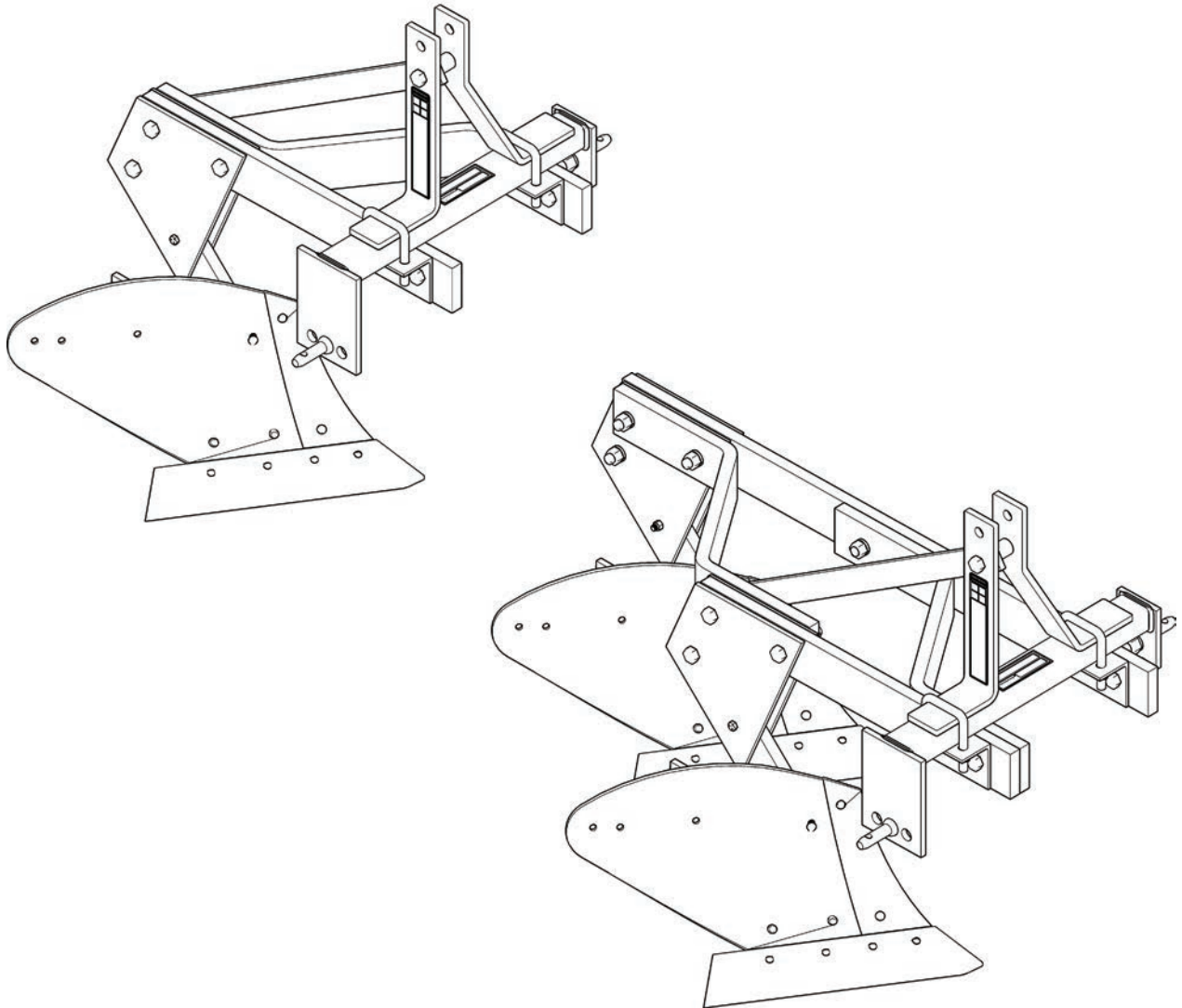




Moldboard Plow AMBP21, AMBP22



Operator's Manual

AMBP4000838 / Revision A

Introduction

Thank you for purchasing the Moldboard Plow. 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 Moldboard Plow is designed to break and invert soil, burying crop residue and weeds to produce a clean, aerated seedbed suitable for planting. 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 Moldboard Plow'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 lifespan of any machine depends on the care it receives. Refer to and review the manual often for preventative maintenance.

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

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

Owner Assistance

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

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

For quick reference and prompt service, record the model number and any other identifying information, such as a dealer-applied serial number or UPC, in the space provided below and again in the warranty section on **page 21**. 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

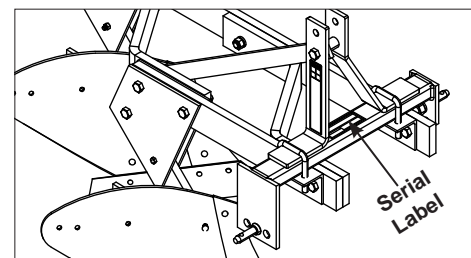
Phone

Email

Purchase Date

Serial Number / UPC

Serial Label Location



Serial number label located on top center of plow cross bar.

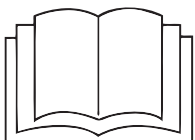
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Customer Support:

Phone: 1.252.822.7140

E-mail: sales@tarrivermfg.com

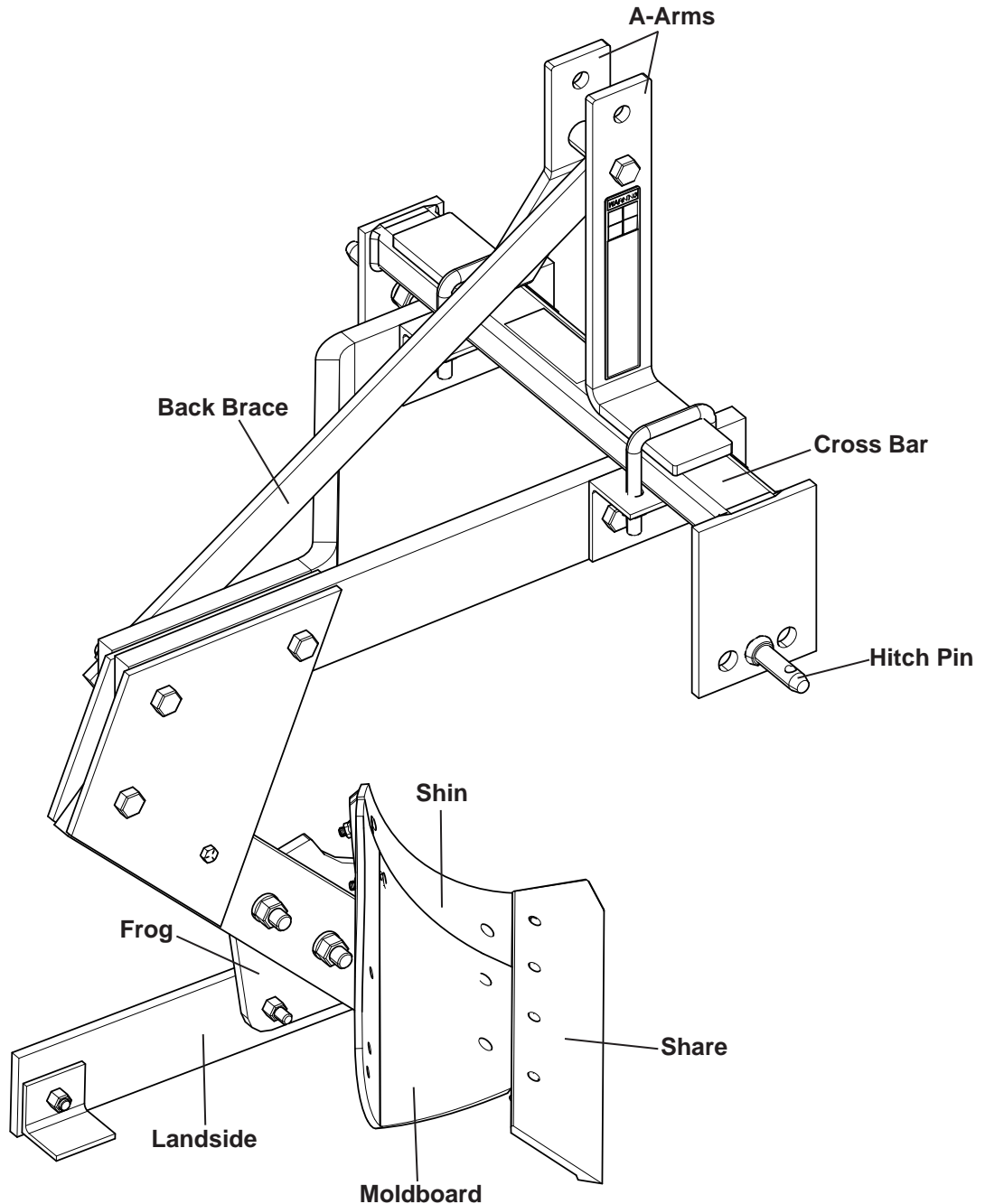


This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must supply this manual with the machine. Replacement manuals are available from authorized dealers or Tar River Implements Customer Support.

PRODUCT DESCRIPTION

The moldboard plow is a ground-engaging implement used for primary tillage, designed to penetrate, lift, and invert soil while burying surface residue to prepare fields for planting. It features a durable steel frame that supports one or more bottom assemblies, each comprising a share, moldboard, landside, and frog. Shear bolt protection is included to prevent damage to these components by breaking under excessive force when the plow encounters obstructions.

The plow mounts to a Category 1, three-point hitch tractor and has three adjustment positions for the right-side hitch pin. The adjustment positions allow operators to fine-tune the plow's angle for optimal alignment, furrow consistency, and performance across varying soil types and field conditions.



SAFETY GUIDELINES

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

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

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

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

Safety Alert Symbol



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

Safety Signal Words

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



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



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



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



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



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

CALIFORNIA

Proposition 65 Warning

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

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

SAFETY GUIDELINES

Training

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

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

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

Never allow children or untrained persons to operate the equipment.

Preparation

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

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

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

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

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

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

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

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

Consult with local utility companies to make certain there are no buried gas lines, electrical cables, etc., in the area where you intend to work.

Transportation

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

Transport only in daylight or satisfactory artificial light.

DO NOT allow riders on the power unit or implement.

DO NOT operate or transport on steep slopes.

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

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

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

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

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

Operation

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

Operate only in daylight or satisfactory artificial light.

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

SAFETY GUIDELINES

Operation Continued

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

DO NOT allow riders on the power unit or implement.

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

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

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

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

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

Watch for hidden hazards on the terrain during operation.

DO NOT operate or transport on steep slopes.

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

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

Stabilizer bars, adjustable sway chains, or a sway block attached to tractor lift arms will help keep the implement from swinging from side to side.

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

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

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

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

Maintenance

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

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

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

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

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

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

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

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

SAFETY GUIDELINES

Maintenance Continued

Frequently check blades/tines/shanks. They should be sharp, free of nicks and cracks, and securely fastened.

DO NOT handle blades/tines/shanks with bare hands. Careless or improper handling may result in serious injury.

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

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

Storage

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

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

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

SAFETY AND INSTRUCTIONAL LABELS

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

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

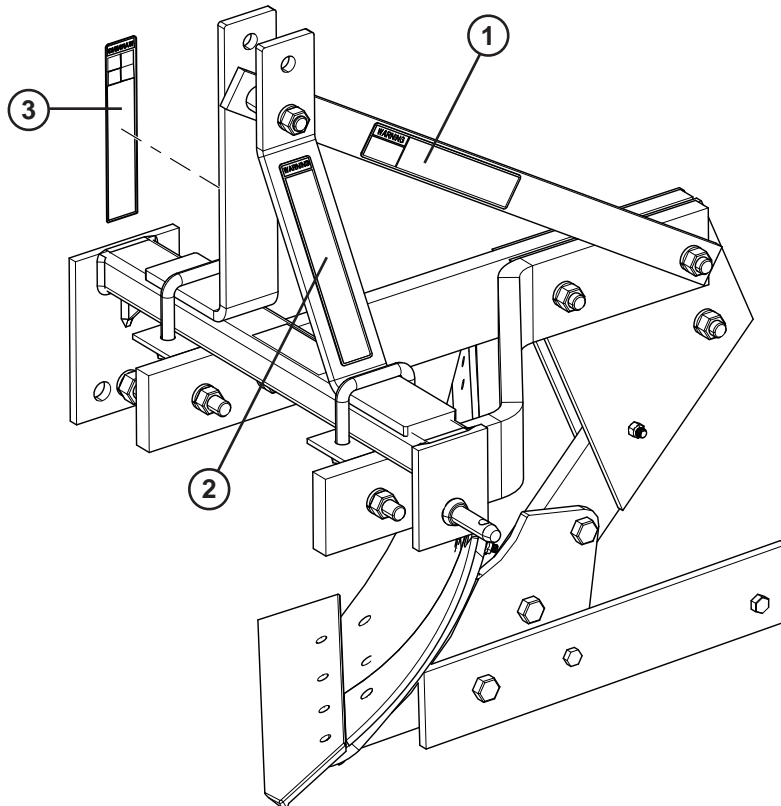
Safety Label Guidelines

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

Figure 1


Model AMBP21

NOTE: Models AMBP21 and AMBP22 have identical placement for labels 1, 2, & 3.



SAFETY AND INSTRUCTIONAL LABELS

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

<p>⚠ WARNING</p> <p>FALLING OFF CAN RESULT IN BEING RUN OVER.</p>  <p>1004299</p>	<p>FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.</p> <ul style="list-style-type: none"> Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times. Buckle Up! Keep seat belt securely fastened. Allow no riders. 	<p>RAISED IMPLEMENT CAN DROP AND CRUSH.</p> <ul style="list-style-type: none"> Never go underneath raised implement which can drop from 3-point hitch hydraulic system failures, movement of control levers, or mechanical linkage failures. Service work does not require going underneath implement. Read manual instructions.
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① FALLING OFF

② AVOID INJURY

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH:

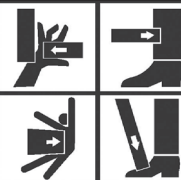
- Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from your selling dealer.)
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Operate from tractor seat only.
- Keep all shields in place and in good condition.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- Never allow children or untrained persons to operate equipment.
- If equipped with a park stand, park stands must be functional, kept in good repair, and stored in unit. Park and store on hard level ground away from people and children.

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

1002423-A

③ CRUSHING & PINCHING

⚠ WARNING



CRUSHING AND PINCHING HAZARD

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

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

1003751-A

ASSEMBLY AND SETUP

The Tar River Implements Moldboard Plow ships fully assembled from the manufacturer. Operators must read the **ATTACHING**, **DETACHING** and **OPERATION** sections before attempting to use the equipment.

ATTACHING / DETACHING

Attaching to Tractor 3-Point Hitch

WARNING

Avoid serious injury or death!

When implement is attached:

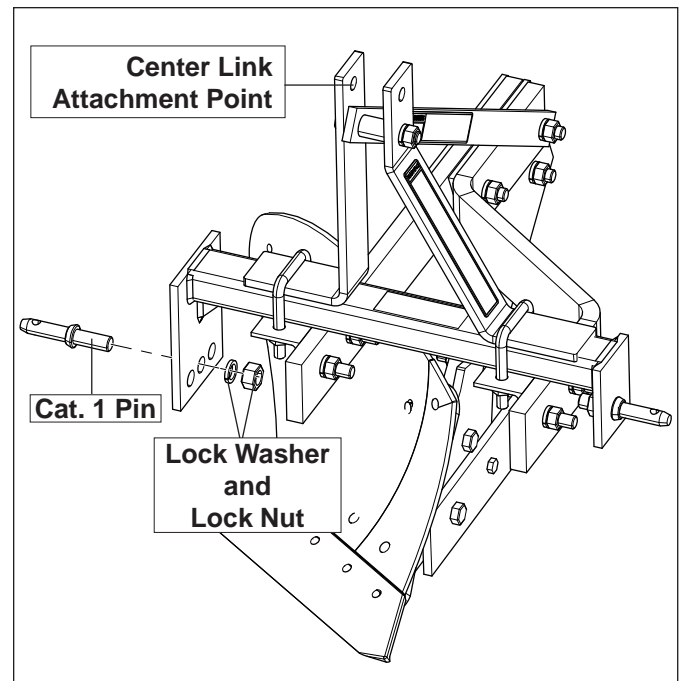
- Put transmission in **PARK** and engage parking brake as applicable.
- Check full range of hitch for interference or binding.
- **DO NOT** stand between tractor and implement.

The Tar River Implements Moldboard Plow is compatible with Category 1 tractors equipped with a 3-point hitch and side swing-type lift arms.

1. Adjust tractor drawbar to the shortest and highest position to avoid interference with the Moldboard Plow.
2. Back up tractor to Moldboard Plow with hitch points approximately in alignment.
3. Engage tractor parking brake and/or place transmission in "PARK".
4. Shut off tractor engine and remove key.
5. Install tractor draft links on Category 1 hitch pins. Secure with linchpins.
6. Remove tractor center link mounting hardware, then align center link with upper hole in Moldboard Plow A-Arms (see Figure 2).
7. Secure center link to Moldboard Plow with mounting hardware.
8. Start tractor engine.
9. Slowly pull hitch control lever to raise the Moldboard Plow. Check for interference.
10. Lower Moldboard Plow and adjust tractor center link until implement is level with the ground when in the down position.

Figure 2

Model AMBP21



IMPORTANT

Avoid Damage!

The Moldboard Plow is not compatible with quick coupler hitches.

Detaching from Tractor 3-Point Hitch

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

OPERATION

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

The Moldboard Plow is designed to break and invert soil, burying crop residue and weeds to produce a clean, aerated seedbed suitable for planting.

WARNING

Avoid serious injury or death!

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

WARNING

Avoid serious injury or death!

Operators must verify the precise location of all underground utilities before beginning any field work. This includes electricity, gas, telephone, water, sewer, and other buried systems.

- **When underground hazards are suspected, appropriate utility agencies must be contacted for inspection and clearance.**
- **Implements must not be operated until the area is confirmed to be free of underground obstructions.**
- **If uncertainty remains regarding buried infrastructure, equipment usage should be suspended.**

CAUTION

Avoid injury!

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

Operational Readiness Checklist

Operators should verify the following before using the Tar River Implements Moldboard Plow.

1. Operator has reviewed the entire Operator's Manual.
2. Overall condition good (i.e. paint, welds).
3. Tractor ROPS or ROPS Cab and seat belt must be in good working condition. Operators must keep seat belt securely fastened during operation.
4. Moldboard Plow is completely assembled.
5. All cotter pins and safety pins are properly installed.
6. All fasteners torqued to specifications in Bolt Torque Chart. (p. 19)
7. All safety and instructional labels in place and legible. (pp. 6-7)
8. Implement is correctly and securely attached to tractor. (p. 8)

Adjusting Implement Tilt

The tractor's 3-point lift system should be set to transfer the majority of the implement's weight and draft to the tractor in order to maximize traction. (Some smaller tractors may not have a 3-point draft control. Consult the tractor's operator manual before adjusting.)

1. Adjust front-to-rear tilt by shortening or lengthening the tractor's top link assembly.
 - a. Shortening the top link tilts the plow forward.
 - b. Lengthening the top link tilts the plow backward.
2. Adjust left-to-right tilt by first placing tractor's right tire in the furrow.
 - a. Place Moldboard Plow in the ground.
 - b. Use tractor's link arm crank to adjust the lower link arm up or down as needed to level the plow's frame.

NOTE: To achieve optimal field performance, ensure the plow is level while in the working position. The right-hand plow share must be properly aligned adjacent to the furrow to provide a clean and effective cut. It is recommended that the tractor's rear wheel spacing be adjusted so the right-hand tire tracks within the previous furrow. This setup enhances plow stability and accuracy.

As operators gain experience, they will be better equipped to determine the most effective configurations to meet field-specific requirements.

OPERATION

Adjusting Right-side Hitch Pin

The hitch pin adjustment positions on the right side of the cross bar allow operators to fine-tune the plow's angle for optimal alignment, furrow consistency, and performance.

1. Remove the 7/8"-14 lock nut and lock washer from the Category 1 hitch pin (see Figure 2, p. 8).
2. Reposition the hitch pin to one of the three available adjustment holes.
3. Secure the hitch pin using the lock washer and lock nut.
4. Torque all hardware to the specified values listed in the **BOLT TORQUE CHART** (see p. 19).

Cleaning and Inspecting **AFTER EACH USE**

1. Remove large debris such as dirt clumps, grass, and crop residue from the implement.
2. Check all bolts and fasteners to ensure they are tight. (see **BOLT TORQUE CHART**, p. 19).
3. Inspect the implement for worn or damaged parts. Replace parts as needed.
4. Replace any safety labels that are missing or illegible. Safety labels are available from authorized Tar River Implements dealers.

PERIODICALLY OR BEFORE EXTENDED STORAGE

1. Remove large debris such as dirt clumps, grass, and crop residue from the implement.
2. Clean the implement using a low-pressure water spray.
 - a. Be careful when spraying near edges of safety labels as water spray can peel label off surface.
 - b. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 - c. If pressure washer is used, follow the advice of the pressure washer manufacturer.
3. Check all bolts and fasteners to ensure they are tight. (see **BOLT TORQUE CHART**, p. 19). Inspect the implement for worn or damaged parts. Replace parts as needed.
4. Sand down scratches and the edges of areas of missing paint and coat with spray paint of matching color.

Cleaning and Inspecting Continued **PERIODICALLY OR BEFORE EXTENDED STORAGE CONTINUED**

5. Replace any safety labels that are missing or illegible. Safety labels are available from authorized Tar River Implements dealers.
6. Coat soil-engaging components with a rust-inhibiting product.

Storage



Avoid serious injury or death!

- **Always use a tractor to position the implement for storage. Never attempt to move the implement by hand.**
 - **Ensure the implement is stable and will not topple or fall.**
 - **Keep children, bystanders, and livestock away from the storage area.**
1. Perform ***Cleaning and Inspecting*** procedures.
 2. Park the implement on a dry, level surface shielded from atmospheric agents.
 3. Ensure the implement is stable and will not topple or fall.

MAINTENANCE

This section is designed for operators possessing basic mechanical skills. Before performing any maintenance, ensure the implement is securely supported to prevent accidental movement or injury. Operators must read and follow all safety information provided in this manual. For service support or technical assistance, contact an authorized Tar River Implements dealer.

WARNING

Avoid serious injury or death!

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

CAUTION

Avoid injury!

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

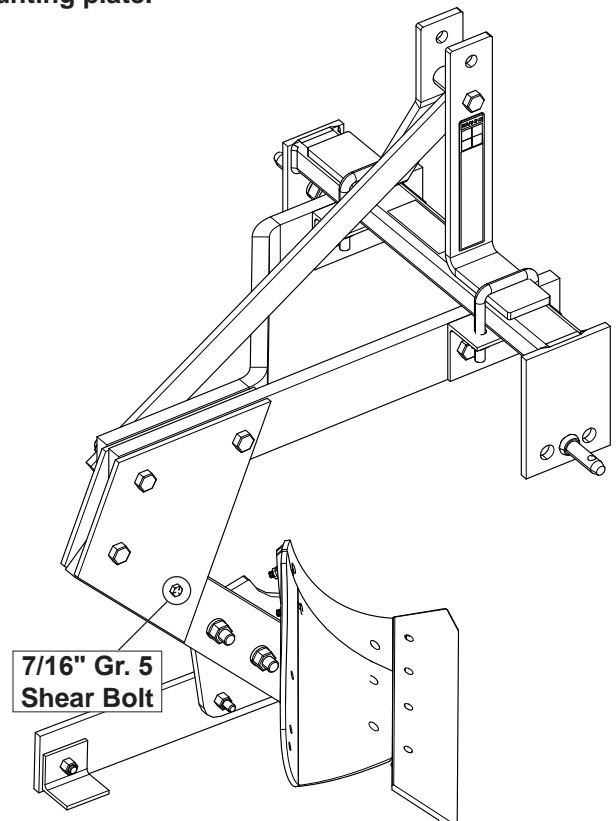
Replacing Shear Bolt

The shear bolt is designed to prevent damage to critical components if the Moldboard Plow strikes an obstruction or engages with extremely hard ground. It is installed in the bottom bolt hole of the drop beam mounting plate and connects to the plow shank (see Figure 3).

1. Remove broken shear bolt from implement.
2. Install new 7/16"-14 x 2 1/2" Grade 5 Hex Bolt.
3. Secure hex bolt with 7/16"-14 Nylon Lock Nut. Torque to correct specifications (see **BOLT TORQUE CHART**, p. 19).

Figure 3

Shear bolt located near bottom of drop beam mounting plate.



IMPORTANT

Avoid Damage!

Using a higher-grade bolt in place of the Grade 5 shear bolt may result in damage to the implement.

TROUBLESHOOTING

The principle cause of plowing difficulties is improper adjustments. Should you experience problems, do not attempt to make adjustments without first consulting this section. Also, when making adjustments, try one adjustment at a time.

Problem	Possible Cause	Possible Remedy
Poor soil penetration.	Insufficient plowing depth.	Shorten tractor's top link.
	Worn share.	Replace share.
	Position of tractor selector levers.	See tractor Owner's Manual for correct settings.
	Ground is hard and dry.	Increase depth of head land starting furrow.
Plow ridging.	Front bottom too deep.	Shorten right-hand leveling screw or lengthen tractor's top link.
	Front bottom too shallow.	Lengthen right-hand leveling screw or shorten tractor's top link.
	Front bottom cutting too wide or too narrow.	Adjust plow properly by correcting wheel and cross shaft settings.
Poor trash coverage.	Bottoms not scouring.	Clean bottoms frequently until land polish is obtained.
Bent plow beam or frame.	Hard shear bolt.	Replace bent parts and install Grade 5 shear bolt.
	Hitting hidden objects.	Operators should assess soil conditions prior to operation. If soil conditions are unknown, equipment must be operated at a reduced speed.
	Using tractor that is too large, or one that is heavily weighted and has four-wheel drive.	Operators must reduce speed and proceed with added caution to prevent equipment strain.
Furrows rolling back.	Furrows too deep for width of bottom.	Reduce plowing depth.
Broken or misplaced furrows.	Plowing speed too high.	Reduce tractor speed.
Plow comes out of ground.	Tractor's draft control is lifting plow.	Set tractor draft control.
	Soil is too hard.	Use larger tractor.
Side pull.	Tractor front pulls towards furrow.	Add front-end weight.

TROUBLESHOOTING

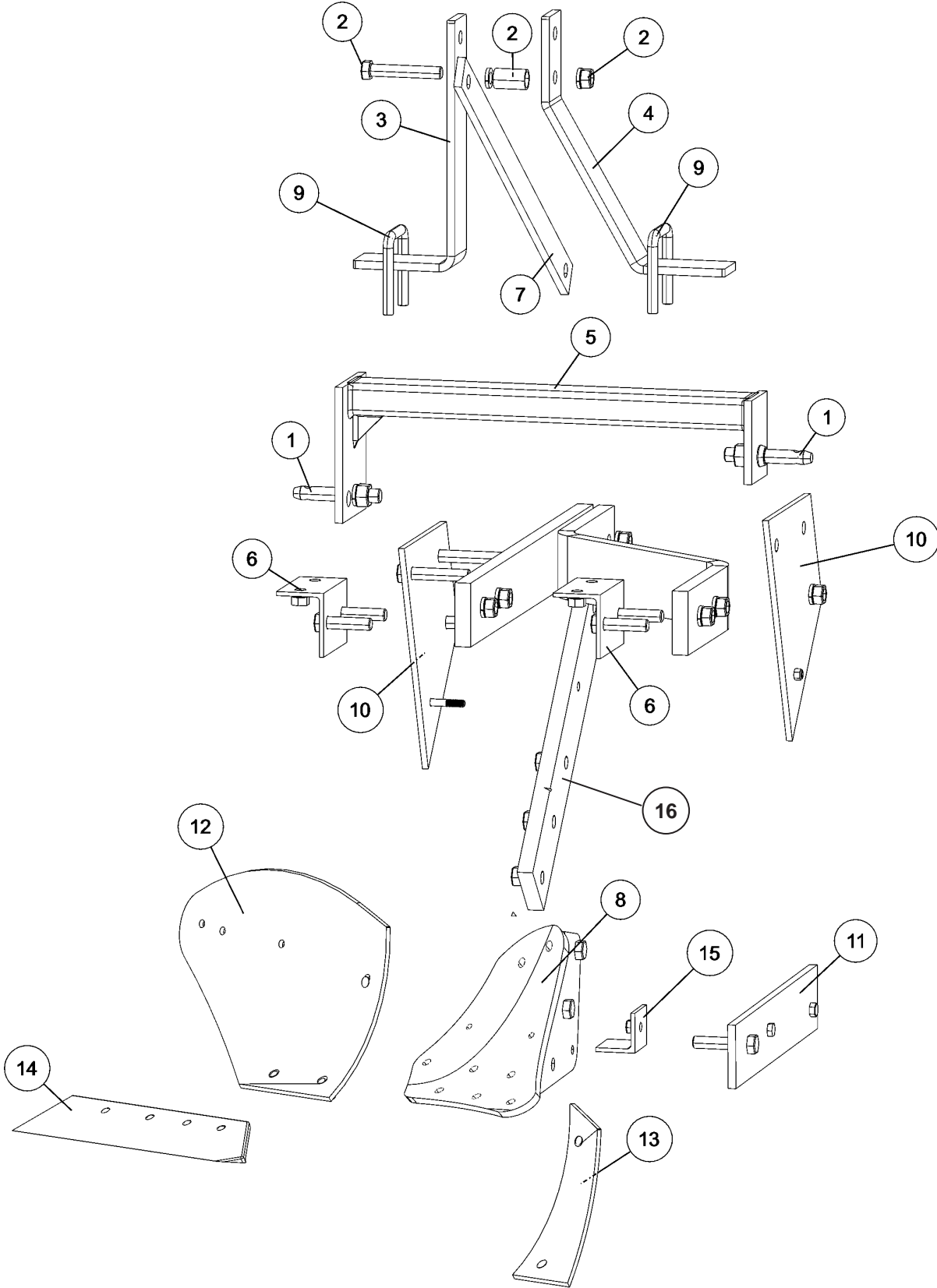
Problem	Possible Cause	Possible Remedy
Plow pulls heavy.	Plow running on nose.	Lengthen tractor's top link.
	Excessive landside pressure.	Incorrect tractor wheel or cross shaft setting. Rear landside should run 1/4" to 1/2" from furrow wall.
	Excessive tractor wheel slippage.	Refer to tractor Owner's Manual to operation of depth control. Add weight to tractor if necessary. Reduce air pressure in rear tires. Use larger tractor.
	Bent plow frame or beam.	Check shear bolt and replace bent parts.
	Ground is hard and dry.	Use larger tractor.
Bottoms won't scour.	New bottoms.	Polish with a sanding wheel, following the flow of the dirt over the plow bottoms.
	Plow running on nose.	Lengthen tractor's top link.
	Plow running crooked.	Place the right-hand link pin in the cross shaft's center adjustment hole. Obtain the proper width of cut for the front bottom at this setting by making cross shaft and tractor wheel adjustments. The wheel track should be adjusted so that the inside of the right hand front tire is in line with the inside of the right-hand rear tire.
Plow crowding (not running straight).	Plow running on nose.	Lengthen tractor's top link.
	Plow crowding to the left.	Front bottom too deep - shorten right-hand leveling screw or lengthen tractor's top link.
	Plow crowding to the right.	Front bottom too shallow - lengthen right-hand leveling screw or shorten tractor's top link.
	Plow goes too deep.	Lengthen tractor's top link.
	Plow won't stay down.	Shorten tractor's top link.
	Front bottom cutting too narrow or too wide.	Using the adjustable link pinholes, adjust the plow to the right or left so that the front bottom cuts to the proper width. NOTE: Do not use this adjustment to offset incorrect wheel or cross shaft settings.
	Worn share.	Replace share.
	Improper wheel and cross shaft setting.	Set wheels and cross shaft properly.

PRODUCT SPECIFICATIONS

Model	AMBP21	AMBP22
Description	1 Bottom Plow	2 Bottom Plow
Hitch Category	Cat 1	Cat 1
Quick Hitch Compatible	No	No
Length	45"	71"
Width	33"	40"
Height	40.5"	40.5"
Tractor HP	25 - 50 HP	25 - 50 HP
Moldboard Dimensions	14" (w) x 21" (l) x 16" (h)	14" (w) x 21" (l) x 16" (h)
Number of Mold Boards	1	2
Approx Weight	256 lb	479 lb

PARTS

MODEL AMBP21



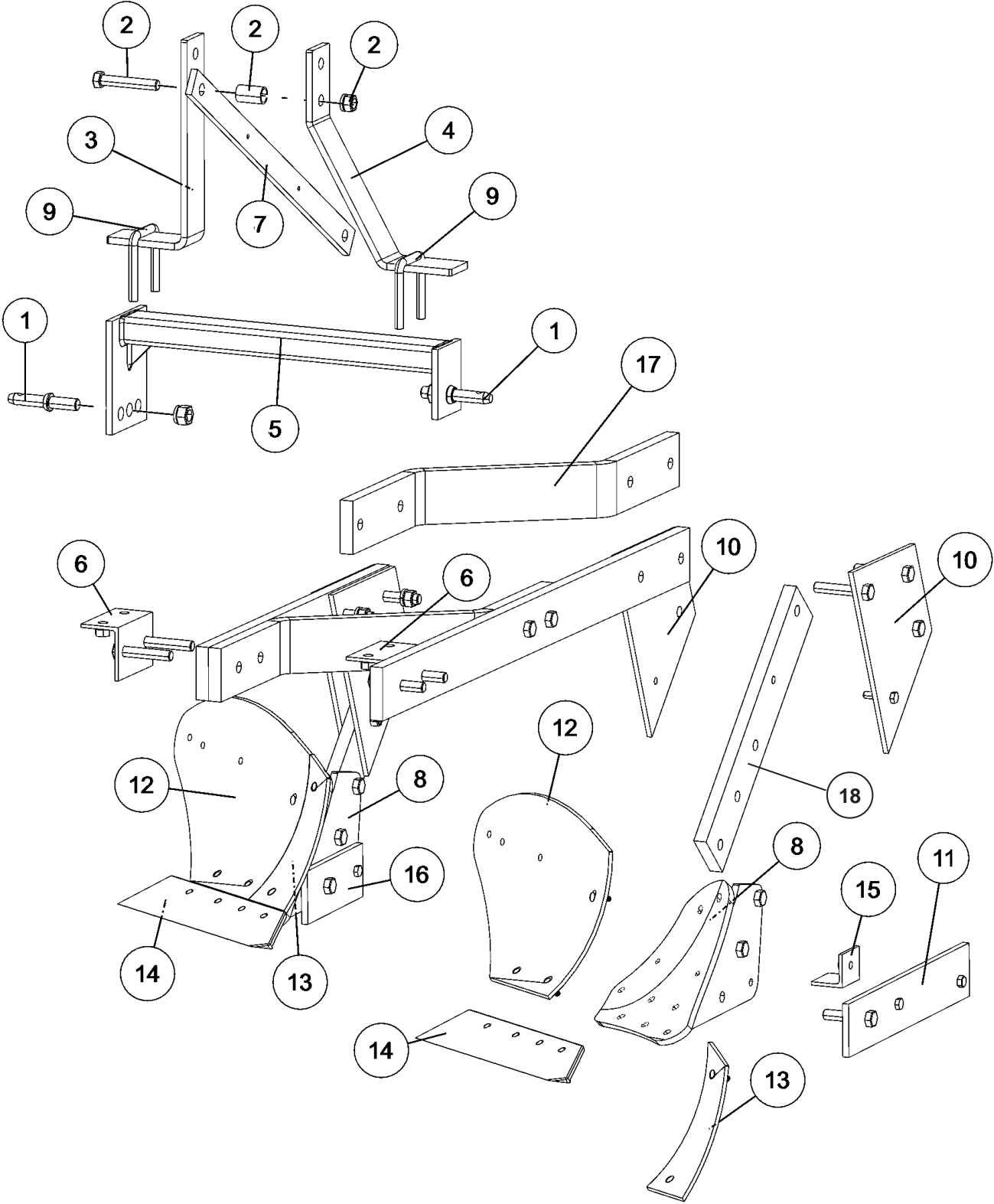
PARTS

MODEL AMBP21

Item#	Service Number	Description
1	HPC1L	Category 1 Pin
2	AMBP9000637	Plow Spacer with Hardware
3	AMBP9000638	Plow RH A-Arm
4	AMBP9000639	Plow LH A-Arm
5	AMBP9000640	Plow Cross Bar
6	AMBP9000641	Cross Bar Angle Brace
7	AMBP9000642	Plow Back Brace
8	AMBPFWH	Plow Frog with Hardware
9	AMBPUBWH	U-Bolt with Nuts and Washers
10	AMBP9000643	Drop Beam Mounting Plate (2pk)
11	AMBP9000644	Landside with Hardware
12	AMBPPMBWH	Plow Mold Board with Hardware
13	AMBPPSHINWH	Plow Shin with Hardware
14	AMBPPSWH	Plow Share with Hardware
15	AMBP9000645	Landside Angle Brace with Hardware
16	AMBP9001535	Plow Shank

PARTS

MODEL AMBP22



PARTS

MODEL AMBP22

Item#	Service Number	Description
1	HPC1L	Category 1 Pin
2	AMBP9000637	Plow Spacer with Hardware
3	AMBP9000638	Plow RH A-Arm
4	AMBP9000639	Plow LH A-Arm
5	AMBP9000640	Plow Cross Bar
6	AMBP9000641	Cross Bar Angle Brace
7	AMBP9000642	Plow Back Brace
8	AMBPFWH	Plow Frog with Hardware
9	AMBPUBWH	U-Bolt with Nuts and Washers
10	AMBP9000643	Drop Beam Mounting Plate (2pk)
11	AMBP9000644	Landside with Hardware
12	AMBPPMBWH	Plow Mold Board with Hardware
13	AMBPPSHINWH	Plow Shin with Hardware
14	AMBPPSWH	Plow Share with Hardware
15	AMBP9000645	Landside Angle Brace with Hardware
16	AMBP9000646	Short Landside with Hardware
17	AMBP9000647	Front Spreader Beam
18	AMBP9001535	Plow Shank

BOLT TORQUE CHART

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

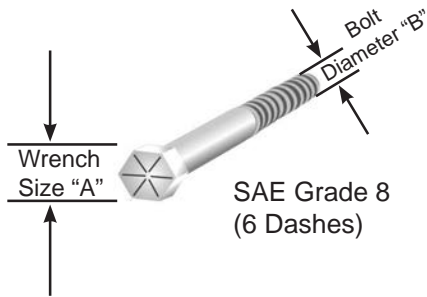
AMERICAN Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)



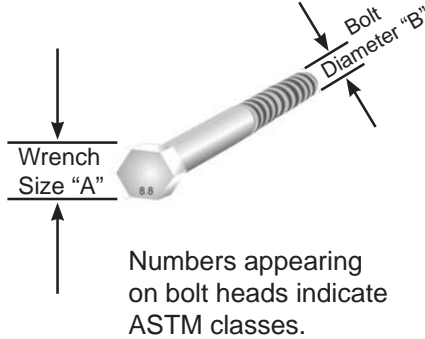
SAE Grade 8
(6 Dashes)

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

BOLT TORQUE CHART

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

METRIC



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

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

WARRANTY

Limited Warranty

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

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

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

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

Proper service is not performed on the machine.

The machine is modified or altered in any way.

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

Disclaimer of Implied Warranties & Consequential Damages

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

Registration

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

WARRANTY

Additional Information

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

Warranty Claim Information

Dealer Name.....

Dealer Address.....

Dealer Phone.....

Dealer Email.....

Purchase Date.....

Model Number.....

Serial Number/UPC.....



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