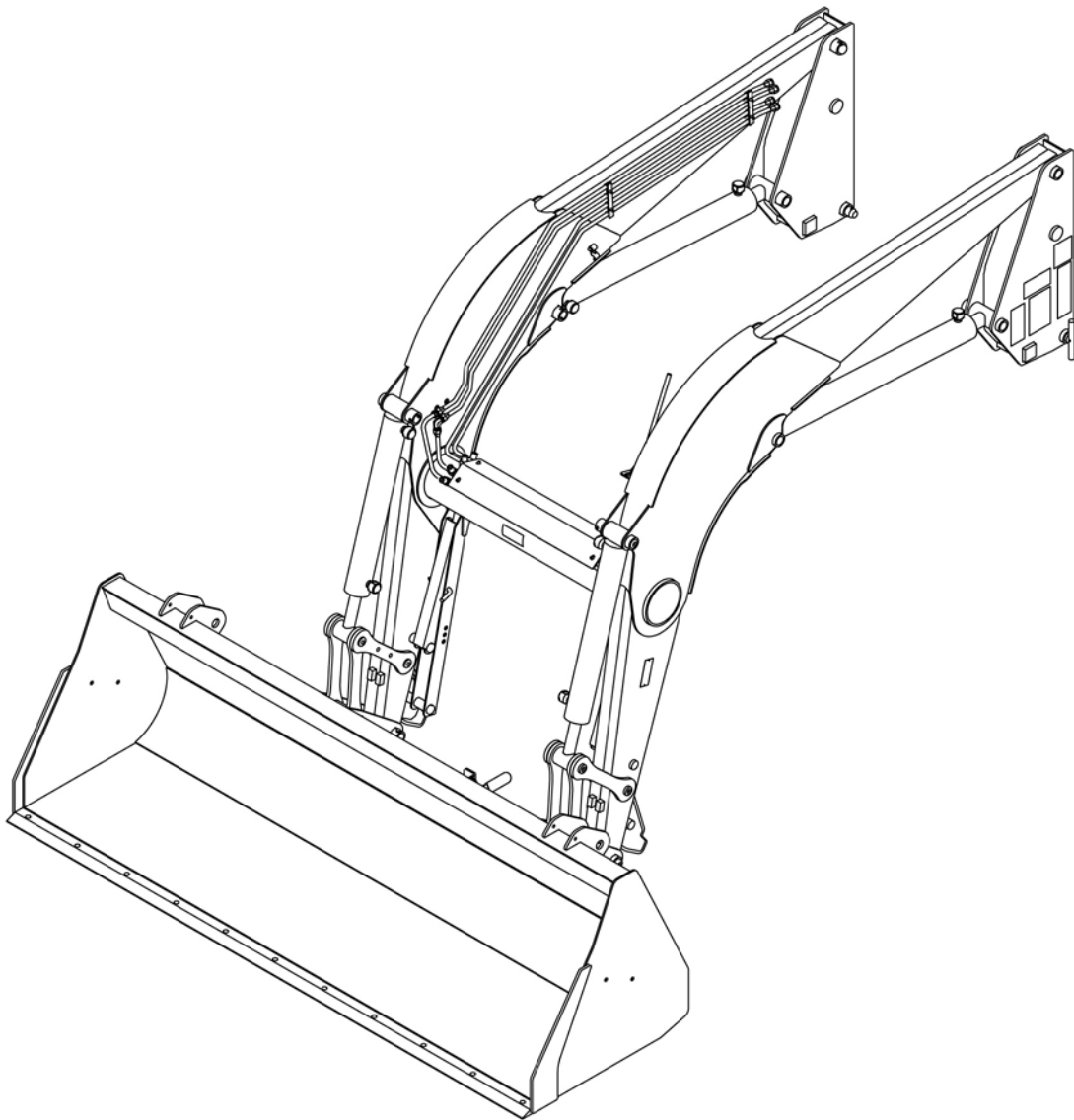


WOODS LOADERS

LF138

LF156



MAN0556

(Rev. 1/6/2011)

WOODS®

Tested. Proven. Unbeatable.

OPERATOR'S MANUAL

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the online Product Registration form at the Woods Dealer Website which certifies that all Dealer Check List items have been completed. Please contact your dealer to complete this form. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

Failure to register the product does not diminish customer's warranty rights.

TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized Woods dealer has trained mechanics, genuine Woods service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine Woods service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model: _____ **Date of Purchase:** _____

Serial Number: (see Safety Decal section for location) _____

Provide this information to your dealer to obtain correct repair parts.

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



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**IMPORTANT
or NOTICE**

Is used to address practices not related to personal injury.

NOTE

Indicates helpful information.

WOODS®


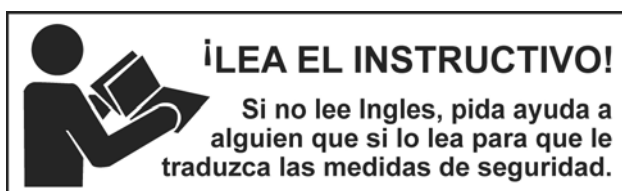
ALITEC™
BMP®
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WAIN-ROY®
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2 Introduction

Gen'l (Rev. 3/5/2010)

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This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

GENERAL INFORMATION

The purpose of this manual is to assist you in operating and maintaining your loader. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing, but due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

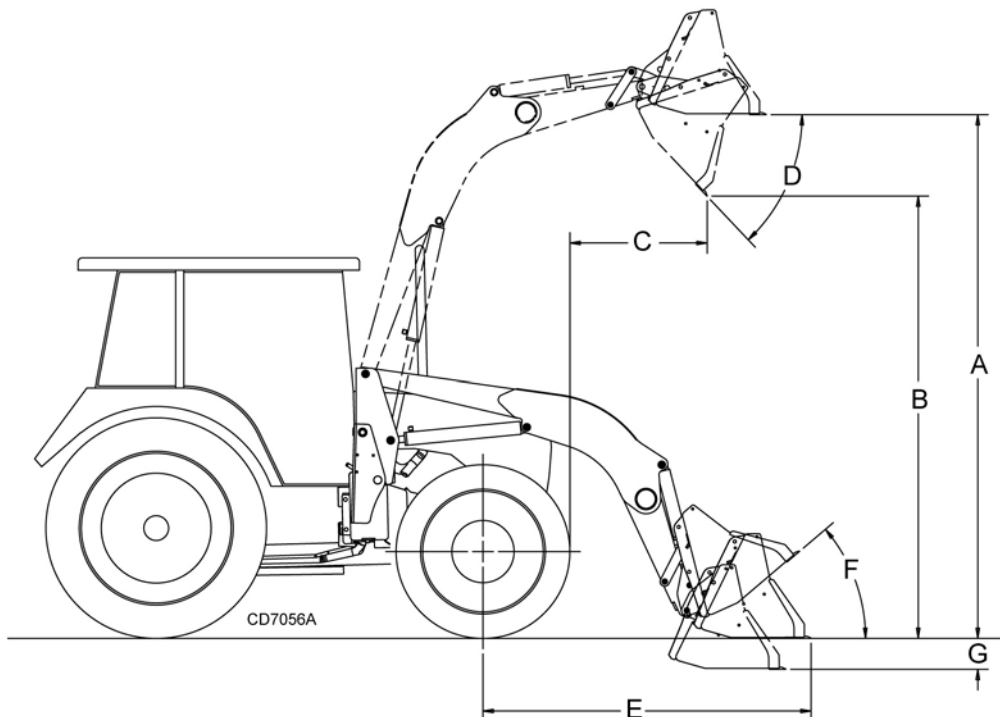
Throughout this manual, references are made to right and left directions. These are determined by standing behind the equipment facing the direction of forward travel.

SPECIFICATIONS

Specifications will vary with tractor, tire size, hydraulic system and bucket used. The specifications are given for a loader equipped with a 84" (LF138) and 96" (LF156) material bucket, operated with an average tractor hydraulic system of 10-20 gpm with engine operating at rated PTO rpm and a control valve relief setting of 2750 psi.

	Model LF138	Model LF156
A Maximum Lift Height	138"	156"
B Clearance with Attachment Dumped	103"	121"
C Reach at Maximum Height	32"	36"
D Maximum Dump Angle	50°	50°
E Reach with Attachment on Ground	85"	94"
F Attachment Rollback Angle	35°	35°
G Digging Depth	6"	6"
Overall Height in Carrying Position	74"	81"
Length of Attachment	42"	42"
Lift Capacity to Full Height at Bucket Pin	4280 lbs.	4850 lbs.
Lift Capacity to Full Height - 31.5" Forward of Bucket Pin	2940 lbs.	3480 lbs.
Breakout Capacity at Bucket Pin	6410 lbs.	7140 lbs.
Breakout Capacity - 31.5" Forward of Bucket Pin	4440 lbs.	4990 lbs.
System Pressure Tested	2750 psi	2750 psi
Recommended Hydraulic Flow	10-20 gpm	12-25 gpm
Recommended Tractor PTO Horsepower	65-105 hp	85-140 hp
Lift Cylinder Bore	2.76"	2.95"
Bucket Cylinder Bore	2.76"	2.76"

BUCKET	HEAPED CAPACITY	WEIGHT
84" QA	28.7 cu. ft.	690 lbs.
84" Pin	28.7 cu. ft.	660 lbs.
96" QA	33.0 cu. ft.	760 lbs.



LIFT CAPACITY & BREAKOUT VS PRESSURE

Pressure (psi)	LF138 Lift Capacity at Bucket Pin (lbs.)	LF138 Breakout 31.5" Forward of Bucket Pin (lbs.)	LF156 Lift Capacity at Bucket Pin (lbs.)	LF156 Breakout 31.5" Forward of Bucket Pin (lbs.)
2250	3160	3410	3700	3820
2500	3720	3920	4270	4400
2750	4280	4440	4850	4990

Capacities measured in accordance with ASAE S301.4

ATTACHMENTS APPROVED FOR USE ON LF138 & LF156 LOADERS

Description	Model	Weight
Agricultural Grapple Attachment	GF5000	700 lbs.
Bale Spear	BS32E	275 lbs.
Bale Clamp	BC22E	570 lbs.
Pallet Fork	PF6048E	600 lbs.



SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



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

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

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

INSTALLATION

■ During installation, the tractor engine should be off, the key removed and the brakes locked. Do not disconnect hydraulic lines until attachments are removed or lowered to the ground and system pressure is released by operating valve levers. Never operate any hydraulic cylinders during any phase of the installation process.

■ After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.

TRAINING

■ Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.

■ If you do not understand any part of this manual and need assistance, see your dealer.

■ Know your controls and how to stop engine and attachment quickly in an emergency.

■ Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles.

Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ Never allow children or untrained persons to operate equipment.

PREPARATION

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

■ Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.

■ After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.

■ Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.

■ Protective hose sleeves must cover all hydraulic hoses within 20 inches of the operator and be secured onto metal hose fittings. Replace hoses or sleeves if damaged or if protective sleeve cannot be properly positioned or secured.

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

■ Make sure attachment is properly secured, adjusted, and in good operating condition.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- To provide stability, add tractor manufacturer's recommended wheel ballast or rear weight.
- Move wheels to tractor manufacturer's widest recommended setting to increase stability. Do not use loader on tractors with single or double centered front wheels.
- To help prevent tractor/loader instability, never exceed the capacity of the tractor/loader used with the pallet fork. To increase stability, adjust tires to maximum possible width.
- Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.

OPERATION

- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Improper use of a loader can cause injury or death.
- Consult local utilities before working. Know location of all underground cables, pipelines, overhead wires, and other hazards in working area and avoid contact.
- The bale spear is to be used only for handling bales. Do not use for digging rocks, pulling out fence, or as a craning device with a chain over the spear.
- Do not attempt to lift loads in excess of the loader capacity.
- Keep bystanders away from equipment.
- Do not walk or work under a raised loader, bucket, or attachment.
- Never allow anyone to get under the loader bucket or reach through the lift arms when the bucket is raised.

- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Operate only in daylight or good artificial light.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders. Do not lift or carry anybody on the loader or in the bucket or attachments.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.
- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Avoid loose fill, rocks, and holes. They can be dangerous for loader operation or movement.
- Stop the loader arms gradually when lowering or lifting.
- Use caution when handling loose or shiftable loads.
- Allow for extra attachment length and width when making turns.
- The grapple fork is a clamping device and should be used to clamp loose hay, straw, or silage. It is not to be used to dig material loose from a pile.
- **AVOID INJURY OR DEATH FROM POWER LINES:**
 - Stay away from power lines.
 - Electrocutation can occur without direct contact.
 - Check clearances before raising attachment.
 - Consult local utilities before digging. Know location of and avoid contacting all underground cables, pipelines, overhead wires, and other hazards in digging area.
 - Do not leave the operator's seat if any part of the power unit or attachment contacts electric lines or underground cables.

(Safety Rules continued on next page)

(Rev. 9/17/20107)

1020 Loader SR (Rev. 2/16/2007)

Safety 7

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

■ AVOID INJURY OR DEATH FROM ROLLOVER ACCIDENTS:

- Move and turn tractor at less than 6 mph (10 km/h).
- Watch for hidden hazards such as holes, ditches, and other obstructions which may cause tractor and loader to tip over.
- Carry loads close to the ground to aid visibility and lower center of gravity for improved stability.
- Balance loads so weight is evenly distributed and load is stable.
- Be extra careful when operating on a slope.
- Do not operate on steep slopes.
- Do not stop, start or change directions suddenly on slopes.
- If loader is equipped with round bale attachments, always approach bale with tractor facing uphill.
- Be sure tractor tire spacing and rear ballast is correct before using loader.
- Tractor must be equipped with a Roll-Over Protective Structure (ROPS) and seat belt. Keep seat belt securely fastened and keep foldable ROPS systems in “locked up” position at all times.

■ AVOID INJURY OR DEATH FROM FALLING BALES AND OTHER OBJECTS:

- Do not carry hay bales, logs, fence posts, stones, or any other loose objects that can roll, shift, or fall from a raised bucket and crush operator or bystanders.
- Do not handle round bales unless loader is equipped with approved bale handling attachment.
- Handle raised loads with caution.
- Carry loads low and drive slowly.

MAINTENANCE

■ Never work under a raised loader. Always lower loader to the ground with bucket or loader attachment in full roll-back position. Shut off tractor, set parking brake, and remove key. Operate valve levers to release any hydraulic pressure. If loader obstructs tractor maintenance, loader must be removed from tractor.

■ Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.

■ Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.

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

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

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

■ Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

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

■ Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.

■ When servicing or replacing pins in cylinder ends, buckets, etc., always use a brass drift and hammer. Failure to do so could result in injury from flying metal fragments.

STORAGE

■ Block equipment securely for storage.

■ Stored loader can fall and cause serious injury or death. Securely store loader and attachments to prevent falling.

■ To help prevent injury caused by a falling implement, always detach on a hard level surface.

■ Secure equipment parking stand(s) in park position before detaching.

■ To provide necessary balance, loader frame must be equipped with bucket or attachment before attaching or detaching from tractor, or when loader is in stored position.

■ To help prevent personal injury from exposed fork tines, always store bale spear with tines pointed down, or against bale, building or other stable object.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- Do not loosen hydraulic fittings or hoses while loader is in stored position.
- Do not climb or lean on equipment stored on stand.
- Keep children and bystanders away from storage area.
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.



SAFETY & INSTRUCTIONAL DECALS



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
Replace Immediately If Damaged!



1 - SERIAL NUMBER PLATE



7 - PN 56053

! DANGER

Serious injury or death can result from contact with electrical lines.

! DANGER

ROLLOVERS CAN RESULT IN INJURY OR DEATH

- Always use ROPS and seat belt.
- Add rear tractor ballast.
- Move wheels to widest setting.
- Avoid slope operation.
- Operate at low speeds.
- Carry load low.

56053-A

6 - PN 56051

! WARNING

- Read and understand Operator's Manual before operating. (Replacement manuals are available from dealer or, in the United States and Canada, call 1-800-319-6637.)
- Keep others away when operating loader.
- Do not allow children or untrained persons to operate equipment.
- Lower loader to ground, stop engine, set park brake and remove key before leaving tractor seat.
- Failure to follow safety rules can result in serious injury or death.

56051-A

9 - PN 56052

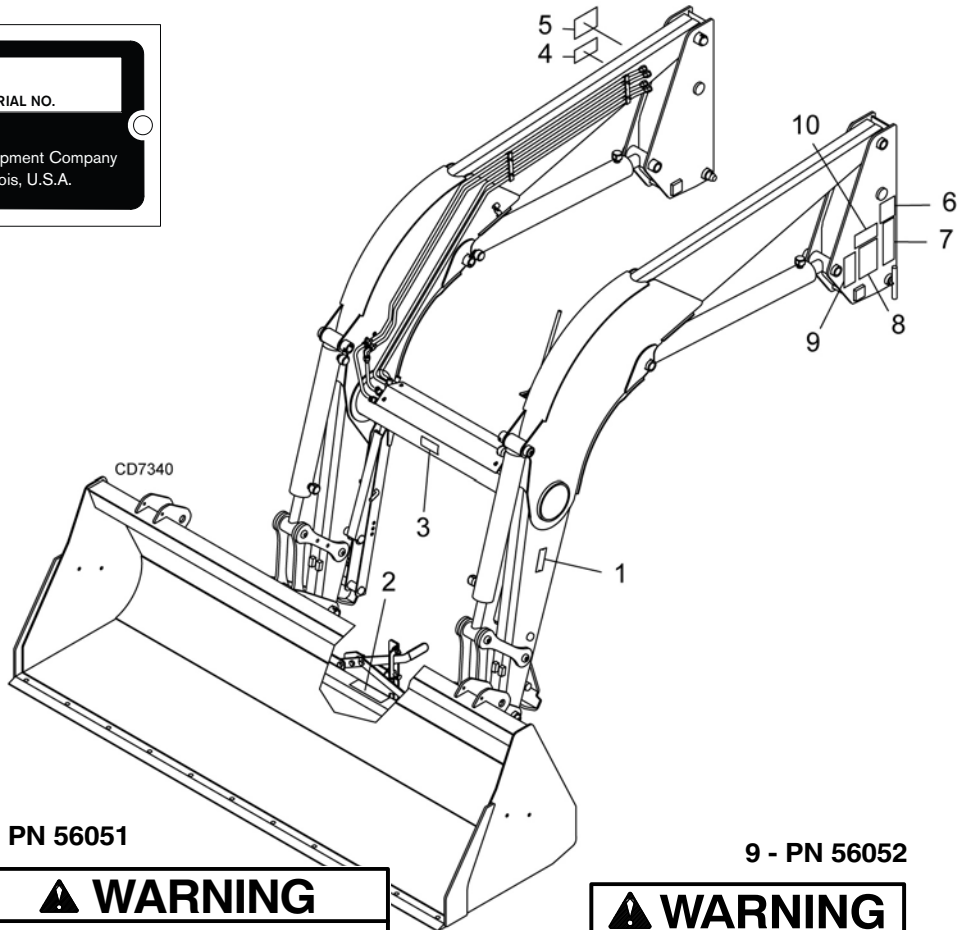
! WARNING

FALLING LOAD HAZARD

To avoid injury or death

- Do not handle round bale or other shiftable load unless loader is equipped with approved attachments. (Read Operator's Manual.)
- Lift and carry only one bale at a time.
- Handle raised load with caution.
- Carry load low.

56052-A



4 - PN 19924

! WARNING

HIGH-PRESSURE HYDRAULIC OIL LEAKS CAN PENETRATE SKIN RESULTING IN SERIOUS INJURY, GANGRENE OR DEATH.

- Check for leaks with cardboard; never use hand.
- Before loosening fittings: lower load, release pressure, and be sure oil is cool.
- Consult physician immediately if skin penetration occurs.

19924-B



SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!

5 - PN 56050

⚠ WARNING	⚠ WARNING
CRUSHING HAZARD To avoid injury or death:	FALLING HAZARD To avoid injury or death:
<ul style="list-style-type: none"> Do not walk or work underneath a raised loader. Lower loader to ground before leaving tractor seat. 	<ul style="list-style-type: none"> Do not work from or allow riders on loader or its attachments.
	<small>56050-A</small>

8 - PN 1025148A

<p>LOADER MOUNTING INSTRUCTIONS Read Operator's Manual instructions before proceeding.</p> <p>To Remove Loader:</p> <ol style="list-style-type: none"> Park tractor on a level surface with attachment about 1 inch off the ground. Set brake and shut off tractor. Remove lock-up pins and lower the parking stands. Install pins into the holes that most closely align. (Pin location is noted in Operator's Manual.) Remove mount pins from loader uprights. Restart tractor and retract lift cylinders. Roll back attachment to completely raise uprights from mounts. Shut off engine. Disconnect hydraulics. Back tractor away. Store mount pins in loader uprights. <p>To Mount Loader:</p> <ol style="list-style-type: none"> Remove mount pins from uprights. Drive tractor into loader slowly. Shut off tractor. Connect hydraulics. Restart tractor and dump attachment to lower uprights into mounts. Extend lift cylinders and install mount pins and clips. Set brake and shut off tractor. Rotate parking stands into storage position and secure with lock-up pins.
<small>1025148-A</small>

2 - PN 45024

⚠ WARNING
<p>LOADER ATTACHMENT CAN FALL OFF IF NOT PROPERLY ATTACHED.</p> <p>Only use loader manufacturer approved attachments. Failure to do so can cause serious injury or death.</p>
<small>45024-A</small>

BE CAREFUL!

10 - PN 1020371

⚠ WARNING
<ul style="list-style-type: none"> Operate loader from tractor seat only. Avoid loose fill, rocks and holes; they can be dangerous for loader operation or movement. Check for underground utilities before digging below grade level. Allow for loader length when making turns. Stop loader arms gradually when lowering or lifting. Park detached loader on a hard, level surface with all safety devices engaged according to Operator's Manual.
<small>1020371</small>

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replacement safety decals can be ordered free from your Woods dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

States and Canada call 1-800-319-6637.

3 - PN 1026268

⚠ WARNING
<p>LOADER ATTACHMENT CAN FALL OFF IF NOT PROPERLY ATTACHED.</p> <ul style="list-style-type: none"> Read operator's manuals for instructions. Position and align loader to attachment. Rotate coupler handle to full locked position. Lockpins must fully extend into hole of attachment lugs and coupler sleeves. Attachment mechanism must be functional and in good repair. Only use loader manufacturer approved attachments. For information on approved attachments, call 1-800-319-6637. <p>Failure to follow these instructions could result in serious injury or death.</p>
<small>1026268</small>

OPERATION

Be familiar with and follow all safety rules and safety decals in the manual, on the loader, and on the tractor.

The safe operation of this loader is the responsibility of the operator, who must be properly trained. The operator should be familiar with the equipment and all safety practices before starting operation. Read the safety rules and safety decals on pages 6 through 11.

DANGER

■ AVOID INJURY OR DEATH FROM POWER LINES:

- Stay away from power lines.
- Electrocutation can occur without direct contact.
- Check clearances before raising attachment.
- Consult local utilities before digging. Know location of and avoid contacting all underground cables, pipelines, overhead wires, and other hazards in digging area.
- Do not leave the operator's seat if any part of the power unit or attachment contacts electric lines or underground cables.

WARNING

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

■ Move wheels to tractor manufacturer's widest recommended setting to increase stability. Do not use loader on tractors with single or double centered front wheels.

■ To provide stability, add tractor manufacturer's recommended wheel ballast or rear weight.

■ Never allow children or untrained persons to operate equipment.

■ Keep bystanders away from equipment.

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

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

WARNING

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

■ AVOID INJURY OR DEATH FROM FALLING OBJECTS:

- Do not carry shiftable items. Hay bales, logs, fence posts, stones, and other objects can roll or fall from a raised attachment and crush operator or bystanders.
- This unit is not equipped with any method to prevent objects such as round bales, posts, or logs from rolling back onto operator.
- Do not handle round hay bales.
- Carry loads low and drive slowly.
- Do not carry large objects that can fall out of attachment into operator zone.
- Never lift load higher than necessary to clear the ground when moving.

CAUTION

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

TRACTOR PREPARATION

Before operating the loader, extra weight should be added to the rear of the tractor with rear wheel weights or liquid ballast for optimum stability. Refer to your tractor operator's manual for weight information.

The tractor rear wheels should be moved to the tractor manufacturer's widest recommended settings to increase the stability of the tractor.

For safety in preventing injury or death from rollover accidents, the tractor must be equipped with an approved ROPS or ROPS cab and seat belt.

Pin-on bucket must be securely attached to the loader using pins and retaining hardware supplied with the bucket.

CONNECT BUCKET OR ATTACHMENT USING QUICK ATTACH COUPLER

Position the hydraulic hoses so they will not be pinched when connecting the attachment.

The quick attach coupler handle should be in the unlocked (open) position with lock pins retracted, Figure 1.

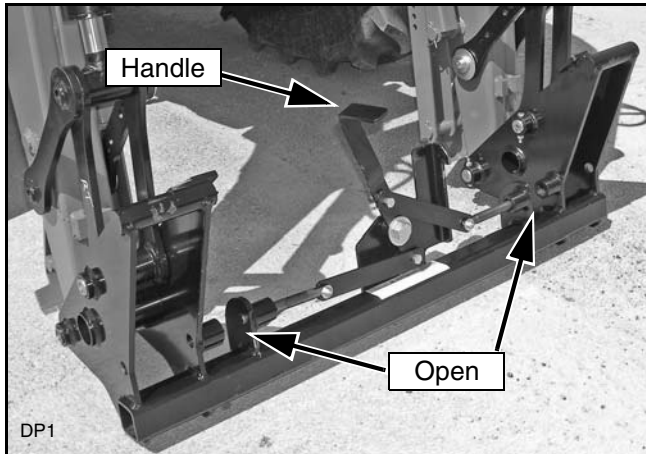


Figure 1. Quick Attach Coupler Handle - Unlocked

Move to the operator seat, fasten seat belt, and start engine.

Lower loader lift arms to their lowest position.

Carefully move and align the quick attach coupler to the bucket or attachment. The top of the quick attach coupler must completely engage the attachment or bucket hook, Figure 2.

Roll the attachment coupler into the attachment flange so the coupler handle can be engaged.

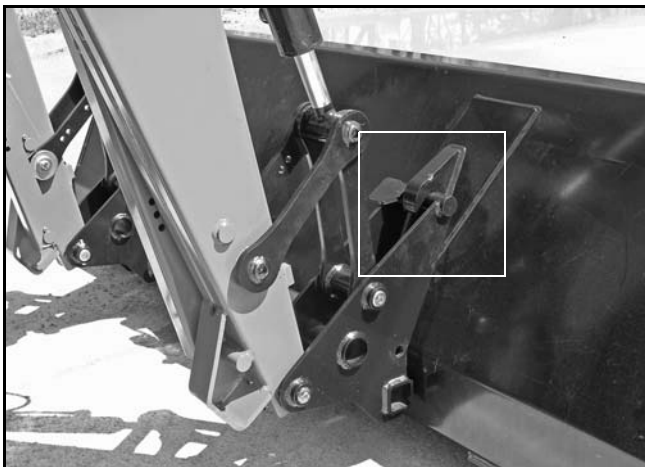


Figure 2. Connecting Bucket or Attachment to Loader

Shut off the engine, set brake, remove key, and remove seat belt. Dismount the tractor.

Move the attachment coupler handle to the locked (closed) position. The lockpins must be completely extended and secured into the retaining slots, Figure 3.

! WARNING

■ Attachment coupler handles must always be rotated to LOCK POSITION to prevent coupler latch from disengaging and attachment from falling off.

Connect hydraulic hoses to loader auxiliary quick couplers (optional).

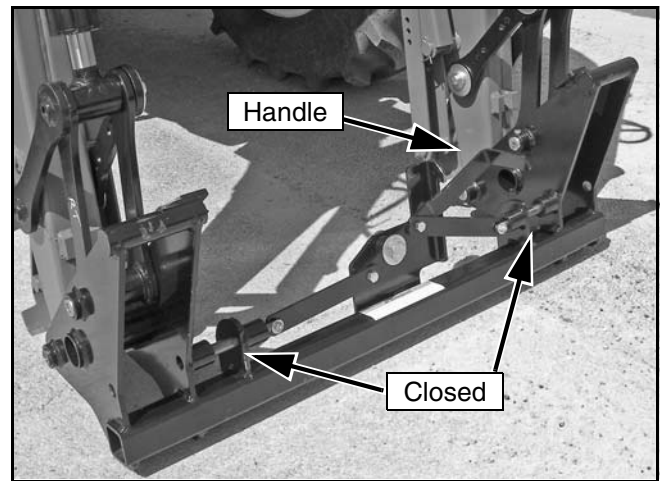


Figure 3. Attachment Coupler Handle - Locked

LOADER OPERATION

! WARNING

■ Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.

The loader should be operated with the tractor engine running at a safe RPM. Excessive speeds are dangerous, and may cause bucket spillage and unnecessary strain on the tractor and loader.

Filling Bucket

1. Approach and enter the pile with a level bucket.

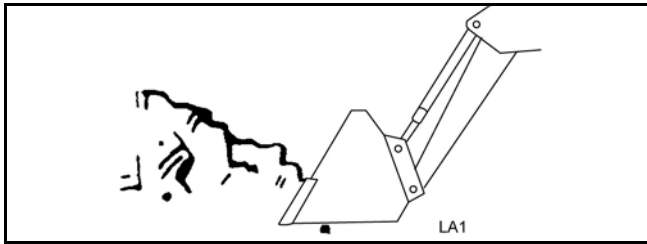


Figure 4. Filling Bucket

2. Loaders with single handle controls: Ease the lever back and toward you to lift and roll back the bucket, Figure 5.

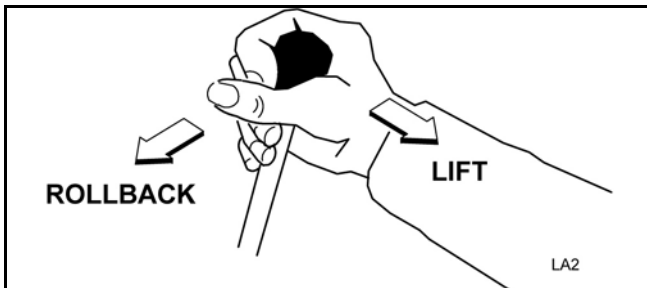


Figure 5. Single Handle Control

3. Lift and rollback bucket.

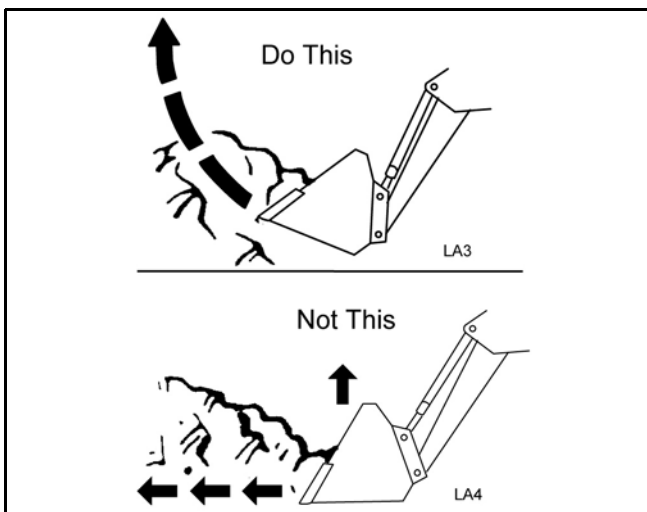


Figure 6. Lift and Rollback Bucket

The lift and rollback of the bucket will increase efficiency because maintaining a level bucket throughout the lifting cycle resists bucket lift and increases break-away effort, Figure 6.

NOTE: Do not be concerned if the bucket is not completely filled during each pass. Maximum productivity is determined by the amount of material loaded in a given period of time. Time is lost if two or more attempts are made to fill the bucket on each pass.

Lifting Load

WARNING

- Do not attempt to lift loads in excess of the loader capacity.

When lifting the load, keep the bucket positioned to avoid spillage, Figure 7.

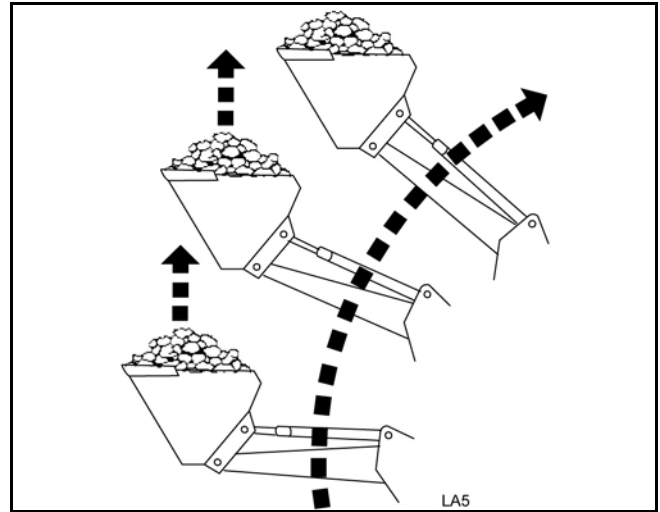


Figure 7. Lifting Load

Carrying Load

Position the bucket just below the level of the tractor hood for maximum stability and visibility, whether the bucket is loaded or empty, Figure 8.

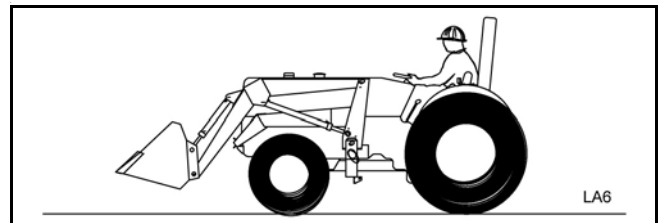


Figure 8. Carrying Load

Operating on a Slope

WARNING

- AVOID INJURY OR DEATH FROM ROLLOVER ACCIDENTS:

- Move and turn tractor at less than 6 mph (10 km/h).
- Watch for hidden hazards such as holes, ditches, and other obstructions which may cause tractor and loader to tip over.
- Carry loads close to the ground to aid visibility and lower center of gravity for improved stability.
- Balance loads so weight is evenly distributed

and load is stable.

- Be extra careful when operating on a slope.
- Do not operate on steep slopes.
- Do not stop, start or change directions suddenly on slopes.
- If loader is equipped with round bale attachments, always approach bale with tractor facing uphill.
- Be sure tractor tire spacing and rear ballast is correct before using loader.
- Tractor must be equipped with a Roll-Over Protective Structure (ROPS) and seat belt. Keep seat belt securely fastened and keep foldable ROPS systems in “locked up” position at all times.

Use extreme care when operating the loader on a slope, keeping the bucket as low as possible. This will maintain a low center of gravity for the bucket and tractor and will provide maximum tractor stability.

When transporting the load, keep the bucket as low as possible to avoid tipping in case a wheel drops in a rut.

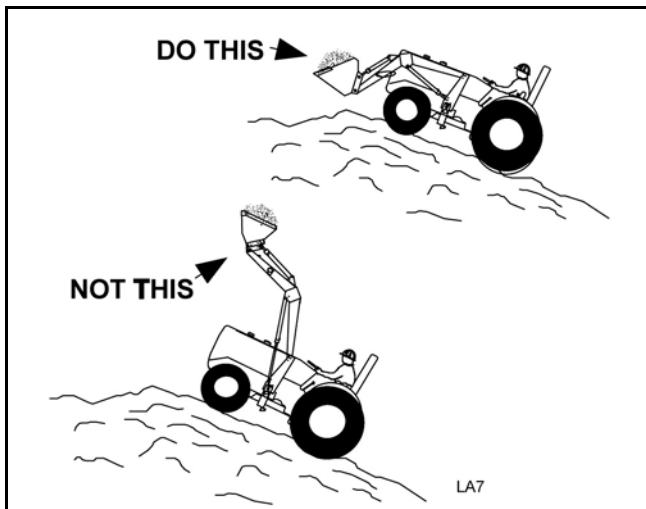


Figure 9. Operating on a Slope

Dumping Bucket

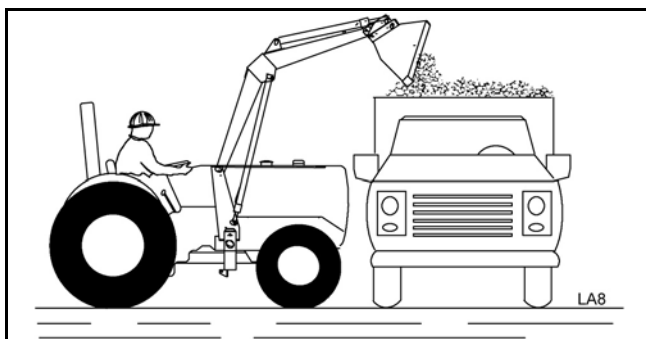


Figure 10. Dumping Bucket

Lift the bucket high enough to clear the side of the vehicle. Move the tractor in as close as possible, then dump the bucket. See Figure 10.

Lowering Bucket

After the bucket is dumped, back away from the vehicle while lowering and rolling back the bucket.

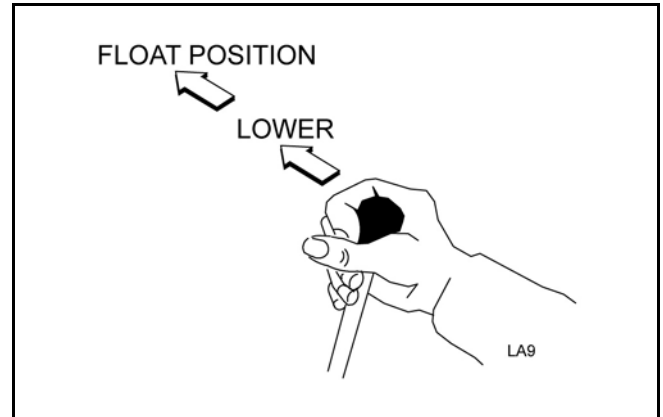


Figure 11. Control Handle Function

Operating with Float Control

During hard surface operation, keep the bucket level and put the lift control in the float position to permit the bucket to float on the working surface. If hydraulic down pressure is exerted on the bucket, it will wear faster than normal.

The float will also prevent the mixing of surface material with stockpile material. The float position will reduce the chance of surface gouging when removing snow or other material.

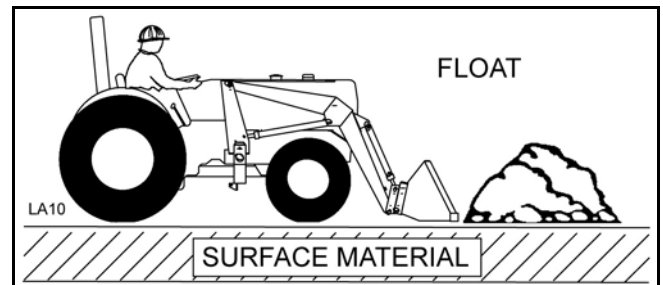


Figure 12. Float Position

Loading from a Bank

See Figure 13.

Exercise caution when undercutting high banks. Dirt slides can be dangerous. Load the bucket from as low a position as possible for maximum efficiency. Loader lift and break-away capacity diminish as loading height is increased.

Keep the bucket level when approaching a bank or pile. This will help prevent gouging in the work area.

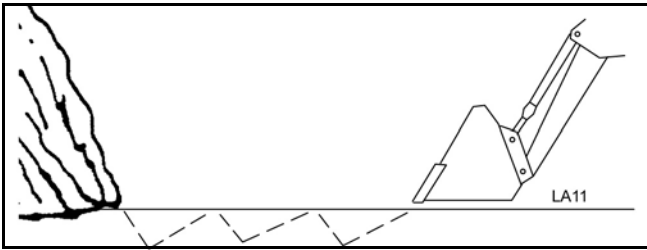


Figure 13. Loading from a Bank

Peeling and Scraping

Use a slight bucket angle, travel forward, and hold the lift control forward to start the cut. Make a short 5-inch to 8-inch angle cut and break-out cleanly, Figure 14.

With the bucket level, start a cut at the notch approximately 2 inches deep. Hold the depth by feathering the bucket control to adjust the cutting lip up or down. When the front tires enter the notch, adjust the lift cylinder to maintain proper depth, Figure 15.

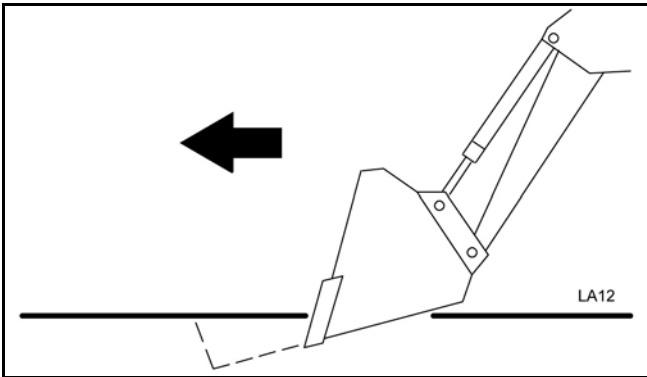


Figure 14. Angle Cut

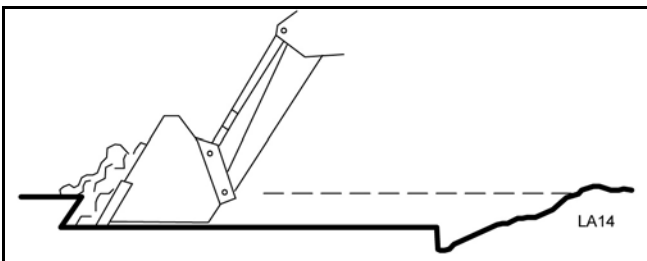


Figure 15. Peeling/Scraping

Make additional passes until the desired depth is reached. During each pass, only use the bucket control while at working depth. This will allow you to concentrate on controlling the bucket angle to maintain a precise cut, Figure 16.

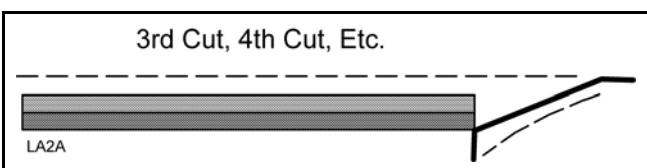


Figure 16. Additional Passes

Loading Low Trucks or Spreaders from a Pile

For easier loading, minimize the angle of turn and length of run between pile and spreader, Figure 17.

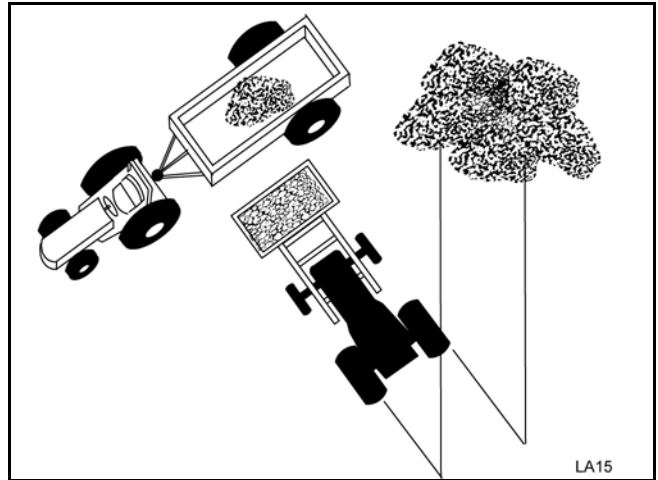


Figure 17. Loading

Backgrade occasionally with a loaded bucket to keep the working surface free of ruts and holes. Also, hold the lift control forward so the full weight of the bucket is scraping the ground. Use the heel of the bucket.

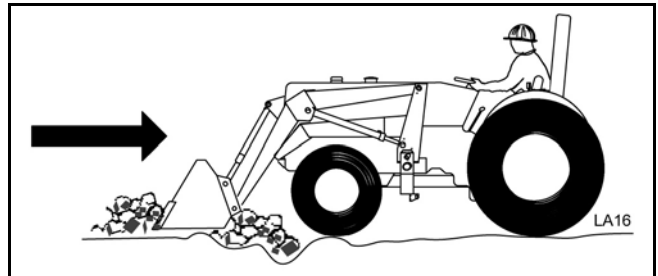


Figure 18. Backgrading

Backblading

Position the bucket at an angle of less than 45 degrees and back up slowly, Figure 19.

Backgrading with the bucket tilted too far will result in damage to bucket cylinders and void warranty, Figure 20.

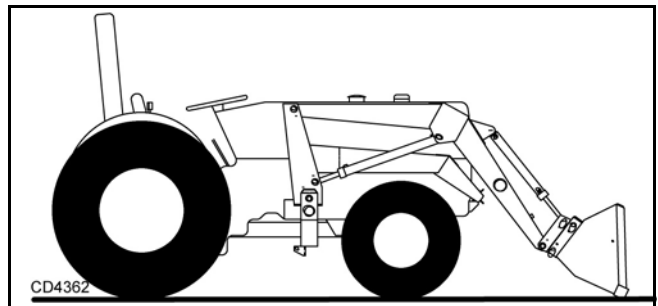


Figure 19. Backblading

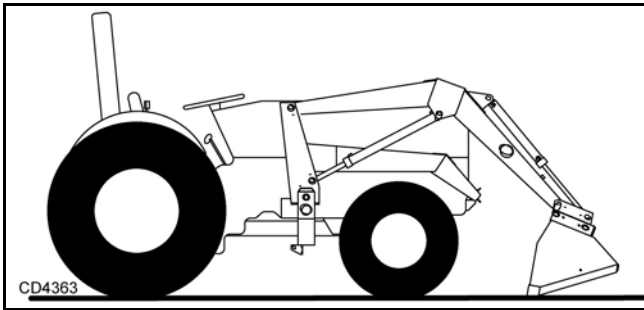


Figure 20. Bucket Tilted too Far

Backfilling

1. Approach the pile with a flat bucket, Figure 21.

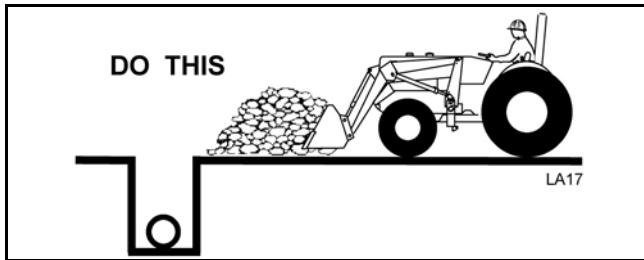


Figure 21. Backfilling Correctly

2. Do not use the bucket in the dump position for bulldozing. This method will impose severe shock loadings on the dump linkage, the bucket cylinder, and the tractor, Figure 22.

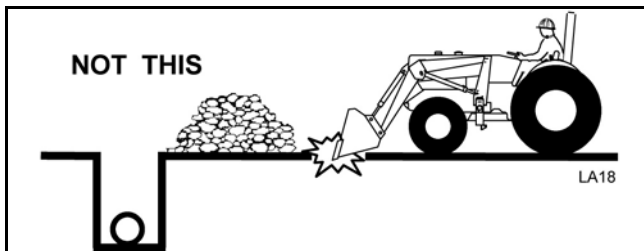


Figure 22. Incorrect Bucket Position for Backfilling

3. Leave dirt in the bucket because dumping on each pass wastes time.
4. Operate at right angles to the ditch. Take as big a bite as the tractor can handle without lugging down.
5. Leave dirt that drifts over the side of the bucket for final clean-up.
6. Pile dirt on the high side for easier backfilling on a slope.

HANDLING OBJECTS

⚠ WARNING

■ AVOID INJURY OR DEATH FROM FALLING BALES AND OTHER OBJECTS:

- Do not carry hay bales, logs, fence posts, stones, or any other loose objects that can roll, shift, or fall from a raised bucket and crush operator or bystanders.
- Do not handle round bales unless loader is equipped with approved bale handling attachment.
- Handle raised loads with caution.
- Carry loads low and drive slowly.

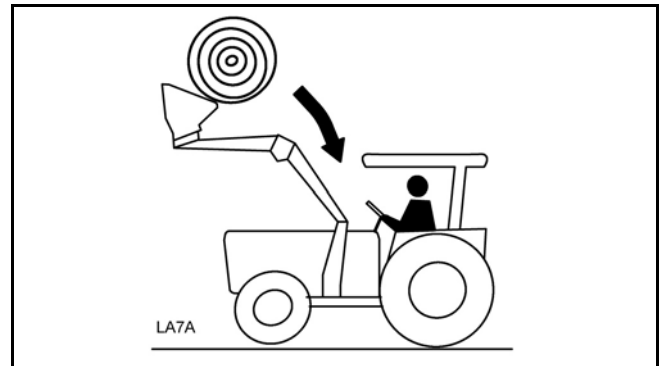


Figure 23. Avoid Falling Loads

FORKLIFT OPERATION

⚠ WARNING

- To avoid injury or death from bale rolling back down loader, do not handle round bales with the pallet fork.

⚠ CAUTION

- To help prevent tractor/loader instability, never exceed the capacity of the tractor/loader used with the pallet fork. To increase stability, adjust tires to maximum possible width.

Use the pallet fork to move pallets, bulk bins, crates, boxes and hampers.

Do not use for shiftable loads such as logs or poles. Do not use for digging rocks or lifting concrete slabs.

GRAPPLE OPERATION

The grapple fork is a clamping device and should be used to clamp loose hay, straw, or silage. It is not to be used to dig material loose from a pile.

! WARNING

■ AVOID INJURY OR DEATH FROM ROLLOVER ACCIDENTS:

- Move and turn tractor at less than 6 mph (10 km/h).
- Watch for hidden hazards such as holes, ditches, and other obstructions which may cause tractor and loader to tip over.
- Carry loads close to the ground to aid visibility and lower center of gravity for improved stability.
- Balance loads so weight is evenly distributed and load is stable.
- Be extra careful when operating on a slope.
- Do not operate on steep slopes.
- Do not stop, start or change directions suddenly on slopes.
- If loader is equipped with round bale attachments, always approach bale with tractor facing uphill.
- Be sure tractor tire spacing and rear ballast is correct before using loader.
- Tractor must be equipped with a Roll-Over Protective Structure (ROPS) and seat belt. Keep seat belt securely fastened and keep foldable ROPS systems in "locked up" position at all times.

■ AVOID INJURY OR DEATH FROM FALLING BALES AND OTHER OBJECTS:

- Do not carry hay bales, logs, fence posts, stones, or any other loose objects that can roll, shift, or fall from a raised bucket and crush operator or bystanders.
- Do not handle round bales unless loader is equipped with approved bale handling attachment.
- Handle raised loads with caution.
- Carry loads low and drive slowly.

! WARNING

■ Use caution when handling loose or shiftable loads.

Never handle large, heavy objects due to the dangers of rolling the tractor over, upending the tractor, and having the object roll or slide down the loader arms onto the operator.

Never lift loader higher than necessary to clear the ground. When necessary, ballast the tractor rear to compensate for load. Never lift large objects. Move slowly and carefully. Avoid rough terrain. Stop the loader gradually when lowering or lifting loads.

For loose hay or other materials, adjust the mounting arms and the grapple teeth in the position that provides the best performance.

Set the rear tractor wheels to the widest recommended setting. Add enough ballast at the rear end so at least 50% of the original rear wheel weight is maintained when the load in the loader is at transport height.

Always carry the load on level ground or directly uphill. Never move along a side hill or directly downhill when a load is carried.

Make sure the grapple is holding the load securely so it cannot roll backwards or sideways.

Never carry a round bale in a bucket without a properly operating and adjusted grapple.

Picking Up a Round Bale with Grapple

Approach bale with grapple open, bucket level and close to the ground. Work bucket under bale until bale is against grapple frame. Close grapple, raise and roll back just high enough to provide ground clearance for transport.

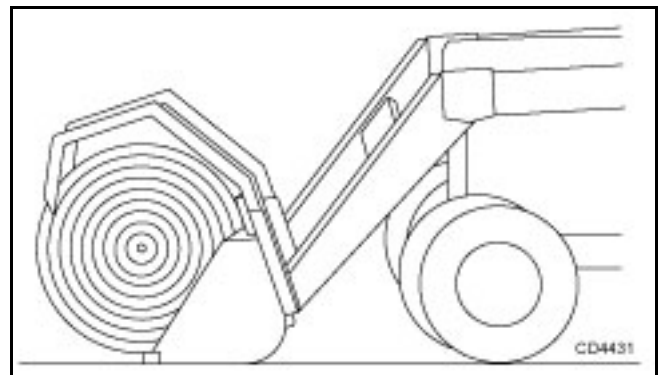


Figure 24. Pick Up Round Bale

Picking Up Round Bale on Slope with a Grapple

To help prevent injury caused by tractor rollover when handling round bales on a slope, avoid side slope travel whenever possible. Drive up slope to pick up bale and back down in reverse. Transport bale as close to the ground as possible.

Approach bale with tractor facing uphill, grapple open, bucket level and close to the ground.

Work bucket under bale until bale is against grapple frame. Close grapple.

Raise and roll bale back just high enough to provide ground clearance for transport.

Select low tractor speed before moving or turning on a slope.

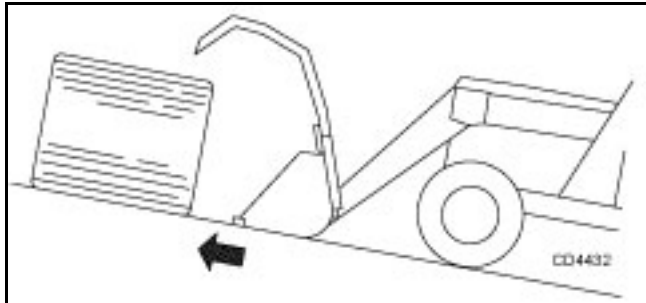


Figure 25. Picking Up Round Bale on a Slope

Transporting a Round Bale with Grapple

Carry bale low and slightly rolled back.

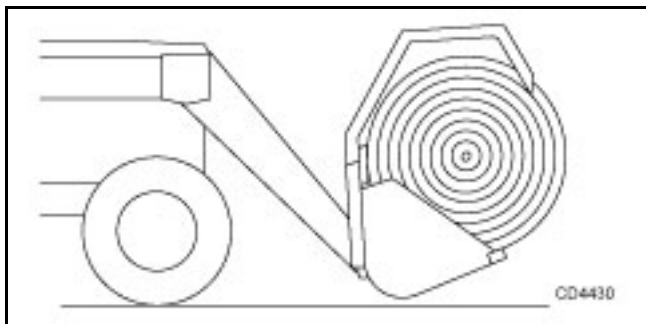


Figure 26. Transporting a Round Bale

Removing Hay & Silage from a Pile with Grapple Fork

! WARNING

■ The grapple fork is a clamping device and should be used to clamp loose hay, straw, or silage. It is not to be used to dig material loose from a pile.

NOTICE

■ Using the grapple teeth to dig material out of a pile will damage the grapple or loader. The grapple is designed only to clamp material in a bucket. Use the bucket to break material loose.

If possible, remove material from the top of the pile first. Use the loader bucket to break material loose. Equip the bucket with teeth for better loosening action in packed silage. After material is loosened, close grapple, Figure 27.

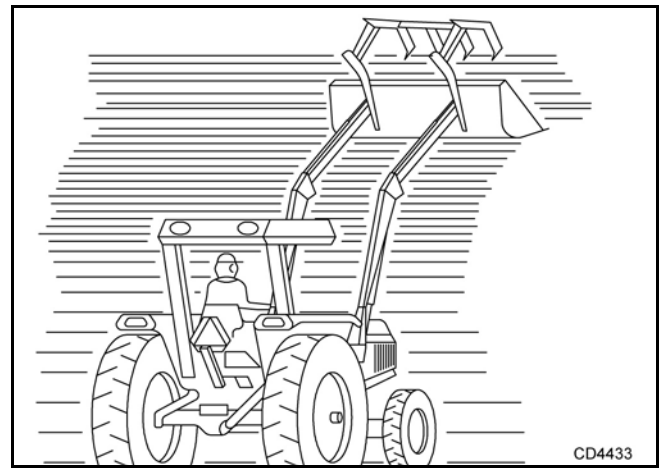


Figure 27. Removing Hay and Silage from a Pile with a Grapple Fork

Dumping into Truck, Wagon & Spreaders

Use extreme care when dumping into trucks, wagons, spreaders, etc. when grapple is attached to bucket.

Open grapple teeth will swing a wide radius beyond bucket and can damage or puncture the opposite sides of these implements, out of the operator's sight.

BALE SPEAR OPERATION

! WARNING

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

■ To provide stability, add tractor manufacturer's recommended wheel ballast or rear weight.

■ Move wheels to tractor manufacturer's widest recommended setting to increase stability. Do not use loader on tractors with single or double centered front wheels.

■ Stop the loader arms gradually when lowering or lifting.

■ **AVOID INJURY OR DEATH FROM FALLING BALES AND OTHER OBJECTS:**

- Do not carry hay bales, logs, fence posts, stones, or any other loose objects that can roll, shift, or fall from a raised bucket and crush operator or bystanders.
- Do not handle round bales unless loader is equipped with approved bale handling attachment.
- Handle raised loads with caution.
- Carry loads low and drive slowly.

CAUTION

■ To help prevent personal injury from exposed fork tines, always store bale spear with tines pointed down, or against bale, building or other stable object.

The bale spear is to be used only for handling round bales. Do not use for digging rocks, pulling out fence, or as a craning device with a chain over the spear.

Picking Up a Round Bale with Bale Spear

Approach bale with spike level and centered on bale. Push spike into bale until bale is against the frame. Raise and roll bale back just high enough to provide ground clearance for transport, Figure 28.

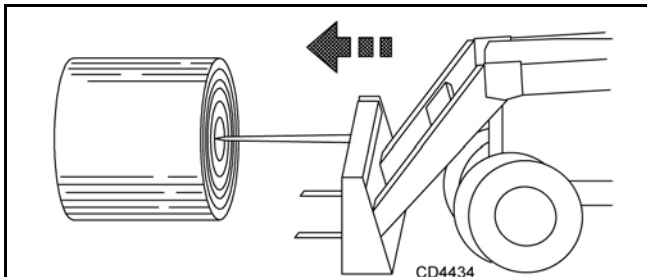


Figure 28. Picking Up a Round Bale

Picking Up Round Bale on a Slope with Bale Spear

To help prevent injury caused by tractor rollover when handling round bales on a slope, avoid side slope travel whenever possible. Drive up slope to pick up bale and back down in reverse. Transport bale as close to the ground as possible.

Approach bale with tractor facing uphill, spike level and centered on bale. Push spike into bale until bale is against the frame. Raise and roll bale back just high enough to provide ground clearance for transport. Select low tractor speed before moving or turning on a slope, Figure 29.

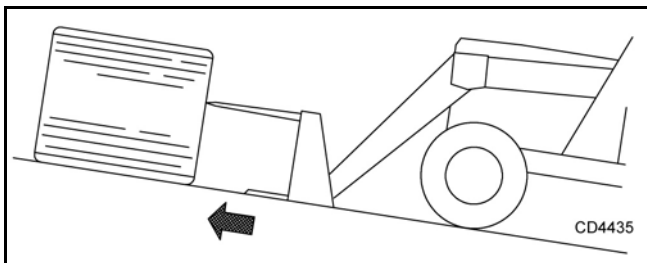


Figure 29. Picking Up Round Bale on a Slope

Transporting a Round Bale

To help prevent personal injury or accident caused from a bale falling off the spike, carry the bale low and slightly rolled back. Travel slowly over rough ground.

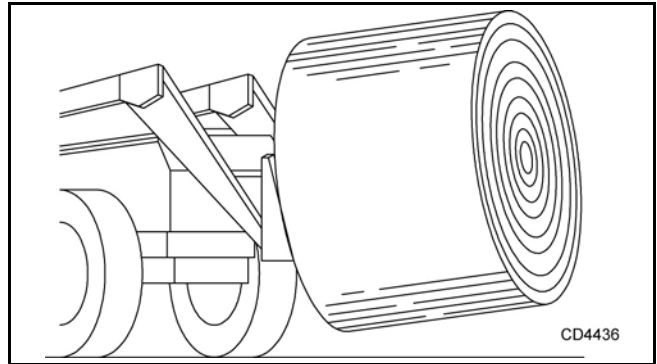


Figure 30. Transporting a Round Bale

CLEANING

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove the remainder using a low-pressure water spray.
 1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
 2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
- Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).
- Replace any safety decals that are missing or not readable (supplied free by your Woods dealer). See Safety Decals section for location drawing.

PRE-OPERATION CHECK LIST

(OWNER'S RESPONSIBILITY)

- ___ Review and follow all safety rules and safety decal instructions on pages 6 through 11.
- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Check that all hardware and cotter pins are properly installed and secured.
- ___ Check that equipment is properly and securely attached to tractor.
- ___ Do not allow riders.
- ___ Check all lubrication points and grease as instructed in Owner Service, ". Lubrication Points", page 22.
- ___ Check that all hydraulic hoses and fittings are in good condition and not leaking before starting tractor. Check that hoses are not twisted, bent sharply, kinked, frayed or pulled tight. Replace any damaged hoses immediately.
- ___ Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.
- ___ Before starting engine, operator must be in tractor seat with seat belt fastened. Place transmission in neutral or park, engage brake, and disengage tractor PTO.



OWNER SERVICE

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual.

! WARNING

■ **Never work under a raised loader. Always lower loader to the ground with bucket or loader attachment in full roll-back position. Shut off tractor, set parking brake, and remove key. Operate valve levers to release any hydraulic pressure. If loader obstructs tractor maintenance, loader must be removed from tractor.**

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

■ **Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.**

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ **Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.**

! CAUTION

■ **If you do not understand any part of this manual and need assistance, see your dealer.**

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear**

sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

Lubrication

NOTICE

■ **When adding oil to the tractor reservoir, always use hydraulic oil as specified by the tractor manufacturer.**

Daily

— Check the level of hydraulic oil in tractor before starting each day's operation. If necessary, add oil as recommended in your tractor owner's manual.

— Lubricate after every eight hours of operation; lubricate grease fittings at each end of each lift boom arm and at rod and base end of each boom and bucket cylinder.

— After every eight hours of operation, check all hardware and tighten where required.

— Replace hoses immediately if they are damaged by a cut or scrape, extruded at the fittings, or leaking. Hydraulic oil leaks should be repaired promptly to avoid loss of oil and serious personal injury from escaping oil.

Annually

— Lubricate direct mount control valve joystick linkage with grease.

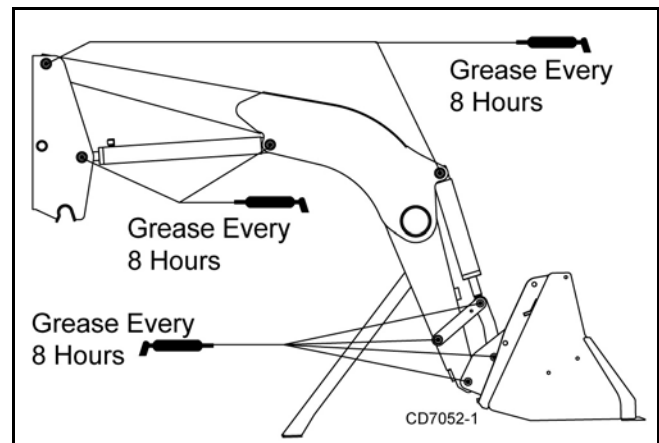


Figure 30. Lubrication Points

TROUBLESHOOTING

The following is a list of service problems, possible causes, and solutions. If problems still exist after performing the solution, contact your nearest Woods dealer for authorized service.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Jerky operation	Air in hydraulic system	Cycle cylinders several times to purge system of air.
	Cold hydraulic oil	Run engine to warm oil.
	Low hydraulic oil level	Add oil to level specified.
	Poor oil circulation	Change oil filter and clean screen in tractor hydraulic system.
	Worn or damaged hydraulic pump	Repair or replace pump.
	Air leak in pump inlet line	Check, tighten or replace inlet line.
Slow operation	Faulty valve	Repair or replace valve.
	Air in hydraulic system	Cycle lift cylinders and bucket cylinders several times to free system of air.
	Hydraulic oil too heavy	Change to proper oil.
	Oil filter plugged	Clean and replace filter.
	Slow engine speed	Increase engine speed rate.
	Cylinder piston seals leaking	Install seal repair kit.
	Remote valve incorrectly adjusted or malfunctioning	Adjust, repair, or replace control valve.
	Tractor hydraulic pump malfunctioning	Repair or replace pump.
	Hydraulic pump too small; hoses or feedlines restricted	Check hoses and feed lines for kinks and other restrictions.
Hydraulic couplers not completely engaged	Connect hydraulic couplers.	
Oil leaks	Loose hose connections	Tighten fittings. Use thread sealer on pipe (tapered) threads.
	Fittings or hoses defective	Tighten fittings. Use thread sealer on pipe (tapered) threads.
	Fittings or hoses defective	Replace defective parts.
	Hydraulic cylinder seals worn or damaged	Install seal repair kit.
	Remote valve components worn or damaged	Repair and/or replace.

TROUBLESHOOTING

<p>Cannot raise load</p>	<p>Low oil supply</p> <p>Bucket overloaded</p> <p>Hydraulic couplers not fully engaged</p> <p>Cylinder piston seal leakage</p> <p>Control valve incorrectly adjusted or malfunctioning</p> <p>Tractor valve not open to provide circuit to auxiliary valve</p> <p>Hydraulic pump malfunctioning</p> <p>Load is greater than boom lift capacity</p>	<p>Check oil level.</p> <p>Try lighter load.</p> <p>Reconnect hoses.</p> <p>Install seal repair kit.</p> <p>Repair or replace control valve.</p> <p>Open tractor valve. Be sure pressure is to inlet side of auxiliary valve.</p> <p>Repair or replace hydraulic pump.</p> <p>Check loader specifications.</p>
<p>Bucket or boom leaks down from "hold" position</p>	<p>Leaks in hydraulic circuits</p> <p>Cylinder piston seals leaking</p> <p>Control valve worn or damaged</p> <p>Tractor valve worn or damaged</p>	<p>Tighten loose fittings. Use thread sealer on pipe (tapered) threads.</p> <p>Install seal repair kit.</p> <p>Repair or replace control valve.</p> <p>Repair or replace tractor valve.</p>
<p>Cannot lower boom</p>	<p>Hydraulic couplers not fully engaged</p>	<p>Recouple hoses.</p>
<p>Loss of bucket tilt control when lever is pushed completely forward</p>	<p>Tractor lever in "float" position</p>	<p>Use float lockout control to prevent lever from being moved to "float" position.</p>
<p>Couplers hard to hook up</p>	<p>Pressure in circuit</p>	<p>Place control levers in "float" when connecting</p>
<p>Boom and bucket operation does not correspond to control lever position</p>	<p>Improperly connected hydraulic couplers</p> <p>Hoses improperly connected</p>	<p>Connect hydraulic couplers correctly. See Hydraulic Kit Manual for proper connections.</p> <p>Connect hoses properly. See Hydraulic Kit Manual for proper connections.</p>
<p>Excessive wear on bucket cutting edge and wear pads</p>	<p>Bucket is tilted too far forward and is riding on cutting edge</p> <p>Excessive down pressure when cleaning feedlots and working on concrete</p>	<p>Keep bottom of bucket parallel to ground. Use rod gauge to indicate level bucket position.</p> <p>Use "float" position on boom lift control lever.</p>

DEALER CHECK LISTS

PRE-DELIVERY CHECK LIST

(Dealer's Responsibility)

Inspect the loader thoroughly after assembly to be certain it is set up properly before delivering it to the customer. The check lists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustments are made.

- ___ Check all bolts to be sure they are properly torqued.
- ___ Check and grease all lubrication points. See “. Lubrication Points” on page 22.
- ___ Check that shields and guards are properly installed and in good condition. Replace if damaged.
- ___ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- ___ Properly attach implement to tractor and make all necessary adjustments.
- ___ Check all hydraulic hoses, fittings, tubing, and cylinders for any leaks or damage. Be sure quick couplers operate properly. Make sure hydraulic valve matches tractor hydraulic system - open system or closed system.
- ___ Check parking stand for proper operation.
- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Check that all loader mounting decals are properly installed on left loader mount.
- ___ Make sure all hydraulic fittings are tight and hoses are properly routed and not twisted, bent sharply, kinked or pulled tight.
- ___ Make sure loader operates as recommended. See operation section. Make necessary changes in hydraulic hook-ups to obtain loader operation. Cycle loader (all functions). Bleed air from hydraulic system. Cycling loader removes air from system. After cycling loader, check hydraulic system oil level.

DELIVERY CHECK LIST

(Dealer's Responsibility)

- ___ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- ___ Show customer how to make adjustments.
- ___ Instruct customer how to lubricate and explain importance of lubrication.
- ___ Explain to customer the potential crushing hazards of going underneath raised equipment. Instruct customer that service work does not require going underneath unit and never to do so.
- ___ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.
- ___ Point out the correct mounting and routing of hydraulic hoses. Explain that during operation, mounting, dismounting and storage, care must be taken to prevent hose damage from pulling, twisting and kinking.
- ___ Make customer aware of optional equipment available so that customer can make proper choices as required.

A Delivery Report and Registration form must be filled in by dealer and signed by both dealer and purchaser at time of delivery. Be sure Operator's Manual remains with loader. Deliver it to customer with loader.



DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described herein requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, you may be time and money ahead to replace complete assemblies.

WARNING

■ **Never work under a raised loader. Always lower loader to the ground with bucket or loader attachment in full roll-back position. Shut off tractor, set parking brake, and remove key. Operate valve levers to release any hydraulic pressure. If loader obstructs tractor maintenance, loader must be removed from tractor.**

■ **Never allow anyone to get under the loader bucket or reach through the lift arms when the bucket is raised.**

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

■ **Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

CAUTION

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

CYLINDER SERVICE

The cylinders are designed to be reliable and easy to service. If a cylinder should malfunction during the warranty period, return the complete cylinder assembly, without disassembling, to your authorized service department or contact your authorized service department for instructions. Unauthorized disassembly of a cylinder in the warranty period will VOID WARRANTY.

NOTE: Repair to cylinders is limited to replacing seals, wear rings, and O-rings. Replacing rod, barrel, or pistons is not cost effective. Purchasing a complete cylinder is more economical.

CYLINDER REPAIR

Threaded Rod Guide Cylinders

Threaded guide cylinders for the LF138 and LF156 use two different styles of seals.

Disassembly

On threaded guide type cylinders, unscrew guide (5) using a spanner wrench, or carefully use a punch and hammer. (Spanner wrench 1021841 is available from Woods to help with these procedures.) Pull on rod (1) to remove parts from barrel.

Clamp cross pin end of rod assembly (1) in a vise with protective jaws. Heat threads to break thread locking compound loose. Unscrew piston (6) from end of rod assembly using a spanner wrench, or carefully use a punch and hammer. Remove rod guide (5) from rod.

Remove and discard all seals, wear rings and O-rings. Clean all components in solvent and blow dry with low pressure air.

Inspect inside diameter of barrel. Replace cylinder if damaged.

Assembly

For these assembly instructions the front surface of the threaded rod guide with two holes will be referred to as the "rod guide face".

Lubricate O-rings and seals with clean hydraulic fluid. Install back-up washer (3D) on rod guide (5), and then install O-ring (3E) in exterior O-ring groove of rod guide. Make sure that the back-up ring is located closest to the rod guide face. Place rod wiper (3B) in outer rod guide groove. Install rod seal (3C) into the second groove from the rod guide face with the open portion of V-groove toward piston.

For bucket cylinders (Figure 31) install rings into the third and fourth grooves from the rod guide face.

With all of the seals installed, slide the rod guide assembly (5) onto rod (1).

Install crown piston seal (3J) onto piston (6). Install offset rings (3H) on both sides of the crown piston seal (3J) in the large groove on the piston (6). The profile of the offset ring (3B) should mate with the lip on the crown piston seal (3J). Place the "L" shaped guide ring (3G) on the outside of each offset ring (3H). Boom cylinders require two additional wear rings (3K) to be installed in the two smaller grooves on the piston (6). Bucket cylinders have one wear ring.

Lightly coat rod threads with hydraulic oil and slide O-ring (3A) over threads and into groove. Completely clean threads of hydraulic oil, apply Liquid Primer 7649 and Loctite 242 to the rod threads, and thread piston (6) onto rod (1) with the two holes in the piston orientated away from the rod. Torque the piston (6) to 160 lbs-ft.

Compress wear rings and piston seals and carefully insert piston and rod assembly into barrel. Use care to prevent damage while installing. Carefully screw rod guide (5) into barrel (8) using a spanner wrench, or carefully use a punch and hammer.

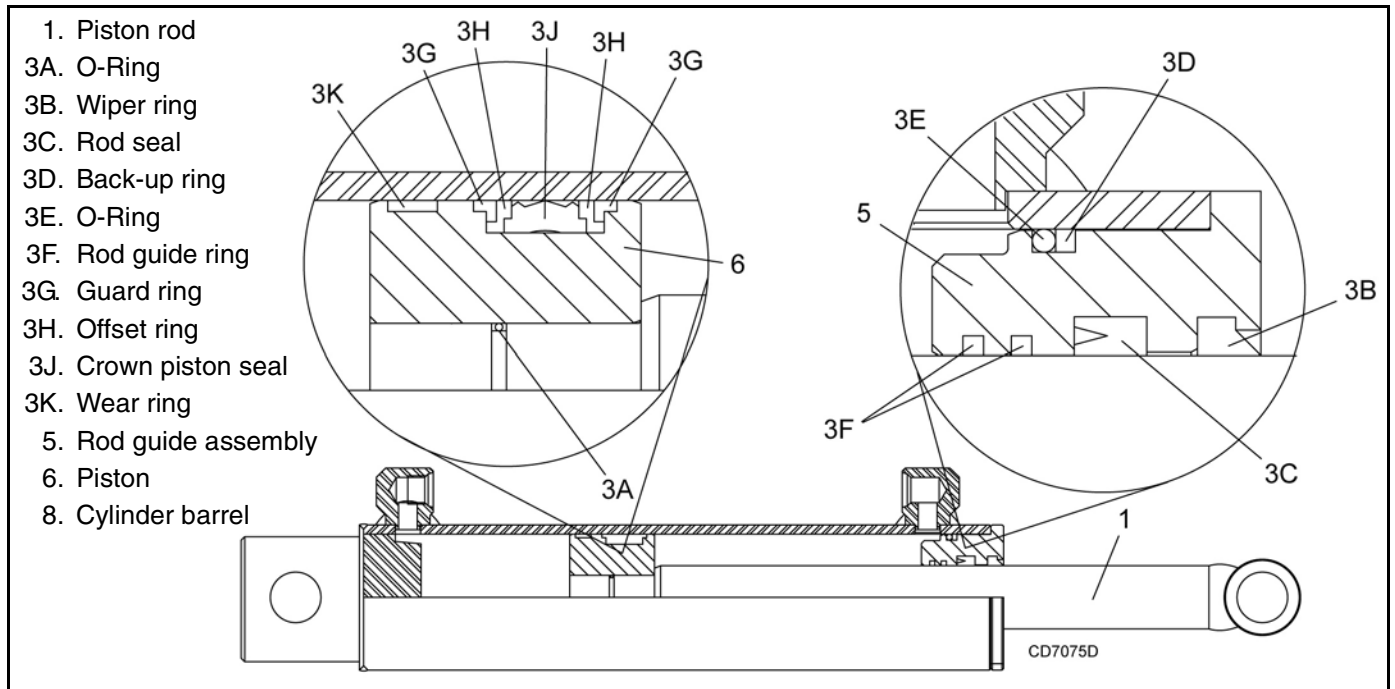


Figure 31. Bucket Cylinders

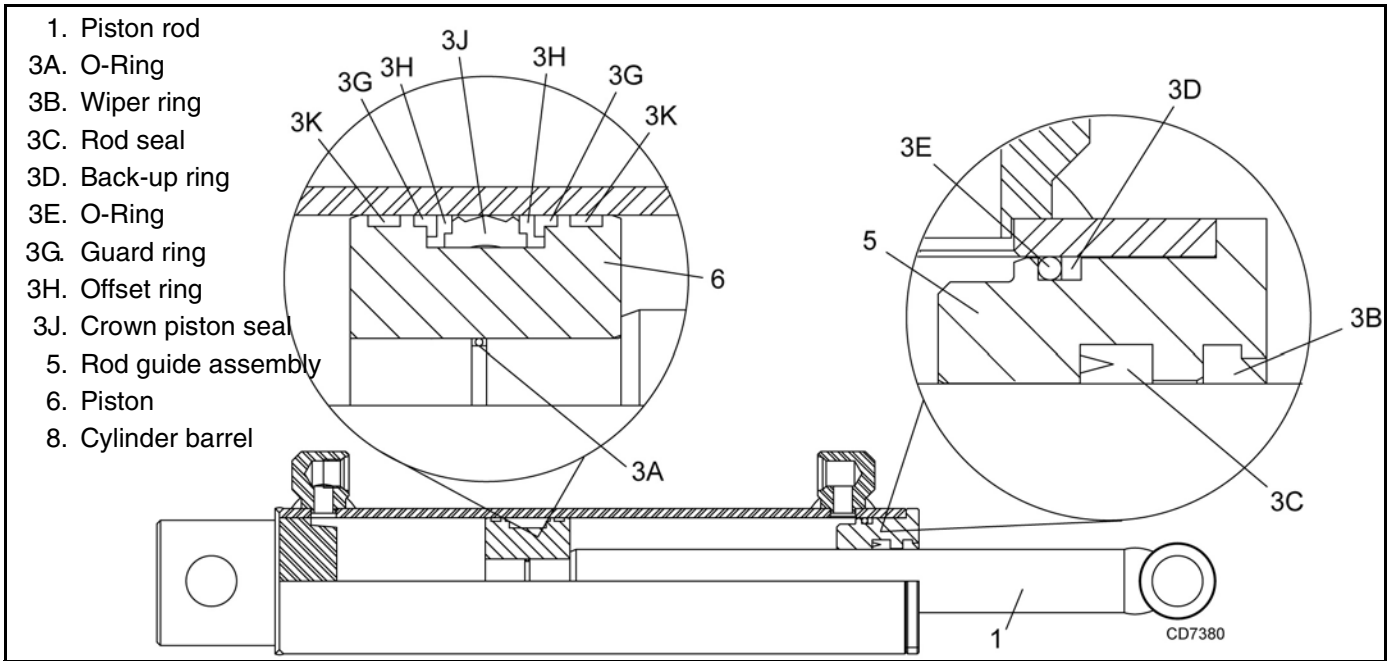


Figure 32. Boom Cylinders

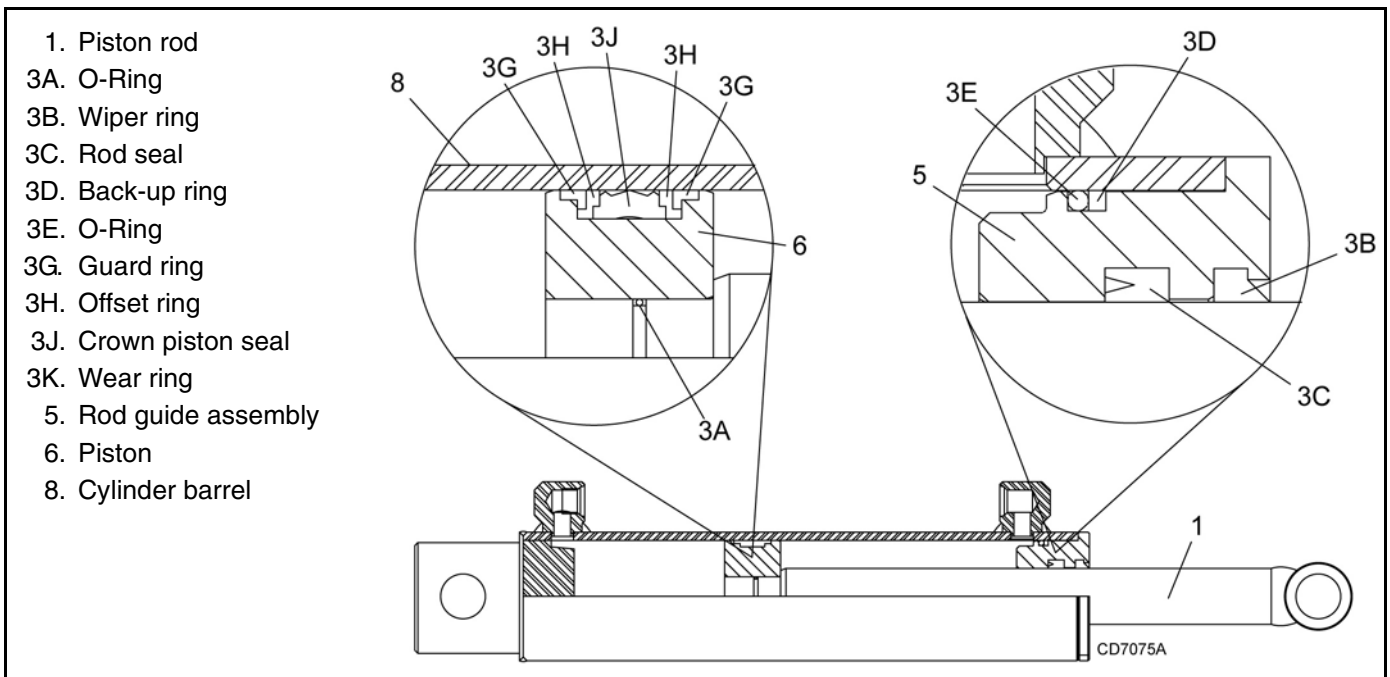


Figure 33. Grapple Cylinder

PIVOT BEARING REPLACEMENT

Two replaceable bearings per pivot joint are located in:

Bearing Location	Wiper
• Boom pivot (A)	X
• Boom cylinder rod end (B)	
• Bucket cylinder rod end (C)	
• Loader boom bucket pivot (D)	X
• Bucket linkage (E)	X
• Boom guide link pivot (F)	X

Bearing repair kits for LF138 and LF156 loaders are:

- 1018608 24 Bearing repair kit
(All pivot points)
- 1018607 2 Bearing repair kit
(For any 1 pivot point)

Replace pivot bearing as follows:

1. Remove loader from tractor.
2. Remove pivot pin from pivot location that needs to be replaced.

NOTE: Make sure to support upright and/or lift cylinders to prevent them from falling while the loader is being disassembled.

3. Remove both wipers (if present).
4. Remove both bearings from each pivot point.

NOTE: Hammer and punch or heat may be required to remove bearings.

5. Apply one drop of Loctite (supplied with bearing kit) to each new bearing and install bearing.
6. Allow Loctite to set one hour before reassembling loader.
7. Apply grease to all bearings. Allow grease to fill small cavities in bearing.
8. Install wipers, if required.

NOTE: Lip must be installed towards the outside of joint (Figure 36).

9. Reassemble loader.

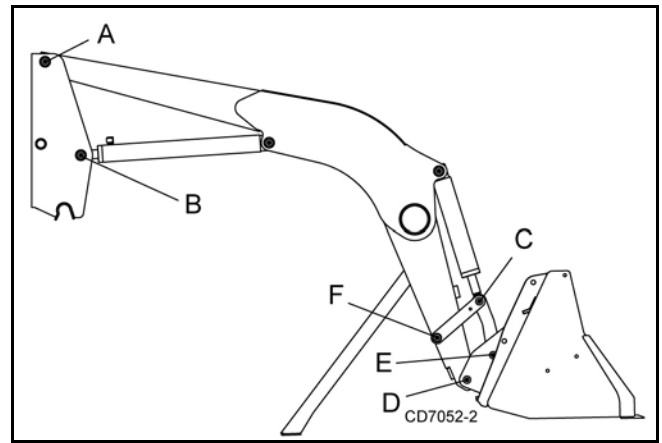


Figure 34. Bearing Locations

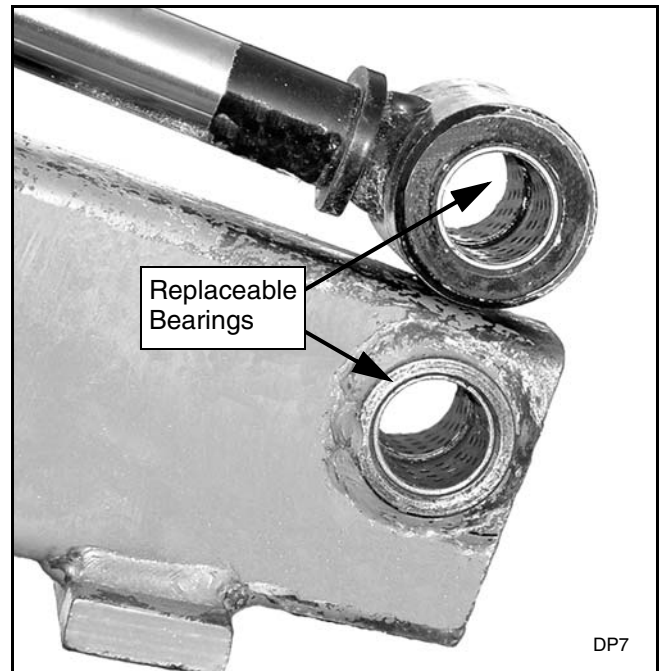


Figure 35. Replaceable Bearings (Typical)

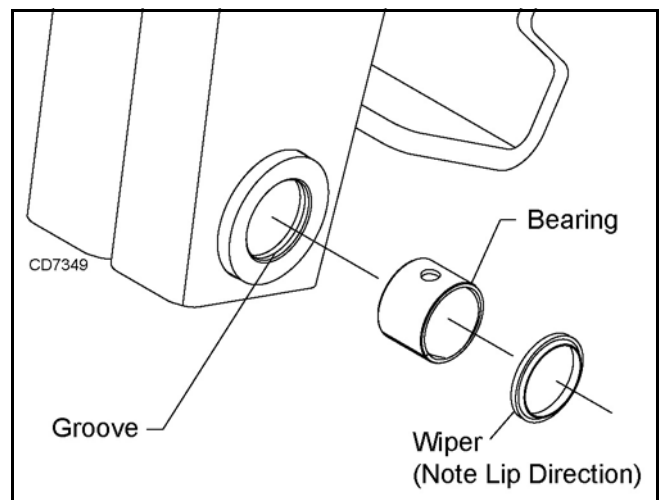


Figure 36. Wiper Installation

NOTES

ASSEMBLY

DEALER SET-UP INSTRUCTIONS

Loader assembly is the responsibility of the Woods dealer. The loader is shipped assembled on a pallet for your convenience. The loader must be properly set up and installed to assure prolonged service life and safe operation.

WARNING

- **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**
- **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**
- **Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.**
- **Never work under a raised loader. Always lower loader to the ground with bucket or loader attachment in full roll-back position. Shut off tractor, set parking brake, and remove key. Operate valve levers to release any hydraulic pressure. If loader obstructs tractor maintenance, loader must be removed from tractor.**
- **Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.**

CAUTION

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

ASSEMBLY INSTRUCTIONS

Loader Mounting Kit and Hydraulic Kit Installation

Install the loader mounting kit on the tractor according to specific mounting instructions included with the mounting kit and hydraulic kits.

Loader Set-Up

WARNING

- **Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.**
- **Lift and support all loader components safely.**
- **Stand clear of the loader while attaching. The loader could fall, causing serious personal injury. Always work safely and think clearly!**

Remove bucket and attachment coupler from shipping skid.

Support loader frame and remove lag screws from plates that hold frame on skid. Lower frame to ground.

Using an overhead lifting device, lift loader frame and position tractor so uprights can be placed onto loader mount. Secure uprights on mounts with pin shipped with frame. Cut shipping straps around boom cylinders and remove spacer angle and protective sleeves.

Refer to Hydraulic Hose Installation in the loader mounting kit. Always use hoses that have a minimum working pressure rating of 3000 psi and meet or exceed SAE 100R1 specifications.

Refer to Control Valve Manual for optional control valve instructions.

Connect loader hoses and start tractor. Clear hydraulic system of air by raising and lowering boom frame and actuating bucket cylinders several times. After air has been purged from system, with loader boom on ground, check the tractor hydraulic oil level as shown in tractor owner's manual. When adding oil to hydraulic system, always use the type of oil specified for the tractor. NEVER MIX OIL TYPES.

Pin-On Bucket Installation (LF138 Only)

1. Remove loader pins and bucket pins from the bucket mounting lugs.
2. Attach lower holes on bucket to loader boom using pins and hardware provided.
3. Extend bucket cylinder and attach bucket links to the upper holes on the bucket using pins and hardware provided. See Figure 37.

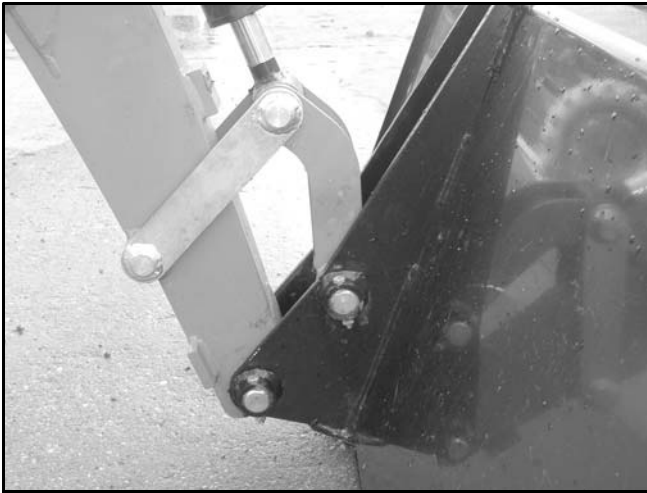


Figure 37. Pin On Bucket Installed (Typical)

Quick Attach Coupler Installation (Optional on LF138)



Figure 38. Quick Attach Coupler Installed

1. Remove attachment coupler from bucket.
2. Position quick attach coupler on the ground in front of the loader frame.
3. Attach quick attach coupler (lower holes) to end of loader boom using pins and retaining hardware that came with the quick attach coupler, Figure 38.
4. Attach bucket linkage to the upper holes and secure.

NOTE: To ease installation of bucket link, extend bucket cylinders. Plugs in hydraulic feedlines may need to be removed.

Bucket Connection to Quick Attach Coupler

See connect bucket or attachment using Quick Attach Coupler, page 13 to connect bucket.

Bucket Level Indicator Installation

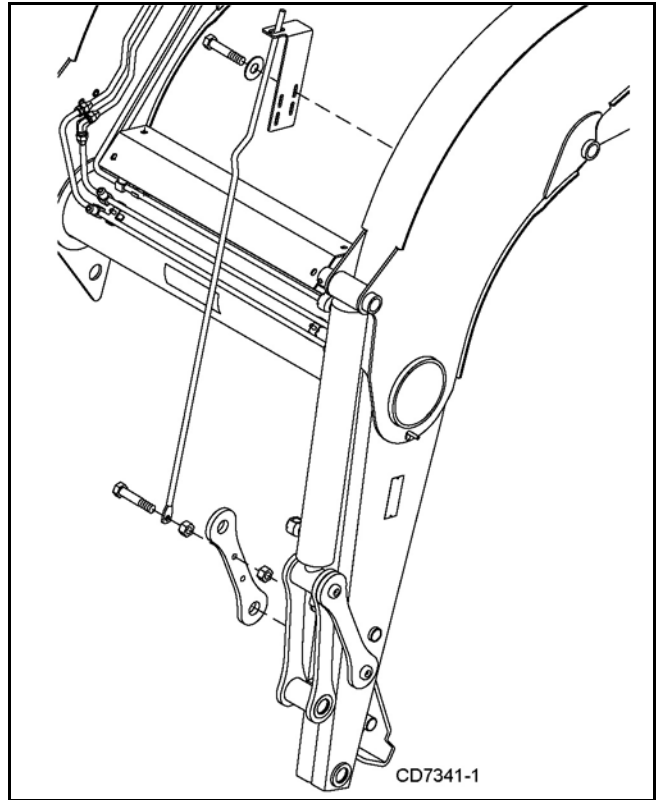


Figure 39. Bucket Level Indicator Installation

1. Remove bucket level indicator rod from its shipping position on right loader boom leg.
2. Slide rod through bucket level indicator bracket on left boom frame.
3. Attach other end to hole in inner guide link and with hardware provided. See Figure 39 and Figure 40.

Bucket Level Indicator Adjustment

With tractor and loader on flat surface, position boom and bucket cylinders as necessary to place bottom surface of bucket level on the ground.

Shut off tractor, set park brake, remove key and exit the tractor.

Loosen bolts and slide indicator bracket so that bend in indicator rod is centered in the bracket. Tighten bolts. See Figure 40.



Figure 40. Bucket Level Indicator Installed

Grease Loader

Lubricate all pivot points shown on page 22 with a high quality SAE multi-purpose grease.

Grapple Installation (Optional)

1. With the bucket attached to the loader, roll bucket forward until the back of it is parallel with the ground.
2. Secure right (2) and left (3) grapple attachment brackets to back of bucket using four (two per bracket) pins (15) and klik pins (23).
3. Place grapple grill (6) between attachment brackets and secure to lug on bucket with cap screws (28) and nuts (29).
4. Secure grapple grill (6) to right and left attachment bracket using cap screws (28) and nuts (29).
5. Attach grapple arm (4) to right attachment bracket using pin (18), cap screw (26) and lock nut (27).
6. Secure base end of cylinder to attaching bracket using pin (17), cap screw (26) and lock nut (27).
7. Repeat steps to secure second grapple arm (4) and cylinder to left attachment bracket.
8. Roll bucket back until front pads of grapple arms (4) are level with the ground.
9. Place grapple toothbar (5) under grapple arms and secure using eight (four per arm) cap screws (25), sixteen hardened flat washers (21) and lock nuts (20).

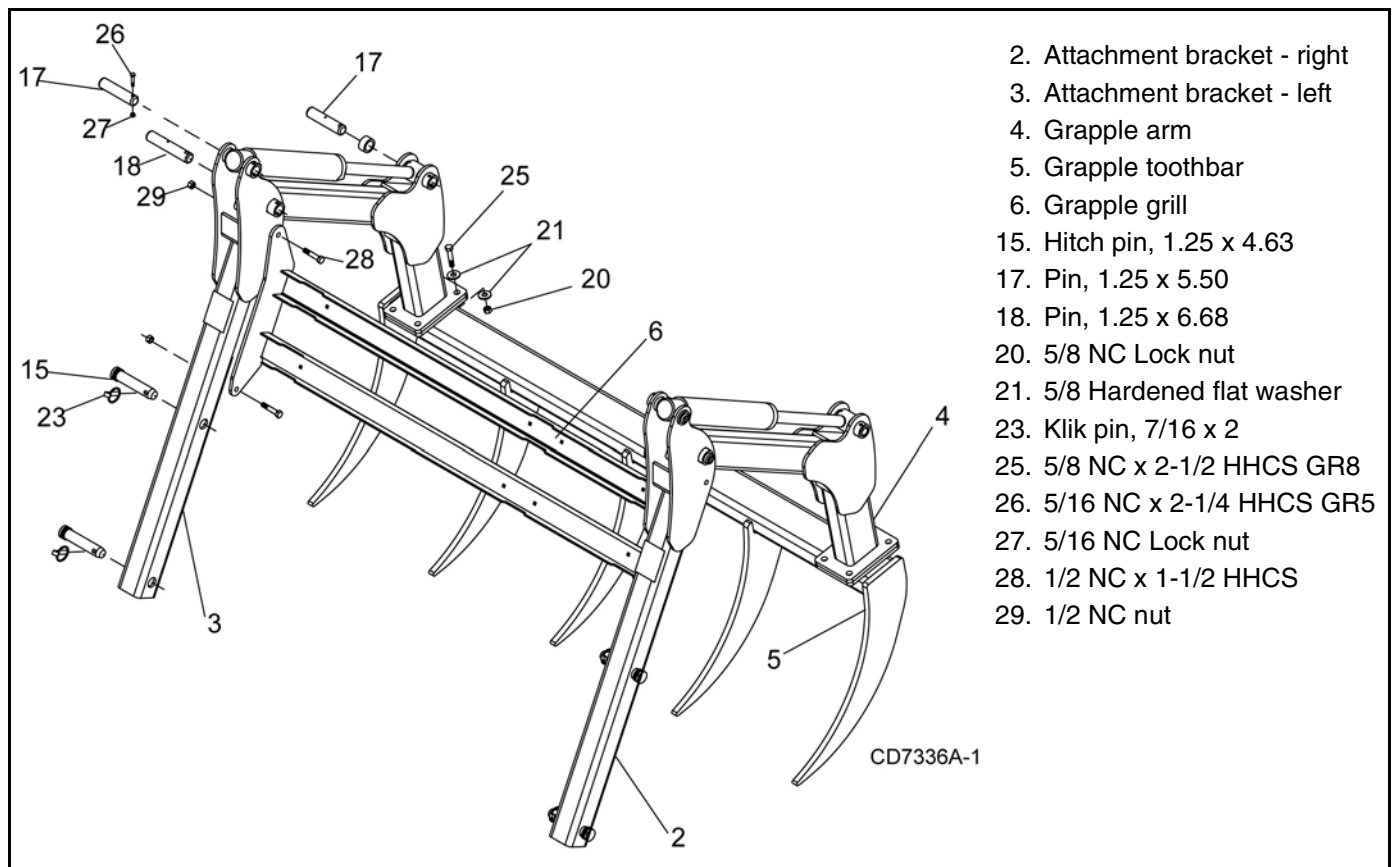
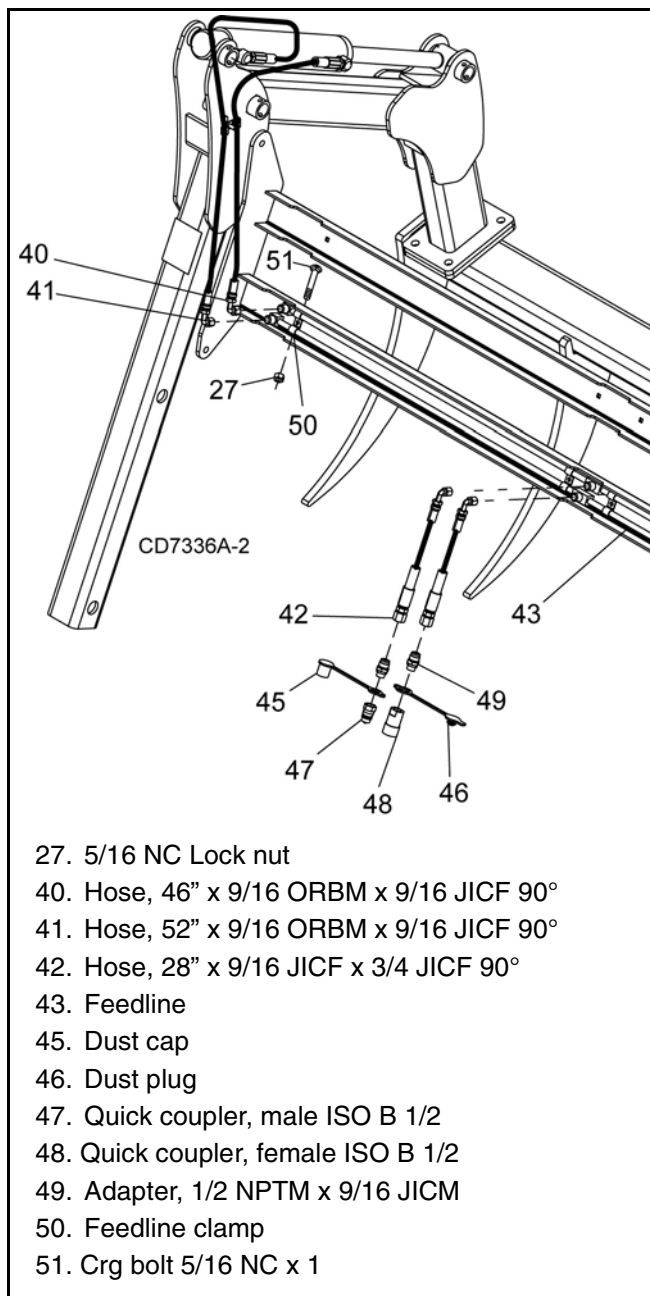


Figure 41. Grapple Assembly

Install Hydraulic Hoses



- 27. 5/16 NC Lock nut
- 40. Hose, 46" x 9/16 ORBM x 9/16 JICF 90°
- 41. Hose, 52" x 9/16 ORBM x 9/16 JICF 90°
- 42. Hose, 28" x 9/16 JICF x 3/4 JICF 90°
- 43. Feedline
- 45. Dust cap
- 46. Dust plug
- 47. Quick coupler, male ISO B 1/2
- 48. Quick coupler, female ISO B 1/2
- 49. Adapter, 1/2 NPTM x 9/16 JICM
- 50. Feedline clamp
- 51. Crg bolt 5/16 NC x 1

Figure 42. Hydraulic Hose Installation

1. Attach straight end of hose (40) to rod end of left grapple cylinder.
2. Route hose along inside of left attachment bracket and attach 90° end of hose (40) to the top feedline (43) on the left side of the grapple.

3. Attach straight end of hose (41) to base end of left grapple cylinder.
4. Route hose along inside of left attachment bracket and attach 90° end of hose (41) to the bottom feedline (43) on the left side of the grapple.
5. Secure hoses to attachment bracket using hose clamp (50) and lock nut (27).
6. Repeat steps to attach hoses (40 & 41) to right side of grapple.
7. Attach adapter (49), dust plug (46) and female quick coupler (48) to straight end of hose (42).
8. Attach this hose to the bottom feedline in the middle of the grapple.
9. Attach adapter (49), dust cap (45) and male quick coupler (47) to straight end of second hose (42).
10. Attach this hose to the top feedline in the middle of the grapple.

Bucket Tooth Installation (Optional)

Holes for teeth must be drilled in bottom of bucket. Position point of tooth as shown in Figure 43, 5" from leading edge of cutting edge. Equally space teeth along bucket before marking holes. Drill 9/16" holes where marked. Install tooth (3), hardware (10, 12, 13), and stiffener (5) for each tooth.

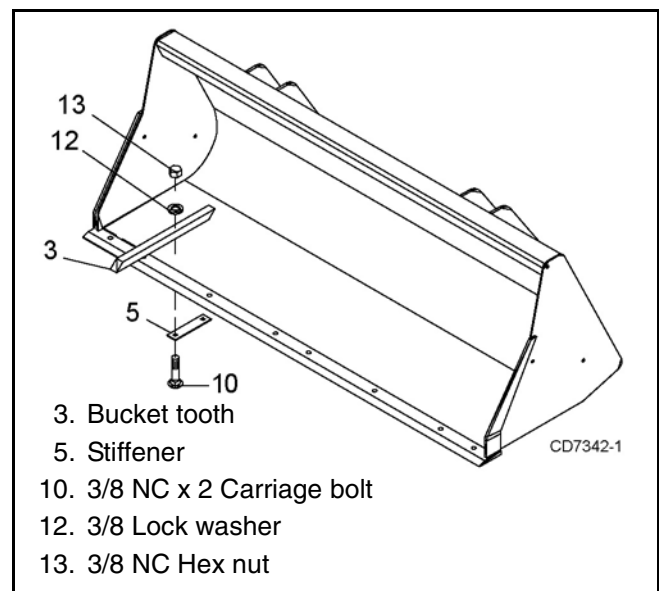


Figure 43. Bolt on Bucket Tooth (Optional)



INSTALLATION

ATTACH LOADER TO TRACTOR

Remove mount pins from loader uprights.

Align tractor with loader and drive tractor into loader slowly.



Figure 44. Align Tractor to Loader

Shut off tractor. Connect the hydraulic hoses.

Restart tractor and drive tractor forward, dump bucket to lower upright into mounts.

Continue dumping bucket until uprights settle into mounts and mounting pin holes are aligned. Set brake and shut off the tractor. Install mount pins and retaining clips.

Remove pins and fold stands into storage position using pins provided (Figure 45).



Figure 45. Parking Stand - Storage Position

REMOVE LOADER FROM TRACTOR

Bucket or attachment must be installed to remove loader.

Park tractor on a level surface and lower bucket so the bucket bottom or attachment is about 1" off the ground.

Set brake and shut off tractor.

Remove lock-up pin and lower the parking stands.

Install pin into hole that most closely aligns (Figure 46). Repeat steps for opposite parking stand.

Remove mount pins from loader uprights.

Start tractor and retract lift cylinders.

Roll bucket back to completely raise loader uprights from mounts.

Shut off tractor. Disconnect hydraulics. Store mount pins in loader uprights. Start tractor and back away from loader.

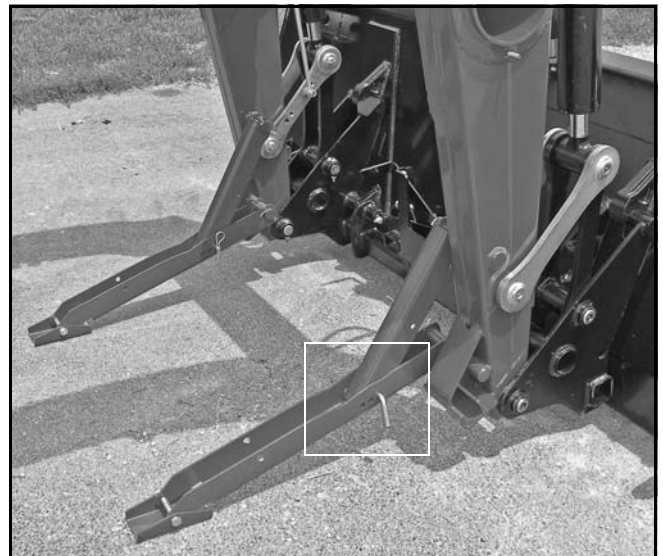


Figure 46. Parking Stands Installed

WARNING

- **Stored loader can fall and cause serious injury or death. Securely store loader and attachments to prevent falling.**
- **Secure equipment parking stand(s) in park position before detaching.**

⚠ WARNING

■ To provide necessary balance, loader frame must be equipped with bucket or attachment before attaching or detaching from tractor, or when loader is in stored position.

■ Do not climb or lean on equipment stored on stand.

⚠ CAUTION

■ Keep children and bystanders away from storage area.

CONNECT LOADER SUPPLY HOSES TO LOADER

Refer to Loader Mounting Kit Manual for hose kit installation.

Connect loader supply hoses to loader feedlines at the right side of the loader. Always use hoses that have a minimum working pressure rating of 3000 psi and meet or exceed SAE 100R1 specifications.

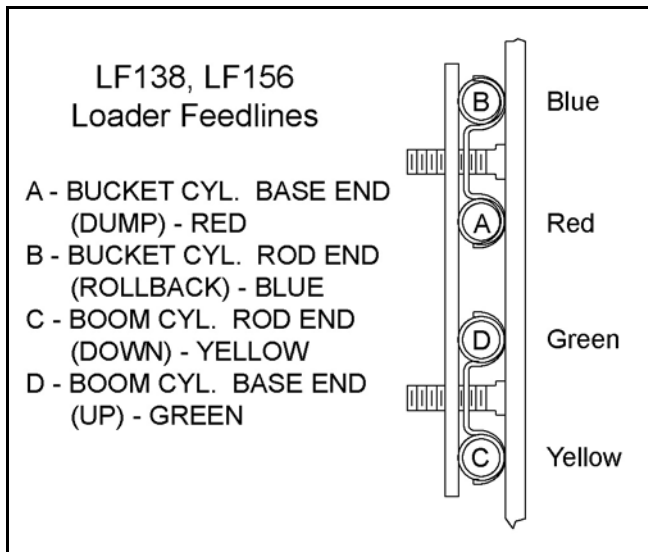


Figure 47. Loader Supply Hose Connection

VERIFY CONTROL MOVEMENTS

Check that all tractor hydraulic control lever positions operate the loader movements correctly. See Figure 48.

If loader movements do not respond correctly, shut off tractor, relieve pressure, and reconnect properly. Loader control movements must be correct before proceeding.

Once all loader functions are correct, start the tractor and operate the loader to check for leaks. Purge any remaining air from the hydraulic system and check oil level.

When hose routing and correct loader operations are verified, identify each circuit by placing a matching colored band around the male and female quick coupler. The color-coded bands will make reinstallation easier when the loader is removed from tractor.

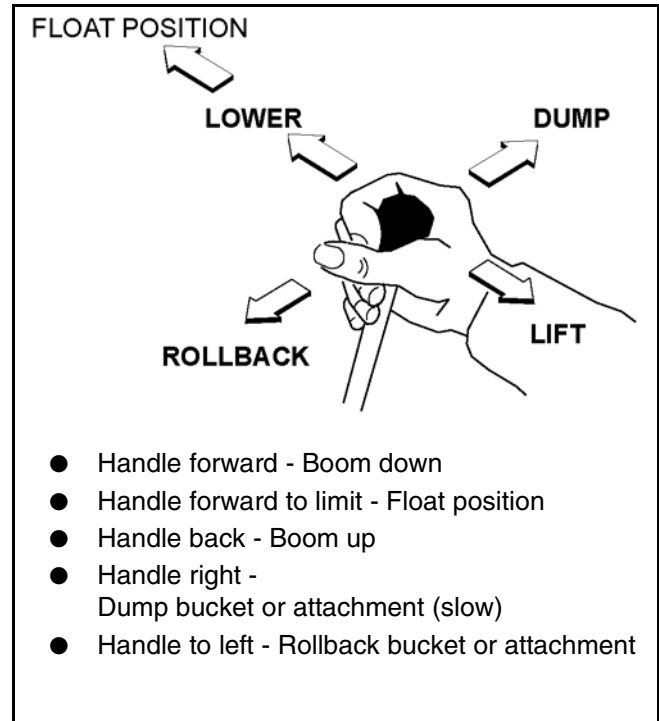


Figure 48. Single Lever Control Operation

GRAPPLE ASSEMBLY (OPTIONAL)

Remove Grapple

⚠ WARNING

- Block equipment securely for storage.
- To help prevent injury caused by a falling implement, always detach on a hard level surface.
- Keep children and bystanders away from storage area.

1. On a hard level surface, raise bucket and roll it completely forward.
2. Place 4x4 blocks underneath the grapple arms near the rod ends of the cylinders.
3. Lower the bucket and set it down so the grapple arms rest on the 4x4's and the toothbar rests on the ground.

4. Open the grapple slightly (enough to remove some pressure from the pins).
5. Remove the pins that attach the grapple to the bucket (tools may be required to get the pins out)
6. Uncouple the hydraulics.
7. Remove the cap screws that attach the grapple grill to the bucket.
8. Rotate the grapple grill back over center so that it won't swing down when the bucket is moved (secure with bungee straps if necessary).

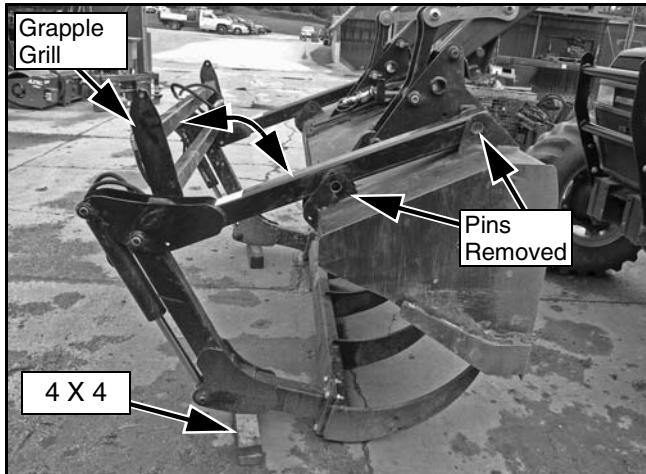


Figure 49. Remove grapple

9. Lower the bucket and back the tractor away.
10. Lower the grapple grill so that it won't be able to fall down and cause damage to the cylinder ports.

Install Grapple

1. Raise the grapple grill so that it is out of the way and will not swing down (secure with bungee straps if necessary).
2. Roll the bucket completely forward

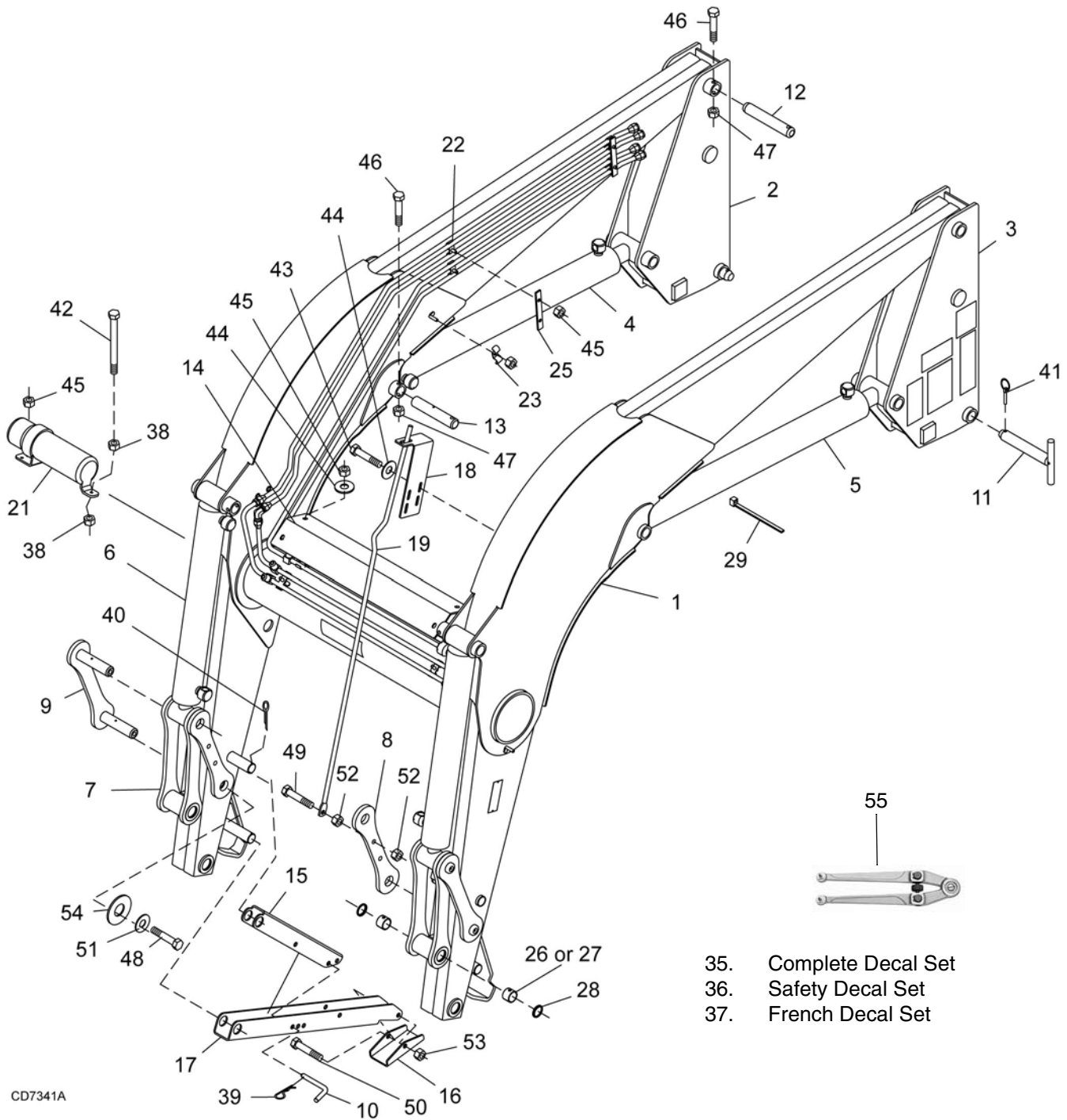


Figure 50. Align Bucket with Grapple

3. Drive the tractor forward and align the bottom holes of the grapple with the bottom set of grapple mounts on the bucket and insert the pins. NOTE: this may require two people.
4. Roll the bucket back and align the front holes and insert pins.
5. Attach the grapple grill to the bucket using cap screws and nuts.
6. Hook up the hydraulics.
7. Raise the loader and roll the bucket back.



LF138 & LF156 LOADER ASSEMBLY



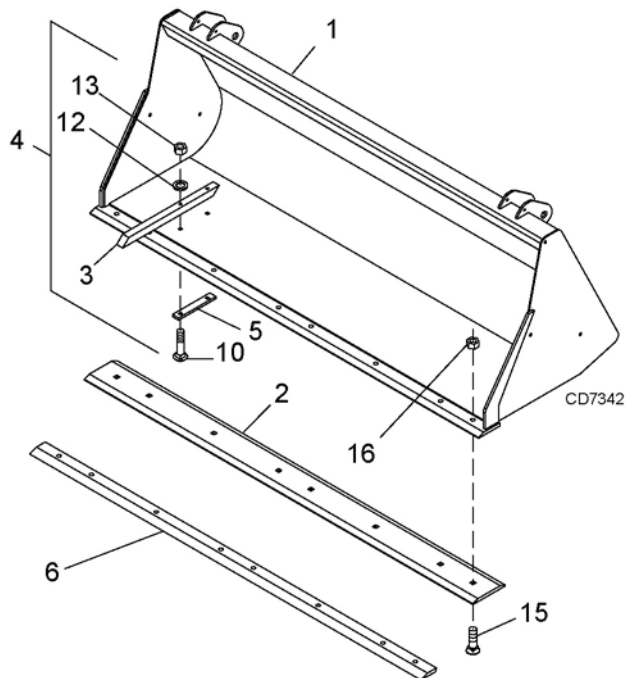
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LF138 & LF156 LOADER ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1026590	1	Boom assembly - LF156	19	1026259	1	Rod - level indicator
1	1026591	1	Boom assembly - LF138	20	1025651	1	Bracket - manual tube
2	1026592	1	Right upright - LF156	21	1003828	1	Manual tube
2	1026594	1	Right upright - LF138	22	258	8	Feedline clamp - 1/2
3	1026593	1	Left upright - LF156	23	56	2	Feedline clamp - 5/8
3	1026595	1	Left upright - LF138	25	43439	2	Strap
4	1024768B	1	Cylinder, 2.95 x 1.97 x 30.87 (right hand) - LF156	26	1018607	12	Bearing 1.25x1.41x1.00 (set of 2)
4	1024766B	1	Cylinder, 2.76 x 1.77 x 28.93 (right hand) - LF138	27	1018608	1	Bearing 1.25x1.41x1.00 (set of 24)
5	1024769B	1	Cylinder, 2.95 x 1.97 x 30.87 (left hand) - LF156	28	441517	16	Wiper ring (1-1/4 ID)
5	1024767B	1	Cylinder, 2.76 x 1.77 x 28.93 (left hand) - LF138	29	88 *	15	Plastic tie
6	1024770B	2	Cylinder 2.76 x 1.49 x 20.00	35	1026596	1	Decal set complete
7	1025640B	2	Bucket link (also order 2 of wiper 441517)	36	1018605	1	Decal set safety
8	1025645	2	Free link -11.50	37	1019721	1	Decal set safety French
9	1025650B	2	Guide link 11.50	38	30515	2	M8 x 1.25P Hex nut
10	1026267	2	Pin - bent .50 x 3.00	39	2688 *	2	5/32 Hair pin cotter
11	56075	2	Pull pin 1.25 w/lynch pin	40	64803 *	4	3/16 x 2 Cotter pin
12	1025646	4	Pin - 1.25 x 7.63	41	62043	2	1/4 x 1-3/4 klik pin (included with item 10)
13	1025647B	4	Pin - 1.25 x 6.68	42	307128	1	M8 x 1.25P x 150 mm HHCS
14	1025660B	1	Cover - feedline - LF156	43	14562 *	2	5/16 NC x 1 HHCS GR5
14	1026270B	1	Cover - feedline - LF138	44	4378 *	7	Washer, 5/16 Standard flat
15	1025667B	2	Channel - stand support - LF156	45	FA220	14	Nut, 5/16 NC Nylock
15	1026261B	2	Channel - stand support - LF138	46	300165 *	8	3/8 NC x 2-1/2 HHCS GR5
16	1025668	2	Pad - parking stand	47	6698 *	8	Nut, lock 3/8 NC
17	1025669	2	Channel - parking stand - LF156	48	300300 *	4	1/2 NC x 1 HHCS GR5
17	1026262	2	Channel - parking stand - LF138	49	3699 *	1	1/2 NC x 2 HHCS GR5
18	1026258	1	Bracket - level indicator - LF156	50	1637 *	2	1/2 NC x 3-1/2 HHCS GR5
18	1026269	1	Bracket - level indicator - LF138	51	29553	4	Washer, 1/2 ID x 1-5/8 OD x 1/4 thick
				52	1093 *	2	Nut, hex 1/2 NC
				53	765 *	2	Nut, lock 1/2 NC
				54	7163 *	4	Washer, 1-1/4 standard flat
				55	1021841	1	Spanner wrench (used for cylinder repairs)

HHCS Hex Head cap Screw
* Standard hardware, obtain locally

QUICK ATTACH BUCKET ASSEMBLY

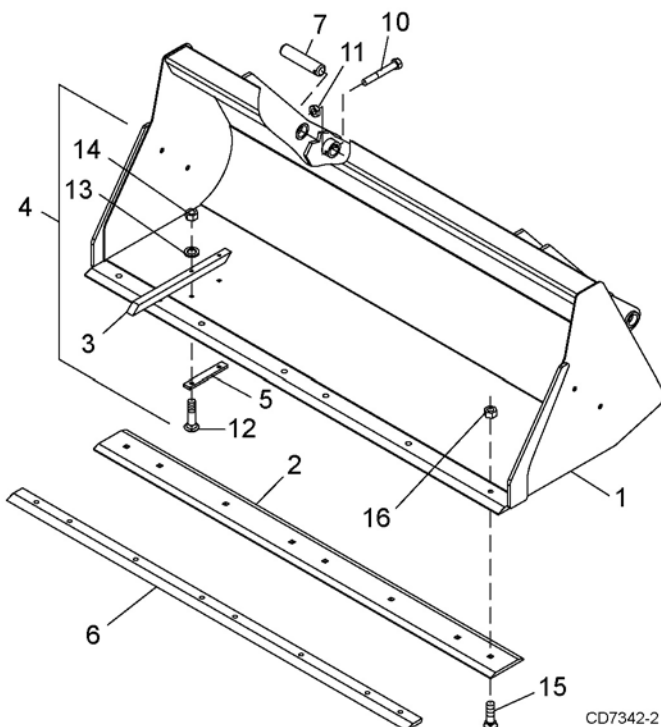


REF	PART	QTY	DESCRIPTION
1	2470084G	-	84" Bucket w/Grapple lugs
1	2470084	-	84" Bucket
1	2470096	-	96" Bucket w/Grapple lugs
2	1014179K	-	84" Cutting edge kit (incl. items 15-16)
2	1019482K	-	96" Cutting edge kit (incl. items 15-16)
3	38993	7	Bucket tooth
4	46381	-	Tooth kit (7) for 84" bucket (incl. items 3, 5, 10-13)
5	46388	7	Bucket tooth stiffener
6	1022758	1	84" Cutting edge, .75 x 6.0 x 84 (weld in edge)
6	1022766	1	96" Cutting edge, .75 x 6.0 x 96 (weld in edge)
10	301145 *	14	3/8 NC x 2 Carriage bolt GR5
12	838 *	14	3/8 Lock washer
13	835 *	14	3/8 NC Hex nut
15	21261 *	A/R	5/8 NC x 2 Plow bolt
16	6239 *	A/R	5/8 NC Lock nut

NOTE: Bolt-on cutting edge kits and bucket tooth kits are optional and must be ordered separately.

** Standard hardware, obtain locally
A/R As required

PIN-ON BUCKET ASSEMBLY (LF138 ONLY)



REF	PART	QTY	DESCRIPTION
1	2460084	-	84" Bucket (incl. items 7, 10, 11)
2	1014179K	-	84" Cutting edge kit (incl. items 15-16)
3	38993	7	Bucket tooth
4	46381	-	Tooth kit (7) for 84" bucket (incl. items 3, 5, 12-14)
5	46388	7	Bucket tooth stiffener
6	1022758	1	84" Cutting edge, .75 x 6.0 x 84 (weld in edge)
7	1025646	4	Pin, 1.25 x 7.63
10	7164 *	4	5/16 NC x 2-1/4 HHCS GR5
11	6778 *	4	5/16 NC Lock nut
12	301145 *	12	3/8 NC x 2 Carriage bolt GR5
13	838 *	12	3/8 Lock washer
14	835 *	12	3/8 NC Hex nut
15	21261 *	A/R	5/8 NC x 2 Plow bolt
16	6239 *	A/R	2/8 NC Lock nut

* Standard hardware, obtain locally

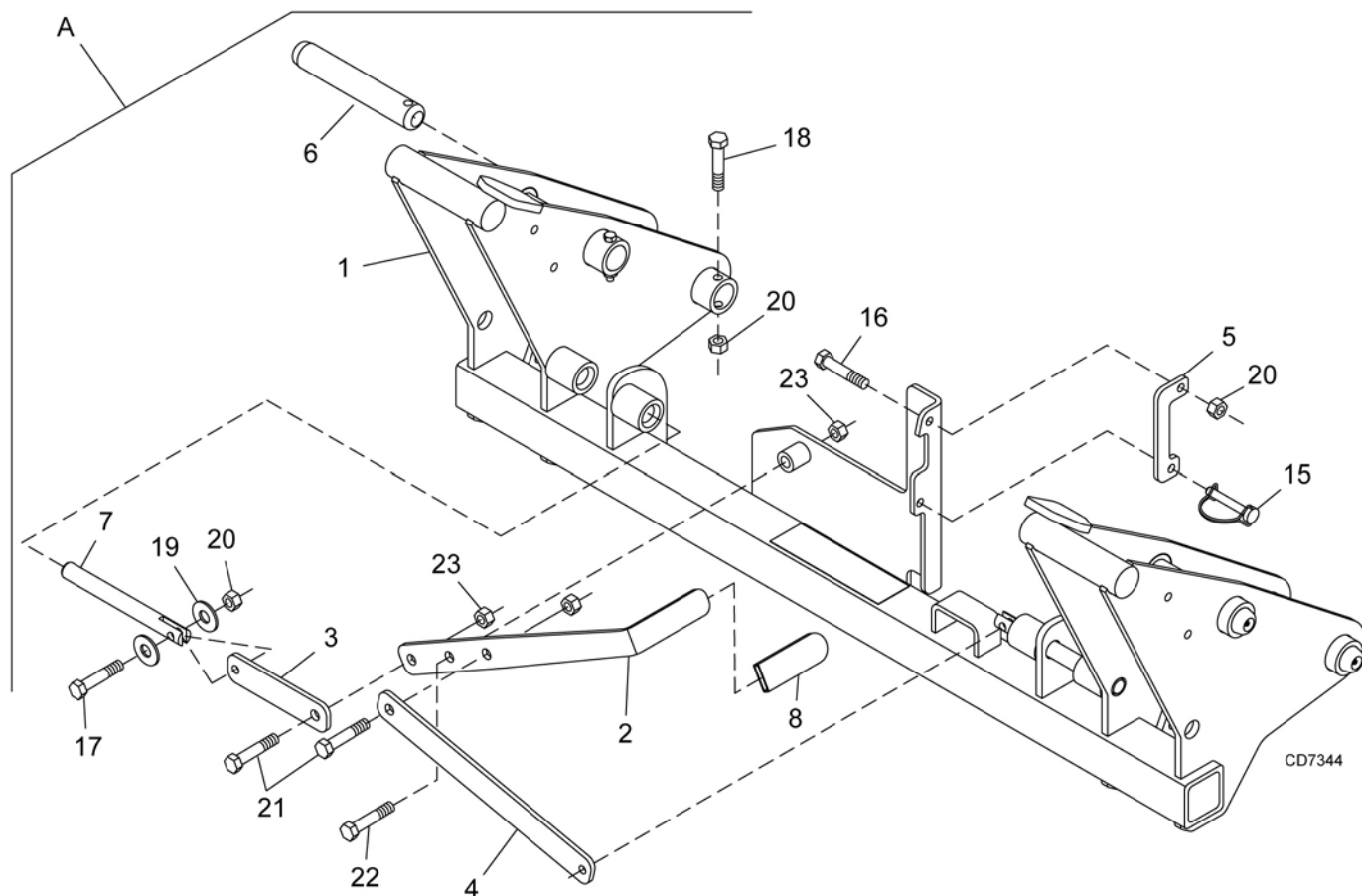
NOTE: Bolt-on cutting edge kits and bucket tooth kits are optional and must be ordered separately.

40 Parts

MAN0556 (9/21/2007)

QUICK ATTACH COUPLER

(OPTIONAL FOR LF138)



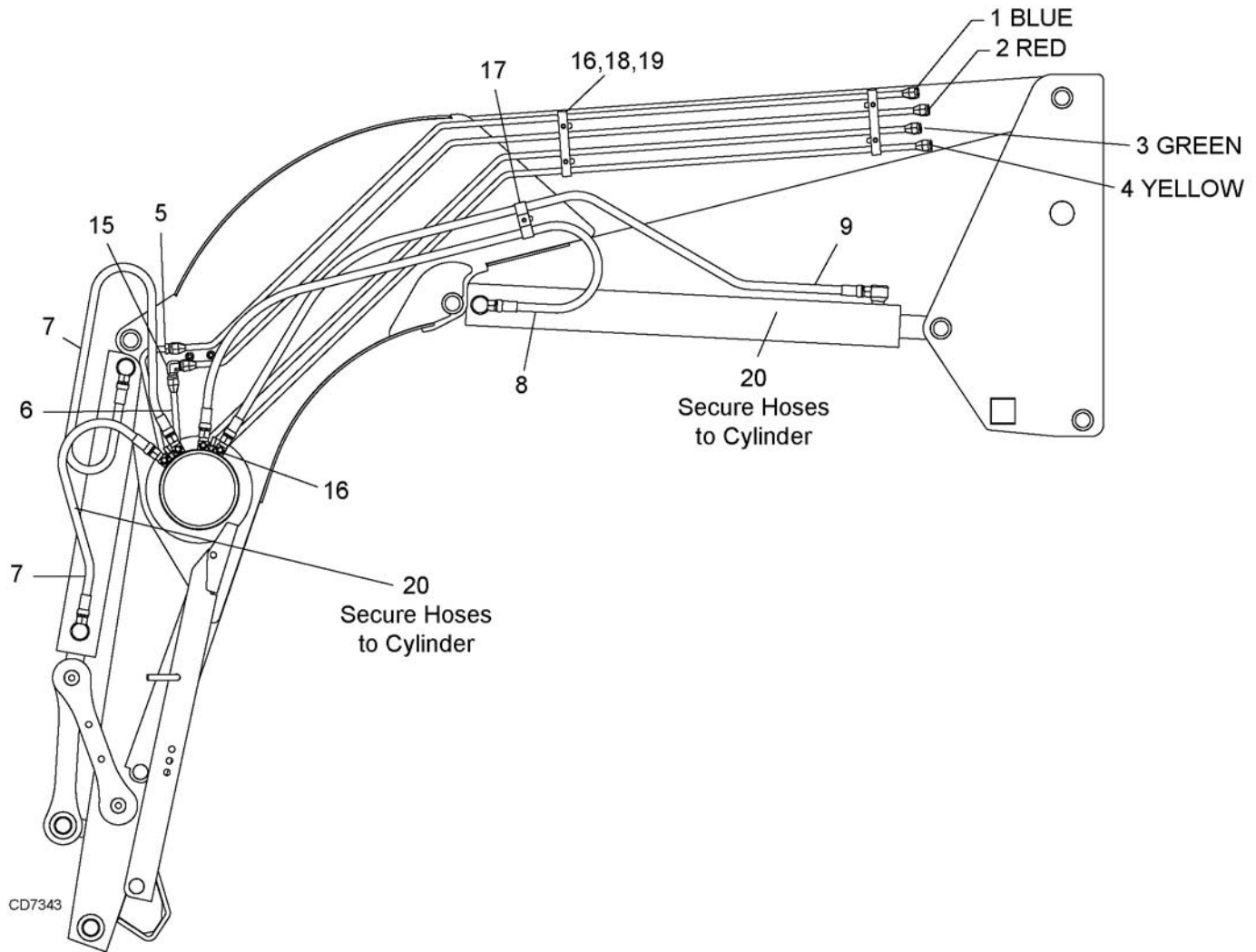
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	2450000	-	ISO 23206 Carriage assembly	16	12169 *	1	3/8 NC x 1-1/4 HHCS GR5
1	-----	1	ISO 23206 Carriage (NSS)	17	976 *	2	3/8 NC x 1-1/2 HHCS GR5
2	1025541	1	Handle	18	300165 *	4	3/8 NC x 2-1/2 HHCS GR5
3	1025542	1	Handle link - right	19	565 *	4	3/8 Flat washer
4	1025545	1	Handle link - left	20	302082 *	7	3/8 NC Lock nut
5	1025941	1	Latch link	21	6100 *	2	1/2 NC x 1-1/4 HHCS GR5
6	1025646	4	Pin, 1.25 x 7.63	22	639 *	1	1/2 NC x 2-1/2 HHCS GR5
7	1025543	2	Pin, .787 x 7.60	23	765 *	3	1/2 NC Lock nut
8	395036	1	Handle grip				
15	H019	1	Lock pin				

NSS Not sold separately

HHCS Hex Head Cap Screw

* Standard hardware, obtain locally

HYDRAULIC HOSE ROUTING & PARTS LIST



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1025656	1	Feedline - Bucket rod upper - LF156	8	360175	4	Hose, 60" x 3/4 ORBM x 3/4 JICF - LF156
1	1026250	1	Feedline - Bucket rod upper - LF138	8	360178	4	Hose, 50" x 3/4 ORBM x 3/4 JICF - LF138
2	1025653	1	Feedline - Bucket base upper - LF156	9	360161	4	Hose, 64" x 3/4 ORBM x 3/4 JICF - LF156
2	1026251	1	Feedline - Bucket base upper - LF138	9	360175	4	Hose, 60" x 3/4 ORBM x 3/4 JICF - LF138
3	1025655	1	Feedline - Boom base - LF156	15	315019	1	Elbow, 3/4 JICM x 3/4 JICM - LF156
3	1026252	1	Feedline - Boom base - LF138	16	258	8	Feedline clamp - 1/2
4	1025654	1	Feedline - Boom rod - LF156	17	56	2	Feedline clamp - 5/8
4	1026253	1	Feedline - Boom rod - LF138	18	43439	2	Strap
5	1025658	1	Feedline - Bucket rod lower - LF156	19	FA220	14	5/16 NC Nylock nut
5	1026254	1	Feedline - Bucket rod lower - LF138	20	88 *	15	Plastic tie
6	1025657	1	Feedline - Bucket base lower - LF156				
6	1026255	1	Feedline - Bucket base lower- LF138				
7	360174	4	Hose, 36" x 3/4 ORBM x 3/4 JICF - LF156				
7	1004286	4	Hose, 28" x 3/4 ORBM x 3/4 JICF - LF138				

* Standard hardware, obtain locally

42 Parts

MAN0556 (9/21/2007)

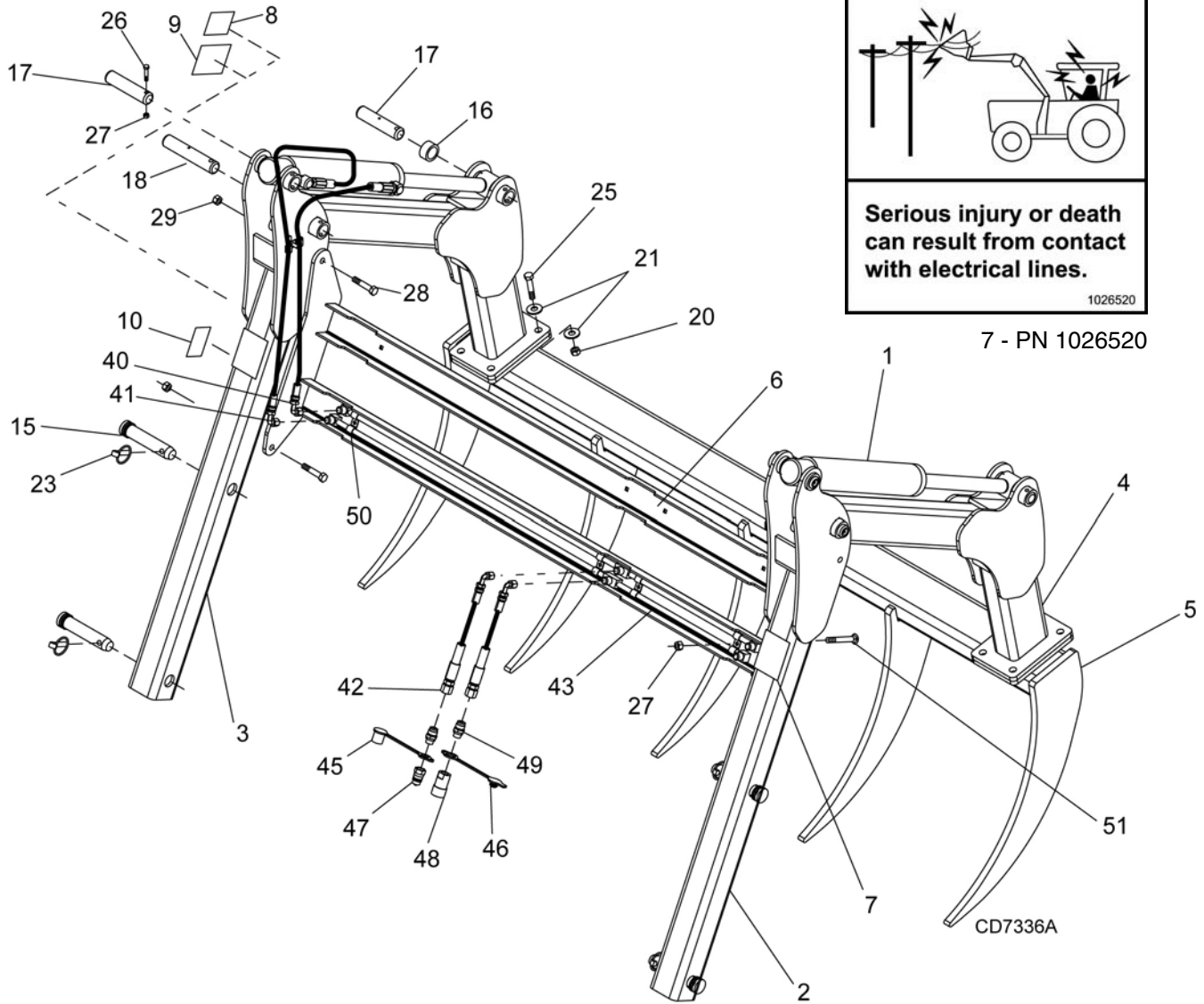
HYDRAULIC CYLINDER SEAL KITS & ASSEMBLY

Cylinder	Tube ID	Rod OD	Length		Seal Kit		Complete Assembly
			Extended	Retracted	Spanner Nut Style	Threaded Rod Gland Style	
LF138 Boom	2.76	1.77	67.00	38.07	N.A.	1024771	1024766 RH 1024767 LH
LF156 Boom	2.95	1.97	70.75	39.88	N.A.	1024772	1024768 RH 1024769 LH
LF138 Bucket	2.76	1.49	48.88	28.88	N.A.	1024773	1024770
LF156 Bucket	2.76	1.49	48.88	28.88	N.A.	1024773	1024770
Grapple	2.76	1.38	33.75	20.20	1023728	1023729	1021502

2490000 GRAPPLE (OPTIONAL)



7 - PN 1026520



CD7336A

44 Parts

(Rev. 1/6/2011)
MAN0556 (9/21/2007)

2490000 GRAPPLE PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1021502B	2	Hydraulic cylinder	25	11854 *	8	5/8 NC x 2-1/2 HHCS GR8
2	1025916	1	Grapple attach right	26	7164 *	6	5/16 NC x 2-1/4 HHCS GR5
3	1025917	1	Grapple attach left	27	6778 *	12	5/16 NC Lock nut
4	1025918	1	Grapple arm	28	3379 *	4	1/2 NC x 1-1/2 HHCS GR5
5	1025919	1	Grapple tooth	29	1093 *	4	1/2 NC nut
6	1032748	1	Grapple grill	40	1023474	2	Hose, 46" x 9/16 ORBM x 3/4 JICF 90°
7	1026520	2	Decal, Danger - Overhead Power Lines	41	1023477	2	Hose, 52" x 9/16 ORBM x 3/4 JICF 90°
8	56051	1	Decal, Warning - Read Manual	42	360143	2	Hose, 28" x 9/16 ORBM x 3/4 JICF 90°
9	56050	1	Decal, Warning - Crush & Fall Hazard	43	216070	2	Feedline
10	19924	1	Decal, Warning - Hydraulic Fluid	45	1024763	1	Dust cap, 1/2 ISO B
15	1002739	4	Hitch pin, 1.25 x 4.63	46	1024764	1	Dust plug, 1/2 ISO B
16	1018607	4	Bearing, 1.25 x 1.41 x 1.0 (set of 2)	47	1025944	1	Quick coupler, male 1/2 - ISO B
17	1020348	4	Pin, 1.25 x 5.50	48	1025945	1	Quick coupler, female 1/2 - ISO B
18	1025647	2	Pin, 1.25 x 6.68	49	54315	2	Adapter, 1/2 NPTM x 9/16 JICM
20	6239 *	8	5/8 NC Lock nut	50	258	6	Feedline clamp
21	57817	16	5/8 Hardened flat washer	51	24409	4	Crg. bolt 5/16 NC x 1
23	35124	4	Klik pin, 7/16 x 2				

* Standard hardware, obtain locally

NOTE: For items 8, 9 & 10 see Decal pages 10 and 11.

BOLT TORQUE CHART

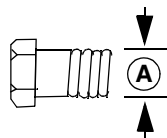
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.



SAE SERIES TORQUE CHART



SAE Grade 2
(No Dashes)

SAE Bolt Head Identification

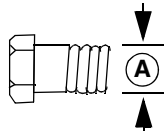


SAE Grade 5
(3 Radial Dashes)



SAE Grade 8
(6 Radial Dashes)

Ⓐ Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART



Metric
Grade 8.8

Metric Bolt Head Identification

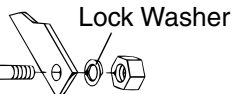


Metric
Grade 10.9

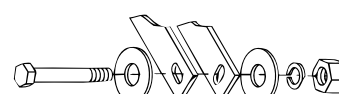
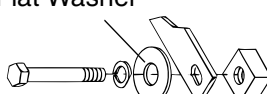
Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD								
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

Typical Washer Installations

Bolt



Flat Washer



8/9/00

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.

SAE Bolt Thread Sizes

5/16

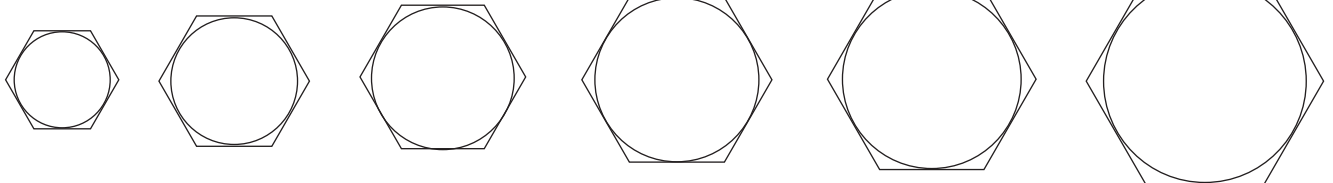
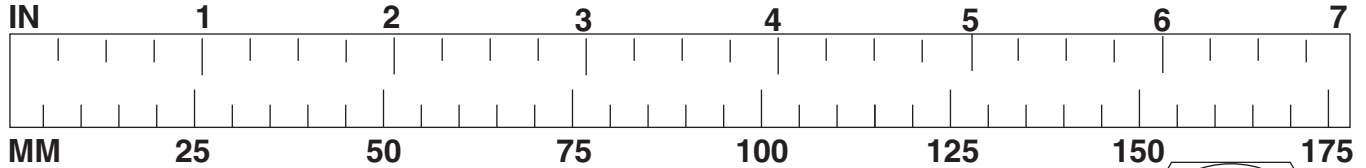
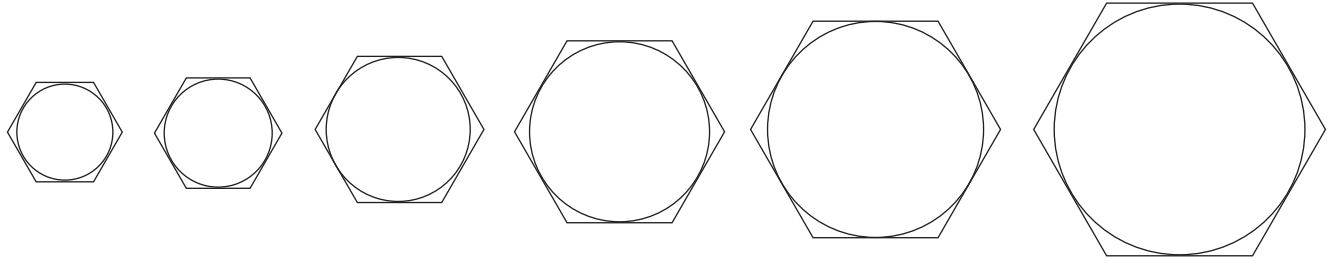
3/8

1/2

5/8

3/4

7/8



Metric Bolt Thread Sizes

8MM

10MM

12MM

14MM

16MM

18MM

ABBREVIATIONS

AG Agriculture
 ASABE..... American Society of Agricultural & Biological Engineers (formerly ASAE)
 ASAE American Society of Agricultural Engineers
 ATF Automatic Transmission Fluid
 BSPP British Standard Pipe Parallel
 BSPTM British Standard Pipe Tapered Male
 CV Constant Velocity
 CCW Counter-Clockwise
 CW Clockwise
 F Female
 FT Full Thread
 GA Gauge
 GR (5, etc.) Grade (5, etc.)
 HHCS Hex Head Cap Screw
 HT Heat-Treated
 JIC Joint Industry Council 37° Degree Flare
 LH Left Hand
 LT Left
 m Meter
 mm Millimeter
 M Male

MPa Mega Pascal
 N Newton
 NC National Coarse
 NF National Fine
 NPSM National Pipe Straight Mechanical
 NPT National Pipe Tapered
 NPT SWF National Pipe Tapered Swivel Female
 ORBM O-Ring Boss - Male
 P Pitch
 PBY Power-Beyond
 psi Pounds per Square Inch
 PTO Power Take Off
 QD Quick Disconnect
 RH Right Hand
 ROPS Roll-Over Protective Structure
 RPM Revolutions Per Minute
 RT Right
 SAE Society of Automotive Engineers
 UNC Unified Coarse
 UNF Unified Fine
 UNS Unified Special

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WARRANTY

All Models Except Mow'n Machine™ Zero-Turn Mowers

Please Enter Information Below and Save for Future Reference.

Date Purchased: _____ From (Dealer): _____

Model Number: _____ Serial Number: _____

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER.

All current model loaders and backhoes are warranted for two (2) years from the date of delivery to the original purchaser.

The warranty periods for specific parts or conditions are listed below:

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
Gearbox Seals	All units listed below	2 years
Gearbox components	BW1260, BW1620, BW1800, BW2400	8 years
	BW240HD, BW180HD, BW180HB, BW126HB	7 years
	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DSO1260, DS1440, TS1680, BW126-3, BW180-3, BW240	6 years
	PHD25, PHD35, PHD65, PHD95, 2162, 3240, DS96, DS120, RCC42, RM550-2, RM660-2, RD990X, PRD6000, PRD7200, PRD8400, S15CD, S20CD, S22CD, S25CD, S27CD, BW180LH, TC/R74, TC/R68, TC/R60, TBW144, TBW180, TBW204	5 years
	RDC54, RD60, RD72, TBW150C, TS/R60, TS/R52, TS/R44	3 years (1 year if used in rental or commercial applications)
Blade spindles	RM550-2, RM660-2, RD990X, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2	3 years
Rust-through	BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126-3, BW126HB, BW180-3, BW180HB, BW180HD, BW1260, BW1800, BW240, BW240HD, 2162, 3240, DS1260, DSO1260, DS1440, TS1680	10 years

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not apply in the event that the product has been materially modified or repaired by someone other than WOODS, a WOODS authorized dealer or distributor, and/or a WOODS authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This Warranty also does not cover repairs made with parts other than those obtainable through WOODS.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by WOODS. Warranties for these items, if any, are provided separately by their respective manufacturers.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. **THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.**

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This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty. Answers to any questions regarding warranty service and locations may be obtained by contacting:

Woods Equipment Company

2606 South Illinois Route 2
Post Office Box 1000
Oregon, Illinois 61061 USA

800-319-6637 tel
800-399-6637 fax
www.WoodsEquipment.com



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BMP®

CENTRAL FABRICATORS®

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WOODS®



WARRANTY

(Replacement Parts For All Models Except Mow'n Machine™
Zero-Turn Mowers and Woods Boundary™ Utility Vehicles)

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser with the exception of V-belts, which will be free of defect in material and workmanship for a period of 12 months.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

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This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, service person, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

Answers to any questions regarding warranty service and locations may be obtained by contacting:

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