

# WOODS

**1013460**

## **4-POINT SUB-FRAME MOUNTING KIT**

**for Backhoe Models  
BH70-X, BH80-X, BH6500, BH7500**

**on New Holland® Tractors  
T2220, TC29DA, TC33DA, TC34DA FWA**

**or Case IH® Tractor  
Farmall® 31, Farmall 35, DX34 FWA**

**with Woods LS84, LC96, LC102  
1009, 1012 Loaders  
New Holland 14LA Loader  
or Case IH L340 Loader**

**Includes Hose Kit  
1013484**

**MAN0406**  
(Rev. 5/2/2008)



**WOODS®**  
Tested. Proven. Unbeatable.

**INSTALLATION MANUAL**

## TO THE DEALER:

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

**The dealer must complete the Product Registration online at the Woods Dealer Website** or complete the mail-in form included with the Operator's Manual. If using the mail-in form, the dealer is to return the prepaid postage portion to Woods, give one copy to the customer, and retain one copy. **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](http://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 Parts section for location)** \_\_\_\_\_

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

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



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



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



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



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

**IMPORTANT**  
or **NOTICE**

Is used to address practices not related to personal injury.

**NOTE**

Indicates helpful information.

**WOODS®**

**ALITEC™**

**BMP®**

**CENTRAL FABRICATORS®**

**GANNON®**

**GILL®**

**WAIN-ROY®**

**WOODS®**

## 2 Introduction

SFMK (Rev. 2/20/2008)

# SAFETY RULES



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



## ¡LEA EL INSTRUCTIVO!

Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.

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.

■ **This Sub-Frame Mounting Kit is only for the backhoes and tractors specified in the Sub-Frame Mount Installation section of this manual. Any other use or modification of this mounting kit may result in serious injury or death.**

■ **Hydraulics must be connected as instructed in this manual. Do not substitute parts, modify, or connect in any other way.**

■ **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.**

■ **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](http://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.**

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

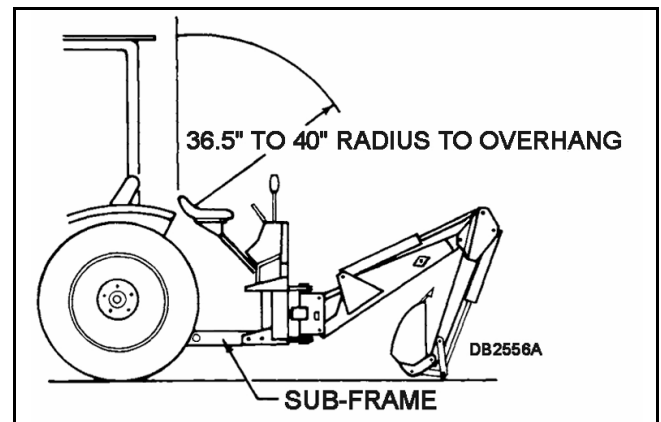
■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **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.**

■ **To prevent contamination during maintenance and storage, clean and then cover hose ends, fittings, and hydraulic ports with tape.**

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

■ **This mounting kit is designed to provide secure mounting and adequate operator clearance for most operators when properly installed. Check clearance dimensions shown below to be sure you have installed seat bracket correctly. In some cases it may be necessary to adjust the seat to the lowest position and/or as far forward as possible in order to achieve the ideal 40-inch clearance. For 36.5-inch radius operation, taller operators may need to wear a hardhat for greater comfort and safety.**



■ **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.**

■ **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.**

*(Safety Rules continued on next page)*

# SAFETY RULES



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



*(Safety Rules continued from previous page)*

■ 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.

■ 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.

■ 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.

■ Remove seat and upper support assembly before installing or removing backhoe from tractor. Failure to comply may result in equipment failure and/or personal injury.

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

■ A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader. Weigh the tractor and equipment. Do not estimate.

■ Do not install backhoe and required counterweights on tractor if the total tractor and equipment weight then exceeds the ROPS weight certification of the tractor. To reduce overall weight of unit, remove liquid from rear tires and remove mid-mount mower, if equipped.

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

■ Before operating, make sure stabilizer pads are lowered firmly to the ground. Stabilizer arms provide support for the backhoe and support for the backhoe mounting brackets.

■ The only time the backhoe may be operated from a position other than the operator seat is during backhoe attachment and removal. Operator must:

- Read Mounting Kit Manual instructions on attaching and removing backhoe and use extreme care.
- Always stand between rear tire and backhoe stabilizer arms or along side of tractor to avoid being trapped should the boom swing control be accidentally activated.

■ Never leave equipment unattended with engine running or with bucket in raised position. Always engage swing and boom transport locks, relieve system pressure by operating controls, and remove ignition key before leaving equipment.

■ Refer to backhoe manual and follow all maintenance safety rules and instructions.

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

■ 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 Parts section for location.)





# BACKHOE SUB-FRAME INSTALLATION

## Tractor Preparation

### WARNING

■ Only use 1013460 4-Point Sub-Frame Mounting Kit for mounting Woods BH70-X, BH80-X, BH6500, BH7500 backhoe on New Holland® T2220, TC29DA, TC33DA, TC34DA tractors or Case IH® DX34, Farmall® 31, Farmall 35 tractors equipped with Woods LS84, LC96, LC102, 1009 and 1012 loaders, New Holland 14LA loader or Case IH L340 loader. Any other use or modification of this mounting kit may result in serious injury or death.

For installing this sub-frame, references to right, left, forward and rearward directions are determined from the operator's position in the tractor seat.

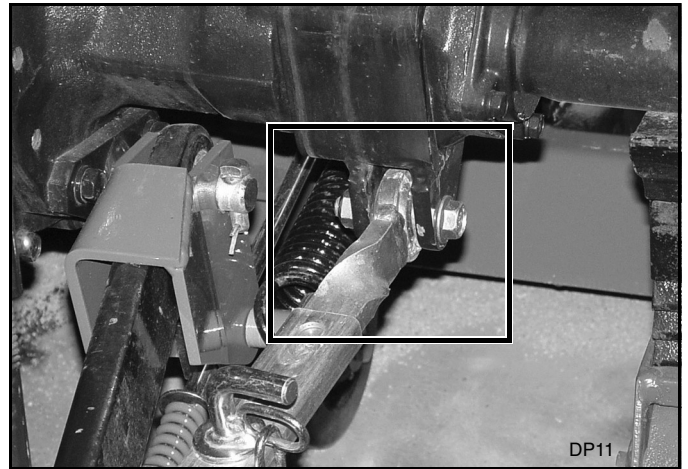
Do not install 1013460 4-point sub-frame on a tractor without a Woods or OEM loader mount attached.

Refer to the WOODS Backhoe Operator's Manual for backhoe assembly instructions.

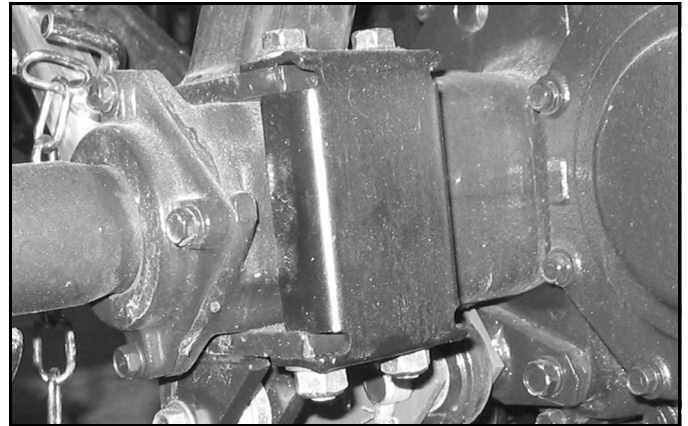
Leave all hardware loose until sub-frame has been fit up or otherwise specified in the instructions.

This mount can be installed on tractors equipped with a New Holland mid-mount mower. Sub-frame can be installed with mower attached but may be easier if mower is removed from tractor.

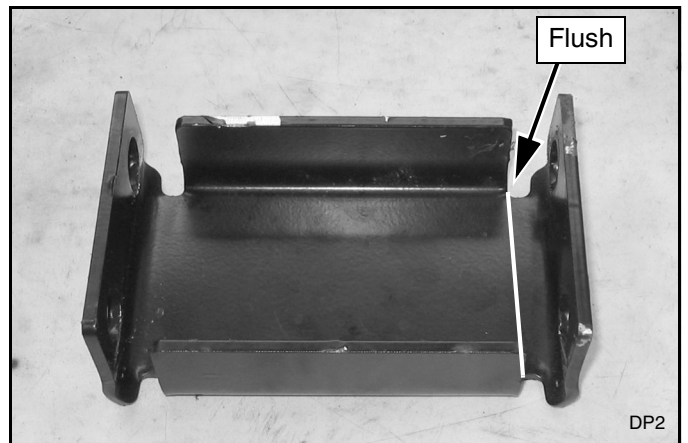
1. Place jackstands under rear axle and remove both rear tires.
2. Disconnect the anti-sway bars (Figure 1) from the anti-sway brackets and remove front half. Store front half of anti-sway bars for later use when backhoe is removed.
3. Attach back half of anti-sway bars to the side of 3-point arm to prevent them from pivoting during backhoe operation.
4. Remove top link.
5. Remove ROPS hardware and spacer from both sides of rear axle. See Figure 2.
6. With spacer removed, cut bottom flange off of spacers. Spacer will be reused when sub-frame is installed. Make sure cut is flush with side flanges. See Figure 3.



**Figure 1.** Remove Front Half of Anti-Sway Link Bars (Right Side Shown)



**Figure 2.** ROPS Hardware and Spacer - Right Side



**Figure 3.** Remove Flange

**As a valued customer, Woods appreciates your comments. Once sub-frame and hydraulic hoses have been installed, please take a few minutes to complete the Sub-Frame Mount Evaluation sheet that was supplied with your sub-frame. Your comments will help us continue to bring you quality products.**

## Install Front Mounts

### With Woods LS84 Loader Mount

Attach front mount (32) to the right loader mount using two cap screws (26), hardened flat washers (23) and hex nuts (27).

- 23. 57817 5/8 Hardened flat washer
- 26. 902 5/8 NC x 2 HHCS GR5
- 27. 230 5/8 NC Hex nut
- 32. 1026846 Front mount (LS84 only)

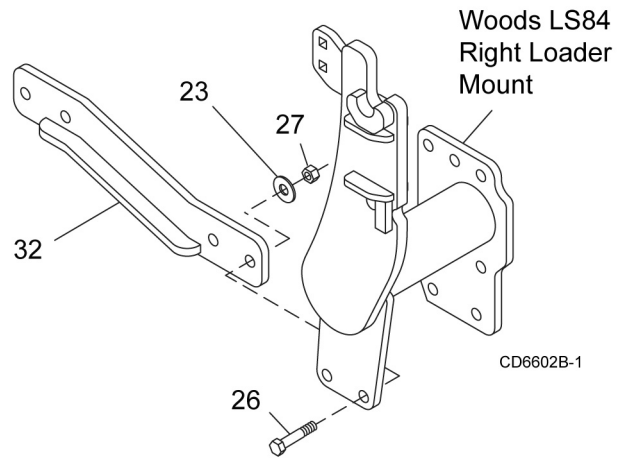


Figure 4. Front Mount Installation

### With New Holland 14LA Loader Mount or Woods LC96, LC102, 1009, 1012 Loader Mount

**NOTE:** Front mounts can be installed over the loader mount or loader mount and mid-mount mower bracket. Pictures show mid-mount installed.

1. Remove two bolts connecting loader mount/mid-mount mower bracket to the tractor frame. See Figure 5.
2. Attach left front mount (8) to tractor using two cap screws (20) and hardened flat washers (23). If mid-mount is installed use cap screws (19). See Figure 6.
3. Attach right front mount (9) to tractor using two cap screws (20) and hardened flat washers (23). If mid-mount is installed use cap screws (19). See Figure 7.

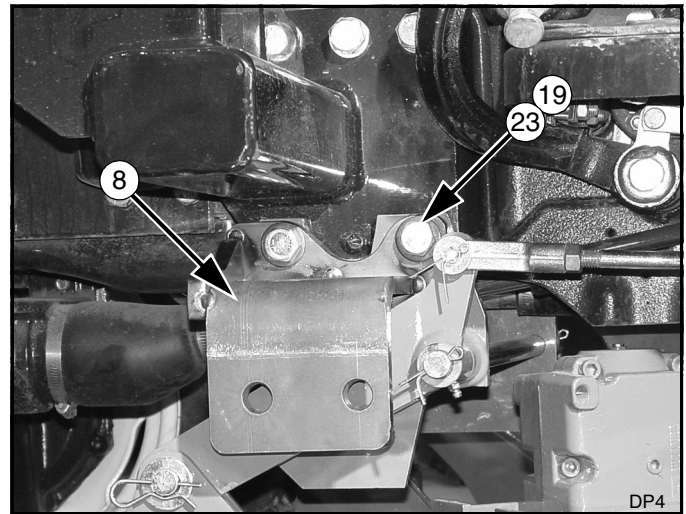


Figure 6. Left Front Mount Installed

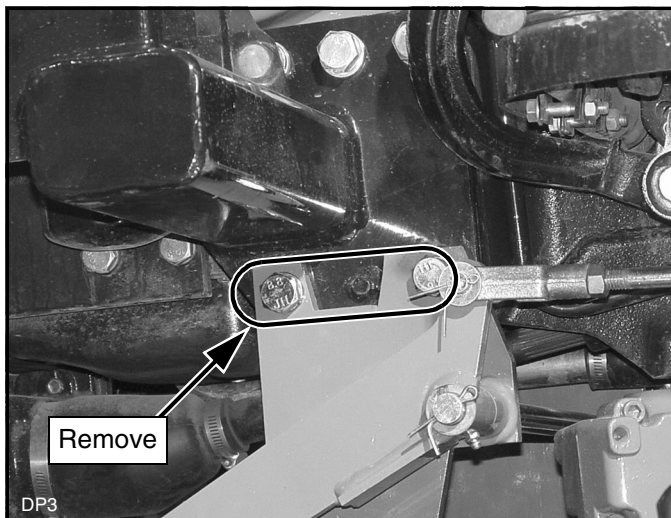


Figure 5. Remove Hardware - Left Side Shown

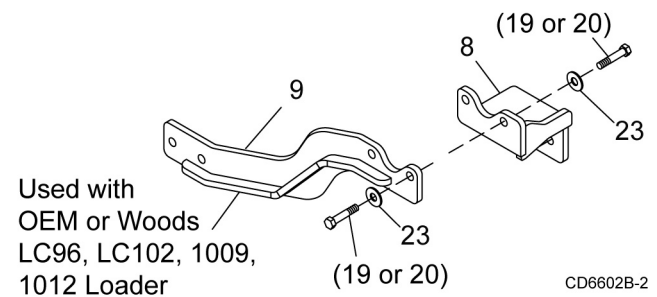


Figure 7. Front Mount Installation

- 8. 1013475 Left front mount
- 9. 1026847 Right front mount
- 19. 307430 M16 x 2.0P x 70 mm Cap screw
- 20. 307429 M16 x 2.0P x 55 mm Cap screw (use without mid-mount bracket)
- 23. 57817 5/8 Hardened flat washer

## Install Tractor Brackets

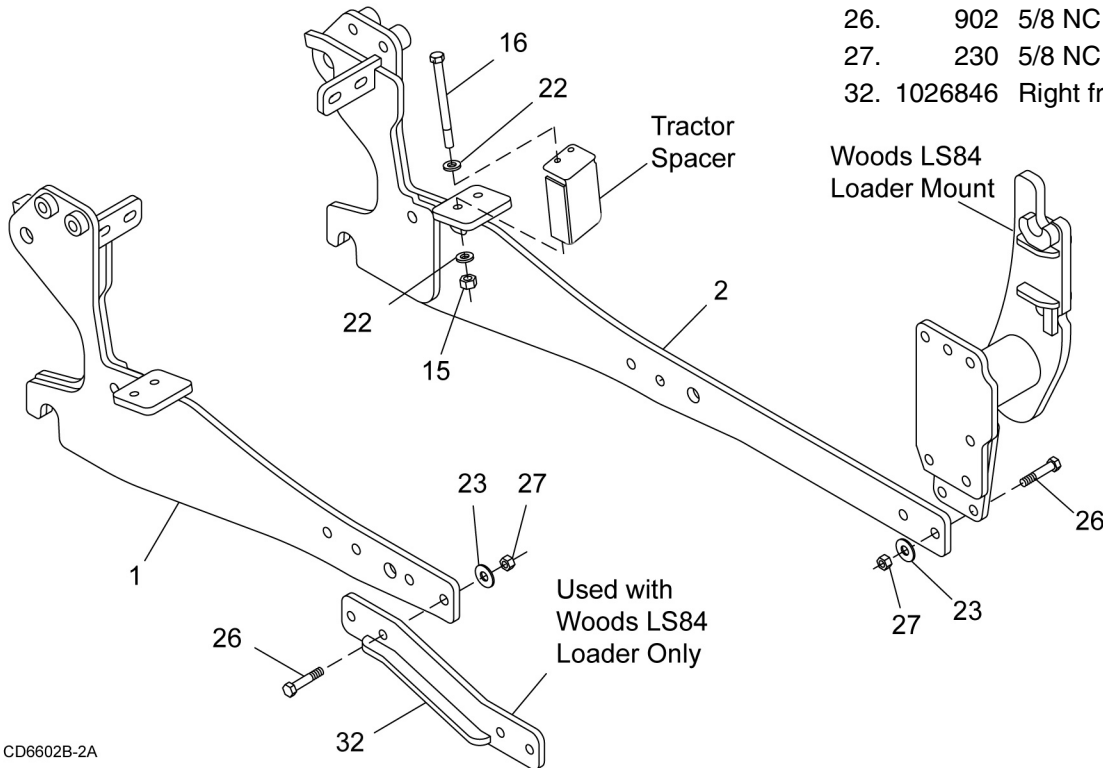
### With Woods LS84 Loader Mount

1. Place left tractor bracket (2) under left side of tractor. Use a hydraulic floor jack to help raise and hold tractor bracket in position.
2. Attach left tractor bracket (2) to left loader mount using two cap screws (26), hardened flat washers (23), and hex nut (27).
3. Attach tractor bracket to the bottom of rear axle using two cap screws (16), four hardened flat washers (22), hex nuts (15), and modified spacer.

**NOTE:** Place tractor spacer between ROPS brackets with flange on top.

4. Place right tractor bracket (1) under right side of tractor. Use a hydraulic floor jack to help raise and hold tractor bracket in position.
5. Attach right tractor bracket (1) to front mount (32) using two cap screws (26), hardened flat washers (23), and hex nut (27).
6. Attach tractor bracket to the bottom of rear axle using two cap screws (16), four hardened flat washers (22), hex nuts (15), and modified spacer.

- |     |         |                          |
|-----|---------|--------------------------|
| 1.  | 1013462 | Right tractor bracket    |
| 2.  | 1013463 | Left tractor bracket     |
| 15. | 1093    | 1/2 NC Hex nut           |
| 16. | 13563   | 1/2 NC x 6 Cap screw GR5 |
| 22. | 57816   | 1/2 Hardened flat washer |
| 23. | 57817   | 5/8 Hardened flat washer |
| 26. | 902     | 5/8 NC x 2 Cap screw GR5 |
| 27. | 230     | 5/8 NC Hex nut           |
| 32. | 1026846 | Right front mount        |



**Figure 8.** Tractor Brackets Installed with LS84 Loader

## Install Tractor Brackets

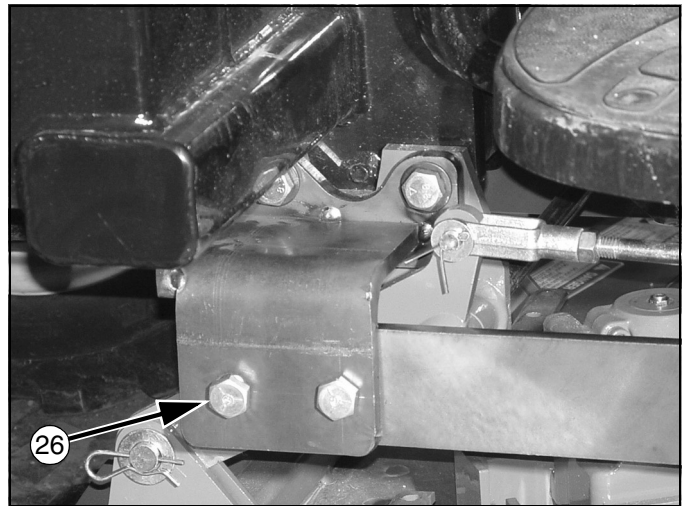
1. Place left tractor bracket (2) under left side of tractor. Use a hydraulic floor jack to help raise and hold tractor bracket in position.
2. Attach left tractor bracket to left front mount (8) using two cap screws (26), hardened flat washers (23), and hex nut (27).

**NOTE:** Tractors equipped with mid-mount mower, place tractor bracket on the inside of front mount as shown in Figure 9. Tractors without mid-mount mower, place on the outside of front mount.

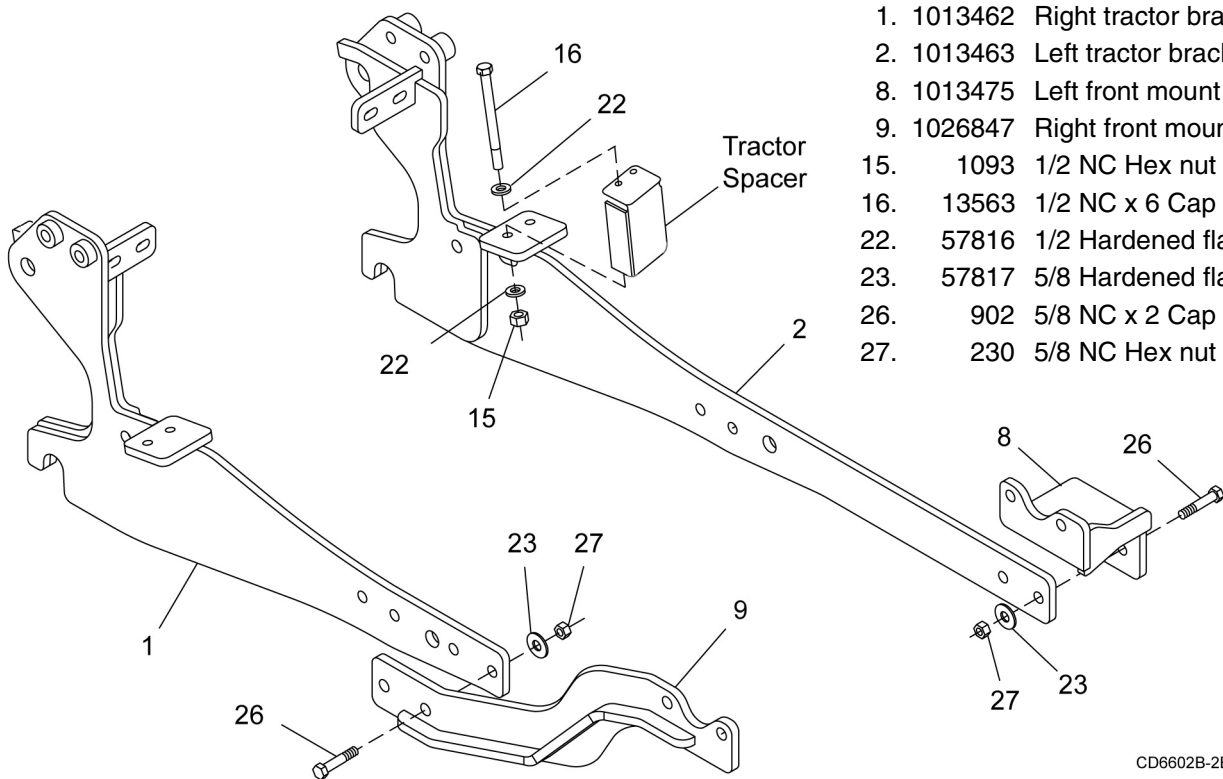
3. Attach tractor bracket to the bottom of rear axle using two cap screws (16), four hardened flat washers (22), hex nuts (15), and modified spacer.

**NOTE:** Place tractor spacer between ROPS brackets with flange on top.

4. Repeat steps to install right tractor bracket (1).



**Figure 9.** Left Tractor Bracket Attached to Front Mount



- |     |         |                          |
|-----|---------|--------------------------|
| 1.  | 1013462 | Right tractor bracket    |
| 2.  | 1013463 | Left tractor bracket     |
| 8.  | 1013475 | Left front mount         |
| 9.  | 1026847 | Right front mount        |
| 15. | 1093    | 1/2 NC Hex nut           |
| 16. | 13563   | 1/2 NC x 6 Cap screw GR5 |
| 22. | 57816   | 1/2 Hardened flat washer |
| 23. | 57817   | 5/8 Hardened flat washer |
| 26. | 902     | 5/8 NC x 2 Cap screw GR5 |
| 27. | 230     | 5/8 NC Hex nut           |

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**Figure 10.** Tractor Bracket Installation



## Install Cross Brace

1. Remove PTO shield.
2. Attach cross brace (7) to rear of tractor using two cap screws (24) and hardened flat washers (23).
3. Attach to right and left tractor brackets using four (two per side) cap screws (18), hardened flat washers (22), and hex nuts (15).
4. Install PTO shield.

7. 1013474 Cross brace
15. 1093 1/2 NC Hex nut
18. 24576 1/2 NC x 1-3/4 Cap screw GR5
22. 57816 1/2 HArdened flat washer
23. 57817 5/8 HArdened flat washer
24. 64062 M16 x 2.0P x 40 mm Cap screw

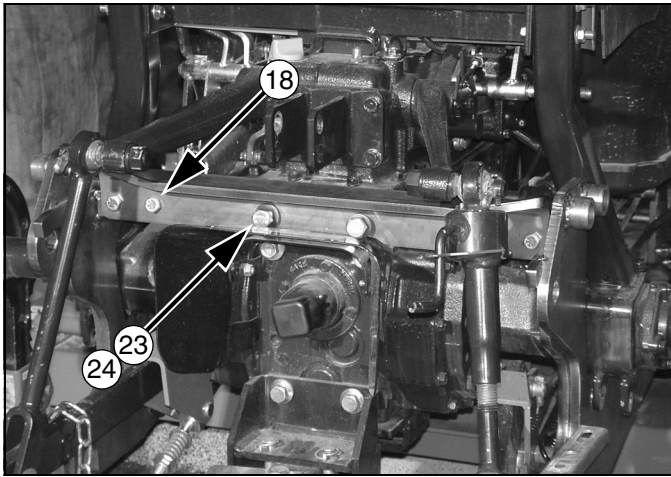


Figure 11. Cross Brace Installed

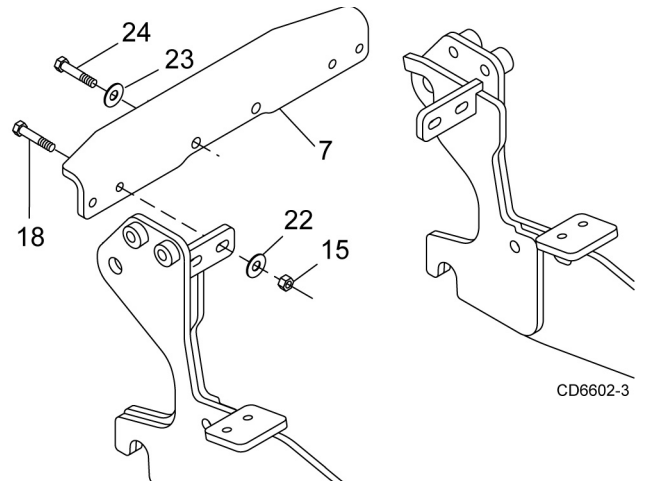


Figure 12. Cross Brace Installation

## Install Offset Bars

1. Place right offset bar (5) on the outside of right tractor bracket.
2. Secure to front holes using two cap screws (26), hardened flat washers (23), and hex nuts (27).
3. Secure to rear holes using two cap screws (28), hardened flat washers (23), and hex nuts (27).
4. Repeat steps to install left offset bar (6).

5. 1013472 Right offset bar
6. 1013473 Left offset bar
23. 57817 5/8 HArdened flat washer
26. 902 5/8 NC x 2 Cap screw GR5
27. 230 5/8 NC hex nut
28. 34473 5/8 NC x 3 Cap screw GR5

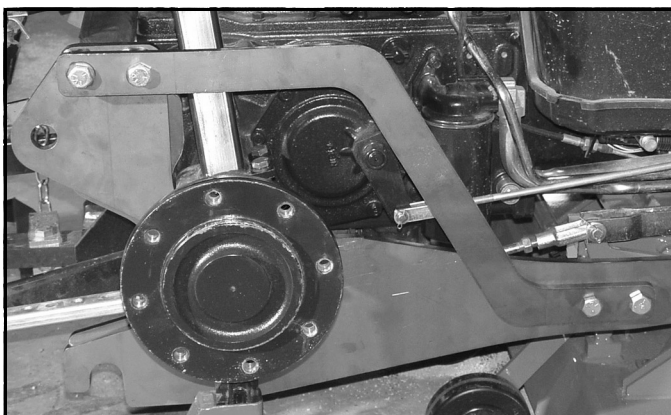


Figure 13. Right Offset Bar Installed

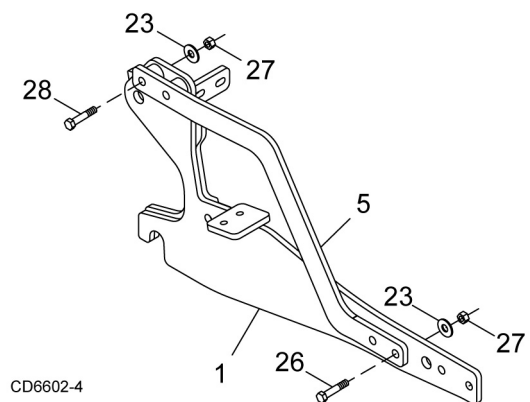


Figure 14. Right Offset Bar Installation

## Torque Mounting Hardware

TORQUE SPECIFICATIONS				
Ref	Cap Screw	Qty	Wrench Size	Required Torque
16	1/2 NC x 6	4	1/2"	85 lbs-ft (115 N-m)
18	1/2 NC x 1-3/4	4	1/2"	85 lbs-ft (115 N-m)
19	M16 x 2.0P x 70 mm	4	24 mm	125 lbs-ft (169 N-m)
20	M16 x 2.0P x 55 mm	4	24 mm	125 lbs-ft (169 N-m)
24	M16 x 2.0P x 40 mm	2	24 mm	125 lbs-ft (169 N-m)
26	5/8 NC x 2	8	15/16"	170 lbs-ft (230 N-m)
28	5/8 NC x 3	4	15/16"	170 lbs-ft (230 N-m)

## Attach Backhoe Mounts to Backhoe

**NOTE:** Leave all hardware loose until backhoe has been mounted to the tractor.

1. Attach right backhoe mount (3) and left backhoe mount (4) to backhoe frame.
2. Secure into position using six (three per bracket) cap screws (25), hardened flat washers (21), and hex nuts (17).
3. Secure crossmember (10) to backhoe brackets using four cap screws (18), hardened flat washers (22), and hex nuts (15).

3. 1013464 Right backhoe mount
4. 1013465 Left backhoe mount
10. 1012852 Crossmember, link 6500
15. 1093 1/2 NC Hex nut
17. 1450 3/4 NC Hex nut (BH6500, BH7500 only)
18. 24576 1/2 NC x 1-3/4 Cap screw GR5
21. 57798 3/4 Hardened flat washer
22. 57816 1/2 Hardened flat washer
25. 735 3/4 NC x 2 Cap screw GR5

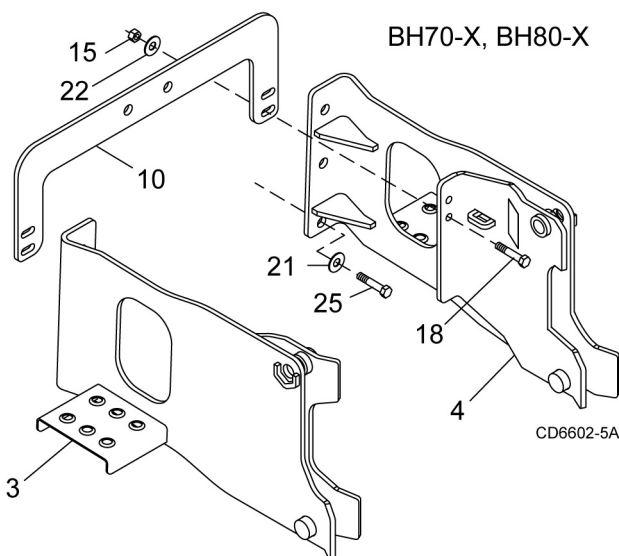


Figure 15. Backhoe Mounts Installed

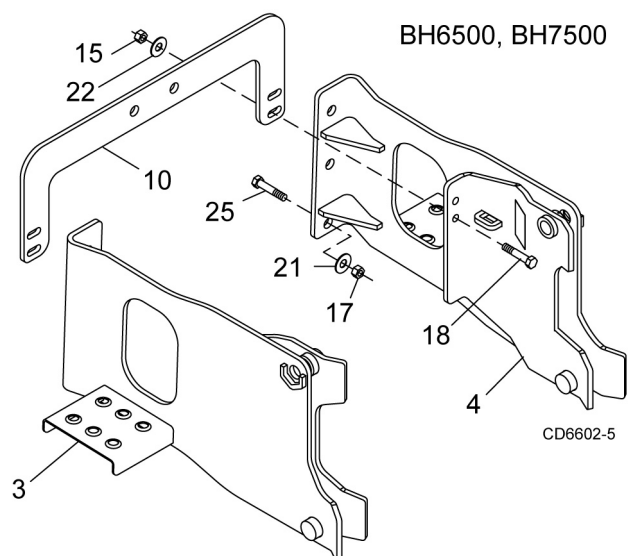


Figure 16. Backhoe Mount Installation

# HYDRAULIC INSTALLATION

## 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.

## 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.

### Assemble Bulkhead Bracket

1. Connect bulkhead adapter (3) to bulkhead bracket (6) and secure using hex nut provided with adapter.
2. Attach female quick coupler (16) to the backside of bulkhead adapter (3) and elbow (13) to the front side. Position elbow to point upward.
3. Remove front hex nut and washer that connect offset bar to the right tractor bracket.
4. Place bulkhead bracket on the inside of the tractor bracket and secure into position using hex nut and washer previously removed.

3. 1009495 Adapter, 3/8 NPTM x 9/16 JICF
6. 1013521 Bulkhead bracket
13. 38604 Elbow, 9/16 JICM x 9/16 JICF 90°
16. 64299 Quick coupler, female 3/8

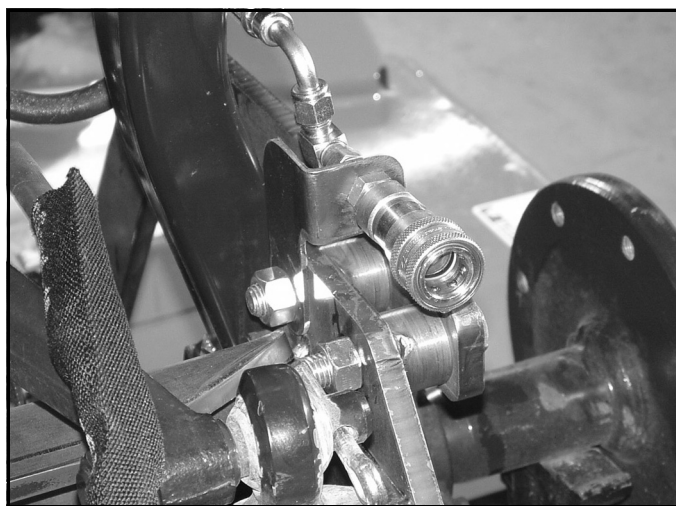


Figure 17. Bulkhead Bracket Installed

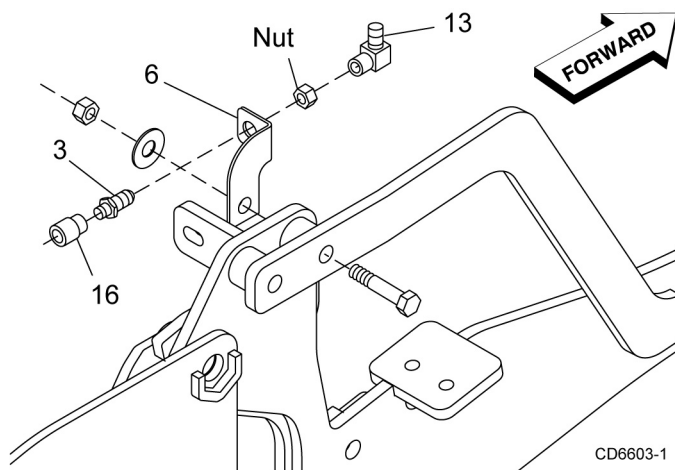


Figure 18. Bulkhead Bracket Installation

## Install Hydraulic Block and Fittings

1. Locate the hydraulic manifold block on the right side of the tractor just under the fender (Figure 19) and remove the block-off cap.
2. Attach hydraulic block (18) to tractor using new o-rings (14), three cap screws (8) and one cap screw (9) plus washers (7). Make sure o-rings are properly seated during installation.
3. Install elbows (15) and (11) into ports shown in Figure 20. Point elbows rearward.

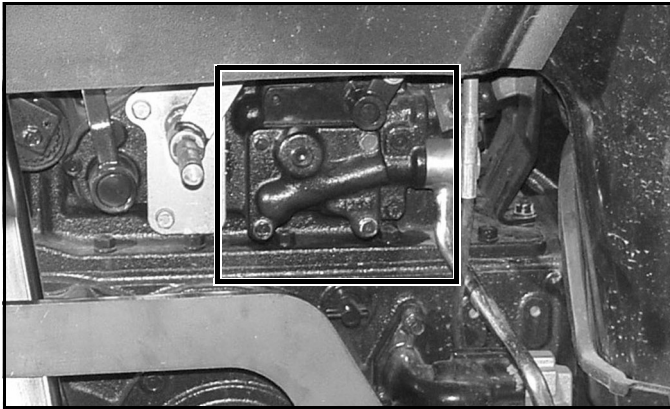
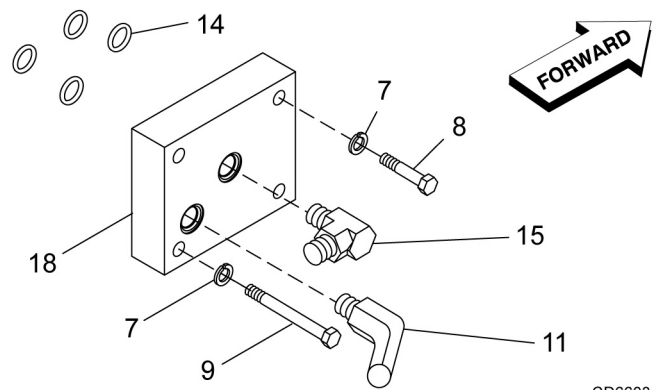


Figure 19. Hydraulic Manifold Location

7. 2472 5/16 Lock washer
8. 307130 M8 x 1.25P x 40 mm Cap screw
9. 307134 M8 x 1.25P x 100 mm Cap screw
11. 313049 Elbow, 9/16 ORBM x 9/16 JICM
14. 62726 O-ring .487 x .103
15. 63558 Elbow, 9/16 JICM x 9/16 ORBM
18. 1011423 Hydraulic block



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Figure 20. Hydraulic Block and Fitting Installation

## Install Hydraulic Hoses

1. Attach male quick coupler (17) to end of hose (2).
2. Connect opposite end of hose (2) to 90-degree elbow (15) in the hydraulic block. Route hose over rear axle and out the back of the tractor.
3. Attach straight end of hose (12) to 45-degree elbow (11) on the hydraulic block.
4. Attach 90-degree end of hose (12) to elbow (13) connected to the bulkhead adapter bracket.

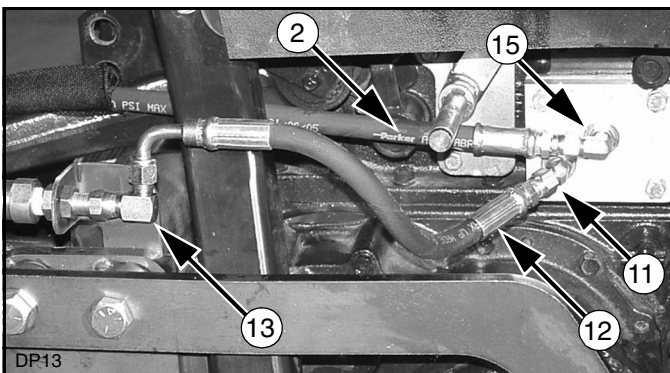
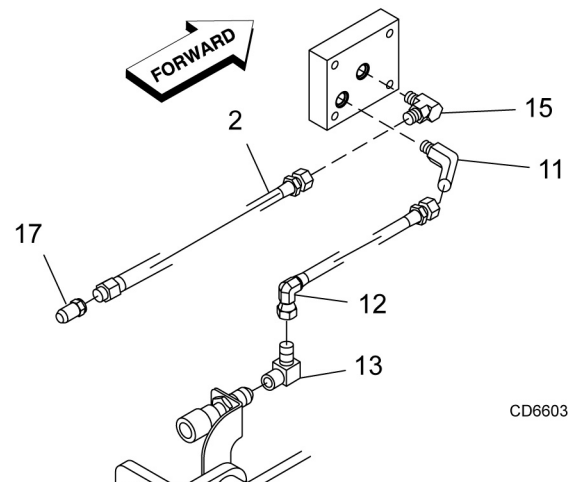


Figure 21. Hydraulic Hoses Installed



CD6603-5

2. 1009493 Hose, 40" x 3/8 NPTM x 9/16 JICF
11. 313049 Elbow, 9/16 ORBM x 9/16 JICM
12. 360215 Hose, 14" x 9/16 JICF x 9/16 JICF
13. 38604 Elbow, 9/16 JICM x 9/16 JICF 90°
15. 63558 Elbow, 9/16 JICM x 9/16 ORBM
17. 64300 Quick coupler, male

Figure 22. Hydraulic Hose Installation

## Install Bulkhead Adapter on Backhoe Mount

1. Attach bulkhead adapter (1) to crossmember between backhoe brackets. Secure with nut supplied with adapter.
2. Attach elbow (10) and female quick coupler (16) to bulkhead adapter as shown in Figure 23.
3. Position elbow and quick coupler to point upward.

1. 1006144 Adapter, Bulkhead  
3/8 NPTM x 3/4 JICM
10. 313017 Elbow, 3/8 NPTM x 3/8 NPTF 90°
16. 64299 Quick coupler, female

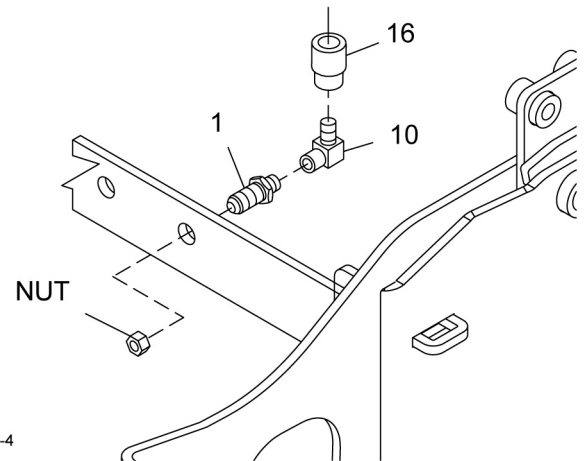


Figure 23. Bulkhead Adapter Installation - Backhoe

## Install Hoses to Backhoe Valve

**NOTE:** Some hydraulic fittings supplied in this hose kit may not be required for this application.

1. Attach hose (5) between the IN port on the backhoe valve and the bulkhead adapter on the crossmember.
2. Attach male quick coupler (17) to hose (4).
3. Attach opposite end of hose (4) to the OUT port of backhoe valve.

4. 1010924 Hose, 40" x 3/8 NPTM x 3/4 ORBM
5. 1013479 Hose, 10" x 3/4 JICF x 3/4 ORBM
17. 64300 Quick coupler, male

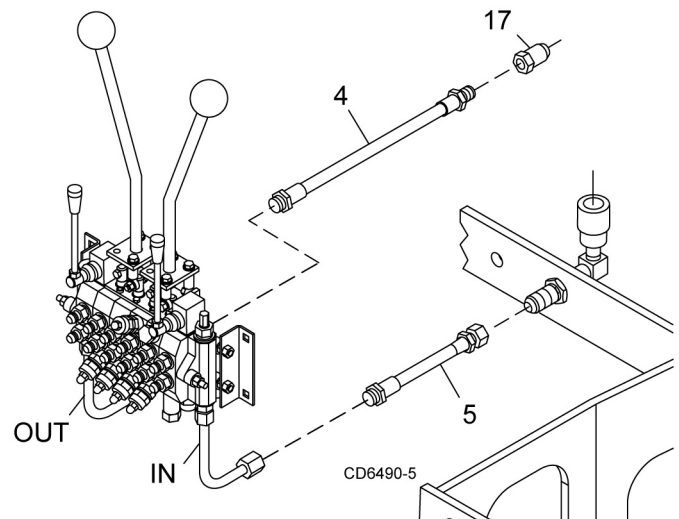


Figure 24. Backhoe Hose Connection

## Install Rear Tires

When hydraulic hoses have been comply installed, install rear tires.

**NOTE:** On tractors equipped with Turf tires (13.6-16) adjust tire width to 46.6 inches center to center.

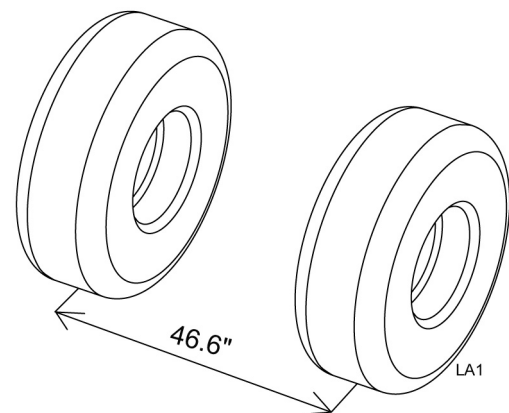


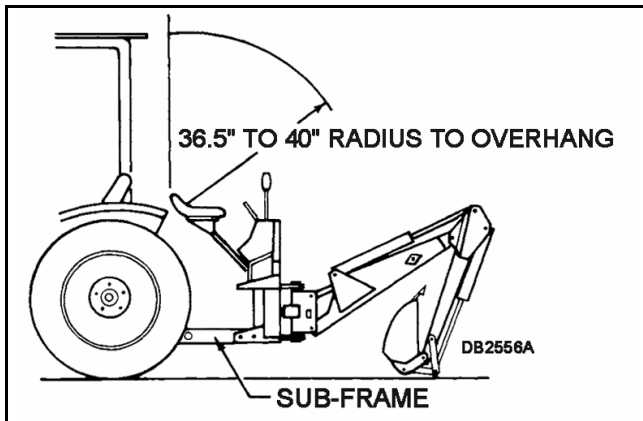
Figure 25. Rear Tire Spacing



## Mount Backhoe to Tractor

### **! DANGER**

■ This mounting kit is designed to provide secure mounting and adequate operator clearance for most operators when properly installed. Check clearance dimensions shown below to be sure you have installed seat bracket correctly. In some cases it may be necessary to adjust the seat to the lowest position and/or as far forward as possible in order to achieve the ideal 40-inch clearance. For 36.5-inch radius operation, taller operators may need to wear a hardhat for greater comfort and safety.



■ The only time the backhoe may be operated from a position other than the operator seat is during backhoe attachment and removal. Operator must:

- Read Mounting Kit Manual instructions on attaching and removing backhoe and use extreme care.
- Always stand between rear tire and backhoe stabilizer arms or along side of tractor to avoid being trapped should the boom swing control be accidentally activated.

### **! WARNING**

■ Remove seat and upper support assembly before installing or removing backhoe from power unit. Failure to comply may result in equipment failure and/or personal injury.

## Check Hydraulic System

Check all hydraulic fittings and lines to be sure they are tight and free of kinks or twists.

## Mount Backhoe

1. Remove the backhoe seat assembly.
2. Back tractor up to backhoe and center mount between the tractor rear tires. Position tractor so that the hydraulic system can be connected. Shut off tractor, set brake, remove key.
3. Attach backhoe hydraulic system.
  - A. Connect male quick coupler on hose from OUT port on the backhoe control valve to the female quick coupler on the bulkhead adapter bracket.
  - B. Connect male quick coupler on hose from hydraulic block to the female quick coupler on the backhoe bracket crossmember.
4. With the tractor PTO and transmission in neutral, start the engine and run at low idle. Hydraulic power is provided when the tractor is started.

**NOTE:** Very little engine power is required to operate the hydraulic system in this mode. Should the engine pull down excessively, check the plumbing hook-up for reversed lines or a control lever stuck in an operating position.

**NOTE:** You will use the backhoe hydraulics to maneuver the backhoe brackets into position. Use care in this procedure to avoid being trapped between tractor and backhoe or between backhoe parts.

*(Continued on next page.)*

## Mount Backhoe to Tractor (Continued)

Refer to Figure 26.

5. Using the backhoe hydraulics position the backhoe brackets at a slight angle, approximately 5 to 10 degrees.
6. Raise backhoe up by lowering stabilizers and boom section until backhoe mounting pins on backhoe brackets are slightly lower than tractor bracket hooks.
7. Slowly move tractor back until backhoe brackets are positioned below the tractor bracket hooks. Set tractor brake.
8. Raise backhoe bracket bottom mounting pins into tractor bracket bottom hooks.
9. Rotate backhoe bracket upper mounting slots over tractor bracket mounting hole and align holes.

10. Install cap screws (12) and slotted hex nuts (13). Tighten with 1-1/2 inch open end wrench provided with kit. Return wrench to storage position (see Figure 26).
11. Secure hex nut into position with klik pin (14).
12. Shut off tractor and remove key.
13. Tighten hardware with backhoe secured to the tractor. This will ensure proper alignment and fit-up for future installation.
  - 1/2 NC x 1-34 . . . . .85 lbs-ft (115 N-m)
  - 3/4 NC x 2 . . . . .297 lbs-ft (403 N-m)
14. Reinstall seat.
15. Start tractor and put backhoe into transport position (see backhoe operator's manual).

**NOTE:** Install swing lock before transporting.

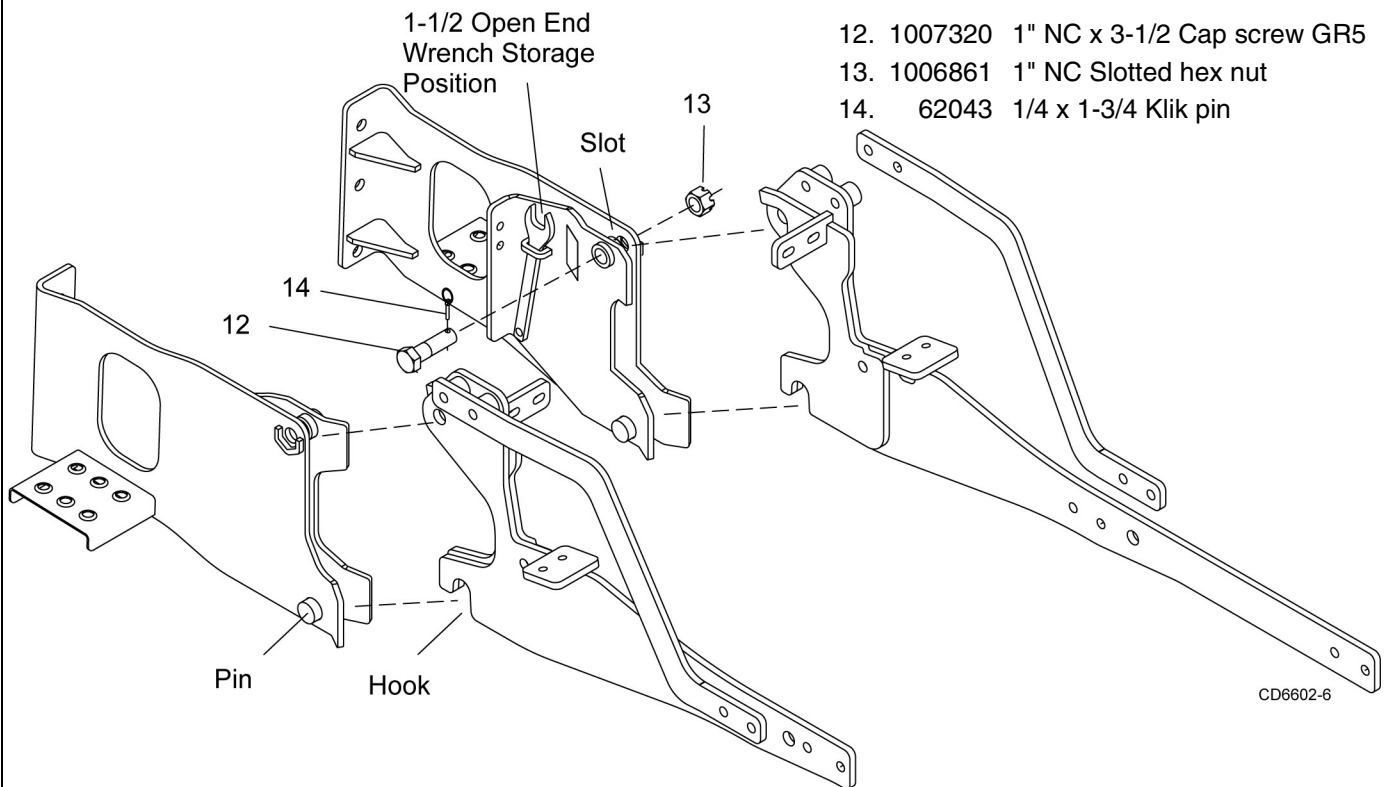


Figure 26. Backhoe to Tractor Installation

## Remove Backhoe from Tractor

### DANGER

■ The only time the backhoe may be operated from a position other than the operator seat is during backhoe attachment and removal. Operator must:

- Read Mounting Kit Manual instructions on attaching and removing backhoe and use extreme care.
- Always stand between rear tire and backhoe stabilizer arms or along side of tractor to avoid being trapped should the boom swing control be accidentally activated.

### WARNING

■ Remove seat and upper support assembly before installing or removing backhoe from power unit. Failure to comply may result in equipment failure and/or personal injury.

1. Position tractor on a hard, level surface and center the backhoe boom.
2. Lower stabilizers and take backhoe weight off tractor.
3. Lower boom and dipper to form 90-degree angle and rest bucket on the ground.
4. Remove the seat assembly.
5. Remove klik pins from bolt and nut assemblies.
6. Use 1-1/2 inch open end wrench supplied with the mounting kit to remove hex nuts. Return wrench to storage position (see Figure 26).

7. Use the boom to relieve excess pressure on 1 inch bolts and remove bolts.
8. Tilt backhoe main frame to separate slots on the backhoe brackets from the tractor brackets.
9. Raise stabilizers until backhoe brackets slide out of hooks on the bottom of the tractor brackets.
10. Move tractor forward to clear backhoe brackets.
11. Place 6 inch blocks under backhoe mainframe and raise stabilizers to lower backhoe to the storage position on blocks as shown. Boom and dipper should be at 90-degree angle.
12. Turn off engine, set brakes, and remove key.
13. Disconnect backhoe hydraulic system. See "STORAGE" on page 17.
13. Reinstall seat assembly.

**NOTE:** For instructions on extended storage, see backhoe operator's manual.

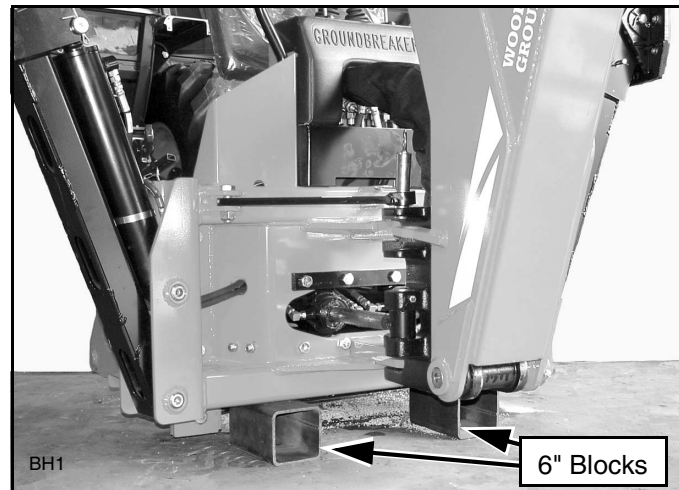


Figure 27. Backhoe Storage Position

## STORAGE

### Connect Hydraulic Hoses

**TRACTOR:** Connect male quick coupler on end of hose to female quick coupler at bulkhead bracket when backhoe is removed from tractor. See Figure 28.

### NOTICE

■ Failure to connect hoses together will result in damage to tractor hydraulic system.

**BACKHOE:** Connect IN and OUT quick couplers together to prevent dirt and debris from accumulating in quick couplers. See Figure 29.

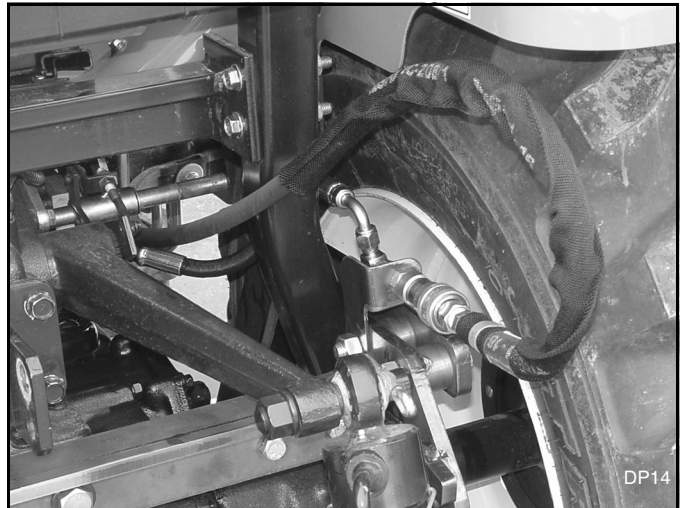


Figure 28. Hose Connection - Backhoe Removed

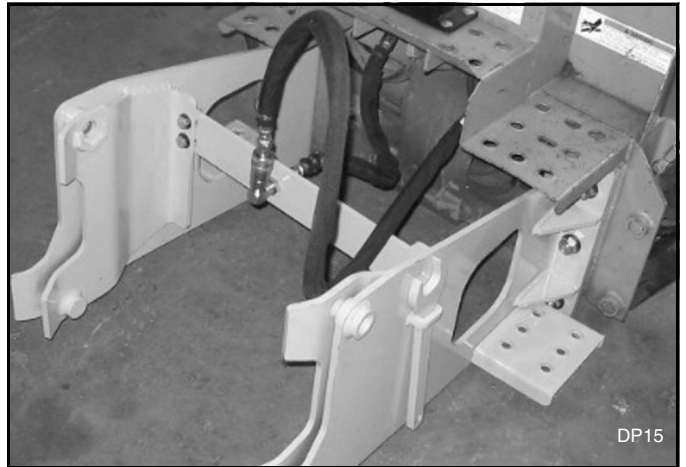


Figure 29. Backhoe Hose Connection, Storage Position (Typical)

### Attach 3-Point Arms

Lower 3-point lift arms and anti-sway links can be used on tractor when backhoe is removed.

Attach 3-point lift arms anti-sway links to tractor as shown in Figure 30.

Secure anti-sway links to tractor using pin (30) and safety pin (29) provided in kit.

- 29. 66649 Pin, safety .09 x 2.31 (not shown)
- 30. 6737 Pin, 7/16 x 3/14

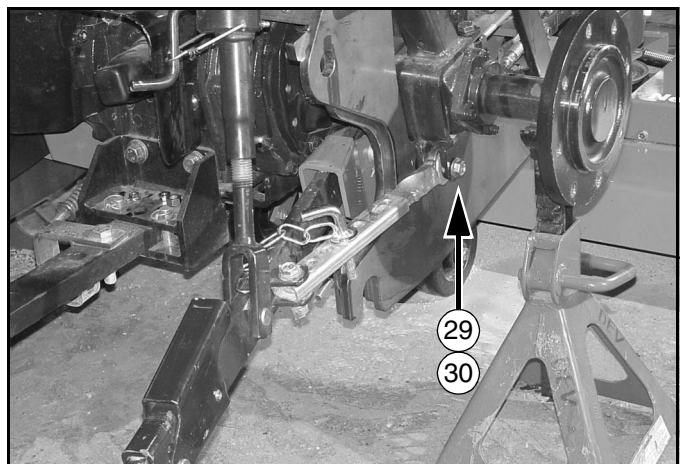
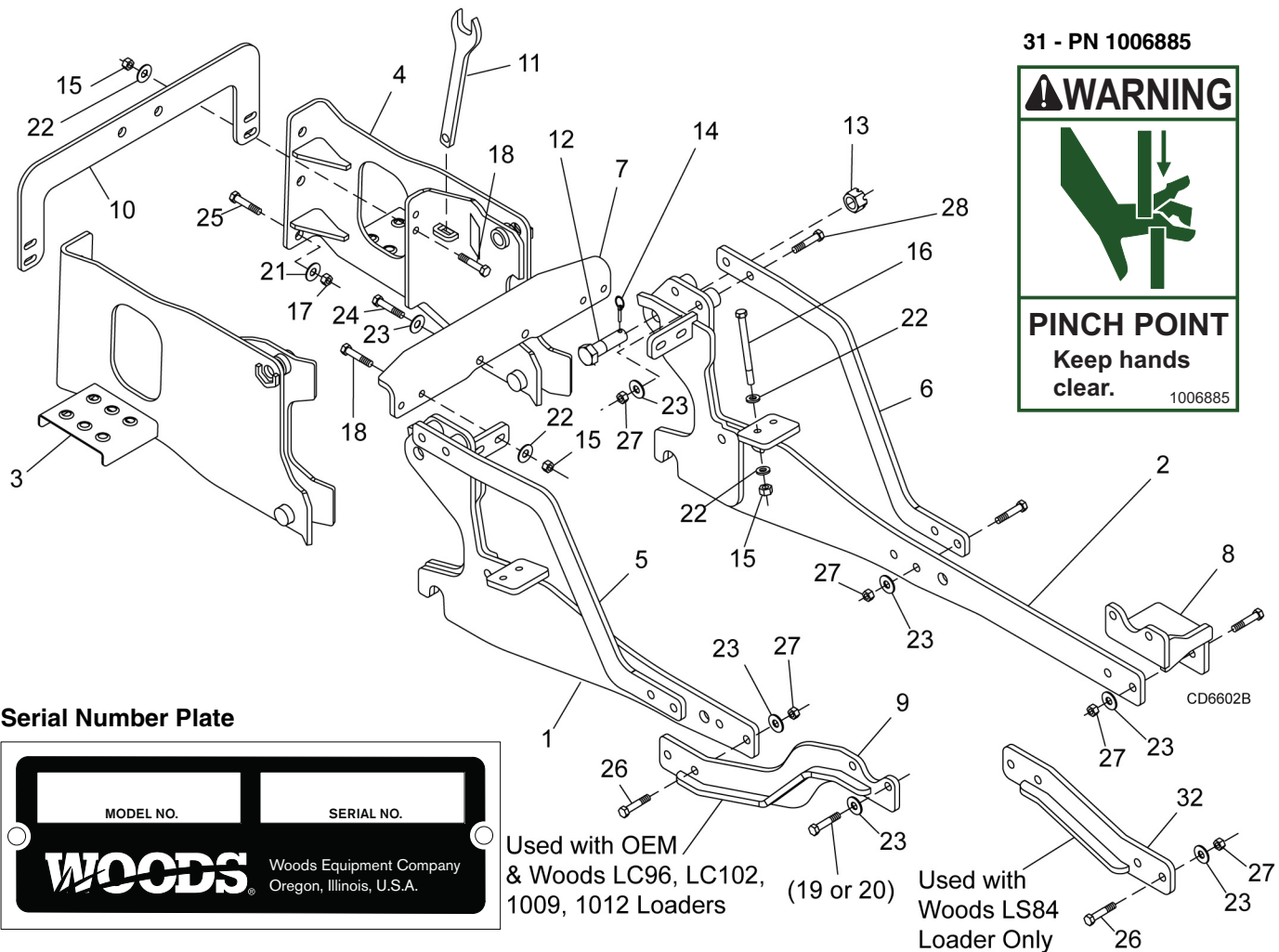


Figure 30. Right Anti-Sway Link Attached to Tractor

# 1013460 4-POINT SUB-FRAME MOUNTING KIT



## Serial Number Plate



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1013462	1	Right tractor bracket	18	24576 *	4	1/2 NC x 1-3/4 HHCS GR5
2	1013463	1	Left tractor bracket	19	307430	4	M16 x 2.0P x 70 mm HHCS
3	1013464	1	Right backhoe bracket	20	307429	4	M16 x 2.0P x 55 mm HHCS
4	1013465	1	Left backhoe bracket	21	57798	6	3/4 Hardened flat washer
5	1013472	1	Right offset bar	22	57816	16	1/2 Hardened flat washer
6	1013473	1	Left offset bar	23	57817	16	5/8 Hardened flat washer
7	1013474	1	Cross brace	24	64062	2	M16 x 2.0P x 40 mm HHCS
8	1013475	1	Left front mount	25	735 *	6	3/4 NC x 2 HHCS GR5
9	1026847	1	Front mount ( <b>OEM. LC96, LC102 Idr</b> )	26	902 *	8	5/8 NC x 2 HHCS GR5
10	1012852	1	Crossmember, BH6500 link	27	230 *	12	5/8 NC Hex nut
11	1006883	1	1-1/2 Open end wrench	28	34473 *	4	5/8 NC x 3 HHCS GR5
12	1007320	2	1" NC x 3-1/2 HHCS GR5	29	66649	4	Pin, safety .09 x 2.31 (not shown)
13	1006861	2	1" NC Slotted hex nut	30	6737	4	Pin, 7/16 x 3-1/4 (not shown)
14	62043	2	1/4 x 1-3/4 Klik pin	31	1006885	2	Decal, warning - pinch point
15	1093 *	16	1/2 NC Hex nut	32	1026846	1	Front mount ( <b>LS84 Idr</b> )
16	13563 *	4	1/2 NC x 6 HHCS GR5				
17	1450 *	6	3/4 NC Hex nut (BH6500, BH7500 only)				

HHCS Hex Head Cap Screw

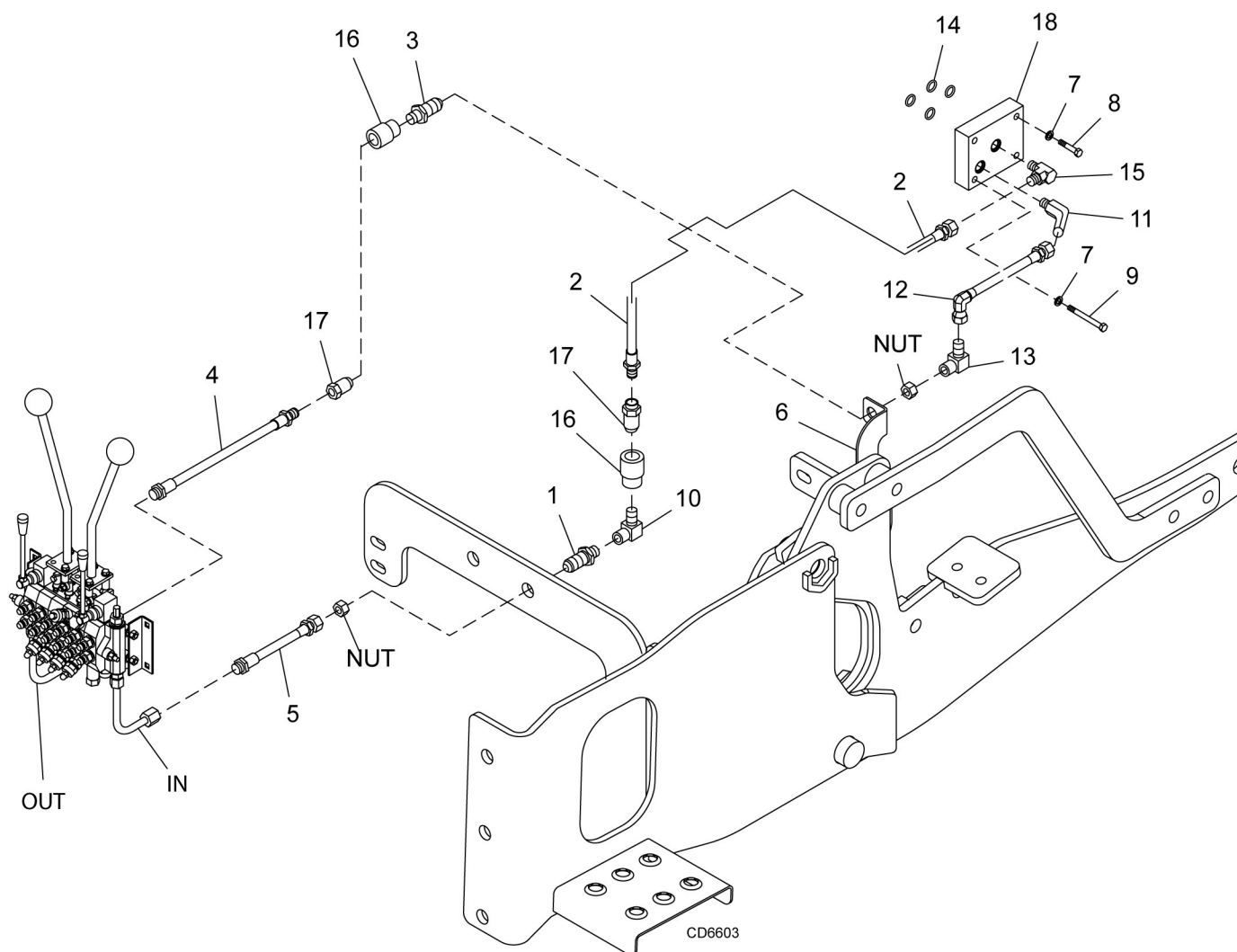
\* Standard Hardware, Obtain Locally

## 18 Parts

(Rev. 5/2/2008)  
MAN0406 (Rev. 9/7/2007)



# 1013484 HOSE KIT



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1006144	1	Adapter, bulkhead 3/8 NPTM x 3/4 JICM	11	313049	1	Elbow, 9/16 ORBM x 9/16 JICM 45°
2	1009493	1	Hose, 40" x 3/8 NPTM x 9/16 JICF	12	360215	1	Hose, 14" x 9/16 JICF x 9/16 JICF
3	1009495	1	Adapter, bulkhead 3/8 NPTM x 9/16 JICM	13	38604	1	Elbow, 9/16 JICM x 9/16 JICF 90°
4	1010924	1	Hose, 40" x 3/8 NPTM x 3/4 ORBM	14	62726	4	O-ring .487 x .103
5	1013479	1	Hose, 10" x 3/4 JICF x 3/4 ORBM	15	63558	1	Elbow, 9/16 JICM x 9/16 ORBM
6	1013521	1	Bulkhead bracket	16	64299	2	Quick coupler, female
7	2472 *	4	5/16 Lock washer	17	64300	2	Quick coupler, male
8	307130	3	M8 x 1.25P x 40 mm HHCS	18	1011423	1	Hydraulic block
9	307134	1	M8 x 1.25P x 100 mm HHCS				
10	313017	1	Elbow, 3/8 NPTM x 3/8 NPTF 90°				

HHCS Hex Head Cap Screw

\* Standard Hardware, Obtain Locally

# BOLT TORQUE CHART

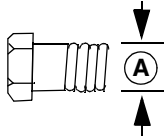
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

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

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

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



## SAE SERIES TORQUE CHART



SAE Grade 2  
(No Dashes)

SAE Bolt Head Identification

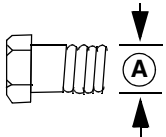


SAE Grade 5  
(3 Radial Dashes)



SAE Grade 8  
(6 Radial Dashes)

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



## METRIC SERIES TORQUE CHART



Metric  
Grade 8.8

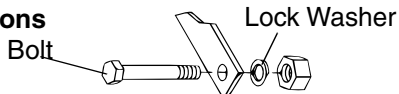
Metric Bolt Head Identification



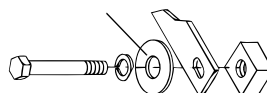
Metric  
Grade 10.9

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

### Typical Washer Installations



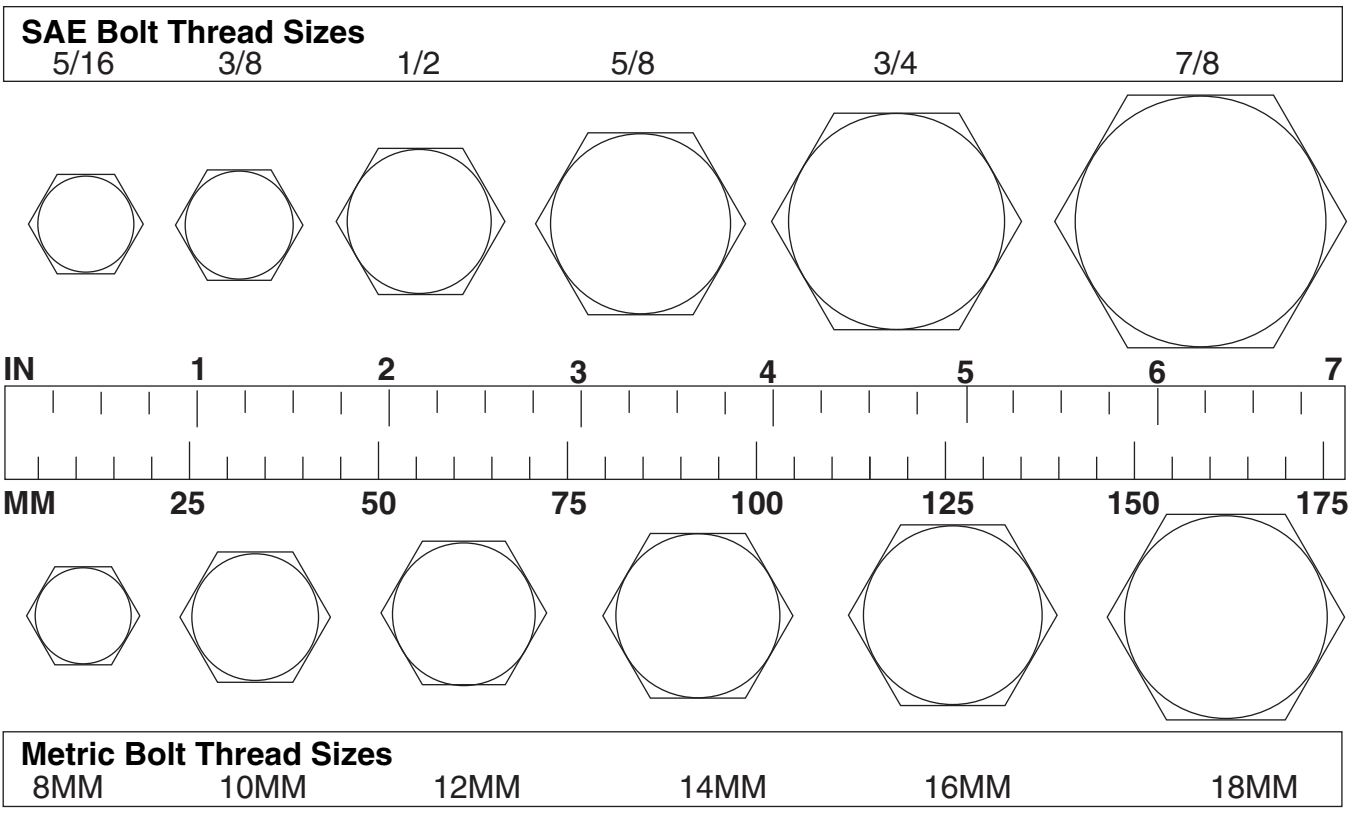
### Flat Washer



8/9/00

# BOLT SIZE CHART

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



## ABBREVIATIONS

AG .....	Agriculture	MPa.....	Mega Pascal
ASABE.....	American Society of Agricultural & Biological Engineers (formerly ASAE)	N.....	Newton
ASAE .....	American Society of Agricultural Engineers	NC .....	National Coarse
ATF .....	Automatic Transmission Fluid	NF .....	National Fine
BSPP .....	British Standard Pipe Parallel	NPSM.....	National Pipe Straight Mechanical
BSPTM .....	British Standard Pipe Tapered Male	NPT .....	National Pipe Tapered
CV.....	Constant Velocity	NPT SWF .....	National Pipe Tapered Swivel Female
CCW .....	Counter-Clockwise	ORBM .....	O-Ring Boss - Male
CW.....	Clockwise	P.....	Pitch
F .....	Female	PBY .....	Power-Beyond
FT .....	Full Thread	psi.....	Pounds per Square Inch
GA .....	Gauge	PTO .....	Power Take Off
GR (5, etc.) .....	Grade (5, etc.)	QD.....	Quick Disconnect
HHCS .....	Hex Head Cap Screw	RH.....	Right Hand
HT.....	Heat-Treated	ROPS .....	Roll-Over Protective Structure
JIC .....	Joint Industry Council 37° Degree Flare	RPM .....	Revolutions Per Minute
LH.....	Left Hand	RT .....	Right
LT.....	Left	SAE .....	Society of Automotive Engineers
m.....	Meter	UNC .....	Unified Coarse
mm.....	Millimeter	UNF .....	Unified Fine
M.....	Male	UNS.....	Unified Special



## 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](http://www.WoodsEquipment.com)

# WOODS®

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**GANNON®**  
**GILL®**  
**WAIN-ROY®**  
**WOODS®**

# WARRANTY

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

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.

Woods backhoe models BH70-X, BH80-X, and BH90-X are warranted for two (2) years from the date of delivery to the original purchaser.

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

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
Gearbox components	BW1260, BW1800	8 years
	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DSO1260, DS1440, TS1680, BW126-2, BW180-2	6 years
	PHD25, PHD35, PHD65, PHD95, 2162, 3240, DS96, DS120, RCC42, RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2, S15CD, S20CD, S22CD, S25CD, S27CD	5 years
	RDC54, RD60, RD72	3 years (1 year if used in rental or commercial applications)
Blade spindles	RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2	3 years
Rust-through	BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126-2, BW180-2, BW1260, BW1800, 2162, 3240, DS1260, DSO1260, DS1440, TS1680	10 years

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

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

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

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

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, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

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

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



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**PART NO.**  
**MAN0406**

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