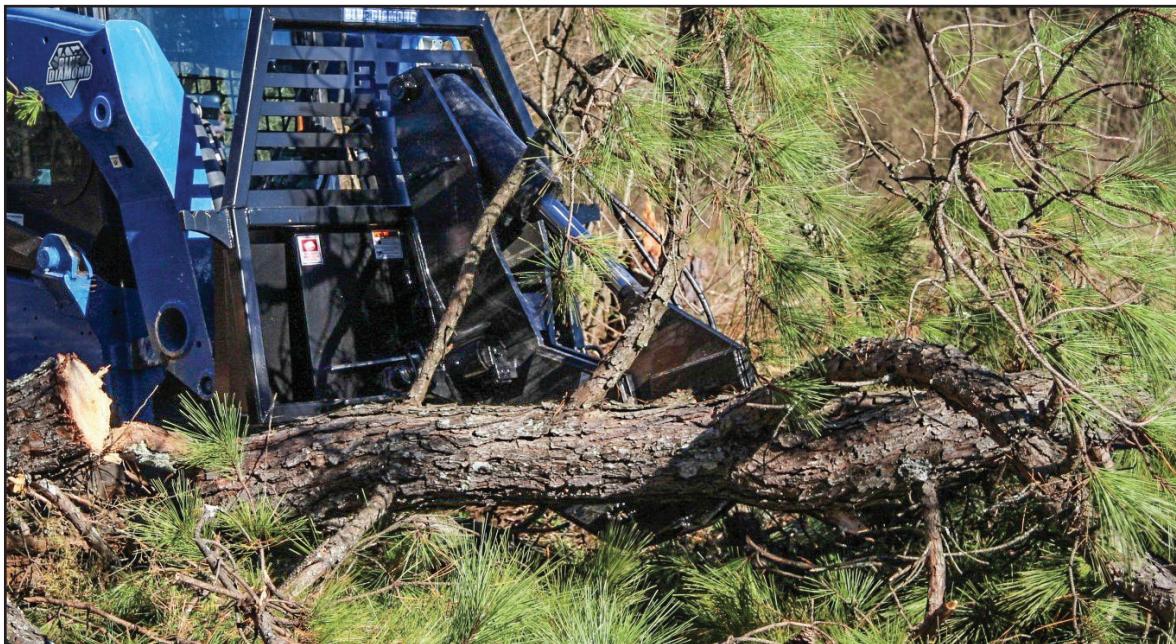


# Tree Shear

## Operation and Maintenance Manual



128005



888-376-7027 | [BlueDiamondAttachments.com](http://BlueDiamondAttachments.com)

Register your  
**WARRANTY**  
within 30 days  
of purchase



BD-092

# Introduction: Owner Information

Thank you for your decision to purchase a Blue Diamond® Tree Shear. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator's Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and/or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator's Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Blue Diamond® is continually working to improve its products. Blue Diamond® reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Blue Diamond® makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Blue Diamond® assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Blue Diamond® Attachments Dealer for assistance, information, or additional copies of the manual. Contact [www.bluediamondattachments.com](http://www.bluediamondattachments.com) or call 888-376-7027 for a complete list of dealers in your area.

## Serial Number Location:

Please record attachment information in the space provided for future reference.



**Model Number:** \_\_\_\_\_

**Serial Number:** \_\_\_\_\_

**Dealer Name:** \_\_\_\_\_

**Dealer Number:** \_\_\_\_\_

**Date of Purchase:** \_\_\_\_\_

The serial number plate is located on the top right of the frame as shown above.

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

**NOTE:** The directions left, right, front, and rear, as mentioned throughout this manual, are as viewed from the operator's position.

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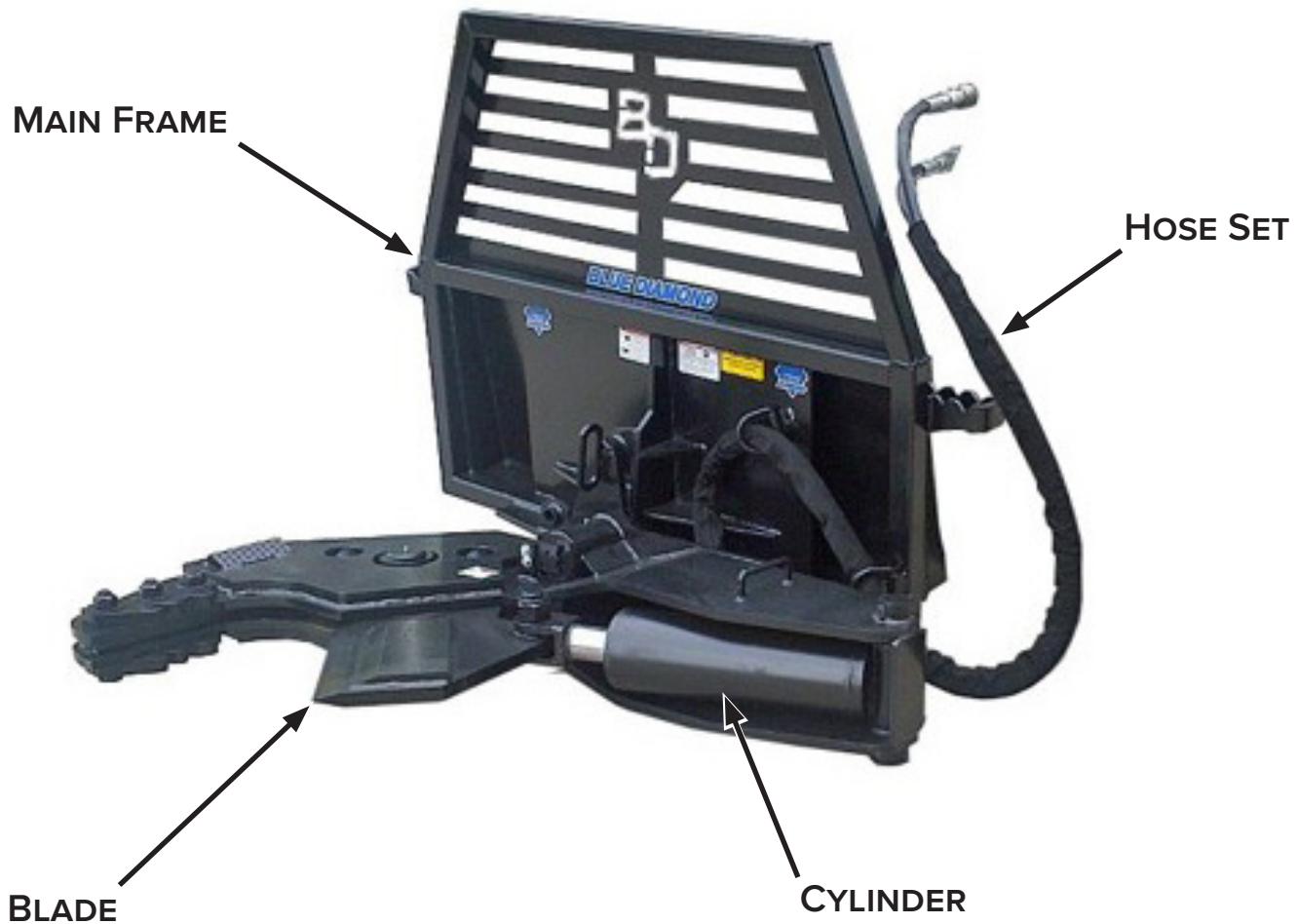
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# 1. Introduction

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## 1.1 Attachment Identification



## 1.2 About this Attachment

The Blue Diamond® Tree Shear cuts trees up to 12" (305 mm) in diameter with ease. The powerful 5" x 12" (305 mm x 305 mm) cylinder produces 29 tons of force at 2500 psi (172 bar). By simply pulling a pin, the shear will rotate 90° for cutting limbs and felled trees.

## 1.3 Attachment Model Numbers

MODEL NUMBER	CUTTING CAPACITY
128005	12"

## 2. Safety

### 2.1 General Safety Information



#### SAFETY ALERT SYMBOL



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



#### IMPORTANT



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



#### DANGER



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



#### WARNING



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



#### CAUTION



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

**NOTE:** Notes are used to indicate important information. This information may be repeated in other areas of the manual.

### Terminology

Host Machine, Machine, Prime Mover:

- The Tree Shear can be attached to many different pieces of equipment; therefore, the terms "host machine", "machine", and "prime mover" will be used. Host machine, machine, and prime mover mean any vehicle, tractor, or skid steer providing power to the attachment.

Attachment, Implement, Equipment:

- The Tree Shear is the tool that is being attached to the host machine; therefore, the terms "attachment", "implement", and "equipment" will be used. The attachment, implement, and equipment mean any tool that is being used on any vehicle, tractor, or skid steer being used for different applications.

### Operating Safety

- Read and follow instructions in this manual and the machine's Operator's Manual before operating.
- The manual must always remain with the machine. In case of loss or damage, request a new copy from your dealer or from Blue Diamond®.
- Strictly follow all rules prescribed by the safety pictograms/decals applied to the machine. Ensure that all safety pictograms/decals are legible. If pictograms/decals are worn, they must be replaced with new ones obtained from Blue Diamond® and placed in the position indicated by this manual.
- Before using the machine, make sure that all safety devices are installed and in good working condition. In case of damaged or missing shields, replace them immediately.
- It is absolutely forbidden to remove or alter safety devices and/or safety precautions
- Pay maximum attention to avoid any accidental contact with rotating parts of the machine.
- If the use of the machine is required at night or in conditions of reduced visibility, use the lighting system of the prime mover and an auxiliary lighting system if required.

## 2. Safety

### 2.2 Operators

#### Qualified Operators

The operator is a person suited to the work and who is physically and psychologically able to withstand the demands connected with operating the equipment for its intended use. The operator must not allow anyone to approach the machine while it is working and must not allow external personnel to operate the machine or attachment.

The operator is to follow the given instructions in this manual and the machine operator's manual in order to obtain maximum performance, minimal fuel consumption, and maximum safety for himself and for others.

The operator is responsible for scrupulously observing all the instructions given in this manual.



#### DANGER



##### AVOID SERIOUS INJURY OR DEATH

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

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

For an operator to be qualified, he or she must have read and understood the instructions of this manual, he or she must make adequate preparation for the proper use of the machine, and he or she must hold a driving license.

In case of doubt regarding the use of the machine and/or the interpretation of this manual, the operator must contact either their dealer or Blue Diamond®.

#### Operator Training

- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area.

#### Operator Safety

- Before starting, and during operation of the attachment, make sure there are no people or animals in the operation area; the attachment can fell heavy material, causing risks of serious injury or death.
- During operation, adjustment, maintenance, repairing, or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE) including but not limited to safety glasses, working gloves, dust mask, safety helmet, and hearing protection.
- Do not operate the attachment or machine while wearing loose fitting clothing that can be entangled or caught in parts of the machine.
- Do not operate the implement when tired, not in good condition, or under the influence of alcohol or drugs.

## 2. Safety

---

### 2.3 Safety Guidelines

#### Operating Safety

- Read and follow instructions in this manual and the machine's Operator's Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to persons unfamiliar with its operation.
- Check for overhead and/or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.
- Check that the attachment is securely fastened to the machine.
- Make sure all the machine controls are in the NEUTRAL before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator's Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders.
- Do not permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved machines.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Do not make any adjustments or repairs on the equipment while the machine is running.

- Keep shields and guards in place. Replace if damaged.
- DO NOT operate equipment in poor visibility conditions such as fog, darkness, or any conditions that limit clear visibility less than 100 feet (30 m) in front of and to the sides of the equipment.
- When conditions make it necessary to slow ground speed, shift to a lower gear rather than reducing engine speed. DO NOT operate in a work area that has not been inspected for foreign debris and obstacles.
- Remove any foreign objects and clearly mark any objects that cannot be removed.
- Wear safety glasses, gloves, hearing protection, and other protective clothing when required.

#### Machine Requirements and Capabilities

- The machine's operator's cab should be equipped with a thermoplastic polycarbonate or similar material front window, and similar protection on the sides of the operator's cab before operating the equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Do not exceed 3000 psi (206 bar) operating pressure.
- Use caution on slopes and near banks and ditches to prevent overturn.

## 2. Safety

### 2.3 Safety Guidelines Cont'd

#### Fire Prevention Safety

- Flammable debris (leaves, grass, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.
- The equipment's cylinder compartment must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.
- All fuels, most lubricants, and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

#### Transporting Safety

- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- Check local laws for all highway lighting and marking requirements.
- Always yield to oncoming traffic and move to the side of the road so any following traffic may pass.
- Never allow riders on either machine or equipment.
- If transporting the equipment on a truck or trailer, make sure the equipment is properly secured to the transport vehicle.

#### Hydraulic System

- Check hydraulic tubes, hoses, and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.
- Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

#### Personal Protective Equipment



Proper Work Clothes: To help ensure your safety as a designated operator wear proper work clothes including tight fitting clothes, protective gloves, and shoes.



Hand Protection: To help ensure your safety as a designated operator wear protective gloves.



Protective Shoes: To help ensure your safety as a designated operator wear protective shoes.



Safety Helmet: To help ensure your safety as a designated operator wear a safety helmet.



Safety Helmet and Eye/Ear Protection: To help ensure your safety as a designated operator wear a safety helmet and eye/ear protection.

## 3. Operation

### 3.1 Pre-Operation Inspection

Before operating the Tree Shear for the first time and each time thereafter, use the following list as a guideline during equipment inspection.



#### WARNING



##### AVOID SERIOUS INJURY OR DEATH

- Disengage machine's auxiliary hydraulics, engage the machine's parking brake, stop the engine, and make sure all moving parts are completely stopped before connecting, disconnecting, adjusting, or cleaning equipment.
- Always keep shields and guards in place when using the equipment.
- Disengage machine's auxiliary hydraulics for road travel.
- Keep hands, feet, and clothing away from rotating parts.

- Lubricate the attachment per the schedule outlined in the Maintenance section. See "4.1 Service Schedule" on page 14.
- Check the attachment mounting frame for damage or cracks.
- Check that all shields and guards are in place.
- Check for loose bolts and tighten them if necessary.
- Check all welds on the attachment for wear and damage each time the attachment is removed from the machine.
- Check for damaged or missing safety decals. Replace if necessary.
- Inspect the machine's mounting frame. (See the machine's Operator's Manual for inspecting the mounting frame.) Replace any parts that are damaged, bent, or missing. Keep all fasteners tight. Look for cracked welds.
- Verify that the attachment is properly connected to the machine.



#### WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required.  
Wear goggles. Use cardboard to check for leaks.

- Check the condition of all hydraulic components for leaks. Repair as required.

**NOTE:** Do not operate with hydraulic leaks.

### 3. Operation

#### 3.2 Entering & Exiting the Prime Mover

##### **IMPORTANT**



See the machine's Operator's Manual for detailed information on operating the loader.

##### **Entering the Operator's Position**

Use the safety treads, handles, and steps on the attachment and machine to enter the operator's position. Always maintain three (3) points of contact.

When in the operator's position, secure the seatbelt, lower safety seat bar, start the engine, and release the parking brake.

##### **Leaving the Operator's Position**



##### **WARNING**



###### **AVOID SERIOUS INJURY OR DEATH**

- Always park on a flat, level surface.
- Lower lift arms and place attachment flat on the ground.
- Place all controls in NEUTRAL.
- Engage the parking brake.
- Stop the engine, and remove the key.
- Wait for all moving parts to stop.

**SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.**

Park the machine/attachment on a flat, level surface.

Place all controls in neutral, engage the parking brake, stop the engine, and wait for all moving parts to stop. Leave the operator's position.

#### 3.3 Attachment Installation

##### **Connecting Attachment to the Machine**

##### **WARNING**



###### **CRUSH HAZARD**

- Before moving the machine, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the machine and attachment when approaching the attachment for connecting.
- Keep fingers and hands out of pinch points when connecting and disconnecting the attachment.

Before connecting to the attachment, inspect the machine's mounting plate. (See the machine's Operator's Manual for inspecting the mounting frame).

Enter the operator's position. See "Entering the Operator's Position" on page 10.

Drive the machine slowly forward until the top edge of the machine's mounting plate is under the top flange of the attachment mounting frame.

Slowly tilt the machine's mounting plate back until the attachment mounting frame fully contacts the front of the machine's mounting plate.

Leave the operator's position. See "Leaving the Operator's Position" on page 10.

### 3. Operation

#### 3.3 Attachment Installation Cont'd

##### Connecting Attachment to the Machine Cont'd



##### WARNING



###### AVOID SERIOUS INJURY OR DEATH

The locking pins/wedges must extend through the holes in the attachment mounting frame. Failure to secure locking pins/wedges can allow attachment to come off.

**SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.**

Engage attachment locking levers/wedges (See the machine's Operator's Manual for detailed information.)

##### Connecting Hydraulic Hoses



##### IMPORTANT

Throughly clean the quick couplers before making connections. Dirt can quickly damage the hydraulic system.

Verify that all hydraulic couplings are compatible with the host machine.

Remove dirt or debris from the male and female couplers. Visually inspect the couplers for corroding, cracking, damage, or excessive wear. Replace as needed.

Connect the attachment hydraulic hoses to the machine. The hydraulic hoses must be connected in the following order: return hose then pressure hose.

For the hydraulic hoses, the return hose must be connected before the pressure hose.

Pull on each hose to verify full connection is made.

##### Disconnecting Hydraulic Hoses



##### WARNING



###### AVOID SERIOUS INJURY OR DEATH

Hydraulic fluid, tubes, fittings, and quick couplers can get hot during operation. Be careful when connecting and disconnecting hydraulic hoses.

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Disconnect attachment hydraulic hoses from the machine. The hoses must be disconnected in the following order: pressure hose then return hose.

The pressure hose must be disconnected before the return hose.

##### Disconnecting Attachment From the Machine

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Park the machine and attachment on a flat, level surface. Lower the attachment flat on the ground.

Leave the operator's position. See "Leaving the Operator's Position" on page 10.

Disconnect attachment hydraulic hoses from the machine.

Disengage locking pins/wedges. (See the machine's Operator's Manual for correct procedure.)

Enter the operator's position. See "Entering the Operator's Position" on page 10.

Slowly tilt the machine's mounting plate forward until the attachment mounting frame is free from the machine's mounting plate.

Drive the machine slowly backward, away from the attachment.

## 3. Operation

### 3.4 Operating the Attachment

#### Machine Requirements



#### WARNING



Never allow riders on the attachment.

Only use the attachment on compatible host machines.

Refer to the machine's Operator's Manual for flow and hydraulic pressure specifications.

#### Engaging the Attachment for the First Time



#### IMPORTANT

If this is the initial startup with this attachment on this machine, check the host machine's hydraulic oil level and add oil, if necessary, before and after performing steps 1 – 2 below.

After starting the machine, lift the attachment 6" (152 mm) off the ground surface:

1. With the host machine engine RPMs just above idle, slowly engage the auxiliary hydraulic to open the shear arm. Move the auxiliary control pedal, lever, or switch in opposite directions to open and close the shear. Repeat this three (3) times.
2. Lower the attachment to the ground and shut off the host machine's engine. Leave the operator's position. See "Leaving the Operator's Position" on page 12.
3. Check the machine's hydraulic oil level, and add oil if necessary.
4. Inspect the attachment's hydraulic system for any noticeable leaks. If leaks are present, correct before continuing operation.

#### Operating the Tree Shear



#### WARNING



##### AVOID SERIOUS INJURY OR DEATH

Use extreme caution when felling trees to keep them from hitting yourself or bystanders.

Install the Tree Shear onto the machine. (See "Connecting Attachment to the Machine" on page 12 or the machine's Operator's Manual.)

Enter the operator's position. See "Entering the Operator's Position" on page 11.

Raise the attachment slightly off the ground.

Cycle the Tree Shear cylinder several times to purge the hydraulic system of air. (See the machine's Operator's Manual for precise instructions in regards to these functions.)

To cut, fully open the blade and drive forward until the tree is as far into the blade as possible.

Cycle the cylinder to cut the tree.

Use the machine to adjust the height of the attachment. The machine's tilt cylinders can be used to level the attachment.

The shear blade stops when the auxiliary hydraulics are in neutral. When done cutting, close the shear to prevent someone from walking into the blade during maintenance or pre-operation inspection.

## 3. Operation

### 3.4 Operating the Attachment Cont'd

#### Rotating the Tree Shear

Blue Diamond® recommends using a second person to perform this action.

1. With the second person a safe distance from the attachment, raise the Tree Shear about 18" (457 mm) above the ground.
2. Notify the second person to stand on the right side of the Tree Shear and pull the pivot lock pin from the top of the shear.
3. When the pin has been pulled, rotate the shear head 90° counterclockwise until the bracket aligns with the other lock bushing on the side of the frame. Insert the pivot lock pin.
4. Wait until the second person has moved out of the work area before resuming operation .
5. To return the shear to the horizontal position, reverse this procedure.

### 3.5 Cutting Tips



#### CAUTION



##### AVOID INJURY

Never operate this attachment when bystanders are in proximity of the work area that could result in minor or serious injury from flying debris, falling trees, or branches.

Operate at a safe pace that will allow you to watch the area around the attachment and the machine.

The Tree Shear is capable of cutting trees and other brush up to 12" (305 mm) in diameter. Learn and realize which way the tree is likely to fall so it does not end up crashing onto the machine while in the operator's position.

Hardwood trees of up to 12" may require a second try at shearing to penetrate through the tree.

Examples include but not limited to locust, osage, orange, hickory, oak, and ironwood.

Never use the attachment to push, pull, lift, or move any type of object. Do not use the attachment to "push" down trees without the Tree Shear being used.

Do not use the attachment as a dozer blade.

Do not use the Tree Shear as a stump puller. It is not designed for such use.

Clean out any limbs or trash that may accumulate around the attachment's cylinder or pivot areas.

Never shear trees from the lower side of a hill or sloped area. Reposition the machine and attachment to a location above the ground-level of the tree being cutting.

Never leave the operator's position with the shear raised. Never walk or lay under the attachment in a raised position or allow any other person to do so.

The Tree Shear will usually fall the tree to the right side of the shear, but in certain conditions, the course can be altered. Always be ready to quickly move the machine to avoid impending danger.

Determine a safe cutting pattern prior to operation.



#### CAUTION



##### AVOID INJURY

Use care when operating on uneven terrain or any type of sloped surface. Keep your shear low to the ground when working in these conditions to avoid a rollover that could result in minor or serious injury.

## 4. Maintenance

The information in this section is written for operators who possess basic mechanical skills. Should the operator need help, your dealer has trained service technicians available.



### DANGER



Never work under the attachment unless it is securely supported or blocked to prevent sudden or inadvertent falling which could result in death or serious injury.



### WARNING



Before performing any of the actions in this section, section 2. Safety must be read in its entirety and understood fully to avoid any type of risk or accident. If you do not fully understand this manual, DO NOT connect or operate the machine or carry out any maintenance operations. Contact your local dealer or Blue Diamond® Product Support immediately to ensure your safety and that of the machine.

### 4.1 Service Schedule

DESCRIPTION	SERVICE PROCEDURES					
	Check	Clean	Lube	Change	Adjust	Drain
<b>Daily Maintenance (or every 8 hours)</b>						
Hydraulic Fittings	•					
Hydraulic Hoses	•					
All Hardware	•					
Frame	•	•				
Pivot Pins			•			
Hydraulic Cylinder*			•			
<b>Weekly Maintenance (or every 40 hours)</b>						
Hydraulic Fittings	•					
Hydraulic Hoses	•					
All Hardware	•					
Frame	•					
Blade	•	•				
Safety Decals	•					

\*See "Figure 1" on page 15 for greasing locations.

**NOTE:** Check that attachment for correction functions after adjustments, repairs, or service.

## 4. Maintenance

### 4.2 Maintenance Safety



#### WARNING



##### AVOID SERIOUS INJURY OR DEATH

Never operate the machine in a closed building. Proper ventilation is required when operating the machine under all circumstances.

- Always keeps the work area clean and dry.
- Always use personal protection equipment (PPE), such as eye, hand, and hearing protection when performing any service or maintenance.
- Before working or doing maintenance on this machine, shut off the engine and remove the key. Make sure the machine's wheels are blocked.
- Never work under the machine or attachment unless the machine or equipment is blocked or supported securely.
- Disconnect the battery (both terminals) before welding on any part of the machine. Failure to do so may cause damage to the electrical components.
- When working around batteries, remember that all of the exposed metal parts are "live". Never lay a metal object across the terminals because a spark, short circuit, explosion, or personal injury may result.

- Battery posts, terminals, and related accessories contain lead and lead compounds. Wash hands after handling.
- Always relieve hydraulic pressure before repairing, adjusting, or disconnecting. Never search for leaks with your hands.



#### WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required.

Wear goggles. Use cardboard to check for leaks.

- When replacement parts are necessary, genuine factory replacement parts must be used to restore your equipment to original specifications. Blue Diamond® will not be responsible for injuries or damage caused by unapproved parts and/or accessories.



Figure 1

## 4. Maintenance

### 4.3 Daily Maintenance

**NOTE:** Inspect the attachment by performing a walk-around daily before and after use. Use the following inspection checklist as a guideline.

Check the following items every eight (8) hours of operation:

- Verify that the Tree Shear is properly connected to the machine.
- Check that all shields and guards are in place.
- Check hydraulic lines, connections, and fittings for hydraulic oil leaks. Repair or replace damaged parts if necessary.
- Check the Tree Shear mounting hardware for wear or damage. Inspect the pins and mount (on the attachment) for wear or damage. Repair or replace damaged parts if necessary.
- Lubricate as required with #2 lithium grease.

### 4.4 Weekly Maintenance

Check the following items every 40 hours of operation:

- Check all bolts for tightness.
- Check hydraulic tubes, hoses, and fittings for wear, damage, and leakage.
- Inspect the frame and attachment for cracks, bends, or damage.
- Clean and check the condition of the blade by opening the shear. Remove and sharpen it if necessary. See "4.6 Blade Sharpening" on page 16.

### 4.5 After Every Season

- Inspect the attachment for any loose or worn parts that may need to be replaced prior to the next cutting season.
- Visually inspect the blade. Sharpen or replace it if necessary.
- Clean, sand, and repaint any area that looks worn or scratched to prevent further rusting. Use an equipment paint found at your local hardware store or building center.
- Lubricate all pivot joints before storage.

- Store the attachment in a shelter or use a waterproof cover to protect it from the weather.
- Do not store in an area frequented by children.
- See "4.9 Storage" on page 17 for more storage information.

### 4.6 Blade Sharpening

The abrasion-resistant blade material will work for a long time without the need for sharpening.

If required, sharpen the edge of the blade using a disc grinder or similar device. Maintain the factory edge bevel across the length of the cutting surface.

Do not overheat the edge of the blade.

### 4.7 Blade Removal & Installation



#### CAUTION



##### AVOID INJURY

Be cautious during the following steps. If dropped, the shear blade could result in minor or serious injury.



#### CAUTION



##### AVOID INJURY

The shear blade can be very sharp and could cause minor or serious injury if mishandled. Wear the appropriate PPE, such as protective gloves and footwear.

#### Blade Removal



#### WARNING



##### AVOID SERIOUS INJURY OR DEATH

Never work under the machine or attachment unless the machine or equipment is blocked or supported securely.

## 4. Maintenance

---

### 4.7 Blade Removal & Installation Cont'd

#### Blade Removal Cont'd

1. Before removing the blade, fully open the Tree Shear, and then tilt the blade back by about 1" (25 mm). Lift the shear with the host machine or an overhead hoist. Block or properly secure the attachment.
2. The blade is extremely heavy. Connect a lifting eye through the blade. Use a nut to secure the underneath of the blade.
3. Remove the bolt at the cylinder connection.
4. Loosen the two (2) bolts on either side of the blade pivot pin.
5. Remove the shear blade pivot pin.
6. Carefully slide the blade out of the frame, using assistance from a overhead hoist.

#### Blade Inspection

Inspect the blade for any signs of cracks or bending. If a crack is found or the blade is no longer straight, replace the blade.

#### Blade Installation

7. Position the blade into the position, using a lift eye and hoist.
8. Install into position, lining up the blade pivot hole with the hole in the frame.
9. Install the pivot shaft and secure the blade pivot hardware.
10. Rotate the blade to line it up with the cylinder rod yoke. Install hardware.
11. Torque all hardware according to the chart on page 26.

### 4.8 Cleaning the Attachment

Park the machine and attachment on a flat, level surface. Lower the attachment flat on the ground.

Stop the engine, engage the parking brake, and leave the operator's position. See "Leaving the Operator's Position" on page 10.

Disconnect the attachment's hydraulic hoses from the machine.

Use water or air pressure to clean debris from the attachment.

### 4.9 Storage

#### Storage

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

- Make sure the hydraulic hose couplers are capped, plugged, or connected to each other.
- Thoroughly wash the attachment before storing it for long periods.
- Lubricate the attachment.
- Coat the exposed portion of the cylinder with oil.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Replace worn or damaged parts.
- Place the attachment flat on the ground in a dry, protected shelter.

**NOTE:** In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the machine.

#### Return to Service

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

- Lubricate the attachment.
- Clean the exposed portion of the cylinder rod and apply a light coating of oil.
- Connect and operate the attachment and check for correct function.
- Check for leaks. Repair as needed.

## 4. Maintenance

### 4.10 Troubleshooting

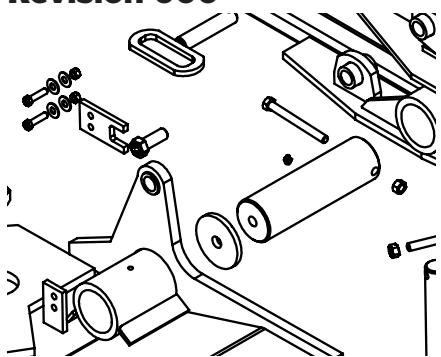
PROBLEM	CAUSE	SOLUTION
Hydraulic oil level goes down during operation.	Leak at hoses on the attachment	Investigate and repair.
	Leak in the prime mover's hydraulic system	Investigate and repair.
Blade does not open or close.	Quick disconnects not connected	Check and recouple quick disconnects.
	Hoses damaged	Check for smashed or kinked hose. Replace if found.
	Host machine's auxiliary circuit inoperative	Investigate and repair.
Blade moves abnormally slow.	Restricted hose	Check for damaged hose between host machine and cylinder. If damaged, replace the hose.
	Bad circuit relief on host machine	Investigate and repair.
	Auxiliary valve spool on host machine not shifting properly	Investigate and repair.
	Cylinder seals bypassing	Have the cylinder repacked or replaced.
Blade dulls too quickly.	Blade has come in contact with solid objects (i.e. rocks, steel pipes, etc.)	Clear the cutting area of solid objects before hitting them.
		Raise the attachment high enough to clear exposed rock surfaces.
Blade breaks or bends.	Excessive loads	Do not use this attachment as a tree puller. It is designed to shear trees.

## 5. Parts

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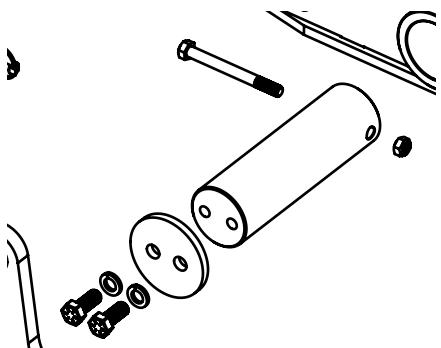
### 5.1 Differences Between Revisions

#### Revision 000



Main Pivot Pin has one (1) 3/4"-16 x 2" Hex Bolt in front and has a bolt retaining plate.

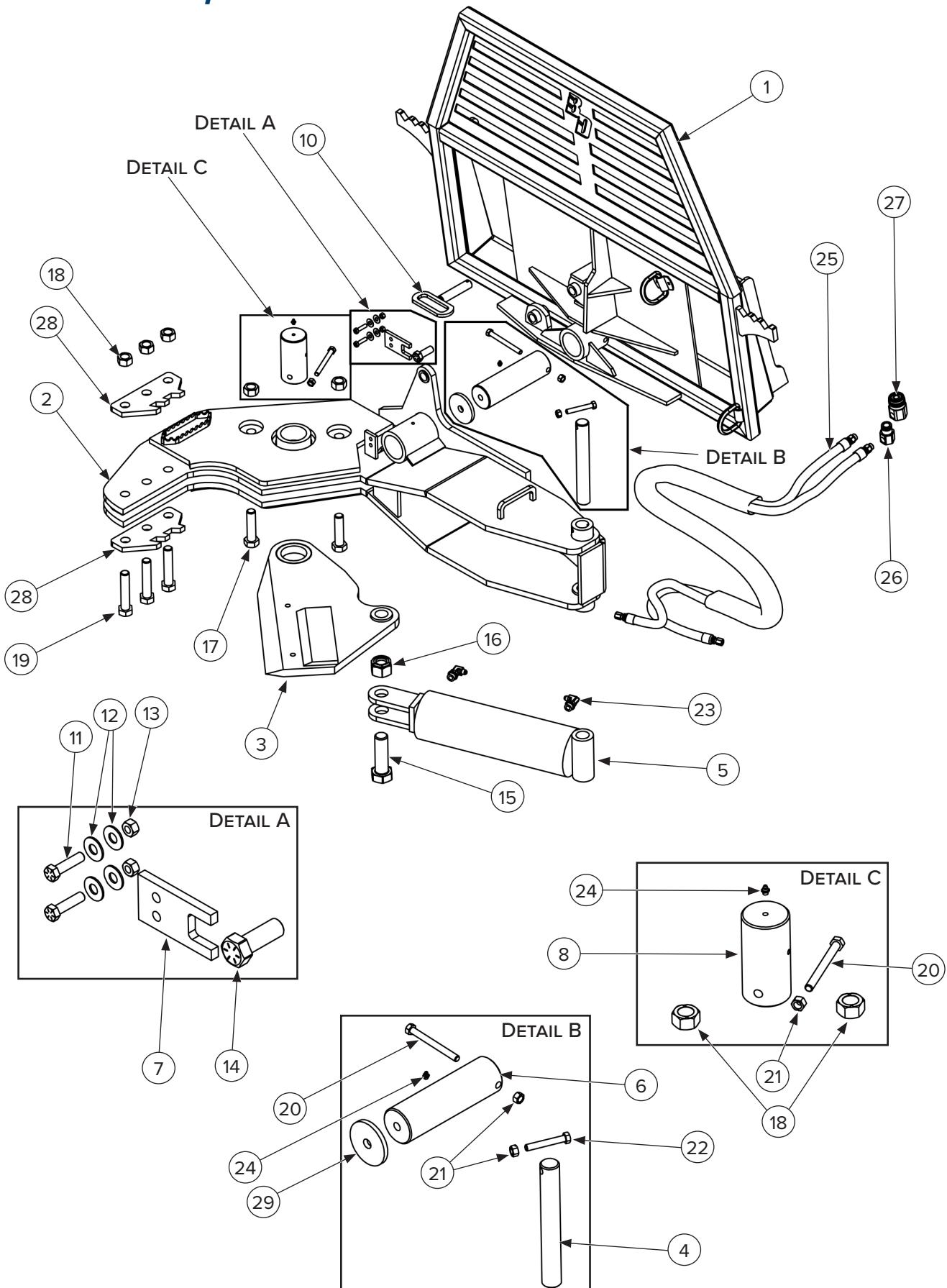
#### Revision 001



Main Pivot Pin has two (2) 5/8"-11 x 1 1/2" Hex Head Bolts in front and does not have a bolt retaining plate.

## 5. Parts

## 5.2 Main Components – Revision 000



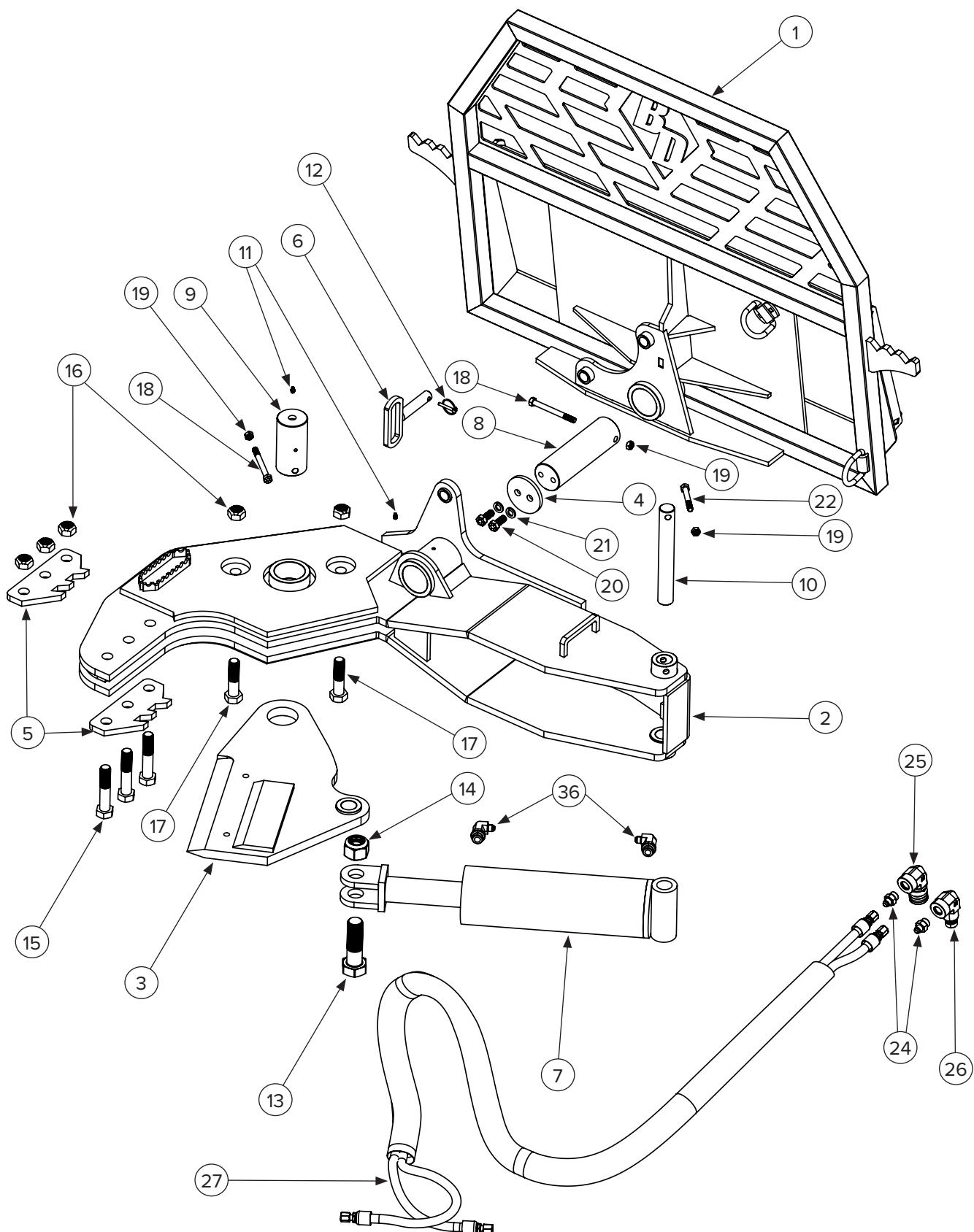
## 5. Parts

### 5.2 Main Components – Revision 000 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	228010	Complete Back Weldment with Locking Pin	1
2	228017	Rotating Frame Weldment	1
3	228015	Blade	1
4	228019	1.5" x 11.25" Base Cylinder Pin	1
5	228025	5" Bore x 12" Stroke x 2.5" Rod Diameter x 1.5" Pin Diameter Cylinder	1
6	228018	3" x 10" Main Pivot Pin	1
7	228014	Pivot Pin Bolt Retaining Plate	1
8	228021	3" x 6" Blade Pivot Pin	1
9	228011	0.3125" x 1.5" x 1.75" Pivot Lock Linch Pin	1
10	228045	1" x 4.5" Usable Length Main Pivot Lockout Pin with Handle	1
11	299428	0.375"-16 x 1.5" Hex Head Bolt Grade 8	2
12	299725	0.375" Flat Washer Grade 8	4
13	208550	0.375" Stover Lock Nut	2
14	—	0.75"-16 x 2" Hex Head Bolt	1
15	299495	1.5"-6 x 5" Hex Head Bolt Grade 8	1
16	299645	1.5"-6 Nylock Nut Grade 8	1
17	299491	1"-8 x 4" Hex Head Bolt Grade 8	2
18	299659	1"-8 Stover Nut Grade C	5
19	299492	1"-8 x 5" Hex Head Bolt Grade 8	3
20	299438	0.5"-13 x 5" Hex Head Bolt Grade 8	2
21	299655	0.5"-13 Stover Nut Grade 8	3
22	299483	0.5"-13 x 3.25" Hex Head Bolt Grade 8	1
23	295030-M10ORB-M06JIC	Hydraulic 90 Degree Fitting Male #10 O-Ring Boss to Male #6 JIC	2
24	297008	0.3125"-24 Grease Zerk Straight Fitting	2
25	228030	Hose Set, 0.375" Diameter x 9' OAL with Hose Sleeve	1
26	224016	Coupler, Male Flat Face 90 Degree 0.5" Body Female #8 O-Ring Boss	1
27	224015	Coupler, Female Flat Face 90 Degree 0.5" Body Female #8 O-Ring Boss	1
28	228020	Grip Teeth	2
29	228012	Pivot Pin Retaining Washer	1
NS	228022	Jaw Spacer	2

## 5. Parts

### 5.3 Main Components – Revision 001



## 5. Parts

### 5.3 Main Components – Revision 001 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	228010	Complete Back Weldment with Locking Pin	1
2	228017	Rotating Frame Weldment	1
3	228015	Blade	1
4	228012	Pin Retaining Washer	1
5	228020	Grip Teeth	2
6	228045	1" x 4.5" Usable Length Main Pivot Lockout Pin with Handle	1
7	228025	5" Bore x 12" Stroke x 2.5" Rod Diameter x 1.5" Pin Diameter Cylinder	1
8	228018	3" x 10" Main Pivot Pin	1
9	228021	3" x 6" Blade Pivot Pin	1
10	228019	1.5" x 11.25" Base Cylinder Pin	1
11	297008	0.3125"-24 Grease Zerk Straight Fitting	2
12	228011	0.3125" x 1.5" x 1.75" Pivot Lock Linch Pin	1
13	299495	1.5"-6 x 5" Hex Head Bolt Grade 8	1
14	299645	1.5"-6 Nylock Nut Grade 8	1
15	299492	1"-8 x 5" Hex Head Bolt Grade 8	3
16	299659	1"-8 Stover Nut Grade C	5
17	299491	1"-8 x 4" Hex Head Bolt Grade 8	2
18	299438	0.5"-13 x 5" Hex Head Bolt Grade 8	2
19	299655	0.5"-13 Stover Nut Grade 8	3
20	299462	0.625"-11 x 0.5" Hex Head Bolt	2
21	299845	5/8" Lock Washer Grade 8	2
22	299436	0.5"-13 x 3.5" Hex Head Bolt Grade 8	1
23	295030-M10ORB-M06JIC	Hydraulic 90 Degree Fitting Male #10 O-Ring Boss to Male #6 JIC	2
24	295010-M06JIC-M08JIC	Hydraulic Straight Fitting Male #6 JIC to Male #8 JIC	2
25	224015	Coupler, Female Flat Face 90 Degree 0.5" Body Female #8 O-Ring Boss	1
26	224016	Coupler, Male Flat Face 90 Degree 0.5" Body Female #8 O-Ring Boss	1
27	228030	Hose Set, 0.375" Diameter x 9' OAL with Hose Sleeve	1

## 5. Parts

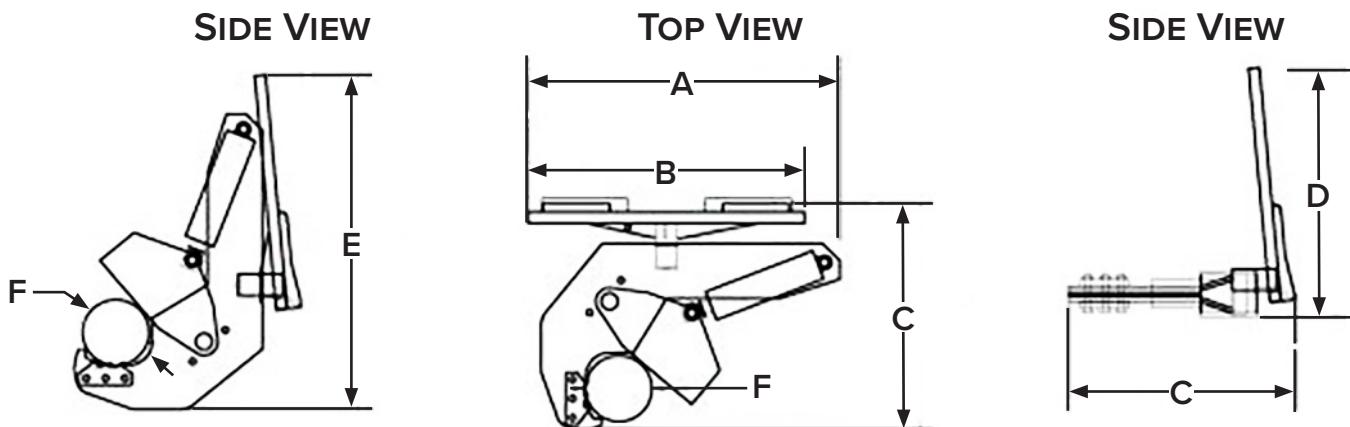
### 5.4 Safety Decals



ITEM	PART NUMBER	DESCRIPTION	QTY
1	BD-056	2.0" x 12.0" Decal, Blue Diamond	1
2	BD-001	3.0" x 3.0" Decal, Read Owner's Manual	1
3	BD-060	2.4375" x 3.375" Decal, Blue Diamond Attachments	2
4	BD-092	1.5" x 2.0" Decal, Warranty Registration QR	1
5	BD-123	3.0" x 3.0" Decal, High Pressure Fluid Hazard	1
6	BD-004	2.0" x 4.0" Decal, Grease All Fitting Every 8 Hours	1

## 6. Specifications

### 6.1 Attachment Specifications



DESCRIPTION	128005
Overall Width, Horizontal (A)	56.5 in. (1435 mm)
Overall Width, Vertical (B)	50.5 in. (1283 mm)
Overall Length (C)	41.5 in. (1054 mm)
Overall Height, Horizontal (D)	45.5 in. (1156 mm)
Overall Height, Vertical (E)	61.5 in. (1562 mm)
Maximum Cutting Capacity (F)	12 in. (305 mm)
Shear Force	60,000 lbf
Felling Direction	Right
Shear Rotation	0° or 90°
Maximum Pressure	3000 PSI (206 bar)
Weight	1025 lbs (465 kg)

## 6. Specifications

### 6.2 Torque Specifications – Imperial

#### Standard Hardware and Lock Nuts

BOLT TYPE	SAE GRADE 5		SAE GRADE 8		LOCK NUTS			
Nominal Size	Plated or Unplated Silver	Plated W/ ZnCr Gold	Plated or Unplated Silver	Plated W/ ZnCr Gold	Plated or Unplated Silver	Plated W/ ZnCr Gold	W/ Grade 5 Bolt	W/ Grade 8 Bolt
1/4	4.6 lbf·ft	6.0 lbf·ft	7.2 lbf·ft	9.3 lbf·ft	10.0 lbf·ft	13.1 lbf·ft	5.1 lbf·ft	7.2 lbf·ft
	6.2 N·m	8.1 N·m	9.7 N·m	12.6 N·m	13.6 N·m	17.7 N·m	6.9 N·m	9.8 N·m
5/16	9.6 lbf·ft	12.5 lbf·ft	14.8 lbf·ft	19.2 lbf·ft	20.7 lbf·ft	27.3 lbf·ft	10.3 lbf·ft	14.8 lbf·ft
	13 N·m	17 N·m	20 N·m	26 N·m	28 N·m	37 N·m	14 N·m	20 N·m
3/8	17 lbf·ft	22 lbf·ft	26 lbf·ft	34 lbf·ft	37 lbf·ft	48 lbf·ft	19 lbf·ft	26 lbf·ft
	23 N·m	30 N·m	35 N·m	46 N·m	50 N·m	65 N·m	26 N·m	35 N·m
7/16	27 lbf·ft	35 lbf·ft	42 lbf·ft	54 lbf·ft	59 lbf·ft	77 lbf·ft	30 lbf·ft	42 lbf·ft
	37 N·m	47 N·m	57 N·m	73 N·m	80 N·m	104 N·m	41 N·m	57 N·m
1/2	42 lbf·ft	54 lbf·ft	64 lbf·ft	83 lbf·ft	91 lbf·ft	117 lbf·ft	45 lbf·ft	65 lbf·ft
	57 N·m	73 N·m	87 N·m	113 N·m	123 N·m	159 N·m	61 N·m	88 N·m
9/16	60 lbf·ft	77 lbf·ft	92 lbf·ft	120 lbf·ft	130 lbf·ft	169 lbf·ft	65 lbf·ft	92 lbf·ft
	81 N·m	104 N·m	125 N·m	163 N·m	176 N·m	229 N·m	88 N·m	125 N·m
5/8	83 lbf·ft	107 lbf·ft	128 lbf·ft	165 lbf·ft	180 lbf·ft	233 lbf·ft	90 lbf·ft	127 lbf·ft
	112 N·m	145 N·m	174 N·m	224 N·m	244 N·m	316 N·m	122 N·m	172 N·m
3/4	146 lbf·ft	189 lbf·ft	226 lbf·ft	293 lbf·ft	319 lbf·ft	413 lbf·ft	160 lbf·ft	226 lbf·ft
	198 N·m	256 N·m	306 N·m	397 N·m	432 N·m	560 N·m	217 N·m	306 N·m
7/8	142 lbf·ft	183 lbf·ft	365 lbf·ft	473 lbf·ft	515 lbf·ft	667 lbf·ft	258 lbf·ft	364 lbf·ft
	193 N·m	248 N·m	495 N·m	641 N·m	698 N·m	904 N·m	350 N·m	494 N·m
1	213 lbf·ft	275 lbf·ft	547 lbf·ft	708 lbf·ft	773 lbf·ft	1000 lbf·ft	386 lbf·ft	545 lbf·ft
	289 N·m	373 N·m	742 N·m	960 N·m	1048 N·m	1356 N·m	523 N·m	739 N·m



## Warranty

### MANUFACTURER'S LIMITED WARRANTY

BLUE DIAMOND® ATTACHMENTS, a manufacturer of quality attachments, warrants new BLUE DIAMOND® ATTACHMENTS products and/or attachments at the time of delivery to the original purchaser, to be free from defects in material and workmanship when properly set up and operated in accordance with the recommendations set forth by BLUE DIAMOND® ATTACHMENTS, LLC.

BLUE DIAMOND® ATTACHMENTS liability for any defect with respect to accepted goods shall be limited to repairing the goods at a BLUE DIAMOND® ATTACHMENTS designated location or at an authorized dealer location, or replacing them, as BLUE DIAMOND® ATTACHMENTS shall elect. The above shall be in accordance with BLUE DIAMOND® ATTACHMENTS warranty adjustment policies. BLUE DIAMOND® ATTACHMENTS obligation shall terminate twelve (12) months for the Tree Shear after the delivery of the goods to original purchaser.

This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the BLUE DIAMOND® ATTACHMENTS factory or authorized BLUE DIAMOND® ATTACHMENTS dealership or in any way so as in BLUE DIAMOND® ATTACHMENTS judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident beyond the company recommended machine rated capacity.

### WARRANTY CLAIM

To submit a warranty claim, a claim must be filed with BLUE DIAMOND® ATTACHMENTS before work is performed. The BLUE DIAMOND® PRODUCT SUPPORT TEAM will advise repairs and applicable parts exchanges. Tampering with the failed part may void the warranty. This warranty does not include freight or delivery charges incurred when returning machinery for servicing. Dealer mileage, service calls, and pickup/delivery charges are the customers' responsibility.

### EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, BLUE DIAMOND® ATTACHMENTS makes no representation or warranty of any kind, expressed or implied, AND MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS ARE FIT FOR ANY PARTICULAR PURPOSE. BLUE DIAMOND® ATTACHMENTS shall not be liable for incidental or consequential damages for any breach or warranty, including but not limited to inconvenience, rental of replacement equipment, loss of profits or other commercial loss. Upon purchase, the buyer assumes all liability for all personal injury and property resulting from the handling, possession, or use of the goods by the buyer.

No agent, employee, or representative of BLUE DIAMOND® ATTACHMENTS has any authority to bind BLUE DIAMOND® ATTACHMENTS to any affirmation, representation, or warranty concerning its machinery and/or attachments except as specifically set forth herein.

This warranty policy supersedes any previous documents. Please see [bluediamondattachments.com/warranty-policies](http://bluediamondattachments.com/warranty-policies) for the most up to date warranty information.

**NOTE:** Blue Diamond® Attachments is a trademark of BLUE DIAMOND® ATTACHMENTS



**QUALITY | DEPENDABILITY | INTEGRITY**

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