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 NOTICEx 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.

IMPORTANT or NOTICE
Indicates helpful information.
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![Image]

¡LEA EL INSTRUCTIVO!
Si no lee Inglés, pida ayuda a alguien que sí lo lea para que le traduzca las medidas de seguridad.

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 will vary with tractor, tire size, hydraulic system and bucket used. The specifications are given for a loader equipped with an 84” material bucket, operated with an average tractor hydraulic system of 9-15 gpm with engine operating at rated PTO rpm and a control valve relief setting of 2750 psi.

**Model LU215-1**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Maximum Lift Height</td>
<td>138&quot;</td>
</tr>
<tr>
<td>B Clearance with Attachment Dumped</td>
<td>111&quot;</td>
</tr>
<tr>
<td>C Reach at Maximum Height</td>
<td>28&quot;</td>
</tr>
<tr>
<td>D Maximum Dump Angle</td>
<td>45°</td>
</tr>
<tr>
<td>E Reach with Attachment on Ground</td>
<td>78&quot;</td>
</tr>
<tr>
<td>F Attachment Rollback Angle</td>
<td>22°</td>
</tr>
<tr>
<td>G Digging Depth</td>
<td>5&quot;</td>
</tr>
<tr>
<td>Overall Height in Carrying Position</td>
<td>70&quot;</td>
</tr>
<tr>
<td>Length of Attachment</td>
<td>32&quot;</td>
</tr>
<tr>
<td>Lift Capacity to Full Height at Bucket Pin</td>
<td>3600 lbs.</td>
</tr>
<tr>
<td>Lift Capacity to Full Height - 31.5&quot; Forward of Bucket Pin</td>
<td>2400 lbs.</td>
</tr>
<tr>
<td>Breakout Capacity at Bucket Pin</td>
<td>5100 lbs.</td>
</tr>
<tr>
<td>Breakout Capacity - 31.5&quot; Forward of Bucket Pin</td>
<td>3600 lbs.</td>
</tr>
<tr>
<td>System Pressure Tested</td>
<td>2750 psi</td>
</tr>
<tr>
<td>Recommended Hydraulic Flow</td>
<td>9-15 gpm</td>
</tr>
<tr>
<td>Recommended Tractor PTO Horsepower</td>
<td>50-100 hp</td>
</tr>
<tr>
<td>Lift Cylinder Bore</td>
<td>2.76&quot;</td>
</tr>
<tr>
<td>Bucket Cylinder Bore</td>
<td>2.76&quot;</td>
</tr>
</tbody>
</table>

**BUCKET**

<table>
<thead>
<tr>
<th>Bucket Capacity</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>84° QA</td>
<td>20.8 cu. ft.</td>
</tr>
</tbody>
</table>
LIFT CAPACITY & BREAKOUT VS PRESSURE

Pressure (psi) | LU215-1 Lift Capacity at Bucket Pin (lbs.) | LU215-1 Breakout 31.5" Forward of Bucket Pin (lbs.)
---|---|---
2250 | 2800 | 2760
2500 | 3210 | 3160
2750 | 3600 | 3600

Capacities measured in accordance with ASAE S301.4

SKID STEER ATTACHMENTS
APPROVED FOR USE ON LU215-1 LOADER

<table>
<thead>
<tr>
<th>Description</th>
<th>Model</th>
<th>Heaped Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>66&quot; Manure Fork</td>
<td>MF6600</td>
<td>---</td>
<td>377 lbs.</td>
</tr>
<tr>
<td>72&quot; Manure Fork</td>
<td>MF7200</td>
<td>---</td>
<td>410 lbs.</td>
</tr>
<tr>
<td>Agricultural Grapple Attachment</td>
<td>GF3000</td>
<td>---</td>
<td>260 lbs.</td>
</tr>
<tr>
<td>Bale Spear</td>
<td>BS20490S</td>
<td>2000 lbs.</td>
<td>207 lbs.</td>
</tr>
<tr>
<td>Bale Spear - 3 Spear</td>
<td>1021837</td>
<td>4000 lbs.</td>
<td>250 lbs.</td>
</tr>
</tbody>
</table>

Pallet Forks:
<table>
<thead>
<tr>
<th>Description</th>
<th>Model</th>
<th>Heaped Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>36&quot; Lock Down Forged Tines</td>
<td>PF4036S</td>
<td>4000 lbs.</td>
<td>394 lbs.</td>
</tr>
<tr>
<td>42&quot; Lock Down Forged Tines</td>
<td>PF4042S</td>
<td>4000 lbs.</td>
<td>409 lbs.</td>
</tr>
<tr>
<td>48&quot; Lock Down Forged Tines</td>
<td>PF4048S</td>
<td>4000 lbs.</td>
<td>428 lbs.</td>
</tr>
</tbody>
</table>

EURO TYPE ATTACHMENTS
APPROVED FOR USE ON LU215-1 LOADER

<table>
<thead>
<tr>
<th>Description</th>
<th>Model</th>
<th>Heaped Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bale Spear</td>
<td>BS3243E</td>
<td>3200 lbs.</td>
<td>180 lbs.</td>
</tr>
</tbody>
</table>

Pallet Forks:
<table>
<thead>
<tr>
<th>Description</th>
<th>Model</th>
<th>Heaped Capacity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>48&quot; Lock Down Forged Tines</td>
<td>PF6048E</td>
<td>6000 lbs.</td>
<td>507 lbs.</td>
</tr>
</tbody>
</table>
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.
- Electrocution 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)
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!

6 - SERIAL NUMBER PLATE

1 - PN 56053

DANGER

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

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.

2 - 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.

3 - 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.

4 - PN 1020371

WARNING

- 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.

9 - 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.

10 Safety
SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

10 - PN 56050

WARNING

CRUSHING HAZARD
To avoid injury or death:
- Do not walk or work underneath a raised loader.
- Lower loader to ground before leaving tractor seat.

WARNING

FALLING HAZARD
To avoid injury or death:
- Do not work from or allow riders on loader or its attachments.

BE CAREFUL!

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.

8 - PN 45024

WARNING

LOADER ATTACHMENT CAN FALL OFF IF NOT PROPERLY ATTACHED.
Only use loader manufacturer approved attachments.
Failure to do so can cause serious injury or death.

7 - PN 1026268 (EURO)

WARNING

LOADER ATTACHMENT CAN FALL OFF IF NOT PROPERLY ATTACHED.
- 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.
Failure to follow these instructions could result in serious injury or death.

5 - PN 1032699

LOADER MOUNTING INSTRUCTIONS
Read Operator’s Manual instructions before proceeding.

To Remove Loader:
1. Park tractor on a level surface with bucket flat on ground.
2. Remove stands from crosstube and pin into brackets. (Pin location noted in operator’s manual)
3. Loosen lock down mechanism on bottom of uprights. Remove mounting pins and hang on hook provided.
4. Back tractor away until loader is out of rear mount.
Level loader rails with front mount tube using hydraulics.
5. Shut off engine. Disconnect hydraulics.
6. Back tractor away until front mount is out of loader rails.

To Mount Loader:
1. Drive tractor into loader slowly.
3. Drive forward until uprights are in mounts. Use hydraulics to help align loader.
4. Insert mounting pins and tighten lock down mechanism.
5. Remove stands and pin into crosstube.

7 - PN 56055 (SKID STEER)

WARNING

LOADER ATTACHMENT CAN FALL OFF IF NOT PROPERLY ATTACHED.
- Read operator’s manuals for instructions.
- Position and align loader to attachment.
- Rotate coupler handles to full locked position. Lockpins must fully extend and engage into attachment retaining slots.
- 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.
Failure to follow these instructions can result in serious injury or death.

Safety 11
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.

**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.

**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.

- 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.
CONNECT BUCKET OR ATTACHMENT USING SKID STEER STYLE QUICK ATTACH COUPLER

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

The quick attach coupler handles should be in the unlocked position with lock pins retracted, Figure 1.

Figure 1. Quick Attach Coupler Handles - 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 index into the attachment or bucket flange, Figure 2.

Roll the attachment coupler into the attachment flange so the coupler handles 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 handles to the locked position. The lockpins must be completely extended and secured into the retaining slots provided on the attachment, Figure 3 and Figure 4.

![Figure 3. Attachment Coupler Handles - Locked](image)

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 4. Retaining Slot Locations - Back View of Attachment](image)
**CONNECT BUCKET OR ATTACHMENT USING EURO 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 5.

![Figure 5. Quick Attach Coupler Handle - Unlocked](image)

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 6.

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

![Figure 6. Connecting Bucket or Attachment to Loader](image)

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 7.

![Figure 7. Attachment Coupler Handle - Locked](image)

**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).

**LOADERS 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 approximately half throttle. 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.

2. Loaders with single handle controls: Ease the lever back and toward you to lift and roll back the bucket, Figure 9.

3. 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 breakaway effort, Figure 10.

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

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

When lifting the load, keep the bucket positioned to avoid spillage, Figure 11.

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 12.

Operating on a Slope

- 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.

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 14.

**Lowering Bucket**

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

**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.

**Loading from a Bank**

See Figure 17.

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.
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 18.

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 19.

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 20.

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 21.

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.

Position the bucket at an angle of less than 45 degrees and back up slowly, Figure 23.

Backgrading with the bucket tilted too far will result in damage to bucket cylinders and void warranty, Figure 24.
Backfilling

1. Approach the pile with a flat bucket, Figure 25.

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 26.

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.

**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.
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.

**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.

**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 28. Picking Up a Round Bale**

**Figure 29. Picking Up Round Bale on a Slope**

**Figure 30. Transporting a Round Bale**
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.

■ 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.

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 31.

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.

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 31.
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.

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", 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.
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 manufactures.

**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 lift and tilt 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.

**100 Hours**

- Lubricate attachment coupler pivots and linkage with light oil and inspect for damaged or missing components.

**Annually**

- Lubricate direct mount joystick linkage with grease.

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**Figure 30. Lubrication Points**

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**22 Owner Service**

MAN0846 (09/17/2010)
The following is a list of service problems, possible causes, and solutions. If problems still exist after preforming the solution, contact your nearest Woods dealer for authorized service.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jerky operation</td>
<td>Air in hydraulic system</td>
<td>Cycle cylinders several times to purge system of air.</td>
</tr>
<tr>
<td></td>
<td>Cold hydraulic oil</td>
<td>Run engine to warm oil.</td>
</tr>
<tr>
<td></td>
<td>Low hydraulic oil level</td>
<td>Add oil to level specified.</td>
</tr>
<tr>
<td></td>
<td>Poor oil circulation</td>
<td>Change oil filter and clean screen in tractor hydraulic system.</td>
</tr>
<tr>
<td></td>
<td>Worn or damaged hydraulic pump</td>
<td>Repair or replace pump.</td>
</tr>
<tr>
<td></td>
<td>Air leak in pump inlet line</td>
<td>Check, tighten or replace inlet line.</td>
</tr>
<tr>
<td>Slow operation</td>
<td>Faulty valve</td>
<td>Repair or replace valve.</td>
</tr>
<tr>
<td></td>
<td>Air in hydraulic system</td>
<td>Cycle lift cylinders and bucket cylinders several times to free system of air.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic oil too heavy</td>
<td>Change to proper oil.</td>
</tr>
<tr>
<td></td>
<td>Oil filter plugged</td>
<td>Clean and replace filter.</td>
</tr>
<tr>
<td></td>
<td>Slow engine speed</td>
<td>Increase engine speed rate.</td>
</tr>
<tr>
<td></td>
<td>Cylinder piston seals leaking</td>
<td>Install seal repair kit.</td>
</tr>
<tr>
<td></td>
<td>Remote valve incorrectly adjusted or malfunctioning</td>
<td>Adjust, repair, or replace control valve.</td>
</tr>
<tr>
<td></td>
<td>Tractor hydraulic pump malfunctioning</td>
<td>Repair or replace pump.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic pump too small; hoses or feedlines restricted</td>
<td>Check hoses and feed lines for kinks and other restrictions.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic couplers not completely engaged</td>
<td>Connect hydraulic couplers.</td>
</tr>
<tr>
<td>Oil leaks</td>
<td>Loose hose connections</td>
<td>Tighten fittings. Use thread sealer on pipe (tapered) threads.</td>
</tr>
<tr>
<td></td>
<td>Fittings or hoses defective</td>
<td>Tighten fittings. Use thread sealer on pipe (tapered) threads.</td>
</tr>
<tr>
<td></td>
<td>Fittings or hoses defective</td>
<td>Replace defective parts.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic cylinder seals worn or damaged</td>
<td>Install seal repair kit.</td>
</tr>
<tr>
<td></td>
<td>Remote valve components worn or damaged</td>
<td>Repair and/or replace.</td>
</tr>
<tr>
<td>TROUBLESHOOTING</td>
<td>Cannot raise load</td>
<td>Bucket overloaded</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>Low oil supply</td>
<td>Try lighter load.</td>
</tr>
<tr>
<td></td>
<td>Bucket overloade</td>
<td>Reconnect hoses.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic couplers not fully engaged</td>
<td>Install seal repair kit.</td>
</tr>
<tr>
<td></td>
<td>Cylinder piston seal leakage</td>
<td>Repair or replace control valve.</td>
</tr>
<tr>
<td></td>
<td>Control valve incorrectly adjusted or malfunctioning</td>
<td>Repair or replace hydraulic pump.</td>
</tr>
<tr>
<td></td>
<td>Tractor valve not open to provide circuit to auxiliary valve</td>
<td>Open tractor valve. Be sure pressure is to inlet side of auxiliary valve.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic pump malfunctioning</td>
<td>Repair or replace hydraulic pump.</td>
</tr>
<tr>
<td></td>
<td>Load is greater than boom lift capacity</td>
<td>Check loader specifications.</td>
</tr>
<tr>
<td>Bucket or boom leaks down from “hold” position</td>
<td>Leaks in hydraulic circuits</td>
<td>Tighten loose fittings. Use thread sealer on pipe (tapered) threads.</td>
</tr>
<tr>
<td></td>
<td>Cylinder piston seals leaking</td>
<td>Install seal repair kit.</td>
</tr>
<tr>
<td></td>
<td>Control valve worn or damaged</td>
<td>Repair or replace control valve.</td>
</tr>
<tr>
<td></td>
<td>Tractor valve worn or damaged</td>
<td>Repair or replace tractor valve.</td>
</tr>
<tr>
<td>Cannot lower boom</td>
<td>Hydraulic couplers not fully engaged</td>
<td>Recouple hoses.</td>
</tr>
<tr>
<td>Loss of bucket tilt control when lever is pushed completely forward</td>
<td>Tractor lever in “float” position</td>
<td>Use float lockout control to prevent lever from being moved to “float” position.</td>
</tr>
<tr>
<td>Couplers hard to hook up</td>
<td>Pressure in circuit</td>
<td>Place control levers in “float” when connecting</td>
</tr>
<tr>
<td>Boom and bucket operation does not correspond to control lever position</td>
<td>Improperly connected hydraulic couplers</td>
<td>Connect hydraulic couplers correctly. See Hydraulic Kit Manual for proper connections.</td>
</tr>
<tr>
<td></td>
<td>Hoses improperly connected</td>
<td>Connect hoses properly. See Hydraulic Kit Manual for proper connections.</td>
</tr>
<tr>
<td>Excessive wear on bucket cutting edge and wear pads</td>
<td>Bucket is tilted too far forward and is riding on cutting edge</td>
<td>Keep bottom of bucket parallel to ground. Use rod gauge to indicate level bucket position.</td>
</tr>
<tr>
<td></td>
<td>Excessive down pressure when cleaning feedlots and working on concrete</td>
<td>Use “float” position on boom lift control lever.</td>
</tr>
</tbody>
</table>
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.

■ 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.

⚠ 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.

The LU215-1 loader was assembled with either a spanner nut assembly or threaded rod guide assembly. See Figure 31 and Figure 32 to determine the style of cylinder that is on your loader. Follow repair procedures for each style of cylinder. Before ordering seal kit, determine which type of cylinder you have.

Figure 31. Spanner Nut Cylinder

Figure 32. Threaded Rod Guide Cylinder
CYLINDER REPAIR
Spanner Nut Cylinders
Disassembly

On spanner nut style cylinders, unscrew spanner nut (4) using a hook type spanner wrench, or carefully use a punch and hammer.

Tap rod guide (5) into barrel (8) about 1/2". Remove round retaining ring (3B). Pull on rod (1) to remove parts from barrel.

Clamp cross pin end of rod assembly (1) in a vise with protective jaws. Remove lock nut (7) from rod assembly. Remove piston (6), stop tube (2), and 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.

NOTE: Spanner nut cylinders will have “E” or “J” stamped into the cylinder barrel to indicate the correct seal kit.

Assembly

Lubricate O-rings and seals with clean hydraulic fluid. Install back-up washer (3E) on rod guide (5), then install O-ring (3F) in exterior O-ring groove of rod guide. Install rod seal (3D) into inner groove of rod guide with open portion of V-groove toward piston.

Place rod wiper (3C) in outer rod guide groove. Slide rod guide assembly (5) onto rod (1). Place crown piston seal (3G) in piston groove.

Lightly coat rod threads with hydraulic oil and slide O-ring (3A) over threads and into groove. Install stop tube and piston (6) onto rod (1) as shown in Figure 34. Completely clean threads of hydraulic oil, apply Loc-Quic® Primer 7649 and Loctite® 242 to the rod threads, and install lock nut (7). Torque to 175 lbs-ft.

Compress crown piston seal and carefully insert piston and rod assembly into barrel. Use care to prevent damage while installing.

Carefully push or tap rod guide (5) into barrel (8) just past groove inside barrel. Insert retaining ring (3B) into groove and pull rod (1) to seat rod guide (5) against ring. Apply Loctite 242 to rod guide threads. Screw spanner nut (4) into rod guide (5) using a spanner wrench, or carefully use a punch and hammer.

Inspect inside diameter of barrel (8). Replace cylinder if damaged.
Threaded Rod Guide Cylinders

Figure 35 shows an exploded view of cylinders 1021500 and 1021501.

Disassembly

On threaded guide type cylinders, unscrew guide (5) using a double pin type 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. 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 cylinders 1021500 and 1021501 (Figure 36) install the buffer ring into the third groove from the rod guide face with the open portion of V-groove toward piston.

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). Cylinders 1021500 and 1021501 require two additional wear rings (3K) to be installed in the two smaller grooves on the piston (6).

Lightly coat rod threads with hydraulic oil and slide O-ring (3A) over threads and into groove. Completely clean threads of hydraulic oil, apply Locquic 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 100 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.

---

1. Piston rod
2. O-Ring
3A. Wiper ring
3B. Rod seal
3C. Back-up ring
3D. O-Ring
3E. Buffer ring
3F. Guard ring
3G. Offset ring
3H. Crown piston seal
3J. Wear ring
3K. Rod guide assembly
3L. Piston
3M. Cylinder barrel

---

Figure 36. 1021500 & 1021501 Cylinders
PIVOT BEARING REPLACEMENT

Two replaceable bearings per pivot joint are located in:

- Boom cylinder rod end
- Bucket cylinder rod end

Bearing repair kits for LU215-1 loaders are:

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 bearings from each pivot point.
   
   **NOTE:** Hammer and punch or heat may be required to remove bearings.

4. Apply one drop of Loctite (supplied with bearing kit) to each new bearing and install bearing.

5. Allow Loctite to set one hour before reassembling loader.

6. Apply grease to all bearings. Allow grease to fill small cavities in bearing.

7. Reassemble loader.
 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

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.

Remove manual tube from its shipping location, save for later installation.

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 into mounting shoes. Secure uprights into 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.
Manual Tube Installation
Attach manual tube (17) to right hand upright using two whiz bolts (31).

Figure 39. Manual Tube Installation

Quick Attach Coupler Installation
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 40.
4. Attach bucket cylinder to the upper holes and secure.

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

Figure 40. Quick Attach Coupler Installed, Right Side

Bucket Connection to Quick Attach Coupler
See connect bucket or attachment using appropriate style coupler, page 13 and page 14 to connect bucket.

Bucket Level Indicator Installation

Figure 41. Install Level Indicator (Typical)
1. Remove bucket level indicator rod from its shipping position on right loader boom leg.
2. Slide rod through bucket level indicator bracket on right boom frame.
3. Attach other end to hole in quick attach coupler and secure with cap screws and nuts, Figure 40.

Bucket Level Indicator Adjustment
With tractor and loader on flat surface, adjust boom and bucket cylinders as necessary and place bottom surface of bucket level on the ground.

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

Loosen hex nut and slide indicator bracket (2) so that bend in indicator rod (1) is centered in the bracket. Tighten hex nut. See Figure 41.

Grease Loader
Lubricate all pivot points shown on page 22 with a high quality SAE multi-purpose grease. The attachment coupler handle pivots should be lubricated with a light penetrating oil.

Parking Stand Installation
Follow Loader Removal instructions on page 34. On some low-profile tractors, the parking stand on the right side must be shortened to prevent interference with the level indicator rod.

If necessary, shorten parking stand enough to prevent interference.
Optional Bucket Tooth Installation

Holes for teeth must be drilled in bottom of bucket. Position point of tooth as shown in Figure 42, 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 (11, 12, 13), and stiffener (4) for each tooth.

Figure 42. Bolt on Bucket Tooth (Optional)
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” 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.
ATTACH LOADER TO TRACTOR
Remove mount pins from loader uprights.
Align tractor with loader and drive tractor into loader slowly.

Figure 43. Align Tractor to Loader

Shut off tractor. Connect the hydraulic hoses.
Drive tractor forward until uprights are in mounts. Use hydraulics to help align loader.
Set brake and shut off the tractor. Install mount pins and retaining clips.

Figure 44. Loader Attached to Tractor

Tighten lock-down mechanism in bottom of upright.

Figure 45. Locking Mechanism

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 level on the ground.
Remove stands from crosstube and select the stand position which will allow the loader to disengage the loader mount and clear the tires for removal.
Dump bucket slightly to take weight off mount pins and allow for stand installation. Set brake and shut off tractor. Loosen lock down mechanism in bottom of uprights. Remove mounting pins and hang on hooks provided.

Figure 46. Stands Stored in Crosstube

Figure 47. Stands Installed (Typical)

Secure both stands at equal positions in brackets, using clevis pins and safety pins.
Back tractor away until loader is out of rear mount. Level loader side rails with front mount tube using hydraulics.

Shut off engine. Disconnect hydraulics. Back tractor away until front mount is out of the loader rails.

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

**VERIFY CONTROL MOVEMENTS**

Check that all tractor hydraulic control lever positions operate the loader movements correctly. See Figure 49.

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.

**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.
- 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.

![Figure 48. Loader Storage Position](image)

![Figure 49. Single Lever Control Operation](image)
LU215-1 LOADER ASSEMBLY

20 - Complete Decal Set
21 - Safety Decal Set
22 - French Safety Decal Set

36 Parts
## LU215-1 LOADER ASSEMBLY PARTS LIST

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<td>1</td>
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<td>LU215 main frame with decals - left side</td>
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<td>1032665</td>
<td>2</td>
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<td>1032690</td>
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<td>Replacement pin kit for spanner wrench (not shown)</td>
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**HHCS**
Hex Head Cap Screw

*Standard Hardware, Obtain Locally*
**QUICK ATTACH BUCKET ASSEMBLY**

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<td>84in. Bucket, Quick Attach - Euro</td>
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<td>38993</td>
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<td>46388</td>
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<td>Bucket tooth stiffener</td>
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**A/R** As Required

* Standard Hardware, Obtain Locally

NOTE: Bolt-on cutting edge kits and bucket tooth kits are optional and must be ordered separately.
HYDRAULIC CYLINDER SEAL KITS & ASSEMBLY

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<td>Boom - Left Hand</td>
<td>1021501B</td>
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**Cylinder Rod Guide Design**
- Threaded 1023727
- Spanner Nut with "J" Stamping on Barrel 1023726
- Spanner Nut with "E" Stamping on Barrel 1030139

**NOTE:** Before ordering seal kits, check cylinder rod guide design and stamping on barrel near base port. Refer to page 26.

---

HYDRAULIC HOSE ROUTING & PARTS LIST

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<td>FA220 *</td>
<td>14</td>
<td>5/16 NC Nylock Nut, ZP</td>
</tr>
</tbody>
</table>
### SKID STEER STYLE QUICK ATTACH COUPLER

<table>
<thead>
<tr>
<th>REF</th>
<th>PART</th>
<th>QTY</th>
<th>DESCRIPTION</th>
<th>REF</th>
<th>PART</th>
<th>QTY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2370001</td>
<td>1</td>
<td>Attachment coupler assembly</td>
<td>16</td>
<td>302082</td>
<td>4</td>
<td>3/8 NC x 1 Lock nut</td>
</tr>
<tr>
<td>1</td>
<td>1019704</td>
<td>1</td>
<td>Right handle</td>
<td>17</td>
<td>300300</td>
<td>2</td>
<td>1/2 NC x 1 HHCS GR5, ZP</td>
</tr>
<tr>
<td>2</td>
<td>1019705</td>
<td>1</td>
<td>Left handle</td>
<td>18</td>
<td>854</td>
<td>2</td>
<td>1/2 Flat washer, ZP</td>
</tr>
<tr>
<td>3</td>
<td>1025647</td>
<td>4</td>
<td>Pin, 1.25 x 6.68</td>
<td></td>
<td></td>
<td></td>
<td>HHCS</td>
</tr>
<tr>
<td>4</td>
<td>44575</td>
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<td>Pin, 1.25 x 4.41</td>
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<td></td>
<td></td>
<td>Hex Head Cap Screw</td>
</tr>
<tr>
<td>5</td>
<td>56392</td>
<td>4</td>
<td>Pin, .37 x 1.25 drive lok</td>
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<td></td>
<td>* Standard Hardware, Obtain Locally</td>
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<tr>
<td>6</td>
<td>31392</td>
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<td>Washer, 13/16 x 1-9/16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>56393</td>
<td>2</td>
<td>Compression spring, .75ID x 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>56396</td>
<td>2</td>
<td>Washer, .18 x 1.5 x 2.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>56395</td>
<td>2</td>
<td>Link, .37 x .63 x 7.30</td>
<td></td>
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<td></td>
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<tr>
<td>10</td>
<td>57470</td>
<td>2</td>
<td>Handle repair kit, (includes items 4-9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>300165</td>
<td>4</td>
<td>3/8 NC x 2-1/2 HHCS GR5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(Rev. 1/20/2011)*
MAN0846 (09/17/2010)
# EURO QUICK ATTACH COUPLER

<table>
<thead>
<tr>
<th>REF</th>
<th>PART</th>
<th>QTY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2390001</td>
<td>1</td>
<td>Carriage Assembly</td>
</tr>
<tr>
<td>1</td>
<td>------</td>
<td>1</td>
<td>Carriage weldment</td>
</tr>
<tr>
<td>2</td>
<td>1025541</td>
<td>1</td>
<td>Handle</td>
</tr>
<tr>
<td>3</td>
<td>1025542</td>
<td>1</td>
<td>Handle Link, Right</td>
</tr>
<tr>
<td>4</td>
<td>1025545</td>
<td>1</td>
<td>Handle Link, Left</td>
</tr>
<tr>
<td>5</td>
<td>1025941</td>
<td>1</td>
<td>Latch link</td>
</tr>
<tr>
<td>6</td>
<td>1025647</td>
<td>4</td>
<td>Pin, 1.25 x 6.68</td>
</tr>
<tr>
<td>7</td>
<td>1025543</td>
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<td>Pin, .787 x 7.60</td>
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<tr>
<td>8</td>
<td>395036</td>
<td>1</td>
<td>Handle Grip</td>
</tr>
<tr>
<td>15</td>
<td>H019</td>
<td>1</td>
<td>Lock Pin</td>
</tr>
<tr>
<td>16</td>
<td>12169*</td>
<td>1</td>
<td>3/8 NC x 1-1/4 HHCS GR5, ZP</td>
</tr>
<tr>
<td>17</td>
<td>976*</td>
<td>2</td>
<td>3/8 NC x 1-1/2 HHCS GR5, ZP</td>
</tr>
<tr>
<td>18</td>
<td>300165*</td>
<td>4</td>
<td>3/8 NC x 2-1/2 HHCS GR5, ZP</td>
</tr>
<tr>
<td>19</td>
<td>565*</td>
<td>4</td>
<td>3/8 Flat Washer, ZP</td>
</tr>
<tr>
<td>20</td>
<td>302082*</td>
<td>7</td>
<td>3/8 NC Bi-Way Hex Lock Nut, ZP</td>
</tr>
<tr>
<td>21</td>
<td>6100*</td>
<td>2</td>
<td>1/2 NC x 1-1/4 HHCS GR5, ZP</td>
</tr>
<tr>
<td>22</td>
<td>639*</td>
<td>1</td>
<td>1/2 NC x 2-1/2 HHCS GR5, ZP</td>
</tr>
<tr>
<td>23</td>
<td>765*</td>
<td>3</td>
<td>1/2 NC Lock Nut, ZP</td>
</tr>
</tbody>
</table>

**Notes:**
- HHCS: Hex Head Cap Screw
- *: Standard Hardware, Obtain Locally

(Rev. 1/20/2011)
MAN0846 (09/17/2010)
# 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

<table>
<thead>
<tr>
<th>Diameter (Inches)</th>
<th>Wrench Size</th>
<th>SAE 2 (lbs-ft)</th>
<th>SAE 2 (N-m)</th>
<th>SAE 5 (lbs-ft)</th>
<th>SAE 5 (N-m)</th>
<th>SAE 8 (lbs-ft)</th>
<th>SAE 8 (N-m)</th>
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<tr>
<td>1/4&quot;</td>
<td>7/16&quot;</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>1/2&quot;</td>
<td>12</td>
<td>17</td>
<td>19</td>
<td>26</td>
<td>27</td>
<td>37</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>9/16&quot;</td>
<td>23</td>
<td>31</td>
<td>35</td>
<td>47</td>
<td>49</td>
<td>67</td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>5/8&quot;</td>
<td>36</td>
<td>48</td>
<td>55</td>
<td>75</td>
<td>78</td>
<td>106</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
<td>55</td>
<td>75</td>
<td>85</td>
<td>115</td>
<td>120</td>
<td>163</td>
</tr>
<tr>
<td>9/16&quot;</td>
<td>13/16&quot;</td>
<td>78</td>
<td>106</td>
<td>121</td>
<td>164</td>
<td>171</td>
<td>232</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>15/16&quot;</td>
<td>110</td>
<td>149</td>
<td>170</td>
<td>230</td>
<td>240</td>
<td>325</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>1-1/8&quot;</td>
<td>192</td>
<td>261</td>
<td>297</td>
<td>403</td>
<td>420</td>
<td>569</td>
</tr>
<tr>
<td>7/8&quot;</td>
<td>1-5/16&quot;</td>
<td>306</td>
<td>416</td>
<td>474</td>
<td>642</td>
<td>669</td>
<td>907</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1-1/2&quot;</td>
<td>467</td>
<td>634</td>
<td>722</td>
<td>979</td>
<td>1020</td>
<td>1383</td>
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## METRIC SERIES TORQUE CHART

<table>
<thead>
<tr>
<th>Diameter &amp; Thread Pitch (Millimeters)</th>
<th>Wrench Size</th>
<th>Metric 8.8 (N-m)</th>
<th>Metric 8.8 (lbs-ft)</th>
<th>Metric 10.9 (N-m)</th>
<th>Metric 10.9 (lbs-ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 x 1.0</td>
<td>10 mm</td>
<td>8</td>
<td>6</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>8 x 1.25</td>
<td>13 mm</td>
<td>20</td>
<td>15</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>10 x 1.5</td>
<td>16 mm</td>
<td>39</td>
<td>29</td>
<td>54</td>
<td>40</td>
</tr>
<tr>
<td>12 x 1.75</td>
<td>18 mm</td>
<td>68</td>
<td>50</td>
<td>94</td>
<td>70</td>
</tr>
<tr>
<td>14 x 2.0</td>
<td>21 mm</td>
<td>109</td>
<td>80</td>
<td>151</td>
<td>111</td>
</tr>
<tr>
<td>16 x 2.0</td>
<td>24 mm</td>
<td>169</td>
<td>125</td>
<td>234</td>
<td>173</td>
</tr>
<tr>
<td>18 x 2.5</td>
<td>27 mm</td>
<td>234</td>
<td>172</td>
<td>323</td>
<td>239</td>
</tr>
<tr>
<td>20 x 2.5</td>
<td>30 mm</td>
<td>330</td>
<td>244</td>
<td>457</td>
<td>337</td>
</tr>
<tr>
<td>22 x 2.5</td>
<td>34 mm</td>
<td>451</td>
<td>332</td>
<td>623</td>
<td>460</td>
</tr>
<tr>
<td>24 x 3.0</td>
<td>36 mm</td>
<td>571</td>
<td>421</td>
<td>790</td>
<td>583</td>
</tr>
<tr>
<td>30 x 3.0</td>
<td>46 mm</td>
<td>1175</td>
<td>867</td>
<td>1626</td>
<td>1199</td>
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</table>

Typical Washer Installations

- Bolt
- Lock Washer
- Flat Washer
BOLT SIZE CHART

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

<table>
<thead>
<tr>
<th>SAE Bolt Thread Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metric Bolt Thread Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8MM</td>
</tr>
</tbody>
</table>

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

Bolt Torque & Size Charts (Rev. 3/28/2007)
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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:

<table>
<thead>
<tr>
<th>Part or Condition Warranted</th>
<th>Model Number</th>
<th>Duration (from date of delivery to the original purchaser)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gearbox Seals</td>
<td>All units listed below</td>
<td>2 years</td>
</tr>
<tr>
<td>Gearbox components</td>
<td>BW1260, BW1620, BW1800, BW2400</td>
<td>8 years</td>
</tr>
<tr>
<td></td>
<td>BW240HD, BW180HD, BW180HB, BW240</td>
<td>7 years</td>
</tr>
<tr>
<td></td>
<td>RDC54, RD60, RD72, TBW150C, TS/R60, TS/R52, TS/R44</td>
<td>3 years (1 year if used in rental or commercial applications)</td>
</tr>
<tr>
<td>Blade spindles</td>
<td>RM550-2, RM660-2, RD990X, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2</td>
<td>3 years</td>
</tr>
<tr>
<td>Rust-through</td>
<td>BB600, BB720, BB840, BB6000, BB7200, BB8400, BW1260, BW1800, BW240, BW240HD, 2162, 3240, DS1260, DS01260, DS1440, TS1680</td>
<td>10 years</td>
</tr>
</tbody>
</table>

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. Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subject 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 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. 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
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.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WOODS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

WOODS shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory. Without limiting the generality of the foregoing, Woods specifically disclaims any damages relating to (i) lost profits, business, revenues or goodwill; (ii) loss of crops; (iii) loss because of delay in harvesting; (iv) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (v) any other type of damage to property or economic loss.

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:

WOODS Equipment Company
2606 South Illinois Route 2
Post Office Box 1000
Oregon IL 61061
800-319-6637 tel
800-399-6637 fax
www.WoodsEquipment.com