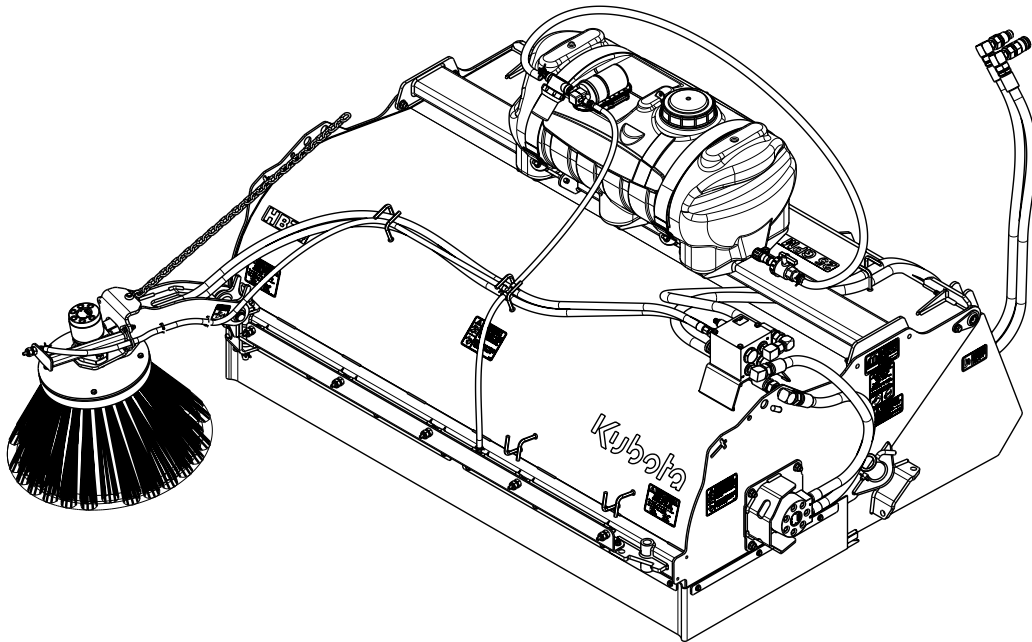


Hopper Broom

AP-HB74 & AP-HB84

70980



323-161MK Operator's Manual



Read the Operator's Manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

Cover photo may show optional equipment not supplied with standard unit.

For an Operator's Manual and Decal Kit in French Language, please see your Kubota dealer.

Kubota®

Machine Identification

Record your machine details in the log below. If you replace this manual, be sure to transfer this information to the new manual.

If you, or the dealer, have added Options not originally ordered with the machine, or removed Options that were originally ordered, the weights and measurements are no longer accurate for your machine. Update the record by adding the machine weight and measurements provided in the Specifications & Capacities Section of this manual with the Option(s) weight and measurements.

| | |
|------------------------|-------------------|
| Model Number | |
| Serial Number | |
| Machine Height | |
| Machine Length | |
| Machine Width | |
| Machine Weight | |
| Delivery Date | |
| First Operation | |
| Accessories | <hr/> <hr/> <hr/> |

Dealer Contact Information

Name: _____


Street: _____

City/State: _____

Telephone: _____

Email: _____

California Proposition 65

 **WARNING:** Handling passenger or off-highway motor vehicle parts can expose you to chemicals such as phthalates and lead, which can cause cancer and reproductive harm. To minimize exposure, service the vehicle in a well-ventilated area, wear gloves, and wash your hands. For more information see www.P65Warnings.ca.gov/motor-vehicle-parts.

| | | | |
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Printed in the United States of America.

See previous page for Table of Contents.



Parts Manual QR Locator

The QR (Quick Reference) code on the left will take you to the Parts Manual for this equipment. Download the appropriate app on your smart phone. Scan the QR code and take a picture.



Dealer QR Locator

The QR code on the left will link you to available dealers for Kubota products. Refer to Parts Manual QR Locator on this page for detailed instructions.

Listed below are common practices that may or may not be applicable to the products described in this manual.

Safety at All Times

Careful operation is your best assurance against an accident.

All operators, no matter how much experience they may have, should carefully read this manual and other related manuals before operating the power machine and this attachment.

- ▲ Thoroughly read and understand the "Safety Label" section. Read all instructions noted on them.
- ▲ Do not operate the equipment while under the influence of drugs or alcohol, as they impair your ability to safely and properly operate the equipment.
- ▲ Operator should be familiar with all functions of the skid steer / track loader and attachment and be able to handle emergencies quickly.
- ▲ Make sure all guards and shields appropriate for the operation are in place and secured before operating the attachment.
- ▲ Keep all bystanders away from equipment and work area.
- ▲ Start skid steer or track loader from the driver's seat with steering levers and hydraulic controls in neutral.
- ▲ Operate skid steer or track loader and controls from the driver's seat only.
- ▲ Never dismount from a moving skid steer / track loader or leave the machine unattended with the engine running.
- ▲ Do not allow anyone to stand between the attachment and skid steer or track loader while connecting to the attachment.
- ▲ Keep hands, feet, and clothing away from power-driven parts.
- ▲ While transporting and operating equipment, watch out for objects overhead and along the sides such as fences, trees, buildings, wires, etc.
- ▲ Store attachment in an area where children normally do not play. When needed, secure attachment against falling with support blocks.



Look for the Safety Alert Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety and extra precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. Hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

Be Aware of Signal Words

A signal word designates a degree or level of hazard seriousness. They are:

- ▲ **DANGER:** Indicates a hazardous situation that, if not avoided, will result in death or serious injury.
- ▲ **WARNING:** Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
- ▲ **CAUTION:** Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

Be Aware of Special Notices

Special notices are intended to point out important and helpful information that should be followed. They are usually placed inside a box. They are:

- ▲ **IMPORTANT:** Indicates that equipment or property damage could result if instructions are not followed.
- ▲ **NOTE:** Indicates supplementary explanations that will be helpful when using the equipment.

Safety Precautions for Children

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to attachments and their work.

- ▲ Never assume children will remain where you last saw them.
- ▲ Keep children out of the work area and under the watchful eye of a responsible adult.
- ▲ Be alert and shut the attachment and skid steer/track loader down if children enter the work area.
- ▲ Never carry children on the power machine or attachment. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the power machine.
- ▲ Never allow children to operate the power machine, even under adult supervision.
- ▲ Never allow children to play on the power machine or attachment.
- ▲ Use extra caution when backing up. Before the power machine starts to move, look down and behind to make sure the area is clear.

Listed below are common practices that may or may not be applicable to the products described in this manual.

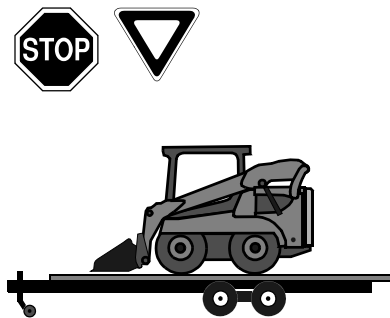
Dig Safe - Avoid Underground Utilities

- ▲ USA: Call 811
CAN:
<http://www.clickbeforeyoudig.com>
- ▲ Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- ▲ Be sure to ask how close you can work to the marks they positioned.



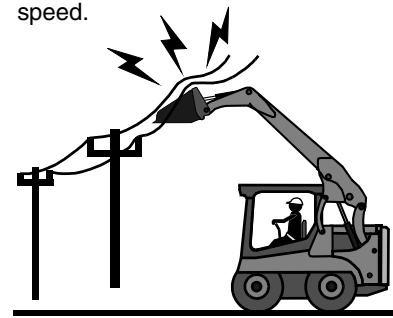
Towing Safely

- ▲ Comply with federal, state, and local laws.
- ▲ Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with chocks, tie downs, and chains.
- ▲ **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.
- ▲ Sudden braking can cause a towed trailer to swerve unexpectedly. Reduce speed if trailer is not equipped with brakes.



Transport Safely

- ▲ Comply with federal, state, and local laws.
- ▲ Avoid contact with any overhead utility lines or electrically charged conductors.
- ▲ Always drive with attachment on the end of the loader arms low to the ground.
- ▲ Follow recommendations in the power machine Operator's Manual when driving uphill or downhill and when parking on an incline.
- ▲ Never travel at a speed which does not allow adequate control of the load, steering, and stopping. Some rough terrains require a slower speed.



Tire Safety

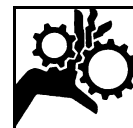
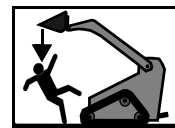
- ▲ Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- ▲ Always properly match the wheel size to the properly sized tire.
- ▲ Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator's Manual.
- ▲ When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- ▲ Securely support the attachment when changing a wheel.
- ▲ When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- ▲ Make sure wheel bolts have been tightened to the specified torque.



Practice Safe Maintenance

- ▲ Understand procedure before doing work. Refer to the Operator's Manual for additional information.
- ▲ Work on a level surface in a clean, dry area that is well-lit.
- ▲ Lower attachment to the ground and follow all shutdown procedures before leaving the operator's seat to perform maintenance.
- ▲ Do not work under any hydraulically supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- ▲ Use properly grounded electrical outlets and tools.
- ▲ Use correct tools and equipment for the job that are in good condition.
- ▲ Allow equipment to cool before working on it.

- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on equipment.
- ▲ Inspect all parts. Make certain that parts are in good condition & installed properly.
- ▲ Replace parts on this attachment with genuine Kubota parts only. Do not alter this attachment in a way which will adversely affect its performance.
- ▲ Do not grease or oil attachment while it is in operation.
- ▲ Remove buildup of grease, oil, or debris.
- ▲ Always make sure any material and waste products from the repair and maintenance of the attachment are properly collected and disposed of.
- ▲ Remove all tools and unused parts from the equipment before operation.



These are common practices that may or may not be applicable to the products described in this manual.

Prepare for Emergencies

- ▲ Be prepared if a fire starts.
- ▲ Keep a first aid kit and fire extinguisher handy.
- ▲ Keep emergency numbers for doctor, ambulance, hospital, and fire department near phone.

Wear Personal Protective Equipment (PPE)

- ▲ Wear protective clothing and equipment appropriate for the job such as safety shoes, safety glasses, hard hat, dust mask, and ear plugs.
- ▲ Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- ▲ Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- ▲ Operating a machine safely requires the operator's full attention. Avoid wearing headphones while operating equipment.

Avoid High Pressure Fluids

- ▲ Escaping fluid under pressure will penetrate the skin or eyes causing serious injury.
- ▲ Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- ▲ Make sure all hydraulic fluid connections are properly tightened/torqued and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- ▲ Use a piece of cardboard or wood, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ **DO NOT DELAY.** If an accident occurs, seek immediate emergency medical care or gangrene may result.

Use Safety Lights and Devices

- ▲ A slow moving power machine can create a hazard when driven on public roads. They are difficult to see, especially at night.
- ▲ Flashing warning lights and turn signals are recommended whenever driving on public roads.
- ▲ For tractors and other agriculture equipment, a Slow Moving Vehicle (SMV) sign is required when traveling on public roads.

Use Seat Belt and ROPS

- ▲ Land Pride recommends the use of a CAB or roll-over-protective-structures (ROPS) and seat belt in almost all power machines. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the power machine should be upset.
- ▲ If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect the operator against serious injury or death from falling and/or machine overturn.

Keep Riders Off Machinery

- ▲ Never carry riders on the power machine or attachment.
- ▲ Riders obstruct operator's view and interfere with the control of the power machine.
- ▲ Riders can be struck by objects or thrown from the equipment.
- ▲ Never use the power machine or attachment to lift or transport riders.

Listed below are common practices that may or may not be applicable to the products described in this manual.

Avoid Crystalline Silica (Quartz) Dust

Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis).

There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.



- ▲ Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- ▲ Know the work operations where exposure to crystalline silica may occur.
- ▲ Participate in air monitoring or training programs offered by the employer.
- ▲ Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- ▲ Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/mustaches which interfere with the respirator seal to the face.
- ▲ If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
- ▲ Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.
- ▲ Store food, drink, and personal belongings away from the work area.
- ▲ Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

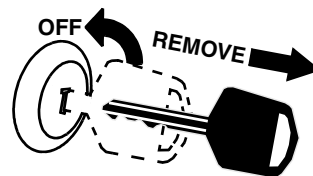
Handle Chemicals Properly

- ▲ Protective clothing should be worn.
- ▲ Handle all chemicals with care.
- ▲ Follow instructions on container label.
- ▲ Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil, and property.
- ▲ Inhaling smoke from any type of chemical fire can be a serious health hazard.
- ▲ Store or dispose of unused chemicals as specified by the chemical manufacturer.



Skid Steer / Track Loader Shutdown And Storage

- ▲ Reduce engine speed and shut-off all power to the attachment.
- ▲ Park on solid, level ground and lower attachment until it is flat on the ground or on non-concrete support blocks.
- ▲ Turn-off engine using the power-off switch or turn ignition key to stop. Do not remove key at this time.
- ▲ Relieve all hydraulic pressures.
 - If using a power-off switch, follow your machine Operator's Manual for instructions on how to release hydraulic pressure in the lines.
 - If using an ignition key, turn key to "RUN" and move joysticks to release hydraulic pressure in the lines. Finish by turning ignition key to off and removing it to prevent unauthorized starting.
- ▲ If included, raise seat bar and move controls until both lock.
- ▲ Wait for all components to stop before leaving operator's seat.
- ▲ Use steps, grab-handles and anti-slip surfaces when stepping on and off the skid steer or track loader.



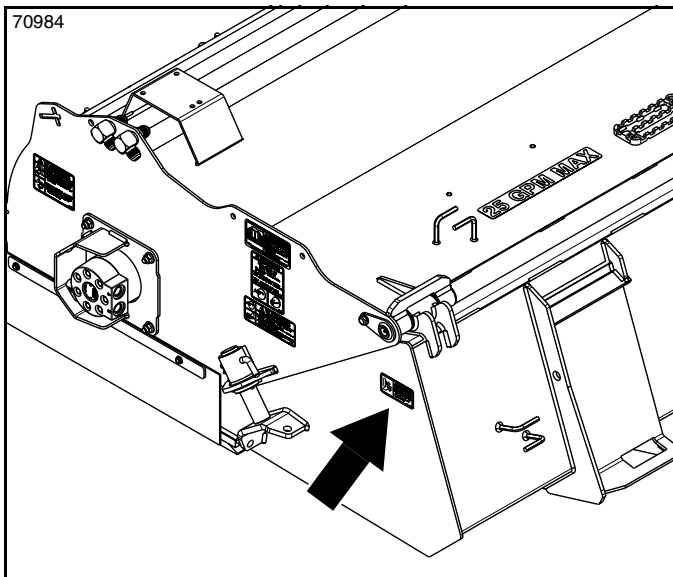
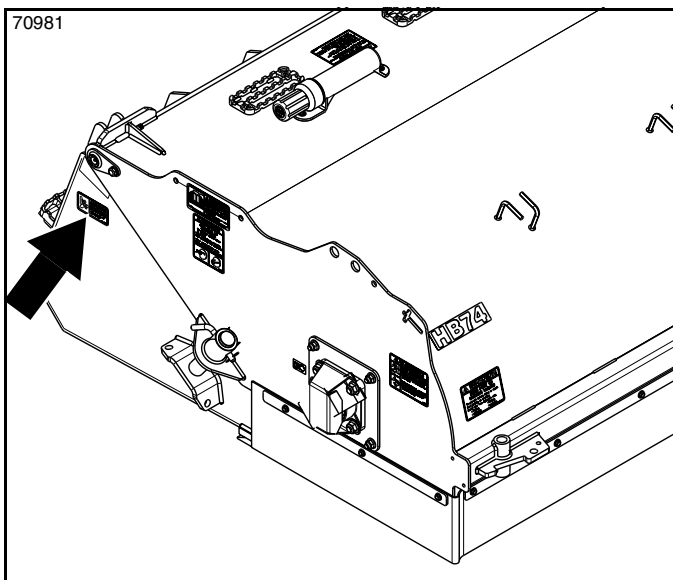
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Safety Labels

Your Hopper Broom comes equipped with all safety labels in place. They are designed to help you safely operate your attachment. Read and follow their directions.

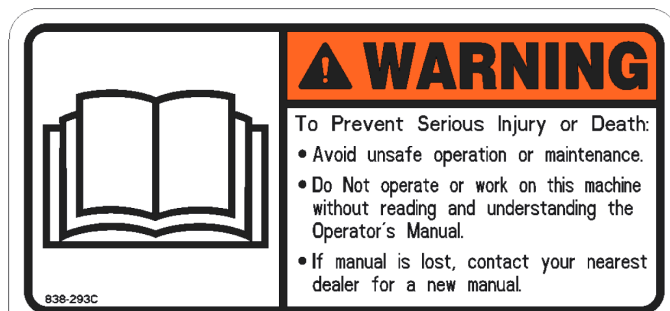
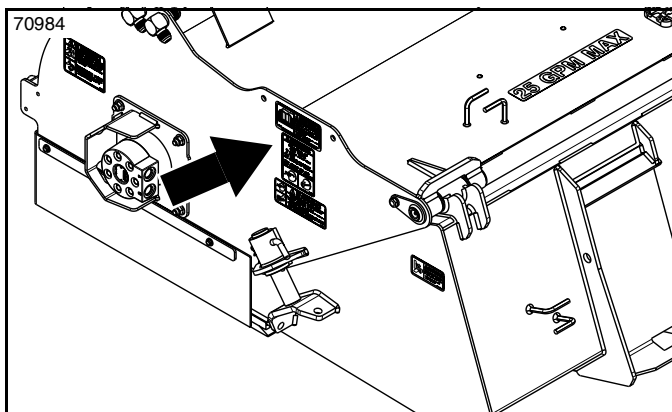
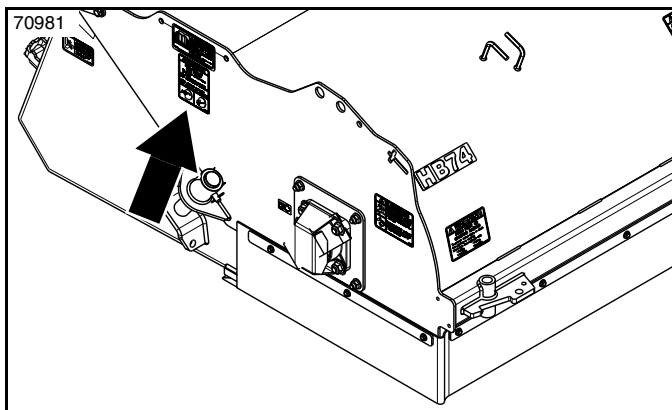
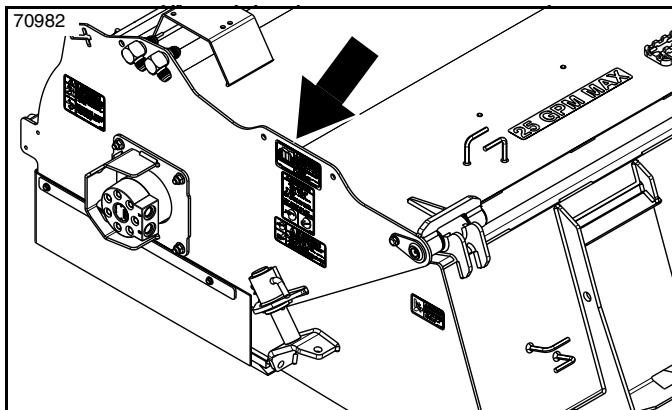
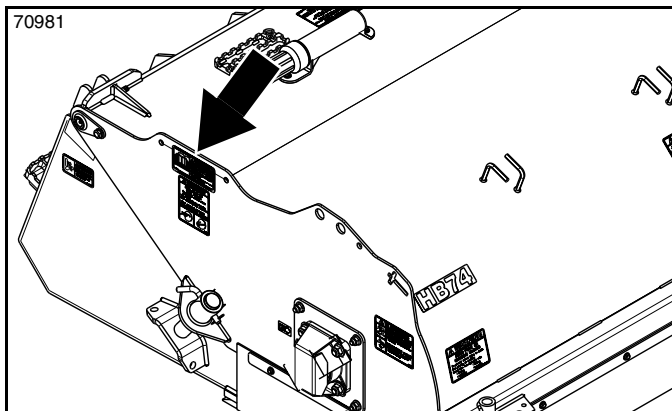
1. Keep all safety labels clean and legible.
2. Refer to this section for proper label placement. Replace all damaged or missing labels. Order new labels from your nearest Kubota dealer. To find your nearest dealer, visit our dealer locator at www.landpride.com.

3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by Kubota. When ordering new components make sure the correct safety labels are included in the request.
4. Refer to this section for proper label placement. To install new labels:
 - a. Clean surface area where label is to be placed.
 - b. Spray soapy water onto the cleaned area.
 - c. Peel backing from label and press label firmly onto the surface.
 - d. Squeeze out air bubbles with edge of a credit card or a similar type of straight edge.



70369

818-798C
Warning: Pinch Point Hazard
2 Places



838-293C

Warning: Read Operator's Manual
2 Places

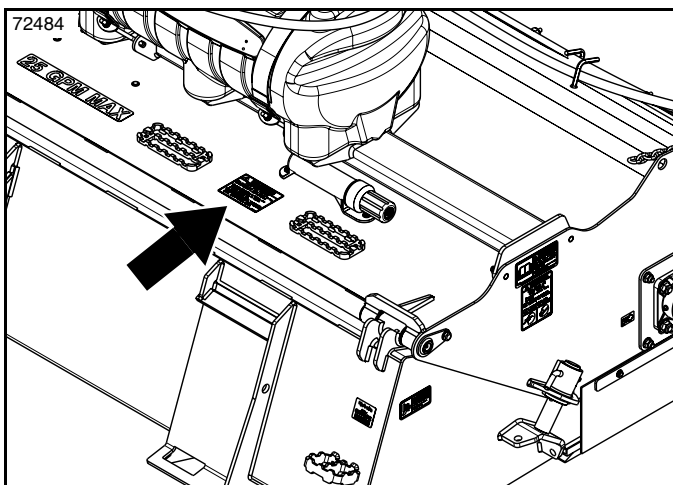
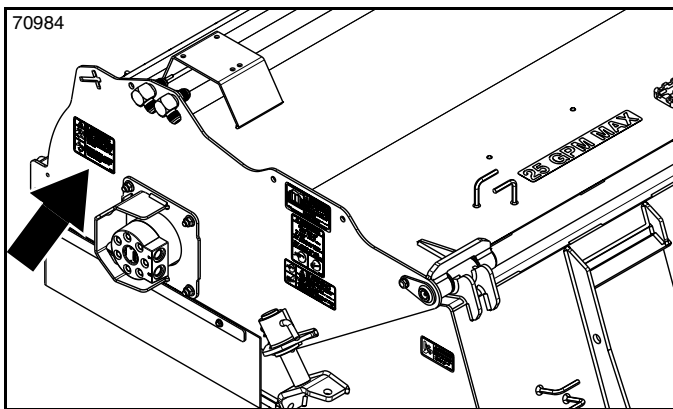
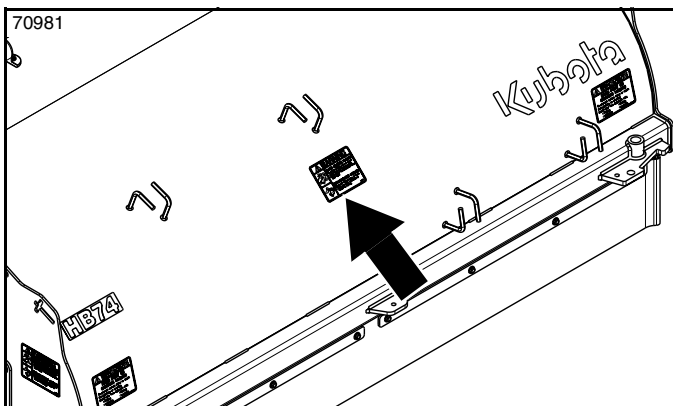
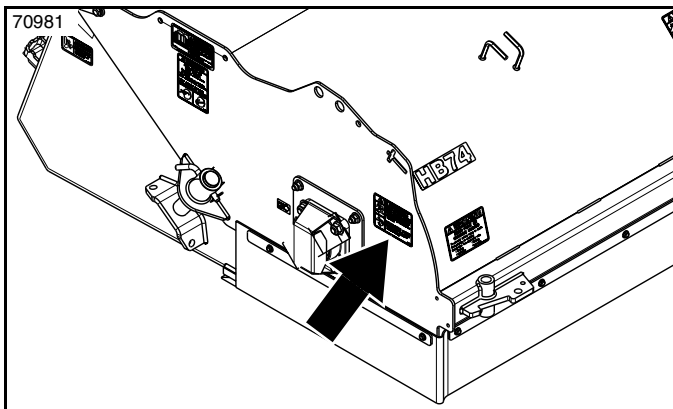
70243



848-392C

Warning: Flying Object and Dust Hazards
Wear eye protection and dust mask
2 Places

70985



WARNING

FLYING OBJECTS HAZARD
To prevent serious injury or death:

- Stand clear while brush is rotating.
- Wear proper eye protection and dust mask.

ENTANGLEMENT HAZARD
To prevent serious injury or death:

- Stay clear while skid steer or tractor is running.

848-372C

70983

848-372C
Warning: Flying Object and Entanglement Hazards
3 Places

WARNING

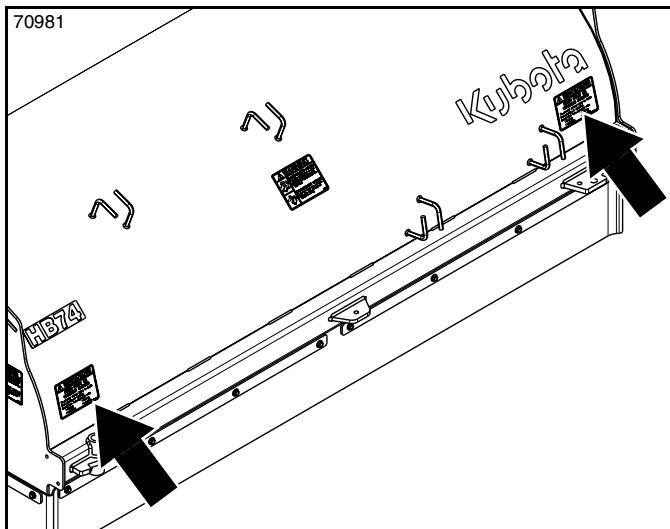
SILICA DUST HAZARD
Silica dust can cause serious injury to the lungs. To avoid exposure to silica dust particles:

- Be aware of and follow the OSHA (or other regulatory body) guidelines for exposure to airborne crystalline silica.
- To meet OSHA silica guidelines, use appropriate Personal Protective Equipment and dust abatement systems, such as waterspray systems.

844-124C Rev.A

72454

844-124C
Warning: Silica Dust Hazard
1 Place



WARNING

PINCH POINT OR CRUSHING HAZARD

To prevent serious injury or death from pinching or crushing:
Stand clear from implement while

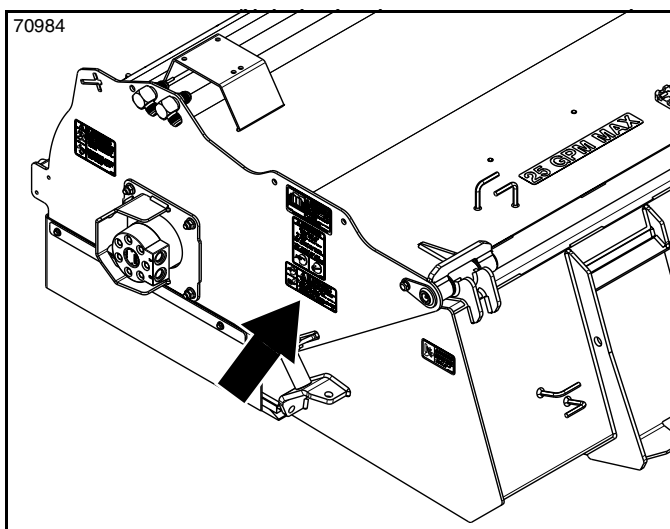
- Folding
- Unfolding
- Raising
- Lowering

818-045C Rev. 0

70312

818-045C

Warning: Pinch Point or Crushing Hazard
2 Places



WARNING

HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death:

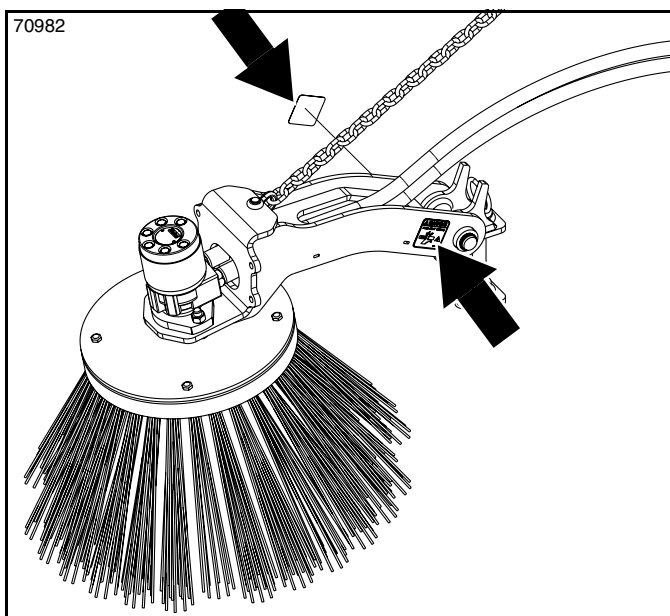
- Relieve pressure on system before repairing or adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

838-094C

70245

838-094C

Warning: High Pressure Fluid Hazard
1 Place



WARNING

PINCH POINT HAZARD

858-148C

70247

858-148C

Warning: Pinch Point Hazard
2 Places

Introduction

Kubota welcomes you to the growing family of new product owners. This Hopper Broom has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from this product.

Application

Kubota models HB74 and HB84 Hopper Brooms are designed for attaching to skid steers and track loaders with 12 to 25 gpm (45 to 95 Lpm) hydraulic flow. The 74" (1.88 m) and 84" (2.13 m) wide Hopper Brooms are intended for sweeping dirt, aggregate, or other light debris and trash from roads, streets, pavement, and other hard surfaces into the attached bucket. They have uses and applications around municipalities, parks, universities, construction sites, parking lots, and driveways.

Kubota's Hopper Brooms are manufactured with an all steel hood and have an overall height of 33" (84 cm). Under the hood is a 26" (66 cm) diameter broom with poly, wire, or a combination of poly and wire bristles. The bucket shell is 3/16" (5 mm) steel and features a bolt-on reversible/replaceable cutting edge. For high-dust applications, the unit features an optional Dust Suppression Kit. An optional Gutter Broom, with or without dust suppression, is available for applications requiring additional width to reach curbs or along buildings.

See "**Specifications & Capacities**" on page 40 and "**Features & Benefits**" on page 42 for additional information and performance enhancing options.

Using This Manual

- This Operator's Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator's or Parts Manual, contact your authorized dealer. Manuals can also be downloaded, free-of-charge, from our website at www.landpride.com

Terminology

"Right" or "Left" as used in this manual is determined by the direction the operator faces while sitting looking forward in the operator's seat unless otherwise stated.

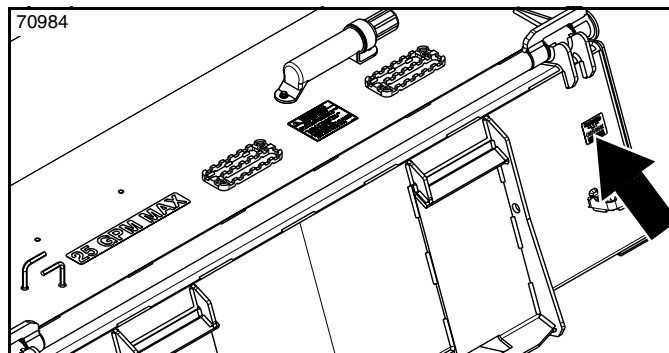
Owner Assistance

The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

The parts on your Hopper Broom have been specially designed by Kubota/Land Pride and should only be replaced with genuine Kubota parts. Contact a Kubota dealer if customer service or repair parts are required. Your Kubota dealer has trained personnel, repair parts, and equipment needed to service the attachment.

Serial Number

For quick reference and prompt service, record model and serial number on the inside cover page and again on the warranty page. Always provide model number and serial number when ordering parts and in all correspondence with your Land Pride dealer. For location of your serial number plate, see Figure 1.



HB Series Serial Number Plate
Figure 1

Further Assistance

Your dealer wants you to be satisfied with your new Hopper Broom. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss any problems you have with your attachment with your dealership service personnel so they can address the problem.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the question/problem, and request assistance.
3. For further assistance write to:

Kubota by Land Pride
Service Department

1525 East North Street
P.O. Box 5060
Salina, Ks. 67402-5060

E-mail address
lpSERVICE@landpride.com

Section 1: Assembly & Set-up

Skid Steer Requirements

The Hopper Broom is designed to attach to skid steers and track loaders within the following requirements:

- Horsepower 60-100 hp (45-75 kw)
- Max. hydraulic pressure 3,500 psi (24.1 mPa)
- Case Drain Required with Gutter Broom Kit
- Hydraulic flow rate 12 to 25 gpm (45 to 95 lpm)
- Hitch type Skid steer quick attach, ISO 24410
- Skid steer weight See Warnings Below
- Rear-view mirror Recommended

! WARNING

To avoid serious injury or death:

- Consult your skid steer’s manual for operating capacity, lifting capacity, and operating specifications. Exceeding rated capacities and specifications can result in a roll-over or other serious hazard.
- Power machines outside the listed horsepower range must not be used. Higher horsepower machines can damage the attachment. Under horsepower machines make the job more difficult.
- Lightweight power machines may need weight added to the rear to maintain steering control and prevent forward and/or side tipping. Consult your power machine Operator’s Manual to determine proper weight requirements and maximum limitations.

Torque Requirements

Refer to “**Torque Values Chart**” on page 44 to determine correct torque values when tightening hardware.

Before You Start

! WARNING

To avoid serious injury or death:

Allow only persons to operate this attachment who have fully read and comprehended this manual, and who have been properly trained in the safe operation of this attachment. Serious injury or death can result from the inability to read, understand, and follow instructions provided in this manual.

Make sure the intended skid steer conforms to the “**Skid Steer Requirements**” stated above. Read and understand the Operator’s Manual for your Hopper Broom. An understanding of how it works will aid in the assembly and setup.

Go through the “**Pre-Assembly Checklist**” on this page before assembling the Hopper Broom. Speed up your assembly task and make the job safer by having all needed parts and equipment readily at hand.

Pre-Assembly Checklist

| ✓ | Check | Reference |
|--------------------------|--|---|
| <input type="checkbox"/> | Have a fork lift or loader with properly sized chains and safety stands capable of lifting and supporting the equipment on hand. | |
| <input type="checkbox"/> | Have a minimum of two people available during assembly. | |
| <input type="checkbox"/> | Make sure all major components and loose parts are shipped with the attachment. | Operator’s Manual |
| <input type="checkbox"/> | Double check to make sure all parts, fasteners and pins are installed in the correct location to lessen the chance of using a bolt incorrectly, Refer to the Parts Manual if unsure. NOTE: All assembled hardware from the factory has been installed in the correct location. Remember location of a part or fastener if removed. Keep parts separated. | Operator’s Manual 232-161MK Parts Manual 323-161PK |
| <input type="checkbox"/> | Make sure working parts move freely, bolts are tight & cotter pins are spread. | Operator’s Manual |
| <input type="checkbox"/> | Make sure all grease fittings are in place and lubricated. | Page 39 |
| <input type="checkbox"/> | Make sure all safety labels are correctly located and legible. Replace if damaged. | Page 6 |

Uncrate Hopper Broom

! WARNING

To avoid serious injury or death:

Hook-up Hopper Broom hitch plate to a skid steer to lift the unit off the crate. Do not lift unit by attaching a hoist to the hood and/or bucket. The hood is hinged to the bucket and lifting the unit with a hoist will cause the load to shift suddenly as the hood starts to hinge open.

1. Remove crate top.
2. Remove lag screws, metal bands, etc. securing Hopper Broom components to the crate sides.
3. Remove all four sides from the crate floor.
4. Remove all bags, options, and/or accessories shipped unassembled to the Hopper Broom.
5. Remove lag screws, metal bands, etc. securing the Hopper Broom to the crate floor.
6. Attach a skid steer to the Hopper Broom hitch plate. Refer to “**Hook-Up Hopper Broom**” on page 12.
7. Lift Hopper Broom off the crate and back skid steer up until broom can be lowered to the floor.
8. Lower Hopper Broom to the floor and shut skid steer down using “**Skid Steer Shutdown Procedure**” on page 13.

Section 1: Assembly & Set-up

Hook-Up Hopper Broom

Refer to Figure 1-1:

DANGER

To avoid serious injury or death:

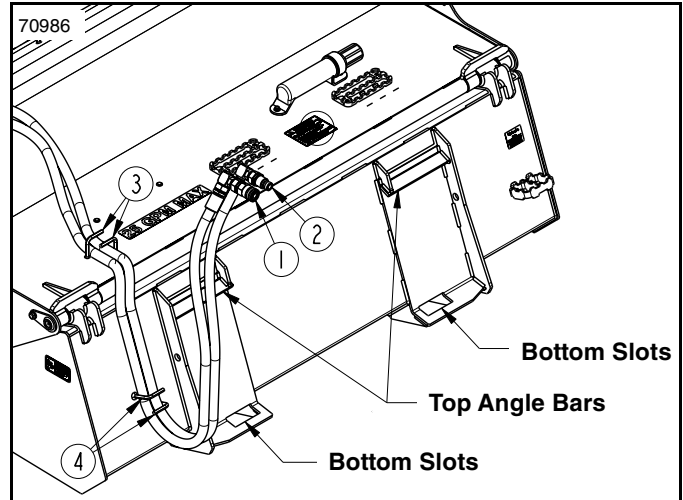
A crushing hazard exists when connecting and disconnecting the attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate hydraulic controls while someone is near the power machine and/or attachment.

WARNING

To avoid serious injury or death:

- Check hitch fit-up frequently. An improper fit-up can result in the attachment falling from the loader hitch plate.
- Use steps, grab-handles, and anti-slip surfaces on the power machine and attachment to get on and off the power machine. Using unapproved stepping surfaces and/or handholds can result in a falling hazard.

1. Check skid steer and Hopper Broom hitch plates before hooking-up the broom. Make sure all hitch components are in good working condition:
 - a. Check for and remove any debris in the loader and broom hitch plates.
 - b. Check hitch plates for structural cracks and bent or broken pieces. They can weaken a hitch plate and prevent full and complete hook-up. Repair or replace damaged hitch plates.
 - c. Check operation of lock pins in the loader hitch plate. Lock pins must move freely and extend fully into the bottom slots in the broom hitch plate.
 - d. Check hydraulic hoses for pinch points and clearances. Make sure hoses (#1 & #2) will not interfere with hitch hook-up.
2. If lock mechanism is mechanical, raise lock handles on the loader hitch fully up.
3. Start skid steer.
4. If lock mechanism is hydraulic, use auxiliary hydraulic controls to raise lock pins fully up.
5. Drive slowly to the broom hitch plate while making sure the loader hitch is parallel with the top angle bars on the broom hitch plate.
6. Tilt top of loader hitch plate slightly forward.
7. Place top of loader hitch plate under the Hopper Broom top angled bars and slowly raise loader arms up until loader hitch plate is seated under the top angle bars.
8. Tilt top of loader hitch plate back until broom hitch plate makes full contact with loader hitch plate and the Hopper Broom is slightly off the ground.



Hook-Up Hopper Broom
Figure 1-1

9. Engage lock mechanism:
 - Hydraulic Lock Mechanism:**
 - a. Engage quick hitch locking mechanism hydraulically.
 - Mechanical Lock Mechanism:**
 - a. Shut skid steer down before dismounting. Refer to “**Skid Steer Shutdown Procedure**” on page 13.
 - b. Push lock handles down to drive lock pins through bottom slots in the broom hitch plate. Make sure handles are locked down.
10. Shut the skid steer down before dismounting. Refer to “**Skid Steer Shutdown Procedure**” on page 13.

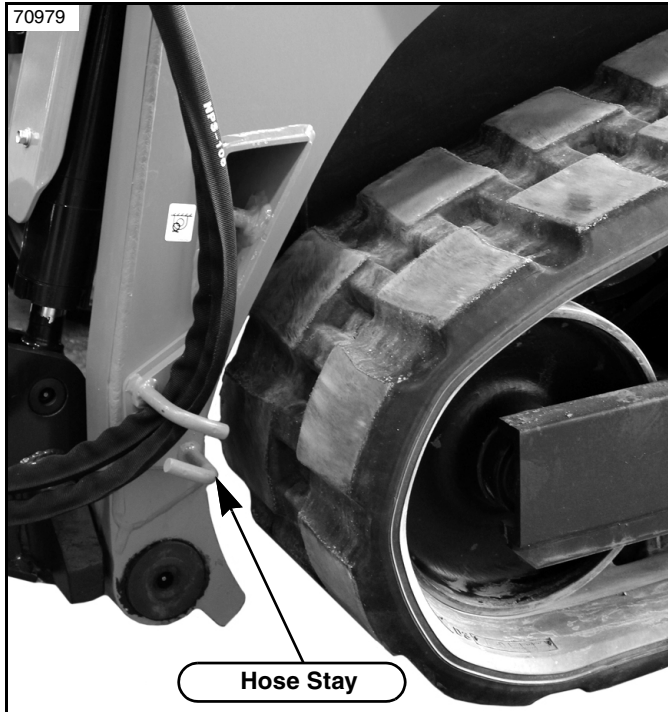
Hydraulic Hose Hook-Up

WARNING

To avoid serious injury or death:

- Hydraulic fluid under high pressure will penetrate the skin or eyes causing serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulics. Use a piece of cardboard or wood, rather than hands, when searching for leaks. If an accident occurs, seek immediate emergency medical care or gangrene may result. DO NOT DELAY.
- Shutdown power machine and release all hydraulic pressure to the equipment before connecting or disconnecting hydraulic hoses to or from the power machine.
- Make sure hydraulic flow to the Hopper Broom does not exceed maximum rated flow listed in the skid steer requirements on page 11. Exceeding maximum flow will overspeed the motor.

IMPORTANT: Make sure coupler fittings on the hydraulic hoses and power machine are clean before connecting them together.



Kubota Hose Stay
Figure 1-2

NOTE: If attaching to a Kubota skid steer or track loader, route hydraulic hoses through Kubota's Hose Stay as shown in Figure 1-2. Purchase **Hose Stay #S6763** through your nearest Kubota dealer. Refer to your power machine Operator's Manual for more instructions.

Refer to Figure 1-1 on page 12:

1. Thread hydraulic hoses through hose holders (#4 & #5) on the left-hand side of the hitch plate.
2. See note under Figure 1-2 if attaching the Hopper Broom to a Kubota skid steer.
3. Clean quick connect couplers (#1 & #2) of dirt and then connect female (#1) and male coupler (#2) to the skid steer auxiliary outlets. Make sure quick connect couplers have fully engaged. If they have not, check the following making sure:
 - a. Couplers are same size and type.
 - b. Auxiliary hydraulic pressure to the loader couplers has been released.
4. For additional help, refer to Hydraulic Hook-up in your skid steer Operator's Manual.

Unhook Hopper Broom

Refer to "Figure 1-1" on page 12:

IMPORTANT: Make sure broom bristles are not resting on the ground. Resting the broom on its bristles for an extended period will deform the bristles.

1. Park skid steer with Hopper Broom on a flat, level surface. Lower loader arms until Hopper Broom is resting on the ground or on support blocks to keep broom bristles off the ground.
2. Shut skid steer down before dismounting. Follow "**Skid Steer Shutdown Procedure**" on page 13.
3. Disconnect hydraulic hoses. It will be necessary to release hydraulic pressure in the lines before hoses will disconnect from the skid steer.
4. Release hitch plate locking levers or pins. Verify locking pins are out of the hitch plate bottom slots.
5. Restart skid steer and slowly lower loader arms while tilting top of hitch forward and backing-up until loader hitch plate clears top angle bar on the Hopper Broom hitch plate.
6. Back away from the Hopper Broom.

Skid Steer Shutdown Procedure

The following are basic skid steer shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your skid steer Operator's Manual before leaving the operator's seat.

1. Reduce engine speed and shut-off all power to the attachment.
2. Park on solid, level ground and lower attachment until it is flat on the ground or on non-concrete support blocks.
3. Turn off engine. Do not remove ignition key at this time.
4. Turn ignition key to the "RUN" position and relieve all hydraulic pressure by moving both joysticks.
5. Turn ignition key off and remove to prevent unauthorized starting.
6. If included, raise seat bar and move controls until both lock.
7. Wait for all components to come to a complete stop before leaving the operator's seat.
8. Use steps, grab-handles and anti-slip surfaces when stepping on and off the skid steer or attachment.

Dust Suppression Assembly

Refer to Figure 2-1 on page 15:

| Part No. | Description |
|----------|---------------------------|
| 323-158A | HB74 Dust Suppression Kit |
| 323-159A | HB84 Dust Suppression Kit |

IMPORTANT: Use only clean fresh water in the Dust Suppression System. Do not use dirty water, salt water or chemicals. Dirty water can plug the system. Salt water and chemicals will corrode the system. Chemicals can cause serious injury to persons, animals, plants, soil and property.

IMPORTANT: Tank (#12) is shipped assembled to tank mount (#1). If needed, tighten bolts (#28) to 60 in lbs or 5 ft lbs (6.8 Nm) maximum.

Water Tank Assembly

Refer to Figure 2-1 on page 15:

1. Attach tank mount (#1) to Hopper Broom with 1/2"-13 x 1 1/2" GR5 bolts (#7) and whiz nuts (#8). Tighten whiz nuts to the correct torque.

IMPORTANT: Apply teflon tape or an approved pipe sealant to all male national pipe threads (MNPT) before connecting male threads to female threads.

2. Connect 3/8" MNPT x 3/8" hose barb adapter (#15) to **OUT** port of water pump (#20). Screw on tight.
3. Connect 1/2" MNPT x 3/8" MNPT adapter (#17) to **IN** port of water pump (#20). Screw on tight.
4. Connect **OUT** port of line filter (#19) to adapter (#17). Tighten filter to adapter tilted out as shown.
5. Connect 1/2" MNPT x 5/8" hose barb adapter (#16) to **IN** port of line filter (#20). Screw on tight.
6. Attach pump (#20) to tank (#12) with #10-24 x 1" hex socket cap screws (#5) and flat washers (#10). Tighten cap crews. (Over tightening can strip plastic threads.)
7. Insert garden hose washer (#11) into garden hose adapter (#18).
8. Connect 1/2" FNPT x 3/4" garden hose adapter (#18) to water tank outlet. Screw on tight.
9. Connect 1/2" MNPT x 1/2" MNPT adapter (#14) to adapter (#18). Screw on tight.
10. Unscrew valve end cap (#25) from valve body (#13) and slide over adapter (#14).
11. Remove valve end plate (#24) from ball valve (#13) and screw onto adapter (#14) until tight.
12. With o-ring (#27) on valve end plate (#24) and valve seat (#26) inside valve end plate, screw valve end cap (#25) onto ball valve (#13). Screw end cap on tight with valve lever on top.
13. Connect 1/2" MNPT x 5/8" hose barb adapter (#16) to ball valve (#13). Screw on tight.

14. Attach both ends of 5/8" PVC hose (#21) to hose barb adapters (#16). Secure hose ends with wire hose clamps (#3).

NOTE: Check straps (#32) securing water tank (#12). Make sure straps are tight.

15. Tighten straps (#32) by tightening whiz nuts (#30). Draw whiz nuts up only enough to remove all slack and to make the straps tight against the tank. Do not torque whiz nuts to the rated torque values.
16. If a strap slips in its metal bracket (#29), re-thread strap in the bracket as follows:
 - a. Loosen whiz nut (#30) 5 to 10 full revolutions.
 - b. Start on the tank side of bracket (#29). Insert strap end (#32) through slot (A1). Pull strap (#32) through the slot and away from the tank approximately 6" to 7" (15.2 to 17.8 cm) beyond the slot.
 - c. Insert strap end (#32) in slot (A2). Pull strap (#32) through the slot toward the tank until all slack is removed.
 - d. Insert strap end (#32) in slot (A3). Pull strap (#32) through the slot away from the tank until all slack is removed.
 - e. Insert strap end (#32) in slot (A1). Pull strap (#32) through slot toward tank until all slack is removed.
 - f. Pull the strap end (#32) approximately 2" (5 cm) above bracket (#29).
 - g. Repeat steps a-f on the opposite side except this time pull the end of the strap (#32) through slot (A1) until all slack around the tank is removed.
 - h. Tighten whiz nut (#30) until strap is tight against the water tank. Do not torque whiz nut to the rated torque values.
 - i. Once the straps are tight, cut any excess strap off of strap end (#32).
 - j. Heat cut strap end (#32) until nylon fibers melt together to stop the strap from unraveling.

Spray Nozzle Assembly

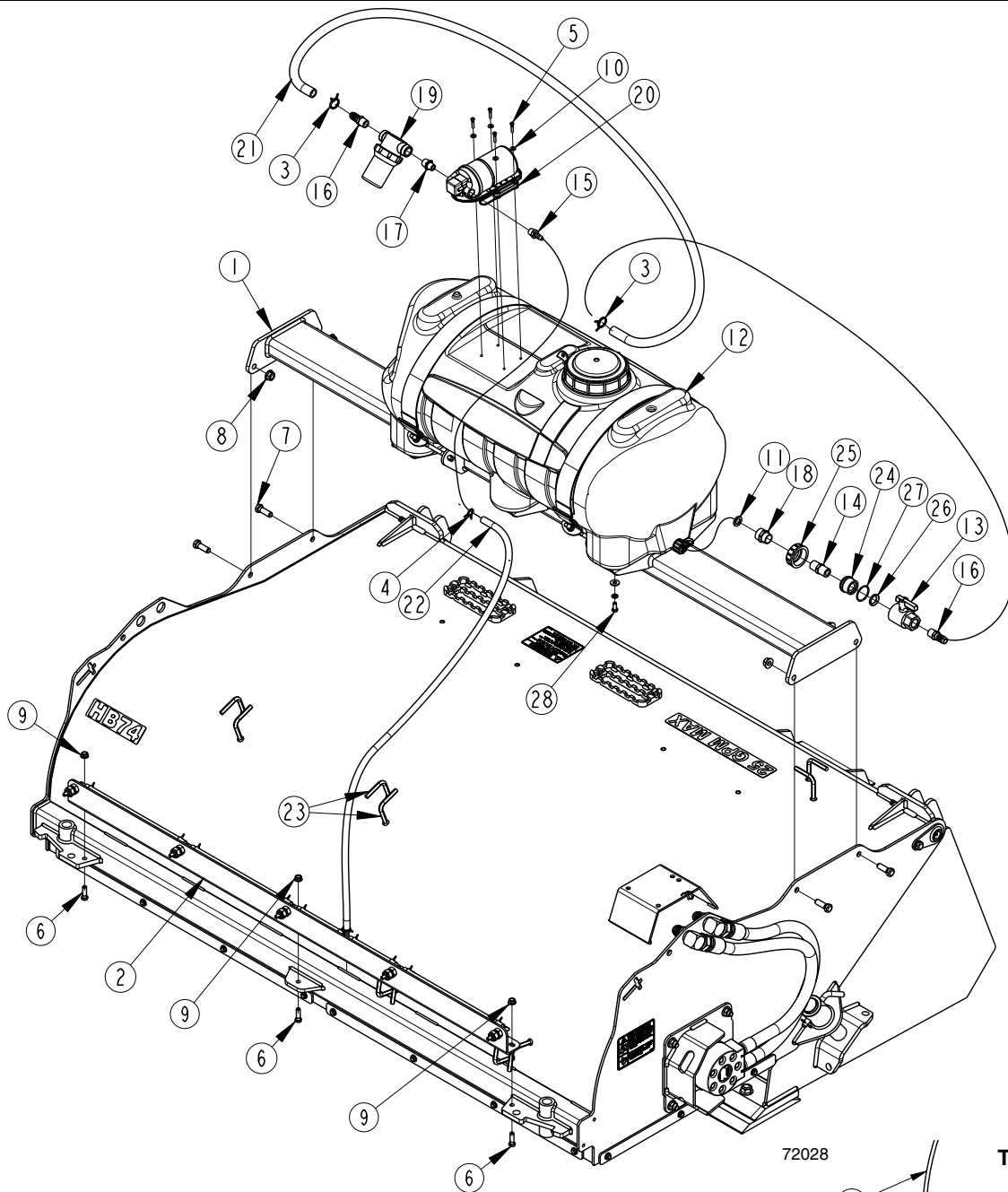
Refer to Figure 2-1 on page 15:

1. Attach spray nozzle mount (#2) to the Hopper Broom with 3/8"-16 x 1 1/4" GR5 bolt (#6) and whiz nuts (#9). Tighten whiz nuts to the correct torque.
2. Route PVC hose (#22) between hose holders (#23), to motor (#20). Attach hose (#22) to adapter (#15) with hose clamp (#4).

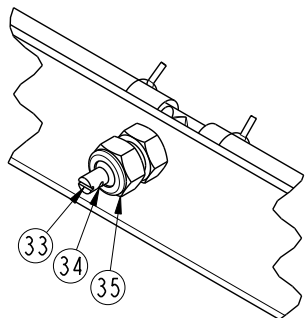
IMPORTANT: Check all spray nozzles (#33) making sure the end slot is horizontal, spray notch (#34) is pointing down, and retaining cap (#35) is tight.

3. If spray nozzle (#33) needs adjusting, loosen nozzle retaining cap (#35). With a screwdriver, rotate slot in nozzle (#33) until V-notch (#34) points down and slot is horizontal. Tighten nozzle retaining cap (#35).

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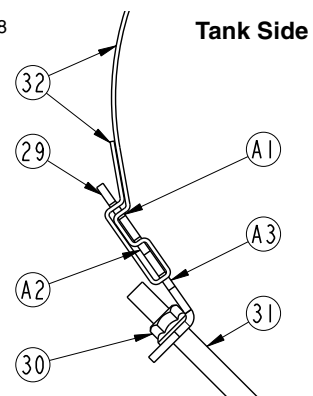


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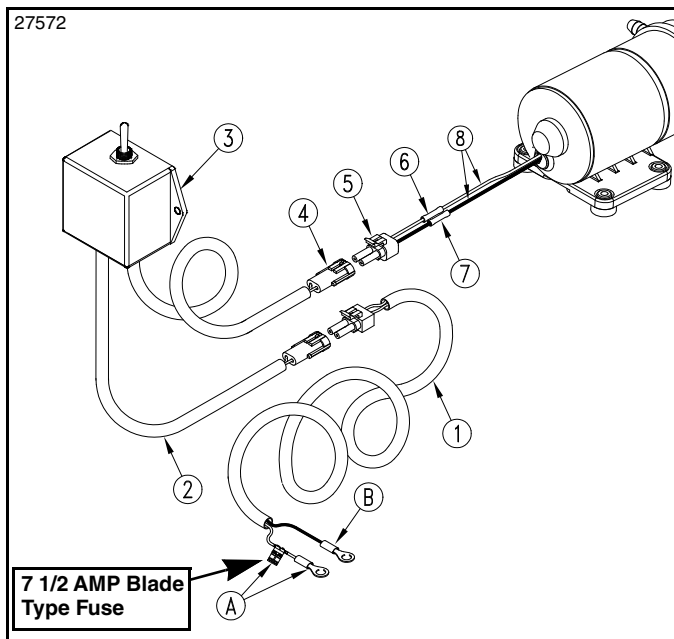
Spray Nozzle Adjustment

72028



Water Tank Straps

Dust Suppression Kit (HB74 Shown)
Figure 2-1



Dust Suppression Electrical Hook-Up
Figure 2-2

Dust Suppression Electrical Hook-Up

Refer to Figure 2-2:

1. Install 18' (5.49 m) power cord (#1) by connecting eyelet (A) with a red wire to the 12 volt power source and eyelet (B) with a black wire to ground.
2. Mount control switch (#3) in a convenient, easy to reach location. Back of control switch is magnetized for easy mounting.
3. Connect power cord (#1) to control switch wire (#2).
4. If jumper (#5) is shipped connected to motor wire harness (#6), skip to step 7. Otherwise, continue with step 5.
5. Connect red wire of jumper (#5) to red wire of pump harness (#8) with butt splice (#6).
6. Connect black wire of jumper (#5) to black wire of pump harness (#8) with butt splice (#7).
7. Connect jumper wire (#5) to 18' power cord (#4).
8. Make sure all wiring is routed safely so that no wires will be pinched, kinked, or pulled apart while operating the Hopper Broom. Tie or tape wiring to secure it in its routed location.

Gutter Broom Assembly

Part No. 323-138A

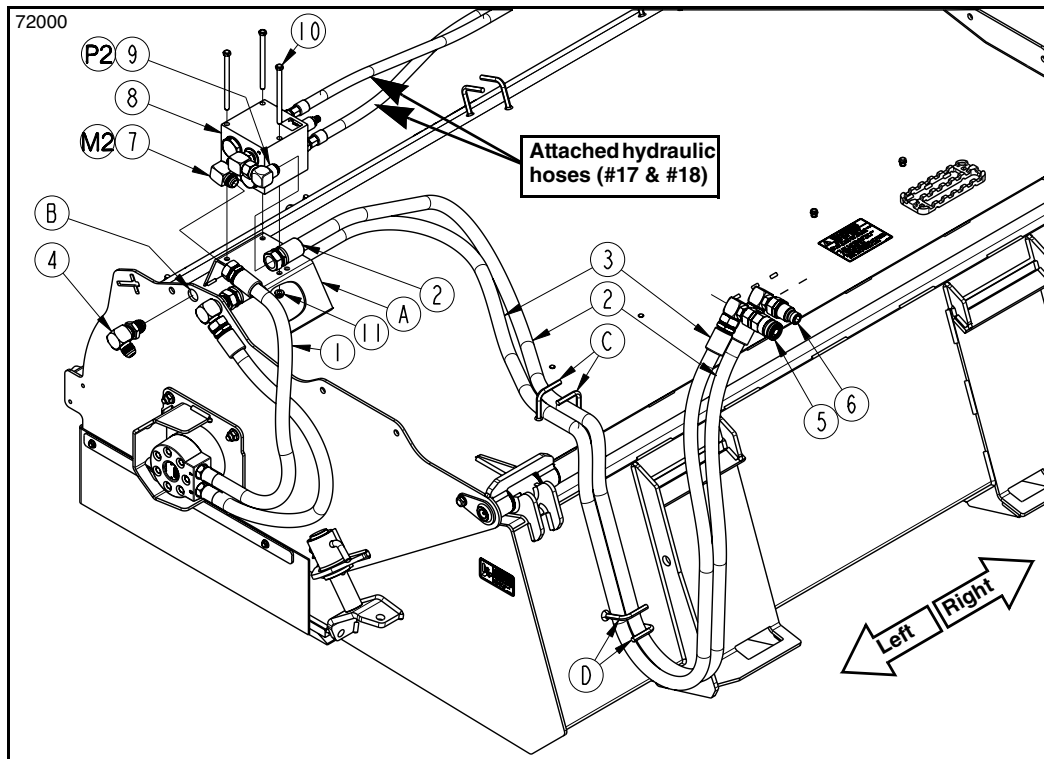
Illustrations provided are for attaching the gutter broom on the right-hand side of the Hopper Broom. If preferred, the gutter broom can be mounted on the left-hand side.

Refer to Figure 2-3 on page 17:

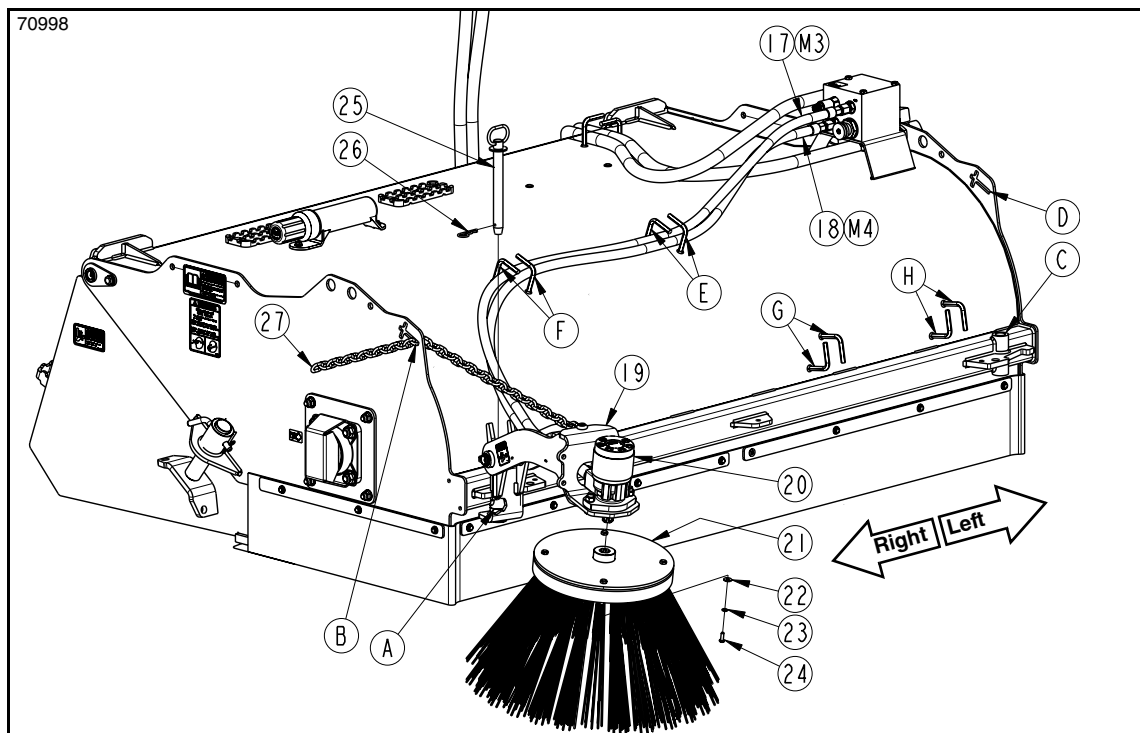
1. Locate elbow (#4) on the Hopper Broom and detach hydraulic hoses (#1 & #2) from elbow (#4). Hydraulic hoses (#1 & #2) will be reattached to control valve (#8) later.
2. Remove elbow (#4) from hole (B) and discard.
3. Place control valve (#8) on valve mount (A) with ports (M2 & P2) facing the drive side and attached hydraulic hoses (#17 & #18) on the opposite side.
4. Secure control valve (#8) to valve mount (A) with 3/8"-16 x 5 1/2" GR5 bolts (#10) and whiz nuts (#11). Tighten whiz nuts to the correct torque.
5. Attach existing hydraulic hose (#1) to elbow (#7) and tighten. Reference port (M2).
6. Attach existing hydraulic hose (#2) to elbow (#9) and tighten. Reference port (P2).

Refer to Figure 2-4 on page 17:

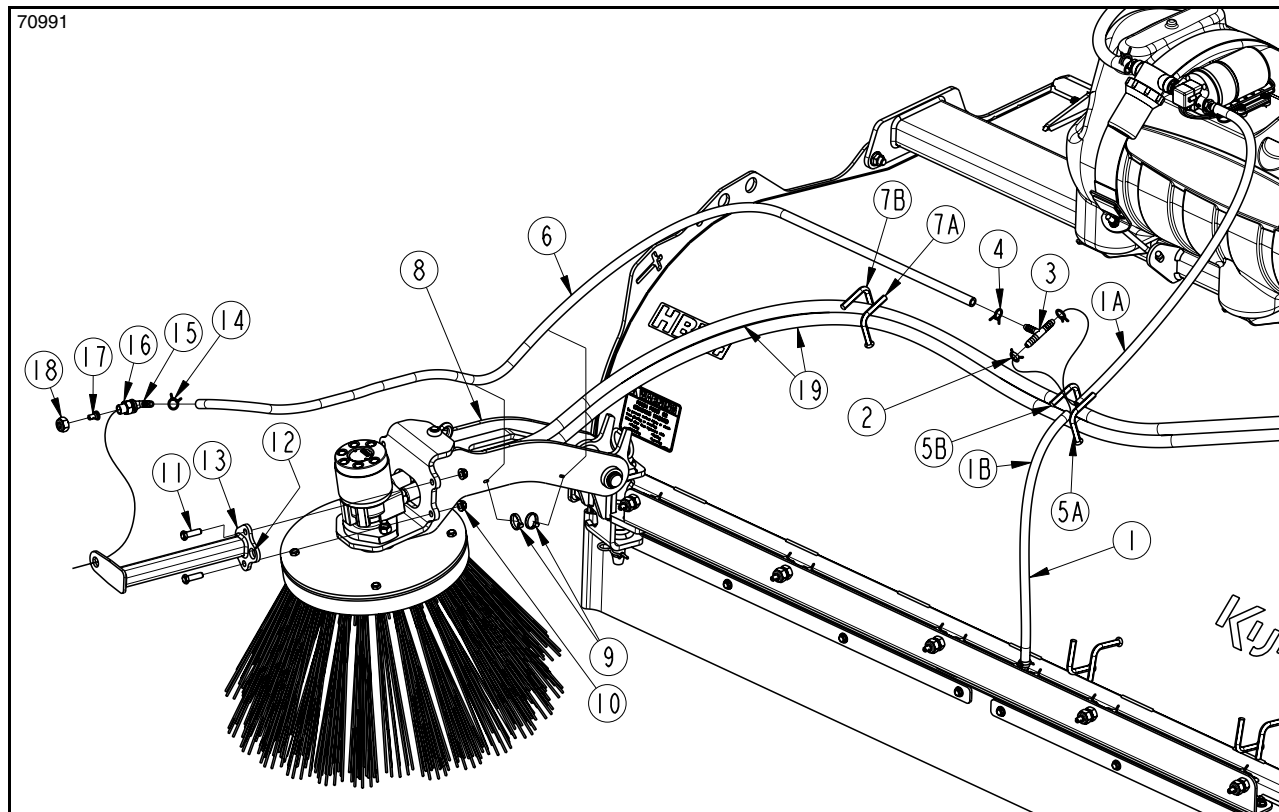
1. Attach gutter broom with mount (#21) to output shaft of hydraulic motor (#20) with 1/4"-20 x 3/4" GR5 bolt (#24), lock washer (#23), and flat washer (#22). Tighten bolt to the correct torque.
2. On the right-hand side, attach Gutter Broom arm (#19) to pivot tube (A) or pivot tube (C) on the left-hand side with hitch pin (#25). Secure hitch pin with hairpin cotter (#26).
3. Raise gutter broom (#21) off the ground 4" (10 cm) and hook chain (#27) in chain slot (B) on the right-hand side or slot (D) on the left-hand side.
4. Pull free end of chain (#27) toward gutter broom (#21) and wire tie that end to the chain to keep the chain from slapping against the painted surface.
5. Hydraulic hoses (#17 & #18) are shipped attached to motor (#20) and control valve ports (M3 & M4).
 - If installing the gutter broom on the right-hand side, route hoses through hose holders (F & E).
 - If installing the gutter broom on the left-hand side, route hoses through hose holders (H, G, & E).



Gutter Broom Installation
Figure 2-3



Gutter Broom Installation (Shown installed on the right-hand side)
Figure 2-4



Gutter Broom Dust Suppression Kit
Figure 2-5

Gutter Broom Dust Suppression Kit

Refer to Figure 2-5:

| Part No. | Description |
|-----------------------|--|
| 323-160A ¹ | HB74 Gutter Broom Dust Suppression Kit |
| 323-164A ¹ | HB84 Gutter Broom Dust Suppression Kit |
| 323-165K ² | HB Gutter Broom Dust Suppression Kit |

1. Includes the water tank assembly, spray bar assembly, and gutter broom spray nozzle assembly.

2. Includes only the gutter broom spray nozzle assembly. Can be added to 323-158A or 323-159A on page 14.

Water Tank and Spray Bar Assembly

1. Complete assembly of “Dust Suppression Assembly” on page 14.

Gutter Broom Hose & Spray Nozzle Assembly

1. Attach spray nozzle mount (#13) to broom arm (#8) with two 3/8"-16 x 1 1/4" bolts (#11) and secure with whiz nuts (#10). Tighten whiz nuts to the correct torque.
2. Remove nut (#16) from bulkhead elbow (#15) and insert threaded end of elbow through hole in spray nozzle mount (#13).
3. Install nut (#16). Draw nut up snug, do not tighten at this time.

4. Insert brass nozzle tip (#17) in poly nozzle cap (#18) and cap to bulkhead elbow (#15).
5. Draw cap (#18) up snug, do not tighten.
6. Insert one end of PVC hose (#6) through hole (#12) in spray mount (#13) and attach that end to barbed end of elbow (#15) with wire clamp (#14).
7. Secure hose (#6) to broom arm (#8) with zip ties (#9). Draw zip ties up tight.
8. Tighten nut (#16).
9. With a screwdriver, rotate slot in nozzle tip (#17) until the V-notch is pointing down and slot in the nozzle is horizontal.
10. Wrap PVC hose (#6) under hydraulic hoses (#19), up over the top of the hoses, and through hose holders (#7B & #7A).
11. Between hose holders (#5A & #5B), cut PVC hose (#1) into two hoses (#1A & #1B).
12. Slide wire hose clamps (#2) on hoses (#1A & #1B).
13. Insert one end of poly tee (#3) in hose (#1A) and the opposite end in hose (#1B).
14. Secure tee (#3) to hoses (#1A & #1B) with wire hose clamps (#2).
15. Cut hose (#6) 3" (8 mm) beyond tee (#3).
16. Secure hose (#6) to tee (#3) with hose clamp (#4).

Section 2: Optional Equipment

Brooms & Individual Wafers

Refer to Figure 2-6:

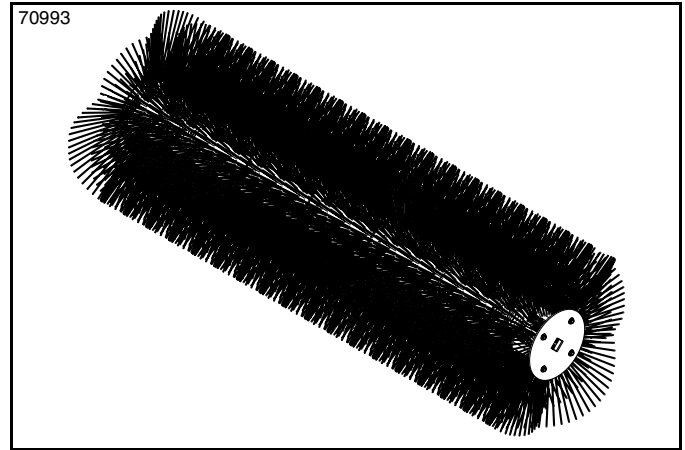
Three different broom wafer options are available.

- All poly bristle wafers
- All steel bristle wafers
- Combination of 50 percent poly and 50 percent steel bristle wafers

Poly bristles are more gentle on the surface while steel bristles will loosen stubborn caked-on dirt.

Refer to Figure 2-7:

All wafers (#1) are replaceable. See “Wafer Removal and Installation” on page 32.



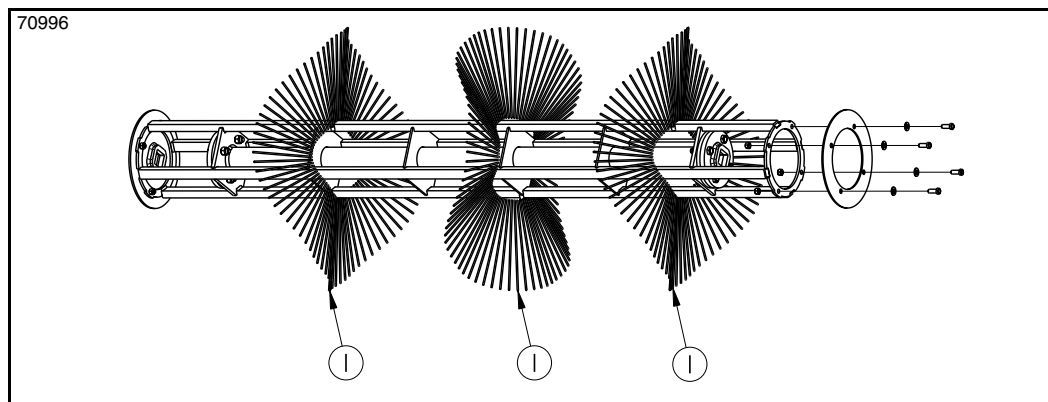
Broom Assembly
Figure 2-6

HB74 Broom Assemblies

| Part No. | Description | Qty |
|-----------------|----------------------------------|-----|
| 323-113A | HB74 Poly Broom Assembly | |
| 891-819C | Poly Wafer | 36 |
| 323-145A | HB74 Wire Broom Assembly | |
| 891-820C | Wire Wafer | 36 |
| 323-148A | HB74 Comb. Broom Assembly | |
| 891-819C | Poly Wafer | 18 |
| 891-820C | Wire Wafer | 18 |

HB84 Broom Assemblies

| Part No. | Description | Qty |
|-----------------|----------------------------------|-----|
| 323-114A | HB84 Poly Broom Assembly | |
| 891-819C | Poly Wafer | 41 |
| 323-143A | HB84 Wire Broom Assembly | |
| 891-820C | Wire Wafer | 41 |
| 323-146A | HB84 Comb. Broom Assembly | |
| 891-819C | Poly Wafer | 21 |
| 891-820C | Wire Wafer | 20 |



Individual Broom Wafers
Figure 2-7

Intell-Attach System™

The Intell-Attach System allows the Kubota power unit with a closed cab, hydraulic hitch, high-flow, and Telematics to intelligently recognize a Kubota by Land Pride Attachment when equipped with an Intell-Attach receiver and tag. Real time feedback between the attachment and SVL 97-3 helps the operator maximize performance and speed machine set-up.

The Intell-Attach System automatically adjusts the AUX flow. This auto adjust feature prohibits high-flow when connecting to an attachment requiring standard flow.

Receiver/Cover Assembly

Refer to Figure 2-8:

The receiver is mounted on the track loader and once programmed, the communication between the receiver and tag automatically recognizes the capabilities of the attachment and adjusts the power unit to match.

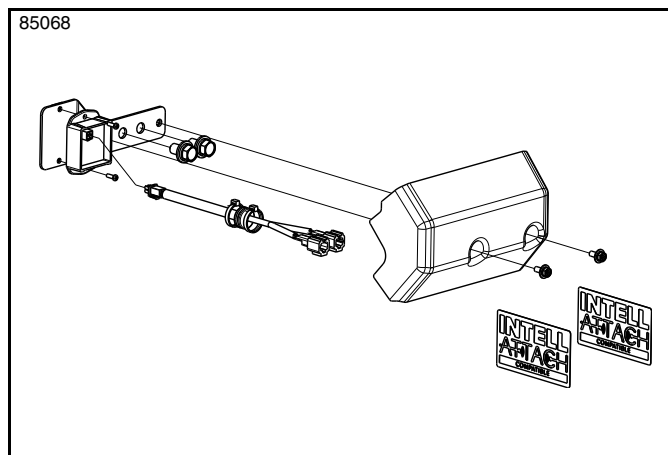
RECEIVER/COVER ASM 701-256A

Tag/Bracket Assembly

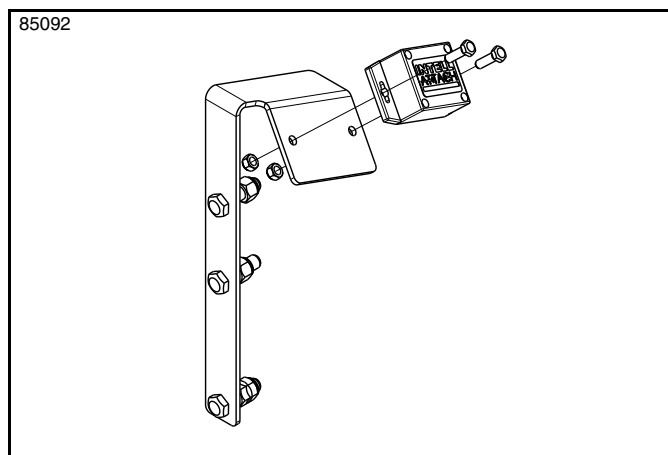
Refer to Figure 2-9:

The tag is mounted on the attachment and communicates using Bluetooth® wireless technology to communicate with the receiver on the track loader.

TAG/BACKET ASM #2 701-254A



**Receiver/Cover Assembly
Figure 2-8**



**Tag/Bracket Assembly
Figure 2-9**

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Section 3: Operating Instructions

Hazard control and accident prevention are dependent upon awareness, concern, prudence and proper training involved in the operation, transport, maintenance, and storage of the Hopper Broom. Therefore, it is absolutely essential that no one operates the Hopper Broom unless they have read, fully understood, and are totally familiar with the Operator's Manual.

Perform the following inspections before using your Hopper Broom.

Operating Checklist

| ✓ | Check | Page |
|---|--|------|
| | Read and follow all safety rules & safety decals carefully. Refer to "Important Safety Information". | 1 |
| | Read and follow hook-up & preparation instructions. Refer to "Section 1: Assembly & Set-up". | 11 |
| | Read and follow all operating procedures. Refer to "Section 3: Operating Instructions". | 22 |
| | Read and make all required adjustments. Refer to "Section 4: Adjustments". | 27 |
| | Read and follow all maintenance instructions. Refer to "Section 5: Maintenance & Lubrication". | 30 |
| | Read and follow all lubrication instructions. Refer to "Lubrication Points". | 39 |
| | Check initially and periodically for loose bolts and pins. Refer to "Torque Values Chart". | 44 |

General Safety Information

DANGER

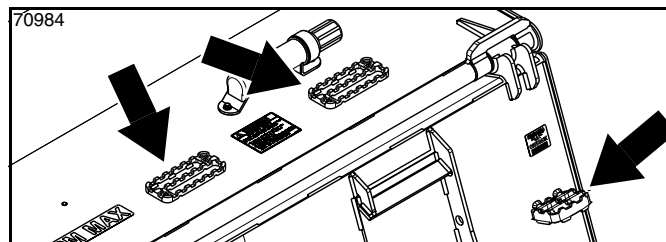
To avoid serious injury or death:

- Do not let children play on or around the attachment including when stored. Children and/or attachment can fall.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to the hydraulics is off.
- All guards and shields must be installed and in good working condition while operating this attachment.
- Do not allow bystanders or animals to be near the attachment, loader arms, or power machine during operation. Stop operation if bystanders are too close. They can be hit by thrown or falling objects, become entangled, crushed, ran over, etc.

WARNING

To avoid serious injury or death:

- Allow only persons to operate this attachment who have fully read and comprehended this manual, and who have been properly trained in the safe operation of this attachment. Serious injury or death can result from the inability to read, understand, and follow instructions provided in this manual.
- Make sure controls are all in neutral position or park before starting the power machine.



Anti-Slip Surfaces

Figure 3-1

- **Refer to Figure 3-1:**
Use steps, grab-handles, and anti-slip surfaces on the power machine and attachment to get on and off the power machine. Using unapproved stepping surfaces and/or handholds can result in a falling hazard.
- Operate only power machines equipped with a certified Roll-Over Protective Structure (ROPS) and seat belt. Fasten seat belt snugly and securely to help protect against serious injury or death from machine overturn.
- Never carry riders on the attachment or power machine. Riders can obstruct the operator's view, interfere with controls, be pinched by moving components, become entangled in rotating components, struck by objects, thrown about, fall off and be run over, etc.
- Always shut power machine down using the "Shutdown Procedure" provided in this manual before servicing, adjusting, cleaning, or maintaining the attachment.
- Always operate attachment while seated with seat belt properly fastened around the operator. When equipped, always lower seat/lap bar(s). This will help protect the operator against rollovers and sudden stops.
- Operate broom from inside an enclosed cab or wear a dust mask and eye protection. Flying dust, debris and bristles can enter the lungs causing respiratory problems, enter the eyes causing eye injury and /or cause bodily injury to the body of people or animals.
- Avoid hitting solid objects with this attachment. Solid objects can damage equipment and throw the operator forward causing loss of control, bodily injury, or death.
- The Hopper Broom is designed primarily for picking up light dirt and small aggregate such as pea gravel. Do not use the broom to remove soil, heavy materials, rocks, or similar items.
- Keep flying debris to a minimum. Always operate broom at slowest rotating speed that will do the job.
- Sweep areas with traffic during low-traffic hours.
- Do not sweep debris towards people, animals, buildings, or other objects that can be hurt or damaged by thrown projectiles.
- Be aware of the extra weight and width the Hopper Broom adds to the skid steer. Reduce speed accordingly. Avoid traveling too fast over rough terrain that will bounce the broom causing loss of control.
- Do not travel at high speeds while sweeping. High speeds can result in sudden loss of control leading to damaged property, equipment, and bodily harm.

Section 3: Operating Instructions

- Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the attachment back into service.
- Do not alter attachment or replace parts on the attachment with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the attachment. Replace parts only with genuine OEM parts.
- Never adjust skid steer relief valve for a pressure rating higher than what is recommended by the skid steer manufacturer.
- Make sure hydraulic hoses are properly routed without twists to prevent them from becoming stretched, pinched, or kinked. A damaged hydraulic hose can burst and leak hydraulic fluid.
- Hydraulic fluid can become hot as it flows through components such as hydraulic couplers, hoses, lines, fittings, motors, etc. Wear gloves when working with hydraulic components including while connecting and disconnecting couplers. It is best to allow hydraulic components to cool before touching them.
- Hydraulic fluid under high pressure will penetrate the skin or eyes causing serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulics. Use a piece of cardboard or wood, rather than hands, when searching for leaks. If an accident occurs, seek immediate emergency medical care or gangrene may result. **DO NOT DELAY.**
- Avoid exposure to dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis). Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica.
- Dress properly for the job. Do not wear loose fitting clothing or clothing with pull strings. Keep long hair tucked in. Clothing and hair can become entangled in rotating components. Wear footwear that will improve footing on slippery surfaces.
- Keep body, body extremities, loose clothing, pull strings, etc. away from pinch points such as rotating, extending, and/or retracting components. Secure pinch point areas to ensure they will not move before working on or near them.
- Wear eye protection and gloves while inspecting, removing, replacing and working around the wafers. Poly and especially wire bristles can suddenly poke the hands or eyes.
- Do not use this attachment to lift, carry, push or tow other equipment or objects. It is not properly designed or guarded for this use. The operator could lose control resulting in equipment damage and/or tipping hazard.
- Do not use this attachment as a lifting device for people or as a work platform. It is not properly designed or guarded for this use.
- Do not use this attachment to lift the front or back of the power machine off the ground. Doing so can damage the attachment, power machine, and/or cause serious injury or death.
- Check hitch fit-up frequently. An improper fit-up can result in the attachment falling from the loader hitch plate.
- Make sure safety labels are in their proper location and are in good condition before operating the attached implement. Read and obey all instructions on the labels.

IMPORTANT: Remove all property from the area that can be damaged by flying debris and bristles.

IMPORTANT: Collect and dispose all oil spills and leaks in an environmentally safe manner.

Transport Safety

DANGER

To avoid serious injury or death:

Keep attachment and/or loader arms away from overhead electrical power lines. Place an orange warning sign under overhead lines indicating type of danger above.

WARNING

To avoid serious injury or death:

- Always exercise safety, courtesy, and common sense. Be aware of pedestrian and vehicle traffic. Check blind spots before moving equipment.
- When traveling on public roadways, travel in such a way that faster moving vehicles may pass safely. Use hazard lights, clean reflectors, and a slow moving vehicle sign that is visible from the back to warn operators in other vehicles of your presence. Always comply with all federal, state, and local laws.
- Always transport with attachment carried low to protect against rollover, hitting overhead objects, power lines, and loss of control.
- Select a safe ground speed that will allow adequate control of steering and stopping. Never exceed 20 mph (32 km/h) with attached equipment. Rough terrain requires a slower speed.
- Reduce ground speed when turning and leave enough clearance to avoid making contact with obstacles such as buildings, trees, fences, etc.
- When transporting a skid steer on a trailer, use towing vehicle and trailer of adequate size and capacity. Always drive up a ramp with heavy end uphill. Engage skid steer park brake and remove ignition key once it is loaded. Secure Skid Steer and attachment using tie downs and chains.

Section 3: Operating Instructions

Pre-Operation Inspection

1. Shut skid steer and Hopper Broom down. Follow “**Skid Steer Shutdown Procedure**” on page 13.
2. Complete “**Operating Checklist**” on page 22.
3. Inspect attachment’s safety equipment to make sure it is in good working condition and that all safety alert decals are visible and legible. Replace all missing and/or illegible safety alert decals. See “**Safety Labels**” on page 6.
4. If attachment is to be operated in reverse, make sure visibility to the rear of the power unit is appropriate for the attachment. Backup camera or mirror is recommended. Maintain cleanliness of lens or mirror.
5. Check skid steer and Hopper Broom hitch plates. Make sure all hitch components are in good working condition:
 - a. Check for and remove any debris in the loader and broom hitch plates.
 - b. Check hitch plates for structural cracks and bent or broken pieces. They can weaken a hitch plate and prevent full and complete hook-up. Repair or replace damaged hitch plates.
 - c. Check operation of lock pins in the loader hitch plate. Lock pins must move freely and extend fully into the bottom slots in the broom hitch plate.
 - d. Check hydraulic hoses for pinch points and clearances. Make sure hydraulic hoses will not interfere with hitch hook-up.
6. Consult your skid steer Operator’s Manual to determine if rear ballast is required. Add ballast if necessary.
7. Visually check for excessive wear, worn, damaged, cracked, or loose parts. Replace parts with genuine Kubota parts.
8. Inspect condition of hydraulic hoses, fittings, and valves before starting the skid steer. Make sure hoses are not twisted or frayed and will not get pinched, kinked, or stretched.
9. Start skid steer and check hydraulic oil leaks with a piece of paper or cardboard. **Do not** use your hands as invisible thin streams of high pressure oil can be injected into your skin. See “**Avoid High Pressure Fluids Hazard**” on page 3.
10. Check all controls and operating functions of the skid steer.
11. Operate the Hopper Broom through its full range of movements to check for clearances. Refer to “**Check Equipment Clearances**” on this page.

Check Equipment Clearances

It is important to check equipment clearances and hydraulic hose routing before putting the Hopper Broom into operation. Carefully go through the broom’s full range of motions to make sure the broom does not make contact with the skid steer frame, tires, and hydraulic hoses. Check hydraulic hoses to make sure they do not stretch, kink, or pinch.



WARNING

To avoid serious injury or death:

- *Use steps, grab-handles, and anti-slip surfaces on the power machine and attachment to get on and off the power machine. Using unapproved stepping surfaces and/or handholds can result in a falling hazard.*
 - *Check hitch fit-up frequently. An improper fit-up can result in the attachment falling from the loader hitch plate.*
1. Before starting the skid steer, check hitch hook-up. The attachment can fall from the loader hitch plate if not properly connected.
 - a. Make sure loader hitch is fully seated under the Hopper Broom’s top angle bar.
 - b. Make sure loader hitch plate is against the Hopper Broom hitch plate.
 - c. Make sure lock handles or hydraulic locks are locked with lock pins fully seated in the bottom slots.
 - d. Make sure there are no structural cracks in the hitch plates. Structural cracks weaken the hitch plate and can result in dropping the attachment.
 - e. Make sure there are no bent plates preventing full and complete hook-up to the loader hitch plate.
 2. If necessary, have someone stand nearby but at a safe distance that can motion for the operator to stop if a problem develops.
 3. With the Hopper Broom on the ground, start skid steer and carefully rotate the top of the loader hitch plate fully back while watching hydraulic hoses to make sure they do not become pinched or kinked.
 4. Carefully raise loader arms up while tilting the top of the hitch fully forward to rotate the front of the Hopper Broom down. Watch hydraulic hoses to make sure they do not stretch, pinch, or kink.
 5. Continue to raise loader arms fully up and tilting the loader hitch fully forward while watching to make sure the attachment does not make contact with the skid steer or skid tires. Watch hydraulic hoses to make sure they do not stretch, pinch, or kink.
 6. Rotate top of hitch plate back and lower loader arms until Hopper Broom is resting on the ground.
 7. Shut skid steer down before dismounting. Refer to “**Skid Steer Shutdown Procedure**” on page 13.
 8. Recheck hydraulic hoses. If needed, add zip ties to the hoses to protect them from possible damage.

Section 3: Operating Instructions

Hopper Broom Start-up Checks

Read and understand this manual, safety alerts, and decals. Make the following checks to the broom before operating the Hopper Broom:

- **Broom Rotation**
- **Broom Height**
- **Gutter Broom Rotation**
- **Gutter Broom Height**

Broom Rotation

1. Raise broom off the ground and engage hydraulic auxiliary to the motor. For detailed engagement instructions, see the Skid Steer Operator's Manual. Viewing from the motor end, the broom should:
 - Rotate clockwise if sweeping while traveling forward.
 - Rotate counterclockwise if sweeping while traveling backward.
2. If broom rotates clockwise, skip to "**Broom Height**" below. Otherwise, continue with steps below.
3. Shut skid steer down before dismounting. Follow "**Skid Steer Shutdown Procedure**" on page 13.

Refer to Figure 2-3 on page 17:

4. Disconnect hydraulic hoses (#2 & #3) from the skid steer.
5. Switch hydraulic couplers (#5 & #6) on hydraulic hoses (#2 & #3).
6. Reconnect hydraulic hoses (#2 & #3) to the skid steer.

Broom Height

1. Drive the skid steer up to an uncleaned surface and stop. Engage hydraulic auxiliary to start the broom rotating. Lower broom down onto an unclean surface for 5 to 10 seconds and then raise the broom back up.
2. Back the skid steer up until able to view the sweeping pattern made by the broom and then stop.
3. Shut skid steer down before dismounting. Follow "**Skid Steer Shutdown Procedure**" on page 13.
4. Inspect the pattern made by the broom on the unclean surface. The broom should have sweep a pattern on the ground 2" to 4" (5 to 10 cm) wide. If the pattern is less than 2" (5 cm) or wider than 4" (10 cm), adjust broom height. Refer to "**Broom Height Adjustment**" on page 27.

Gutter Broom Rotation

1. Looking down from the top, the gutter broom should:
 - Rotate counterclockwise (sweep dirt to the left) when mounted on the right side of the broom.
 - Rotate clockwise (sweep dirt to the right) when mounted on the left side of the broom.
 - Shut-off hydraulics to the gutter broom and raise gutter broom up when sweeping while traveling backward.
2. If gutter broom rotates correctly, skip to "**Gutter Broom Height**" below. Otherwise, continue with steps below.
3. Shut skid steer down before dismounting. Follow "**Skid Steer Shutdown Procedure**" on page 13.

Refer to Figure 4-2 on page 28:

4. Disconnect hoses (#6 & #7) from ports (M3 & M4) and reconnect hoses to the opposite ports. For detailed instructions, see "**Gutter Broom Location**" on page 28.

Gutter Broom Height

1. Make sure only the gutter broom bristle tips are making contact with the ground. If the gutter broom is riding on the bristle and not the tips, then the gutter broom is too low. Refer to "**Gutter Broom Height Adjustment**" on page 29

Broom Operation

IMPORTANT: Do not reverse broom rotation while the broom is rotating. Doing so, can damage the broom and drive components.

The broom is designed to primarily sweep traveling forward throwing debris away from the operator. However, it can be operated while traveling backward.

To reverse travel direction, come to a complete stop, shut hydraulics to the broom off, wait for the broom to stop rotating, engage hydraulic auxiliary to rotate the broom in the opposite direction, and start sweeping traveling the opposite direction.

If attachment is to be operated in reverse, make sure visibility to the rear of the power unit is appropriate for the attachment.

Never exceed maximum hydraulic operating pressure of 3500 psi (24.1 mPa). Engage broom hydraulics, lower broom down to its adjusted height and start traveling sweeping debris into the bucket. When traveling forward sweep debris over the top of the broom and into the bucket. When traveling backward, sweep debris under the broom and over the bucket's cutting edge.

Try to always sweep with the wind behind you to cause the wind to carry airborne dust and debris away from you. Reduce speed when sweeping over rough terrain to minimize bounce. Bouncing can cause equipment breakage and loss of control.

When broom sweeping becomes ineffective, stop and adjust the broom down. Refer to "**Broom Height Adjustment**" on page 27. Replace broom when it is worn out. Refer to "**Broom Removal**" on page 31.

Gutter Broom Operation

The gutter broom allows the operator to sweep close to vertical surfaces and discharge debris into the main broom. It adds an additional 12" (30 cm) to the sweeping width. Use the gutter broom only while traveling forward.

Increase gutter broom speed if sweeping light material and decrease gutter broom speed if sweeping heavier, dense materials. Shut off hydraulics to the gutter broom when not in use or when sweeping while backing-up. For instructions, refer to "**Gutter Broom Speed**" on page 29.

Do not remove the gutter broom from the Hopper Broom. To discontinue use of the gutter broom, shut hydraulics off to the gutter broom and lift the broom up 2-4 inches with the adjustment chain. Refer to "**Gutter Broom Height Adjustment**" on page 29.

Dispose of Sweepings

When the Hopper Broom bucket is full of sweepings, disengage hydraulics to the motor, raise Hopper Broom off the ground approximately 6" to 12" (15 to 30 cm), travel to the dump site, and stop in front of the dump site. If dumping into a collection container, raise Hopper Broom above the container and slowly travel forward until the bucket is over the container. Tilt the top of the hitch plate forward while raising the loader arms to keep the Hopper from pressing down against the accumulated waste pile. If the Hopper Broom starts to come against the container's side wall, move the skid steer forward. Continue tilting the top of the hitch forward as needed until all waste debris has exited out of the Hopper Broom bucket.

Tilt top of hitch plate back to level the Hopper Broom, back away from the container until Hopper Broom is outside the container, lower Hopper Broom until it is 6" to 12" (15 to 30 cm) above the ground, and travel back to the work site.

Optional Spray System Operation

Shut-off the ball valve and fill the water tank with clean water. Replace tank cap once the tank is filled.

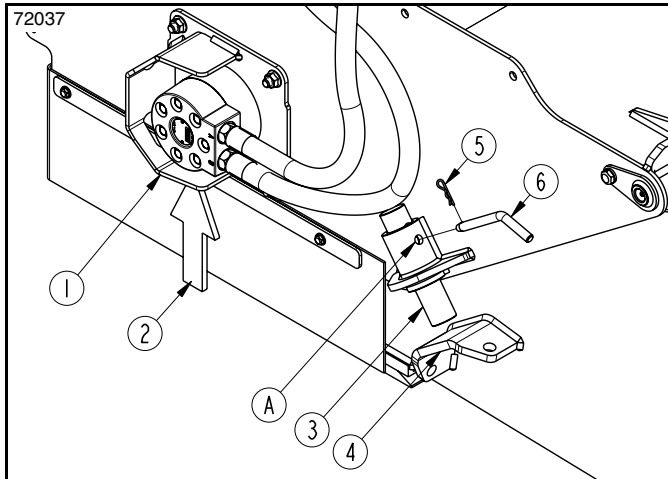
Turn on the ball valve and temporarily switch the water pump on to verify if the water system works properly. Shut water pump off and shut down the skid steer. Follow skid steer "**Skid Steer Shutdown Procedure**" on page 13.

Close ball valve when not in use. Water can siphon out of the tank if ball valve is left open.

If the spray system is not functioning properly, refer to:

- "**Water Filter Maintenance**" on page 36.
- "**Spray Nozzle Maintenance**" on page 36.
- "**Troubleshooting Chart**" on page 43.

Section 4: Adjustments



Broom Height Adjustment
Figure 4-1

Broom Height Adjustment

Refer to Figure 4-1:

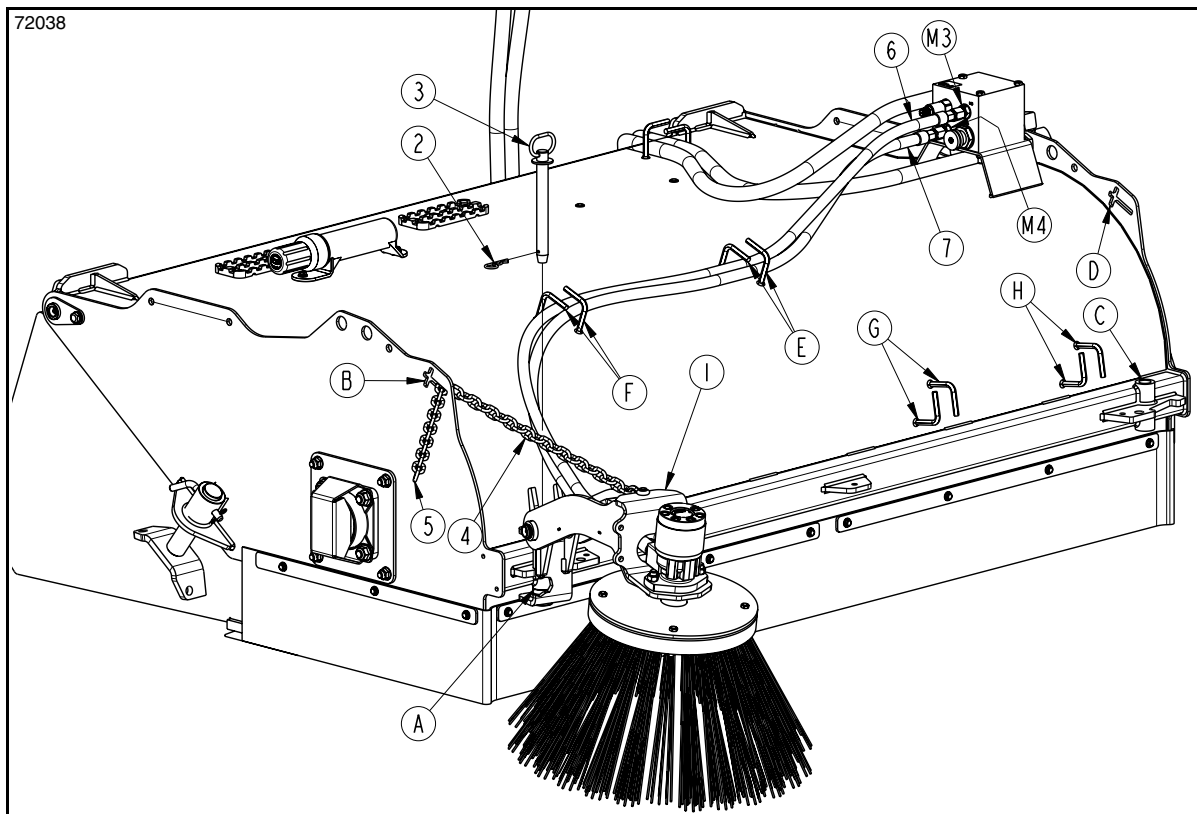
New Hopper Brooms shipped from the factory do not require height adjustment. As the broom wears, adjustment pins (#3) will need to be raised to lower the broom head. Check broom pattern to ensure the broom head is adjusted correctly and to extend the life of the broom.

IMPORTANT: Do not attach a hoist to the broom head in an area that will damage the hydraulic or water system.

1. Park skid steer and Hopper Broom on a flat, level surface.
2. Start the broom rotating.
3. Lower the loader arms fully down and tilt the top of the hitch plate forward until the cutting edge is 1/2" to 1" (13 to 25 mm) off the ground.
4. Without moving, allow the broom to rotate on the surface for 10 or more seconds and then lift the broom up.
5. Back away and shut skid steer down before dismounting. Follow "**Skid Steer Shutdown Procedure**" on page 13.
6. Dismount and examine the strip sweep cleaned by the broom. This strip should be 2" to 4" (5 to 10 cm) wide.
7. If the strip is less than 2" (5 cm), the broom head should be adjusted down as follows:
 - a. Place a floor jack (#2) or similar jack under motor shield (#1) and jack broom head up just enough to lift adjustment pin (#3) off of stop bracket (#4).

NOTE: A hoist can also be used to lift the broom head slightly up.

- b. Pull hairpin cotter (#5) and remove bent pin (#6).
 - c. Raise adjustment pin (#3) up one hole and reinsert bent pin (#6).
 - d. Secure bent pin with hairpin cotter (#5).
 - e. Repeat steps b-d on the opposite side.
 - f. Lower broom head down until adjustment pins (#3) are resting on stop brackets (#4).
 - g. Remove hoist or hydraulic jack.
8. If the strip is more than 4" (10 cm) or if the existing broom is replaced with a new broom, adjust the broom head up as follows:
 - a. Attach a hoist to the broom head and raise the broom head up enough to allow adjusting pin (#3) down by as much as 2 1/2" (6.4 cm).
 - b. Pull hairpin cotter (#5) and remove bent pin (#6).
 - c. If adjusting for a new broom, move adjustment pin (#3) down until the top hole in the pin aligns with the bent pin mounting hole (A).
 - d. If adjusting a used broom, move adjustment pin (#3) down one hole and reinsert bent pin (#6) in mounting hole (A).
 - e. Secure bent pin with hairpin cotter (#5).
 - f. Repeat steps b-e on the opposite side.
 - g. Lower broom head down until adjustment pins (#3) are resting on stop brackets (#4).
 - h. Remove hoist.



Gutter Broom Location and Height Adjustment
 (Shown with Gutter Broom Mounted on Right-Hand Side)
 Figure 4-2

Gutter Broom Location

Refer to Figure 4-2:

Depending on operator's preference, the gutter broom can be located on the right-hand side as shown or on the left-hand side (not shown). It adds an additional 12" (30 cm) sweeping width and is useful for sweeping along curbs and/or buildings.

Mount Gutter Broom on the Left-Hand Side

1. Shut skid steer down before dismounting. Follow "Skid Steer Shutdown Procedure" on page 13.
2. Loosen hydraulic hoses (#6 & #7) at ports (M3 & M4).
3. Remove hydraulic hoses (#6 & #7) from hose holder (F).
4. Remove hairpin cotter (#2) and hitch pin (#3).
5. Remove adjustment chain (#5) from chain slot (B).
6. Remove gutter broom (#1) from mounting tube (A) and attach to mounting tube (C) with hitch pin (#3) and secure with hairpin cotter (#2).
7. Insert adjustment chain (#5) in slot (D) to a chain link that will hold the gutter broom off the floor 2" to 4" (5 to 10 cm).
8. Secure hydraulic hoses (#6) in hose holders (E, G, & H).
9. Remove hose (#6) from port (M3).

10. Remove hose (#7) from port (M4) and attach to port (M3). Tighten hose to port.

11. Attach hose (#6) to port (M4). Tighten hose to port.

Mount Gutter Broom on the Right-Hand Side

1. Shut skid steer down before dismounting. Follow "Skid Steer Shutdown Procedure" on page 13.
2. Loosen hydraulic hoses (#6 & #7) at ports (M3 & M4).
3. Remove hydraulic hoses (#6 & #7) from hose holders (G & H).
4. Remove hairpin cotter (#2) and hitch pin (#3).
5. Remove adjustment chain (#5) from chain slot (D).
6. Remove gutter broom (#1) from mounting tube (C) and attach to mounting tube (A) with hitch pin (#3) and secure with hairpin cotter (#2).
7. Insert adjustment chain (#5) in slot (B) to a chain link that will hold the gutter broom off the floor 2" to 4" (5 to 10 cm).
8. Secure hydraulic hoses (#6 & #7) in hose holders (E & F).
9. Remove hose (#6) from port (M4).
10. Remove hose (#7) from port (M3) and attach to port (M4) as shown. Tighten hose to port.
11. Attach hose (#6) to port (M3) as shown. Tighten hose to port.

Section 4: Adjustments

Gutter Broom Height Adjustment

Refer to Figure 4-2 on page 28:

When in use, the gutter broom should be adjusted to make ground contact with its broom tips only. Excess weight on the gutter broom will increase broom wear.

When not in use, the gutter broom should be adjusted to support gutter broom off the ground 2" to 4" (5 to 10 cm).

To adjust gutter broom height:

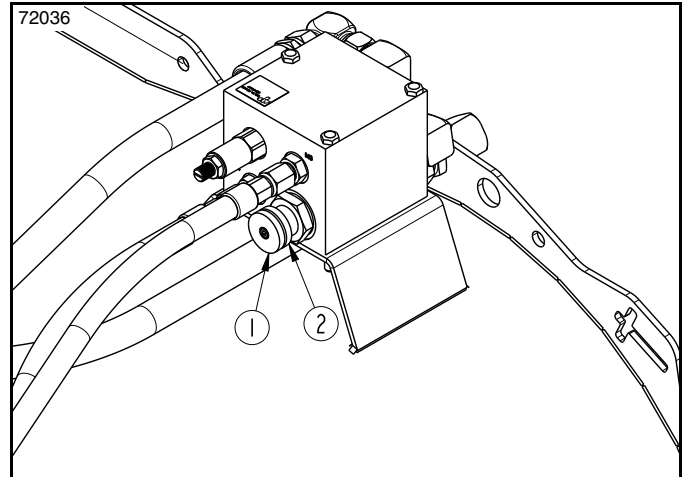
Adjust Gutter Broom for Sweeping

1. Pull chain (#5) through slot (B or D) to a chain link that will hold the gutter broom at a height that will allow only the broom tips to make contact with the ground.
2. To keep adjustment chain from rubbing paint off the side plate, pull excess chain (#5) toward the gutter broom and tie it to any link (#4).
3. Adjust hydraulic flow to the gutter broom to match material being swept. Refer to “**Gutter Broom Speed**” on this page.

Adjust Gutter Broom for Storage

IMPORTANT: Do not remove gutter broom from its mount to place it in storage. Instead, store gutter in its mount by raising it up 2-4 inches off the ground.

1. Pull chain (#5) through slot (B or D) to a chain link that will hold the gutter broom 2" to 4" (5 to 10 cm) off the ground.
2. To keep adjustment chain from rubbing paint off the side plate, pull excess chain (#5) toward the gutter broom and tie it to any link (#4).
3. Shut flow off to the gutter broom. Refer to “**Gutter Broom Speed**” on this page.



Gutter Broom Speed
Figure 4-3

Gutter Broom Speed

Refer to Figure 4-3:

A variable speed valve is provided with the gutter broom. Use the valve to adjust the speed the gutter broom operates or to shut-off all hydraulic flow to the gutter broom. Use slower speeds for heavy, dense materials and faster speeds for light materials.

IMPORTANT: The gutter broom should only be used while traveling forward with the main broom rotating clockwise viewed from the motor side. The gutter broom will not operate while backing up with the broom rotating counterclockwise. Always shut the speed valve off and raise gutter broom off the ground when sweeping while backing up.

Adjust Gutter Broom Speed for Sweeping

1. Loosen inner lock knob (#2) counterclockwise.
2. Turn outer flow control knob (#1) clockwise to slow gutter broom speed and counterclockwise to increase gutter broom speed.
3. Once the correct speed is set, hold outer flow control knob (#1) while rotating inner lock knob (#2) clockwise until hand tight.

Adjust Gutter Broom Speed for Non Use

1. Loosen inner lock knob (#2) counterclockwise.
2. Turn outer flow control knob (#1) clockwise until hand tight.
3. Rotate inner lock knob (#2) clockwise until hand tight.

Maintenance

Proper servicing and adjustment are key to the long life of any attachment. With careful and systematic inspection, you can avoid costly maintenance, time, and repair.

After using your Hopper Broom for several hours, check all bolts to make sure they are tight. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Kubota dealer.

Make sure all connections are tight and in good working condition. Replace damaged or worn fittings and hoses.

DANGER

To avoid serious injury or death:

- Do not go near or under raised loader arms without first securing loader arms in the raised position with an approved lift-arm support.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to the hydraulics is off.
- Use a hoist or other lifting device to raise the hood. Support raised hood in the raised position with solid, non-concrete supports before working under it.
- Keep body, body extremities, clothing, pull strings, etc. away from rotating/moving parts. Always shut off hydraulics to the attachment and shutdown the power machine before adjusting or servicing the equipment.

WARNING

To avoid serious injury or death:

- Do not alter attachment or replace parts on the attachment with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the attachment. Replace parts only with genuine OEM parts.

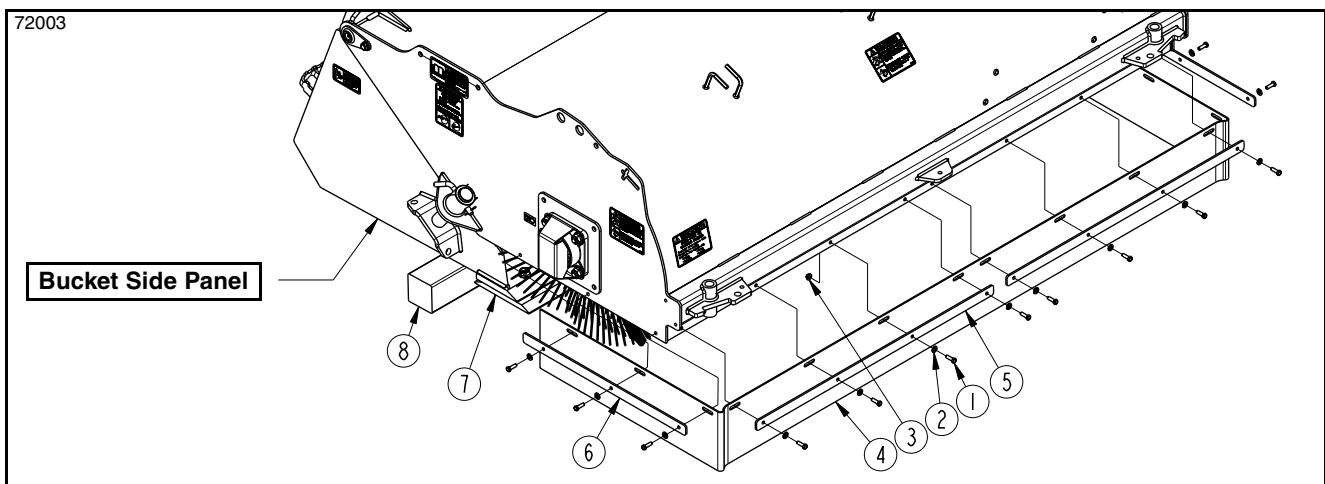
- Make sure controls are all in the neutral position or park before starting the power machine.
- Allow only persons to perform maintenance on this attachment who have been properly trained in the safe operation of this attachment.
- Always shut power machine down using the “Shutdown Procedure” provided in this manual before servicing, adjusting, cleaning, or maintaining the attachment.
- Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the attachment back into service.
- Lubricate, make adjustments and repairs in a safe area away from traffic and other hazards.
- Hydraulic fluid can become hot as it flows through components such as hydraulic couplers, hoses, lines, fittings, motors, etc. Wear gloves when working with hydraulic components including while connecting and disconnecting couplers. It is best to allow hydraulic components to cool before touching them.
- Avoid electrical shock. Disconnect water pump electrical terminals from the battery before servicing the water pump, electrical wiring for the pump, and its switch box.
- Check hitch fit-up frequently. An improper fit-up can result in the attachment falling from the loader hitch plate.

Rubber Dust Deflector

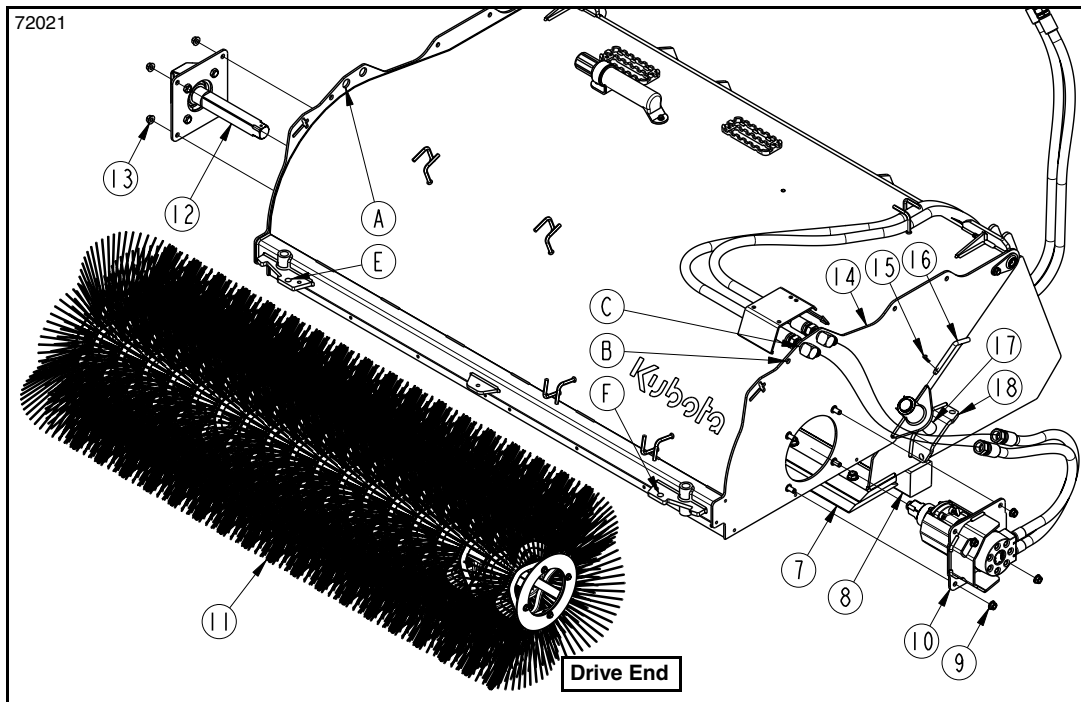
Refer to Figure 5-1:

The broom bristles and dust deflector (#1) will wear as the broom head is adjusted down. For best performance, replace dust deflector and bristles at the same time.

1. Shut skid steer down before dismounting. Refer to “Skid Steer Shutdown Procedure” on page 13.
2. Place two 4" x 4" (10.2 x 10.2 cm) solid, non-concrete support blocks (#8) in front of the Hopper Broom and in line with the bucket side panels.



Dust Deflector
Figure 5-1



Broom Assembly (Dust deflector removed for clarity.)

Figure 5-2

NOTE: Do not rest bucket cutting edge (#7) on support blocks (#8). Doing so will prevent maintenance to the blade.

3. Start skid steer, raise Hopper Broom approximately 6" (15 cm) off the ground, and drive forward until the 4x4 support blocks (#8) are under the bucket side walls and behind cutting edge (#7). Lower Hopper Broom until bucket side panels are on support blocks (#8).
4. Shut skid steer down before dismounting. Follow **"Skid Steer Shutdown Procedure"** on page 13.
5. Remove whiz nuts (#3), flat washers (#2), bolts (#1), front straps (#5), end straps (#6), and rubber dust deflector (#4).
6. Discard worn rubber dust deflector (#4).
7. Keep removed hardware (#1, #2, & #3) and straps (#5 & #6) for reuse later.
8. Continue with **"Broom Removal"** on page 31.

Broom Removal

Refer to Figure 5-2:

The bristles on the broom will need replacing as they wear. The broom is designed for easy removal. Once the broom is removed, individual wafers can be slid on and off for easy replacement.

1. Remove dust deflector. Refer to **"Rubber Dust Deflector"** on page 30.

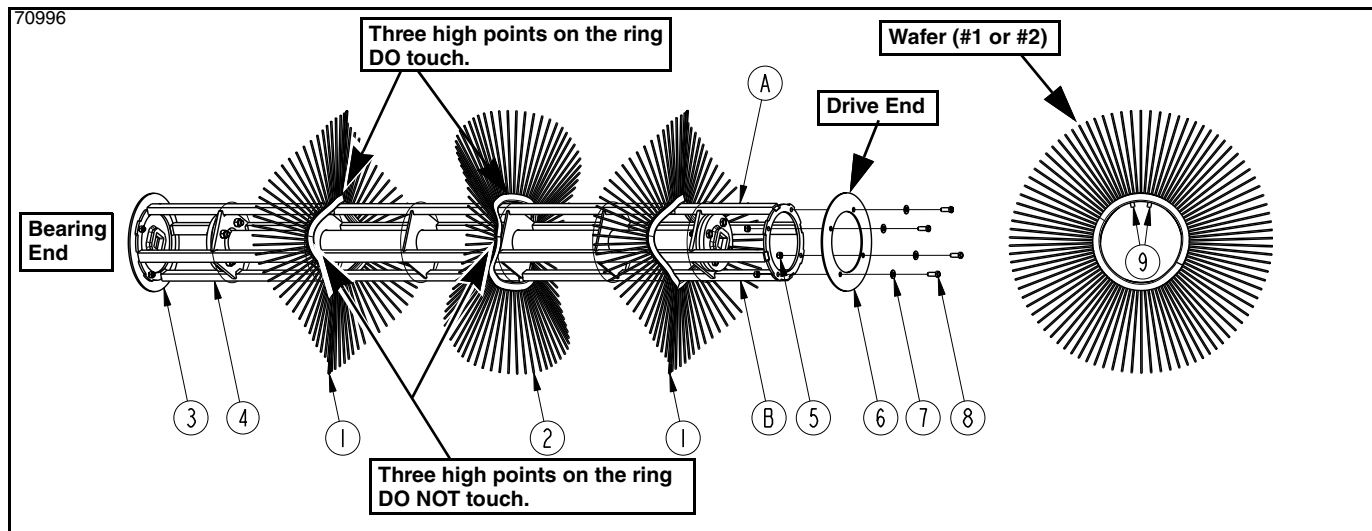
2. Refer to **Figure 2-3** on page 17: Disconnect hydraulic couplers (#5, & #6) from the skid steer.
3. Remove the four whiz nuts (#9) and drive assembly (#10) from the broom head.
4. Tie drive assembly (#10) to the broom head with wire or rope to secure it above cutting edge (#7).
5. Remove four whiz nuts (#13) and remove bearing assembly (#12) from the broom head.
6. Set bearing assembly (#12) aside for safe keeping.
7. Broom (#11) can now be removed from the broom hood by rotating the broom hood up with a hoist or by raising the Hopper Broom up with a skid steer.

Using a Hoist

- a. If dust spray system is excluded, attach lift chains to the broom hood using holes (E & F). If included, attach lift chains to hole (A) and available hole (B or C).
- b. Rotate front of broom hood (#16) up with a hoist high enough to be able to roll broom (#11) out.

Using a Skid Steer

- a. Return to the skid steer. raise Hopper Broom above broom (#11) and back away from the broom.
- b. Shut skid steer down before dismounting. Follow **"Skid Steer Shutdown Procedure"** on page 13.
8. Continue with **"Wafer Removal and Installation"** on page 32.



Wafer Removal and Installation
Figure 5-3

Wafer Removal and Installation

Refer to Figure 5-3 on page 32:

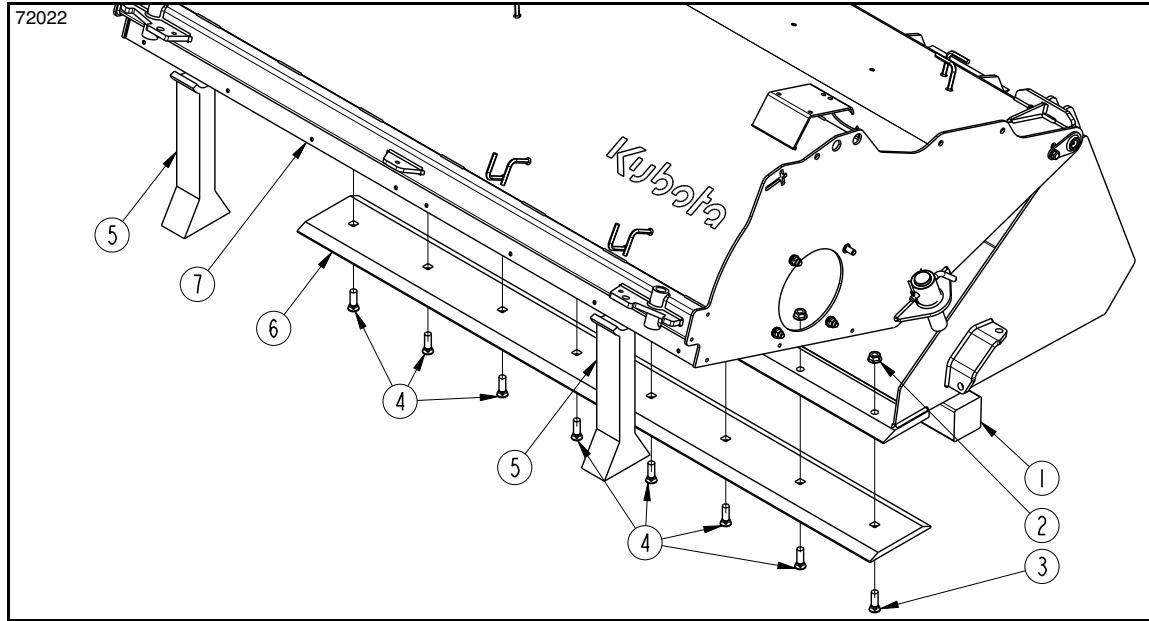
The broom consists of all poly wafers, all wire wafers, or a combination of poly and wire wafers. Refer to “**Brooms & Individual Wafers**” on page 19 for description and part numbers of the wafers.

1. Remove broom from the broom hood. For detailed instructions, refer to “**Broom Removal**” on page 31.
2. On the drive end of the broom, remove bolts (#8), flat washers (#7), drum plate (#6), and nuts (#5). Keep components for reassembly.
3. Without moving or adjusting the jack stands, remove broom from the jack stands and set the bearing end (#3) on the ground as shown in Figure 5-3.
4. Slide all used wafers (#1 & #2) off the drive end of broom drum (#4).
5. With guide pins (#9) on the high side, align guide pins on wafer (#1) on both sides of guide bar (A) and slide wafer onto drum (#4).
6. With guide pins (#9) on the high side, align guide pins on wafer (#2) on both sides of guide bar (B) and slide wafer onto drum (#4).
7. Make sure three high points on wafer (#1) touch three high points on wafer (#2). If wafer rings make continuous contact with each other, turn wafer 180 degrees around and reinstall with guide pins (#9) on both sides of guide bar (B).
8. Repeat steps 5-7 until all wafers are installed on broom drum (#4).
9. Install existing drum plate (#6) and secure with flat washers (#7), nuts (#5), and bolts (#8). Tighten to the correct torque.
10. Before installing the broom to the broom head, inspect cutting edge for wear. Refer to “**Cutting Edge**” on page 33.

NOTE: Place new wafers (#1 & #2) on the broom drum with guide pins always on the high side of the convolution. Alternate between guide bars (A & B) when aligning guide pins on the bars.

NOTE: When installing combination poly and steel wafers, always start with wafer (#1) being a poly wafer followed with wafer (#2) being a steel wafer. Repeat that order until all wafers are installed.

5. With guide pins (#9) on the high side, align guide pins on wafer (#1) on both sides of guide bar (A) and slide wafer onto drum (#4).



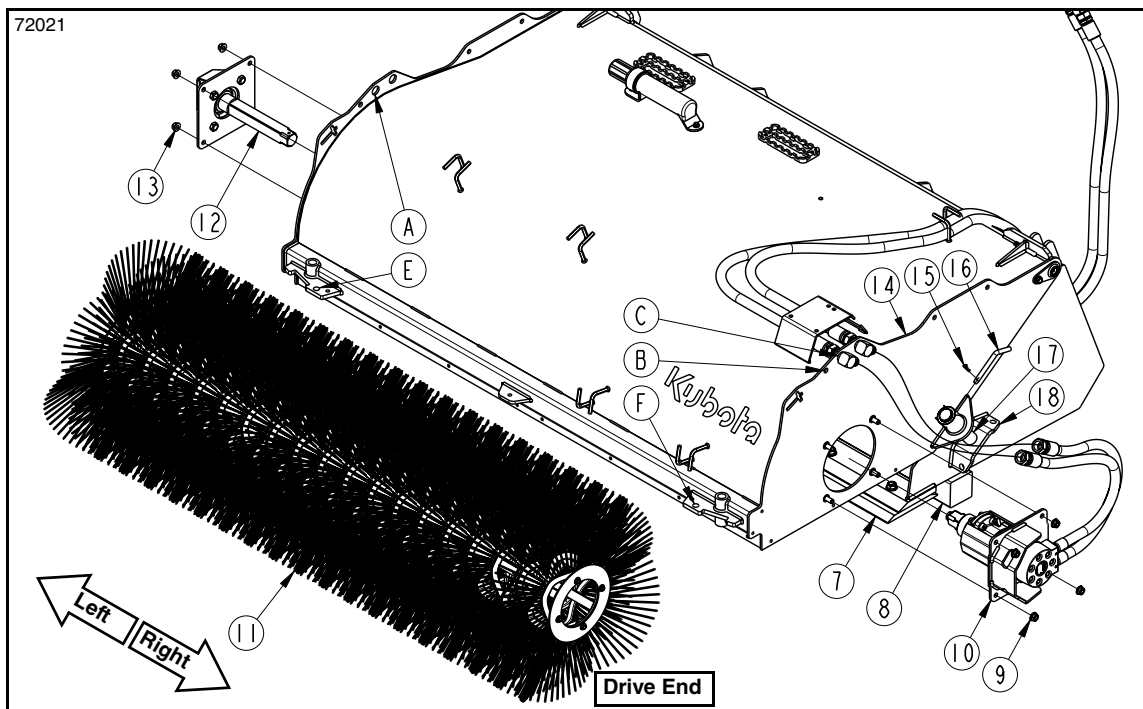
Cutting Edge
Figure 5-4

Cutting Edge

Refer to Figure 5-4:

Inspect the cutting edge (#6) for wear. If needed, rotate the back cutting edge to the front or replace the cutting edge if the back and front cutting edges are worn out. If the cutting edge needs to be rotated or replaced, continue with instructions below. Otherwise skip to “**Broom Installation**” instructions on page 34.

1. Start skid steer, raise Hopper Broom approximately 6" (15 cm) off the ground, and drive forward until the two 4"x4" (10.2 x 10.2 cm) support blocks (#1) are under the two bucket side walls and behind cutting edge (#6). Lower bucket until Hopper Broom is resting on the support blocks.
2. Shut skid steer down before dismounting. Follow “**Skid Steer Shutdown Procedure**” on page 13.
3. Rotate broom hood (#7) open with a hoist or jack and place support jacks (#5) under the broom hood to keep it from falling.
4. Remove all but the two outside whiz nuts (#2) and plow bolts (#4) from cutting edge (#6).
5. Loosen the two outside whiz nuts (#2). Do not remove these two whiz nuts at this time.
6. Hold one end of cutting edge (#6) and remove whiz nut (#2) and plow bolt (#1) from that end. Lower that end onto a support block.
7. Hold opposite end of cutting edge (#6) up and remove remaining whiz nut (#2) and plow bolt (#1). Lower cutting edge to the ground.
8. Inspect whiz nuts (#2) and plow bolts (#3 & #4) for wear. Replace as needed.
9. If the back cutting edge (#6) is not worn, rotate that edge to the front and reinstall the blade. Replace cutting edge if both edges are worn excessively.
10. Install existing/new cutting edge (#6) by supporting one end on a support block and attaching the opposite end to the bucket with plow bolt (#3) and whiz nut (#2). Draw whiz nut up snug, do not tighten.
11. Raise opposite end up to the bucket and attach that end with plow bolt (#3) and whiz nut (#2). Draw whiz nut up snug, do not tighten.
12. Install remaining plow bolts (#4) and whiz nuts (#2).
13. Tighten all whiz nuts to the correct torque for a 5/8"-11 GR5 bolt.
14. Continue with “**Broom Installation**” on page 34.



Broom Assembly (Dust deflector removed for clarity.)

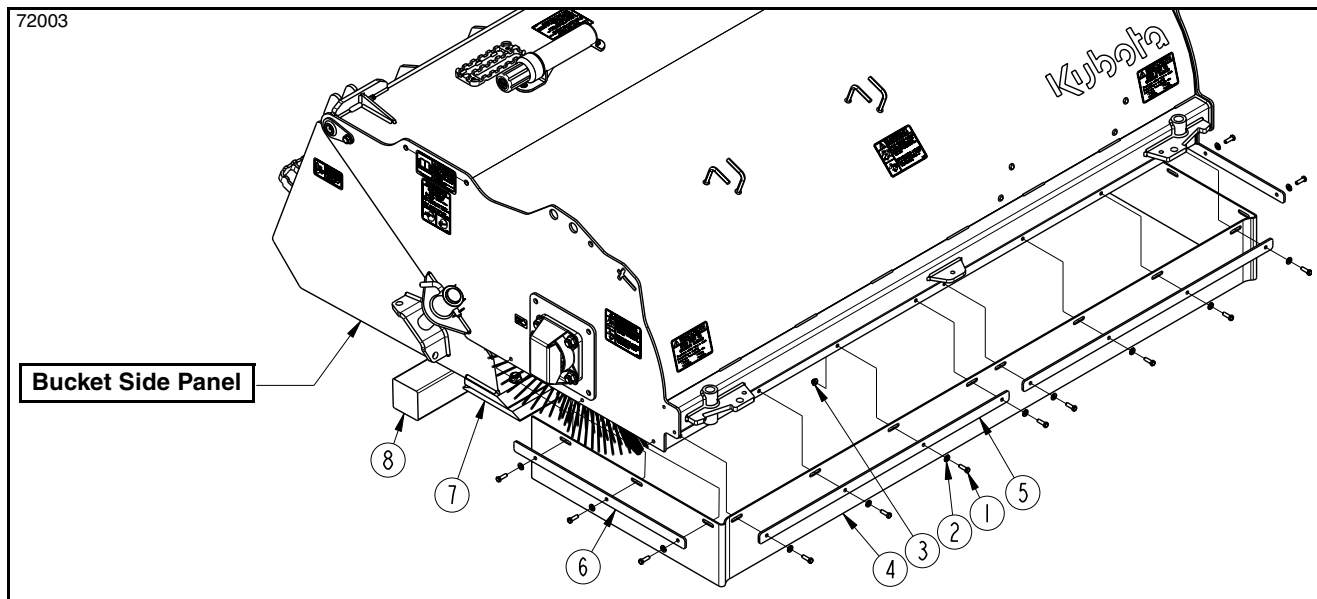
Figure 5-5

Broom Installation

Refer to Figure 5-5:

Install broom (#11) with a hoist supporting hood (#14) in the open position as follows:

1. If the dust spray system is excluded, attach a lift chain to both sides of hood (#14) using holes (E & F). If dust system is included, use hole (A) and available hole (B or C).
2. Using the hoist, rotate hood (#14) up high enough to roll broom (#11) under the hood.
3. With drive end of broom (#11) on the right side, roll broom under the hood.
4. Rotate broom hood (#14) down until broom (#11) aligns with bearing assembly (#12).
5. Attach bearing assembly (#12) to the right-hand side panel with whiz nuts (#13). Tighten whiz nuts to the correct torque for a 1/2"-13 GR5 bolts.
6. Attach drive assembly (#10) to the left-hand side panel with whiz nuts (#9). Tighten whiz nuts to the correct torque for a 1/2"-13 GR5 bolts.
7. If broom wafers have been replaced with new wafers, continue with step 8 below. If broom wafers were not replaced, skip to step 13.
8. Using the hoist, rotate broom hood (#14) up until broom (#11) is off the floor.
9. Remove hairpin cotter (#15) and bent pin (#16).
10. Slide adjustment pin (#17) down until its top pin hole aligns with the adjustment pin mounting hole.
11. Insert bent pin (#16) and secure it with hairpin cotter (#15).
12. Repeat steps 9-11 on the right-hand side of the broom.
13. Lower broom hood (#14) until adjustment pins (#17) are resting on the broom head stop (#18).
14. Remove hoist chains from broom hood (#14).
15. Continue with **"Rubber Dust Deflector Installation"** on page 35.



Dust Deflector
Figure 5-6

Rubber Dust Deflector Installation

Refer to Figure 5-6:

1. Attach new dust deflector (#4) to the front of the broom hood with front straps (#5), bolts (#1), flat washers (#2), and whiz nuts (#3). Draw nuts up snug, do not tighten at this time.
2. Wrap dust deflector (#4) around the end panels on the broom hood with end straps (#6), bolts (#1), flat washers (#2), and whiz nuts (#3).
3. Tighten whiz nuts (#3) to the correct torque for 5/16"-18 GR5 bolts.
4. Raise Hopper Broom up a few inches (centimeters) and back skid steer up until support blocks are out from under the Hopper Broom.
5. Shut skid steer down before dismounting. Follow "Skid Steer Shutdown Procedure" on page 13.

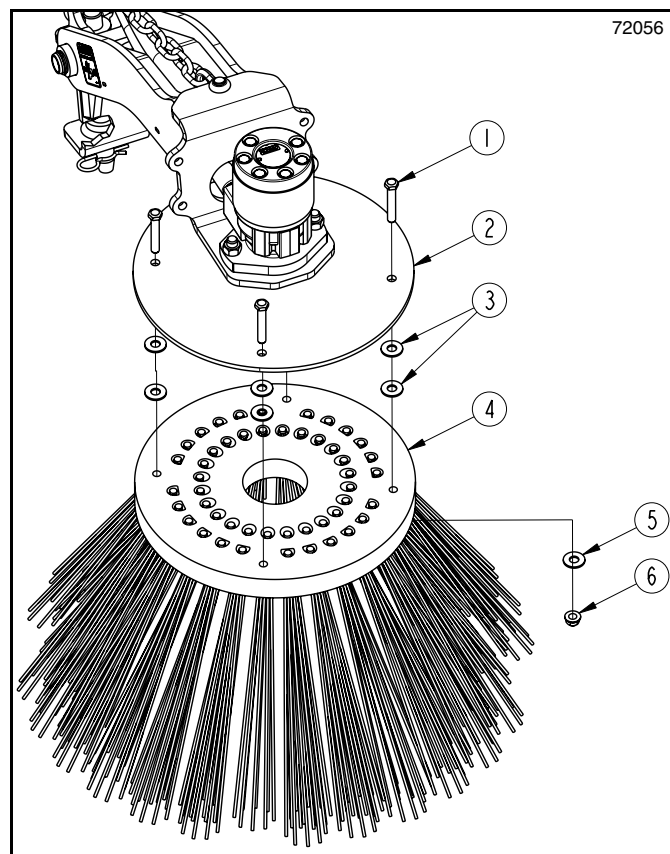
Gutter Broom Replacement

Refer to Figure 5-7:

| Part No. | Description |
|----------|--------------|
| 891-822C | Gutter Broom |

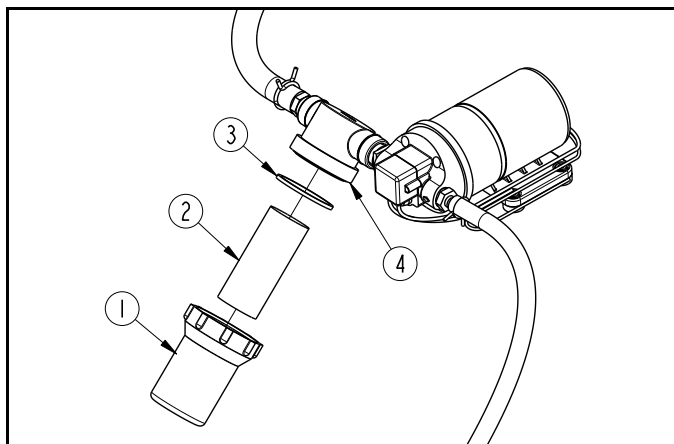
Replace gutter broom (#4) if it cannot be adjusted to do a satisfactory job of cleaning.

1. Shut skid steer down before dismounting. Refer to "Skid Steer Shutdown Procedure" on page 13.
2. Remove hex flange lock nuts (#6), flat washer (#5), gutter broom (#4), and flat washers (#3).
3. Attach new gutter broom to gutter broom mount (#2) with 3/8"-16 x2 1/4" GR5 bolts (#1), flat washers (#3), gutter broom (#4), flat washers (#5), and flange locknuts (#6) in the order shown.

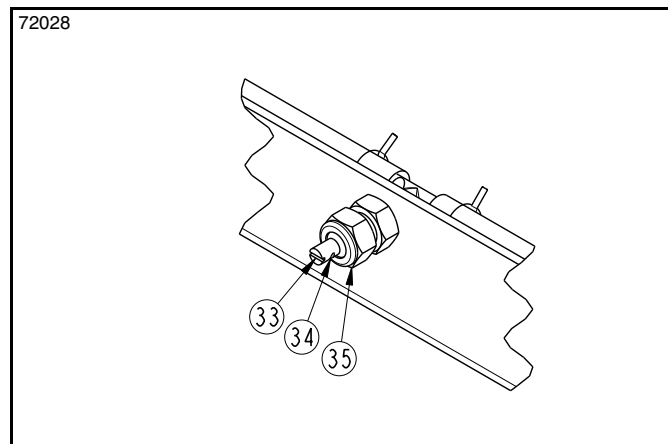


Gutter Broom Maintenance
Figure 5-7

4. Tighten locknuts to the correct torque.
5. Adjust gutter broom height. Refer to "Gutter Broom Height Adjustment" on page 29.



Water Filter Maintenance
Figure 5-8



Spray Nozzle Adjustment
Figure 5-9

Water Filter Maintenance

Refer to Figure 5-8:

The water filter contains a wire mesh screen (#2) that can become plugged with debris or damaged. Check the screen frequently for debris collecting on the screen or immediately if there is a noticeable drop in water pressure at the spray nozzles.

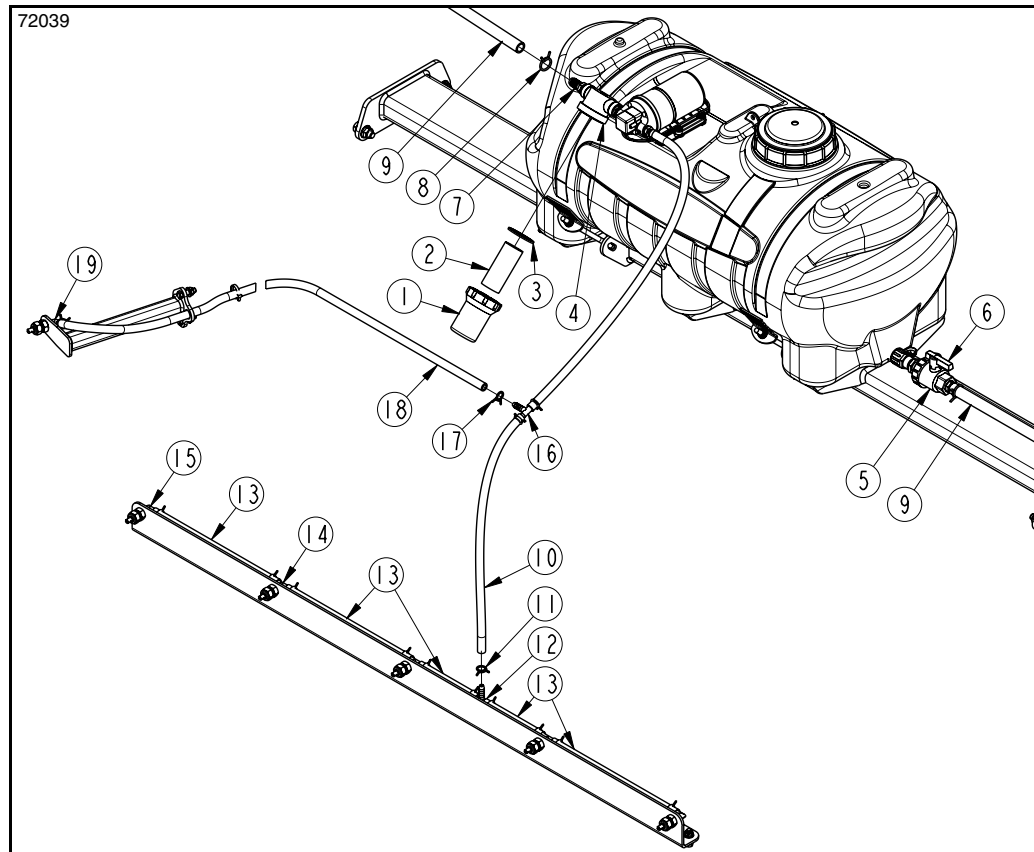
1. Shut skid steer down before dismounting. Refer to “**Skid Steer Shutdown Procedure**” on page 13.
1. Unscrew filter bowl (#1) counterclockwise when viewed from the bottom.
2. Remove filter bowl (#1) and wire mesh screen (#2). Be careful not to lose rubber o-ring (#3) from the filter head (#4).
3. Remove wire mesh screen (#2) from the bowl (#1).
4. Dump any water accumulated in filter bowl (#1).
5. Wipe off any debris accumulated on the screen (#2) and replace screen back in the filter bowl (#1).
6. Inspect wire mesh screen (#2) for tears and holes in the mesh. Dirt particles passing through tears and enlarged holes in the screen can plug spray nozzles. Replace wire mesh screen if it is damaged.
7. Check rubber o-ring (#3) for cracks, breakage, tears, and hardness. Replace o-ring if it is damaged or has become hard and won't seal properly.
8. Insert wire mesh screen (#2) in filter bowl (#1).
9. If rubber o-ring (#3) has been removed, insert it or a new one in the groove in the filter head (#4).
10. With wire mesh screen (#2) in the filter bowl, insert screen into the filter head (#4) and screw bowl (#1) onto the filter head until snug against o-ring (#3).
11. Hand tighten filter bowl another 3/4 of a turn.

Spray Nozzle Maintenance

Refer to Figure 5-9:

The spray nozzles can become plugged with debris. A drop in water pressure or uneven spray mist will be noticed when the nozzle is plugged. Clean spray nozzles as needed.

1. Shut skid steer down before dismounting. Refer to “**Skid Steer Shutdown Procedure**” on page 13.
2. Remove nozzle retaining cap (#35) and spray nozzle (#33).
3. Clean orifice opening with a thin wire that is smaller than the hole in the nozzle or blow compressed air through the orifice to dislodge any dirt particles.
4. Replace nozzle (#33) and retaining cap (#35). Screw cap on until snug. Do not tighten at this time.
5. With a screwdriver, rotate slot in nozzle (#33) until V-notch (#34) is pointing down and slot in the nozzle is horizontal.
6. Tighten nozzle retaining cap (#35).



Winterize Spray System
Figure 5-10

Winterize Hopper Broom

Refer to Figure 5-10:

The spray system should be drained of water if temperatures are going to drop below freezing.

1. Select an acceptable area to drain water from the tank. Have compressed air available if needed.
2. Close ball valve (#5) with lever (#6) by turning the lever perpendicular to water line (#9).
3. Separate hose (#9) from barbed adapter (#7).
4. Place end of hose (#9) in a collection container and open ball valve (#5) with lever (#6) to drain the water tank.
5. Unscrew filter bowl (#1) and dump all excess water from the bowl.
6. **Refer to Water Filter Maintenance on page 36:** Inspect rubber o-ring (#3) and screen (#2). Replace o-ring and/or screen as needed.
7. Insert wire mesh screen (#2) in filter bowl (#1) and screw bowl onto filter head (#4) until snug.
8. Hand tighten filter bowl (#1) another 3/4 of a turn.
9. Inspect hoses (#10 & #13), tees (#14), and elbows (#15) for water. If needed, separate hose (#10) from tee (#12).
10. Allow water to drain from hose (#10) and blow pressurized air through tee (#12) until all water is removed from the hoses and fittings.
11. Inspect gutter broom hose (#18) and elbow (#19) for water. If needed, separate hose (#18) from tee (#16) and blow pressurized air through the hose until all water is removed.
12. Keep dirt and insects out of the spray system:
 - a. Reattach hose (#18) to tee (#16) with hose clamp (#17).
 - b. Reattach hose (#10) to tee (#12) with hose clamp (#11).
 - c. Reattach hose (#9) to adapter (#7) with hose clamp (#8).

Long-Term Storage

Clean, inspect, service, and make necessary repairs to the attachment when storing it for long periods and at the end of the season. This will help ensure the unit is ready for field use the next time you hook-up to it.

DANGER

To avoid serious injury or death:

- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to the hydraulics is off.

WARNING

To avoid serious injury or death:

- Do not alter attachment or replace parts on the attachment with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the attachment. Replace parts only with genuine OEM parts.






1. Clean off any dirt and grease that may have accumulated on the Hopper Broom and moving parts. Scrape off compacted dirt and then wash surface thoroughly with a garden hose.
2. Drain the spray system of water if storing the Hopper Broom for the winter. Refer to “**Winterize Hopper Broom**” on page 37.
3. Check dust skirt, broom, gutter broom, and cutting edge for wear and replace as needed.
4. Inspect for loose, damaged or worn parts and adjust or replace as needed.
5. Repaint parts where paint is worn or scratched to prevent rust. Ask your Kubota dealer for touch-up paint. Paint is available in aerosol can, quarts, and gallon sizes. See chart below.

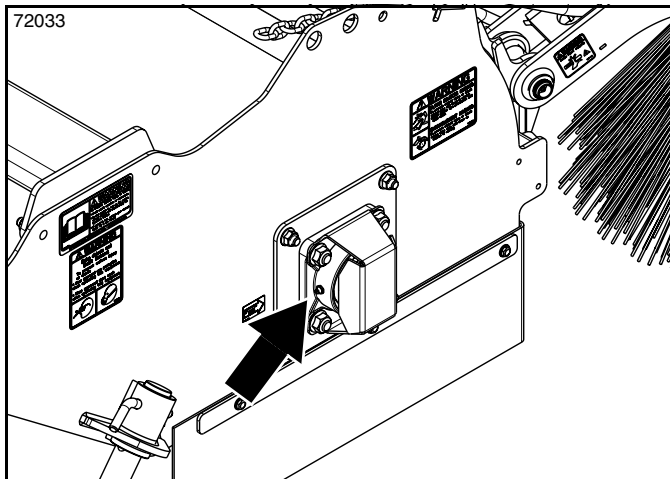
6. Replace all damaged or missing decals.
7. A coating of oil may also be applied to the lower cutting edge area to minimize oxidation while in storage.
8. To protect against seizing, lubricate moving parts as noted in “**Lubrication Points**” on page 39.
9. Store Hopper Broom on a level surface in a clean, dry place. Inside storage will reduce maintenance and make for a longer life.
10. Follow all unhooking instructions on page 13 when disconnecting the skid steer from the Hopper Broom.



Touch-Up Paint

| Part No. | Part Description |
|------------|------------------------------|
| 821-070C | Gloss black enamel spray can |
| 821-070CTU | Gloss black enamel bottle |
| 821-070CQT | Gloss black enamel quart |
| 821-070CGL | Gloss black enamel gallon |

Lubrication Points

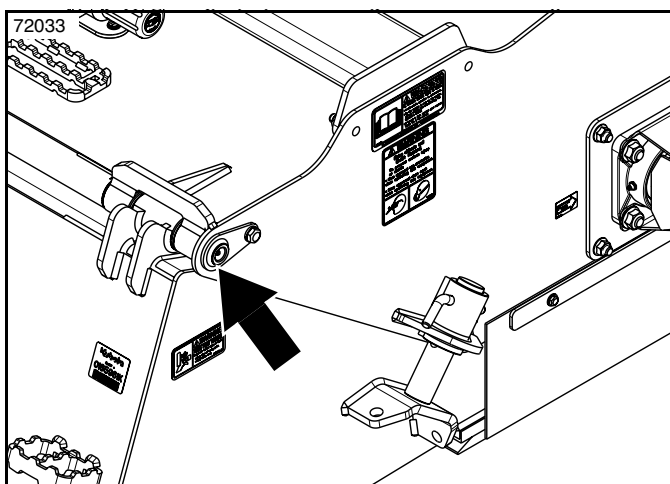
| | | | | | |
|---------------------------|--|---|---|---|---|
| Lubrication Legend |  Multi-purpose spray lube |  Multi-purpose grease lube |  Multi-purpose oil lube |  50 Hrs | Intervals in hours at which lubrication is required |
| | | | |  10 Hours | |





| | |
|---|---|
|  |  10 Hours |
|---|---|

Broom End Bearing

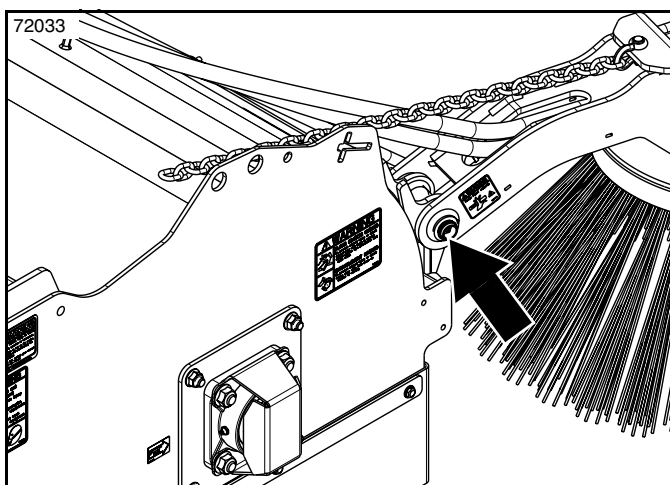
1 - Zerk (On left-hand side of the broom hood)
 Type of Lubrication: Multi-Purpose Grease





| | |
|--|--|
|  |  25 Hours |
|--|--|

Broom Hood Pivot Pins

2- Zerks (One on each side)
 Type of Lubrication: Multi-Purpose Grease
 Quantity: Add grease until grease begins to emerge.



| | |
|---|---|
|  |  25 Hours |
|---|---|

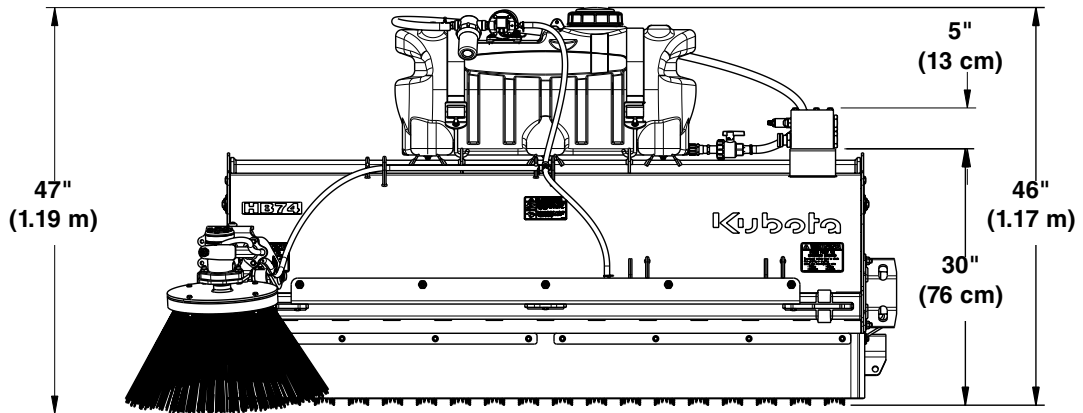
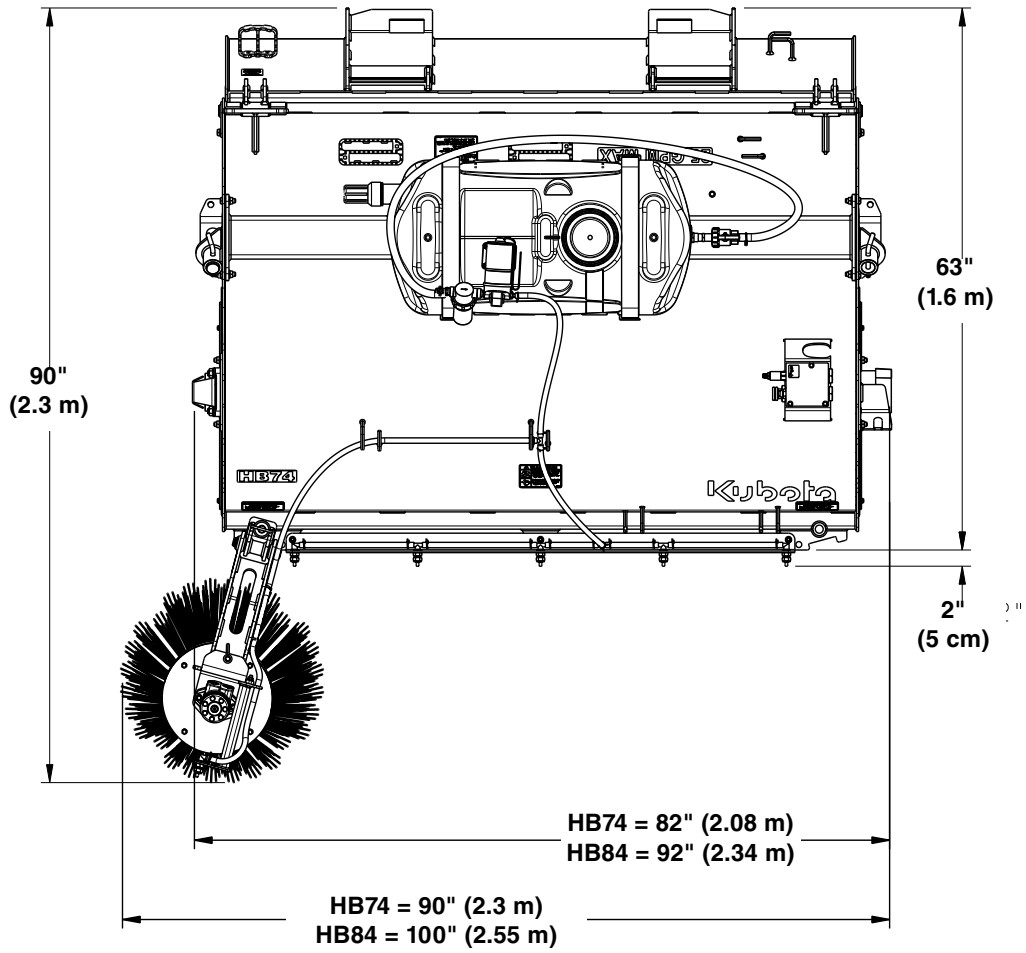
Gutter Broom Pivot Pin

1- Zerk (At the base of the gutter broom)
 Type of Lubrication: Multi-Purpose Grease
 Quantity: Add grease until grease begins to emerge.

HB74 & HB84 Hopper Brooms

| Specifications & Capacities | | |
|--|---|----------------------------------|
| Model Number | HB74 | HB84 |
| Hitch | Skid steer quick attach, meets ISO 24410 | |
| Weight of base unit without broom | 1030 lbs (467 kg) | 1118 lbs (507 kg) |
| Broom weights | | |
| Poly broom | 222 lbs (101 kg) | 251 lbs (114 kg) |
| Wire broom | 222 lbs (101 kg) | 251 lbs (114 kg) |
| Combination broom | 222 lbs (101 kg) | 251 lbs (114 kg) |
| Optional weights | | |
| Gutter broom | 101 lbs (46 kg) | 101 lbs (46 kg) |
| Dust suppression | 194 lbs (88 kg) | 206 lbs (93 kg) |
| Dust suppression (Main & gutter broom) | 197 lbs (89 kg) | 210 lbs (95 kg) |
| Overall width | 82" (2.08 m) | 92" (2.34 m) |
| Overall height | 46" (1.17 m) | 46" (1.17 m) |
| Wafers | | |
| Poly broom | 36 Poly wafers | 41 Poly wafers |
| Wire broom | 36 Wire wafers | 41 Wire wafers |
| Combination broom | 18 Poly & 18 wire wafers | 21 Poly & 20 wire wafers |
| Sweeping width | 74" (1.88 m) | 84" (2.13 m) |
| Sweeping width with gutter broom | 86" (2.18 m) | 96" (2.44 m) |
| Broom diameter | 26" (66 cm) | |
| Broom rotor shaft | | |
| Without gutter broom | Quick change broom core with no hydraulic hose disconnect in changeover. | |
| With gutter broom | Quick change broom core with return to sump hydraulic hose disconnect only. | |
| Square drive system | Replaceable | |
| Broom bristle type | 100% Poly, 100% wire, or 50% poly and 50% wire | |
| Hydraulic gpm range | 12-25 gpm (45-95 Lpm) | |
| Minimum hydraulic flow required | 12 gpm (45 Lpm) @ 2000 psi (13.8 mPa) | |
| Maximum hydraulic pressure rating | 3500 psi (24.1 mPa) | |
| Broom speed range | 100 - 230 rpm | |
| Hydraulic rotor drive motor | Single motor drive standard | |
| Hydraulic hoses | Standard | |
| Hydraulic couplers | Standard flat faced couplers | |
| Bucket shell thickness | 3/16" | |
| Bolt-on cutting edge | Standard 5/8"x 8" | |
| Broom hood thickness | 12 ga sheet metal | |
| Optional water tank capacity | 25 gal (95 L) | |
| Bucket capacity, struck | 16.1 cu ft (0.46 m ³) | 18.3 cu ft (0.52m ³) |

72059



HB74 & HB84 Hopper Brooms

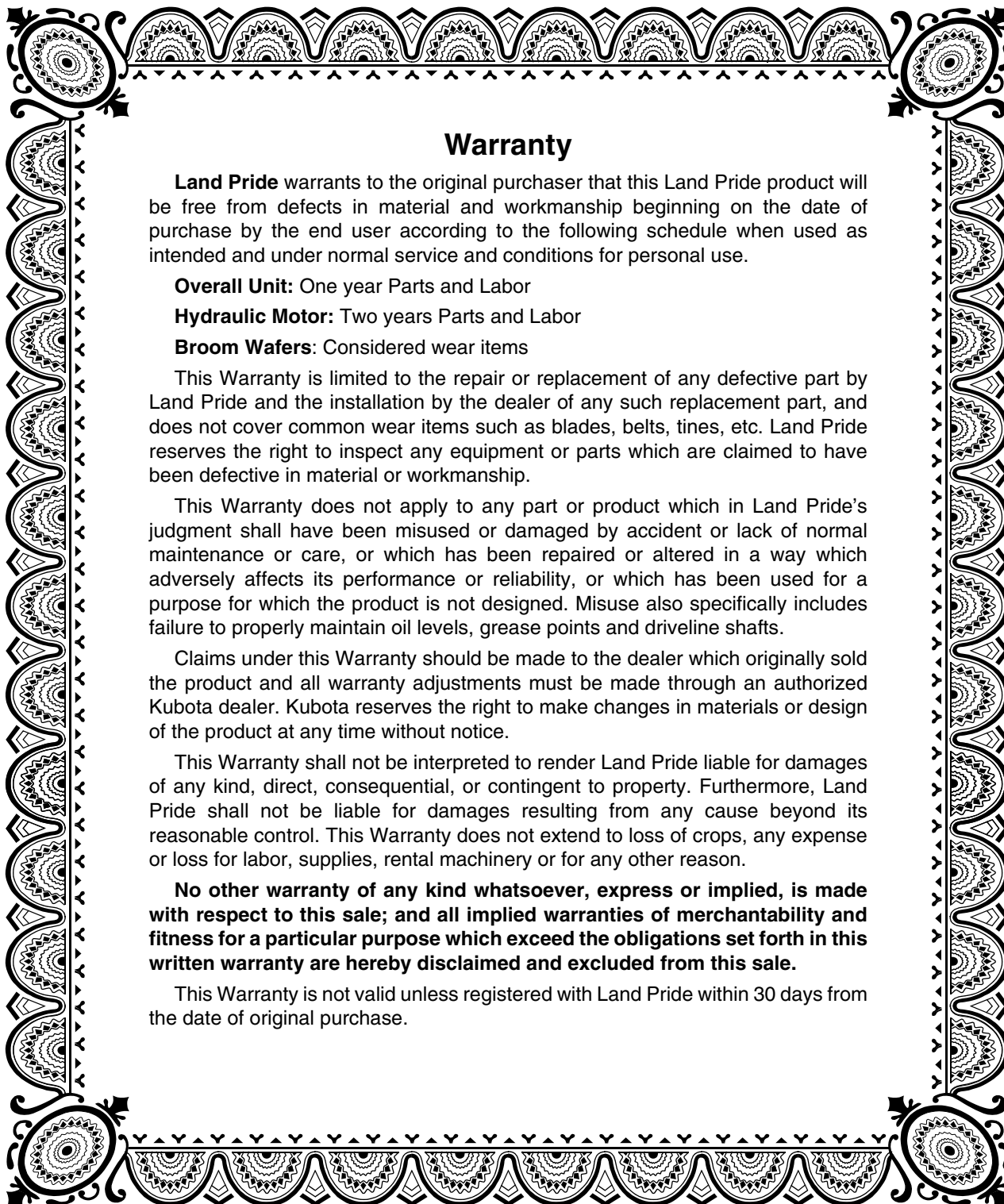
| Features | Benefits |
|--|--|
| Available in 74" (1.88m) and 84" (2.13 m) working widths | Provides for excellent productivity and ideal sizes for most skid steers and compact utility tractors. |
| Connect under pressure hydraulic couplers | Coupler are easier to connect and disconnect under pressure. |
| Direct drive motor | Improves efficiency. |
| Forward and rearward travel | Broom can operate while traveling forward or backward. Gutter broom must be shut off when operating backward. |
| 26" (66 cm) Bristle diameter | Provides for long service life. |
| Choice of poly, wire, or combination poly/wire bristles | Allows owner/operators to meet operational needs. Poly/wire combinations provide more wear life and more aggressive sweeping action. |
| Easily removable brush drive | Allows for quick and easy change out of wafers. If included, only case drain hydraulic line must be disconnected. |
| Adjustable broom hood | Broom hood can be adjusted down as the bristles wear to extend the life of the broom. |
| Reversible & replaceable cutting edge | Increases cutting edge life and can be replaced when worn out. |
| Compatible with 12- 25 gpm (45-95 lpm) hydraulic flow | Allows attachment to a wide range of skid steers. |
| Up to 230 rpm brush rotation | Provides for good sweeping action and material control. |
| Rubber dust deflector flap | Helps keep dust levels under control and down and under the broom hood and out of the operators field of vision. |
| Optional gutter broom | Makes it easier to clean curbs and along side buildings. Adds 12" (30.5 cm) to the cleaning width. |
| Optional dust suppression kits | Wets the dust before sweeping it to help keep airborne dust down to a minimum. |

Troubleshooting Chart

| Problem | Cause | Solution |
|--|---|--|
| Broom does not rotate | Auxiliary hydraulics switch for continuous operation is not engaged. | Engage auxiliary hydraulics switch for continuous operation. |
| | One or both of the hydraulic couplers are not fully connected. | Reconnect couplers to front auxiliary hydraulics outlets. |
| | Male and female hydraulic couplers are connected in reverse order. | Switch male and female couplers on hydraulic hoses and then reconnect hoses to auxiliary hydraulic outlets. |
| Broom bristles are wearing down too quick | The top of the hitch plate is tilted too far forward causing too much broom pressure against the ground and a sweeping pattern wider than 4" (10 cm). | Tilt top of hitch plate to set bucket cutting edge 1/2" to 1" (13 mm to 25 mm) off the ground. Fine adjust hitch plate tilt to set the broom at the correct height to create a 2" to 4" (5 cm to 10 cm) wide sweeping pattern. |
| | Broom head height adjustment is set too low causing too much broom pressure against the ground. | Readjust broom head height adjustment pins. Refer to " Broom Height Adjustment " on page 27. |
| Broom is not doing an effective job of cleaning | Broom bristles are 4" (10 cm) or shorter in length. | Replace wafers on broom rotary drum. See " Broom Removal " on page 31. |
| | Broom rpm too low. | Reduce travel speed and increase engine rpm to increase hydraulic flow. |
| | Hydraulic flow is restricted with foreign material. | Purge hydraulics to remove foreign material. Have a qualified technician service the hydraulic system. |
| Gutter broom kicks up too much dirt. | Gutter broom is rotating too fast. | Decrease gutter broom speed by adjusting the variable speed valve. Refer to " Gutter Broom Speed " on page 29. |
| Gutter broom does not clean the surface properly | Gutter broom is rotating too slow. | Increase gutter broom speed by adjusting the variable speed valve. Refer to " Gutter Broom Speed " on page 29. |
| | Gutter broom is not making proper contact with the ground surface. | Adjust gutter broom height. See " Broom Height Adjustment " on page 27. |
| Gutter broom throws the dirt away from the broom hood | Gutter broom hydraulic hoses are connected to the wrong ports at the control valve. | Switch hydraulic hoses at control valve ports M3 & M4. |
| Spray nozzle discharges water inconsistently | The spray nozzle is plugged or partially plugged with dirt. | Remove plugged nozzle and clean it with a wire smaller than the nozzle hole. |
| | | Source water is dirty. Use clean water to fill the water tank. |
| | | Check water filter for cracks, tears, or holes. Replace filter if damaged. |
| | | Check for dirty water lines. Clean or replace dirty lines. Keep clean lines sealed to prevent dirt entrance. |
| Water spray pressure is low | Nozzles are partly plugged with dirt. | Remove plugged nozzle and clean it with a wire smaller than the nozzle hole. |
| | Water filter is plugged with dirt. | Clean water filter. |
| | Water tank is low on water. | Fill water tank. |
| Spray nozzle does not discharge water | Ball valve at the tank is turned off. | Turn on ball valve. |
| | Water tank is empty. | Fill water tank. |
| | Water line is plugged or pinched. | Clean or replace a plugged water line. Replace pinched water line. |

| Torque Values Chart for Common Bolt Sizes | | | | | | | | | | | | | |
|---|--------------------------|--------------------|---------|-------|---------|-------|--|--------------------------|-------|-----------|-------|------------|-------|
| Bolt Size (inches) | Bolt Head Identification | | | | | | Bolt Size (Metric) | Bolt Head Identification | | | | | |
| | Grade 2 | | Grade 5 | | Grade 8 | | | Class 5.8 | | Class 8.8 | | Class 10.9 | |
| in-tpi ¹ | N·m ² | ft-lb ³ | N·m | ft-lb | N·m | ft-lb | mm x pitch ⁴ | N·m | ft-lb | N·m | ft-lb | N·m | ft-lb |
| 1/4" - 20 | 7.4 | 5.6 | 11 | 8 | 16 | 12 | M 5 X 0.8 | 4 | 3 | 6 | 5 | 9 | 7 |
| 1/4" - 28 | 8.5 | 6 | 13 | 10 | 18 | 14 | M 6 X 1 | 7 | 5 | 11 | 8 | 15 | 11 |
| 5/16" - 18 | 15 | 11 | 24 | 17 | 33 | 25 | M 8 X 1.25 | 17 | 12 | 26 | 19 | 36 | 27 |
| 5/16" - 24 | 17 | 13 | 26 | 19 | 37 | 27 | M 8 X 1 | 18 | 13 | 28 | 21 | 39 | 29 |
| 3/8" - 16 | 27 | 20 | 42 | 31 | 59 | 44 | M10 X 1.5 | 33 | 24 | 52 | 38 | 72 | 53 |
| 3/8" - 24 | 31 | 22 | 47 | 35 | 67 | 49 | M10 X 1.25 | 35 | 26 | 53 | 39 | 76 | 56 |
| 7/16" - 14 | 43 | 32 | 67 | 49 | 95 | 70 | M12 X 1.75 | 58 | 42 | 91 | 67 | 125 | 93 |
| 7/16" - 20 | 49 | 36 | 75 | 55 | 105 | 78 | M12 X 1.5 | 60 | 44 | 95 | 70 | 130 | 97 |
| 1/2" - 13 | 66 | 49 | 105 | 76 | 145 | 105 | M12 X 1 | 90 | 66 | 105 | 77 | 145 | 105 |
| 1/2" - 20 | 75 | 55 | 115 | 85 | 165 | 120 | M14 X 2 | 92 | 68 | 145 | 105 | 200 | 150 |
| 9/16" - 12 | 95 | 70 | 150 | 110 | 210 | 155 | M14 X 1.5 | 99 | 73 | 155 | 115 | 215 | 160 |
| 9/16" - 18 | 105 | 79 | 165 | 120 | 235 | 170 | M16 X 2 | 145 | 105 | 225 | 165 | 315 | 230 |
| 5/8" - 11 | 130 | 97 | 205 | 150 | 285 | 210 | M16 X 1.5 | 155 | 115 | 240 | 180 | 335 | 245 |
| 5/8" - 18 | 150 | 110 | 230 | 170 | 325 | 240 | M18 X 2.5 | 195 | 145 | 310 | 230 | 405 | 300 |
| 3/4" - 10 | 235 | 170 | 360 | 265 | 510 | 375 | M18 X 1.5 | 220 | 165 | 350 | 260 | 485 | 355 |
| 3/4" - 16 | 260 | 190 | 405 | 295 | 570 | 420 | M20 X 2.5 | 280 | 205 | 440 | 325 | 610 | 450 |
| 7/8" - 9 | 225 | 165 | 585 | 430 | 820 | 605 | M20 X 1.5 | 310 | 230 | 650 | 480 | 900 | 665 |
| 7/8" - 14 | 250 | 185 | 640 | 475 | 905 | 670 | M24 X 3 | 480 | 355 | 760 | 560 | 1050 | 780 |
| 1" - 8 | 340 | 250 | 875 | 645 | 1230 | 910 | M24 X 2 | 525 | 390 | 830 | 610 | 1150 | 845 |
| 1" - 12 | 370 | 275 | 955 | 705 | 1350 | 995 | M30 X 3.5 | 960 | 705 | 1510 | 1120 | 2100 | 1550 |
| 1-1/8" - 7 | 480 | 355 | 1080 | 795 | 1750 | 1290 | M30 X 2 | 1060 | 785 | 1680 | 1240 | 2320 | 1710 |
| 1-1/8" - 12 | 540 | 395 | 1210 | 890 | 1960 | 1440 | M36 X 3.5 | 1730 | 1270 | 2650 | 1950 | 3660 | 2700 |
| 1-1/4" - 7 | 680 | 500 | 1520 | 1120 | 2460 | 1820 | M36 X 2 | 1880 | 1380 | 2960 | 2190 | 4100 | 3220 |
| 1-1/4" - 12 | 750 | 555 | 1680 | 1240 | 2730 | 2010 | ¹ in-tpi = nominal thread diameter in inches-threads per inch ² N·m = newton-meters ³ ft-lb= foot pounds ⁴ mm x pitch = nominal thread diameter in millimeters x thread pitch | | | | | | |
| 1-3/8" - 6 | 890 | 655 | 1990 | 1470 | 3230 | 2380 | | | | | | | |
| 1-3/8" - 12 | 1010 | 745 | 2270 | 1670 | 3680 | 2710 | | | | | | | |
| 1-1/2" - 6 | 1180 | 870 | 2640 | 1950 | 4290 | 3160 | | | | | | | |
| 1-1/2" - 12 | 1330 | 980 | 2970 | 2190 | 4820 | 3560 | | | | | | | |

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.
 All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)



Warranty

Land Pride warrants to the original purchaser that this Land Pride product will be free from defects in material and workmanship beginning on the date of purchase by the end user according to the following schedule when used as intended and under normal service and conditions for personal use.

Overall Unit: One year Parts and Labor

Hydraulic Motor: Two years Parts and Labor

Broom Wafers: Considered wear items

This Warranty is limited to the repair or replacement of any defective part by Land Pride and the installation by the dealer of any such replacement part, and does not cover common wear items such as blades, belts, tines, etc. Land Pride reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Land Pride's judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. Misuse also specifically includes failure to properly maintain oil levels, grease points and driveline shafts.

Claims under this Warranty should be made to the dealer which originally sold the product and all warranty adjustments must be made through an authorized Kubota dealer. Kubota reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Land Pride liable for damages of any kind, direct, consequential, or contingent to property. Furthermore, Land Pride shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

This Warranty is not valid unless registered with Land Pride within 30 days from the date of original purchase.

IMPORTANT: The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

Model Number _____

Serial Number _____

Legal Disclaimer

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