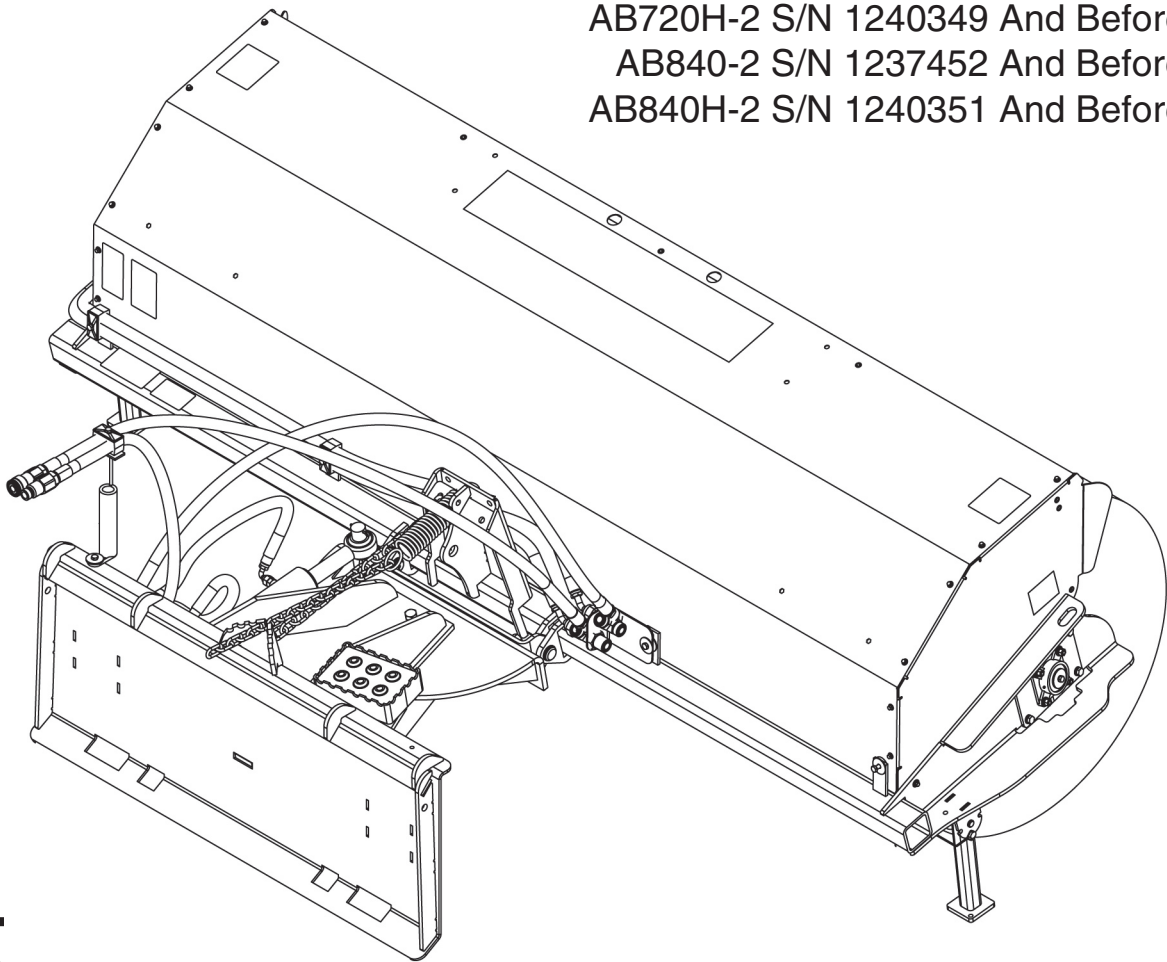


ALITEC™

ANGLE BROOM

AB720-2, AB840-2

AB720-2 S/N 1187272 And Before
AB720H-2 S/N 1240349 And Before
AB840-2 S/N 1237452 And Before
AB840H-2 S/N 1240351 And Before



MAN0731

(Rev. 5/15/2014)

WOODS®

OPERATOR'S MANUAL

TO THE DEALER:

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

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

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

TO THE OWNER:

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

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

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

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

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

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

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

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



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



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



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



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

**IMPORTANT
or NOTICE**

Is used to address practices not related to physical injury.

NOTE

Indicates helpful information.

WOODS
Woods Equipment Company


ALITEC™
BMP®
CENTRAL FABRICATORS®
GANNON®
GILL®
WAIN-ROY®
WOODS®

2 Introduction

Gen'l (Rev. 3/28/2012)


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¡LEA EL INSTRUCTIVO!

Si no lee Ingles, pida ayuda a alguien que si 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 angle broom. Read it carefully. The information and instructions 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 angle broom may vary slightly in detail. We reserve the right to redesign and change the angle broom 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

BRUSH HEAD

	AB720-2	AB840-2
Approximate Weight with SAE J2513 Mounting	852 lbs	915 lbs
Maximum Length at 0° Articulation	71 inches with SAE J2513 mounting	
Maximum Width at 0° Articulation	82.5 inches	94.5 inches
Maximum Length at Full Articulation	82.5 inches	85.5 inches
Maximum Width at Full Articulation	82 inches	93 inches
Sweeping Width at 0° Articulation	72 inches	84 inches
Sweeping Width at Full Articulation	64 inches	75 inches
Range of Hydraulic Flow	12 - 25 gpm	12 - 25 gpm
Maximum Hydraulic Oil Pressure	3000 psi	3000 psi



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

- 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.

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.
- Counterweight ballast may be required for machine stability. Check your power unit manual or contact your dealer.
- 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.
- 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.
- 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.

(Safety Rules continued on next page)

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

- 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.
- Be sure attachment is properly secured, adjusted, and in good operating condition. Coupler lockpins must be fully extended and properly engaged into attachment retaining slots.
- Power unit must be equipped with ROPS and seat belt/operator restraint. Keep seat belt/operator restraint securely fastened/engaged. Falling off power unit can result in death from being run over or crushed. Keep ROPS systems in place 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.
- Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.

OPERATION

- Only engage power when equipment is at ground operating level. Always disengage power when equipment is raised off the ground.
- Improper operation can cause the machine to tip or roll over and cause injury or death.
 - Keep power unit lift arms and attachment as low as possible.
 - Do not travel or turn with power unit lift arms and attachment raised.
 - Turn only on level ground.
 - Go up and down slopes, not across them.
 - Keep the heavy end of the machine uphill.
 - Do not overload the machine.
- Never use attachment to carry loads that exceed the rated operating capacity or other specifications of the power unit. Check your power unit manual or see your dealer for rated operating capacity. Exceeding this capacity can cause machine to tip, roll over, or present other hazards that can cause injury or death.
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.

- Keep brush away from intense heat or flame. Brush material can ignite and burn.
- Contact with high voltage, overhead power lines, underground cables, gas lines, and other hazards can cause serious injury or death from electrocution, explosion, or fire.
- Keep bystanders away from equipment.
- Never direct discharge toward people, animals, or property.
- Do not operate or transport equipment while under the influence of alcohol or drugs.
- Operate only in daylight or good artificial light.
- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Always comply with all state and local lighting and marking requirements.
- Do not allow riders. Do not lift or carry anybody on the power unit or attachments.
- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt/operator restraint, place transmission in park or 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.
- Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.
- Do not operate or transport on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.
- Before leaving operator's seat, lower lift arms and put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



MAINTENANCE

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

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

■ Do not operate the pump with pressure over 3000 psi. Higher pressures can rupture hydraulic components and can cause personal injury.

■ Adjustment of system relief pressure must be done by a qualified, experienced dealer. Incorrect adjustment can result in system failures and serious personal injury.

■ 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.

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

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

■ Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers

can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements or have work done by a qualified dealer.

■ Be sure attachment is properly secured, adjusted, and in good operating condition. Coupler lockpins must be fully extended and properly engaged into attachment retaining slots.

■ Never perform service or maintenance with engine running.

■ 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.

STORAGE

■ Follow manual instructions for storage.

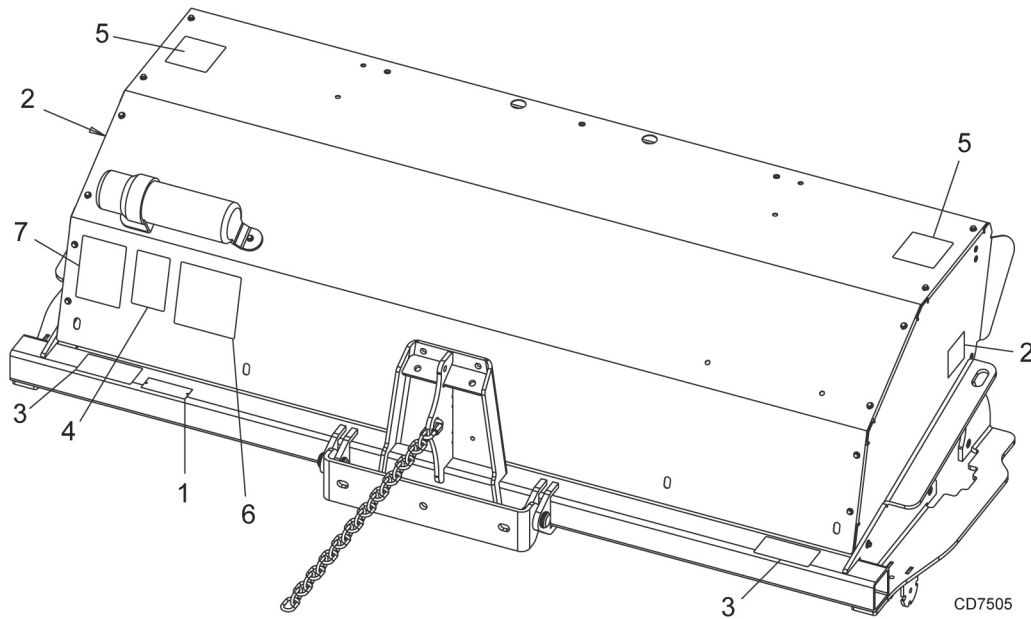
■ Keep children and bystanders away from storage area.



SAFETY & INSTRUCTIONAL DECALS



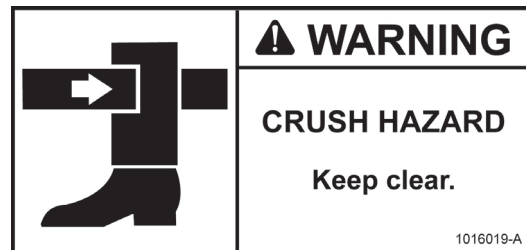
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
Replace Immediately If Damaged!



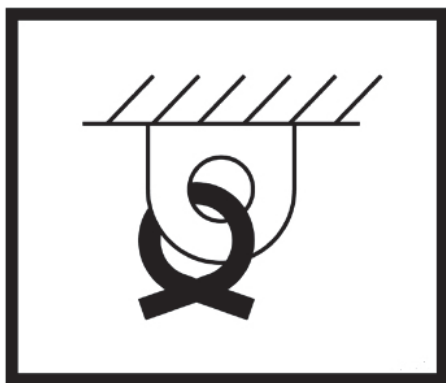
1 - SERIAL NUMBER PLATE



3 - PN 1016019



2 - PN 1016017



4 - PN 1015363



SAFETY & INSTRUCTIONAL DECALS



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!


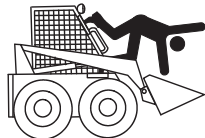
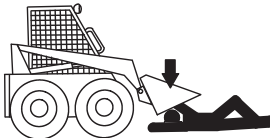


Replace Immediately If Damaged!

5 - PN 1016018

 WARNING	
	FLYING OBJECTS HAZARD Keep clear.
	ENTANGLEMENT HAZARD Keep clear.
1016018-A	

6 - PN 54519

 WARNING	
	
FALLING OFF CAN RESULT IN BEING RUN OVER. <ul style="list-style-type: none">■ Skid steer must have ROPS and seat belt/operator restraint. Keep seat belt/operator restraint securely fastened.■ Never allow riders.	
RAISED EQUIPMENT CAN DROP AND CRUSH. <ul style="list-style-type: none">■ Never go under raised equipment or raised skid steer lift arms. They can drop from hydraulic or mechanical failure, or moving control levers.■ Service work does not require going under equipment. Read manual instructions.	
FALLING OFF OR GOING UNDER MACHINE CAN RESULT IN SERIOUS INJURY OR DEATH.	
54519-B	

7 - PN 54518

 WARNING
TO AVOID SERIOUS INJURY OR DEATH,
<ul style="list-style-type: none">■ Read Operator's Manual and Skid Steer Manual before operating, servicing or repairing attachment. Follow all safety rules and instructions. (Manuals are available from dealer or, in the United States and Canada, call 1-800-319-6637.)■ Only operate from Skid Steer seat with seat belt/operator restraint securely fastened.■ Before leaving operator's seat: follow Skid Steer Manual instructions, lower lift arms and attachment to ground, stop engine, remove key, engage brake, remove seat belt/operator restraint.■ Allow no children or untrained persons to operate equipment.
FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.
54518-A

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.

OPERATION

The operator is responsible for the safe operation of this equipment. 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.

The Angle Broom is designed for removing dirt, snow and small debris, and for thatching. Skid steers must be equipped with an auxiliary hydraulic system capable of supplying continuous flow for hydraulic motor operation.

WARNING

■ 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.

■ Never allow children or untrained persons to operate equipment.

■ Power unit must be equipped with ROPS and seat belt/operator restraint. Keep seat belt/operator restraint securely fastened/engaged. Falling off power unit can result in death from being run over or crushed. Keep ROPS systems in place at all times.

■ Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements or have work done by a qualified dealer.

WARNING

■ Before leaving operator's seat, lower lift arms and put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.

ATTACH ANGLE BROOM TO SKID STEER

Read the skid steer operator's manual connecting and removing instructions.

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

The skid steer coupler handles (handles up) should be in the unlocked position and the lock pins retracted.

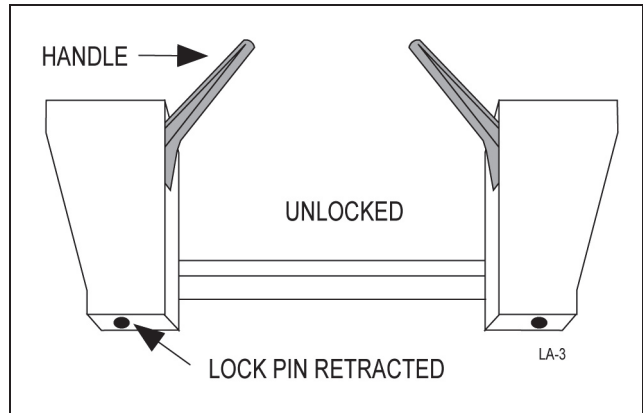


Figure 1. Skid Steer Coupler Handles - Unlocked

Move to the skid steer operator seat and start engine.

Lower skid steer lift arms to their lowest position.

Carefully move and align the skid steer to the angle broom. The top of the skid steer coupler must slide into the angle broom flange, Figure 2.

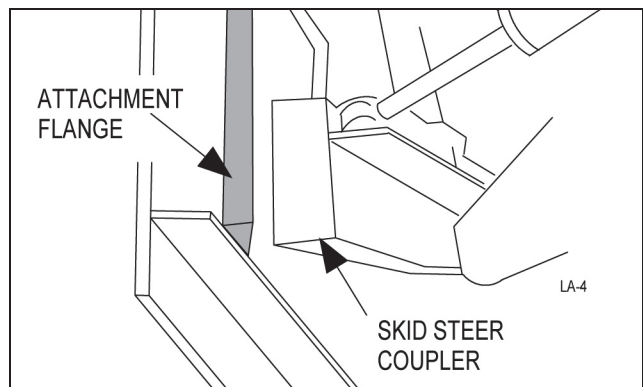


Figure 2. Attaching Angle Broom to Skid Steer

Roll the skid steer coupler into the angle broom so the coupler handles can be engaged.

Set brake, shut off the engine, and remove key. Dismount the skid steer.

Move the skid steer coupler handles to the locked position (handles down). The lock pins must be completely extended and secured into the slots provided on the angle broom, Figure 3 and Figure 4.

Connect hydraulic hoses to skid steer auxiliary quick couplers.

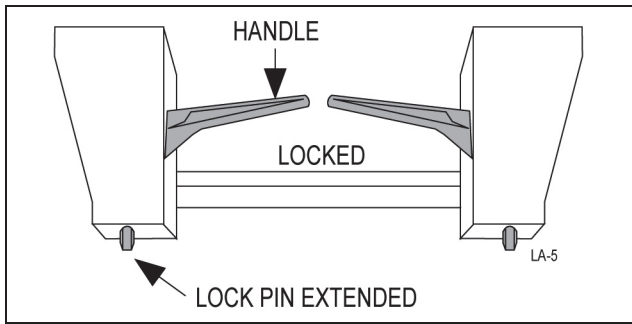


Figure 3. Skid Steer Coupler Handles - Locked

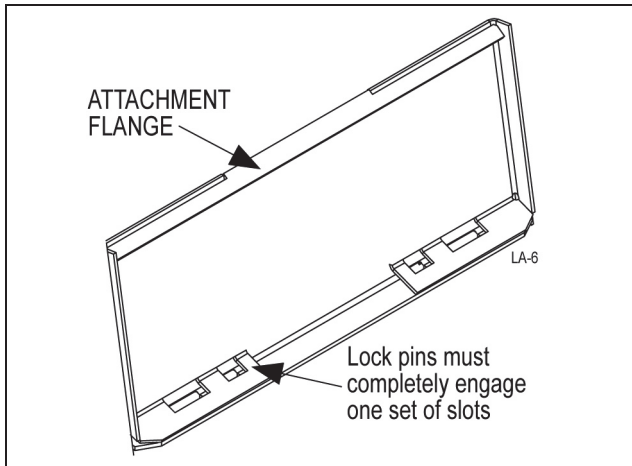


Figure 4. Back of Attachment - Slot Locations

ADJUSTMENT

Leveling Brush Head

The angle broom must be level for even brush wear and efficient sweeping.

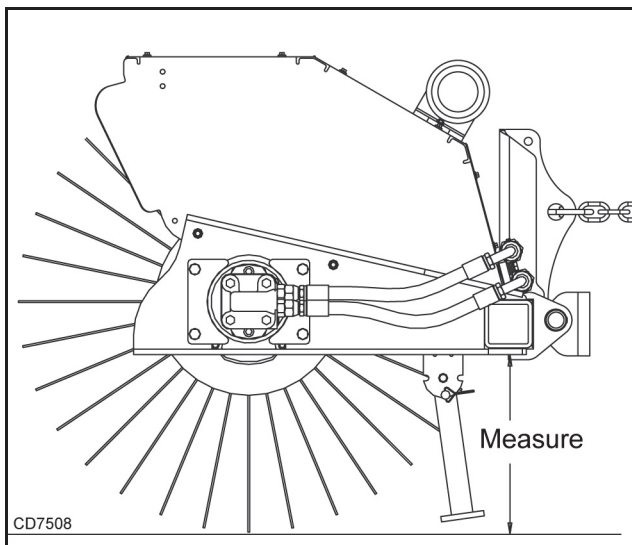


Figure 5. Measure Brush Frame Distance

1. Move the angle broom to a flat, level surface.
2. Position the brush head straight ahead and lower it so the brush is two inches above the ground.

3. Place a bubble level on the swing assembly and level the brush front to back using the skid steer.
4. Set parking brake and shut off skid steer.
5. On each side, measure from the brush frame to the ground. See Figure 5.
6. If adjustment is required: loosen hardware that attaches the swing assembly to the brush head assembly (Figure 6); lower the high side of the brush head until both sides are equal distance from the ground. Tighten hardware.

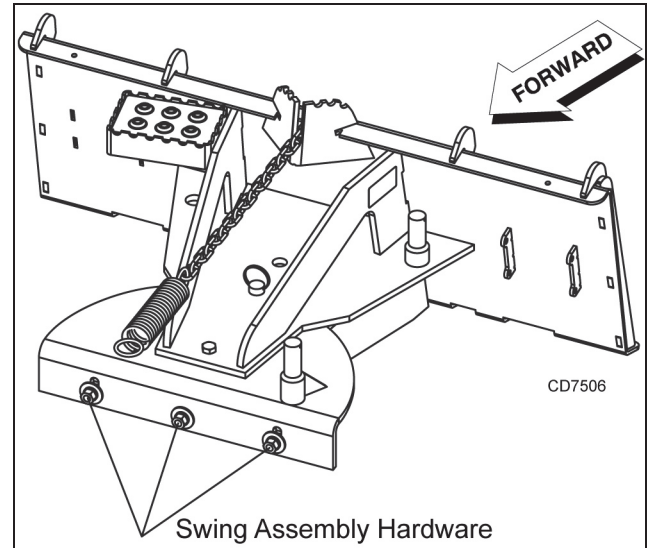


Figure 6. Swing Assembly Hardware

7. Angle the brush head to the right. Measure again as shown in Figure 5. If measurements are equal, no adjustment is required. If they are not equal, check the level of the mounting assembly and repeat the following steps, if necessary.

NOTE: The mounting assembly must be vertical. Adjust the mounting chain to compensate.

8. After checking the mounting assemblies to see if they are level, check the brush head assembly and level as required.

Adjust Brush Pattern

A properly adjusted brush offers the best sweeping performance. To check the brush pattern, move the angle broom to a dusty, flat surface. Set the skid steer parking brake and leave the engine running.

1. Start the broom at a low speed; then, lower it so the bristle tips touch the ground. Run the broom in a stationary position for ten seconds.
2. Raise the broom and back away. Switch off the engine and remove the key.
3. The brush pattern left in the dust should be two to three inches wide, running the length of the brush. Compare the swept area with Figure 7.

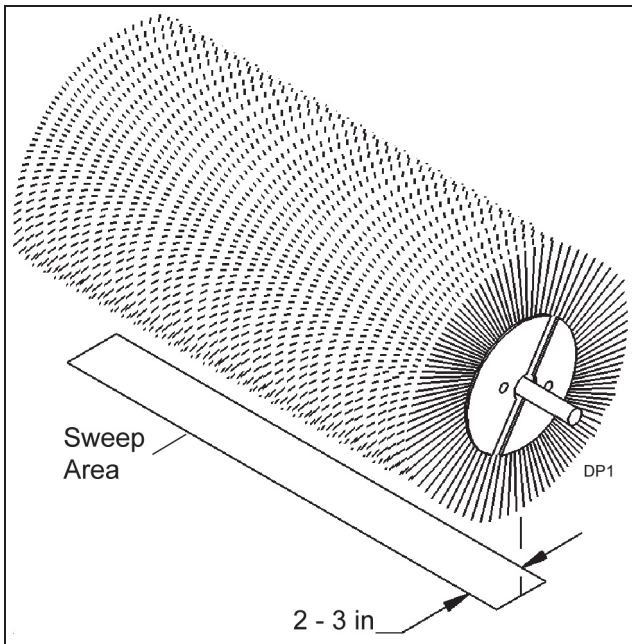


Figure 7. Brush Pattern

4. Adjust the brush pattern as necessary according to instructions found in Adjusting the Spring-Chain Assembly.

Adjusting the Spring-Chain Assembly

The spring-chain assembly allows the brush head to pivot up and down.

To adjust brush pattern:

1. Lower the broom to take tension off the transport chain.
2. Shorten the transport chain and raise the broom. Transport chain should support the weight of the broom.
3. Move the spring chain forward (lengthen), in the swing assembly chain holder, to lower the brush head; move chain backward (shorten) in the holder to raise it.

Adjust Transport Chain

The transport chain supports the weight of the brush head assembly during transport between work sites and during adjustment of the spring-chain assemblies.

To adjust the transport chain:

1. Rotate the brush head forward.
2. Tighten the transport chain.
3. Retract the loader arms. Lower the broom so the transport chain supports the weight of the broom.

OPERATION

Read and understand the angle broom and skid steer operator's manuals before operating the angle broom. Failure to do so may result in death, serious personal injury or property damage.

Never raise the angle broom more than a few inches off the ground when traveling from job site to job site.

Carry the broom low to the ground so that the operator has good visibility and stability. Avoid any sudden movements.

⚠ WARNING

■ **Improper operation can cause the machine to tip or roll over and cause injury or death.**

- Keep power unit lift arms and attachment as low as possible.
- Do not travel or turn with power unit lift arms and attachment raised.
- Turn only on level ground.
- Go up and down slopes, not across them.
- Keep the heavy end of the machine uphill.
- Do not overload the machine.

■ **Look down and to the rear and make sure area is clear before operating in reverse.**

■ **Never direct discharge toward people, animals, or property.**

■ **Only engage power when equipment is at ground operating level. Always disengage power when equipment is raised off the ground.**

⚠ CAUTION

■ **Keep brush away from intense heat or flame. Brush material can ignite and burn.**

Directing Debris

Avoid excessive downward pressure on the brush sections to prevent excessive wear. A two- to three- inch wide pattern is sufficient for most applications. Make sure the adjustment bolts are equal in order to prevent an uneven wear pattern. To adjust brush pattern see Adjust Brush Pattern, page 11.

Direct debris by angling the brush in the desired direction.

Observe wind direction. Sweeping with the wind makes sweeping more effective and helps keep debris off the operator.

Manual Angle Broom

1. Remove the lock pin from the swing assembly.
2. Position the brush head at the desired angle, align holes between swing plate and mounting frame.
3. Insert lock pin and close.

Sweeping

1. Start the skid steer at idle speed and raise the brush head.
2. Engage the brush head and lower it to the ground.
3. Increase skid steer engine rpm to sweeping speed. Travel forward at 5 mph or less.

Operating tips

Brush, Engine & Travel Speed

Vary brush, engine and travel speed to match sweeping conditions.

Large Areas

When sweeping a large area, such as a parking lot, make a path down the middle and sweep to both sides. This reduces the amount of debris that the sweeper must move to one side.

Snow

High broom speeds and slow ground speeds are needed to sweep snow effectively. Start at 3/4 throttle and the lowest speed of the skid steer. For wet and/or deep snow, increase broom speed to almost full throttle. This helps keep snow from packing up inside the brush hood.

In deep snow you may need to make more than one pass to get down to a clean surface.

To keep snow from blowing back onto a swept area, always sweep so the wind is at your back, or so it follows the brush angle.

Dirt and Gravel

To keep dust at a minimum, plan your sweeping for days when it is overcast and humid, or after it has rained. Also, sweep so the wind blows at your back or in the direction the brush head is angled.

Low brush speeds and moderate ground speeds work best for cleaning debris from hard surfaces. Brush speeds that are too fast tend to raise dust because of the aggressive sweeper action.

To sweep gravel, use just enough brush speed to roll gravel, not throw it.

Heavy Debris

For two inches or more of heavy debris, medium/high and ground speeds of less than five mph are recommended.

Sweep path less than the full width of the broom.

Increase engine speed if debris becomes very heavy.

Thatch

For two inches or more of heavy debris, medium/high and ground speeds of less than five mph are recommended.

To prevent the broom from pulling itself into the ground, adjust the spring-chain assembly so the bristle tips barely touch the grass.

If the broom pulls into the grass and stalls while sweeping, use the lift to raise the broom. Do not increase throttle to override a stall out.

Use a combination of brush speeds and ground speeds that roll up a neat windrow.

To keep thatch from blowing back into a swept area, sweep with the wind at your back or in the direction the brush is angled.

REMOVE BROOM FROM SKID STEER



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

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

On a hard level surface, lower parking stands and lower attachment to the ground.

Set brake, shut off engine, remove key, remove seat belt and release operator restraint before leaving the skid steer operator's seat.

Disconnect hydraulic hoses from quick couplers. Install dust plugs and couple hoses together for storage.

Move skid steer coupler handles to the unlocked position, Figure 8. Lock pins must be disengaged from attachment retaining slots.

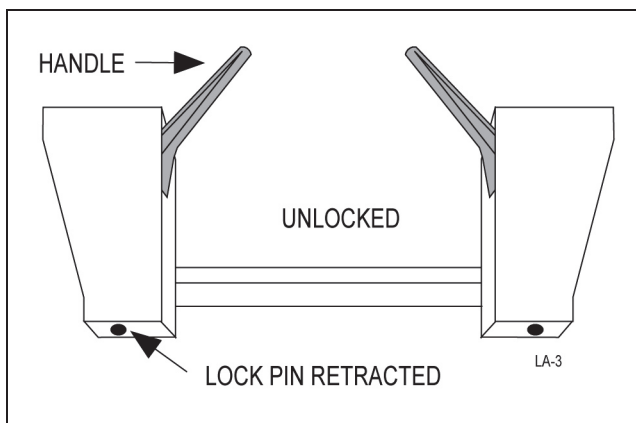


Figure 8. Skid Steer Coupler Handles - Unlocked

Move to the skid steer operator seat, fasten seat belt, disengage operator restraint, and start engine.

Release brake and roll skid steer coupler until it is disengaged from the attachment. The attachment should be placed in storage position.

STORAGE

⚠ CAUTION

- **Keep brush away from intense heat or flame. Brush material can ignite and burn.**
- **Keep children and bystanders away from storage area.**

NOTICE

- **Do not store polypropylene brushes in direct sunlight. The material can deteriorate and crumble before the bristles are worn out.**

NOTICE

- **Do not store the broom with weight on the brushes. Weight will deform them, destroying the sweeping effectiveness. To avoid this problem, use optional storage stands.**

Inspect the angle broom thoroughly and prepare for storage. Repair or replace any damaged components.

Remove the angle broom as described in Removing Angle Broom from Skid Steer" above.

PRE-OPERATION CHECK LIST **(OWNER'S RESPONSIBILITY)**

- ___ Review and follow all safety rules and safety decal instructions on page 5 through page 9.
- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Check that all shields and guards are properly 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 skid steer.
- ___ Do not allow riders.
- ___ Check and keep all bystanders away from equipment working area.
- ___ Check all lubrication points and grease as instructed in lubrication, page 16.
- ___ Check that all hydraulic hoses and fittings are in good condition and not leaking before starting skid steer. Check that hoses are not twisted, bent sharply, kinked, frayed or pulled tight. Replace any damaged hoses immediately.
- ___ Make sure skid steer ROPS and seat belt are in good condition. Keep seat belt securely fastened during operation.

OWNER SERVICE

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

Regular preventive maintenance and immediate repair of broken or worn parts will insure maximum efficiency and long life.

WARNING

■ **Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements or have work done by a qualified dealer.**

■ **Before leaving operator's seat, lower lift arms and put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.**

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

WARNING

■ **Never perform service or maintenance with engine running.**

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

■ **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.**

■ **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.**

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

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

CAUTION

■ **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 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

Grease Fittings

The following fittings should be greased daily. See Figure 9 for locations.

1. Core bearing (1 fitting)
2. Brush head pivot (2 fittings)

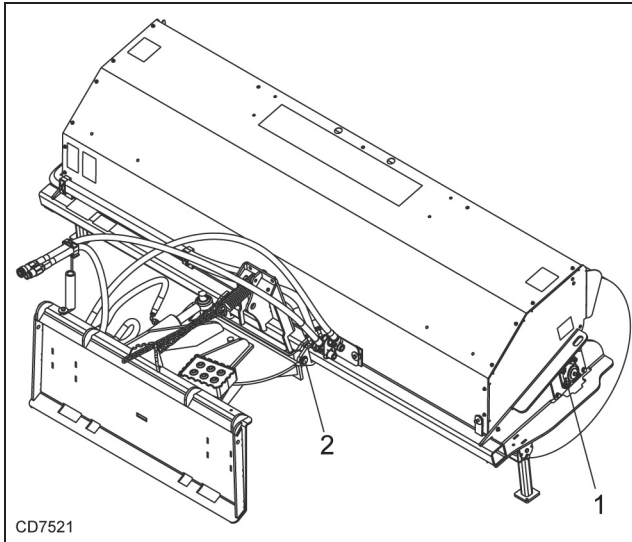


Figure 9. Grease Fitting Locations

Pre Operation Check

Procedure	Daily	50 Hours
Level Brush Head assembly	✓	
Check brush pattern	✓	
Clean air filter, skid steer	✓	
Hydraulic fittings and hoses, tighten		✓
Grease fittings	✓	
Check hydraulic fluid level	✓	
Tighten hardware		✓
Grease swing plate	✓	

Inspect for leaks and correct as necessary.

Run engine at a slow idle, checking for leaks.

Operate broom to ensure it is working properly.

Check the fluid level in skid steer reservoir and add fluid as required.

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.



TROUBLESHOOTING

BRUSH HEAD

PROBLEM	POSSIBLE CAUSE	SOLUTION
Brush rotates wrong direction.	Hoses installed incorrectly.	Switch hoses at brush head tubes.
Brush slows or stops when sweeping.	Brush pattern too wide. Travel speed too fast. Trying to sweep too much material at once. Relief pressure set too low. Filter plugging.	Adjust brush pattern to 2-3 inches (51-76 mm) wide: see Adjust Brush Pattern, page 11. Travel no more than 5 mph (8 kph) while sweeping (2-3 mph recommended). Make several passes with sweeper. Set relief pressure to 2000 psi (138.0 bars). Change or clean filter.
Brush head assembly "bounces" during sweeping.	Spring-chain assembly too loose. Travel speed too fast and/or brush speed too slow.	Adjust spring-chain assembly: see Adjusting the Spring-Chain Assembly, page 12. Find correct combination of ground and brush speeds: do not travel at more than 5 mph (8 kph).
Brush wears into cone shape.	Sweeper is not level. Tires on prime mover at different pressures or are different sizes.	Level sweeper before each use: see Leveling Brush Head, page 11. Check tire sizes and rating: make corrections as necessary.
Brush wears very quickly.	Brush pattern too wide.	Adjust brush pattern to 2-3 inches (51-76 mm) wide: see Adjust Brush Pattern, page 11.

SPRING-CHAIN ASSEMBLY

Springs on spring-chain assemblies stretching.	Transport chain too loose when traveling between job sites. Travel speeds too fast when sweeping.	Adjust according to Adjust Transport Chain, page 12. Do not travel at speeds over 5 mph (8 kph).
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HYDRAULIC SYSTEM

Hydraulic system overheats.	Hydraulic oil level too low.	Add hydraulic oil to tank until it comes to two inches (51 mm) from top.
	Restriction in hoses. Hose pump flow rate exceeds maximum rate of broom.	Remove bends in hoses; remove obstructions inside hoses. Contact hose manufacturer for proper flow control method.
Hydraulic motor seals leak.	Back pressure exceeds 1000 PSI. Motor is failing.	Contact Woods Technical Support. High number of hours on motor; contact dealer to rebuild or replace.

DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described here 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 go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Follow Operator's Manual instructions for working underneath and blocking requirements or have work done by a qualified dealer.**

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

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

■ **Do not disconnect hydraulic lines until machine is securely blocked or placed in lowest position and system pressure is released by operating valve levers.**

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

■ **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.**

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.

REPLACING THE BRUSH SECTIONS

1. Remove motor mount screws. Keep hardware for reinstallation. Remove motor mount.
2. Remove bearing mounting plate screws from side. Keep hardware for reinstallation.
3. Remove core from brush assembly.
4. Remove retaining plate from core assembly.
5. Remove old sections.

Install New Sections

1. Slide the first section onto the core. Make sure that the drive pins straddle the tube (rail) to prevent the section from spinning on the core (Figure 10).

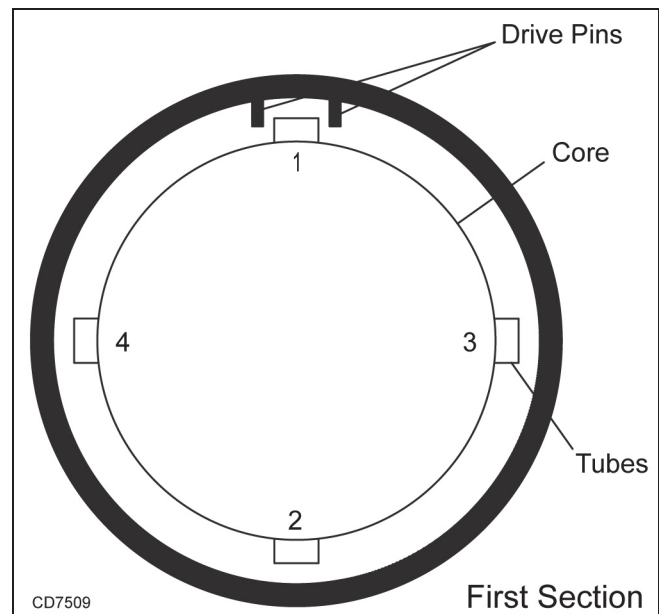


Figure 10. Number Tubes

2. Place the second section on the core with the drive pins rotated 180° from those on the first section (Figure 11).
3. Slide sections on until the core is full. Make sure to alternate each tube.

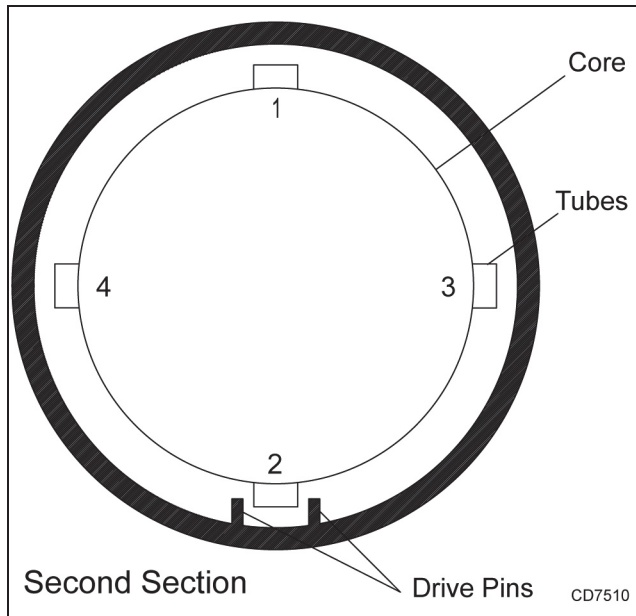


Figure 11. Second Section

Assemble Unit

1. Attach the section retainer and bearing mounting plate with previously removed hardware.
2. Lay core on the ground. Lower frame over core.
3. Attach bearing mounting plate with previously removed hardware.
4. Attach motor mount with hardware previously removed.

❖

NOTES

DEALER CHECK LISTS

PRE-DELIVERY CHECK LIST (DEALER'S RESPONSIBILITY)

Inspect the equipment thoroughly after assembly to ensure it is set up properly before delivering it to the customer.

The following check lists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Check that shields and guards are properly installed and in good condition. Replace if damaged.
- ___ Check lock bars on attachment carrier to make sure they are in place.
- ___ Check all bolts to be sure they are tight.
- ___ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- ___ Check and grease all lubrication points as identified in lubrication, page 16.

DELIVERY CHECK LIST (DEALER'S RESPONSIBILITY)

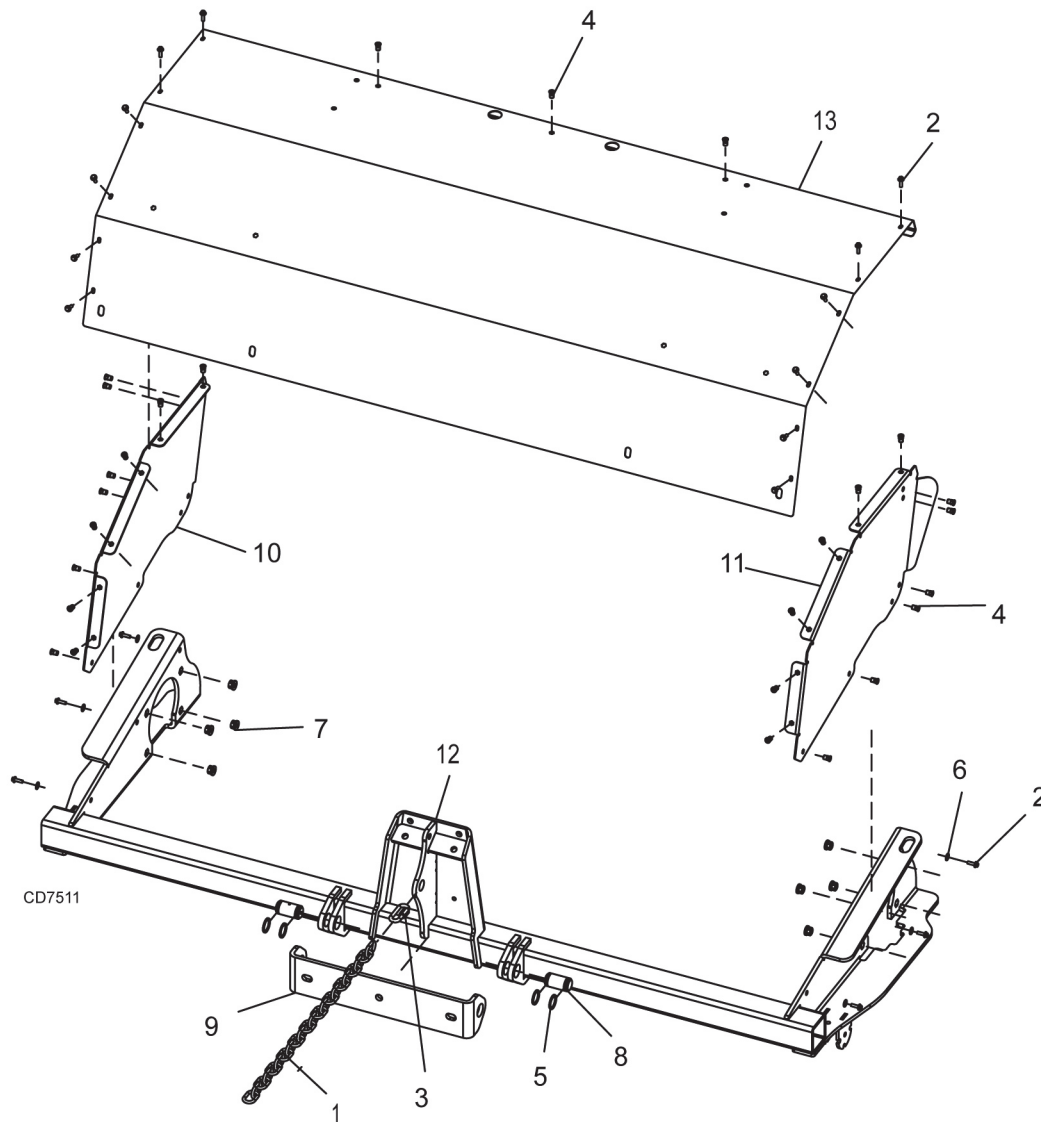
- ___ Show customer how to make adjustments.
- ___ Instruct customer how to lubricate and explain importance of lubrication.
- ___ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.
- ___ 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.
- ___ 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.
- ___ Explain to customer that when equipment is transported on a road or highway, safety devices should be used to give adequate warning to operators of other vehicles.
- ___ Make customer aware of optional equipment available so that customer can make proper choices as required.
- ___ Point out all guards and shields. Explain their importance and the safety hazards that exist when not kept in place and in good condition.



Angle Broom AB720-2 & AB840-2

BRUSH HEAD FRAME ASSEMBLY	22
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BRUSH HEAD FRAME ASSEMBLY



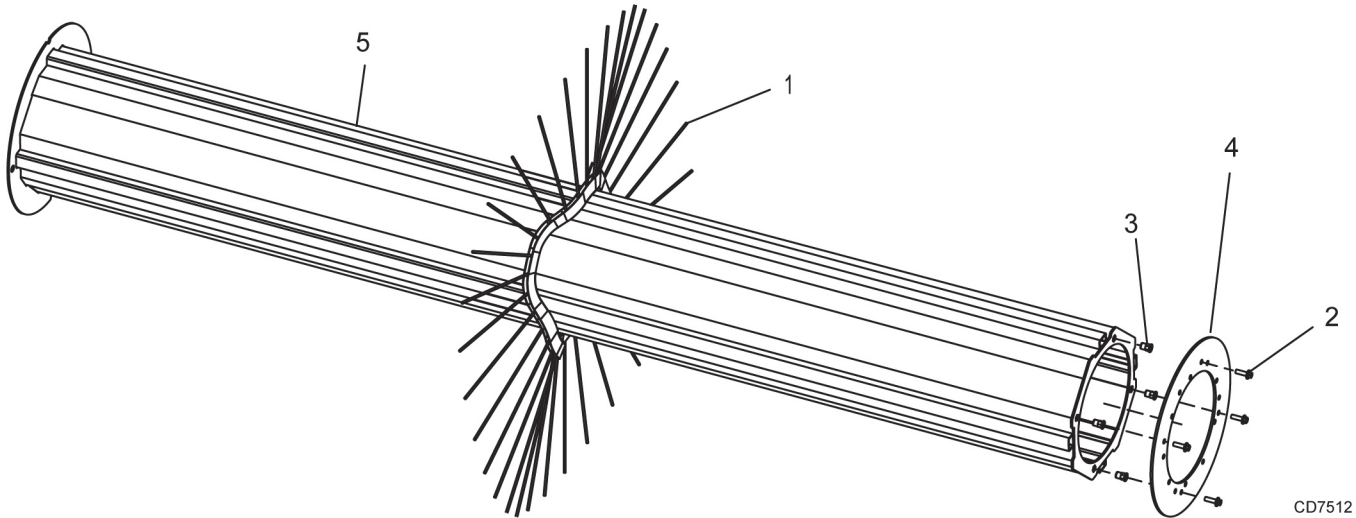
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1015343	1	Chain, 1/4 x 22	9	1015328	1	Plate mtg brush head pivot
2	1015335	18	Screw, M6-1 X 20 mm HFH CL10.9	10	1015338	1	Sheet hood side left
3	1015334	1	Link quick 5/16	11	1015337	1	Sheet hood side right
4	1015333	27	Nut insert M6 - 1.0	12	1016021	1	Weld brush frame 6 ft QC -or-
5	1015332	4	Ring snap	12	1015336	1	Weld brush frame 7 ft QC
6	1015331	6	Washer, M6 fender	13	1016022	1	Sheet hood 6 ft -or-
7	1015330	8	Nut flange M10-1.5	13	1015339	1	Sheet hood AB840-2
8	1015329	2	Pin pivot				

HFH Hex Flange Head

22 Parts

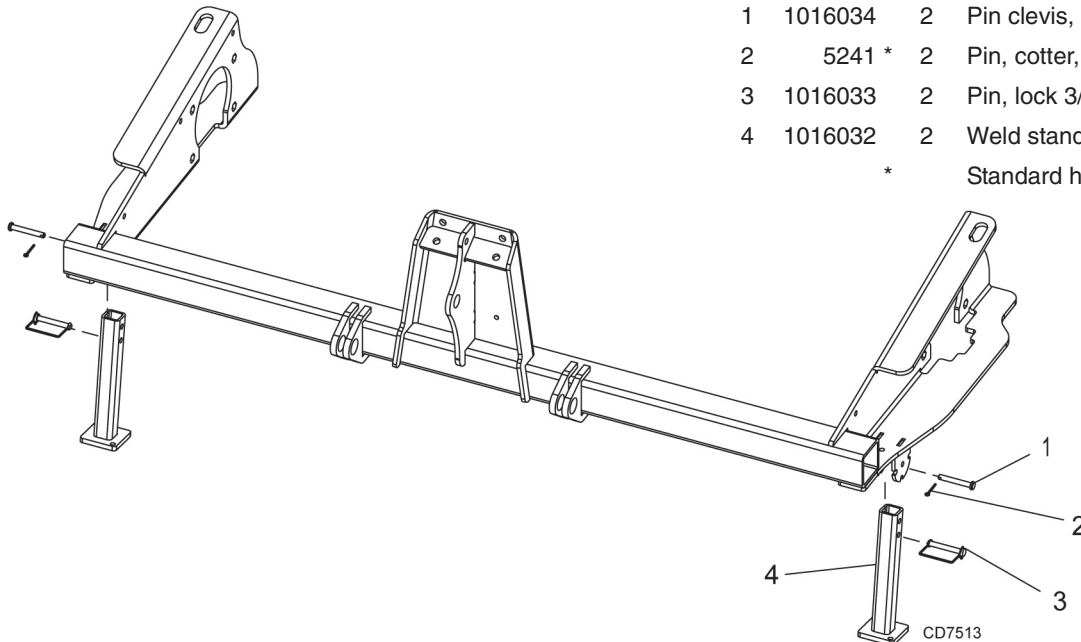
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CORE ASSEMBLY



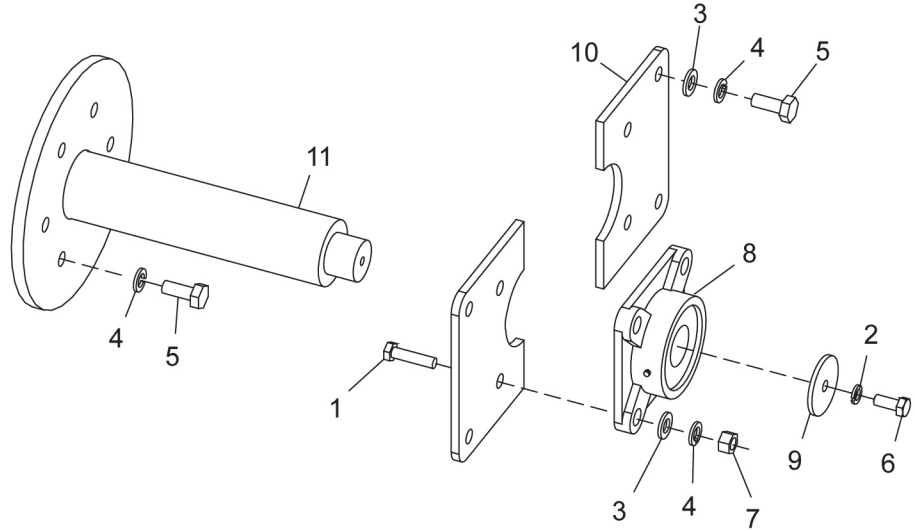
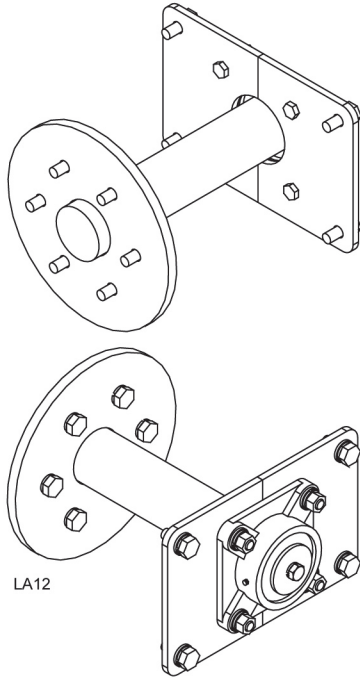
REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1016026	1	Section, set 32, poly convoluted (6 ft)	2	1015335	4	Screw, M6-1 X 20 mm HFH CL10.9
1	1015353	1	Section, set 32, poly convoluted (7 ft)	3	1015333	4	Nut insert M6 - 1.0
1	1016025	1	Section, set 32, mixed convoluted (6 ft)	4	1015341	1	Plate, ring, core end QC
1	1015352	1	Section, set 32, mixed convoluted (7 ft)	5	1016024	1	Weld core 6 ft hex drive -or-
1	54538	1	Section, set 32, wire convoluted (6 ft)	5	1015351	1	Weld core 7 ft hex drive
1	1003304	1	Section, set 32, wire convoluted (7 ft)		HFH		Hex Flange Head

BRUSH HEAD STANDS



REF	PART	QTY	DESCRIPTION
1	1016034	2	Pin clevis, 3/8 x 2-3/4
2	5241 *	2	Pin, cotter, 1/8 x 1-1/4
3	1016033	2	Pin, lock 3/8 x 2 grip sq
4	1016032	2	Weld stand QC
	*		Standard hardware, obtain locally

SHAFT ASSEMBLY



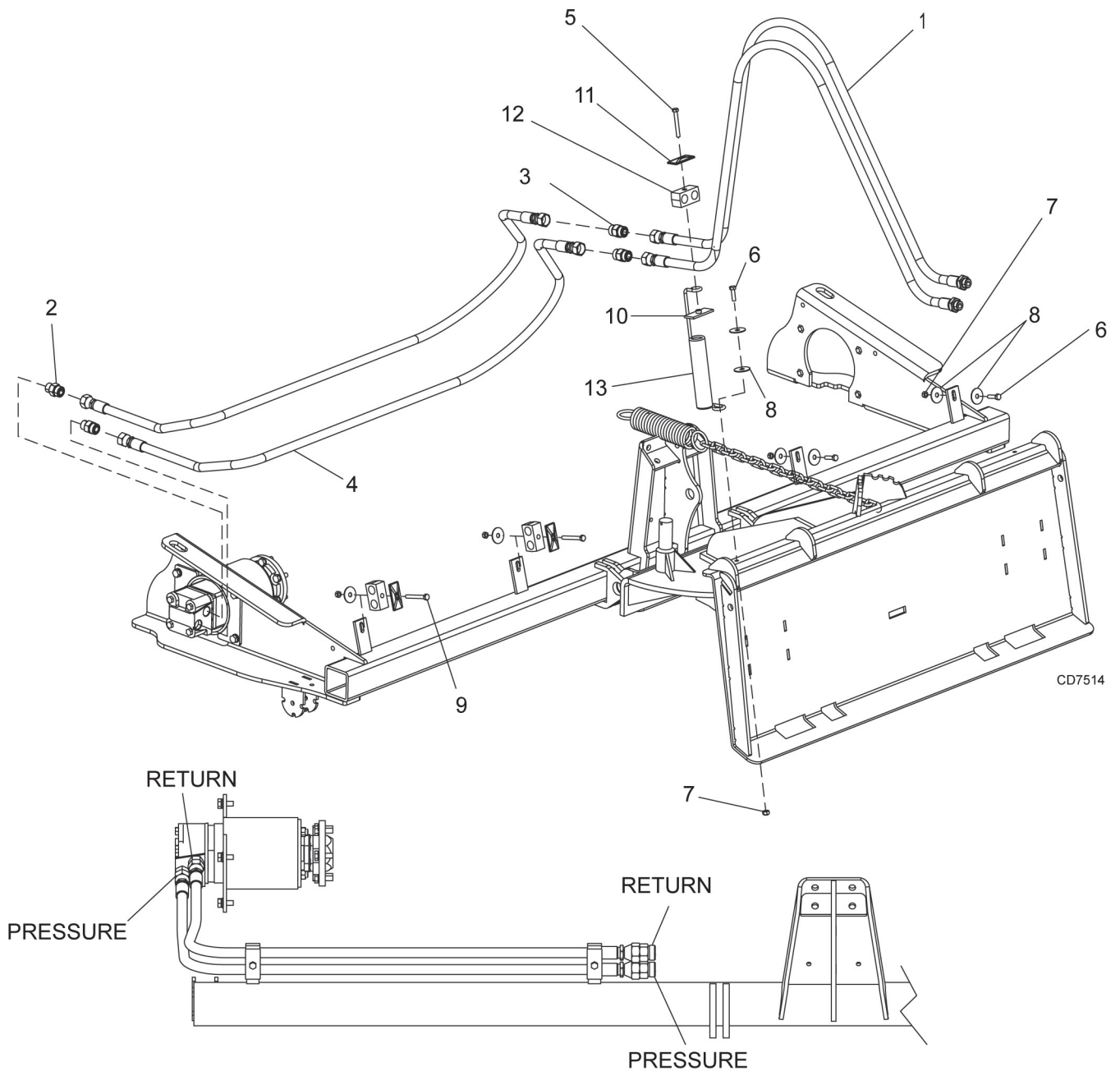
REF	PART	QTY	DESCRIPTION
1	31813	4	M10-1.5 x 35 mm HHCS, CL8.8
2	1016049 *	1	Washer lock split M8
3	1016048 *	8	Washer flat CL8.8 M10
4	1016047 *	14	Washer lock split M10
5	1016046	10	M10-1.5 X 25 mm HHCS CL10.9
6	1016045	1	M8-1.25 X 20 mm HHCS CL10.9

REF	PART	QTY	DESCRIPTION
7	1016044	4	Nut, hex M10-1.5
8	1015342	1	Bearing, 1-1/4 x 4 bolt
9	1016043	1	Washer, .34 X 1.8 X 10 ga
10	1016042	2	Plate shaft brush frame mtg
11	1016041	1	Weld shaft hex drive

HHCS Hex Head Cap Screw

* Standard hardware, obtain locally

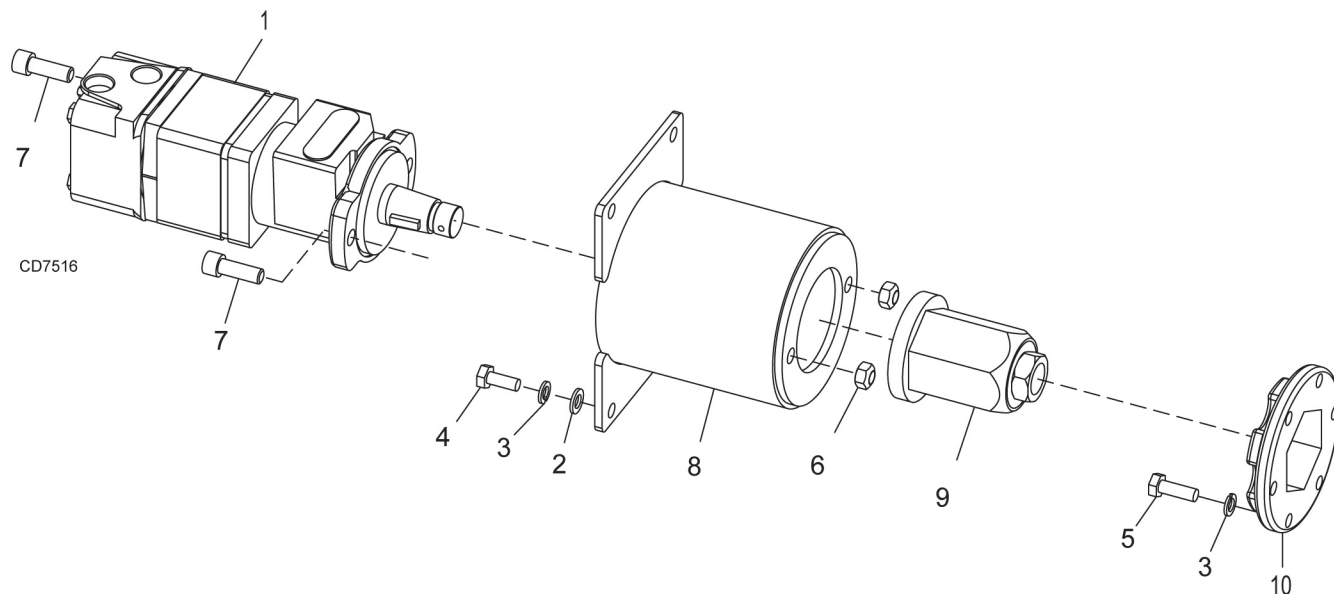
HYDRAULIC ASSEMBLY, SINGLE MOTOR



CD7514

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1026715	2	Hose, 80" x 10 FFS x 12 ORBM	10	1026719	1	Weld plate F / .88 OD
2	54546	2	Adapter, 7/8 ORBM, 5/8 MFS	11	1015375	3	Cover plate F / .88 OD
3	1016004	2	Adapter, 10 FOR x 10 FOR	12	1015372	3	Hose cradle F / .88 OD
4	1026716	2	Hose, 115" x 10 FFS x 10 FFS	13	1026720	1	Hose spring
5	10509 *	1	5/16 NC x 2-1/2 HHCS GR5		FOR		Female O-ring
6	90003054	3	M8 x 1.25P x 30 mm CL10.9 HHCS		MFS		Male Face Seal
7	1026717	5	M8 x 1.25P Hex lock nut		FFS		Female Face Seal
8	1015368	8	Washer, fender 1-1/2 x 5/16		HHCS		Hex Head Cap Screw
9	1026718	2	M8 x 1.25P x 65 mm HHCS CL10.9		*		Standard hardware, obtain locally

MOTOR BUCKET ASSEMBLY



REF	PART	QTY	DESCRIPTION
1	1015347	1	Motor, hyd 24.9 cu. in w/check
1A	1036271	1	Seal kit, motor
2	1016048 *	4	Washer, flat M10
3	1016047 *	10	Washer, lock split M10
4	1016046	4	M10-1.5 X 25 mm HHCS CL10.9
5	1016039	6	M10-1.5 X 30 mm HHCS CL10.9
6	1016038	2	Nut, hex lock M12-1.75

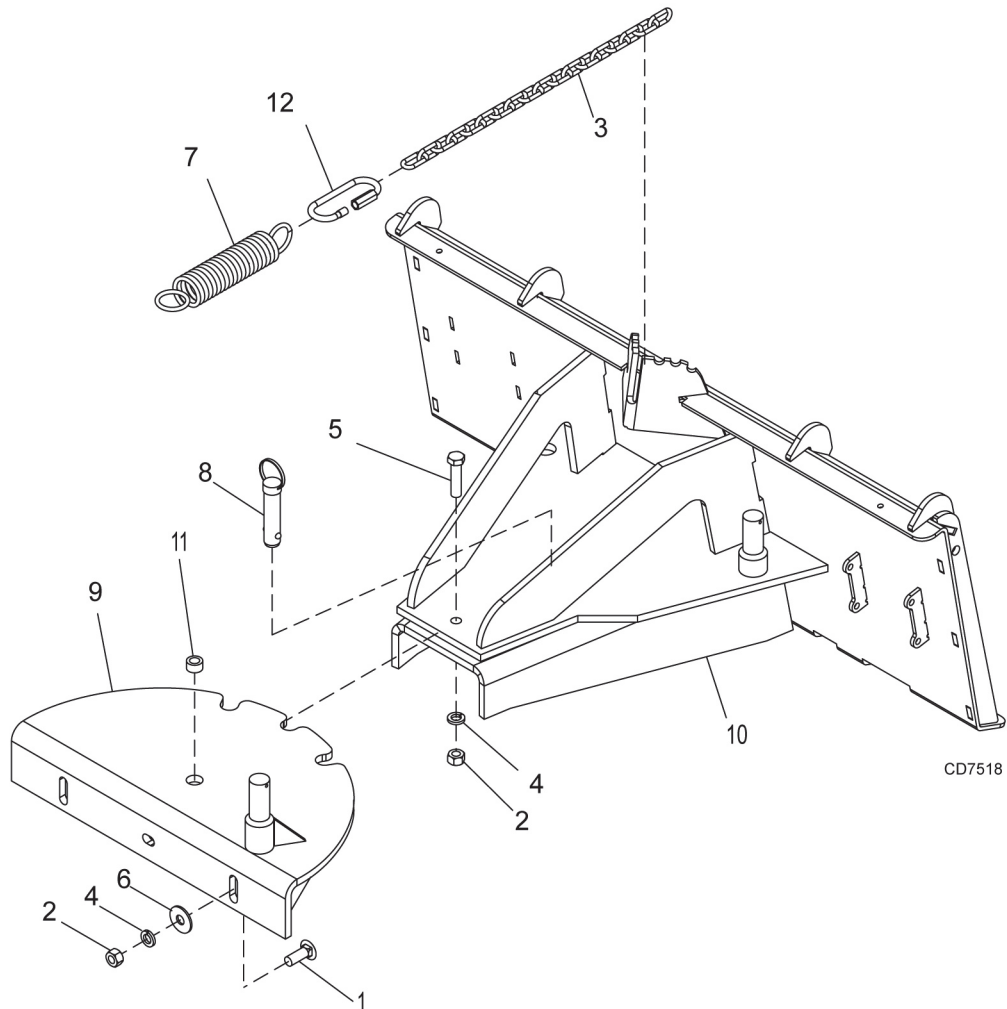
REF	PART	QTY	DESCRIPTION
7	1016037	2	M12-1.75 X 35 mm SHCS CL12.9
8	1015340	1	Weld motor bucket
9	1026733	1	Hub hex, 2-1/2 x 1-1/4 tapered
10	1015350	1	Weld hex drive

SHCS Socket Head Cap Screw

HHCS Hex Head Cap Screw

* Standard hardware, obtain locally

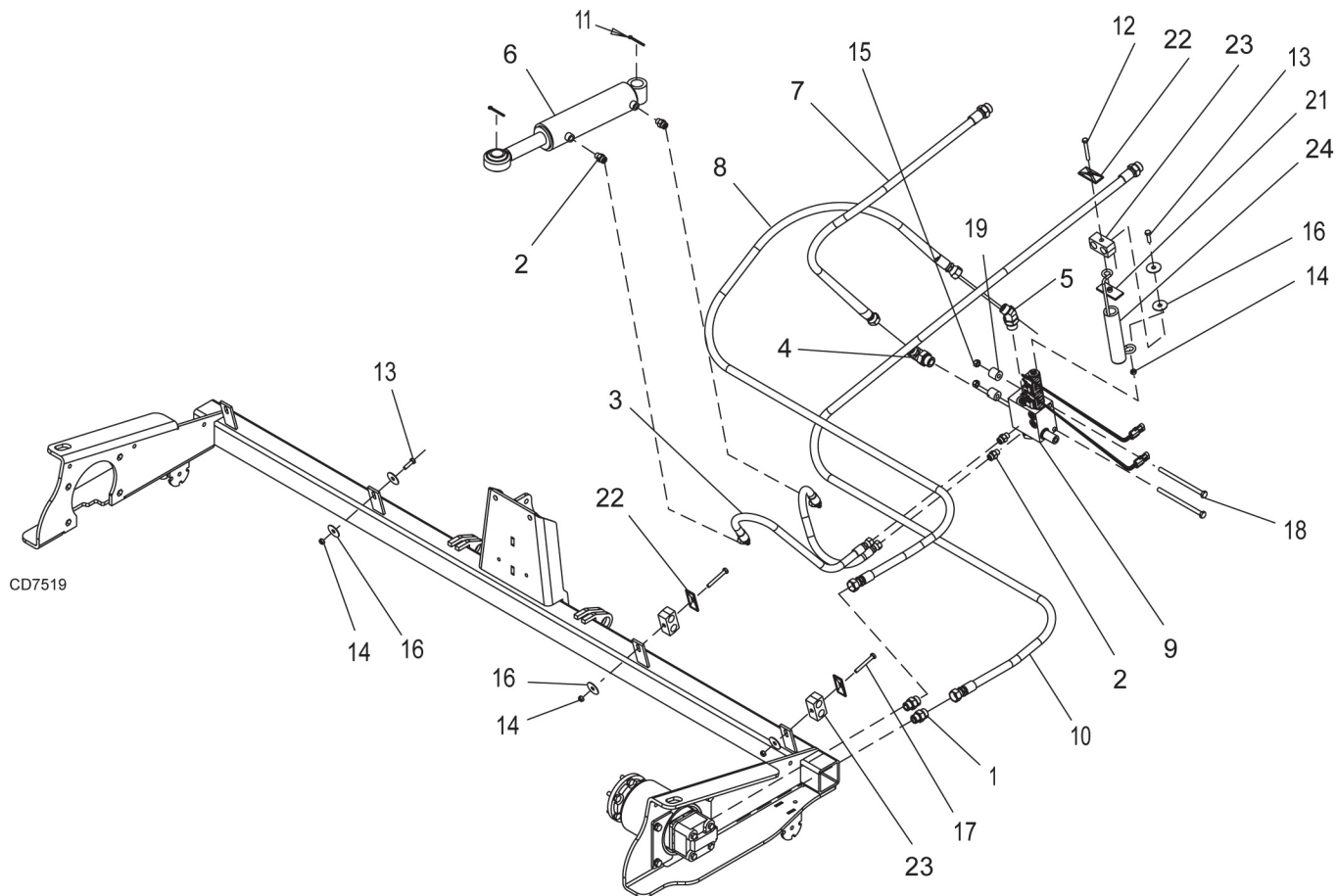
QUICK ATTACH



CD7518

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	33034 *	3	Bolt, carriage, 5/8 NC x 1-3/4 GR5	8	1026721	1	Pin, quick release 1 x 3
2	230 *	4	Nut, hex 5/8 NC	9	54617	1	Weld plate swing
3	54603	1	Chain, 1/4 x 21 links	10	1026722	1	Weld frame
4	1286 *	4	Washer, lock 5/8	11	54618	1	Bushing, 1 x 5/8 x .562
5	941 *	1	5/8 NC x 2-1/2 HHCS GR5	12	1026734	1	Quick link, 5/16 wide
6	692 *	3	Washer, flat 5/8				
7	1016031	1	Spring tension				
				HHCS	Hex Head Cap Screw		
				*	Standard hardware, obtain locally		

HYDRAULIC ANGLE ASSEMBLY



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	54546	2	Adapter, 7/8 ORBM x 5/8 MFS	13	90003054	3	M8 x 1.25P x 30 mm HHCS CL10.9
2	1026730	4	Adapter, 3/8 MFS x 9/16 ORBM	14	1026717	5	M8 x 1.25P Hex lock nut
3	1026729	2	Hose, 32" x 3/8 FFS x 3/8 FFS 90°	15	1026725	2	M10 x1.5P Hex lock nut
4	1026731	1	Elbow, 1-1/16 x 5/8 MFS 90°	16	1015368	8	1-1/2 x 5/16 Washer, fender
5	1026732	1	Elbow, 5/8 MFS x 1-1/16 ORBM 45°	17	1026718	2	M8 x 1.25P x 65 mm HHCS CL10.9
6	1026728	1	Cylinder, 2-1/2 bore 7-1/2 stroke	18	1026723	2	M8 x 1.25P x 160 mm HHCS CL10.9
7	1026715	1	Hose, 80" x 10 FFS x 12 ORBM	19	1026724	2	Bushing, 1.0 x .406 ID
8	1026716	1	Hose, 115" x 10 FFS x 10 FFS	21	1026719	1	Weld plate F / .88 OD
9	1026727	1	Manifold, swing w/relief	22	1015375	3	Cover plate F / .88 OD
10	1026726	1	Hose, 140" x 10 FFS x 12 ORBM	23	1015372	3	Hose cradle F / .88 OD
11	2452 *	2	Cotter pin, 3/16 x 2-1/2	24	1026720	1	Hose spring
12	10509 *	1	5/16 NC x 2-1/2 HHCS GR5				

MFS Male Face Seal
 FFS Female Face Seal
 HHCS Hex Head Cap Screw

* Standard hardware, obtain locally

28 Parts

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QUICK COUPLER KITS

Make		High-Flow with Auxiliary		High-Flow with No Auxiliary		Low-Flow	
		QC Kit	Description	QC Kit	Description	QC Kit	Description
Bobcat		HC356	Flush Face	HC355	Flush Face	HC357	Flush Face
	Vintage					HC243	Poppet
						HC211	Ag Ball Valve
Case		1013825	Flush Face	HC212	Flush Face	HC279	Flush Face
	Vintage	HC278	Flush Face			HC211	Ag Ball Valve
		HC209	Flush Face & Ag Ball Valve				
Cat		HC538	Flush Face	1014196	Flush Face	1014197	Flush Face
Daewoo		HC209	Flush Face	HC212	Flush Face	HC211	Ag Ball Valve
Gehl		HC398	Flush Face	1014195	Flush Face	HC400	Flush Face
	Vintage			HC305	Poppet & Ag Ball		
John Deere		1014198	Flush Face	1013826	Flush Face	HC310	Flush Face
Komatsu		1013834	Flush Face	1013833	Flush Face	1013835	Flush Face
New Holland		1014199	Flush Face	HC308	Flush Face	HC310	Flush Face
Scat Trak		HC537	Flush Face			HC243	Poppet

QUICK COUPLER KIT COMPONENTS

QC KIT	Includes	Style	Male/Female	Size	Hose End
HC209	HC193	Flush Face	Male	3/4	SAE #12 O-ring
	HC194	Flush Face	Female	3/4	SAE #12 O-ring
	HC195	Ag Ball	Female	1/2	1/2-14 NPT
	HC196	Ag Ball	Male	1/2	1/2-14 NPT
	HC197	Flush Face	Female	1/2	SAE #10 O-ring
HC211	HC195	Ag Ball	Female	1/2	1/2-14 NPT
	HC196	Ag Ball	Male	1/2	1/2-14 NPT
HC212	HC193	Flush Face	Male	3/4	SAE #12 O-ring
	HC194	Flush Face	Female	3/4	SAE #12 O-ring
	HC197	Flush Face	Female	1/2	SAE #10 O-ring
HC278	HC193	Flush Face	Male	3/4	SAE #12 O-ring
	HC194	Flush Face	Female	3/4	SAE #12 O-ring
	HC197	Flush Face	Female	1/2	SAE #10 O-ring
	HC201	Flush Face	Male	1/2	SAE #10 O-ring
HC279	HC197	Flush Face	Female	1/2	SAE #10 O-ring
	HC201	Flush Face	Male	1/2	SAE #10 O-ring

QUICK COUPLER KIT COMPONENTS

QC KIT	Includes	Style	Male/Female	Size	Hose End
HC308	HC416	Flush Face	Female	5/8	SAE #12 O-ring
	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring
HC310	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
HC355	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
HC356	HC342	Flush Face	Female	7 mm	SAE #6 O-ring
	HC343	Flush Face	Male	7 mm	SAE #6 O-ring
	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
HC357	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
HC398	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
HC400	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
HC537	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC416	Flush Face	Female	5/8	SAE #12 O-ring
	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring
HC538	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
	1532994	Flush Face	Female	3/4	SAE #12 O-ring
	1532995	Flush Face	Male	3/4	SAE #12 O-ring
	1532997	Flush Face	Female	1/2	SAE #8 O-ring
1013825	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring
	HC545	Flush Face	Female	5/8	SAE #12 O-ring
	HC546	Flush Face	Female	1/2	SAE #10 O-ring
	HC547	Flush Face	Male	1/2	SAE #10 O-ring
1013826	HC343	Flush Face	Male	7 mm	SAE #6 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1013833	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring

QUICK COUPLER KIT COMPONENTS

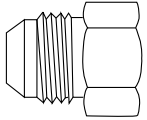
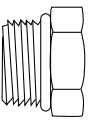
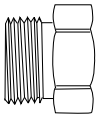
QC KIT	Includes	Style	Male/Female	Size	Hose End
1013834	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1013835	46058	Flush Face	M/F Set	3/4	SAE #12 O-ring
1014195	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
1014196	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
	1532997	Flush Face	Female	1/2	SAE #8 O-ring
1014197	1532994	Flush Face	Female	3/4	SAE #12 O-ring
	1532997	Flush Face	Female	1/2	SAE #8 O-ring
1014198	HC343	Flush Face	Male	7 mm	SAE #6 O-ring
	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1014199	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC416	Flush Face	Female	5/8	SAE #12 O-ring
	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring

FITTING TORQUE CHART

Always tighten fittings to these values unless a different torque value is listed for a specific service procedure.

Make sure fastener threads are clean and threads are engaged properly.

All torque values are adopted from SAE J514 and SAE J1453.

			
Size	SAE (JIC) 37° Flare Thread Size	O-Ring Style Straight Thread Size	Seal-Lok Thread (Face Seal)
2	5/16 - 24	5/16 - 24	---
3	3/8 - 24	3/8 - 24	---
4	7/16 - 20	7/16 - 20	9/16 - 18
5	1/2 - 20	1/2 - 20	---
6	9/16 - 18	9/16 - 18	11/16 - 16
8	3/4 - 16	3/4 - 16	13/16 - 16
10	7/8 - 14	7/8 - 14	1 - 14
12	1-1/16 - 12	1-1/16 - 12	1-3/16 - 12
14	1-3/16 - 12	1-3/16 - 12	---
16	1-5/16 - 12	1-5/16 - 12	1-7/16 - 12
20	1-5/8 - 12	1-5/8 - 12	1-11/16 - 12
24	1-7/8 - 12	1-7/8 - 12	2 - 12
32	2-1/2 - 12	2-1/2 - 12	---

SAE Dash Size	TORQUE					
	SAE 37° Flare		O-Ring Straight Thread		Seal-Lok	
	Lbs-Ft	N-m	Lbs-Ft	N-m	Lbs-Ft	N-m
2	4	5	4	5	---	---
3	8	11	9	12	---	---
4	12	16	16	22	18	25
5	15	20	22	30	---	---
6	18	25	35	48	27	37
8	37	50	60	82	40	54
10	48	65	105	143	63	86
12	74	100	140	190	92	125
14	88	120	184	250	---	---
16	100	135	221	300	122	165
20	133	180	258	350	147	200
24	166	225	317	430	166	225
32	236	320	---	---	---	---

BOLT TORQUE CHART

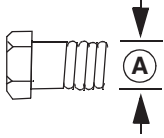
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

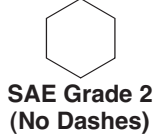
Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

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.



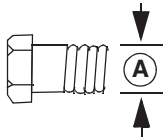
SAE SERIES TORQUE CHART



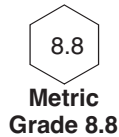
SAE Bolt Head Identification



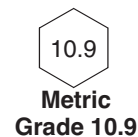
Ⓐ Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	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

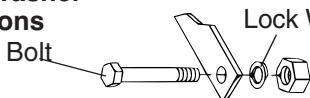


Metric Bolt Head Identification



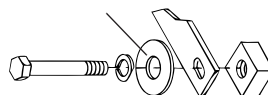
Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD								
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 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



Lock Washer

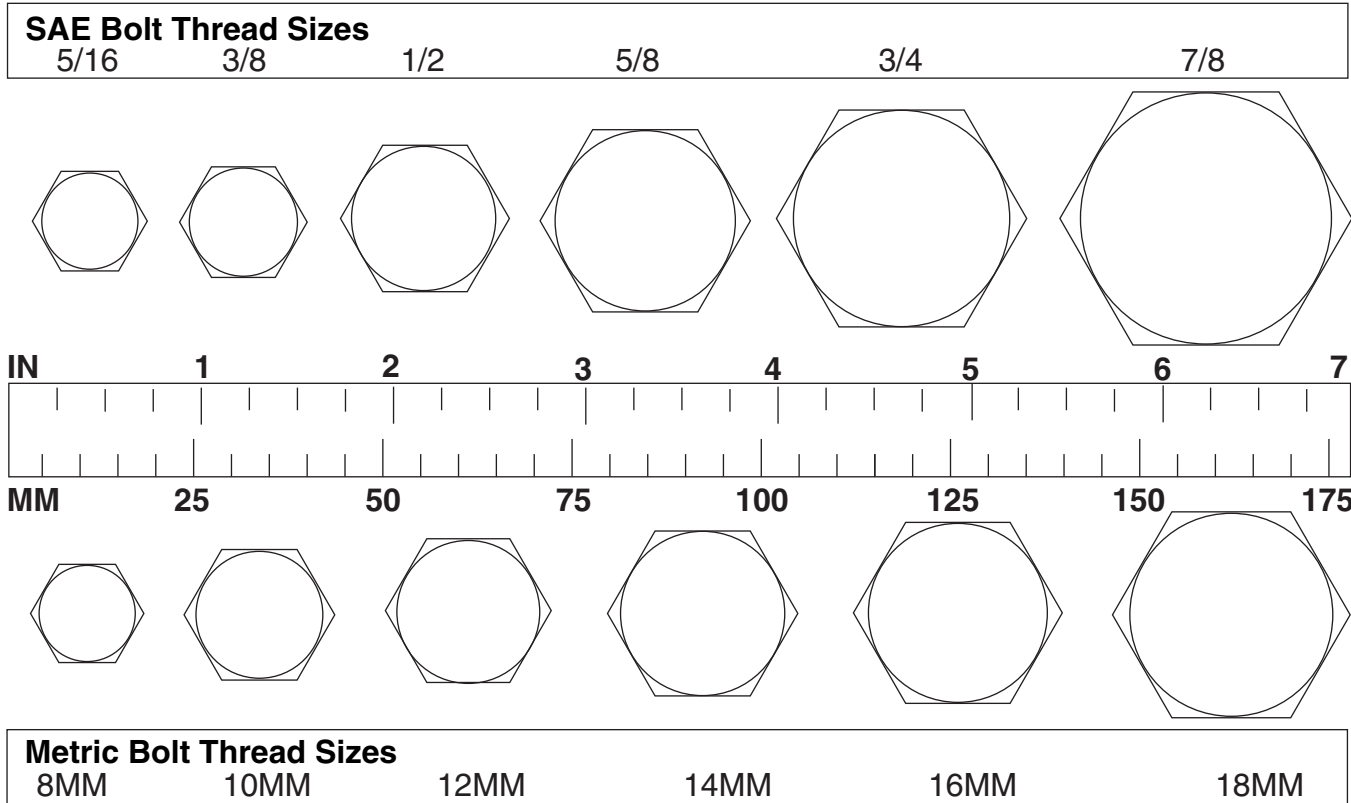
Flat Washer



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
 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



WARRANTY

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

Please Enter Information Below and Save for Future Reference.

Date Purchased: _____ From (Dealer): _____

Model Number: _____ Serial Number: _____

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

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

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

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
	All units invoiced after 4/30/2012	
Gearbox components	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DSO1260, DS1440, TS1680,	6 years
	BW12, BW15LH, BW126X, BW180X, BW126XHD, BW180XHD, BW1260X, BW1800X,	
	BW240X, BW240XHD, BW1620X, BW2400X	
	DS96, DS120, RCC42, RD990X, PRD6000, PRD7200, PRD8400, S15CD, S20CD, S22CD, S25CD, S27CD, S30CD, TC/R74, TC/R68, TC/R60, TBW144, TBW180, TBW204, TSG50, S12ED, S15ED, S18ED, S20ED, TPD25, TPD35, TPD65, TPD95	
	RDC54, RD60, RD72, TBW150C, TS/R60, TS/R52, TS/R44, HC48, HC54, HC60, HC72, RC3.5, RC4, RC5, RC6	3 years (1 year if used in rental or commercial applications)
Blade spindles	RD990X, PRD6000, PRD7200, PRD8400, TBW144, TBW180, TBW204	3 years
Rust-through	BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, BW126X, BW180X, BW126XHD, BW180XHD, BW1260X, BW1800X, BW240, BW240HD, 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

A Blount International Company

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

800-319-6637 tel
800-399-6637 fax
woodsequipment.com



ALITEC™
BMP®
CENTRAL FABRICATORS®
GANNON®
GILL®
WAIN-ROY®
WOODS®



WARRANTY

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

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

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

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

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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.

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BMP®
CENTRAL FABRICATORS®
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WAIN-ROY®
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WOODS®
Woods Equipment Company

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Oregon, Illinois 61061
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800-399-6637 fax
woodsequipment.com