lower the rotary cutter while checking for sufficient drawbar clearance. Move drawbar in, aside or remove if required.
9. Raise and lower implement to find maximum extended driveline length. Check to make certain the driveline does not exceed maximum allowable length recorded in Step 2.
10. If needed, set tractor 3-point lift height to stop driveline from exceeding maximum allowable length.
11. Continue with **CHECK DRIVELINE MAXIMUM ANGLE.**

Check Driveline Maximum Angle

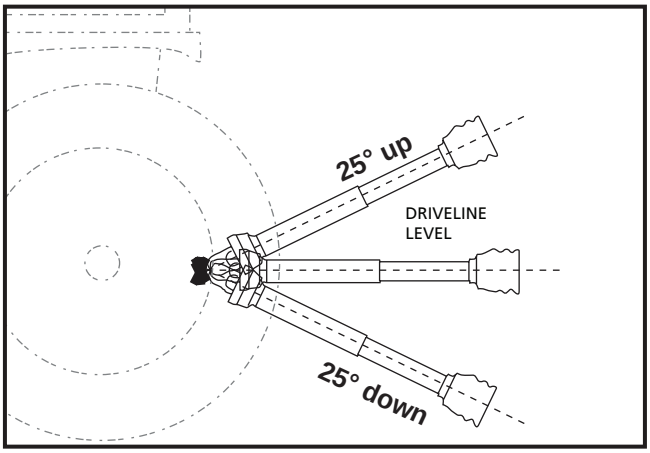
Refer to Figure 8

IMPORTANT

Avoid Damage!
To avoid premature driveline breakdown, DO NOT exceed an angle of 25° up or down with the driveline while driveline is rotating. If needed, set tractor 3-point lift lever to limit driveline angle at a maximum of 25° up.

1. Raise and lower implement to find maximum driveline angle. Check to make certain the driveline does not exceed 25° up or down.
2. If needed, set tractor 3-point lift height to keep driveline from exceeding 25° up.

Figure 8 - Check Driveline Maximum Angle



OPERATION

Preparing Rotary Cutter for Operation

Only qualified people should operate the rotary cutter. Wear close fitting clothing and safety equipment appropriate to the job. The power unit should be equipped with a Roll-Over Protection System (ROPS) and seat belt. Before beginning operation, clear the work area of objects that may be picked up and thrown. Check for ditches, stumps, holes, or other obstacles that could upset the power unit or damage the rotary cutter. Always turn off the power unit engine, set parking brake, and allow rotary cutter blades to come to a complete stop before dismounting power unit.

DANGER

Avoid serious injury or death!

- **DO NOT engage tractor PTO when rotary cutter is in fully raised position (transport position).**
- **Keep all persons away from machine when raising and lowering rotary cutter.**

IMPORTANT

Avoid Damage!

To prevent damage to the rotary cutter when lowering it, adjust the hitch lowering speed.

1. Adjust tractor rockshaft rate-of-drop. Allow at least two seconds for rotary cutter to lower from full lift height to the ground. (See tractor Operator's manual.)
2. If equipped, disengage tractor hitch/rockshaft control lever from transport lock position and lower rotary cutter to the ground. (See tractor Operator's manual.)
3. Adjust tractor lift links to level rotary cutter side-to-side. (See tractor Operator's manual.)
4. Adjust cutting height and angle. (See **ADJUSTING CUTTING HEIGHT AND ANGLE**)

Adjusting Cutting Height and Angle

DANGER

Avoid serious injury or death!

Ensure that all movement of PTO driveline and blades has stopped before detaching the rotary cutter. Entanglement in rotating driveline or being struck by blades can cause serious injury or death.

1. Lower rotary cutter until rear wheel just touches or is slightly above ground.
2. Engage tractor parking brake and/or place transmission in PARK.
3. Disengage PTO.
4. Shut off tractor engine and remove key.
5. Wait until all moving parts have stopped.
6. Disconnect PTO driveline from tractor.
7. Loosen and remove bolt(s), flat washers and lock nut(s) from tailwheel adjustment plates (see Figure 9 or 10 depending on rotary cutter model).

Figure 9: ARC372

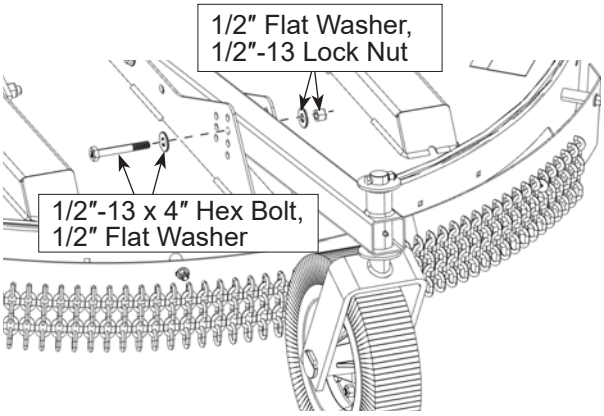
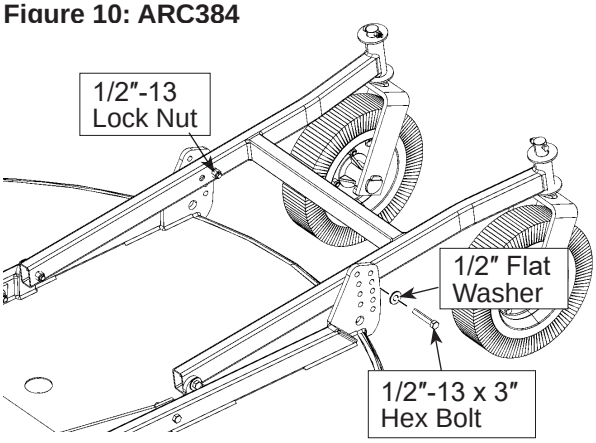


Figure 10: ARC384



OPERATION

Adjusting Cutting Height and Angle Cont.

8. Raise tail wheel(s) to highest position and install bolt(s), flat washers and lock nut(s).
9. Using rockshaft control lever, position front of rotary cutter at desired cutting height at location.
10. Adjust depth stop. (See tractor Operator's manual.)
11. Adjust center link so rear of rotary cutter is approximately 2 inches (51 mm) higher than front.
12. Lower tailwheel(s) to support rear of the rotary cutter.

NOTE: The rotary cutter should be operated at the highest position for optimal cutting results. This will help prevent the blades from striking the ground, reducing blade wear and placing undue strain on the rotary cutter. For best results under heavier cutting conditions, always tilt the rotary cutter approximately 2 inches (51mm) lower in the front. This tilt decreases horsepower requirements and increases potential ground speed. When fine shredding is desired, adjust rotary cutter deck level to slightly lower in the rear. This will keep the foliage under the rotary cutter until thoroughly shredded. More power is required for shredding.

13. Install bolt(s), flat washers and lock nut(s) into one of the bolt holes that aligns with hole in wheel support (see Figure 9 or 10 depending on rotary cutter model). Tighten lock nut.

NOTE: The rear of the rotary cutter is supported by the tailwheel(s) and the draft links support the front to allow the rotary cutter to follow the ground contour. Each rotary cutter can be adjusted to several cutting heights by moving the rockshaft control lever in conjunction with moving the tailwheel adjustment bolt(s) among the height adjustment holes (see Figure 9 or 10 depending on rotary cutter model). ARC372 models have a cutting height range of 1.5″ to 9″. ARC384 models have a cutting height range of 3″ to 11″.

IMPORTANT

Avoid Damage!
Loosening the center link may allow the driveline to contact the rotary cutter frame or tractor tires in order to contact the foot guards or chain shield. Raise the rotary cutter slowly and check for interference. Lengthen tractor lift links to provide clearance to full height.

NOTE: Lift height may also be limited by installing stops on rockshaft control lever bracket.

14. Lengthen tractor lift links, if necessary, to provide clearance.

Follow Safe Operating Procedures

1. BEFORE EACH USE, perform maintenance as required in the **MAINTENANCE** section, pp. 30-35.
2. Start tractor per tractor operator's manual.
3. Raise/lower 3-point hitch to place rotary cutter in working position.
4. Look to be sure no one is near rotary cutter.
5. With tractor at idle speed, slowly engage PTO drive.

DANGER

Avoid serious injury or death!
Stay clear of rotating driveline. Only operate with driveline shields in place and with all equipment in good condition. Failure to heed these warnings may result in personal injury or death.

6. Set the tractor throttle for appropriate PTO speed (540 RPM).

DANGER

Avoid serious injury or death!
Rotating cutter blades. Stand clear until all motion has stopped. To avoid an accidental fall from tractor and possible injury by rotary cutter, it is recommended that tractor be equipped with Roll-Over Protection System (ROPS), and that a seatbelt be used by the operator for all cutting operations.

7. Place the tractor in gear and proceed forward.

Follow Safe Operating Procedures Cont.

NOTE: Tractor forward speed should be controlled by gear selection, not engine speed. For maximum cutting efficiency, forward speed should allow rotary cutter to maintain a constant, maximum blade speed. If rotary cutter stalls or tractor engine bogs, disengage PTO. Before re-engaging PTO, position rotary cutter in a cut area and reduce tractor throttle to idle. If rotary cutter continuously stalls, select lower gear and/or increase cutting height.

DANGER

Avoid serious injury or death!
Keep riders off. Riders are subject to injury or death such as being struck by foreign objects and being thrown off the machine. Riders may also fall off and be run over by machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.

DANGER

Avoid serious injury or death!
Never operate rotary cutter when other people are in the vicinity. Debris can be thrown hundreds of feet. Keep all deflectors in place, including those on discharge opening at front and rear of deck. Lower rotary cutter to the ground before starting the machine. Engage tractor PTO and gradually increase the speed. Operate tractor at rated PTO speed. If engine speed is too slow or too fast, the rotary cuter may not perform properly. Where conditions make it necessary to slow ground speed, shift to a lower gear rather than reducing engine speed. The engine will maintain rated speed and keep rotary cutter running at optimum cutting speed. Operate rotary cutter from tractor seat only. Never adjust the rotary cutter while it is in motion. Slow down when turning or traveling over rough ground. Avoid holes when operating on hillsides. Tractor roll-over could result. Shut off tractor engine and engage tractor parking brake and/or place transmission in PARK when leaving tractor. Remove key when leaving tractor unattended. Components behind shields may rotate several minutes after power is shut off. Look and listen for evidence of rotation before removing shielding.

MAINTENANCE

Maintenance Safety Guidelines

DANGER

Avoid serious injury or death!
Ensure that all movement of PTO driveline and blades has stopped before detaching the rotary cutter. Entanglement in rotating driveline or being struck by blades can cause serious injury or death. Components will be hot after operation. Let all components cool before servicing. Replace all shields after lubricating or servicing.

CAUTION

Avoid injury!
To help prevent personal injury caused by unexpected movement, be sure to service the rotary cutter on a level surface.

Before servicing or adjusting rotary cutter connected to a tractor:

1. Lower rotary cutter to the ground.
2. Engage tractor parking brake and/or place transmission in PARK.
3. Disengage PTO.
4. Shut off tractor engine and remove key.
5. Wait until all moving parts have stopped.
6. Disconnect PTO driveline from tractor.

The blades and blade pan may rotate for several minutes after PTO is shut off. Look and listen for rotating driveline to stop before working on the rotary cutter.

When servicing blades or blade pan, it will be necessary to work underneath the rotary cutter. Be sure to support rotary cutter frame at all four corner locations with safety shop stands to prevent accidental lowering.

DO NOT position safety stands under tailwheel support because these components can rotate.

Maintenance Schedule

Perform scheduled maintenance as outlined in this section. Lower rotary cutter to the ground, turn off tractor and set parking brake before doing maintenance inspections or work. All bolts should be torqued as recommended in the Torque Specifications Chart (see p. 47) unless otherwise indicated.

CAUTION

Avoid injury!
DO NOT clean, lubricate, or adjust the rotary cutter while it is in motion.

MAINTENANCE BEFORE EACH USE

1. Check tractor tire air pressure. Refer to tractor Operator's Manual for recommended setting.
2. Check blades and spindles to be sure that no foreign objects such as wire or steel strapping bands are wrapped around them.
3. Check blade bolts for tightness. Locate blade hardware under hole in deck behind gear box. (Tighten to 425 ft./lbs.)

IMPORTANT

Avoid Damage!
Operating with loose blade hardware will damage the blade holder and blades.

4. Inspect blades for wear (see p. 34, **CHECKING BLADE WEAR**). Always replace both blades and bolts on the blade holder at the same time.
5. Make certain driveline shields are in place and in good repair.
6. Inspect tailwheel(s) for wear, damage, or foreign objects. (Repair or replace if necessary.)
7. Before each use, see the Rotary Cutter diagram on page 31 for lubrication intervals and locations.
8. During operation, listen for abnormal sounds, which might indicate loose parts, damaged bearings, or other damage.

MAINTENANCE AFTER EACH USE

1. Clean all debris from rotary cutter especially underside of deck. When cleaning underside of deck, securely block machine into position.

IMPORTANT

Avoid Damage!
Check all hardware after first eight (8) hours of use and tighten all hardware to specifications.

MAINTENANCE

Lubrication Schedule

LUBRICATION BEFORE EACH USE

A. Tail wheel Pivot Tube(s)
   1. Apply multi-purpose grease with grease gun.

B. Tail wheel(s)
   1. Apply multi-purpose grease with grease gun.

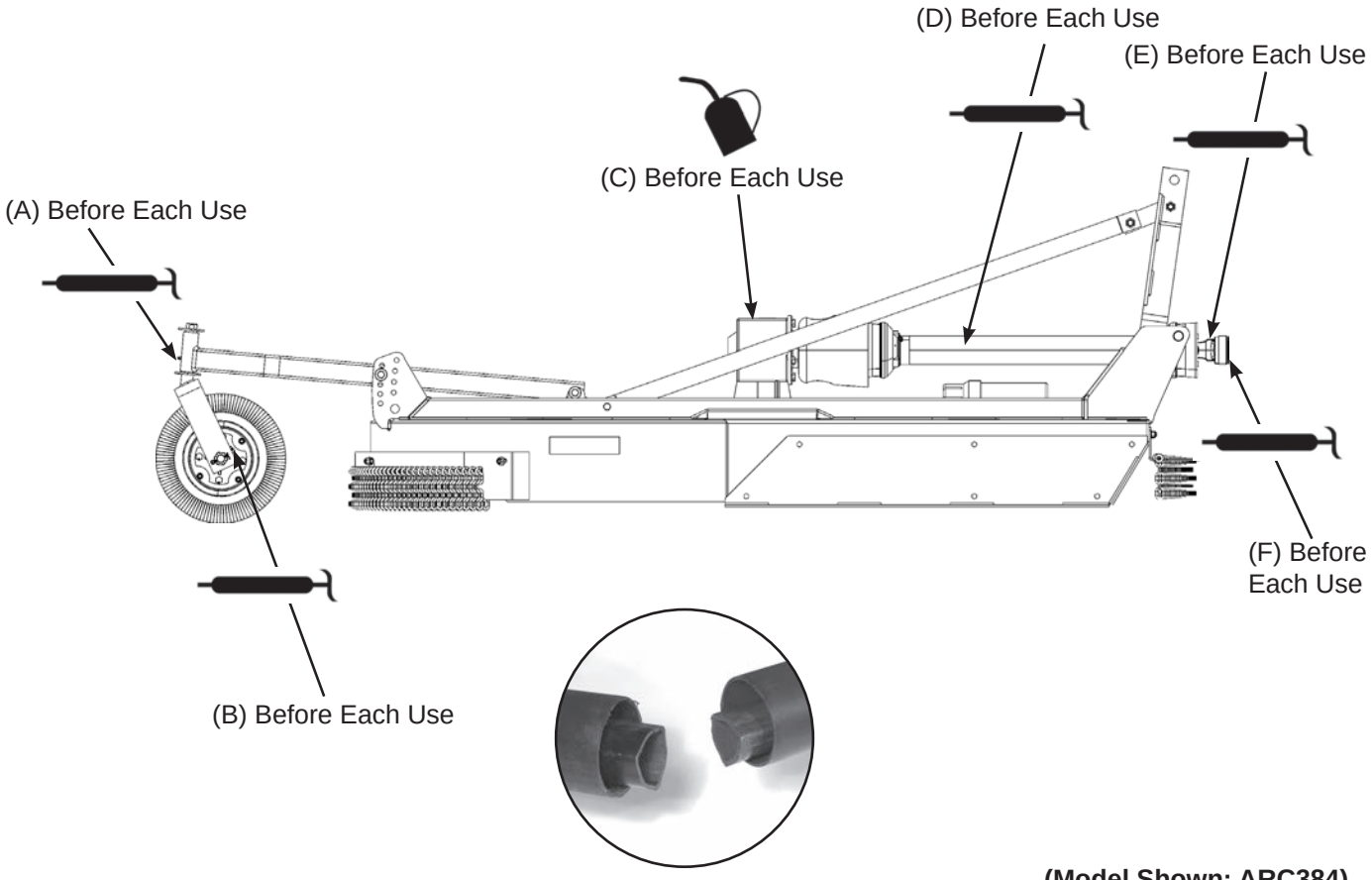
C. Gearbox
   1. Check oil level by removing oil level check plug on side of gearbox.
   2. Add 80W/90 or 85W/140 gear oil if necessary to bring oil level to check plug hole.

D. Driveline Profile
   1. Disconnect PTO Driveline.
   2. Pull two sections apart.
   3. Apply thin coat of multi-purpose grease to inside of female section.
   4. Re-assemble sections.

NOTE: Pull each section to be sure driveline and shields are securely connected. Make certain PTO shielding is in good condition. **DO NOT** grease outer or inner plastic shields.

E. Driveline Guard
   1. Apply 2-3 shots of multipurpose grease with grease gun to plastic fitting.

F. Driveline Universal Joints
   1. Apply multi-purpose grease with a grease gun.



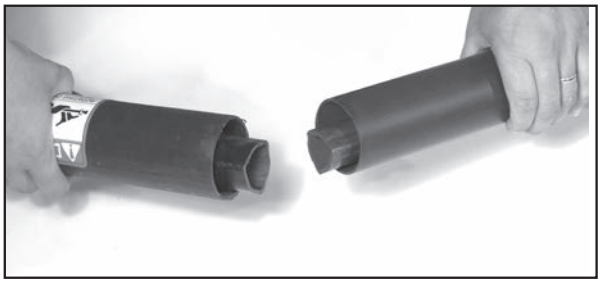
D2. Pull two sections apart.

(Model Shown: ARC384)

MAINTENANCE

Disassembling Driveline Shield

1. Unhook driveline safety chain from one end of driveline.
2. Separate driveline into two (2) pieces.



3. Slide the PTO shield back by using a screwdriver to apply pressure and release the locking collar. (There will be 3 tabs on the locking collar.) Once the locking collar is released, slide the PTO shield back.

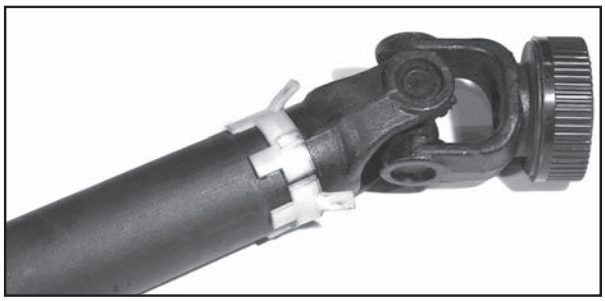
4. If needed, separate white tab collar and slide shield tube back.

⚠ CAUTION

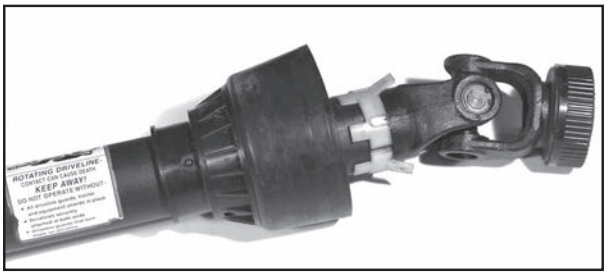
Avoid injury!
DO NOT operate PTO shaft without shielding installed.

Reassembling Driveline Shield

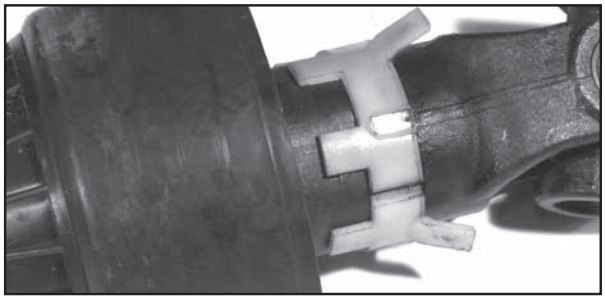
1. Replace white tabbed collar in groove of PTO shaft.



2. Slide driveline shield tube over white tab collar. Align slots/holes with holes in tube.



3. Slide universal joint cover up tube toward universal joint. Align grease fitting on shield with white square tabs on collars. This will properly align the position notch and all three (3) tabs.
4. Slide collar shield into place until locked.



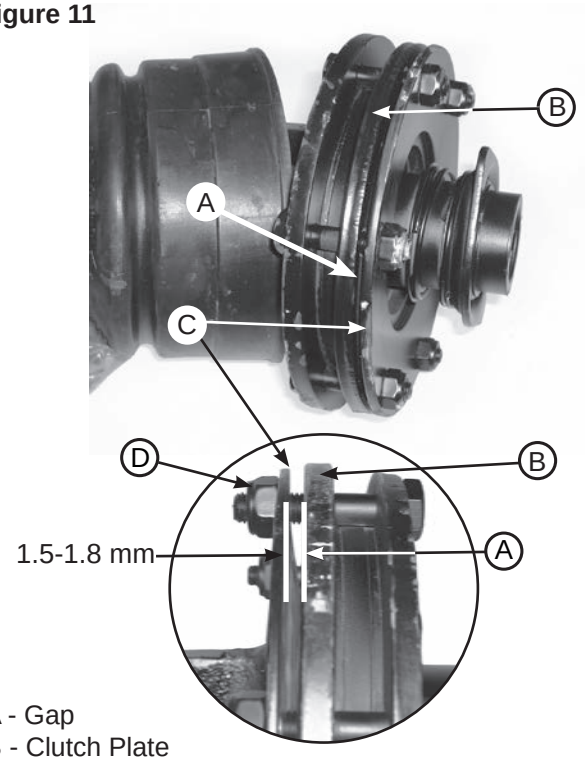
MAINTENANCE

Slip Clutch Operational Check

Slip clutch components must be free to rotate when necessary. After thirty days or more, linings of slip clutch may draw moisture. Linings may bond to metal parts causing slip clutch to be ineffective, resulting in machine damage. After the implement has been stored for thirty days or more perform the following operational check.

1. Loosen bolts and lock nuts (see Figure 11, D) progressively until tension is relieved.
2. To aid in determining slippage, scribe/mark a line across clutch plate and Belleville Spring.
3. With tractor at idle speed, engage tractor PTO drive 2 - 3 seconds. Clutch should slip without turning blades. **If clutch does not slip, contact an authorized Tar River Implements dealer.**
4. Tighten bolts and lock nuts progressively, leaving a gap of 1.5-1.8 mm between clutch plate and Belleville Spring.

Figure 11



A - Gap
B - Clutch Plate
C - Belleville Spring
D - Cap Screw
Lock Nut (6 used)

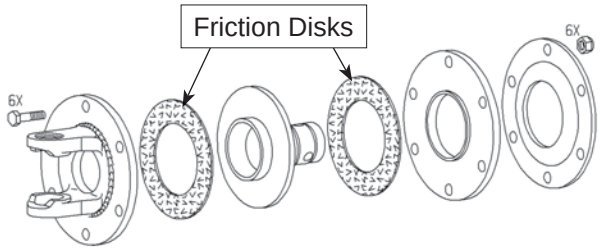
Disassembling and Inspecting Slip Clutch

1. Remove slip clutch driveline.

IMPORTANT

Avoid Damage!
Belleville springs, which are part of the clutch assembly, maintain tension on all components. When disassembling the clutch assembly, release tension by progressively loosening the hardware.

2. Loosen bolts and lock nuts (see Figure 11, D) progressively until tension is relieved.
3. Friction disks may appear to be part of the hub or yoke, tap lightly on edge to separate.
4. Inspect clutch components for wear or damage. Repair parts as necessary.



Slip clutch components.

Assembling Slip Clutch

Assemble slip clutch in reverse order of disassembly using the following instructions:

1. Install Belleville Spring with concave side facing towards yoke end.

IMPORTANT

Avoid Damage!
To avoid driveline damage, DO NOT overtighten bolts and lock nuts. A gap must be left between clutch plate and Belleville Spring (see Figure 11, B and C).

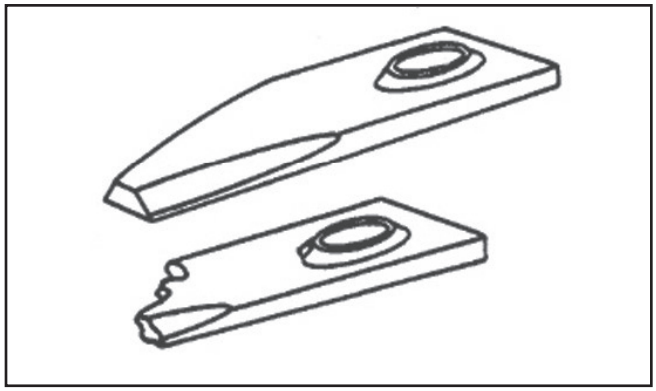
2. Tighten bolts and lock nuts progressively, leaving a 1.5-1.8 mm gap, between clutch plate and Belleville Spring.

MAINTENANCE

Checking Blade Wear

IMPORTANT

Avoid Damage!
Operating rotary cutter with blades that are not alike will cause vibration. Always replace worn or broken blades in pairs. Never replace a single blade. Check blades regularly for wear or breakage.



Replacing Blades

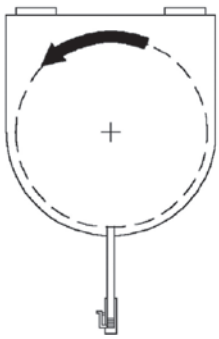
IMPORTANT

Avoid Damage!
Operating with loose blade hardware will damage the blade pan and blades. Whenever the blades have been removed or replaced, blade hardware MUST also be replaced. Check blade hardware torque after one hour of operation and every eight (8) hours thereafter.

NOTE: Suction blades have a cutting edge on one side only. Take note of blade rotation when installing blades. (See DIRECTION OF BLADE ROTATION in this section.)

DIRECTION OF BLADE ROTATION

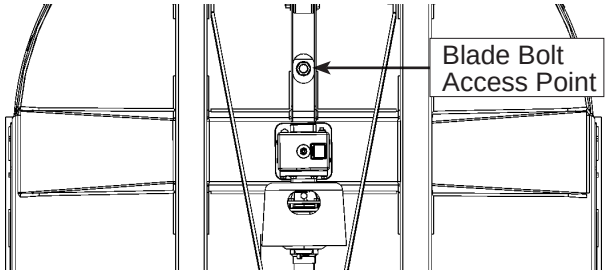
NOTE: Rotary cutter shown is viewed from the top. Blades rotate counterclockwise.



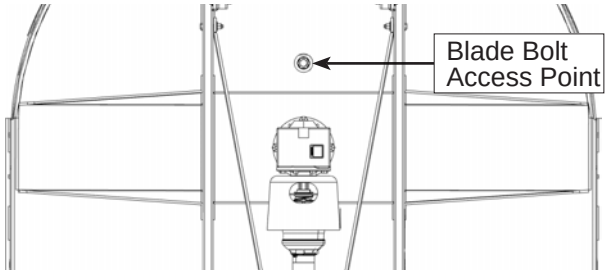
CAUTION

Avoid injury!
When replacing blades, blade hardware, and blade pan it will be necessary to work underneath rotary cutter. Be sure to support rotary cutter frame at all four corner locations with safety shop stands, blocks, or other firm supports to prevent accidental lowering. DO NOT position safety stands under wheel support(s) because these components can rotate.

1. Manually rotate driveline to align blade lock nut with access hole in top of deck behind gearbox.



Model: ARC372



Model: ARC384

2. Remove old blade bolts and blades.
3. Use new blade bolt hardware to install new blades.
4. Tighten blade bolt lock nuts to 425 ft-lbs.

Replacing Blade Pan

CAUTION

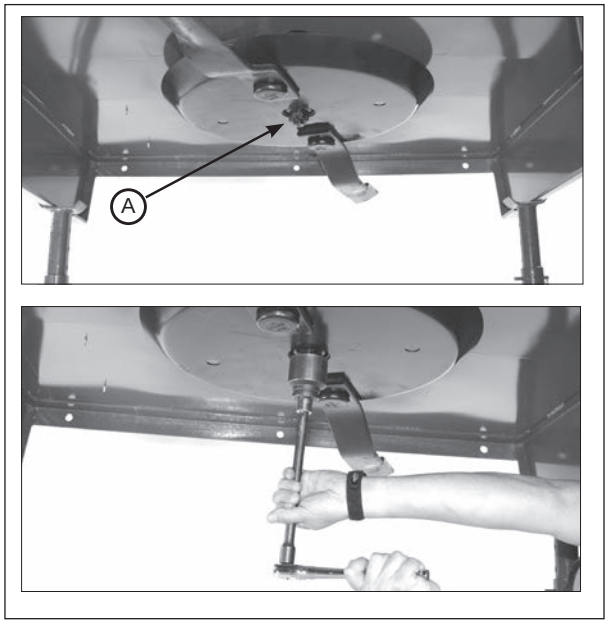
Avoid injury!
When replacing blades, blade hardware, and blade pan it will be necessary to work underneath rotary cutter. Be sure to support rotary cutter frame at all four corner locations with safety shop stands, blocks, or other firm supports to prevent accidental lowering. DO NOT position safety stands under wheel support(s) because these components can rotate.

MAINTENANCE / STORAGE

Replacing Blade Pan Cont.

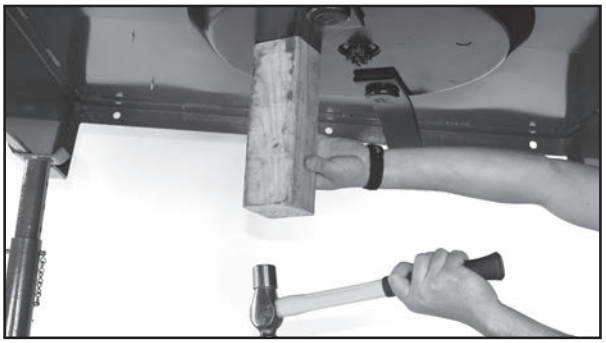
1. Remove the blades. (See p. 34, **REPLACING BLADES**)
2. Remove cotter pin from output shaft of the gearbox underneath rotary cutter.
3. Loosen castle nut on the bottom of the output shaft (see Figure 12, A). **DO NOT** remove castle nut as it must hold the blade pan when it becomes loose.

Figure 12



4. Tap with a hammer around the hub using a block of wood as shown Figure 13.

Figure 13



NOTE: The output shaft of the gearbox is tapered. A few taps around the hub will loosen the blade pan.

5. Remove castle nut slowly and allow the blade pan to be removed.
6. Remove blade pan.
7. To reinstall: hold blade pan in place and replace gearbox castle nut. Tighten gearbox castle nut and replace cotter pin.
8. Replace blades. (See p. 34, **REPLACING BLADES**)

Long-term Storage

IMPORTANT

Avoid Damage!
When the unit is going to be stored for an extended amount of time please perform the following steps to keep the oil seals from deteriorating.

1. Spray shaft extensions with a suitable dry film or similar preservative.
2. Pack grease around gearbox input seal to prevent drying and cracking.
3. Fill the gearbox with enough oil so that it covers the top of the input seal.
4. Remember to drain the oil back to the correct level before using again.
5. Check (and replace where necessary) blades, bolts, and nuts.
6. Clean rotary cutter and touch up any rust spots that may have appeared.
7. Replace any safety labels if damaged.
8. Store rotary cutter in a clean dry location.

⚠ CAUTION

Avoid injury!
Always use a tractor to position equipment for storage. Never attempt to move equipment by hand.

TROUBLESHOOTING

Problem	Possible Cause	Possible Remedy
Leaves a streak of uncut or partially cut grass.	Rotary cutter not level, side to side.	Level 3-pt. hitch linkage on tractor.
	Blade dull or bent.	Sharpen or replace blades.
	Blades unable to cut grass pressed by path of tractor.	Slow ground speed of tractor but keep engine running at full PTO RPM. Cutting lower will help.
	Build up of material under rotary cutter.	Clean rotary cutter.
Blade cuts grass lower in center of swath than at the edge.	Height of rotary cutter lower at rear or at front.	Adjust rotary cutter height and altitude so that rotary cutter rear and front are within 1/2″ of same height.
Material discharges from rotary cutter unevenly, or discharges clumps of grass.	Grass or brush may be too high or thick.	Reduce ground speed but maintain 540 RPM at tractor PTO, or make two passes over material. Raise rotary cutter for the first pass and lower for the second pass, preferably cutting 90° to the first pass. Raise rear of rotary cutter high enough to permit material to discharge.
	Grass wet.	Allow grass to dry. Slow ground speed of tractor but keep engine running at full PTO RPM. Cutting lower will help.
Gearbox overheating.	Low on lubricant.	Fill to proper level.
	Improper lubricant type.	Replace with proper lubricant.
	Excessive trash build up around gearbox.	Remove trash.
Rotary cutter will not cut all the time.	Slip clutch slipping.	Adjust slip clutch according to guidelines on p. 33.
Excessive vibration.	Possible build up of material on blade.	Clean blade pan.
	Blades locked into position.	Free blades so they swing free.
	Uneven wear on blade tips.	Weigh each blade. Weight should be within 1 oz.
	Broken blade.	Replace broken blade(s). Always replace in pairs.
	New blade or bolts not matched with worn blade or bolts.	Replace all blades and/or blade bolts.
Gearbox noisy.	Low oil in gearbox.	Check oil level. Add oil.

SPECIFICATIONS

	ARC372	ARC384
Weight	761 LB	1,100 LB
Horsepower Required	28-65 HP	45-90 HP
Hitch	CLEVIS-STYLE CATEGORY 1	CLEVIS-STYLE CATEGORY 1 & 2
Quick Hitch Compatible	YES	
Length, Overall (Including Tailwheel)	112″	124″
Width, Overall	75″	88″
Cutting Width	72″	84″
Cutting Height	1.5 - 9″	3 - 11″
Deck Height	7.5″	9.8″
Cutting Capacity	UP TO 1”	UP TO 2”
Power Take-Off Speed (RPM)	540	
Gearbox Lubrication	80W/90	
Gearbox Lubrication Capacity	23 OUNCES	
Driveline Protection	SLIP CLUTCH	
Driveline Protection	HD SLIP CLUTCH PTO WITH ERGONOMIC QUICK COUPLER	
Gearbox	65 HP CAST IRON HOUSING, PRECISION FORGED STEEL GEARS	90 HP, HD CAST IRON HOUSING, PRECISION FORGED STEEL GEARS
Deck Material Thickness	11 GA. W/ 3/16″ REINFORCED SIDES	10 GA.
Stump Jumper	HD 28.5″ DIAMETER BLADE PAN	HD 32.5″ DIAMETER BLADE PAN
Blades	0.5 x 3″ HEAT-TREATED, FREE SWINGING, WITH FULL SUCTION LIFT	0.5 x 4″ HEAT-TREATED, FREE SWINGING, WITH FULL SUCTION LIFT
Blade Tip Speed	14,955 FT./MIN.	14,380 FT./MIN.
Tailwheel	SINGLE 15 IN. LAMINATED TIRE	DUAL 15 IN. LAMINATED TIRE
Safety Guards	FRONT/REAR CHAIN (STANDARD)	

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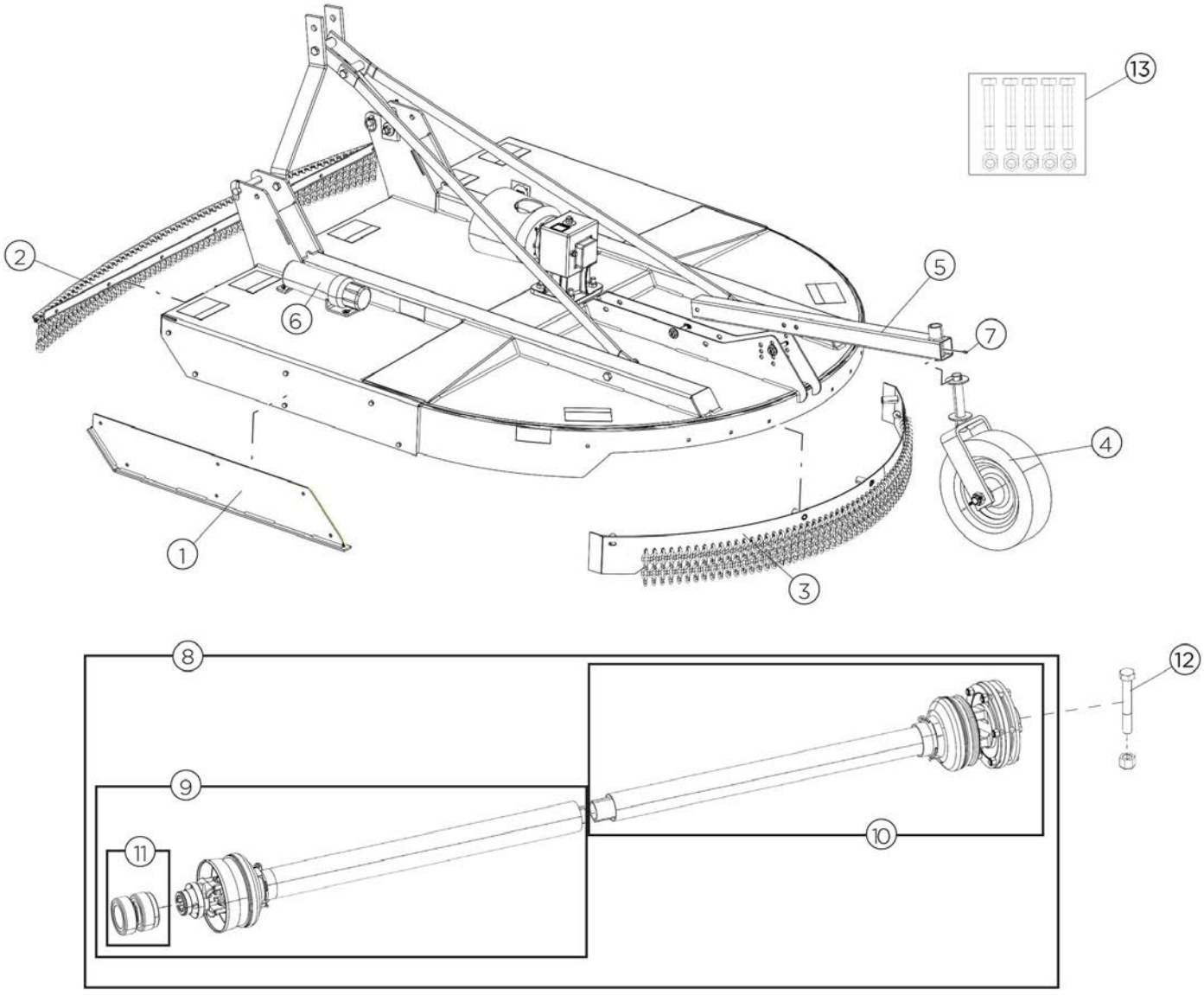
PARTS

ARC372 OVERALL VIEW



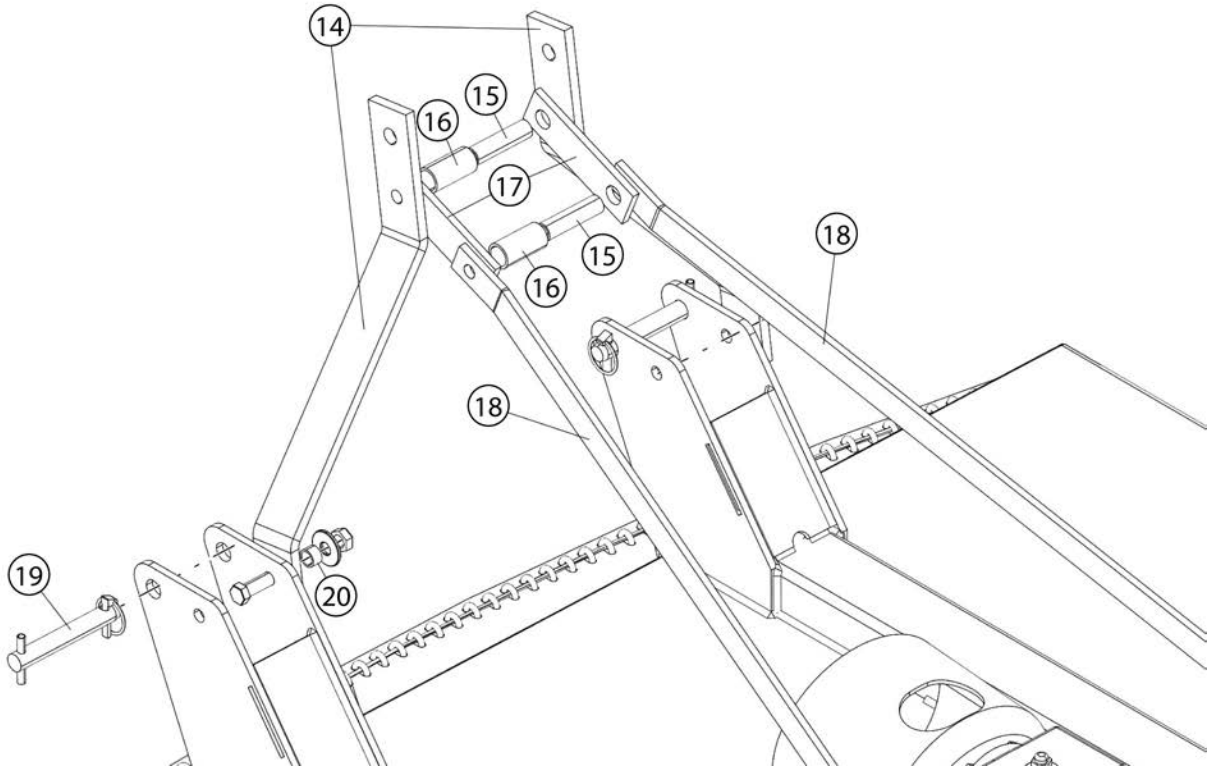
PARTS

ARC372 OVERALL VIEW

ITEM#	PART#	DESCRIPTION
1	ARC9000547	ARC372 Rotary Cutter Skid Shoe (Gray)
2	ARC9000593	6' Rotary Cutter Front Chain Guard w/ Hardware (Black)
3	ARC9000594	6’ MD Rotary Cutter Rear Chain Guard Kit (Black)
4	ARCRCTA	Rotary Cutter Tire/Wheel & Fork Assembly
5	ARC9000548	ARC372 Rotary Cutter Tailwheel Frame (Gray)
6	ARC9000284	Manual Holder w/ Hardware
7	ARCGZ	Grease Zerk (5pk)
8	ARC9000291	5’ & 6’ Slip Clutch PTO w/Hardware
9	ARC9000292	5’ & 6’ Slip Clutch Tractor 1/2 PTO
10	ARC9000293	5’ & 6’ Slip Clutch Implement 1/2 PTO
11	ARC9000303	PTO Quick Connect Collar Kit
12	ARC9000297	Grade 8 PTO Shaft Retaining Bolt and Lock Nut (Slip Clutch Only)
13	ARC9000531	6’ Rotary Cutter Front & Rear Chain Guard Hardware Kit (Black)

PARTS

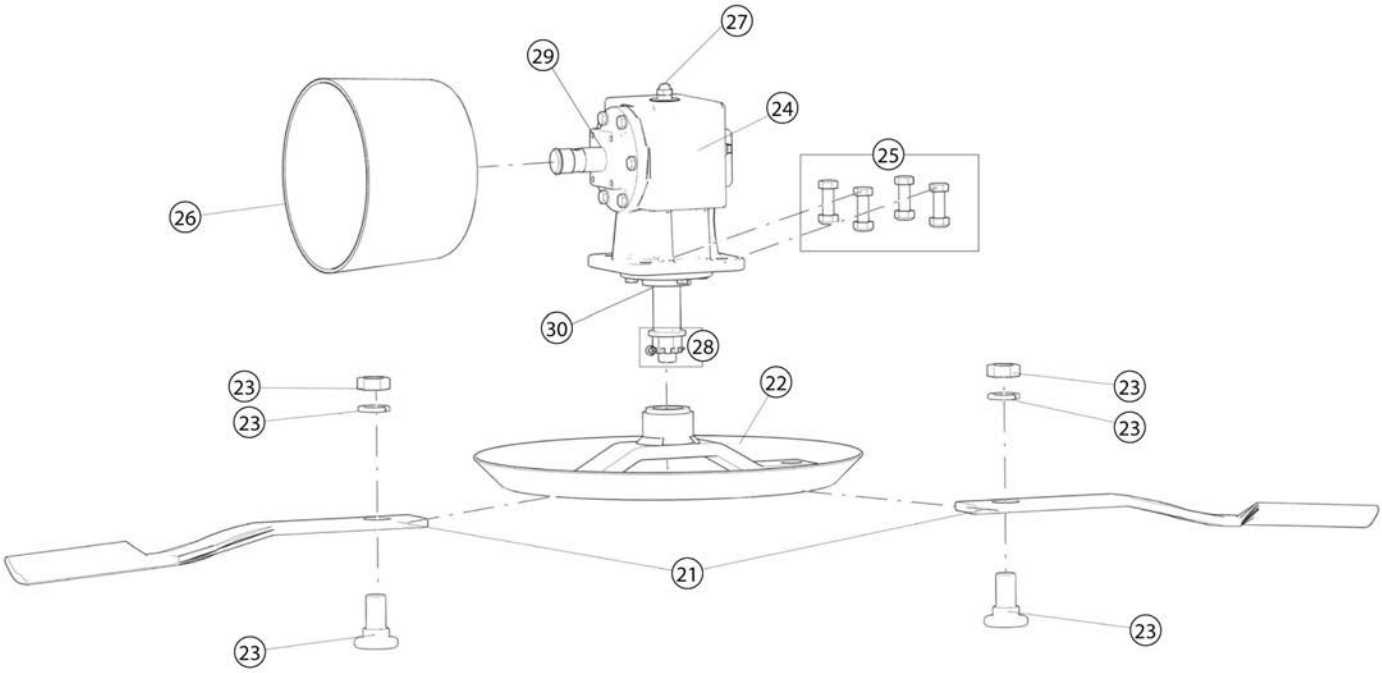
ARC372 HITCH ASSEMBLY



ITEM#	PART#	DESCRIPTION
14	ARC9000549	ARC372 Rotary Cutter A-Arm (2pk) (Gray)
15	ARC9000543	Inner Pivot Plate Bushing (2pk) (Gray)
16	ARC9000544	Outer Pivot Plate Bushing (2pk) (Gray)
17	ARC9000539	Pivot Plate (2pk) (Gray)
18	ARC9000537	ARC372 Back Brace (2pk) (Gray)
19	HP9000285	Hitch Pin w/Clip
20	ARC9000550	Medium Rotary Cutter A-Arm Pivot Bushing (Gray)

PARTS

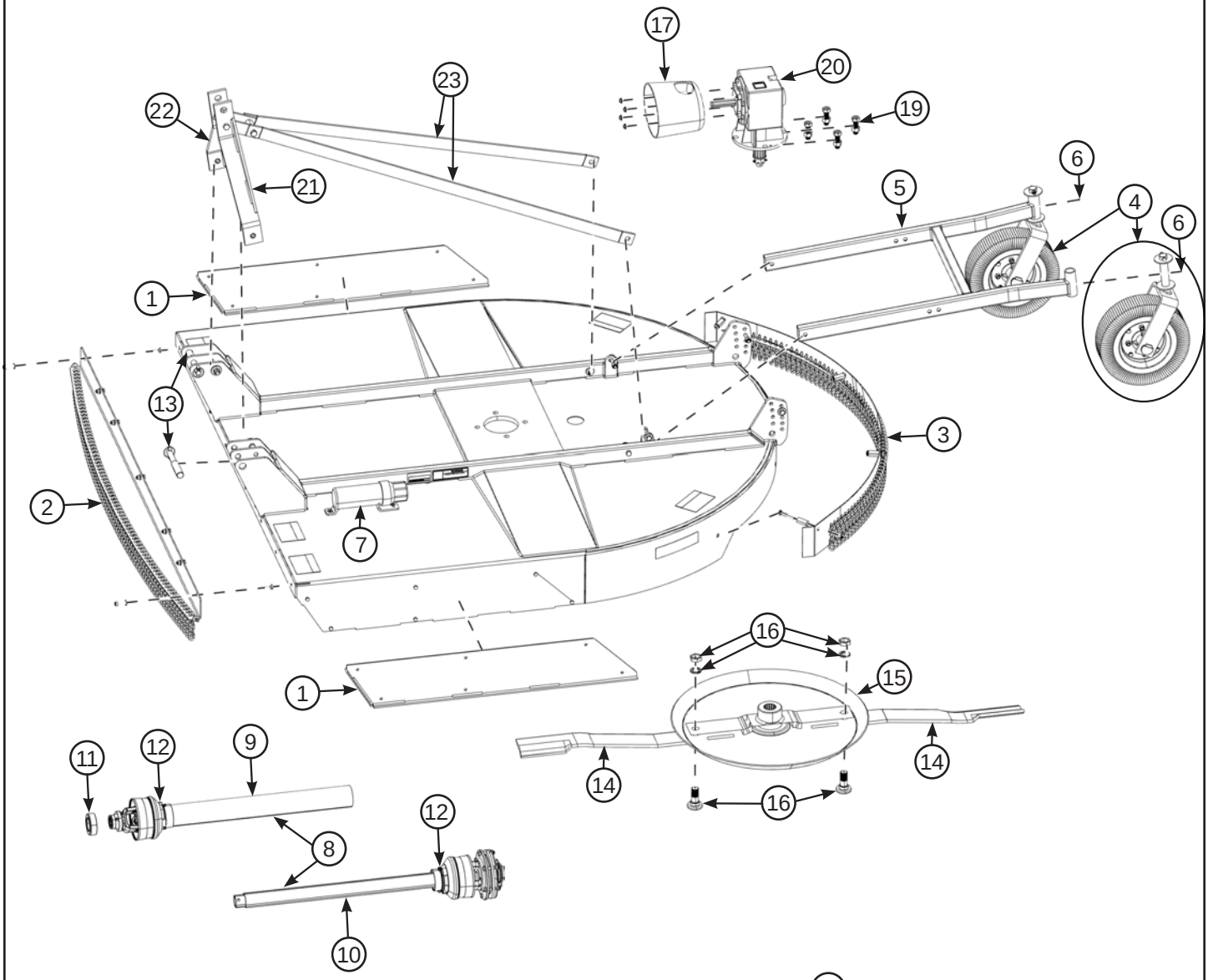
ARC372 - 9000288 - 6’ GEARBOX



ITEM#	PART#	DESCRIPTION
21	ARC9000286	ARC372 Blade (Pair)
22	ARC9000287	ARC372 Blade Pan
23	ARCRCBBWW	Blade Bolt Set (2pk)
24	ARC9000288	ARC372 Black Premium Gearbox
25	ARC9000302	Gearbox Bolt Kit
26	ARC9000301	Slip Clutch Shield Cone w/Hardware
27	ARCS-502	Gearbox Breather
28	ARC9000298	Gearbox Castle Nut w/Cotter Key
29	ARC9000299	ARC372 Gearbox Input Seal
30	ARC9000300	ARC372 Gearbox Output Seal
Not Shown	ARCPTOGZ	PTO Shaft Grease Zerk w/45 Degree Bend

PARTS

ARC384 OVERALL VIEW



18

7/16"-14 x 3" Carriage Bolt (x4)	7/16" Flat Washer (x4)
7/16"-14 Nylon Lock Nut (x4)	1/2" x 2" Tube (x4)

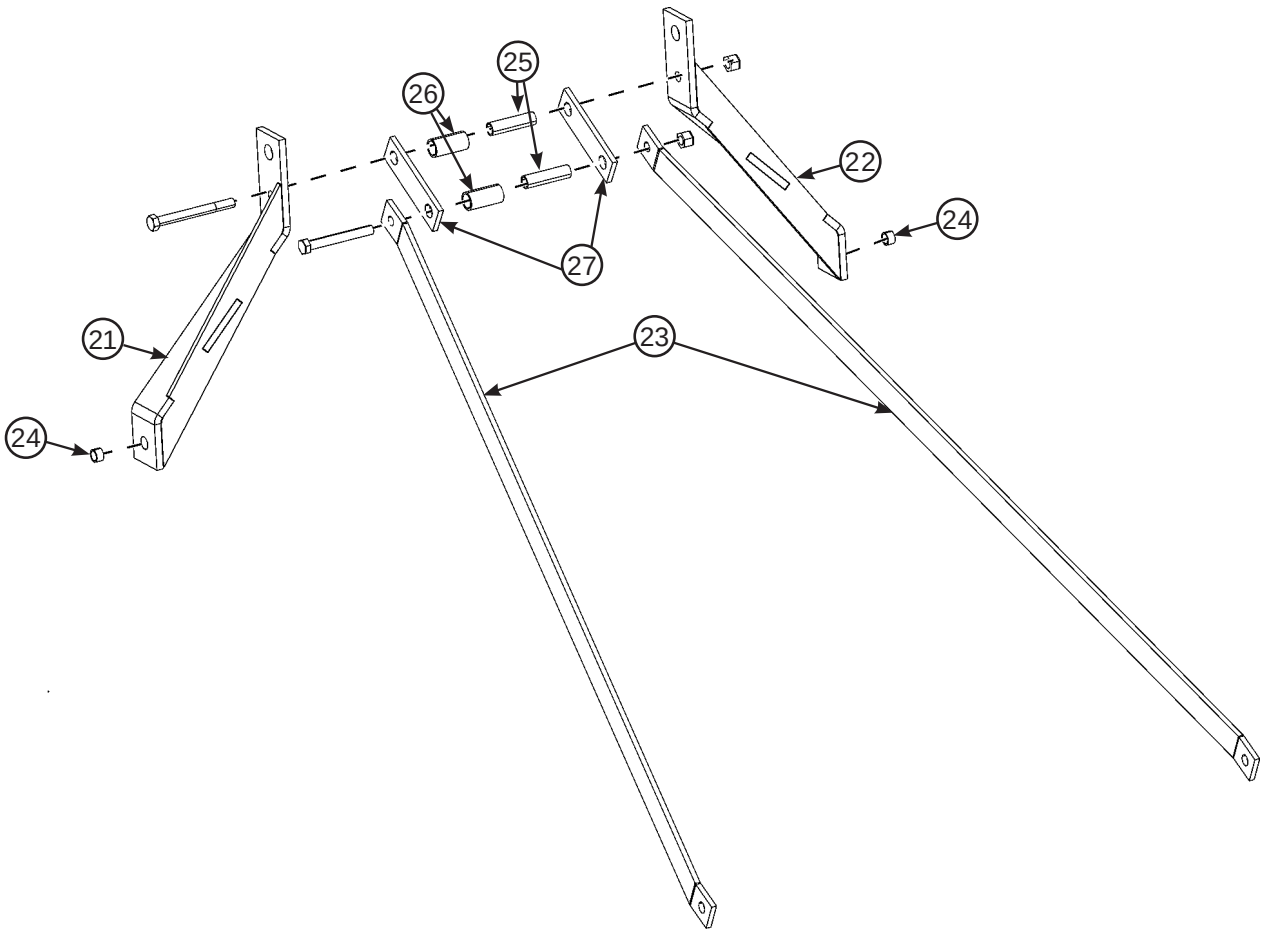
PARTS

ARC384 OVERALL VIEW

ITEM#	PART#	DESCRIPTION
1	ARC9001327	ARC384 Rotary Cutter Skid Shoe (Gray)
2	ARC9001328	ARC384 Front Chain Guard w/Hardware (Black)
3	ARC9001329	ARC384 Rear Chain Guard w/Hardware (Black)
4	ARCRCTA	Rotary Cutter Tire/Wheel & Fork Assembly
5	ARC9001330	ARC384 Rotary Cutter Tailwheel Frame (Gray)
6	ARCGZ	Grease Zerk (5pk)
7	ARC9000284	Manual Holder w/Hardware
8	ARC9001331	ARC384 Slip Clutch PTO
9	ARC9001332	ARC384 Slip Clutch Tractor 1/2 PTO
10	ARC9001333	ARC384 Slip Clutch Implement 1/2 PTO
11	ARC9000303	PTO Quick Collar Connect Kit
12	ARCPTOGZ	PTO Shaft Grease Zerk w/45 degree bend
13	HP9001214	Hitch Pin w/Clip
14	ARC9001336	ARC384 Blade Pair
15	ARC9001337	ARC384 Blade Pan
16	ARCRCBBWW	Blade Bolt Set (2pk)
17	ARC9000301	Slip Clutch Shield Cone w/Hardware
18	ARC9001341	ARC384 Rear Chain Guard Hardware Kit
19	ARC9000302	Gearbox Bolt Kit
20	ARC9001338	ARC384 Gearbox
21	ARC9001334	ARC384 Rotary Cutter A-Arm LH (Gray)
22	ARC9001343	ARC384 Rotary Cutter A-Arm RH (Gray)
23	ARC9001335	ARC384 Back Brace (Gray)

PARTS

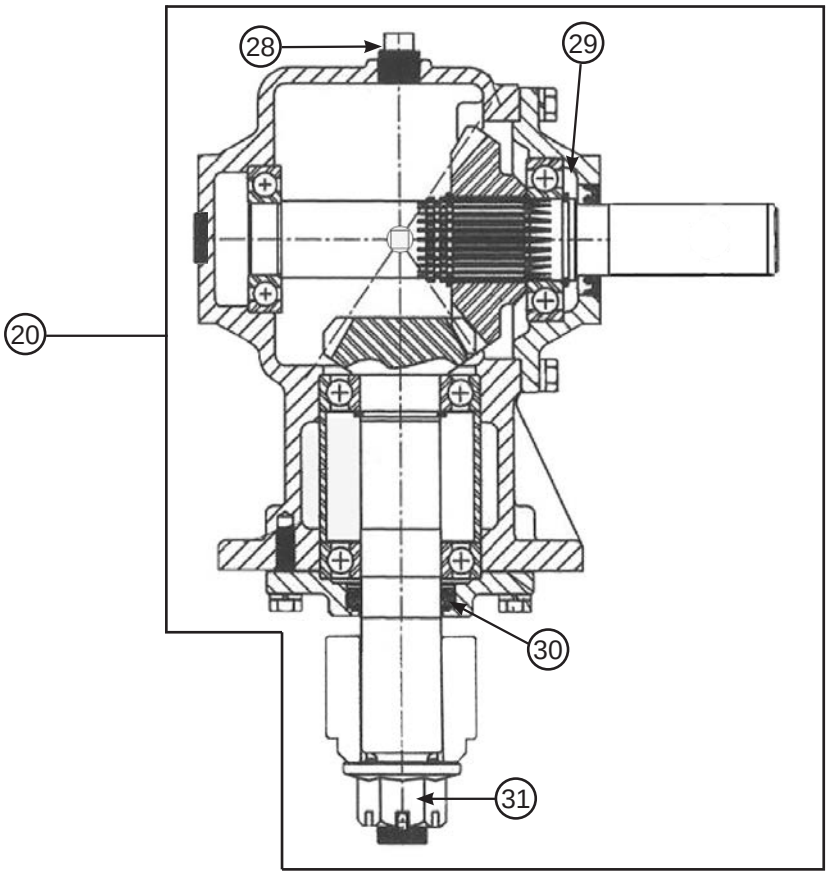
ARC384 HITCH ASSEMBLY



ITEM#	PART#	DESCRIPTION
21	ARC9001334	ARC384 Rotary Cutter A-Arm LH (Gray)
22	ARC9001343	ARC384 Rotary Cutter A-Arm RH (Gray)
23	ARC9001335	ARC384 Back Brace (Gray)
24	ARC9000550	Medium Rotary Cutter A-Arm Pivot Bushing (Gray)
25	ARC9000543	Inner Pivot Plate Bushing (2 pk) (Gray)
26	ARC9000544	Outer Pivot Plate Bushing (2 pk) (Gray)
27	ARC9000539	Pivot Plate (Gray)

PARTS

ARC384 - 9001338 - GEARBOX



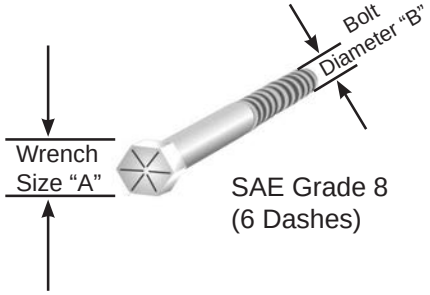
ITEM#	PART#	DESCRIPTION
20	ARC9001338	ARC384 Gearbox
28	ARCS-502	Gearbox Breather
29	ARC9001339	ARC384 Gearbox Input Seal
30	ARC9001340	ARC384 Gearbox Output Seal
31	ARC9000298	Gearbox Castle Nut w/Cotter Key

BOLT TORQUE CHART

AMERICAN
Bolt Head Markings

SAE Grade 2
(No Dashes)

SAE Grade 5
(3 Dashes)



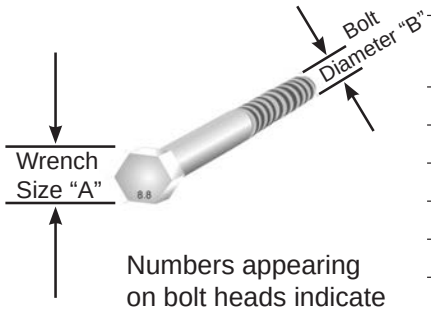
SAE Grade 8
(6 Dashes)

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

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 2-1/4	1-1/2 - 6 UNC 1-1/2 - 12 UNF	870 (1179) 979 (1327)	1950 (2642) 2194 (2973)	3161 (4283) 3557 (4820)

BOLT TORQUE CHART

METRIC



Numbers appearing on bolt heads indicate ASTM classes.

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

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

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 warrantied. 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.....

TAR RIVER IMPLEMENTS

Econo-Wrap

TRA
TAR RIVER ATTACHMENTS
SERIOUS TOOLS FOR SERIOUS WORK
WWW.TARRIVERMFG.COM

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Rocky Mount, NC 27804
www.tarrivermfg.com

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Fax: 252-787-5855
Sales@tarriverfmg.com