



Safety, Operation & Maintenance Manual

Saber Series Bucket Linkage Shears (BLS)

Part Number 513108

STANLEY



INTELLECTUAL PROPERTY – PATENT INFORMATION

This product is covered by one or more of the following patents.

U.S. PATENT NUMBERS:

5,474,242	7,240,869
5,531,007	7,487,930
5,992,023	7,578,461
7,322,273	7,832,130
8,146,256	8,104,384

EPO Patent Numbers

435,702
737,107
1,682,299
1,789,225

PREFACE

This manual contains information for the safe and proper operation and maintenance of Bucket Linkage Shears. Read the entire manual before the initial start-up of the attachment. It is important to know the correct operating procedures of the attachment and all safety precautions to prevent the possibility of property damage and personal injury.

The LaBounty attachment has been designed and manufactured with high quality materials and care in workmanship. The instructions in this manual have been prepared to ensure that, when followed properly, the attachment will provide efficient and reliable service. Continuing product development and improvement may have caused changes in the attachment that are not reflected in this manual. If a question arises regarding the operation or maintenance of the attachment, contact a LaBounty dealer for the most current information available.

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BUCKET LINKAGE SHEARS

SECTION 1 INTRODUCTION TO SAFETY

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BUCKET LINKAGE SHEARS

INTRODUCTION

Your safety and the safety of others is a direct result of how you operate and maintain your equipment. Read and understand this manual and other safety information provided with the base machine and be sure that you understand all controls and operating instructions before attempting to operate this equipment. Failure to follow the safety precautions can result in personal injury, death or property damage.

Carefully read all safety messages in this manual and on your equipment safety signs. Keep safety signs in good condition; replace missing or damaged safety signs.

Because LaBounty cannot foresee all hazardous circumstances, the precautions listed in this manual and on the equipment are not all-inclusive. If a procedure, method, tool or part is not specifically recommended by LaBounty, determine whether it is safe for you and others, and that the equipment will not be damaged or made unsafe as a result of your decision to implement it.

The basic rules are summarized in this section of the manual. They also appear throughout the manual along with additional specific rules for safety and operation.

UNDERSTAND SIGNAL WORDS

When you see the following symbols and signal words on your equipment or in this manual, be alert to the potential for personal injury or equipment or property damage. Follow recommended precautions and safe operating practices.



Indicates immediate hazards that WILL result in severe personal injury or death.



Indicates hazards or unsafe practices that CAN result in severe personal injury or death.



Indicates hazards or unsafe practices that could result in personal injury.



Indicates notes of importance to a procedure or part.

SAFETY SUMMARY

⚠ DANGER

IF THE ATTACHMENT IS NOT FUNCTIONING PROPERLY, YOU MUST SHUT THE MACHINE DOWN AND FOLLOW PROPER LOCKOUT, TAG, AND REPAIR PROCEDURES.

⚠ DANGER

Ensure that the cab is equipped with the proper safety guards for LaBounty applications. In addition, it is required that the cab be equipped with an approved Falling Object Protection Structure (FOPS) when processing materials. The FOPS must meet the requirements of SAE standard J1356. A transparent shatter-resistant shield covering the front of the cab is also required. Contact your base machine equipment dealer or manufacturer for more information on the availability of FOPS. **Lack of proper FOPS may result in injury or death.**

⚠ DANGER

DO NOT process or handle material with the attachment over the operator's cab.

⚠ DANGER

DO NOT attempt to shear brittle materials such as axles and railroad rail. Brittle material breaks or shatters instead of shearing. The material being processed could become a projectile and cause injury or death. **DO NOT** process any material in any position that may propel it toward operator, other workers, buildings or equipment.

⚠ DANGER

DO NOT close the attachment on a structure and reverse the excavator in an attempt to pull down material.

⚠ DANGER

Clear all persons and equipment from the area of operation and machine movement. **NEVER** move loads over people or equipment. When viewing the operation of the attachment, maintain a safe distance of at least 75 feet (22.9 meters).

⚠ DANGER

NEVER approach power lines with any part of the machine. Keep clear at a minimum of 15 feet (5 meters).

⚠ DANGER

Avoid tipping. The attachment will alter the lift capacities of the base machine. **DO NOT** overload the excavator or serious injury could result. Lift capacities will vary if the base machine is not on level ground. Carry loads in recommended positions for maximum stability. Use the recommended excavator counterweight. Use short slings and lift the load only as high as necessary.

⚠ DANGER

DO NOT allow riders on the machine.

⚠ DANGER

NEVER remove any pins unless the attachment is on the ground and blocked up or serious injury or death could result. Metal chips or debris may fly when a connecting pin is struck. Use a brass drift when striking pins and always wear protective clothing and proper eye protection. Pins may fly when struck with force to drive them in or out. Keep people clear when removing or installing pins.

BUCKET LINKAGE SHEARS

SAFETY SUMMARY continued

⚠ WARNING

NEVER operate equipment without the original equipment safety guards in place. If the cab glass is missing or damaged, check with your dealer or manufacturer for proper replacement.

⚠ WARNING

Under no circumstances should any modifications be made to LaBounty equipment without factory authorization.

⚠ WARNING

ALWAYS lower the boom to the ground before leaving the cab. If it is necessary to work on an attachment off the ground, securely support the machine and attachment. **DO NOT** support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. **DO NOT** rely on a cylinder to hold the attachment in the air. **DO NOT** work under a machine that is supported only by a jack.

⚠ WARNING

DO NOT let hot hydraulic oil get in contact with the skin as it could cause severe burns. Wear adequate protective clothing and safety equipment. **DO NOT** tamper with any hydraulic line or component while it is pressurized. Escaping fluid under pressure can penetrate the skin, causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks. If **ANY** fluid is injected into the skin, seek immediate medical assistance.

⚠ WARNING

DO NOT weld on any structural member unless specifically authorized by LaBounty. Any unauthorized welding or welding procedures will void the warranty, and may result in personal injury.

⚠ CAUTION

ALWAYS wear close-fitting clothing and safety equipment appropriate to the job. Safety equipment should be worn at all times when viewing, operating, or maintaining the attachment to prevent injury. Safety equipment includes eye protection, hard hat, steel toe shoes, gloves, and hearing protection.

⚠ CAUTION

Keep clear of all potential pinch points, including the moving upper jaw, cylinder connections, bucket linkages or other moving parts.

⚠ CAUTION

Before operating the attachment, read and observe all safety instructions in the Operation and Maintenance sections of this manual. If you are unfamiliar with any operation or maintenance procedure, seek instruction before proceeding.

ATTACHMENT DECALS

STANLEY



**STANLEY LABOUNTY BRAND DECALS
(REPLACEMENT DECALS AVAILABLE UPON REQUEST)
FIGURE 1-1**

SAFETY FIRST

**Read the Safety, Operation and
Maintenance Manual before
operating or servicing the equipment.
Keep the manual with the attachment
so it is available for reference.**

**SAFETY FIRST DECAL PART NUMBER 503590
(INCLUDED WITH MANUALS)
FIGURE 1-2**

BUCKET LINKAGE SHEARS

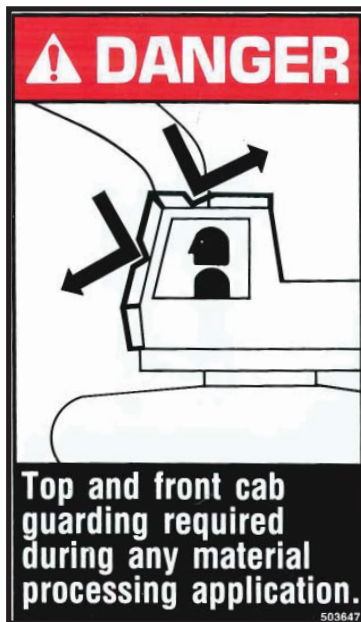
ATTACHMENT DECALS continued




GREASE DECAL
PART NUMBER 116338
FIGURE 1-3



SAFE VIEWING DISTANCE DECAL
PART NUMBER 116389
FIGURE 1-4



SAFETY DECAL
PART NUMBER 503647
FIGURE 1-5


 <p>1538 Highway 2 Two Harbors, MN 55616 tel: 1-800-522-5059 fax: 218-834-3879 www.stanleyhydraulic.com</p> <p>Made in the U.S.A. with Global Materials</p>
Attachment Model:
Serial Number:
Year of Manufacture:
Weight:

MODEL/SERIAL NUMBER PLATE
PART NUMBER 511045
FIGURE 1-6

U.S. PATENT NUMBERS		EPO PATENT NUMBERS
5,474,242	7,240,869	435,702
5,531,007	7,487,930	737,107
5,992,023	7,578,461	1,682,299
7,322,273	7,832,130	1,789,225
8,146,256	8,104,384	

STANLEY LABOUNTY
1538 Highway 2
Two Harbors, MN 55616
FOREIGN PATENTS AND OTHER PATENTS PENDING

1-800-522-5059
www.stanleyhydraulic.com



116404

PATENT PLATE
PART NUMBER 116404
FIGURE 1-7

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BUCKET LINKAGE SHEARS

MODEL DESCRIPTION

The BLS Bucket Linkage Shears are designed to mount directly to the excavator stick, in place of the bucket. The shear is pinned to the stick tip and bucket linkage and is opened and closed by activating the excavator bucket circuit. The lower shear stick pins to a mounting pad which is welded to the bottom of the excavator stick (the same type of pad used with LaBounty Grapples and Concrete Pulverizers). Models are available for base machines from 40,000 to 100,000 pounds (18,000 to 45,000 kg).

The BLS series is designed to be used as a simple shear to process lighter gauge scrap than a comparable MSD series shear. It is ideal for processing rebar, angle, "I" beams, pipe, and other ferrous and non-ferrous scrap. Applications for this tool include auto salvage yards, scrap yards, and light demolition work.

The BLS series features four equal-sized, four-way indexable cutting blades. This means that the blades can be rotated to use all four edges. The single guide blade in the lower jaw and the wear plate on the upper shear keep the jaw in alignment during the cutting process.

BLS shears are constructed of high tensile, abrasion-resistant steel that assures long, uninterrupted service – even in the harshest conditions. The main pivot shaft of every model is manufactured for long life and pivots on LaBounty's specially designed bearings. The lever arm of the upper shear is designed to maximize the cutting force for the excavator on which it is mounted.

FEATURES

- Combines maximum cutting strength and reach with minimal weight
- Constructed of high tensile, abrasion-resistant steel for long life
- Replaceable wear parts for easy maintenance
- Four-way indexable blades
- Installs in as little as two hours
- At-factory upgrading and rebuilding services available for extended life

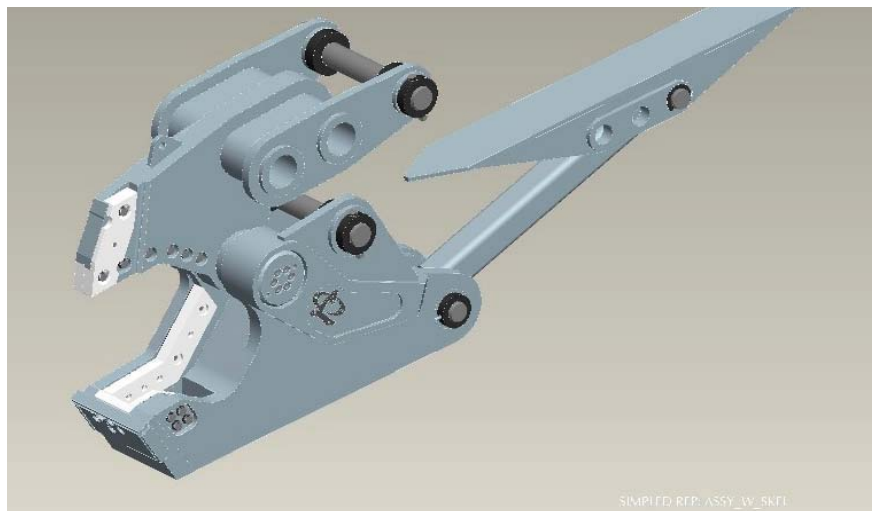


FIGURE 2-1

ATTACHMENT TERMS

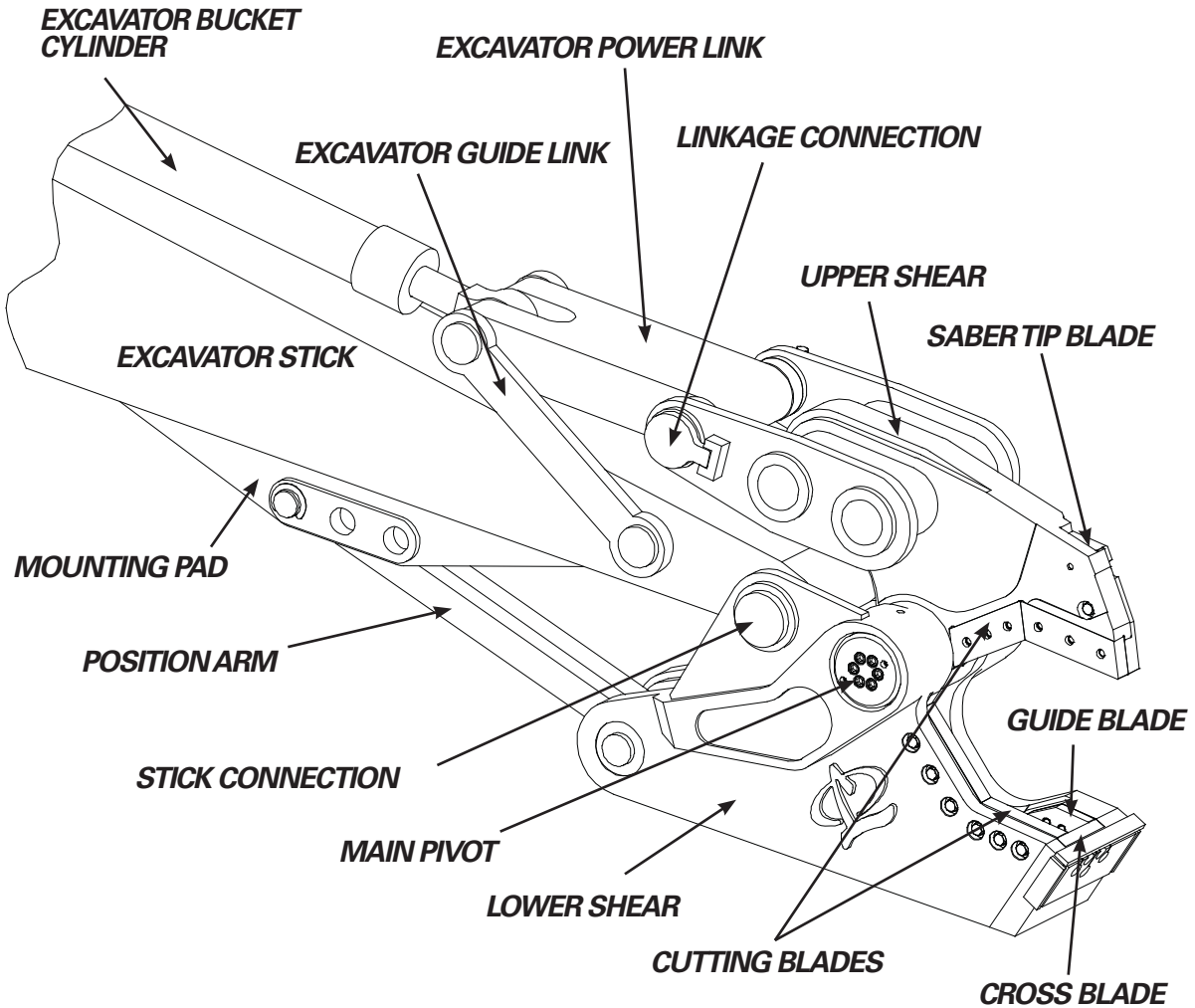


FIGURE 2-2

BUCKET LINKAGE SHEARS

MAIN PIVOT COMPONENTS

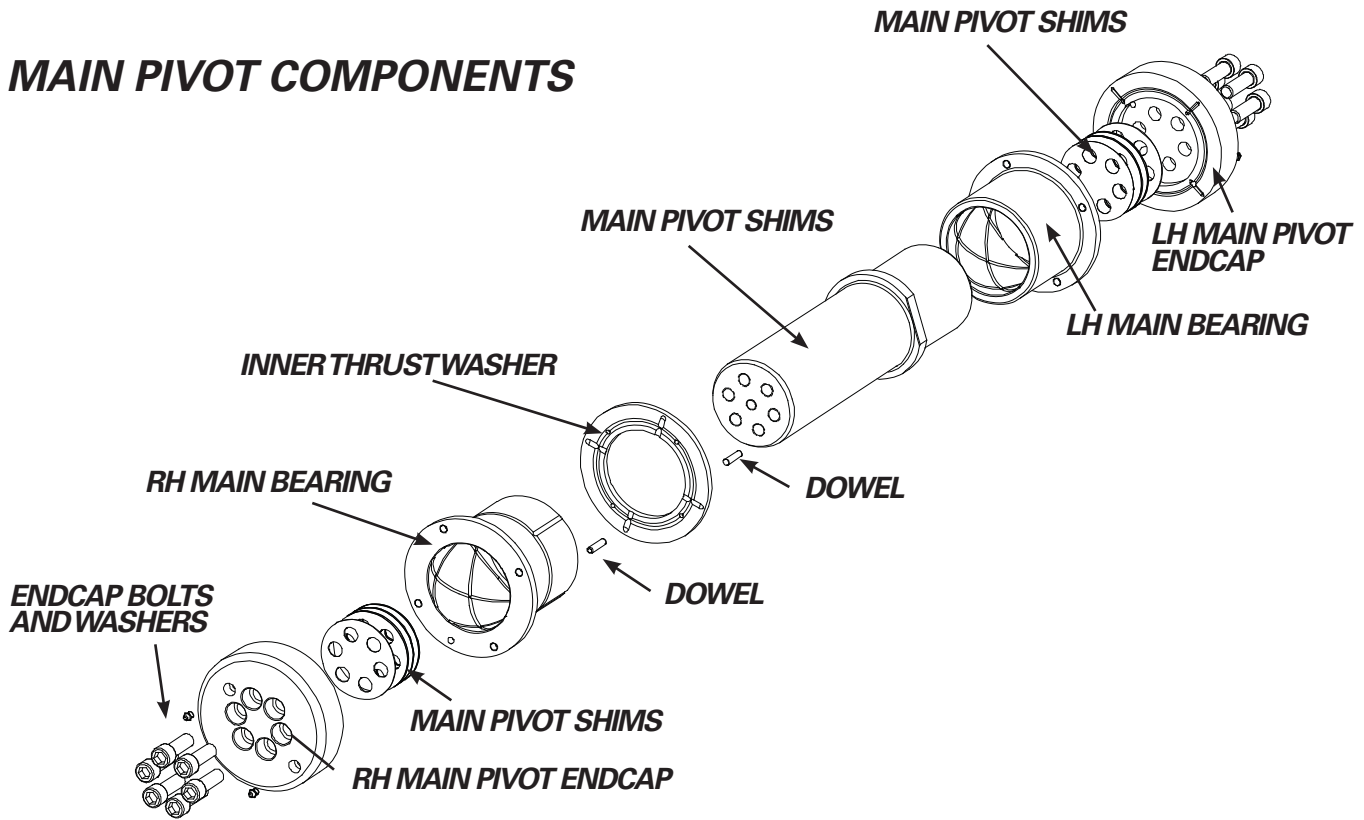


FIGURE 2-3

UPPER JAW COMPONENTS

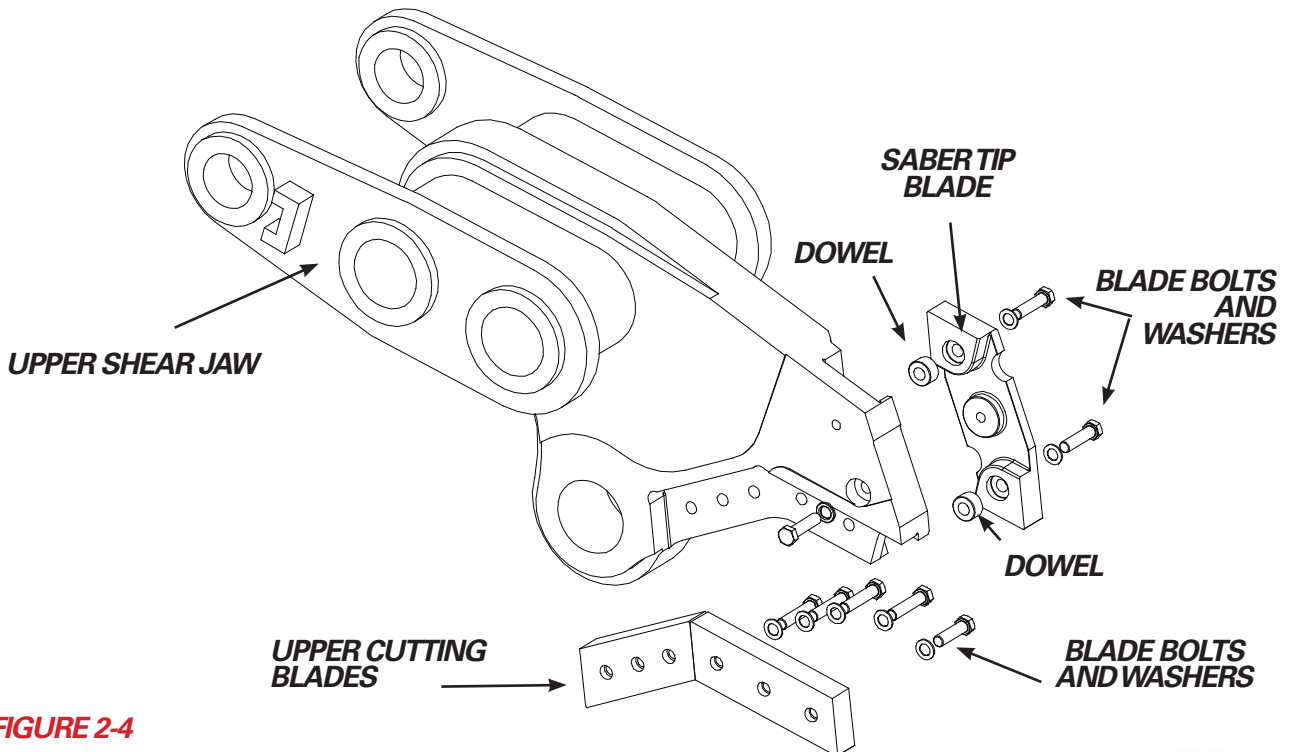


FIGURE 2-4

LOWER JAW COMPONENTS

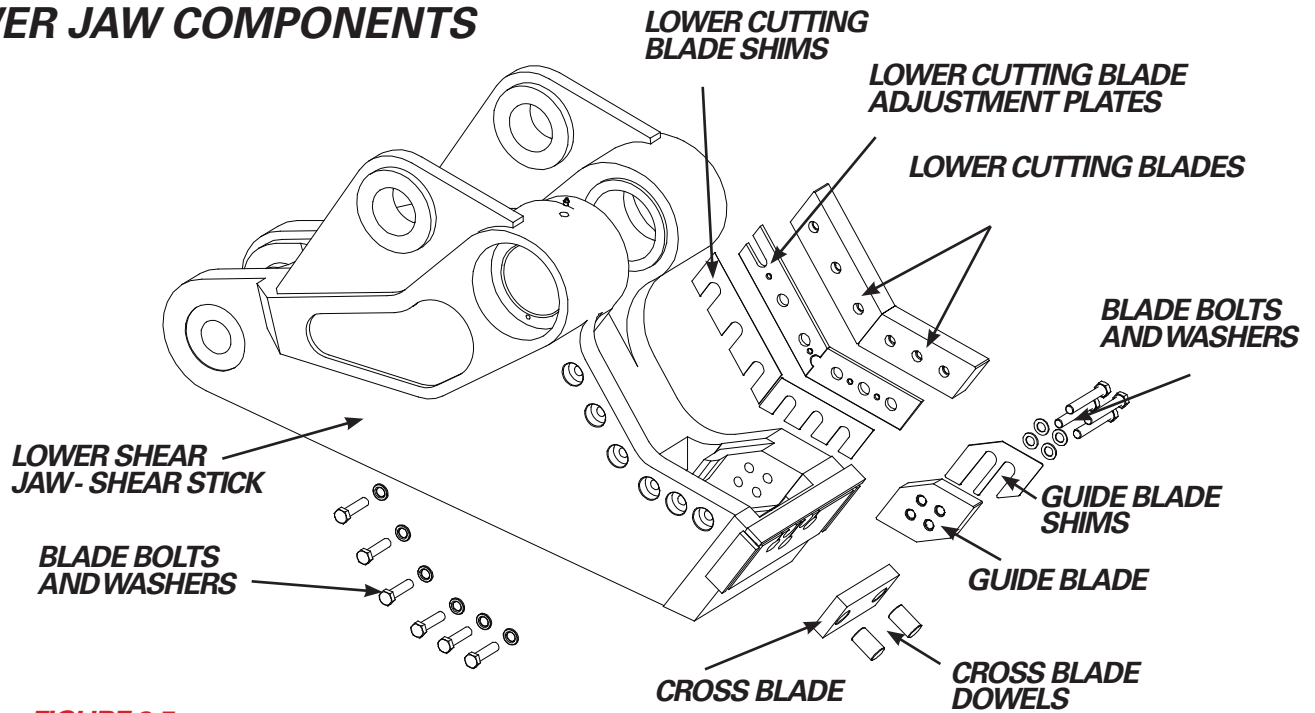


FIGURE 2-5

MOUNTING COMPONENTS

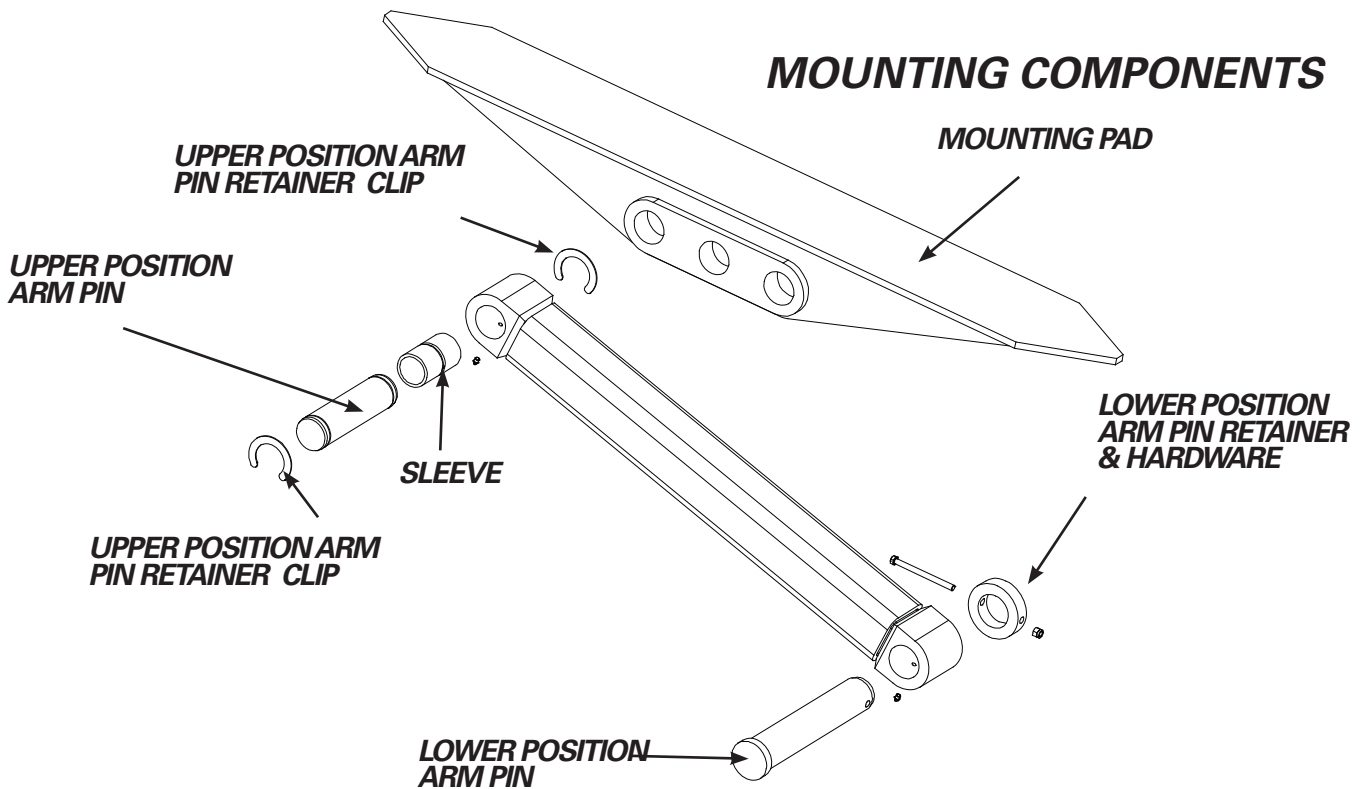


FIGURE 2-6



BUCKET LINKAGE SHEARS

MOUNTING KIT COMPONENTS

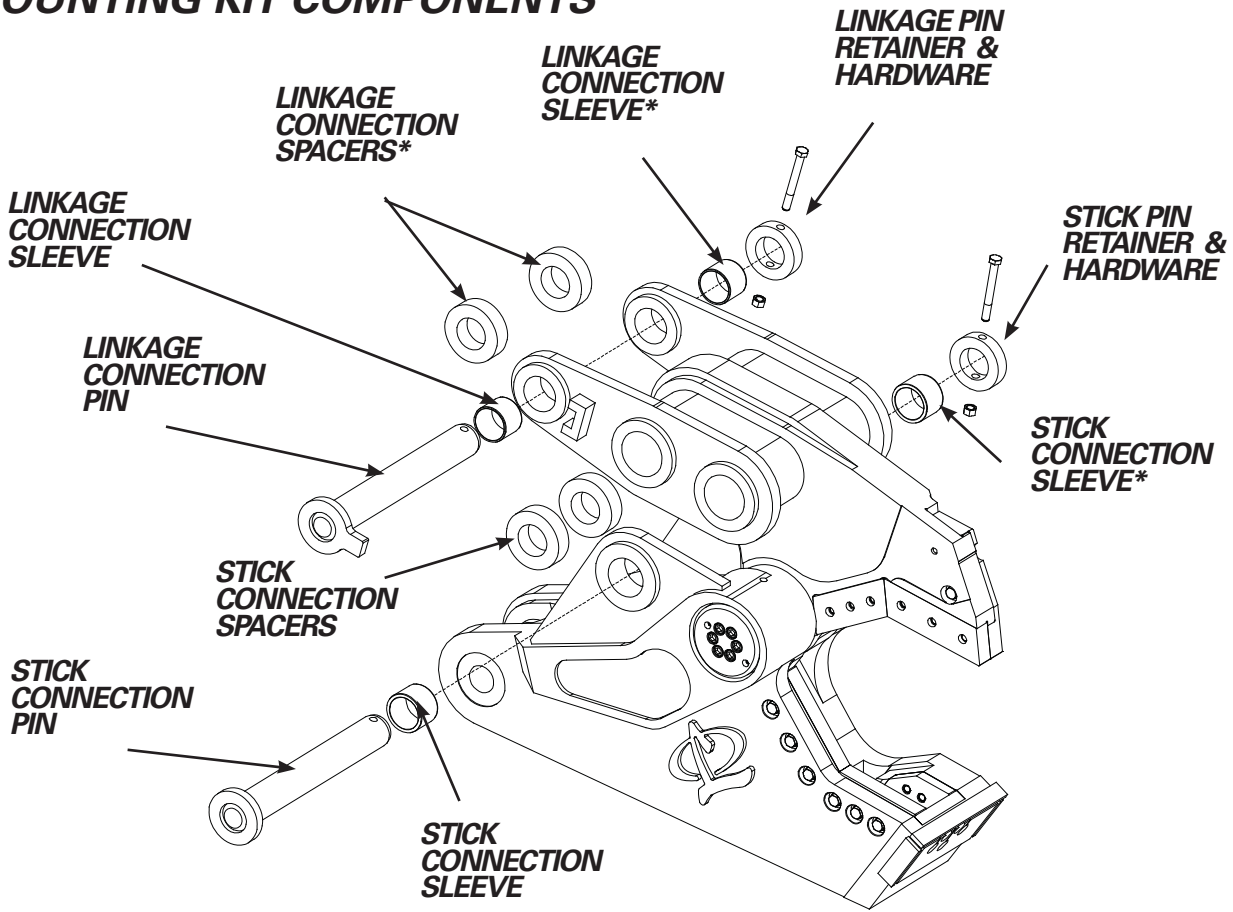


FIGURE 2-7

*** IDENTIFIES OPTIONAL EQUIPMENT
ACTUAL COMPONENTS MAY VARY BY EXCAVATOR MODEL.**

ATTACHMENT GLOSSARY

Adjustment Plates	Custom-made plates that precisely adjust the lower cutting blades to the upper blades. These plates make it possible to achieve a uniform blade gap on the shear.
Apex	The point where the primary and secondary cutting blades come together.
Blade Gap	The gap between the upper and lower cutting blades as the blades bypass. A very important item that must be maintained regularly to prevent material from jamming in the blades.
Blade Shims	Thin metal shims used to adjust the position of the lower cutting blades to maintain a proper blade gap. Blades should never be shimmed out farther than 0.13" (3.3 mm).
Build Up	Welding process where worn off parent material is replaced with new metal. A very important maintenance procedure that must be performed regularly throughout the life of the shear.
Cutting Blades	The blades in the upper and lower shear jaws that shear materials as they bypass. The primary blades are those in the upper and lower jaws that are nearest to the shear throat. The secondary blades are those that are farthest from the shear throat.
End Cap	Protects and adjusts the main pivot group of the shear. The end cap is a vital component to the adjustment of the main pivot group and must not be removed without first consulting the LaBounty Customer Service Department.
Front Wear Plate	A replaceable wear plate that is located on the opposite side of the upper shear weldment of the cutting blades. It wears on the guide blade during shearing. This is a very important maintenance item; it must be replaced when worn.
Grain of Materials	The direction that the parent material was initially rolled at the steel mill. It is very important when hardsurfacing any part of the shear to weld with the grain of the steel. Cross-grained hardsurfacing has the tendency to start cracks in the base material.
Guide Blade	A replaceable component located opposite the cutting blades in the lower shear. The main purpose of the guide blade is to support the upper shear during the cutting cycle. This is a very important maintenance item.
Guide Blade Shims	Thin metal shims used to adjust the guide blade out to maintain the proper guide blade gap. Shims come in a designated set that determines when the guide blade will be indexed or replaced.
Guide Blade Gap	The gap between the front wear plate and the guide blade as the upper shear is cycled into the lower. This is an important maintenance item to ensure longevity of the shear's structure.
Hardsurface	Welding process for protecting the parent material of the shear jaws. The hardsurface acts as a wear surface.



BUCKET LINKAGE SHEARS

ATTACHMENT GLOSSARY continued

- Hub Shims** Thin metal, circular shims used in the main pivot group of LaBounty shears. Hub shims provide factory adjustment of the upper shear for close blade tolerance.
- Link Connection** The mounting connection where the upper shear is pinned to the bucket linkage of the excavator. A pin is provided with the shear to make this connection.
- Lower Piercing Area** The frontal area of the lower shear through which the upper piercing tip passes. This area contains the guide blade and the cross blade.
- Lower Shear** The lower stationary jaw of the shear. The lower shear contains the lower cutting blades, the guide blade, and the cross blade.
- Main Bearing** Hardened bushings that the main shaft of the shear rotates on during operation. There are two main bearings, bolted in on both sides of the main pivot group.
- Main Pivot Group** High tolerance area of the shear that contains the two main bearings, two thrust washers, main shaft, hub shims, and two end caps.
- Main Shaft** The shaft on which the upper shear pivots causing the shearing action of the attachment.
- Nose Plate** Plate located at the front of the lower shear jaw that ties the two halves of the lower shear together. This plate requires regular build-up and hardsurface.
- Piercing Tip** Replaceable wear part that is welded into the tip of the upper shear.
- Stick** The main body of the shear that includes the lower shear. The stick fastens to the mounting pad on the excavator stick and must be regularly inspected for damage.
- Stick Connection** The mounting connection where the lower shear and stick are pinned to the end of the excavator stick. A pin is provided with the shear to make this connection.
- Throat** Area of both the upper and lower jaw near the main pivot where the primary blades are located. The throat area is the optimum area for shearing material. The shear is most powerful on the primary blades nearest the pivot point.
- Upper Shear** Movable jaw of the shear that contains cutting blades, the piercing tip, and the wear area for the slide pucks. The shear cylinder articulates the upper shear into the lower shear to perform the cutting action of the shear.

LABEL LOCATIONS

Be sure that all safety decals are installed and visible. If you require any replacement decals, please contact your Stanley LaBounty dealer or the Stanley LaBounty Customer Service Department. Complete label installation kits with dimensional location drawings are available upon request.

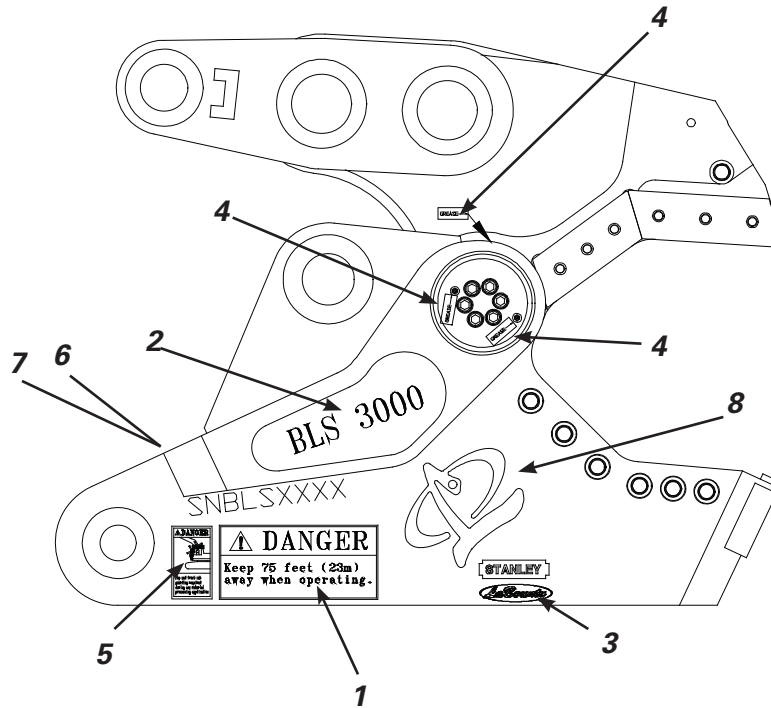


FIGURE 2-8

ITEM	PART NUMBER	DESCRIPTION
1	503706	Danger 75' Decal- one on each side of stick
2	BY MODEL	Model Decal- one of each side of stick
3	510894	Stanley LaBounty 6" Decal- one on each side of stick
4	116388	Grease decal- one at each grease fitting
5	503647	DANGER Cab Guarding- one on each side of stick
6	116404	Patent Plate- one on top of stick near position arm connection
7	511045	Model/Serial Number Plate- one on top of stick near position arm connection
8	501593	Weld-on "L" logo- one on each side of stick

SECTION 3 INSTALLATION

BLS Shear Installation.....	2-2
BLS Shear Removal.....	2-4
BLS Storage.....	2-4



BUCKET LINKAGE SHEARS

BLS SHEAR INSTALLATION

It is recommended that the mounting bracket not be welded to the excavator stick until the BLS shear is installed. Mount the attachment as follows:

1. Remove the bucket or other attachment from the excavator following manufacturer's recommended procedure. Retract the bucket cylinder and linkage
2. Position the shear on a flat, level surface. Remove the main pin and link pin from the BLS Shear.
3. Walk the excavator into position and line up the excavator stick tip with the stick connection of the shear as shown in figure 3-1.

⚠ WARNING

To prevent serious injury or death, stay clear of the shear at all times when the jaws are in motion. Never place any part of your body near the shear jaws unless they are absolutely secure in a fixed position.

4. Install the stick pin through the stick connection of the BLS Shear and the stick tip of the excavator. Make sure to install the spacers or sleeves on each side of the stick tip as you slide the stick pin through the stick connection.
5. Install the locking collar with the retaining bolt and nylon locking nut.
6. Extend the bucket cylinder and line up the power link with the linkage connection of the BLS Shear as shown in figure 3-2. Install the link pin. Place the collar on the end of the link pin and secure it with the bolt and nut provided.
7. With all personnel standing clear, fully curl the excavator stick and extend the bucket cylinder to position the lower jaw as shown in figure 3-3.
8. Place the mounting pad on the bottom of the excavator stick and connect the position arm to the lower jaw of the shear. Make sure the position arm grease fittings will be accessible.
9. Connect the position arm to the mounting bracket.

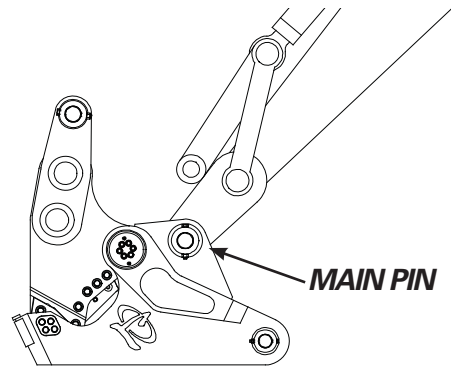


FIGURE 3-1

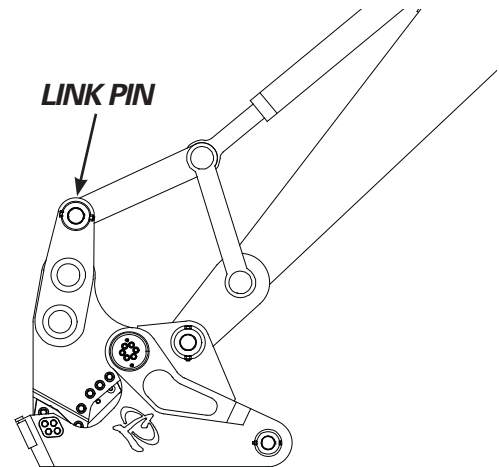


FIGURE 3-2

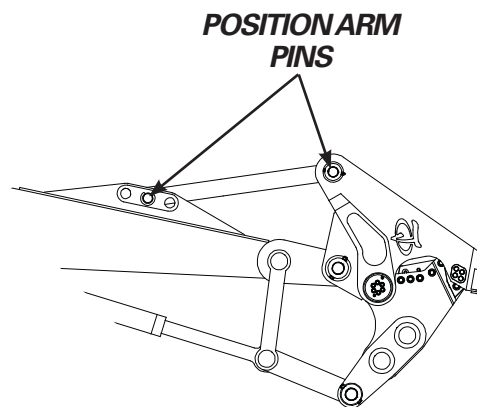


FIGURE 3-3

BLS SHEAR INSTALLATION *continued*

10. Use the bucket cylinder to position the mounting pad along the bottom of the stick to obtain the proper distance from the main pin to the center hole of the mounting pad. This distance is shown in the Parts Catalog. See Figure 3-4.

11. Use the mounting dimension provided in the parts catalog to locate the mounting pad on the bottom of the stick (see dimension "X" in figure 3-4). The mounting pad should be centered and parallel with the width of the stick.

12. Weld the pad in position using E7018 low hydrogen welding rod. Make 1/2" (13 mm) fillet welds 3.00" (76 mm) long and 6.00" (152 mm) on center (see figure 3-5). Run out welds 1.50" (38 mm) on the ends and grind to a taper in both the side view (see figure 3-7) and the top view (see figure 3-6). Note the direction of grinding marks.

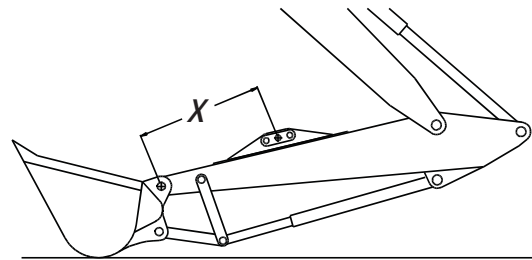


FIGURE 3-4

NOTICE

Under no circumstances should the mounting pad be welded around the ends. To do so may create the possibility of cracking the stick on the excavator.

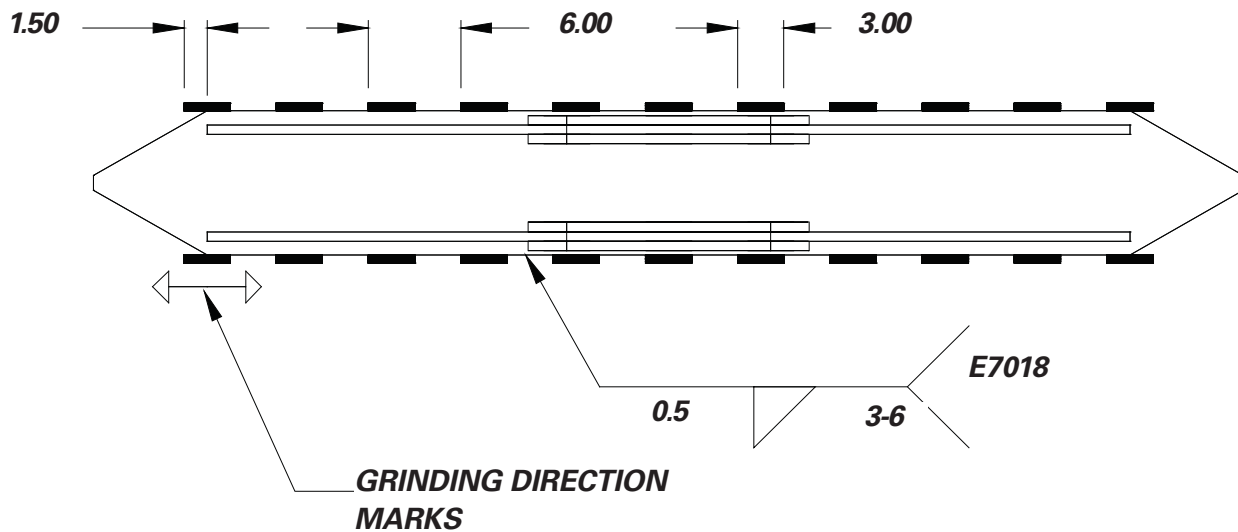
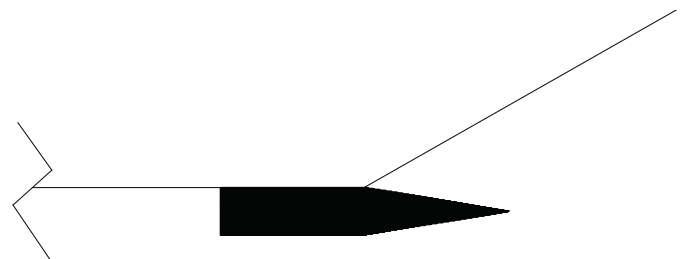


FIGURE 3-5



**FIGURE 3-6
SIDE VIEW WELD DETAIL**



**FIGURE 3-7
TOP VIEW WELD DETAIL**

BUCKET LINKAGE SHEARS

BLS SHEAR REMOVAL

Fully close the BLS Shear and place it on a solid, level surface in the position shown in figure 3-8.

1. Support the position arm while removing the pin from the mounting pad. Leave the position arm attached to the shear and rotate it away from the mounting pad. Rest it on the ground as shown in figure 3-9.
2. Remove the pin from linkage connection and fully retract the bucket cylinder.
3. Lower the excavator stick until the BLS shear rests flat on the ground as shown in figure 3-10.
4. Remove the pin from the stick connection. With all personnel standing clear, carefully raise the excavator stick away from the shear.

⚠ WARNING

To prevent serious injury or death, stay clear of the shear at all times when the jaws are in motion. Never place any part of your body near the shear jaws unless they are absolutely secure in a fixed position.

BLS SHEAR STORAGE

1. Place the attachment on a solid, level surface.
2. Apply a coating of grease to the bores, pins, and any other exposed, unpainted surfaces.
3. Replace all pin retainers, associated hardware and pins in their appropriate bores to prevent misplacing them.
4. Grease at all locations (refer to the lubrication instructions in the maintenance section of this manual).

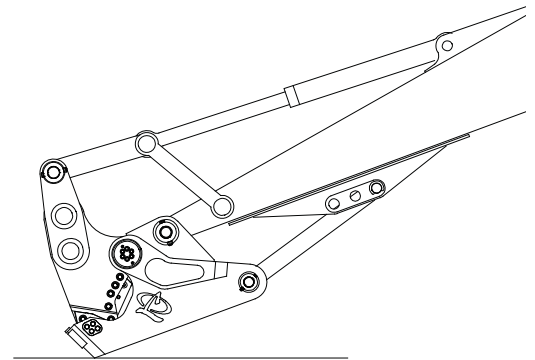


FIGURE 3-8

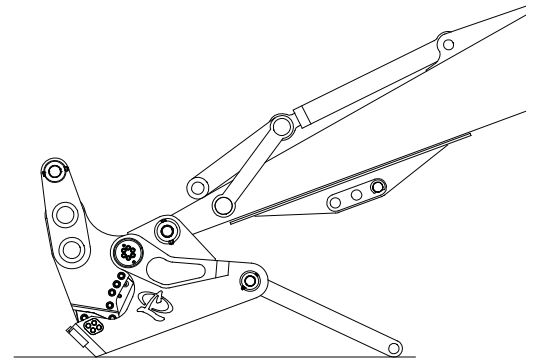


FIGURE 3-9

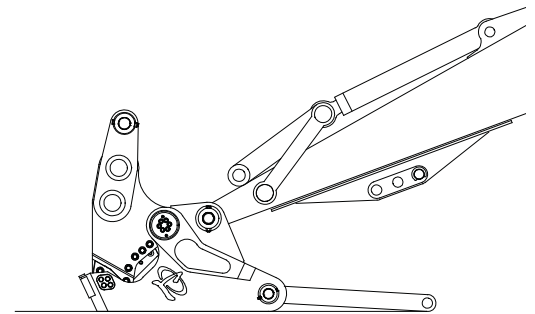


FIGURE 3-10

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BUCKET LINKAGE SHEARS

BEFORE YOU START

KNOW YOUR SAFETY PROGRAM

1. Read and understand the safety section of this manual and the base machine manual.
2. Know the employer's safety rules for your job. Consult your foreman for specific instructions and safety equipment required.
3. Learn the traffic rules at the work site.
4. Know the hand signals used on the job and who is responsible for signaling. Take signals from only ONE person.



KNOW YOUR EQUIPMENT

- Learn the location and function of all controls. Test all controls to ensure proper operation. If any malfunctions are found, shut the machine down and report the malfunction for repair.
- Be familiar with the safety devices on the machine, indicators, warning devices and caution instructions. They will alert you to conditions that may make it hazardous to continue operating.
- Wear proper protective clothing including hard hat, safety shoes, ear protectors, reflective clothing, safety goggles and work gloves. Loose clothing can get caught in machinery and cause injury. Wrist watches, rings and other accessories can be dangerous, as well.
- Know the clearances in the work area. A little time spent checking side and overhead clearances, including power lines, can save a lot of trouble.

FIRST THINGS FIRST

1. Ensure all safe viewing distance decals are installed and legible; contact LaBounty for replacements as required.
2. Have a DAILY Safety Dialog with all those with whom you work. Inform them of any out-of-the-ordinary work that may be planned for the day. Remind them of the safe working distance.
3. Clear the area; inspect. **ALWAYS** look out for others. In any work area, people constitute a serious safety hazard. Before operating, walk completely around the machine to be sure there are no workers next to, under or on it. Warn nearby workers that you are starting up; **DO NOT** start up until they are out of danger.
4. Each day before starting, visually inspect the machine by walking around it entirely; check the location of cables, gas lines, and water mains before any operations. Make sure work site footing has sufficient strength to firmly support the machine. When working close to an excavation, position machine with the propel motors at the rear.
5. Once started, keep bystanders clear, especially before moving the boom, swinging the upper structure, or traveling. **ALWAYS** be alert for bystanders in or near the operating area.

SAFETY DEVICES YOU'LL NEED

SAFETY DEVICES

- Seat belts
- Canopies
- Falling Objects Protective Structures (FOPS)
- Shields and guards
- Safety decals
- Visual or audible warning devices
- Flags and flares
- Barricades
- Signs and other markings
- Warning lights

GENERAL RULES FOR SAFE OPERATION

1. Read the Operator's Manual for the excavator that the grapple is on. Know the control levers and their functions. Also note **ALL** safety devices on the machine and ensure that they are working properly.
2. **KNOW** the capacity of the excavator and its attachments. **DO NOT** overload the machine or serious injury could result.
3. It is required that a Falling Objects Protection Structure be installed surrounding the excavator cab for all material handling applications.
4. **DO NOT** use attachment for anything except what it is intended for or warranty will be voided.
5. **DO NOT** operate a poorly maintained or damaged attachment.
6. **ALWAYS** maintain a safe operating distance between any material suspended and held by the attachment and the cab of the machine.
7. **NEVER** leave a load suspended in the air, pass it over people, occupied vehicles or buildings or serious injury could result.
8. **ALWAYS** keep a watchful eye on exposed parts, such as the position arm, so as to not damage them when working in confined spaces.
9. **ALWAYS** maintain at least 15 feet (5 meters) between the attachment and any nearby power lines or serious injury could occur.
10. When leaving the machine for any reason, **ALWAYS** lower the attachment to the ground.
11. **DO NOT** close the attachment on a structure and reverse the excavator in an attempt to pull down material.
12. **AVOID** collision of the boom or attachment, especially when working with limited visibility or inside buildings. Know the height and reach of the processor during operation, travel and swinging upper structure.

13. **AVOID** contacting machine with the attachment or any material held by it.

14. Use machine swing for positioning only. **DO NOT** use the attachment as a jack hammer or wrecking ball.

15. **AVOID** contact between boom arm or attachment and overhead obstacles when you operate, move or haul the machine.

16. The attachment is not a dozer. **DO NOT** position it on the ground and travel forward.

WARNING

Determine the control for each movement of the excavator before attempting to operate. Practice the machine movements as described in "Getting the Feel of the Attachment" on page 4-5.

BUCKET LINKAGE SHEARS

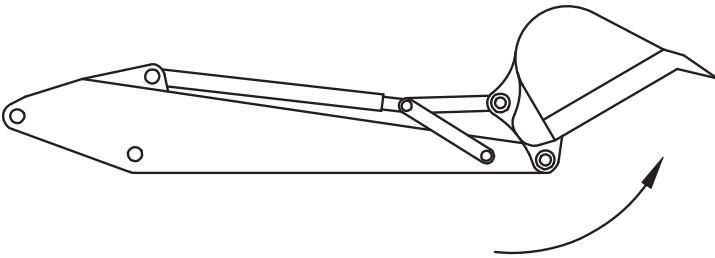
BUCKET LINKAGE SHEAR CONTROLS

The LaBounty BLS shear replaces the excavator bucket and operates with the same controls. No additional hydraulics are required. The bucket dump control opens the shear and the bucket curl control closes it.

THIRD MEMBER INSTALLATION

Shear replaces bucket

Bucket DUMP = Shear OPEN



Bucket CURL = Shear CLOSE

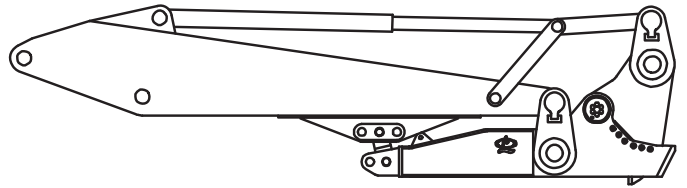
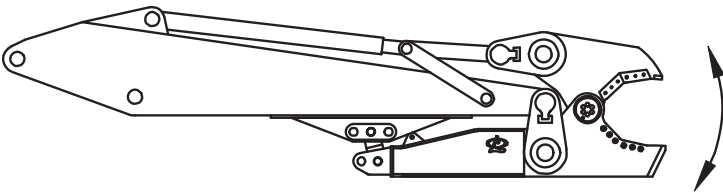
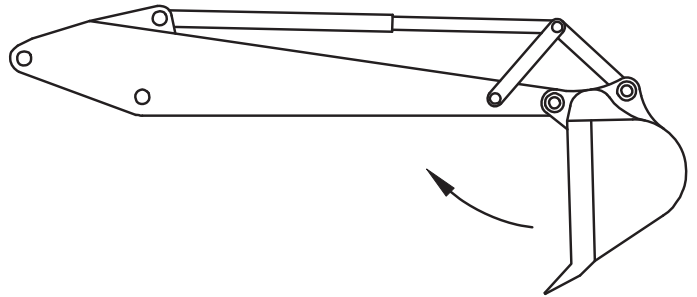


FIGURE 4-1

FIGURE 4-2

GETTING THE FEEL OF THE ATTACHMENT

Every operating part of any machine has a slightly different “operating feel”—an individual machine response to the movement of the controls. Before starting the first job with a new machine, it is suggested that the operator find an open spot on firm, level ground that’s free of obstructions such as trees, buildings and other equipment. This area must be free of people, too. Move the machine to this area – and spend some time just getting to know the “operating feel” of the machine and the shear, which will allow the operator to become familiar with the control levers and the shear before beginning work.

The machine is extremely powerful. Do not operate it carelessly; there is potential for personal injury and equipment damage. Be concerned about safety when preparing to operate the new machine. Ensure safe operation by inspecting the machine as stated in **Getting Started Safely**. This inspection amounts to a common sense visual check of the machine at the beginning of every operation. Follow a preventive maintenance program; such a procedure will reduce the possibility of costly downtime. Read the **Getting Started Safely** section of this manual and understand it.

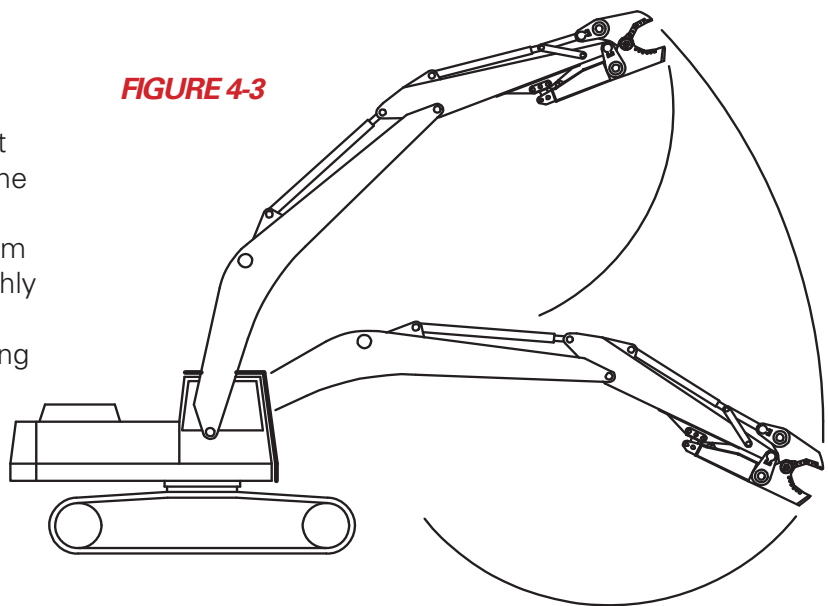
The “fluid” nature of hydraulic power requires a special operating approach to the shear that can be described as a smooth, even technique. The control levers should be moved in a gradual, deliberate way rather than with jerky, abrupt movements (see figure 4-3). Jerky operation can cause damage and early wear to various parts on the machine, and can also overheat the hydraulic system.

For example, as each control lever is moved forward or backward from the center, or neutral position, the oil flows to the cylinder or motor controlling a function. The component (boom, attachment, etc.) starts to move. The component moves faster as the control lever is moved further forward or backward. Holding the lever in the forward or backward position will hold that movement at a given rate of speed. To slow the movement down, gradually move the lever toward the neutral position. Movement is stopped at the neutral position. The position is maintained until the control lever is moved again.

FEATHERING THE CONTROLS

Feathering the controls is a technique that will increase output and make operating the shear easier. When starting any motion of the machine, move the control slightly from neutral until it starts to move, then smoothly move the control to increase motion to desired speed. Do the same when stopping a motion.

FIGURE 4-3



BUCKET LINKAGE SHEARS

SECTION 5 MAINTENANCE

- Maintenance Safety Procedures..... 5-2
- General Rules for Maintenance 5-2
- Periodic Service Schedule..... 5-3
- 8-Hour Service Required..... 5-3
- 40-Hour Service Required..... 5-3
- Recommended Service Tools for Maintenance 5-4
- 8-Hour Inspection Checklist 5-5
- 40-Hour Inspection Checklist..... 5-6
- BLS Lubrication 5-7
- Bolt Torque Guidelines 5-8
- Metric Capscrew Size Guide 5-8
- Dry Bolt Torque Charts..... 5-9
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BUCKET LINKAGE SHEARS

MAINTENANCE SAFETY PROCEDURES

- Inspect the shear daily. **DO NOT** operate a poorly maintained or damaged shear or major structural damage could result.
- **ALWAYS** lower the shear to the ground before leaving the cab. If it is necessary to work on a shear off the ground, securely support the base machine and shear. **DO NOT** support the shear on cinder blocks, hollow tiles, or props that may crumble under continuous load. **DO NOT** rely on the cylinder to hold the shear in the air. If a control is moved or hydraulic pressure is otherwise released, the shear will drop. **DO NOT** work under a machine that is supported solely by a jack.
- **DO NOT** attempt to alter or change the physical, mechanical or hydraulic operation of the shear during the warranty period without first consulting Stanley LaBounty as this could invalidate the Manufacturer's Warranty.
- **NEVER** operate the machine if an unsafe condition exists. Attach a "DO NOT OPERATE" tag to the machine. If more than one person is working on a machine, each must be familiar with the controls and aware of what the others are doing. Before working on a machine, BE SURE TO TAG THE CONTROLS SO NO ONE ELSE WILL START IT.
- **ALWAYS** use two people when making checks with the engine running.
- Keep hands away from moving parts. **NEVER** lubricate or work on a machine while it is moving.
- **ALWAYS** wear proper safety equipment when

WARNING

During maintenance of the shear, it is imperative that the excavator is turned OFF to prevent injury.

GENERAL MAINTENANCE

1. Read the maintenance manual. Be sure all maintenance personnel read and understand all maintenance procedures before they attempt them.
2. Use factory approved parts.

3. Lubricate every four hours; follow the lubrication schedule as outlined on page 5-7.
4. Use the Inspection Checklists during shear inspections to make sure all maintenance is complete.
5. In extremely cold temperatures, work the shear on lighter materials first before working up to heavier materials. This allows the shear to warm up and makes it less susceptible to damage. **DO NOT** operate at temperatures below -10° F (-230°C).
6. To get maximum life from the shear blades, they can be rotated to utilize all four edges. Frequent rotating allows the blades to wear evenly and will increase their life.
7. **DO NOT** enter the pivot group of the shear without first consulting your dealer or the Stanley LaBounty Customer Service Department. Improper adjustment could cause shear damage and may void the shear warranty.
8. The machined adjustment plates that are behind the cutting blades in the lower shear have been custom machined for each shear. If they should come loose, be sure to replace them properly.
9. **DO NOT** weld the guide blade into its blade seat. The guide blade is needed for proper adjustment of the shear. **DO NOT** allow excessive gap between guide blade and upper wear plate.
10. **DO NOT** preheat piercing tip in excess of 400° F (200° C) when welding on a new replacement tip. It is recommended that the piercing tip not be built up and hardsurfaced more than once.
11. **DO NOT** weld or hard surface across the grain of the steel at any time. When hardsurfacing, **DO NOT** exceed two passes of hardsurface rod.
12. **DO NOT** allow shear blades to wear excessively. Rotate or replace the blades when edges have rounded to approximately 1/4" (6 mm) radius or after 80 hours, whichever comes first. Regular blade rotation will keep blades square, allowing for blade shimming.
13. **DO NOT** exceed bolt torque specifications (see Dry Bolt Torque Chart on page 5-9).
14. **DO NOT** exert excavator weight on the jaws in order to free them if they are jammed; consult your LaBounty dealer or the LaBounty Customer Service Department if this occurs.

PERIODIC SERVICE SCHEDULE

SERVICE THE SHEAR AT SPECIFIED INTERVALS

Inspect, lubricate, make service checks and adjustments according to the 8-hour and 40-hour Inspection Checklists reproduced from this manual. A program of regular service should be established, using the machine hour meter to determine when the shear should be serviced. Use the intervals on the Service Schedule when operating in normal conditions. Service the shear at shorter intervals when operating in extreme environmental or abrasive conditions. Use Correct Lubricants and Bolt Torques—refer to the Lubrication and Bolt Torque instructions in this manual when performing maintenance on the shear.

8-HOUR SERVICE REQUIRED

Inspect Safety Devices: Make sure all decals are installed and legible. Inspect the condition of the cab protection and make sure visual and audible warning devices are working properly. Make all repairs before using the equipment.

Grease Fittings: Lubricate according to the Lubrication section (page 5-7). Replace broken fittings.

Connecting Pins and Pin Retainers: Inspect the mounting bracket pins and shear cylinder pins for looseness or damage. Check pinheads and pin keepers.

Bolts: Check for looseness or damage. Refer to the Dry Bolt Torque chart in this section if torquing is necessary. Bolts may be retorqued only once and then must be replaced.

Guide Blade Gap: Shim the guide blade if the gap exceeds 0.030" (0.75 mm).

Cutting Blade Gap: For most applications, this gap should be maintained between 0.010 and 0.020" (0.25 and 0.50 mm). Shim the blades if the gap is greater than 0.020" (0.50 mm).

Piercing Tip: Inspect for damage and check for a square fit in the lower jaw. Maintain if necessary.

Lower Piercing Area: Inspect for damage and check for a square fit with the piercing tip. Maintain if necessary.

40-HOUR SERVICE REQUIRED

Guide Blade: Rotate or replace the guide blade if necessary. Shim the guide blade if the guide blade gap exceeds 0.030" (0.75 mm).

Cutting Blades: Rotate the cutting blades or replace if necessary. After blade rotation, shim the lower blades to achieve the desired blade gap between 0.010 and 0.020" (0.50 and 0.75 mm).

Upper Shear: Inspect the wear areas to determine if build-up and hardsurfacing is needed. Pay special attention to the surface adjacent to the cutting blades where the upper shear stops on the lower shear. Repair or replace the piercing tip and front wear plate if necessary.

Lower Shear: Inspect the wear areas to determine if build-up and hardsurfacing is needed.



BUCKET LINKAGE SHEARS

RECOMMENDED FOR MAINTENANCE OF BLS SHEARS

SAFETY EQUIPMENT

Safety glasses with side shields
Face shield when grinding
Hearing protection
Steel toe boots
Hard hat
Leather work gloves
Welding hood
Approved welding respirator



WELDING EQUIPMENT & TOOLS

Welder- minimum 250 amp rating (stick type required, wire feed preferred)
Cutting torch set (including tanks & gauges)
Large rosebud torch tip
Air peener
Grinder
Die grinder
Temperature melt sticks
AWS E7018 weld rod/wire or equivalent for build up
Amalloy 814H weld rod or wire or equivalent for hardsurfacing
Build-up templates from LaBounty

HAND TOOLS

Grease gun
Wrenches (SAE and metric sizes)
Feeler gauges
Socket wrenches and sockets (SAE/metric sizes)
Impact wrench swivel socket (3/4" and 15/16")
Impact wrench swivel sockets (19mm and 24mm)
Micrometers: I.D. (2" to 12") and O.D. (1" to 6")
Snap gauge micrometer (1" to 2")
Torque wrenches (up to 600 ft.lbs.)
4-to-1 torque multiplier- 3/4" drive (up to 2000 ft.lbs.)
Sledge hammer
Lifting straps and chains

POWER TOOLS

Air Compressor
Air Impact Wrenches & Sockets
Mobile Crane (optional)



8-HOUR INSPECTION CHECKLIST

Shear Model _____ Excavator Hour Meter _____

Shear Serial Number _____ Date _____

- _____ **1.** Visually inspect shear for any damage
- _____ **2.** Inspect safety devices
 - _____ a. All safety decals in place and legible- seal decal and label maintenance section
 - _____ b. All cab protection in good condition
 - _____ c. All excavator warning systems working
- _____ **3.** Lubricate all points. Refer to shear lubrication in this section
 - _____ a. Each side of main pivot group (two each side)
 - _____ b. End of slide puck assemblies (each side)
 - _____ c. End of front cylinder pin
 - _____ d. End of rear cylinder pin
 - _____ e. Boom pivot connection of mounting bracket
 - _____ f. Cylinder connection of mounting bracket
- _____ **4.** Inspect connecting pins and pin retaining hardware
 - _____ a. Stick connection pin
 - _____ b. Linkage connection pin
 - _____ c. Pinheads, collars, and pin stops
- _____ **5.** Inspect all bolts
 - _____ a. Visually inspect all bolts and replace any that are loose or damaged
- _____ **6.** Check guide blade gap
 - _____ a. Refer to manual if gap exceeds 0.030" (0.75 mm)
- _____ **7.** Check cutting blade gap
 - _____ a. Refer to manual if gap exceeds 0.030" (0.75 mm)
- _____ **8.** Inspect piercing tip
 - _____ a. Edges are square
 - _____ b. Piercing tip passes squarely into lower shear
- _____ **9.** Inspect lower shear
 - _____ a. Inside shear surfaces are flush with the blades
 - _____ b. Upper piercing tip passes closely into lower shear on sides and in front

Inspected by: _____



BUCKET LINKAGE SHEARS

40-HOUR INSPECTION CHECKLIST

Attachment Model _____ Excavator Hour Meter _____

Attachment Serial Number _____ Date _____

- _____ **1. Inspect guide blade**
 - _____ a. Rotate or replace if needed
 - _____ b. Shim if guide blade gap exceeds 0.030" (0.75 mm)

- _____ **2. Inspect cutting blades**
 - _____ a. Rotate or replace all blades
 - _____ b. Shim lower blades for proper blade gap of 0.010 to 0.020" (0.25 to 0.50 mm)

- _____ **3. Inspect upper shear**
 - _____ a. Replace or build up and hardsurface piercing tip if needed
 - _____ b. Replace wear plate if needed
 - _____ c. Build up and hardsurface upper shear if needed
 - _____ d. Check for wear adjacent to blades and build up if needed

- _____ **4. Inspect lower shear**
 - _____ a. Build up and hardsurface lower piercing area if needed
 - _____ b. Build up and hardsurface lower shear if needed

Inspected by: _____

BLS LUBRICATION

Grease all points every 8 hours of attachment operation. Use premium grease No. 2EP or equivalent. Grease fitting locations are indicated on the illustration (figure 5-1) and by GREASE decals on the attachment.

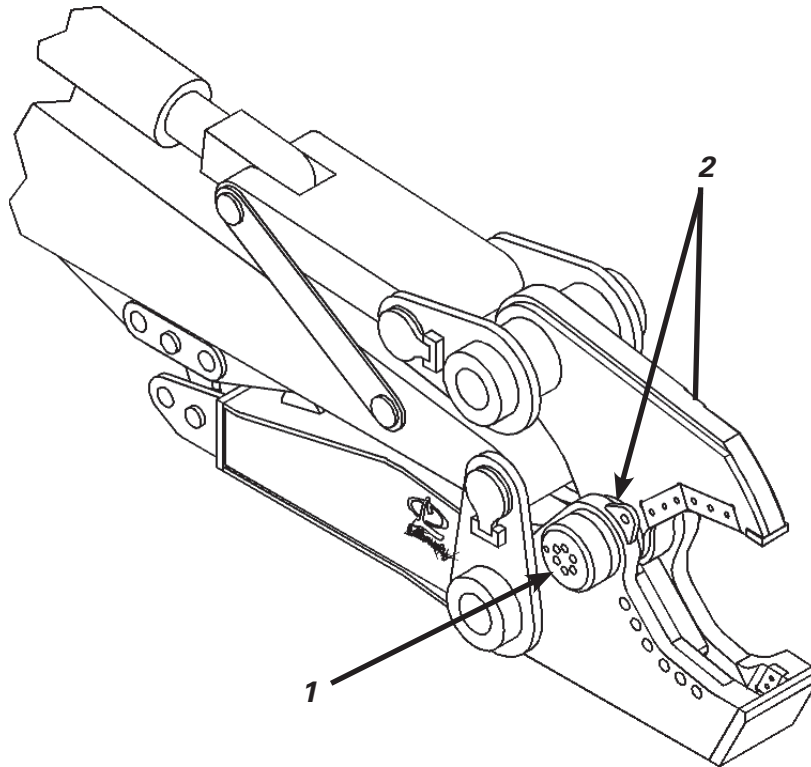


FIGURE 5-1

LOCATION ON SHEAR

1. Two in lower shear near main pivot on each side
2. Two in main pivot in end cap on each side
3. Stick and linkage connections (see excavator manual)

NUMBER OF SHOTS

- 6
6
6

BUCKET LINKAGE SHEARS

BOLT TORQUE GUIDELINES

Proper bolt installation is critical to ensure the safe and efficient operation of the attachment. Carefully follow the steps below to properly install bolts.

1. Always replace bolts and nuts with the same size and class of fastener. Replacement fasteners can be ordered from the LaBounty Parts Department to ensure the correct part is used. Unless otherwise specified, use class 10.9 metric hex head capscrews, class 10.9 metric flat head capscrews, and class 12.9 metric socket head capscrews.
2. Make sure bolts, nuts and bolt holes are free of dirt, oil, grease and other contaminants.
3. If necessary, use the Capscrew Size Guide on this page to determine the size of the bolt being installed.
4. Use the Dry Bolt Torque Chart on page 5-9 to find the proper torque. When possible, torque the nut rather than the bolt head.

METRIC CAPSCREW SIZE GUIDE

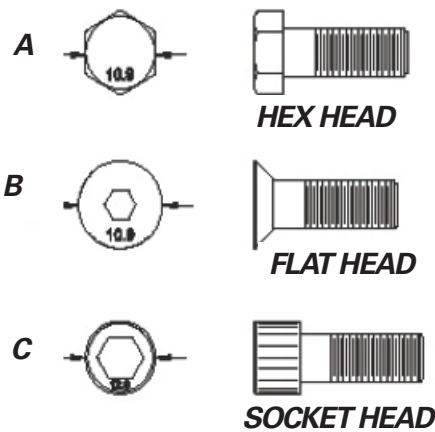


FIGURE 5-2

CAP-SCREW SIZE	A HEX HEAD	B FLAT HEAD	C SOCKET HEAD
M10 x 1.50	0.63" (16mm)	0.79" (20mm)	0.63" (16mm)
M12 x 1.75	0.71" (18mm)	0.94" (24mm)	0.71" (18mm)
M14 x 2.00	0.83" (21mm)	1.06" (27mm)	0.83" (21mm)
M16 x 2.00	0.94" (23mm)	1.18" (30mm)	0.94" (24mm)
M20 x 2.50	1.18" (30mm)	1.42" (36mm)	1.18" (30mm)
M24 x 3.00	1.42" (36mm)	N/A	1.42" (36mm)
M30 x 3.50	1.81" (46mm)	N/A	1.77" (45mm)

WARNING

Always replace bolts and nuts with the same size and class of fastener. Inferior fasteners can fail and cause injury or death.

DRY BOLT TORQUE CHARTS

For all bolts used in the Stanley LaBounty BLS Shear, use the generic torque tables below. **These torque values are for clean, dry threads with or without Loctite.**

GENERIC TORQUE SPECIFICATIONS COMMON METRIC FASTENERS

SIZE	CLASS 10.9	CLASS 12.9
M8 x 1.25	20 ft-lbs (28 N-m)	24 ft-lbs (33 N-m)
M10 x 1.50	41 ft-lbs (55 N-m)	49 ft-lbs (67 N-m)
M12 x 1.75	71 ft-lbs (96 N-m)	85 ft-lbs (116 N-m)
M16 x 2.00	173 ft-lbs (235 N-m)	207 ft-lbs (281 N-m)
M20 x 2.50	335 ft-lbs (454 N-m)	403 ft-lbs (547 N-m)
M24 x 3.00	579 ft-lbs (785 N-m)	693 ft-lbs (939 N-m)
M30 x 3.50	1164 ft-lbs (1579 N-m)	1391 ft-lbs (1887 N-m)

⚠ CAUTION

Use only metric tools on metric hardware and SAE tools on SAE hardware. Other tools may not fit properly. They may slip and cause injury.

⚠ WARNING

Always replace bolts and nuts with the same size and class of fastener. Inferior fasteners can fail and cause injury or death.

NOTICE

It is preferred to torque the nut rather than the bolt head whenever possible.

GENERIC TORQUE SPECIFICATIONS COMMON SAE FASTENERS

SIZE	GRADE 8
1/4" - 20 UNC	12 ft-lbs (17 N-m)
3/8" - 16 UNC	44 ft-lbs (60 N-m)
1/2" - 13 UNC	106 ft-lbs (144 N-m)
1/2" - 20 UNF	120 ft-lbs (163 N-m)
5/8" - 11 UNC	210 ft-lbs (285 N-m)
3/4" - 10 UNC	377 ft-lbs (511 N-m)
7/8" - 9 UNC	600 ft-lbs (813 N-m)
1" - 8 UNC	919 ft-lbs (1233 N-m)

BUCKET LINKAGE SHEARS

BLADE REMOVAL

Removing and handling shear blades can be hazardous if done incorrectly. To ensure your safety and to prevent damaging the shear, please read the following warnings and instructions when removing a blade from its seat.

1. Loosen all blade bolts but leave them partially installed and threaded into the blade.
2. The blades may come loose from their seats without much effort. If the blades are loose, make sure they are well supported before removing the blade bolts.
3. If the blades are not loose, tap on the blade face with a soft-faced mallet to loosen the bond between the blade and seat. Use a pry bar between the top of the blade and the blade seat to loosen the blade.

WARNING

Never strike against any blade with a hardened steel tool of any kind. The blade may chip and cause severe injury.

WARNING

Make sure the blade is well supported before removing the blade bolts. When the bolts are removed, the blade may drop and cause severe injury.

4. If the blade is still jammed in its seat, place a wood block or similar object against the head of one of the blade bolts and strike with mallet. The bolt being struck should be within $\frac{1}{2}$ " (13 mm) of being fully threaded into the blade to prevent thread damage (figure 5-3).
5. The cross blade can only be removed after the lower cutting blades and the guide blade have been removed. The holes in the cross plate may be used to dislodge the cross blade and dowels. Use a brass or similar soft metal drift and a mallet to remove the cross blade. Insert the drift through each hole in the cross plate hole and strike with the mallet.

CAUTION

To prevent injury, wear safety equipment at all times when maintaining the attachment. Safety equipment includes eye protection, hard hat, steel toe shoes, work gloves and hearing protection.

NOTICE

DO NOT strike directly on the blade bolts with a hammer or other hard object. This may cause damage to the blade threads.

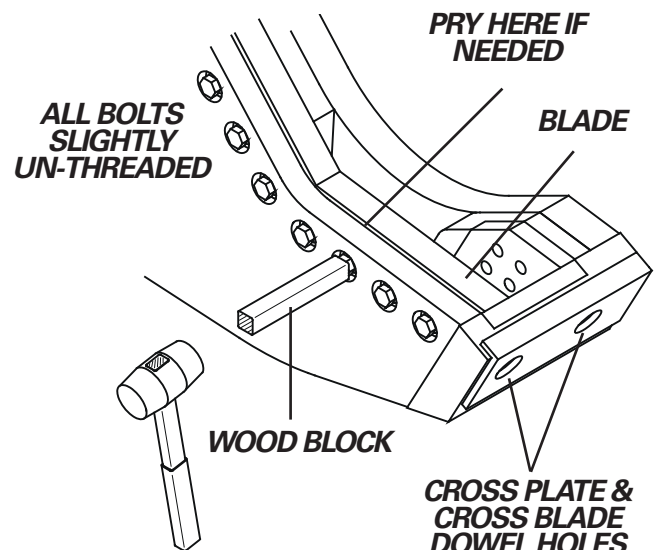


FIGURE 5-3

GUIDE BLADE SHIMMING AND ROTATION

The guide blade gap keeps the shear blades in line and ensures the proper operation of the shear. This adjustment should be checked daily.

NOTICE

The upper and secondary blade and the Saber Tip blade must seat flat against each other for proper blade shimming. Please see the cutting blade rotation section on page 5-13 before shimming the guide blade.

1. Close the shear until the Saber Tip on the upper shear begins to bypass the guide blade (see figure 5-4). Use a feeler gauge to check the gap and record it. Close the shear in steps and check the gap at different spots along the Saber Tip surface. Find the smallest gap along the Saber tip and mark it. The gap at the spot should not exceed 0.030" (0.76 mm). If the gap is more than this, it will be necessary to shim the guide blade.
2. Guide blade shims are provided with each new shear. This shim kit should include four shims that are 0.024" (0.61 mm) thick, one that is 0.12" (3 mm) thick, and four shims that are .005" (.127 mm) thick.
3. To determine the amount of shims to use, subtract the desired gap of 0.010" (0.25 mm) from the smallest gap that was recorded earlier. See the example on the next page.
4. To shim the blade, loosen the guide blade bolts and move the guide blade out far enough to slide the shims between the blade seat and the guide blade. If all five shims are installed and the gap still exceeds 0.030" (0.76 mm), it will be necessary to rotate or replace the guide blade.

WARNING

DO NOT check gaps while the shear is in motion. Stay clear when closing the shear or severe injury could result.

NOTICE

If the shear has been operated for more than 40 hours since the last blade rotation, it is recommended that all blades be rotated. Follow the instructions on this page and the following pages.

CAUTION

Wear gloves at all times during blade maintenance. To prevent injury, wear safety equipment at all times when maintaining the attachment. Safety equipment includes eye and ear protection, hard hat, gloves, and steel toe footwear.

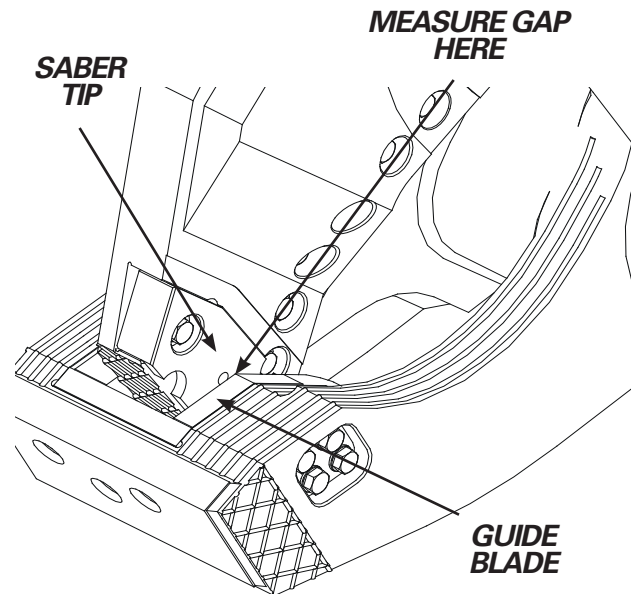


FIGURE 5-4

BUCKET LINKAGE SHEARS

GUIDE BLADE SHIMMING AND ROTATION continued

5. The guide blade can be rotated once so the whole face of the blade can be used to increase its life.

When it is time to rotate the blade, remove it and turn it end for end, and place it back in its seat. The same face should be used for the entire life of the blade. Use the steps above to shim the guide blade to the correct gap. When the whole face of the blade is worn and it cannot be shimmed any more, replace it with a new one.

6. If a gap greater than 0.030" (0.76 mm) still exists with a new guide blade and a full set of shims, the Saber Tip will need to be replaced. Refer to the Cutting Blade Rotation procedure in this section.

7. When the gap is correct, apply the correct torque to all of the guide blade bolts. Refer to the BLS shear Blade Bolt Torque Chart of page 5-10 of this manual for the proper torque values.

EXAMPLE

Recorded Gaps	0.035"
	0.040"
	0.045"

Smallest Gap	0.035"
<u>Minus Desired Gap</u>	<u>0.010"</u>

Shim Amount Needed
0.025"

For this example, one of the 0.024" (0.61 mm) thick shim would be used achieve the desired guide blade gap.

BLS CUTTING BLADE ROTATION

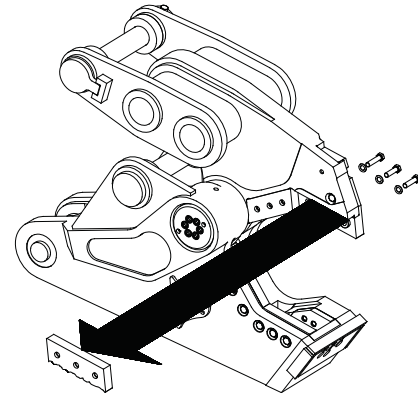
Proper rotation and adjustment of the BLS cutting blades is very important for the best shear performance and longer shear life. **It is recommended that the BLS blades be rotated after every 80 hours of use or when edges are rounded $\frac{1}{4}$ ", whichever comes first.** Regular blade rotation keeps the blades and blade gaps uniform, which allows the blades to be shimmed properly. Regular blade maintenance is especially important when processing thinner materials. It may be necessary to rotate and adjust the BLS cutting blades more often when processing thin or non-ferrous materials. Frequent rotation and adjustment of the cutting blades is not as critical when processing larger materials, but it will extend the life of the blades.

BLS CUTTING BLADES FIRST & THIRD ROTATION

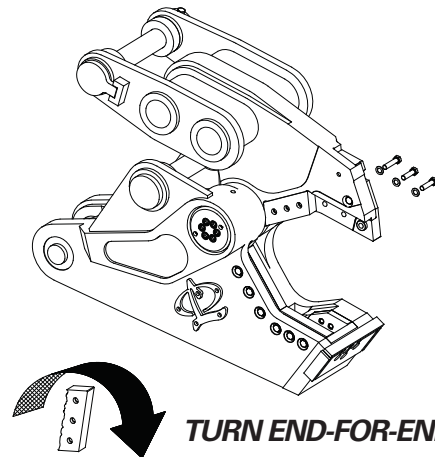
1. Use the Blade Removal instructions from this section to remove the upper BLS cutting blades including the Saber Tip blade. Take care to keep track of all parts and their positions as you remove them. This will be important when reinstalling.
2. Once the blades are removed, use a small grinder to clean up the edges. Remove all sharp burrs and smooth out deformations. Clean out the blade seats thoroughly removing any debris or burrs.
3. Rotate the blades, flip them end-for-end, according to figure 5-5. The Saber Tip blade may also need to be flipped depending on wear.
4. Reinstall the upper shear blades. Make sure the blades are seated properly and in their original blade seats. **Use a new set of blade bolts and torque according to the blade bolt torque chart on page 5-9 of this manual for the proper torque value.**

NOTICE

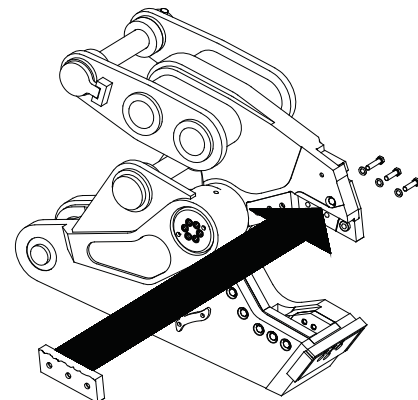
The Saber Tip blade rotation will vary by application and may wear at a different rate than the cutting blades. High piercing applications will require more frequent Saber Tip blade rotation and replacement. Rotate the Saber Tip blade when the edges have rounded to $\frac{1}{4}$ ". The Saber Tip blade can be rotated only once to extend its service life.



REMOVE EACH BLADE



TURN END-FOR-END



RE-INSTALL IN SAME SEAT

FIGURE 5-5



BUCKET LINKAGE SHEARS

BLS CUTTING BLADES FIRST AND THIRD ROTATION **continued**

5. Inspect the Saber Tip blade gap following reinstallation (figure 5-6).

6. Use the Blade Removal instructions from this section to remove the lower blades, including the cross blade and the guide blade.

7. Use a small grinder to clean up the blade edges. Remove sharp burrs and smooth out deformations. Clean out the blade seats thoroughly in the same manner as step 2 of this procedure, removing all debris and/or burrs.

8. The cross blade can be rotated three times to increase its life. Turn it end-for-end and place it back in its seat. The cross blade dowels may be re-used. Tap the face of the blade with a soft-faced mallet to make sure that it seats firmly. **If all four long edges of the cross blade have been used, it will need to be replaced.**

9. Like the cross blade, the guide blade can be rotated one time to increase its life. Turn it end-for-end and place it back in its seat without shims. Use a new set of guide blade bolts and tighten them until snug. Do not apply torque to the bolts yet. Make sure the blade is seated snugly. Only use one face of the guide blade before replacing it.

10. Rotate the lower cutting blades in the same fashion as described in figure 5-5 on page 5-13.

11. Make sure the adjustment plate is reinstalled properly and then place the blades into their proper positions without shims. **Use a new set of blade bolts and tighten until snug. Do not apply torque to the bolts yet. Make sure the blades are seated snugly.**

12. The guide blade and lower cutting blades are now ready for shimming. When done with the guide blade, shim the lower cutting blades. **Do not operate the shear without first shimming the guide blade and cutting blades to the proper blade gaps.**

ASSURE THAT NO BLADE GAP EXISTS HERE BEFORE APPLYING TORQUE TO BLADE AND SABER TIP™ BOLTS.

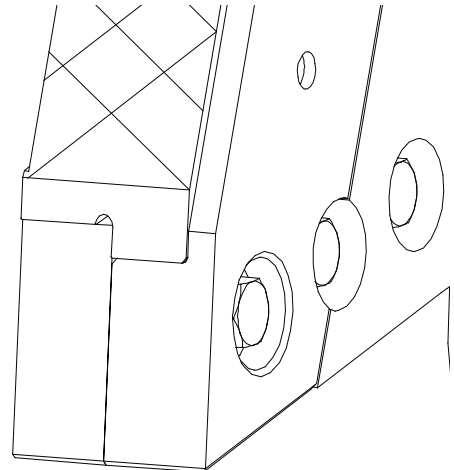
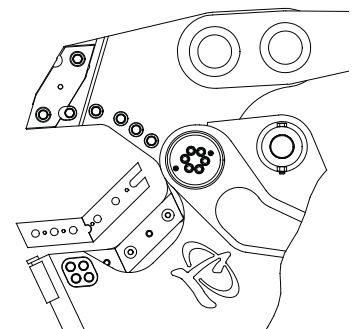


FIGURE 5-6

NOTCH TOWARD SHEAR THROAT

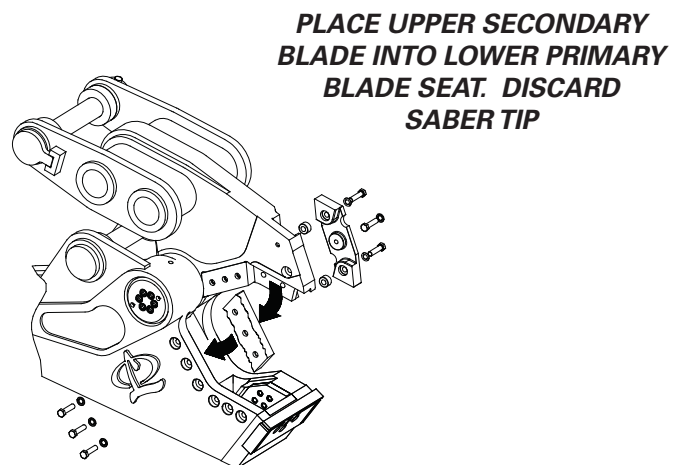
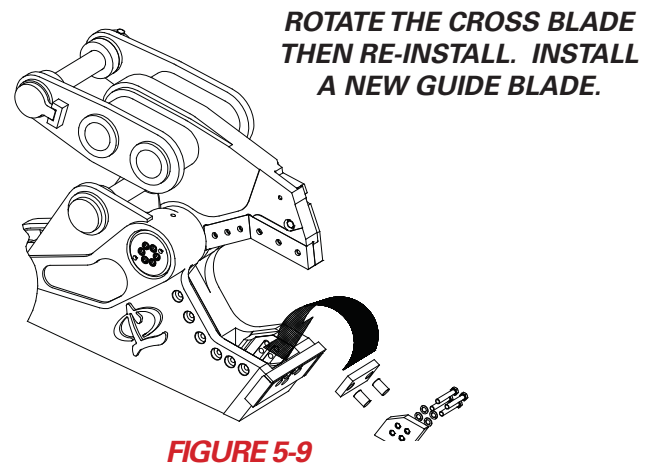
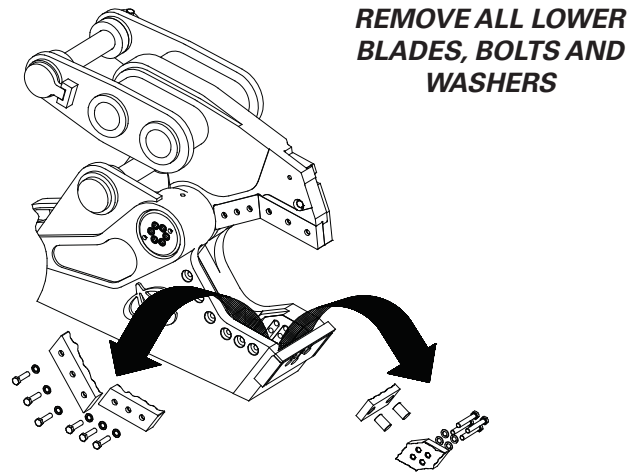


ADJUSTMENT PLATES

FIGURE 5-7

BLS CUTTING BLADES SECOND ROTATION

1. Use the blade removal instructions from this section to remove the lower cutting blades including the cross blade and guide blade. **Take care to keep track of all parts and their positions as you remove them.**
2. Thoroughly clean all blade seats including the cross blade and guide blade seats. Ensure the seats are clean and free of any burrs or debris.
3. The cross blade can be rotated three times to increase its life. Turn it front-to-back and place it back in its seat to use one of the remaining two unused edges. The cross blade dowels maybe reused. Tap the face of the blade with a soft-faced mallet to make sure that it seats firmly. **If all four long edges of the cross blade have been used, it will need to be replaced.**
4. Replace the guide blade. **Use a new set of guide blade bolts as well as washers and tighten them until snug. Do not apply torque to the bolts yet. Make sure the blade is seated snugly. Only use one face of the guide blade before replacing it.**
5. Remove and discard the Saber Tip blade as well as all tip blade bolts, washers and dowels.
6. Remove the **upper secondary blade** from the shear jaw and discard the bolts and washers. Use a small grinder to clean up the edges of the used blade. Remove all sharp burrs and smooth out deformations. Clean out the blade seats thoroughly, removing any debris or burrs.
7. Make sure the adjustment plate is reinstalled properly and then reinstall the **used upper primary blade into the lower secondary blade seat without shims**. Place the two used edges against the seat to use the remaining sharp edges of the blade. **Use a new set of blade bolts as well as washers and tighten them until snug. Do not apply torque to the bolts yet but make sure the blades are seated snugly.**
8. Remove the used **upper primary blade** from the shear jaw and discard the bolts and washers. Use a small grinder to clean up the edges of the used blade. Remove all sharp burrs and smooth out deformations. Clean out the blade seats thoroughly removing any debris or burrs.



BUCKET LINKAGE SHEARS

BLS CUTTING BLADES SECOND ROTATION *continued*

9. Make sure the adjustment plate is reinstalled properly and the reinstall the upper primary blade into the lower secondary blade seat without shims. Place the two used edges against the seat to use the remaining sharp edges of the blade. Use a new set of blade bolts as well as washers and tighten until snug. Do not apply torque to the bolts yet but make sure the blades are seated snugly.

10. Reinstall the used lower secondary blade into the upper primary blade seat. Place the two used edges against the seat to use the remaining sharp edges of the blade. Use a new set of blade bolts and torque according to the blade bolt torque chart on page 5-9 of this section.

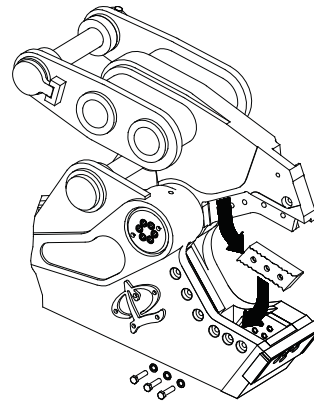
11. Install a new Saber Tip blade using a new set of tip blade bolts, dowels and washers. Torque the bolts according to the blade bolt torque chart on page 5-10 of this section.

12. Install a new upper secondary cutting blade. Use a new set of blade bolts and torque according to the blade bolt torque chart on page 5-10 of this manual.

13. The guide blade and lower cutting blades are now ready for shimming. For instructions on shimming the guide blade, go to page 5-11.

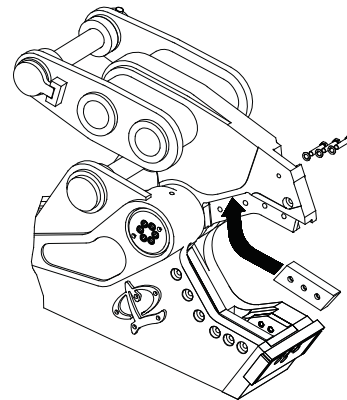
NOTICE

The Saber Tip blade rotation will vary by application and may wear at a different rate than the cutting blades. High piercing applications will require more frequent Saber Tip blade rotation and replacement. Rotate the Saber Tip blade when the edges have rounded to $\frac{1}{4}$ ". The Saber Tip blade can only be rotated once to extended its service life.



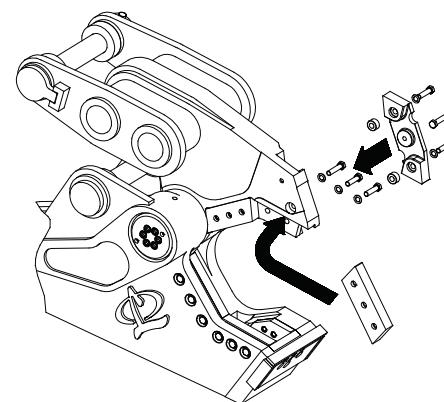
PLACE UPPER PRIMARY BLADE INTO LOWER SECONDARY BLADE SEAT

FIGURE 5-11



PLACE LOWER SECONDARY BLADE INTO UPPER PRIMARY BLADE SEAT

FIGURE 5-12



INSTALL A NEW BLADE INTO UPPER SECONDARY BLADE SEAT. INSTALL NEW SABER TIP BLADE.

FIGURE 5-13

BLADE SHIMMING

After blade rotation, use the following instructions to shim to the proper blade gap. Keep in mind that if the blades are not rotated regularly, blade shimming may become difficult due to uneven blade wear. Shimming is necessary if the gap exceeds 0.030" (0.75 mm). For most shearing applications, this gap should be maintained at 0.010 to 0.020" (0.25 to 0.50 mm). As necessary, the gap may be shimmed down to 0.005 (0.13 mm) if jamming becomes a problem, especially when processing thin materials. After the cutting blades are rotated and the guide blade is shimmed, use the following instructions to check and shim the cutting blade gap. Shim only the lower blades.

1. To check for blade gap, close the shear until the secondary blades in the upper and lower shear begin to bypass (see figure 5-14). Start with the thickest shims and check to see how many shims can be slipped between the blades and record this amount. Another method is to use a feeler gauge to check the blade gap and record it.
2. The whole shim set adds up to 0.125" (3.2 mm). If all shims can be slipped between the blades it will be necessary to replace the blades. Do not shim the lower blades out more than 0.125" (3.2 mm). This may cause structural damage to the shear and void the warranty.
3. Close the shear further until the primary blades begin to bypass (see figure 5-15). Again, check to see how many shims can be slipped between the blades (or use the feeler gauge). Record this gap also. If the blades have been rotated properly at the correct intervals, the blade gap should be even over the entire span of the blades. If the gap is not even, contact your Stanley LaBounty dealer for assistance.
4. Once the blade gap is checked and recorded, open the shear. Shim the lower blades by using the same amount of shims that you were able to slip between the blades in step 3.
5. To install the shims, loosen the lower blade bolts and move the blades out slightly. Slide the shims between the lower blades and the existing adjustment plate. Tighten the blade bolts until snug.
6. Cycle the shear slowly to the full-closed position.

NOTICE

Regular blade rotation and shimming will provide maximum shearing efficiency, reduce jamming, and extend blade life.

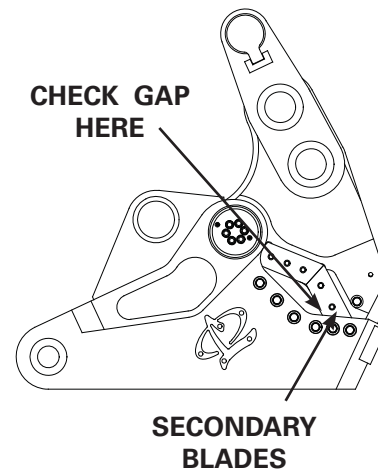


FIGURE 5-14

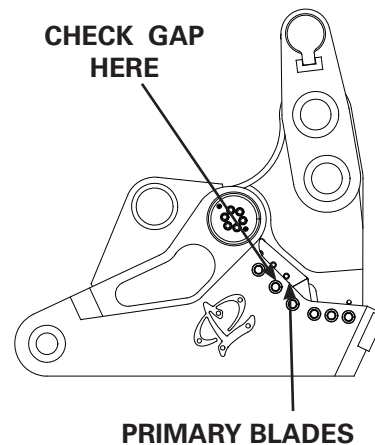


FIGURE 5-15

BUCKET LINKAGE SHEARS

Check the gap at different points to make sure it is between 0.010" and 0.020" (0.25 and 0.50 mm). If it is too tight, you may need to remove a shim.

7. When the gap is correct, apply the correct torque to all of the lower blade bolts. Refer to the Blade Bolt Torque Chart on page 5-9 for the correct torque values.

CRITICAL WEAR AREAS

Close attention must be paid to the "crosshatch" hardsurfacing of the BLS. Inspect this area daily.

When the crosshatch is worn down almost to the base metal surface, clean the surface by wire brushing, preheat to 400°, and apply new underlayment beads to the pattern using E-7018 welding rod or E-70 series wire. After the pattern has been established with underlayment beads, apply hardsurface to the pattern. It is recommended that only one pass (bead) of the hardsurfacing be applied. After welding, wrap the upper in a heat blanket and allow to cool slowly. Apply hardsurfacing on top of each of the underlayment beads. **DO NOT apply hardsurface DIRECTLY TO THE PARENT MATERIAL.**

If, as a result of production considerations, the crosshatch pattern has been worn down into the base metal of the shear upper jaw, the Saber Tip can be used as a guide for build up to proper profile prior to applying new hardsurfacing.

If the edge of the Saber Tip has been worn, it will be necessary to remove the tip, rotate the new front edge, and bolt into place. The surface of the upper shear face should be built up (using E-7018 welding rod or E-70 series wire following pre-heat procedures) to conform in profile to the new Saber Tip edge. Depending upon the model, this surface should be flush with the Saber Tip edge, to 1/16" above the edge.

Once the surface has been built up and ground to profile, the crosshatch hardsurface pattern can be applied. Use 1-1/2" spacing in the hardsurface pattern, as shown in figure 5-16.

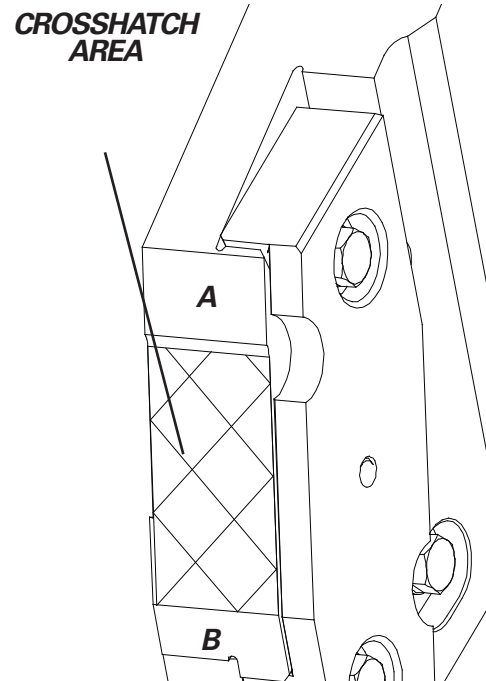


FIGURE 5-16

NOTICE

The area shown in figure 5-16 must be inspected daily, and maintained whenever the crosshatch pattern is almost worn down to the base metal surface. If you have any questions, please call the Stanley LaBounty Service Department at 218-834-6901. The two areas in figure 5-16 labeled A and B are very critical wear areas. When inspecting and maintaining the shear, special attention must be given to these areas.

CRITICAL WEAR AREAS

continued

See specific areas as defined in figure 5-17.

A. In some applications, this area can be built up for added wear resistance. Taper and blend the top edge of the build-up area. Use E-7018 or E-70 series wire (following weld procedure on page 5-21 of this manual).

B. Maintain build up in this critical area. Area to be built up flush with the top edge of the blade. Use E-7018 or E-70 series wire (following weld procedure on page 5-21 of this manual).

C. Maintain profile and build up in this area. Bled the bottom edge. This area must be maintained to prevent wear into the Saber Tip reverse edge, which rests just behind it.

D. Use E-7018 or E-70 series wire (following weld procedure on page 5-21 of this manual). Apply hardsurface allowing 1/6" space in from the edge on both sides.

E. Apply the crosshatch pattern using 1.50" spacing.

F. This area to be built up so that the bottom edge protrudes 1/16" beyond the edge of the blade. Taper and blend the top edge. Use E-7018 or E-70 series wire (following weld procedure on page 5-21 of this manual).

NOTICE

Apply hardsurfacing on top of the underlayment beads. DO NOT apply hardsurface directly to the parent material. It is important to use an air-operated slag peener on each pass of weld.

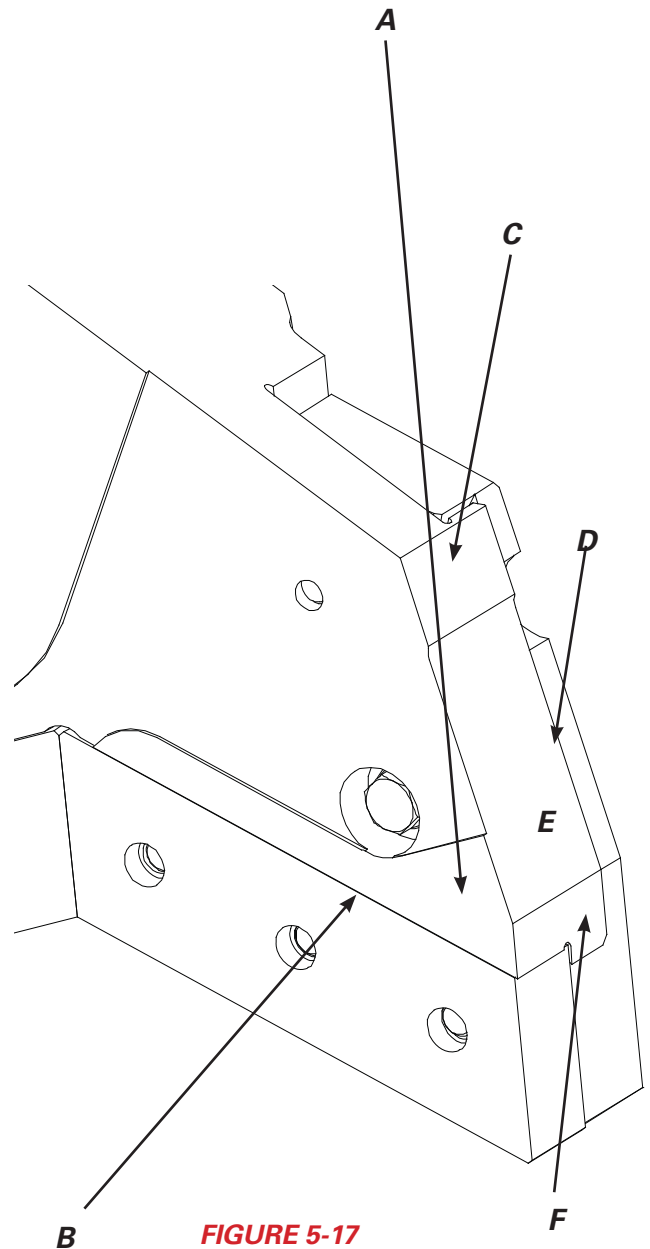


FIGURE 5-17

BUCKET LINKAGE SHEARS

CRITICAL WEAR AREAS

continued

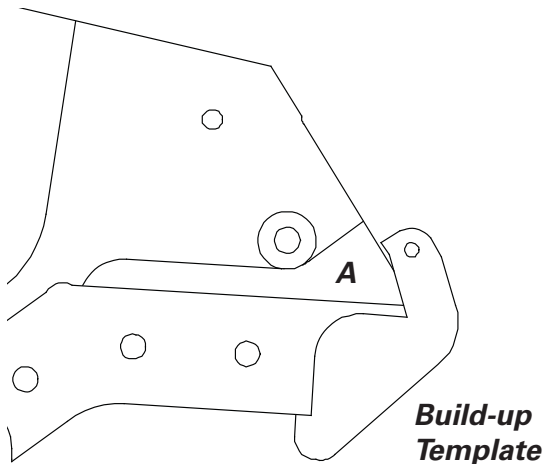
NOTICE

For all build-up and welding procedures, use E-7018 welding rod or E-70 series wire, following the welding procedures outlined on pages 5-21 of this manual.

Area marked "A" in figure 5-18 is an optional build-up area, depending on the application.

Please note these drawings are not to scale and have been exaggerated for the purpose of illustration.

Use the build-up template (provided in the maintenance kit) to profile the upper jaw.



Buffer strip is built up and ground to be flush with the top edge of the blade.

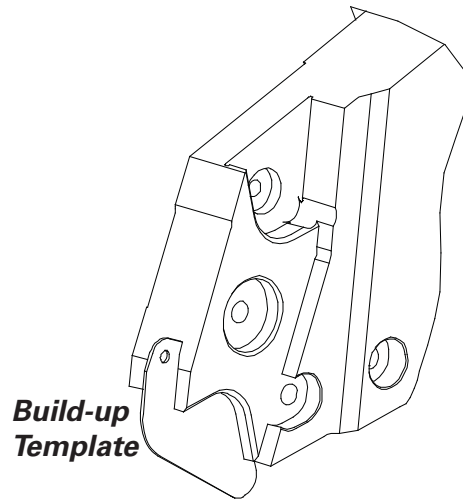


FIGURE 5-18

GENERAL GUIDELINES FOR BUILD UP AND HARDSURFACING

The steel used in Stanley LaBounty Saber Series shears is stronger and more durable than ever. However, this steel requires special attention during maintenance. Pay special attention to the preheat and post-heat instructions and follow them exactly. Review the following guidelines for build-up and hardsurfacing the shear. Detailed instructions on maintaining specific areas of the shear are on the following pages. Contact your Stanley LaBounty dealer or the Stanley LaBounty Customer Service Department for further information.

PREHEAT

Preheat the general surrounding area to at least 200°F (100°C) to remove moisture from the base material. Before ANY thermal process is applied to the shear steel, including welding, tack welding, torch cutting, and air-arcing, preheat the area within 6" (150 mm) of the local area to a minimum of 400°F (200°C) and a maximum of 450°F (230°C). This includes adding and removing lifting lugs! Preheat must be uniform throughout the material thickness and maintained until all welding has been completed. Avoid cyclic heating and large temperature swings. Preheating may be done by localized gas torches, or thermal strip blankets.

POST-HEAT

If preheat has dropped below 400°F (200°C) within 6" (150 mm) of the weld area, post-heat to 400° (200°C) and wrap with heat blanket to allow it to cool slowly to the ambient temperature.

Plan to perform build-up and hardsurfacing at the end of the day or when there will be adequate time for the welded areas to cool before putting the shear back into service.

HANDLING AND STORAGE OF WELD MATERIALS

Follow the weld manufacturer's handling and storage instructions closely. Make sure the electrodes or wire are free of moisture. Moisture can cause cracks and porosity in the weld and possibly the base metal beneath the weld.

WELD QUALITY

Quality and attention to detail in welding can significantly affect the life of the shear. Stanley LaBounty strongly recommends that only qualified and certified welders perform this work. Make sure the weld consumables and base material are clean, dry, and free of grease, paint, dirt, or any other foreign substance that may harm the weld.

NOTICE

Preheat and post-heat instructions must be followed exactly. Failure to do so can compromise warranty coverage.



BUCKET LINKAGE SHEARS

HARDSURFACING BUILD-UP RECOMMENDATIONS

Refer to the list of AWS classifications below to select a suitable build-up material for Stanley LaBounty shears. Weld products within these classifications meet the combined requirements for strength, toughness, and ductility that are essential for Stanley LaBounty applications.

Shielded Metal Arc Welding - Stick Electrodes

- E7018
- E8018-C3

Gas Metal Arc Welding - Solid Wire Electrodes

- ER70S-6

Gas Metal Arc Welding - Flux Cored Electrodes

- E71T-1
- E71T-1M
- E80T1-Ni1
- E80T1-Ni1M

Gas Metal Arc Welding - Metal Powder Cored Electrodes

- E70C-6M
- E80C-Ni1

Welding suppliers can assist in identifying products that meet these AWS classifications.

NOTICE

Using improper build-up and hardsurfacing products may result in premature wear or increased potential for cracking and may compromise warranty coverage.

DO NOT use stainless hardsurface rod. It is too brittle for Stanley LaBounty applications and has a tendency to crack, weakening the base metal.

HARDSURFACING RECOMMENDATIONS

For hardsurfacing, Stanley LaBounty recommends Amalloy 814H rod or equivalent. It is important to always use a hardsurfacing weld material with a chromium content of less than 10% and a severe impact-resistance rating to prevent cracking.

If in doubt about what hardsurface material to use, please contact the Stanley LaBounty Customer Service Department. Failure to adhere to Stanley LaBounty hardsurfacing recommendations may compromise the attachment warranty.

Hardsurfacing should be applied directly on top of the build-up welds. The build-up acts as a bonding or underlayment for the hardsurfacing. This reduces the chances that the hardsurfacing will crack.

Contact Information for AmAlloy Welding and Industrial Supply

Phone: 800-735-3040

Fax: 623-792-8706

Web site: www.amalloy.com

UPPER SHEAR BUILD-UP AND HARDSURFACING

1. Apply a bead of hardsurface rod on top of each of the underlayment beads. It is important to use an air operated slag peener on each pass to relieve weld stress.
2. To determine how much build-up is required along the blade seats, place a straightedge across the blades. Repeat steps 4 and 5 to build this area flush with the blade (see figure 5-19).
3. If necessary, build-up along the top and front edges of the secondary blade seat flush with the blade (see figure 5-20). The blade should not stick out beyond the edge of the seat in this area.
4. To hardsurface the area alongside the upper blades, establish the pattern with 3 or 4 passes of build-up. These beads should run parallel to the blades from behind the Saber Tip to approximately the midpoint of the primary blade (see figure 5-21).
5. Apply hardsurfacing on top of each of the underlayment beads. Do not apply hardsurface directly to the parent material. It is important to use an air operated slag peener on each pass of weld to relieve stress.
6. If the temperature within 6" (150 mm) of the weld area has dropped below 400°F (200°C) during the weld process, post heat this area to 400°F (200°C).
7. Wrap with a heat blanket and allow the welded area to cool slowly to the ambient temperature. The shear should not be put back into service until it has cooled completely.

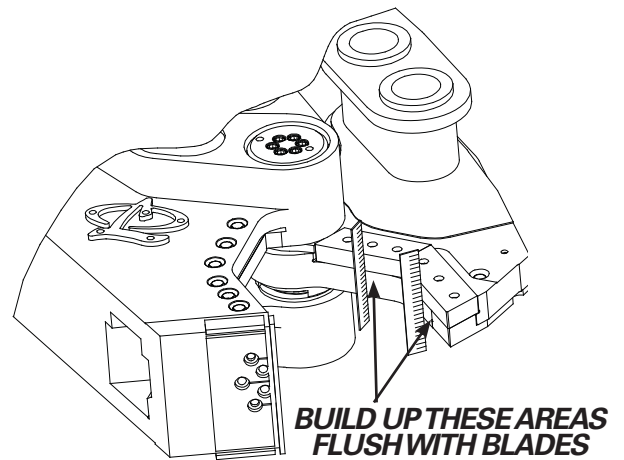


FIGURE 5-19

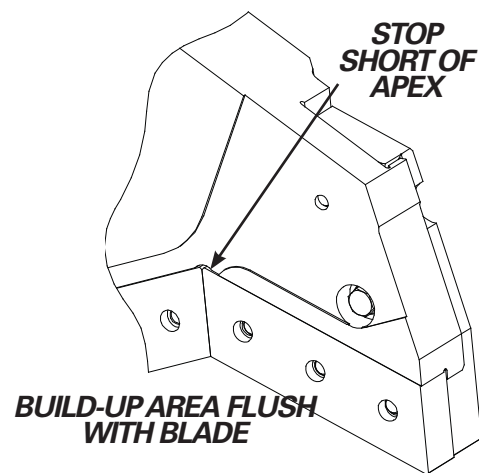


FIGURE 5-20

NOTICE

- *Keep the outside passes at least 1/4" (6 mm) back from the blade seat and outer edges.*
- *Stagger the ends of the welds and do not end a weld adjacent to a blade bolt hole.*
- *Use a grinder to taper the ends of each weld down to the base material. Grind marks should go with the grain.*
- *Do not undercut the ends of the weld with the grinder.*

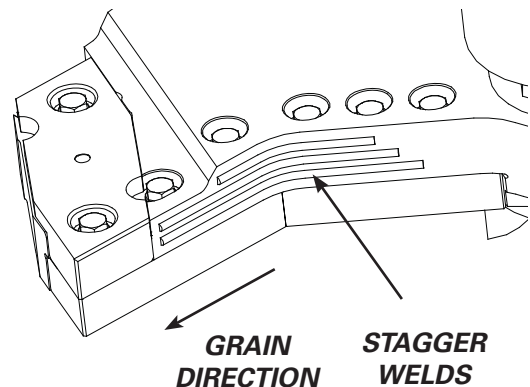


FIGURE 5-21



BUCKET LINKAGE SHEARS

LOWER SHEAR JAW BUILD UP AND HARDSURFACING

For maximum performance and long life, all edges on the lower shear should be kept square and flush with the blades. Check the lower shear every 80 hours and maintain it when necessary.

NOTICE

- All blade maintenance must be done before building up and hardsurfacing the lower shear.
- It is recommended that this maintenance be done at the end of the working day to allow adequate cooling time before putting the shear back into service.

1. Remove all existing hard surfacing by grinding down to the base metal. Do not weld on top of the existing hard surfacing.
2. Clean all dirt and grease from area to be maintained.
3. Use a straight edge to determine how much build-up is required on the cross plate (see figure 5-22). If the lower wear plates on the nose plate are worn, these should be replaced at this time (see previous page for instructions).
4. Use the straight edge across the top of the blades to find the build-up requirements on the top side of the lower shear. All edges should be square.
5. Preheat the area surrounding the tip to about 200°F (100°C) to remove moisture. Preheat the area within 6" (150 mm) of the weld location to a minimum of 400°F (200°C) and a maximum of 450° (230°C). Maintain this temperature range throughout the process.

⚠ WARNING

The lower shear must be grounded when welding on the lower shear to prevent the possibility of electric shock and arcing through the main pivot components.

USE STRAIGHT EDGE ACROSS SURFACES

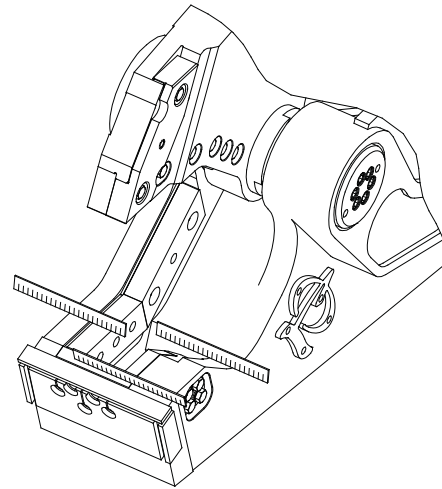
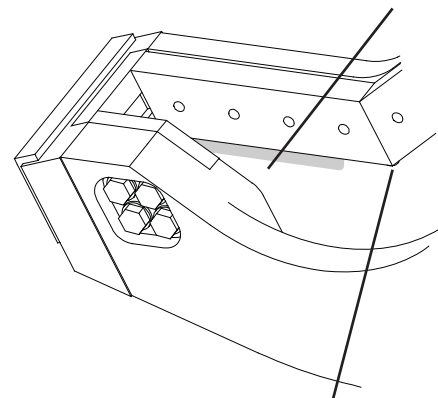


FIGURE 5-22

BUILD UP AREA FLUSH WITH BLADE



STOP SHORT OF APEX

FIGURE 5-23

LOWER SHEAR JAW BUILD UP AND HARDSURFACING

continued

6. Apply build-up to the worn areas in single passes, side-by-side, running with the grain of the base material. Peen each pass to relieve weld stress and remove slag. Grind all edges to 90°.

7. If necessary, build up the area beneath the edge of the secondary blade so it is flush with the blade (see figure 5-24). The blade should not stick out beyond the edge of the seat in this area. However, do not weld in the apex area.

NOTICE

Check temperature regularly during this procedure. Maintain 400-450°F (200-230°C). Do not exceed 450°F (230°C).

8. To hard surface the top sides of the lower shear, establish the pattern with 3 or 4 passes of build-up. These beads should run parallel to the blades from the nose plate back to about the midpoint of the primary blade. Do this on the guide blade side also. This will establish the hard surfacing pattern and serve as an underlayment.

9. Apply a bead of hard surface rod on top of each of the underlayment beads. Do not apply hard surface directly to the parent material. It is important to use an air operated slag peener on each pass of weld to relieve stress.

10. If the temperature within 6" (150 mm) of the weld area has dropped below 400°F (200°C) during the weld process, post heat this area to 400°F (200°C).

11. Wrap with a heat blanket and allow the welded area to cool slowly to the ambient temperature. The shear should not be put back into service until it has cooled completely.

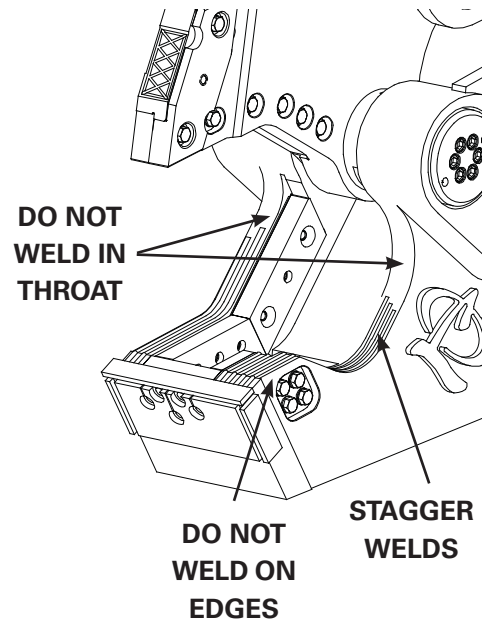


FIGURE 5-24

NOTICE

- *Keep the outside passes at least 1/4" (6 mm) back from the blade seat and outer edges.*
- *Stagger the ends of the welds and do not end a weld adjacent to a blade bolt hole.*
- *Do not weld into the throat area.*
- *Use a grinder to taper the ends of each weld down to the base material. Grind marks should go with the grain.*
- *Do not undercut the ends of the weld with the grinder.*

BUCKET LINKAGE SHEARS

LOWER WEAR PLATES REPLACEMENT

Inspect plates every 80 hours and replace them before the cross plate is in danger of being exposed to wear.

1. Preheat the surrounding area to about 200°F (100°C) to remove moisture. Preheat the area within 6 inches (150 mm) of the lower wear plates to a minimum of 400°F (200°C) and a maximum of 450° (230°C). Maintain this temperature range throughout the process. Temperature/melt sticks are available from Stanley LaBounty.
2. Air-arc the old wear plates to remove them completely from the nose plate.
3. Use a grinder to make sure the surfaces are flat and smooth with all weld and carbon residue removed. If necessary, build up the edges of the cross plate before installing the new wear plates. See the lower shear build-up instructions in this chapter.
4. Position the new front wear plate so it is centered across the width of the cross plate. The holes in the wear plate should be aligned with the holes in the nose plate to leave a gap between the top of the wear plate and the top of the nose plate that will be filled with weld later (see figure 5-25). Clamp the wear plate into position, bring the preheat back up to 400°F (200°C) and tack weld in place.
5. Position the new top wear plate so it is also centered across the width of the cross plate. This wear plate should overhang the front edge of the cross plate to be flush with the face of the front wear plate. Clamp the wear plate into position, bring the preheat back up to 400°F (200°C) and tack weld in place.
6. Use the recommended build-up weld rod (see page 5-22) to fill the area between the wear plates. Then weld an approximate 3/8" (10 mm) fillet on all remaining sides around the wear plates. Also weld a fillet around the inside of the holes on the front. Stress relieve each pass by peening. Grind welds smooth.
7. If the temperature within 6" (150 mm) of the weld area has dropped below 400°F (200°C) during the weld process, post-heat this area to 400°F (200°C).
8. Wrap with a heat blanket and allow the welded area to cool slowly to the ambient temperature.

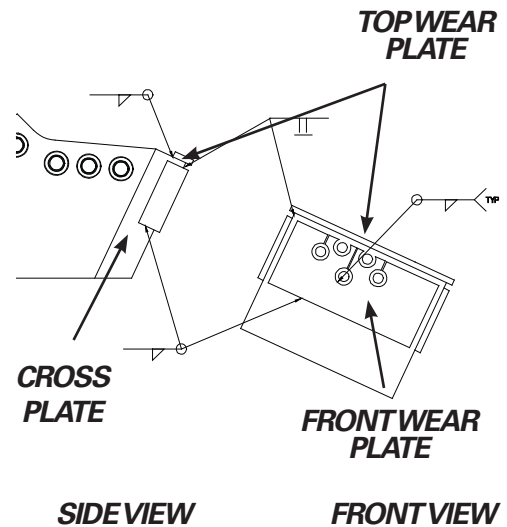


FIGURE 5-25

WARNING

The lower shear must be grounded when welding on the lower shear to prevent the possibility of electric shock and arcing through the main pivot components.

NOTICE

Check temperature regularly during this procedure. Maintain 400-450°F (200-230°C). Do not exceed 450°F (230°C).

BUCKET LINKAGE SHEARS

SECTION 6 TROUBLESHOOTING

General Troubleshooting Checklist	6-2
Cutting Performance Troubleshooting Guide.....	6-3



BUCKET LINKAGE SHEARS

GENERAL TROUBLESHOOTING CHECKLIST

The General Trouble Shooting Check List is provided as a guide in checking the general condition of the attachment. This check list should be incorporated in a periodical preventive maintenance program as part of the 80-hour inspection.

UPPER WELDMENT

- a.** Throat Area Inspect for cracks.
- b.** Apex Inspect for cracks.
- c.** Bolt Holes Inspect for cracks.
- d.** Blade Seats Inspect for material cracks, weld cracks and excessive wear.

LOWER WELDMENT

- a.** Nose Plate Inspect for weld failure and excessive wear.
- b.** Blade Seats Inspect for material cracks, weld failure and excessive wear.
- c.** Guide Blade Seat Inspect for material cracks, weld failure, excessive wear and broken structure.
- d.** Lower Piercing Area Inspect for cracks and excessive wear.
- e.** Bolt Holes Inspect for cracks.

GENERAL WEAR AND MAINTENANCE ITEMS

- a.** Blades Inspect for excessive wear, broken pieces, cracks.
- b.** Blade Gap Inspect to make sure the blade gap is 0.030" (0.75 mm) or less.
- c.** Guide Blade Gap Inspect to make sure the gap is 0.030" (0.75 mm) or less.
- d.** Piercing Tip Inspect for weld failure, excessive wear and damaged or missing component.

CUTTING PERFORMANCE TROUBLESHOOTING GUIDE

The information contained in this guide provides for troubleshooting the LaBounty shear only. Any references to the excavator will be made only to give some guidance as to where a problem may exist. Any specific maintenance and troubleshooting information will need to be provided by the Original Equipment Manufacturer of the excavator or the authorized dealer. If a question arises regarding the operation or maintenance of the shear, contact your LaBounty dealer for the proper instruction.

SYMPTOM	PROBABLE CAUSE	REMEDY
1. Does not cut materials	<ul style="list-style-type: none"> a. Wrong type of material for shear size b. Worn blades c. Excessive blade gap d. Insufficient hydraulic pressure 	<ul style="list-style-type: none"> i. Check material size and type, then consult your LaBounty dealer i. Rotate blades per maintenance manual instructions i. Check blade gap per maintenance manual and add shims (refer to blade shimming procedure) ii. Replace with LaBounty approved blades i. Check excavator specifications for pressure troubleshooting information
2. Material jams in jaws	<ul style="list-style-type: none"> a. Excessive blade gap b. Worn piercing tip c. Dull blades d. Blades not within LaBounty specifications e. Excessive guide blade gap f. Worn lower, lack of build up and hardsurfacing 	<ul style="list-style-type: none"> i. Add blade shims (refer to blade shimming procedure) ii. Replace worn blades i. Build up and hardsurface existing tip to maintenance specifications ii. Install replacement tip i. Rotate blades ii. If all four edges are worn, replace with LaBounty approved blades i. Replace blades with LaBounty approved blades i. Replace guide blade (refer to guide blade replacement procedure) ii. Replace front wear plate (refer to front wear surface procedure) i. Perform build up and hardsurfacing to lower (refer to lower maintenance procedures)
3. Blade bolts keep loosening	<ul style="list-style-type: none"> a. Uneven or excessive blade gap b. Blade gap is too tight c. Bolts have been torqued more than twice 	<ul style="list-style-type: none"> i. Shim or replace blades i. Remove shims i. Replace bolts with same size and grade

BUCKET LINKAGE SHEARS

CUTTING PERFORMANCE TROUBLESHOOTING GUIDE continued

SYMPTOM	PROBABLE CAUSE	REMEDY
4. Blade gap is uneven	<p>a. Non-LaBounty blades being used</p> <p>b. Debris in blade seat behind blades or adjustment plates</p> <p>c. Inconsistent amount of blade shims between primary and secondary blades</p> <p>d. Upper weldment is bent</p>	<p>i. Replace with LaBounty approved blades</p> <p>i. Remove blades and adjustment plates from blade seats and clear all debris</p> <p>NOTE Adjustment plates must be replaced exactly as they were removed.</p> <p>i. Reshim blades for consistency (refer to blade shimming procedure)</p> <p>i. Consult the factory for repair</p>
5. Individual hydraulic function is slow	<p>a. Pilot control hoses pinched</p> <p>b. Jumpline connections leaking</p> <p>c. Base machine hydraulic malfunction</p> <p>d. Circuit relief valve for the function is set low or malfunctioning</p>	<p>i. Inspect and correct</p> <p>i. Inspect and correct</p> <p>i. Check base machine hydraulic system</p> <p>i. See your base machine dealer</p>

SECTION 7 MAIN PIVOT INSTALLATION

Safety Points.....7-2
Isometric Drawing of BLS Assembly.....7-3
Lower Jaw Preparation.....7-4
Upper Jaw Preparation.....7-4



BUCKET LINKAGE SHEARS

SAFETY POINTS



CAUTION

Wear proper protective clothing including hard hat, safety shoes, ear protectors, reflective clothing, safety goggles and work gloves. Loose clothing can get caught in machinery and cause injury. Wrist watches, rings and other accessories can be dangerous, as well.

CAUTION

Heavy lifting is required for this operation. Any item 30 lbs. and greater in weight requires the use of a lifting device.

WARNING

Manual movement of the shear's cutting surfaces and components is required for this operation. Keep hands, fingers, and other appendages clear.

WARNING

Press-fit tolerances are required for this operation. Keep hands, fingers, and other appendages clear.

**ISOMETRIC DRAWING OF BUCKET LINKAGE SHEARS
PIVOT GROUP ASSEMBLY**

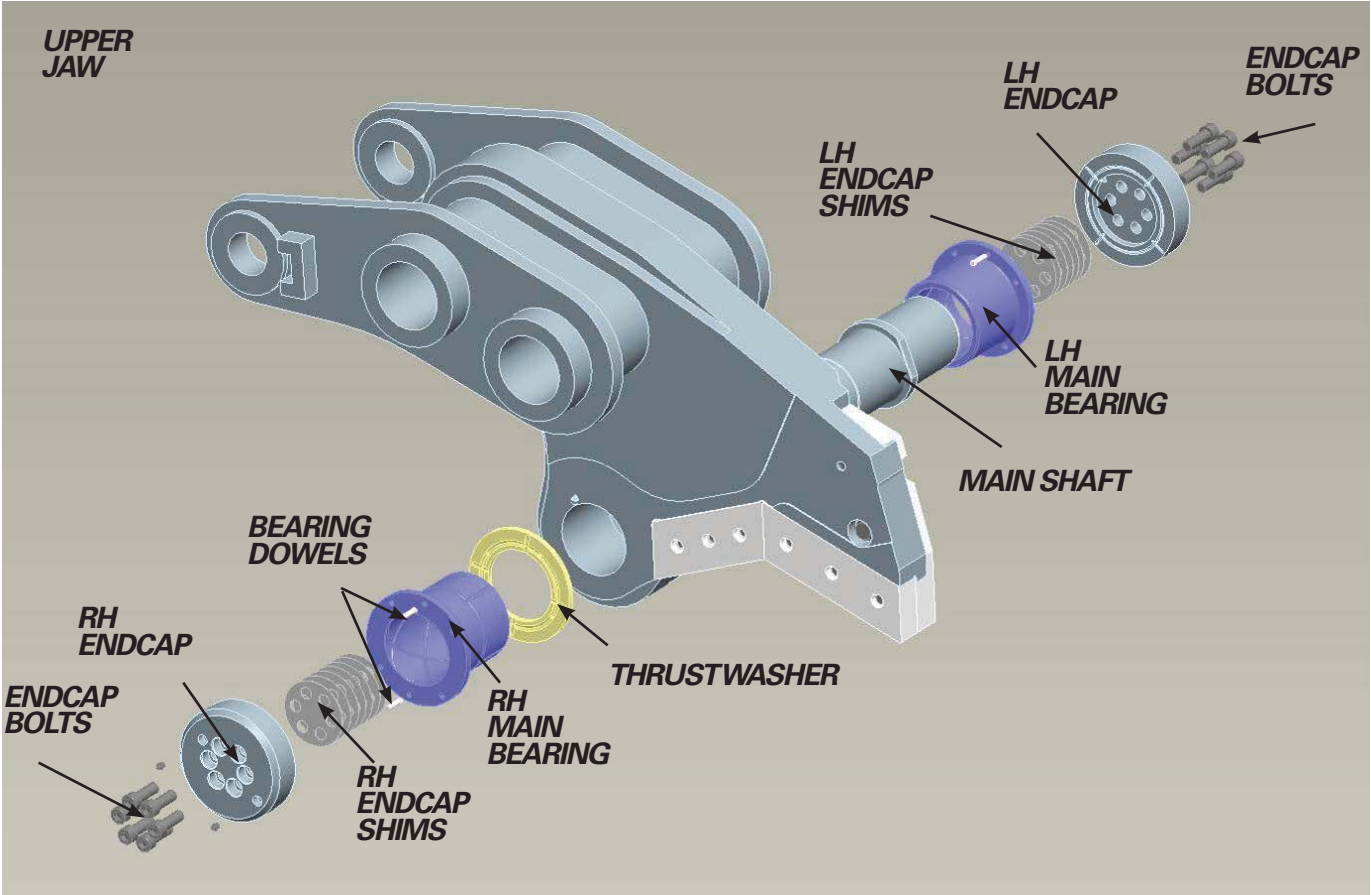


FIGURE 7-1

BUCKET LINKAGE SHEARS

LOWER JAW PREPARATION

1. With the lower jaw assembly in the upright position, inspect all bolt holes and bores for debris or machining burrs.
2. Using a hammer, drive the bearing dowel pin into position on the lower jaw assembly's main pivot bore machined face. Aligning the dowel clearance hole on the bearing with the pin on the lower jaw assembly, perform a dry-fit check of the main pivot bearings in the main pivot bore. This should be a slip fit and the bearings should seat flush against the machined inner surface of the lower jaw assembly main pivot. (Figure 7-2.)
3. If the bearing fit is snug, use the pneumatic die grinder fitted with the abrasive flapper wheel to polish the bores. Re-fit the main pivot bearings to ensure a good fit is achieved following each polish. Use a rubber mallet to lightly tap the bearings into the bores if needed. (Figure 7-3.)

NOTICE

Ensure the correct bearing is pre-fit into each bore. Left-hand bearings should be pre-fit into the left-hand bore and right-hand bearings pre-fit into the right-hand bore.

UPPER JAW PREPARATION

1. Lubricate the upper bore with LPS spray grease.
2. Dry-fit shaft into upper jaw: Using the overhead hoist and main shaft hook, perform a dry-fit check of the upper weldment on the main shaft. Position the upper on the table as shown and lower the main shaft into the upper bore. This should be a slip fit. If this fit is tight, notify engineering if measurements are out of tolerance. Make sure the shoulder of the shaft seats properly with the counter-bore in the upper. If not, look for interference areas and fix them. Make sure chamfer on upper bore clears the shaft radius. (Figure 7-4.)
3. Hang upper jaw from the crane and place into the lower jaw. "Eyeball" the bores to center them as best as possible.



FIGURE 7-2



FIGURE 7-3



FIGURE 7-4

UPPER JAW PREPARATION

continued

4. Ensure all required components are present and quantities are correct prior to beginning assembly. Consult the Bill of Materials (BOM) for correct component part numbers.
5. Ensure main pivot bearings have been inspected thoroughly. Bores should be void of burrs near the grease passages and cleaned thoroughly. Clean all debris and build up from the bores using a shop rag if not sufficiently clean.
6. Using the large micrometer, measure the diameter of the main shaft and record the data on the inspection sheet. (Figure 7-5.)
7. Install the main shaft into the upper by going through the lower bore (from the guide side). Next, install the thrust washer between the upper and the blade side of the lower jaw. (Figure 7-6.)
8. Slide the shaft through the blade side bore of the lower jaw, making sure the shoulder on the shaft seats in the counter bore of the upper.
9. Install two bolts into shaft on the guide side to act as "handles" for maneuvering the shaft.
10. Partially install the left-hand side main bearing in order to start centering the shaft and upper. (Figure 7-7.)
11. Fully install the right-hand side main bearing. This may take some maneuvering with the crane in order to center the upper in the lower.



FIGURE 7-5



FIGURE 7-6



FIGURE 7-7

BUCKET LINKAGE SHEARS

UPPER JAW PREPARATION

continued

12. Fully install the left-hand side main bearing.
13. Wedge the upper over tight against the thrust washer.
14. Mic the shaft stick out on the right-hand side. Record Dimension A. (Figure 7-8.)
15. Mic the right-hand endcap depth, B. Record Dimension B.
16. Install the right-hand endcap with shims onto the main shaft.
17. Check to see how the upper moves from its own weight. Using the crane, slowly lower the upper. When the tip is about to go into the lower, the upper should have a slight "drag." If you need to slightly help the upper move, that is about right. (Figure 7-9).
18. If the upper moves easily, remove .005" shims from the right-hand side and repeat step 20.
19. When the proper amount of movement is reached, torque all right-hand endcap bolts. Use Permatex removable thread locker (#24225). Torque = 400 ft-lbs. (Figure 7-10.)
20. Repeat steps 15-22 for the left-hand side.

NOTICE

All bolts with correct torque applied should be identified by a white grease pen slash mark across the bolt head.

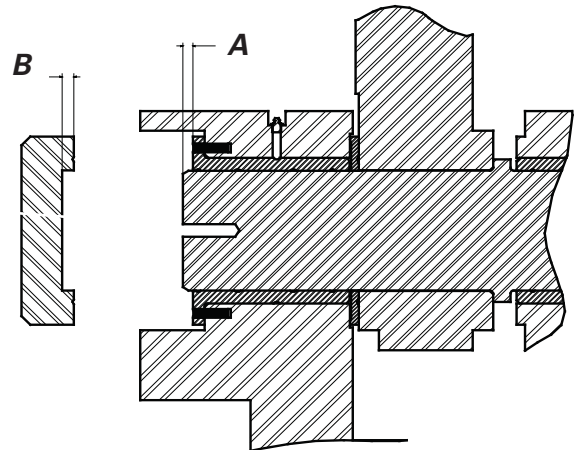


FIGURE 7-8



FIGURE 7-9



FIGURE 7-10

LIMITED WARRANTY

NEW ATTACHMENT

Stanley LaBounty warrants its manufactured products against deficiency in material or workmanship for a period of 12 months from the date of first use, rental or sale, or 1500 hours of operation, whichever occurs first.

Limitations

- Remanufactured or used product or service repair are not warranted under this Limited Warranty.
- Product that is damaged by alteration, improper maintenance, unauthorized service, abuse, misuse, or contamination by the base machine is not warranted.
- This Limited Warranty is the exclusive warranty. Stanley LaBounty makes no representations, expressed or implied, of merchantability or fitness for a particular purpose.
- Agents of Stanley LaBounty have no authority to make representations beyond those contained herein.

Exclusive Remedy

The exclusive remedy for a product Stanley LaBounty determines deficient in material or workmanship is repair or replacement at Stanley LaBounty's option. The following procedure governs a repair or replacement warranty claim:

1. All warranty claims require a claim number provided by Stanley LaBounty Service Department.
2. A factory-issued Return Material Authorization tag (RMA) must accompany returned product.
3. Returned product found deficient by Stanley LaBounty will be replaced or repaired without charge FOB Distributor/Customer or will be credited to account balance.
4. Authorized repair can occur at the Stanley LaBounty factory or authorized Stanley LaBounty Dealer. Labor for warranty repair will be paid under a formula determined by Stanley LaBounty.

Stanley LaBounty is not liable for incidental or consequential costs or losses incurred by the product, purchaser or user.

Limited Warranty

To validate the Limited Warranty, a completed warranty certificate and delivery inspection report must be returned to Stanley LaBounty. Prohibited operation and/or unauthorized adjustment or assembly will void this Limited Warranty. See the Operation, Maintenance and Safety Manual.

Contact Information

Contact your Stanley LaBounty Dealer or Stanley LaBounty regarding warranty questions. All requests for information, service or spare parts should include model and serial numbers. For the nearest Stanley LaBounty dealer contact:

Stanley LaBounty
1538 Highway 2
Two Harbors, MN 55616-8015 USA
Phone: (218) 834-2123 or (800) 522-5059
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