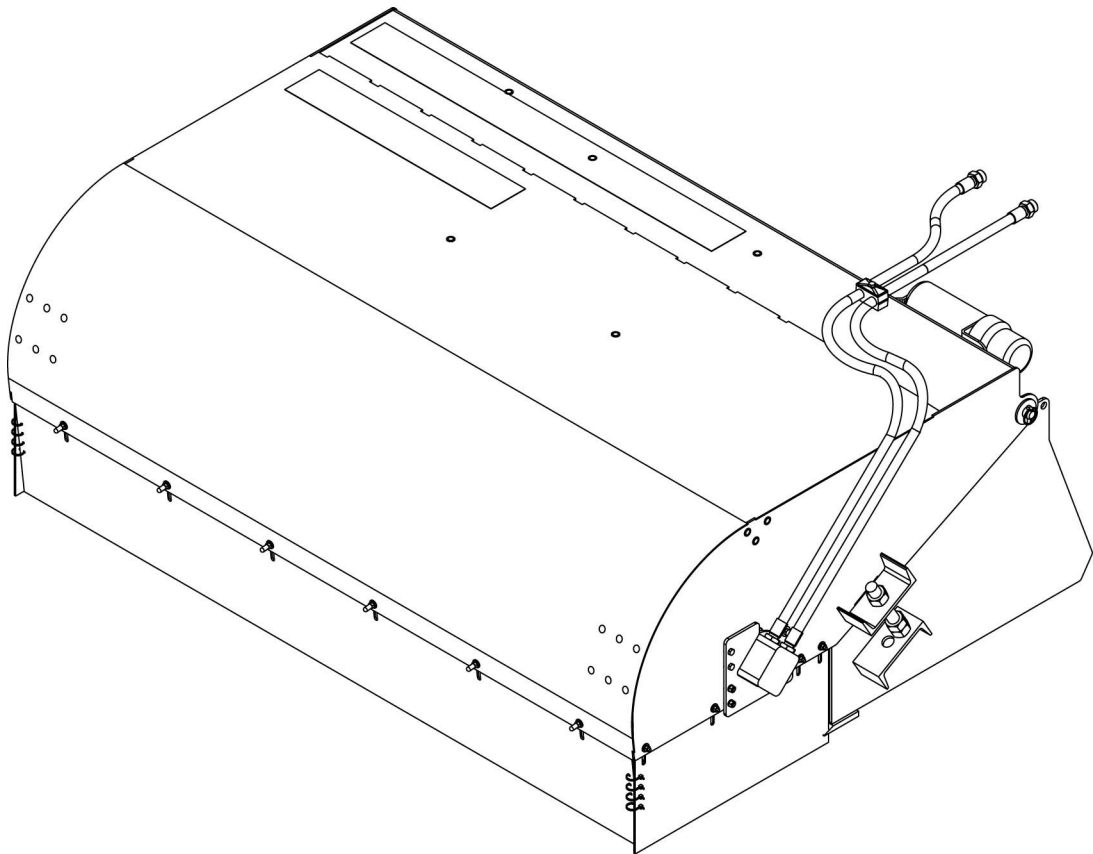


# ALITEC™

# PICK-UP BROOM

## PB600-2, PB720-2



**MAN0661**

(Rev. 5/23/2008)

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

OPERATOR'S MANUAL

## TO THE DEALER:

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

**The dealer must complete the 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 Safety Decal section for location)** \_\_\_\_\_

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

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



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



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



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



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

**IMPORTANT**  
or **NOTICE**

Is used to address practices not related to personal injury.

**NOTE**

Indicates helpful information.

**WOODS®**


**ALITEC™**  
**BMP®**  
**CENTRAL FABRICATORS®**  
**GANNON®**  
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**WAIN-ROY®**  
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## 2 Introduction

Gen'l (Rev. 2/19/2008)


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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 pick-up 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 pick-up broom may vary slightly in detail. We reserve the right to redesign and change the pick-up 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.

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## SPECIFICATIONS

### PICK-UP BROOMS

	<b>PB600-2</b>	<b>PB720-2</b>
Overall length	57 inches	57 inches
Overall width	66.6 inches	78.6 inches
Flow requirements	12 - 25 gpm	12 - 25 gpm
Maximum hydraulic oil pressure	3000 psi	3000 psi
Operating weight	817 lbs	925 lbs
Single gutter broom weight	75 lbs	75 lbs



# SAFETY RULES

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



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

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

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

## **INSTALLATION**

- **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](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.**
- **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!**

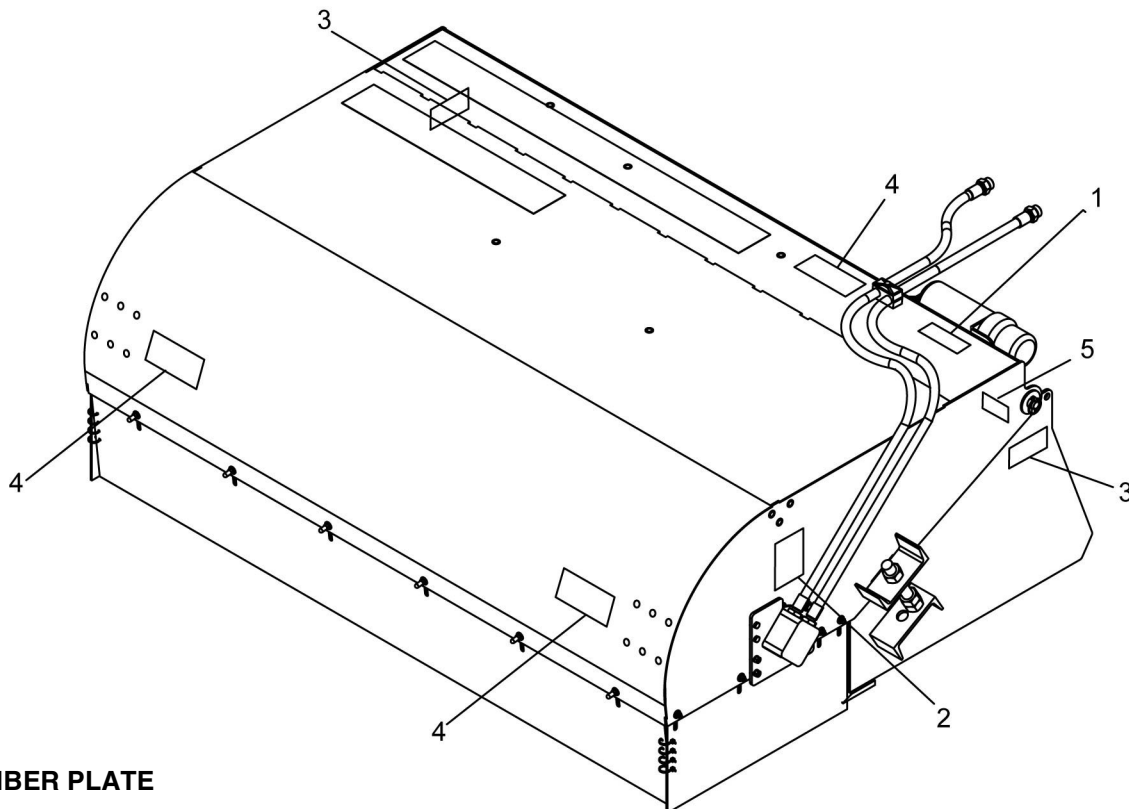
2 - PN 1015363



3 - PN 1015373



4 - PN 1015362



5 - SERIAL NUMBER PLATE





# SAFETY & INSTRUCTIONAL DECALS


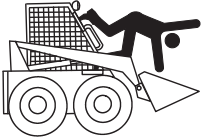
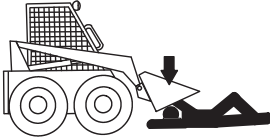


**ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



**Replace Immediately If Damaged!**

8 - PN 54519

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

## 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](http://www.WoodsEquipment.com), or in the United States and Canada call 1-800-319-6637.

1 - PN 54518

 <b>WARNING</b>
<p><b>TO AVOID SERIOUS INJURY OR DEATH,</b></p> <ul style="list-style-type: none"><li>■ 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.)</li><li>■ Only operate from Skid Steer seat with seat belt/operator restraint securely fastened.</li><li>■ 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.</li><li>■ Allow no children or untrained persons to operate equipment.</li></ul>
<p><b>FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.</b></p> <p style="text-align: right;">54518-A</p>

# 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 pick-up broom is designed for removing dust, dirt and fine debris from a flat, level surface. Debris is swept into the bucket and can then be carried to a suitable location for disposal. 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](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.**

■ **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.**

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

## WARNING

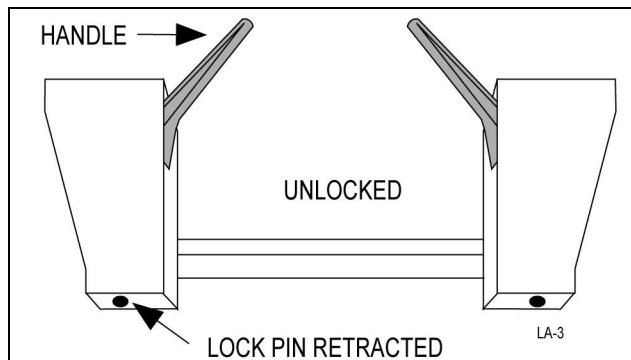
■ **Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures,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

## ATTACH 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 pick-up broom.

The skid steer coupler handles 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.

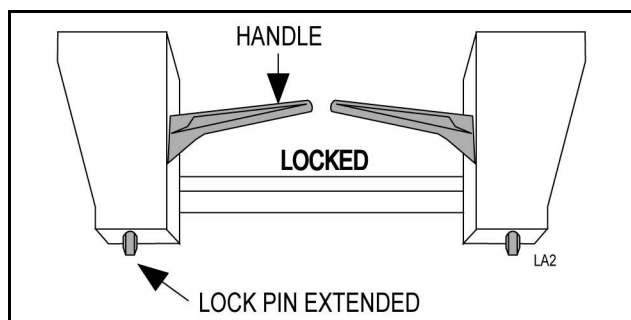
Carefully move and align the skid steer to the pick-up broom. The top of the skid steer coupler must slide into the broom flange, Figure 3.

Roll the skid steer coupler into the pick-up broom so the coupler handles can be engaged.

Shut off the engine, set brake, and remove key. Dismount the skid steer.

Move the skid steer coupler handles to the locked position, see Figure 2. The lock pins must be completely extended and secured into the slots provided on the pick-up broom, Figure 3.

Connect hydraulic hoses to skid steer auxiliary quick couplers.



**Figure 2.** Skid Steer Coupler Handles - Locked

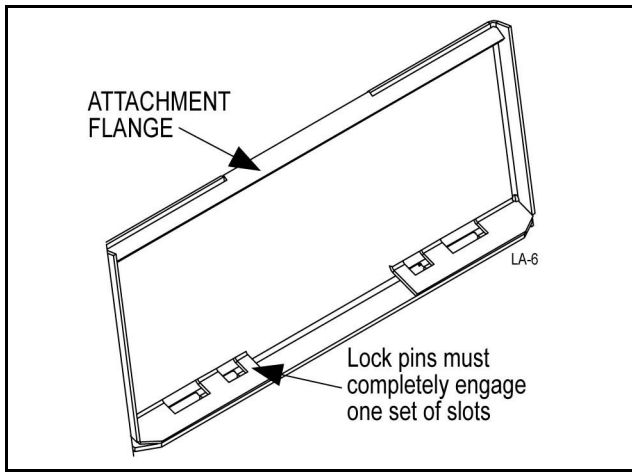


Figure 3. Back of Attachment - Slot Locations

## ADJUSTMENT

### ⚠ 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.

### Check Brush Pattern

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

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.

Raise the broom and back away. Switch off the engine and remove the key. The brush pattern left in the dust should be two to four inches wide, running the length of the brush. See Figure 4.

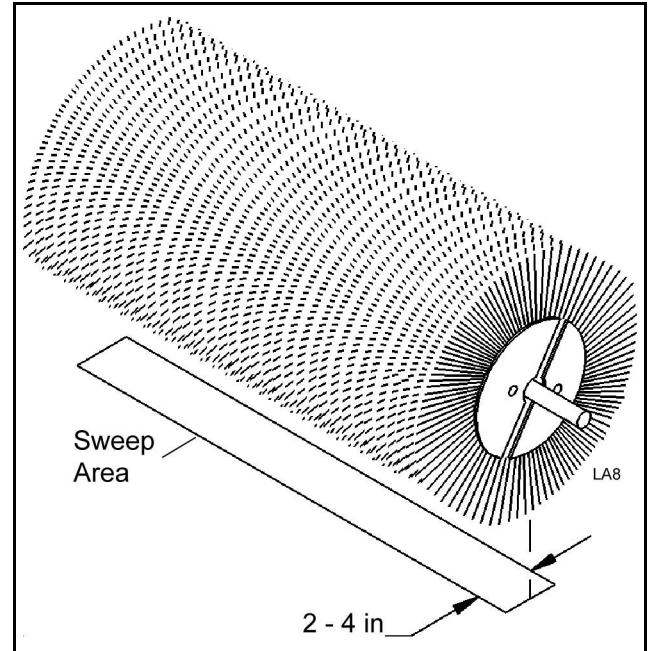


Figure 4. Brush Pattern

If the brush pattern is not two to four inches wide, adjust brush pattern accordingly.

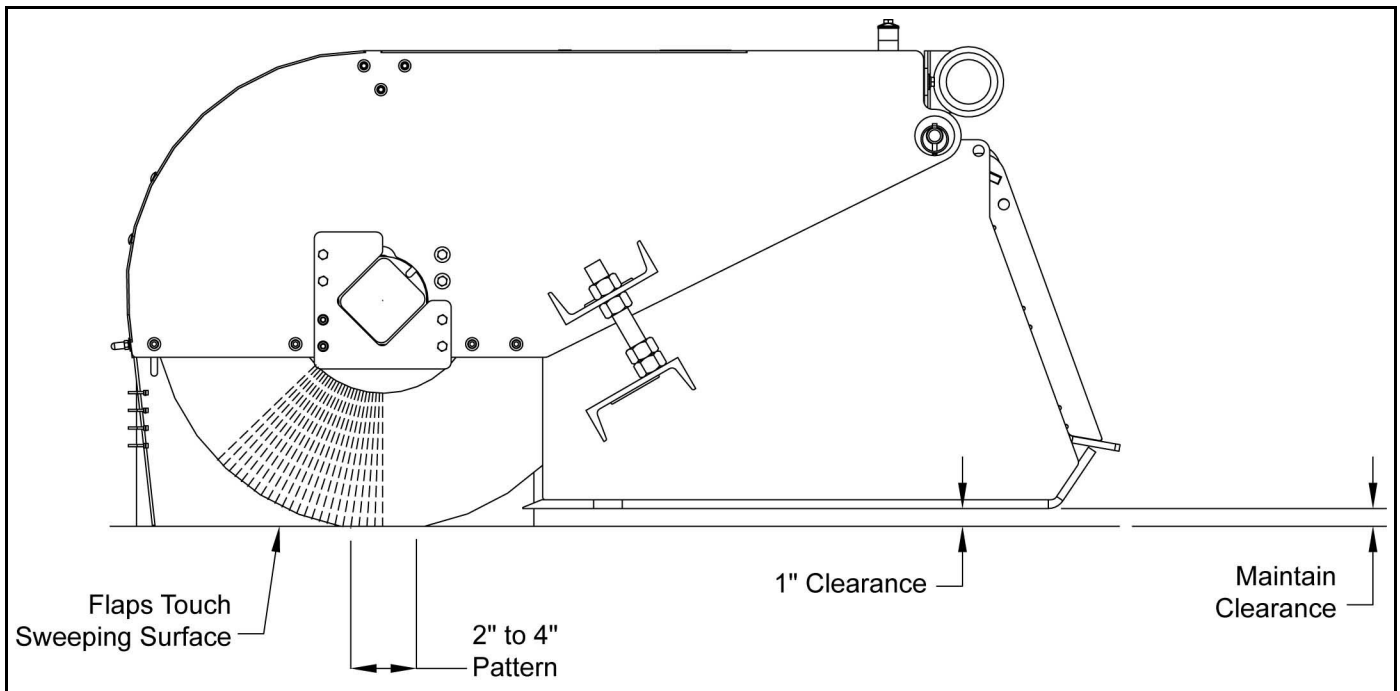


Figure 5. Adjustment Bolt and Brush Pattern

## Adjust Brush Height

1. Loosen the jam nuts above and below the plate on both sides of the sweeper hood. See Figure 5.
2. Turn adjustment bolt clockwise to make a wider pattern, or counterclockwise to make a narrower pattern.
3. Tighten jam nuts and check the new brush pattern.

**NOTE:** To extend brush life make sure bolts on both sides are adjusted evenly.

## Adjust Flaps and Plate Shield

Be sure to adjust the metal plate shield and rubber flaps. The flaps should be all the way down when brush sections are new. As sections wear, raise the flaps to avoid dragging on the ground.

## OPERATION

### **WARNING**

■ When improperly operated, power unit can roll over or upset. Use of rollover protective structure (ROPS) with seat belt securely fastened will reduce the possibility of injury or death if rollover or upset occurs.

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

### **WARNING**

■ 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.

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

Never raise the 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.

## Sweeping

### **NOTICE**

■ Maximum oil flow is 25 gpm (94.8 liters/min) at 3000 psi (206.8 bars). See the skid steer manual for oil flow specifications.

1. Start the skid steer at idle speed and raise the brush head.
2. Use low engine speeds to save wear and tear on the sweeper and to prevent dust from billowing up during sweeping.

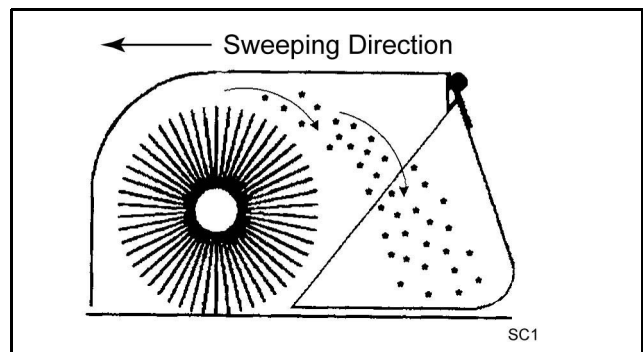
**NOTE:** Do not engage the brush at high engine speeds. This damages the sweeper and motor.

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

### **NOTICE**

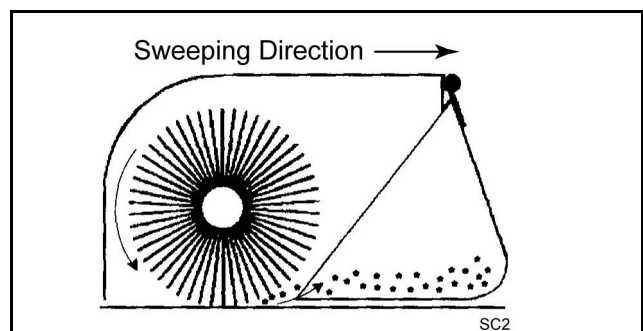
■ Shifting brush rotation from forward to reverse while the brush is rotating damages the sweeper and motor.

5. When sweeping forward, rotate the brush so debris goes over the brush and into the bucket (Figure 7).



**Figure 6.** Forward Sweeping Motion

6. When sweeping in reverse, rotate the brush so debris is pushed into the bucket, similar to sweeping into a dustpan (Figure 8).



**Figure 7.** Reverse Sweeping Motion

7. If streaking occurs, install plastic ties in flap holes to hold the front and sides together.

## Operating tips

### Before Each Use

Perform daily maintenance as indicated in the Maintenance Schedule.



Run the sweeper with the skid steer at a slow idle. Check for hydraulic leaks or other problems and make corrections, if necessary, before using the sweeper.

### During Use

Carry the sweeper low to the ground so that the operator has good visibility and stability. Avoid any sudden movements. Avoid excessive downward pressure on the brush sections to prevent excessive wear. A two to four inch wide pattern for the broom is sufficient for most applications. Ensure that the adjustment bolts are equally adjusted in order to prevent an uneven wear pattern.

### Directing Debris

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

### 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.

### Transporting

#### **WARNING**

■ **When improperly operated, power unit can roll over or upset. Use of rollover protective structure (ROPS) with seat belt securely fastened will reduce the possibility of injury or death if rollover or upset occurs.**

Always follow safety rules, carry low to ground and travel slowly.

Only raise a load when dumping.

### Dumping Loads

#### **DANGER**

#### ■ **AVOID INJURY OR DEATH FROM POWER LINES:**

- **Stay away from power lines.**
- **Electrocution can occur without direct contact.**
- **Check clearances before raising implement.**
- **Do not leave the operator's seat if any part of the tractor or implement contacts electric lines.**

Transport to dumping location before raising. Only dump load while on a firm level surface.

Slowly raise load to required dumping height. Rotate pick-up broom forward to empty the bucket.



Figure 8. Dump Position

### GUTTER BRUSH (OPTIONAL)

The gutter brush is for sweeping forward only.

When sweeping next to curbs or walls with a gutter brush, only the bristle tips should touch the vertical surface.

When not using the gutter brush for a short period, raise it 1-2 inches (25-51mm) off the ground with the tension chain. During extended periods of non-use, unhook hydraulic hoses from the gutter brush motor, remove the gutter brush assembly and connect hydraulic hoses to run only the main.

## NOTICE

■ To prevent contaminants from damaging the hydraulic system, cap hoses and couplers when the gutter brush is not in use.

### Adjust Gutter Brush Height

When the gutter brush height is properly adjusted, bristles contact the ground as shown in Figure 9.

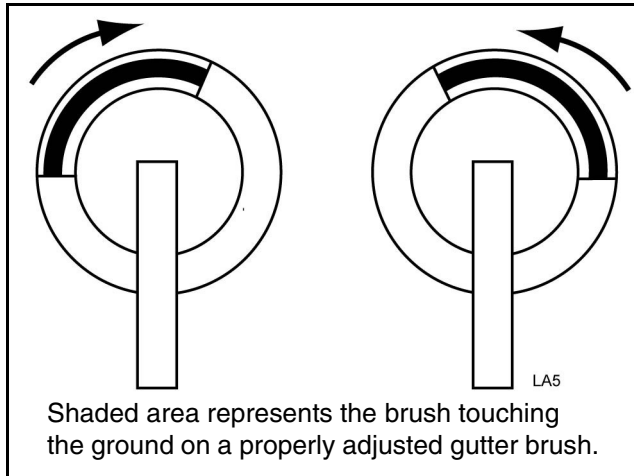


Figure 9. Contact Area

To adjust the gutter brush height:

1. Lower the brush to the ground.
2. Loosen the bolts holding the gutter brush motor mounting plate.
3. Turn the motor mounting plate to the right or left.
4. Adjust the tension chain so it holds the gutter brush in place.
5. Tighten the bolts holding the motor mounting plate and check the adjusted brush.

### Adjust Gutter Brush Swing

A properly adjusted gutter brush extends the main brush's sweeping path, leaving no streaks between the two paths. For this to happen, the center of the gutter brush must line up with the outside edge of the sweeper.

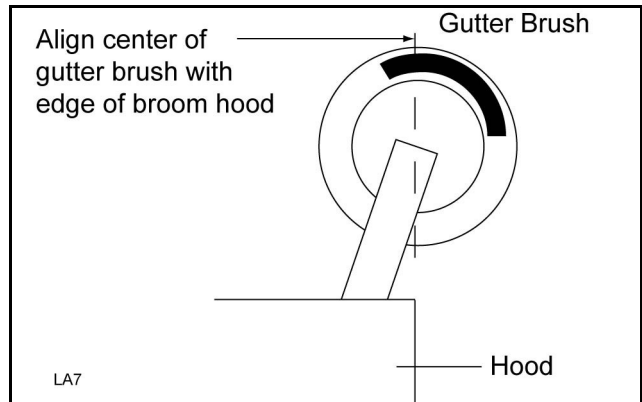


Figure 10. Gutter Brush and Hood Alignment

To adjust the gutter brush swing:

1. Loosen nuts.
2. Adjust the screw, turning it in for less swing and turning it out for more swing.
3. Tighten nuts and check adjustment.

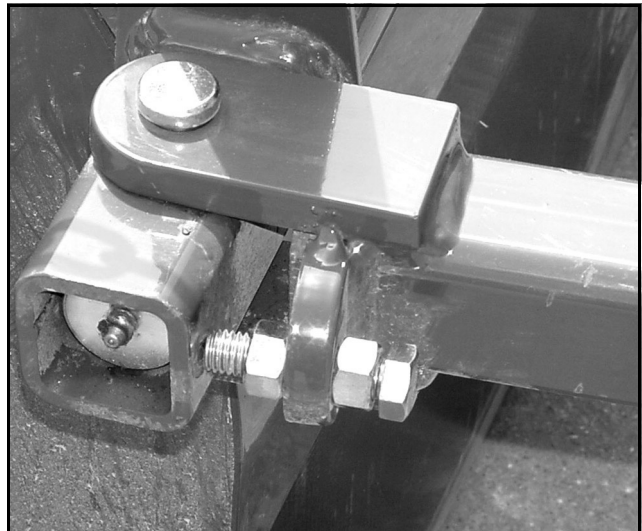


Figure 11. Adjust Gutter Brush Swing

### Replace the Gutter Brush

1. Remove four screws to detach the worn gutter brush for the gutter brush plate.
2. Attach a new gutter brush using the four screws previously removed.
3. Adjust according to Adjust Gutter Brush Height, page 14.

## REMOVE BROOM FROM SKID STEER

### **WARNING**

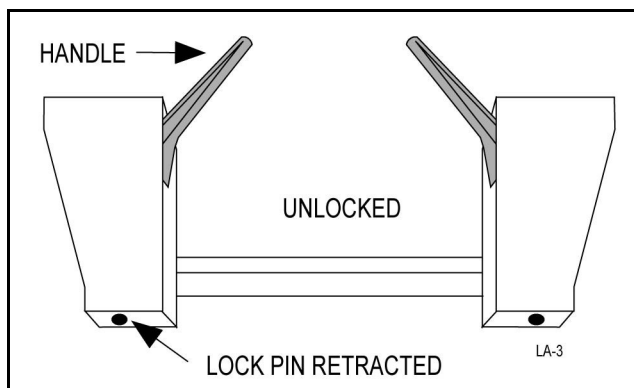
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.

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

Shut off engine, set brake, 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 12. Lock pins must be disengaged from attachment retaining slots.



**Figure 12.** Skid Steer Coupler Handles - Unlocked

Move to the skid steer operator seat, fasten seat belt, engage 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.
- Do not store the broom with weight on the brushes. Weight will deform them, destroying the sweeping effectiveness. To avoid this problem, place broom on blocks.

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

Remove the broom as described in Remove Broom from Skid Steer, page 15. Place on blocks to prevent brush damage. Clean and cover hose ends, fittings, and hydraulic ports.

## 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.
- \_\_\_ Check all lubrication points and grease as instructed.
- \_\_\_ Follow procedures in Maintenance, page 16 daily.
- \_\_\_ Do not allow riders.
- \_\_\_ Check and keep all bystanders away from equipment working area.
- \_\_\_ 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.** 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.

- Service work does not require going underneath.
  - Read Operator's Manual for service instructions or have service performed 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.
- Never perform service or maintenance with engine running.
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- 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.**
- 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.**

## WARNING

- 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.

## Maintenance

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.

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

## **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

PROBLEM	POSSIBLE CAUSE	SOLUTION
Motor for broom will not operate.	<p>Auxiliary hydraulics control on prime mover is activated in the wrong position.</p> <p>Hoses improperly connected to prime mover.</p> <p>Hoses on prime mover are obstructed.</p> <p>Hoses on broom are obstructed.</p> <p>The motor has failed.</p>	<p>Verify controls: See prime mover owner's manual.</p> <p>Connect hoses correctly to prime mover.</p> <p>Clear obstruction on prime mover.</p> <p>Clear obstruction on broom.</p> <p>Replace the motor.</p>
Sluggish broom operation.	<p>Insufficient oil flow from the prime mover.</p> <p>One or more seals have failed in the motor.</p> <p>Hydraulic filter on prime mover is dirty.</p>	<p>Increase engine RPM.</p> <p>Replace the seals or motor.</p> <p>Replace filter.</p>
Motor runs but broom does not.	Motor shaft has a sheared key.	Replace key.
Oil leaks from motor.	<p>One or more seals have failed in the motor.</p> <p>Seals on the fittings are damaged.</p> <p>Fittings are loose or damaged.</p> <p>Hydraulic hoses are loose or damaged.</p>	<p>Replace the seals or motor.</p> <p>Replace seals or fittings.</p> <p>Tighten or replace fittings.</p> <p>Tighten or replace hoses.</p>
Brush rotates in wrong direction.	Hoses installed incorrectly.	Switch hose connections.
Brush slows or stops when sweeping.	<p>Brush pattern too wide.</p> <p>Travel speed too fast.</p> <p>Trying to sweep too much material at once.</p> <p>Hydraulic motor is failing.</p>	<p>Adjust brush pattern.</p> <p>Reduce travel speed.</p> <p>Reduce amount of material being swept; make more passes.</p> <p>Replace Motor.</p>
Brush wears very quickly.	Brush pattern too wide.	Adjust brush pattern.

# TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive hydraulic oil temperature.	<p>Low hydraulic oil level on the prime mover.</p> <p>Hydraulic hoses are obstructed.</p> <p>Hydraulic oil and/or filter on prime mover are dirty.</p> <p>Quick couplers are not properly seated.</p> <p>Brush pattern too wide.</p> <p>Travel speed too fast.</p> <p>Trying to sweep too much material at once.</p> <p>Hydraulic motor is failing.</p>	<p>Add hydraulic fluid.</p> <p>Clear obstructions in hoses.</p> <p>Replace hydraulic oil and/or filter on prime mover.</p> <p>Reconnect quick couplers properly.</p> <p>Adjust brush pattern. See "Check Brush Pattern" on page 11..</p> <p>Reduce travel speed.</p> <p>Reduce the amount of material being swept. Make more passes.</p> <p>Replace motor.</p>
Hydraulic quick coupler leaks.	Quick coupler poppet is unseated or damaged.	Reconnect or replace the quick couplers.

# 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.** 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.

- Service work does not require going underneath.
- Read Operator's Manual for service instructions or have service performed 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.**

## REPLACE BRUSH SECTIONS

1. Remove motor mount screws. Retain hardware for reinstallation. Remove motor mount.
2. Remove bearing mounting plate screws from side. Retain hardware for reinstallation.
3. Remove the side flaps. Retain hardware for reinstallation.
4. Lift sweeper body leaving core on ground.
5. Remove the bearing mounting plate and section retainer plate. Retain hardware for reinstallation.
6. Remove old sections.

## Install New Sections

1. Number the tubes on the core as 1, 2 and 3. See Figure 13.

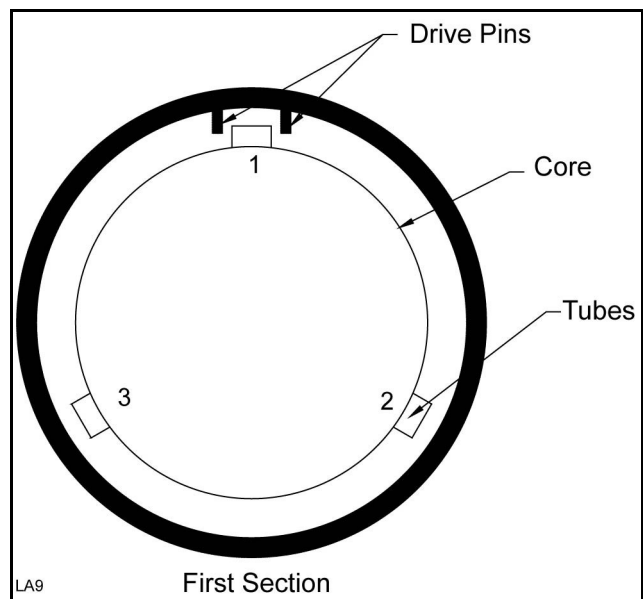
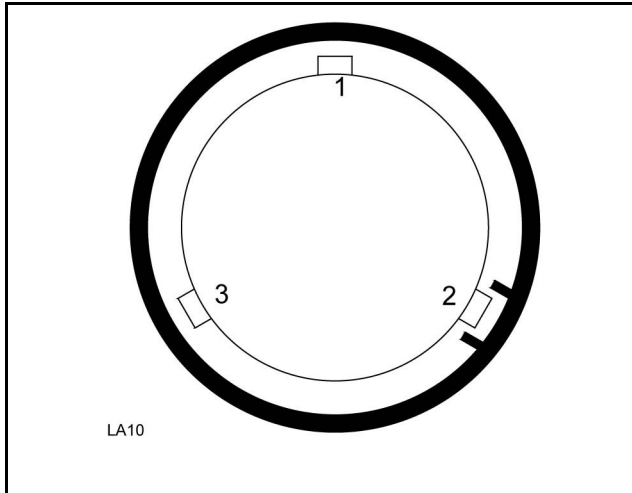


Figure 13. Number Tubes

2. Slide the first section onto the core with the drive pins on either side of tube 1. Make sure that the drive pins angle upward (Figure 13).

3. Place the second section on the core with the drive pins on either side of tube 2. Make sure drive pins angle downward (Figure 14).



**Figure 14.** Second Section

4. Put the third section on with the drive pins around tube 3. Make sure drive pins angle upward.
5. Slide sections on until the core is full. Make sure to alternate the tubes used and the direction of the drive pins.

#### **Assemble Unit**

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

---



## **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.

## 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.





# ASSEMBLY INSTRUCTIONS

## DEALER SET-UP INSTRUCTIONS

Assembly of this pick-up broom is the responsibility of the WOODS dealer. It should be delivered to the owner completely assembled, lubricated and adjusted for normal conditions.

### **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.**

■ **Route hydraulic 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 hose immediately.**

■ **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.**

### **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.**

## INSTALL GUTTER BRUSH (OPTIONAL)

Pick-up brooms are designed to carry only one gutter brush. Never install more than one gutter brush.

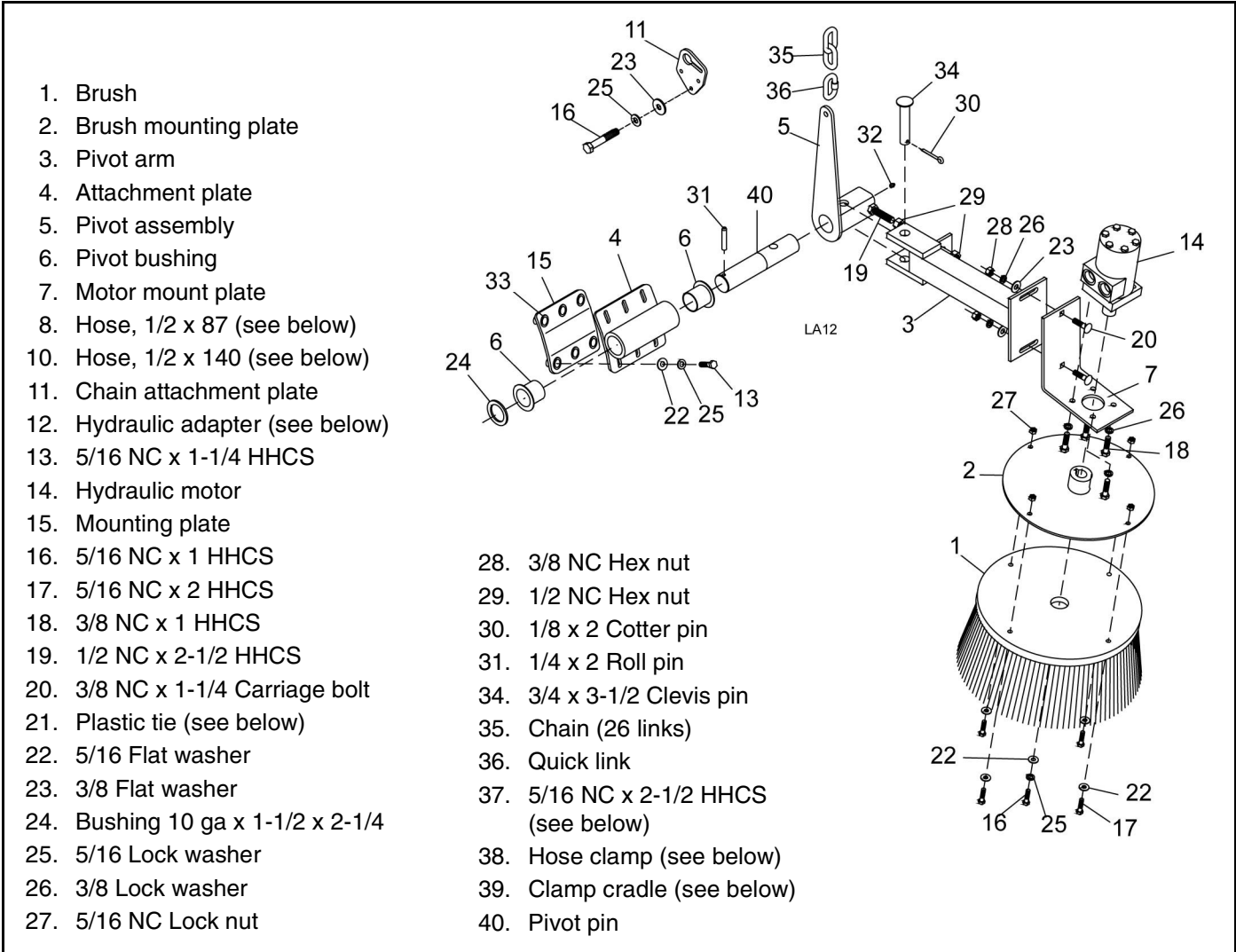
When using a gutter brush, only the main brush sweeps in the over-the-brush direction.

1. Remove plugs from holes in either the right or left side of the unit (depending on which side the gutter brush is to be installed).
2. Attach gutter brush mounting plate (15) and attachment plate (4) to broom hood using six cap screws (13), lock washers (25), and flat washers (22).
3. Insert pivot pin (40) into pivot assembly (5), place pivot arm (3) over pivot assembly and align holes. Secure assembly together using clevis pin (24) and cotter pin (30).
4. Insert bushings (6) into each end of attachment plate (4).
5. Slide pivot assembly into attachment plate and secure using bushing (24) and roll pin (31).
6. Attach motor (14) to motor mount plate (7) using four cap screws (18) and lock washers (26).
7. Attach brush head (1) to brush mounting plate (2) using four cap screws (17), flat washers (22), and lock nuts (27).
8. Attach motor mount plate to pivot arm using two carriage bolts (20), flat washers (23), lock washers (26), and hex nuts (28).
9. Attach brush assembly to motor using cap screw (16), lock washer (25), and flat washer (22).
10. Attach swing stop bolt (19) and two hex nuts (29) to the pivot arm.
11. Remove plugs from holes on the top side of the broom hood. Attach chain plate (11) to hood using three cap screws (16), lock washers (25), and flat washers (23).
12. Attach chain (35) and quick link (36) to top of pivot assembly and opposite end of chain to chain plate on the side of the broom hood.

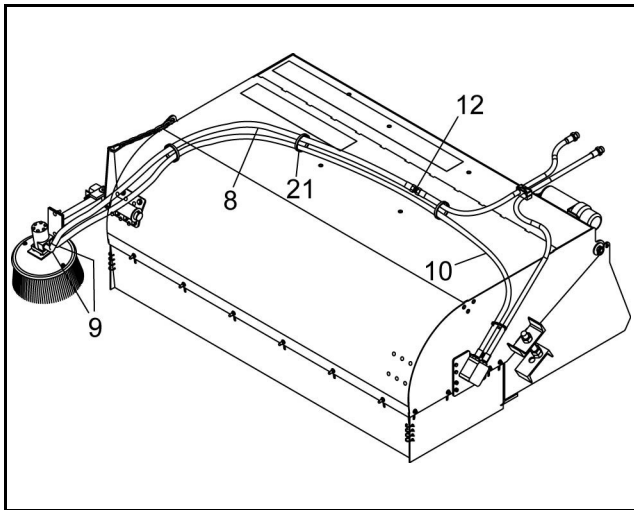
## **Install Hydraulic Hoses**

Use Figure 16 or Figure 17 to install hydraulic hoses for either right or left gutter brush application.

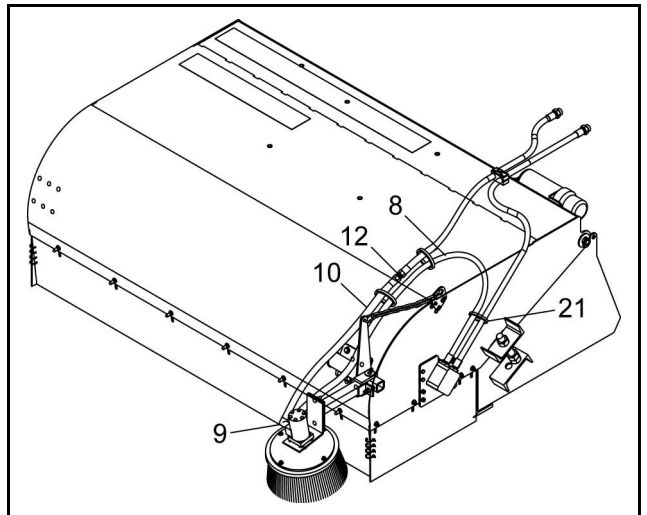
***Complete Dealer Check List on page 22 before delivering broom to the customer.***



**Figure 15. Gutter Brush Assembly**

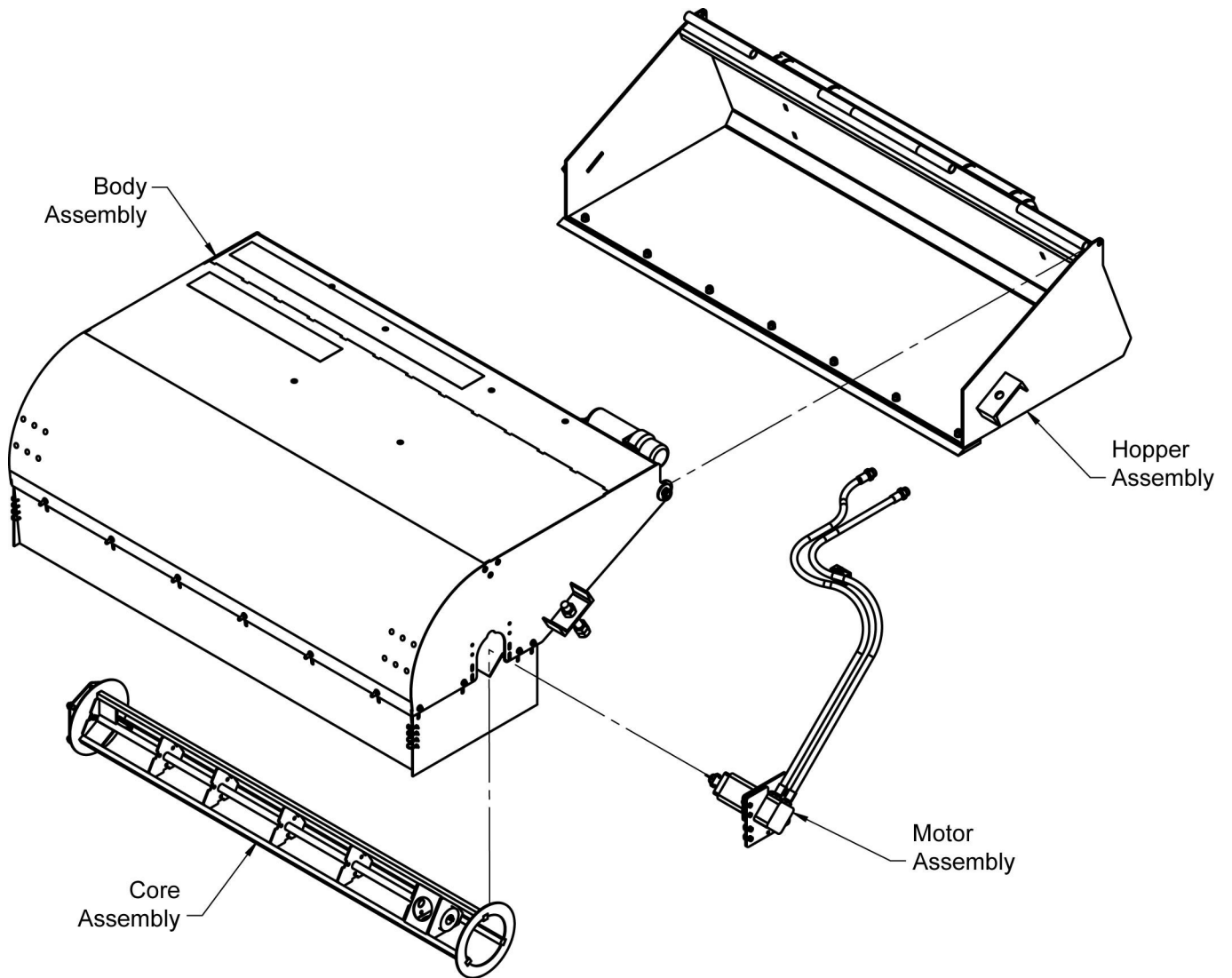


**Figure 16. Right Gutter Brush Installation**



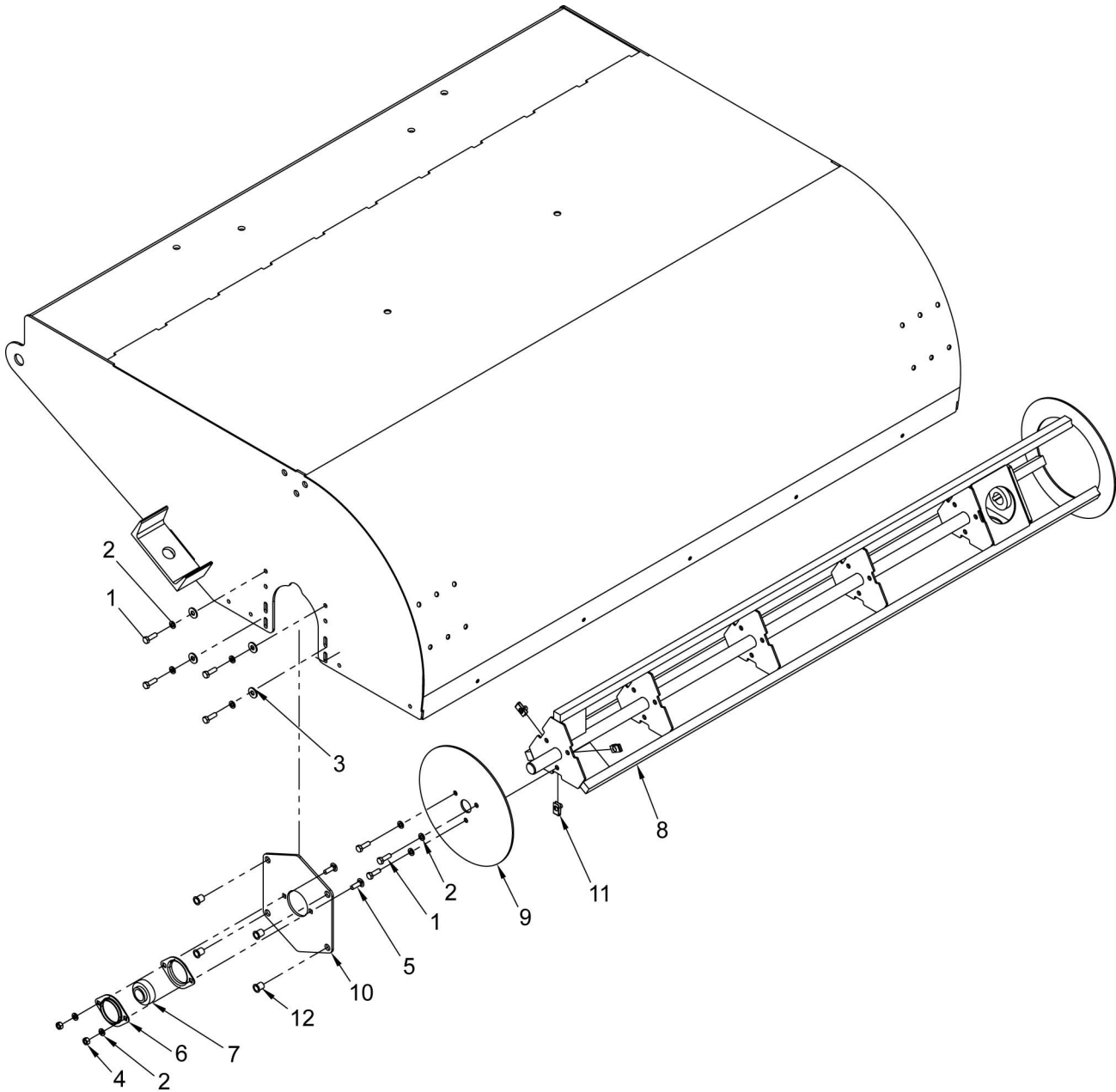
**Figure 17. Left Gutter Brush Installation**

## PB600-2 & PB720-2 PICK-UP BROOM ASSEMBLY



CORE ASSEMBLY .....	PAGE 26
MOTOR ASSEMBLY .....	PAGE 27
HOOD ASSEMBLY .....	PAGE 28
HOPPER ASSEMBLY .....	PAGE 29

# CORE ASSEMBLY

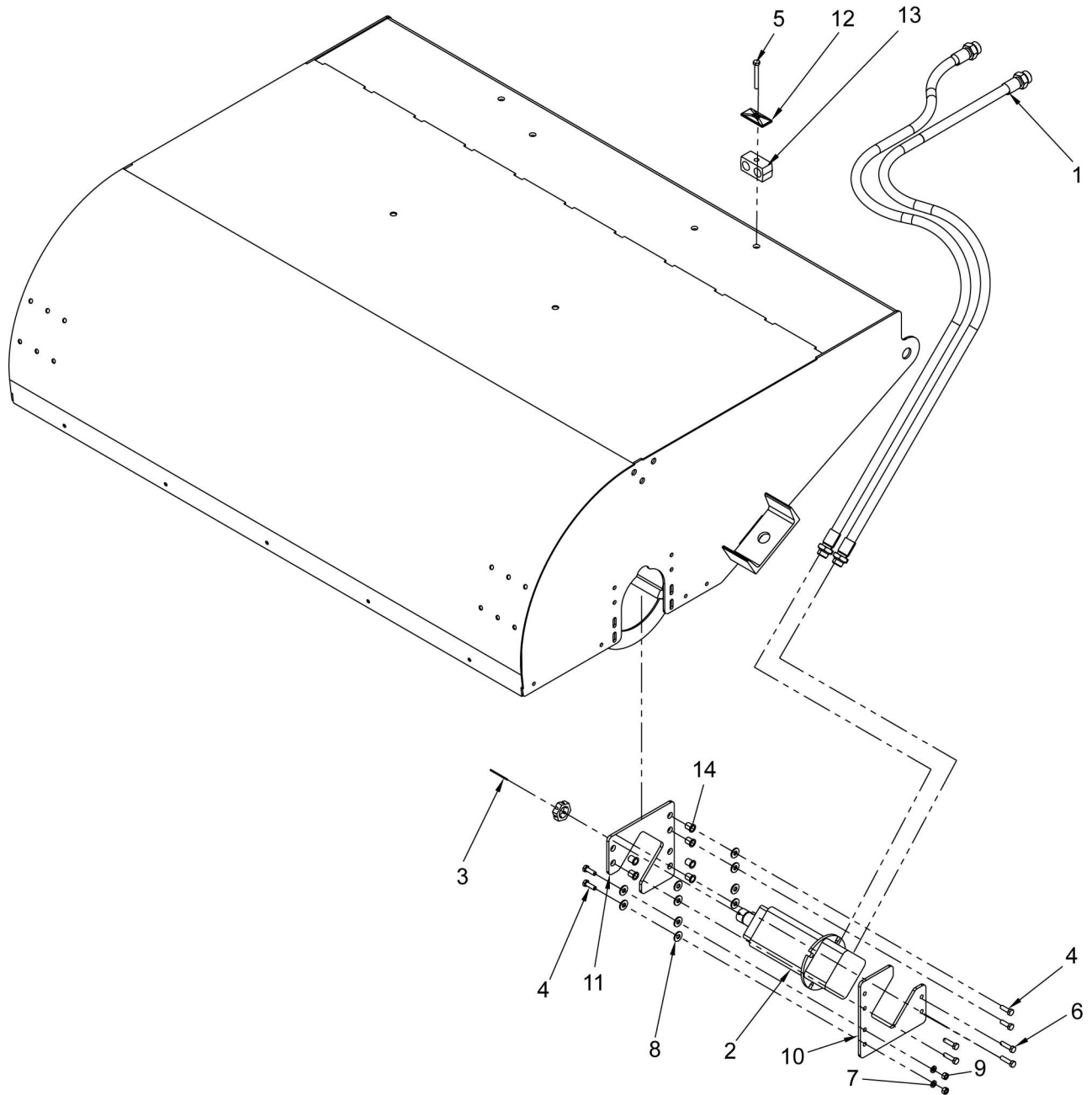


REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	14562	* 7	HHCS 5/16 NC x 1 GR5	10	1015366	1	Plate mtg bearing PB
2	2472	* 9	Washer 5/16 lock	11	1015393	3	Clip nut U-style 5/16-18
3	4378	* 4	Washer 5/16 std flat	12	1015370	4	.313 Rivet nut .150 - .312
4	4529	* 2	Hex nut 5/16 NC	13	1015395	1	Brush set, mixed PB600-2 (NS)
5	24409	* 2	Carriage bolt 5/16 NC x 1	14	1015360	1	Brush set, mixed PB720-2 (NS)
6	1015995	2	Flange bearing 2 hole	15	54627	1	Brush set, poly PB600-2 (NS)
7	54691	1	Bearing, 1 RD w/collar	16	1015361	1	Brush set, poly PB720-2 (NS)
8	1027510	1	Core PB600-2 -or-				
8	1027511	1	Core PB720-2				* Standard hardware, obtain locally
9	1015374	1	Plate core retainer PB				NS Not shown

**26 Parts**

MAN0661 (8/10/2007)

# MOTOR ASSEMBLY

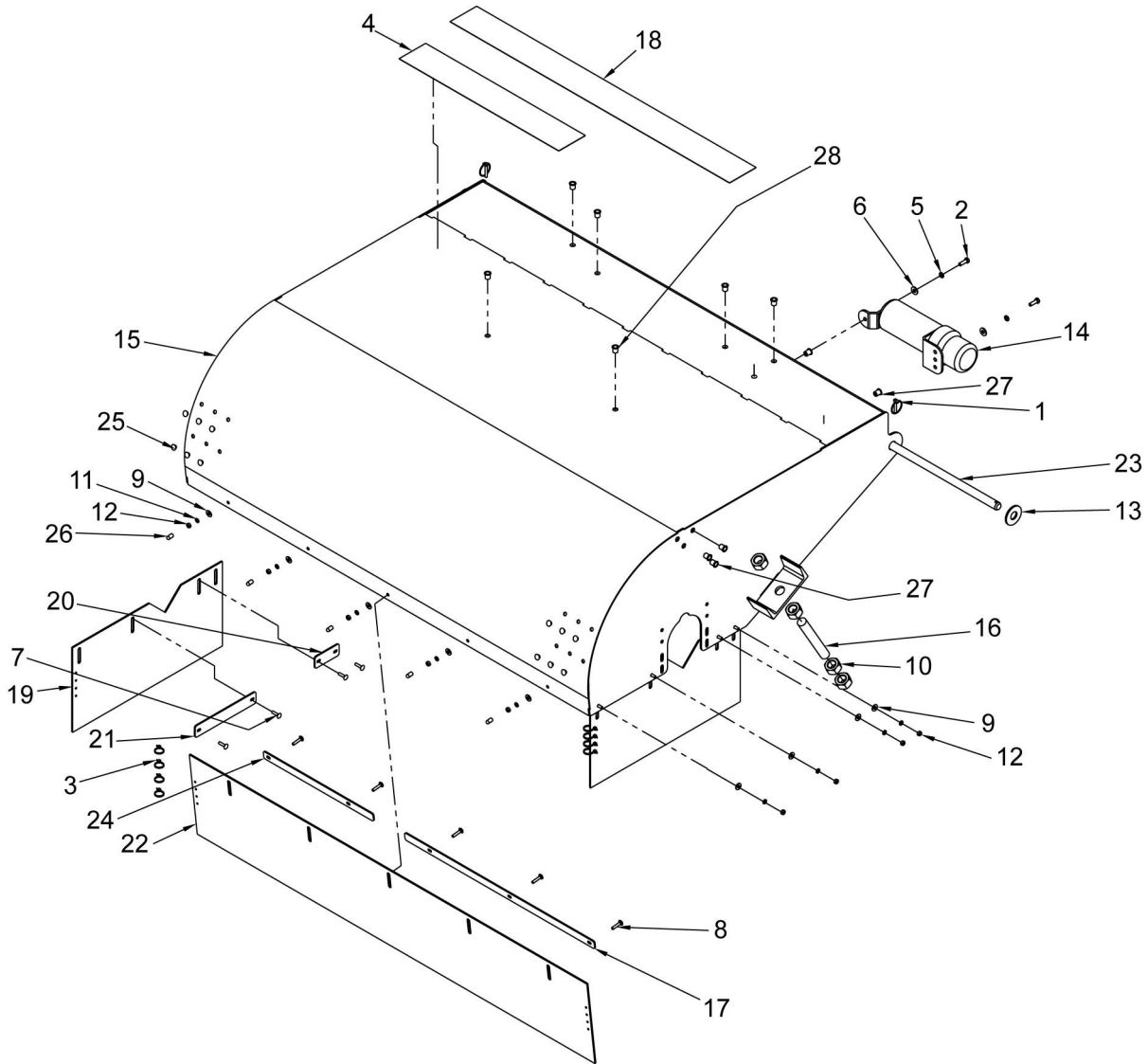


REF	PART	QTY	DESCRIPTION
1	1015394	2	Hose 1/2 x 120 10 MORS-12MOR
2	54644	1	Motor, Hyd 24.9CI, 25GPM
2a	54740	1	Seal kit
3	54601 *	1	Clip, hairpin 14GA x 1-3/4
4	14562 *	4	HHCS 5/16 NC x 1 GR5
5	10509 *	1	HHCS 5/16 NC x 2-1/2 GR5
6	54682	4	HHCS 5/16 NC x 1-1/4 GR8
7	2472 *	2	Washer 5/16 lock

REF	PART	QTY	DESCRIPTION
8	4378 *	10	Washer 5/16 std flat
9	4529 *	2	Nut, hex 5/16 NC
10	1027512	1	Plate, mounting, motor, hydraulic
11	1027513	1	Plate, mounting, motor, inner
12	1015375	1	Cover plate F/.88 OD
13	1015372	1	Hose cradle F/.88 OD
14	1015370	6	.313 Rivet nut .150 - .312

\* Standard hardware, obtain locally

# HOOD ASSEMBLY

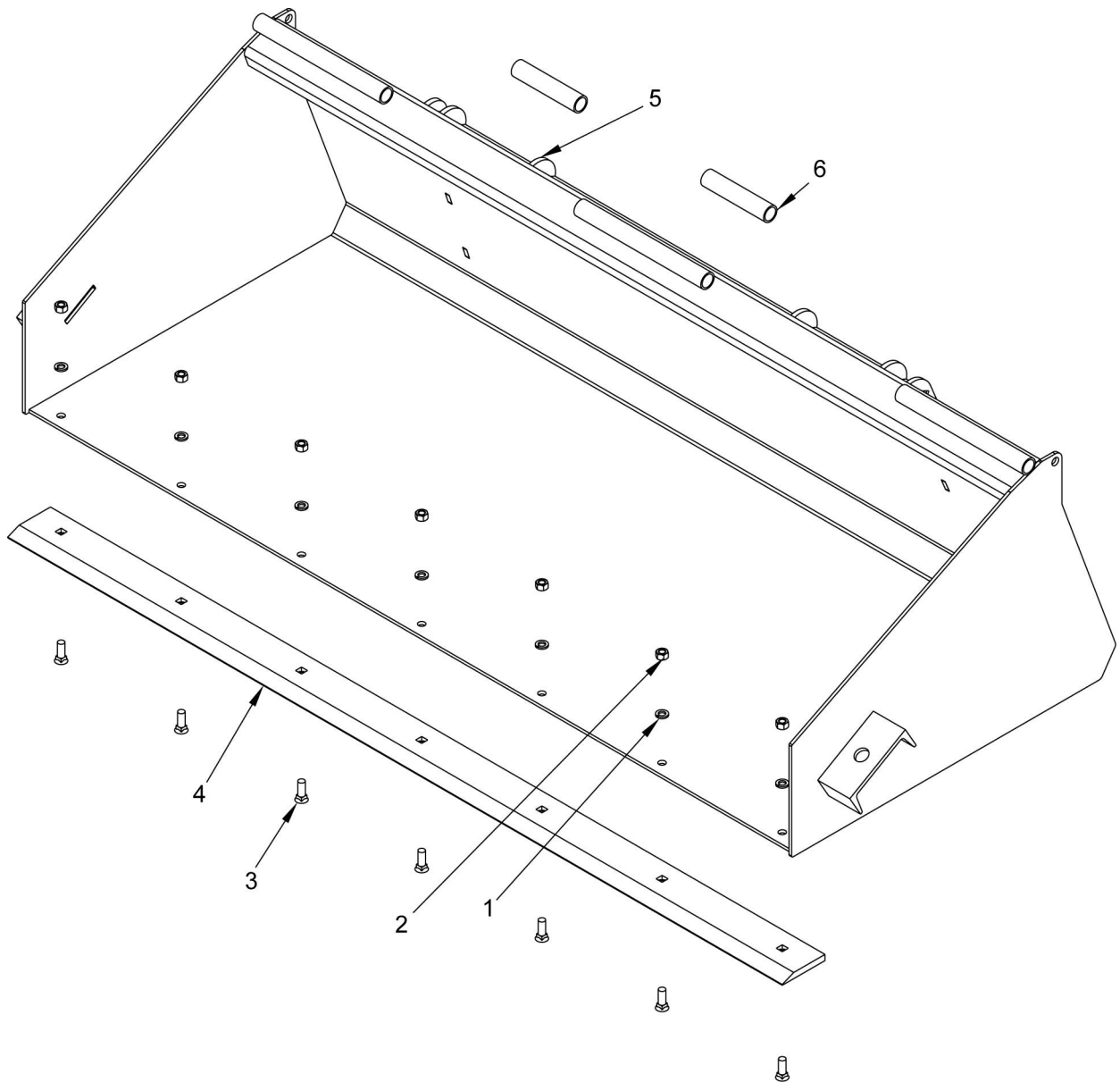


REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	54613 *	2	Pin, link #1600	16	1027509	2	Rod, threaded 1-8 x 7
2	14562 *	2	HHCS 5/16 NC x 1 GR5	17	1015379	1	Plate support flap long PB
3	21417 *	8	Cable tie .30 x 14.5 nylon	18	1015367	1	Non-skid tape 4-42
4	54684	1	Pad, non-slip, 4 x 24, blk	19	1015376	2	Flap side PB
5	2472 *	2	Washer 5/16 lock	20	1015383	2	Plate support flat side small
6	4378 *	2	Washer 5/16 std flat	21	1015387	2	Plate support flap side large
7	73212 *	8	Carriage bolt 1/4 NC x 1 GR5	22	1015377	1	Flap front PB600-2
8	5645 *	5	Carriage bolt 1/4 NC x 1-1/4	22	1015354	1	Flap front PB720-2
9	5336 *	13	Washer 1/4 flat ZP	23	1015388	1	Rod hinge PB600-2
10	54674	8	Nut, hex, GR2 1-8	23	1015357	1	Rod hinge PB720-2
11	1985 *	13	Washer 1/4 std lock	24	1015380	1	Plate support flap short PB
12	5288 *	13	Nut hex 1/4 NC	25	1015389	12	Plug black 3/8
13	28539	2	Washer 7/8 std SAE flat	26	1015382	5	Vinyl cap .25 - .50
14	1003828	1	Manual tube	27	1015370	12	.313 Rivet nut .150 - .312
15	1027507	1	Hood, PB600-2 -or-	28	1015369	2	.313 Rivet nut .027 - .015
15	1027508	1	Hood, PB720-2				* Standard hardware, obtain locally

**28 Parts**

MAN0661 (8/10/2007)

## HOPPER ASSEMBLY

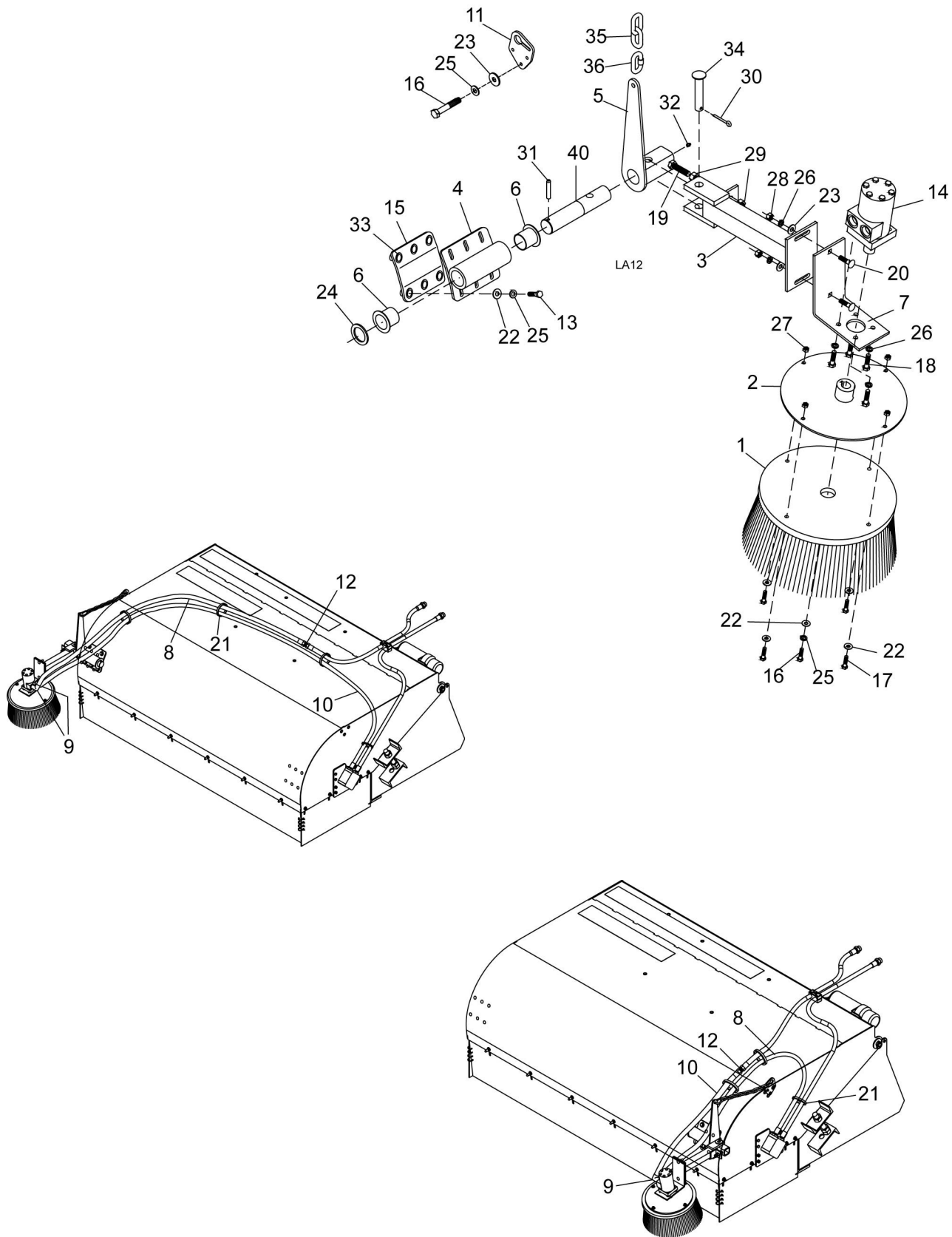


REF	PART	QTY	DESCRIPTION
1	855 *	-	Lock washer 1/2
2	1093 *	-	Hex nut 1/2 NC plated
3	7152	-	Plow bolt 1/2 NC x 1-1/2
4	1027502	1	Cutting edge, <b>PB600-2</b>
4	1027503	1	Cutting edge, <b>PB720-2</b>
5	1027504	1	Bucket, <b>PB600-2</b>
5	1027505	1	Bucket, <b>PB720-2</b>
6	1027506	2	Spacer, pipe, <b>PB720-2</b>

\* Standard hardware, obtain locally



# GUTTER BRUSH ASSEMBLY (OPTIONAL)



**30 Parts**

MAN0661 (8/10/2007)

## GUTTER BRUSH ASSEMBLY PARTS LIST (OPTIONAL)

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	54626	1	Brush, poly	21	21417 *	4	Ties, nylon cable, .30 x 14.5"
2	54696	1	Plate, brush mounting	22	1016006 *	14	Washer, flat 5/16
3	54697	1	Arm	23	565 *	2	Washer, flat 3/8
4	1016010	1	Plate, attachment	24	54699	1	Bushing, 10 ga, 1-1/2 - 2-1/4
5	1016013	1	Pivot, weldment	25	2472 *	10	Washer, lock 5/16
6	54694	2	Bushing, pivot	26	838 *	6	Washer, lock 3/8
7	54698	1	Plate, motor mount	27	14139 *	4	Nut, flange lock 5/16 NC
8	1016014	1	Hose, 1/2 x 87	28	835 *	2	Nut, hex 3/8 NC
10	1016015	1	Hose, 1/2 x 140	29	1093 *	2	Nut, hex 1/2 NC
11	1016011	1	Plate, adjustment	30	M0021 *	1	Pin, cotter 1/8 x 2
12	1016004	4	Adapter, hydraulic	31	54657	1	Pin, roll 1/4 x 2
13	54682	6	HHCS, 5/16 NC x 1-1/4 GR8	32	1016008	1	Grease fitting, 1/4-28 self-tapping
14	54642	1	Motor, hydraulic	33	1015370	6	Nut, rivet 5/16-18 x .15 x .312 Grip
14A	1019645	1	Seal kit, motor	34	1016001	1	Pin, clevis 3/4 x 3-1/2
15	1016009	1	Plate, mounting	35	1016007	1	Chain, 3/16 (26 Links)
16	14562 *	4	HHCS, 5/16 NC x 1 GR5	36	1016005	1	Link, quick 3/16
17	54680 *	4	HHCS, 5/16 NC x 2 GR5	40	1016012	1	Pin, gutter brush pivot
18	839 *	4	HHCS, 3/8 NC x 1 GR5				
19	62789 *	1	HHCS, 1/2 NC x 2 GR5			*	Standard hardware, obtain locally
20	24890 *	2	Bolt, carriage 3/8 NC x 1-1/4 GR5				HHCS = Hex head cap screw

# QUICK COUPLER KITS

		High-Flow with Auxiliary		High-Flow with No Auxiliary		Low-Flow	
Make		QC Kit	Description	QC Kit	Description	QC Kit	Description
Bobcat		HC356	Flush Face	HC355	Flush Face	HC357	Flush Face
	Vintage					HC243 HC211	Poppet Ag Ball Valve
Case		1013825	Flush Face	HC212	Flush Face	HC279	Flush Face
	Vintage	HC278 HC209	Flush Face Flush Face & Ag Ball Valve			HC211	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	Body 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	Body 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

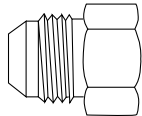
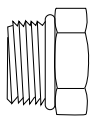
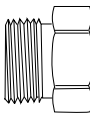
QC KIT	Includes	Style	Male/Female	Body Size	Hose End
1013834	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1013835	46058	Flush Face	M/F Set	3/4	SAE #12 O-ring
1014195	HC344	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 #10 O-ring
	1532995	Flush Face	Male	3/4	SAE #10 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
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

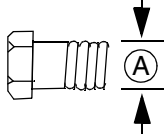
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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 Grade 2  
(No Dashes)

SAE Bolt Head Identification

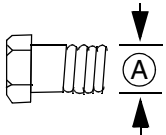


SAE Grade 5  
(3 Radial Dashes)



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

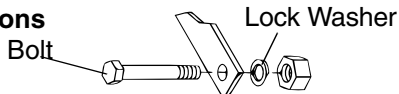
Metric Bolt Head Identification



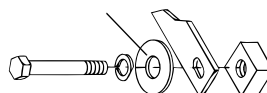
Metric  
Grade 10.9

Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	Coarse Thread				Fine Thread				Ⓐ Diameter & Thread Pitch (Millimeters)
		Marking on Head				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

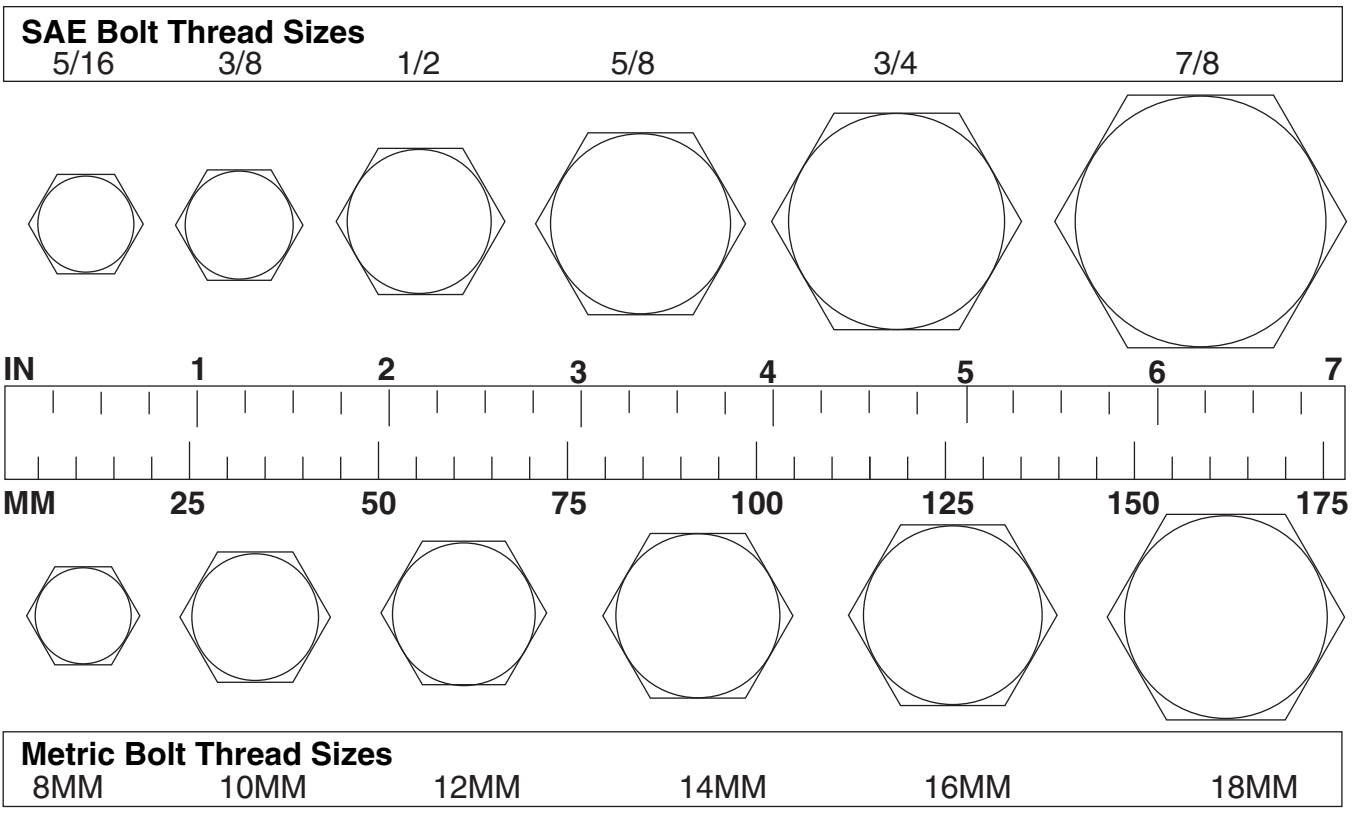


8/9/00



# 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

(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, BW126-3, BW180-3	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, BW126-3, BW180-3, 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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**CENTRAL FABRICATORS®**  
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**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.

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.

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

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