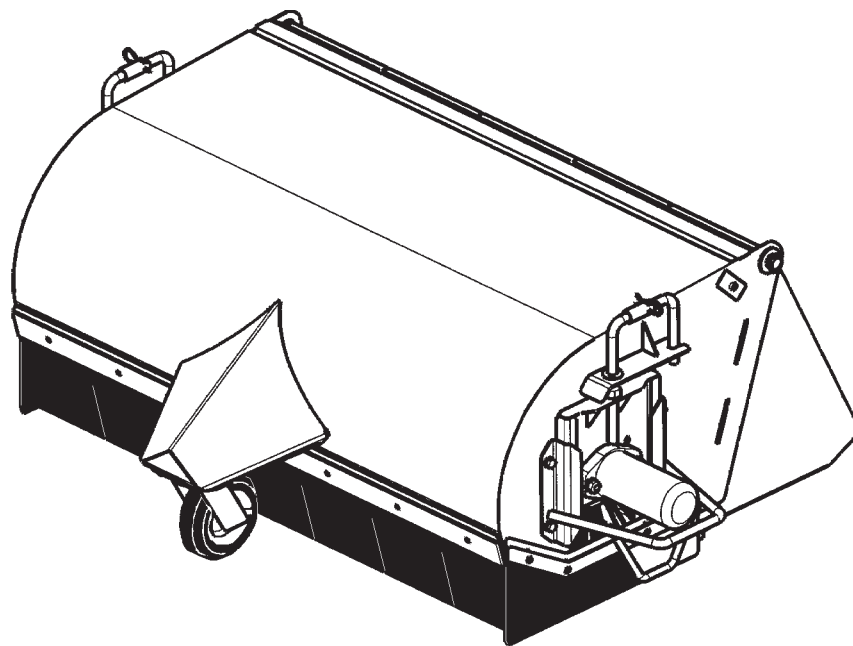




OPERATOR'S AND PARTS MANUAL

BB42 BUCKET SWEEPER



SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: OM686
Part Number: 75586
Rev.

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TO THE OWNER

GENERAL COMMENTS

Congratulations on the purchase of your new Bradco Sweeper. Your sweeper was carefully designed and manufactured to give you many years of dependable service. Your sweeper will require some minor cleaning maintenance to keep it in top working condition. Be sure to observe all safety precautions described in this manual.

ABOUT THIS MANUAL

This manual has been designed to help you do a better, safer job. Read this manual carefully and become familiar with its contents. Remember, never let anyone operate the sweeper without reading the "Safety Precautions" and "Operating Instructions" sections of this manual.

Unless noted otherwise, "right-hand" and "left-hand" sides are determined from the position of the operator sitting in the operator's seat facing forward.

SAFETY ALERT SYMBOL



This is the "Safety Alert Symbol" used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

SERVICE

When servicing your sweeper, remember to use only manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, record the serial number and model number of your sweeper in the space provided on this page.

MODEL: _____ **SERIAL NUMBER:**

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SAFETY PRECAUTIONS

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS:

ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED!

SIGNAL WORDS: Note the use of signal words DANGER, WARNING, and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation, which if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, **typically for machine components which, for functional purposes, cannot be guarded.**

WARNING: Indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury, and **includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.**

CAUTION: Indicates a potentially hazardous situation, which if not avoided, **may result in minor or moderate injury. It may also be used to alert against unsafe practices.**

SAFETY PRECAUTIONS

ROTARY BROOM

GENERAL INFORMATION

This section is composed of various warnings and safety tips. **Read and learn all the information in this section before you attempt to use your broom.** Also read your vehicle owner's manual before using your equipment. This knowledge will help you operate your unit safely. **Do not take this information lightly, it is presented for your benefit and for the benefit of others working around you.**

The "Safety Alert Symbol" (as described in Section A and at the beginning of Section B) will be used throughout this manual. It will appear with the word **DANGER**, **WARNING**, or **CAUTION** above it, and a safety message pertaining to the specific topic being covered. Take the time to read these messages as you come across them.

TO THE OPERATOR

The primary responsibility for safety with the equipment falls to the operator. Make sure that the equipment is operated only by responsible individuals with the proper instruction. It is the skill, care, common sense, and good judgement of the operator that will determine how efficiently and safely the job is performed. Know your equipment before you start. Know its capabilities and how to operate all the controls. Visually inspect your equipment before you start and never operate equipment that is not in proper working order.

BEFORE YOU START

1. **Read the entire loader and Rotary Broom operator's manuals** before ever attempting to use the loader. This knowledge is necessary for safe operation.
2. **Follow all safety decals.** Keep them clean and replace them if they become worn, damaged or illegible.
3. **Do not paint over,** remove or deface any safety signs or warning decals on your equipment.
4. **Know your equipment inside and out.** Know how to operate all controls and know emergency shut down procedures.
5. **Keep all stepping surfaces, pedals, and controls free from dirt, grease and oil.** Keep equipment clean to help avoid injury from a fall when getting on or off equipment.
6. **Use handholds and step plates when getting on/off .** Failure to do so could cause a fall.
7. **Be alert to others in the work area.** Be sure others know when and where you will be working. Make sure no one is in front of equipment.
8. **Never take passengers on your equipment.** There is no safe place for a passenger.

SAFETY PRECAUTIONS

ROTARY BROOM

9. **Never try to board equipment while it is moving.**
10. **Turn off engine before performing maintenance.** If lift arms must be left raised for maintenance or any other reason, use a positive lift arm lock to secure the arms in place. Serious damage or personal injury could result from lift arms accidentally lowering.
11. **Reduce speed when driving over rough terrain,** on a slope, or turning to avoid overturning the loader.
12. **Test all controls before you begin.**
13. **Do not smoke when refueling.** Allow room in the gas tank for expansion. Wipe up any spilt fuel. Secure cap tightly when done.

WORKING WITH THE ROTARY BROOM

1. **Never operate the unit without first reading and understanding the operator's manuals.**
2. **Operate the broom only in daylight or sufficient artificial light.**
3. **Do not carry load with arms in the raised position.** Always carry loads close to the ground. Do not step off platform with load raised.
4. **Know where all utility lines are.** Observe overhead electrical and phone lines. Be sure equipment will safely clear them.
5. **Never operate equipment while under the influence** of alcohol, or prescription drugs which could inhibit physical and/or mental capacity.
6. **Slow down before turning.** Sharp turns on any terrain may cause loss of control.
7. **Always lower the loader arms to the ground,** shut off the engine and remove the key before getting off the unit.
7. **Check your work area, for objects that could harm** the operator or others if thrown by the broom. Remove these items before sweeping.

TRANSPORTING THE ROTARY BROOM

1. **Follow all federal, state and local regulations when transporting the unit on public roads.**
2. **Use extra care when loading or unloading the machine onto a trailer or truck.**

MAINTENANCE

1. **Never work on equipment while it is running.**
2. **Never make hydraulic repairs while the system is under pressure.** Injury or death could result.

SAFETY PRECAUTIONS

ROTARY BROOM

3. **Observe proper maintenance schedules** and repairs to keep the unit in safe working order.
4. **Always wear safety goggles or glasses when working on equipment.**
5. **Use a drift and hammer when pressing out pins** to prevent the pin from shattering.
6. **Use only manufacturer recommended replacement parts.** Other parts may be substandard in fit and quality.
7. **Replace all safety shields and guards when finished performing maintenance.** Do not operate the broom with protective equipment removed.

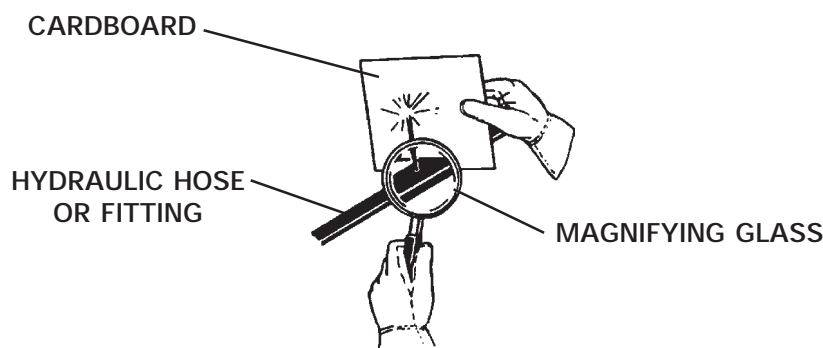
WARNING!



Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research it immediately to determine proper treatment.



INTERNATIONAL SYMBOLS

As a guide to the operation of your equipment, various international symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.



Engine speed



Hours recorded



Engine water temperature



Lights



Horn



Engine oil pressure



Hazard warning



Axle connect



Axle disconnect



Continuously variable



Increase



Decrease



Diesel fuel



Creeper range



High range



Low range



Alternator charge



Power take-off (on)



Power take-off (off)



"Tortoise," slow or minimum setting



"Hare," fast or maximum setting



Caution



Control lever operating direction



Rock shaft (raised)



Rock shaft (lowered)



Remote cylinder (extended)



Remote cylinder (retracted)



Remote cylinder (FLOAT)



Differential lock



Read operators manual



Neutral



Forward



Reverse

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PREOPERATION

BUCKET BROOM

GENERAL INFORMATION

The BRADCO Brooms were designed to be easy to use and maintain. They are operated by the loaders auxiliary hydraulics and mount to the toolbar / quick attach mechanism for easy mounting.

Unless noted otherwise, right and left are determined from the position of the operator facing forward.

Remember to read the "Safety Precautions" and "Operating Instructions" sections of this manual BEFORE you attempt to install or use the bucket broom.

NOTE: The illustrations and data used in this manual were current (according to the information available to us) at the time of printing, however, we reserve the right to redesign and change the brooms as may be necessary without notification.

BEFORE OPERATION

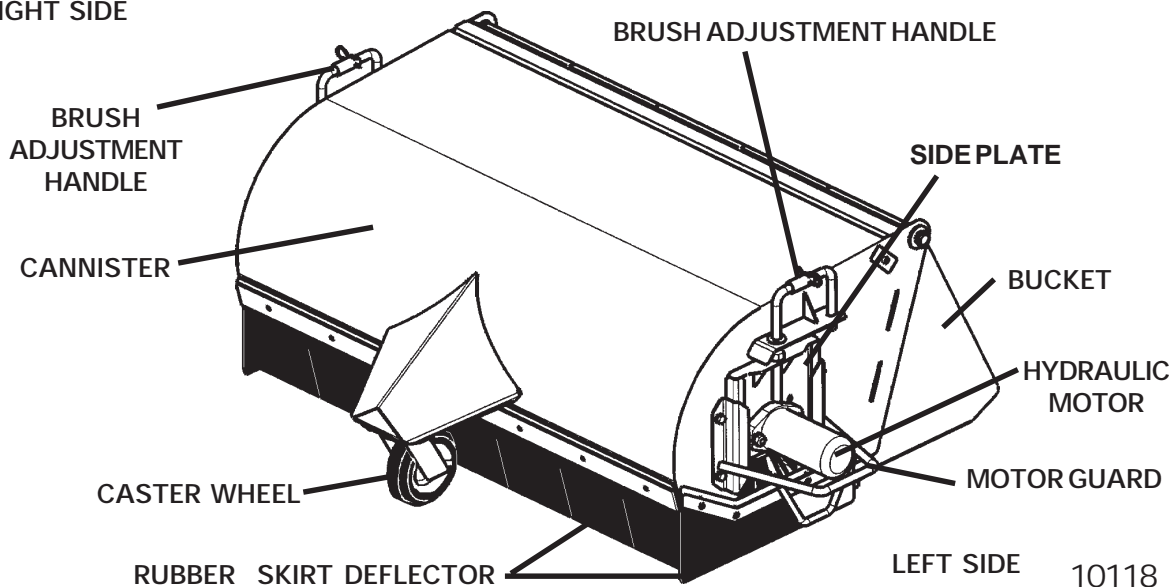
The primary responsibility for safety with this equipment falls to the operator. Make sure that the equipment is operated only by trained individuals that have read and understand this manual. Don't hurry the learning process or take the unit for granted. Practice the operation of your new equipment and become familiar with the controls and the way it handles on your machine.

If there is any portion of this manual or function you do not understand, contact your local authorized dealer or the manufacturer.

NOMENCLATURE

Throughout this manual, reference is made to various broom components. Study the following diagram to acquaint yourself with the various names of these components. This knowledge will be helpful when reading through this manual or when ordering service parts.

RIGHT SIDE



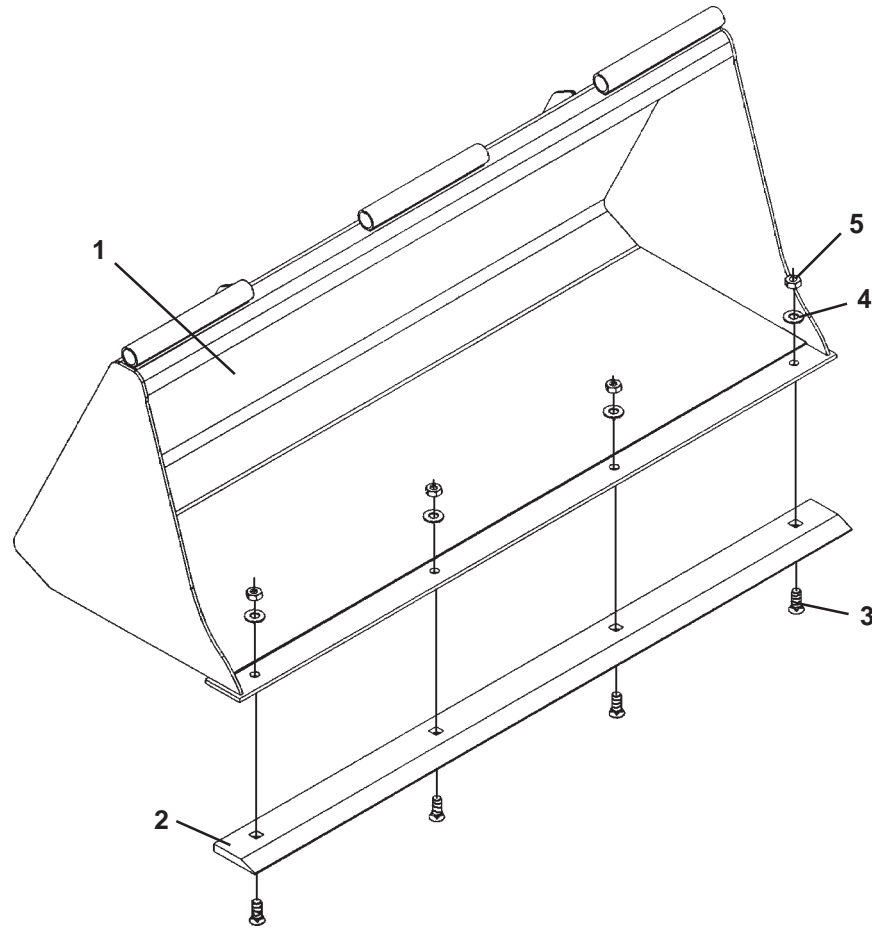
LEFT SIDE

10118

1-11-05

MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY



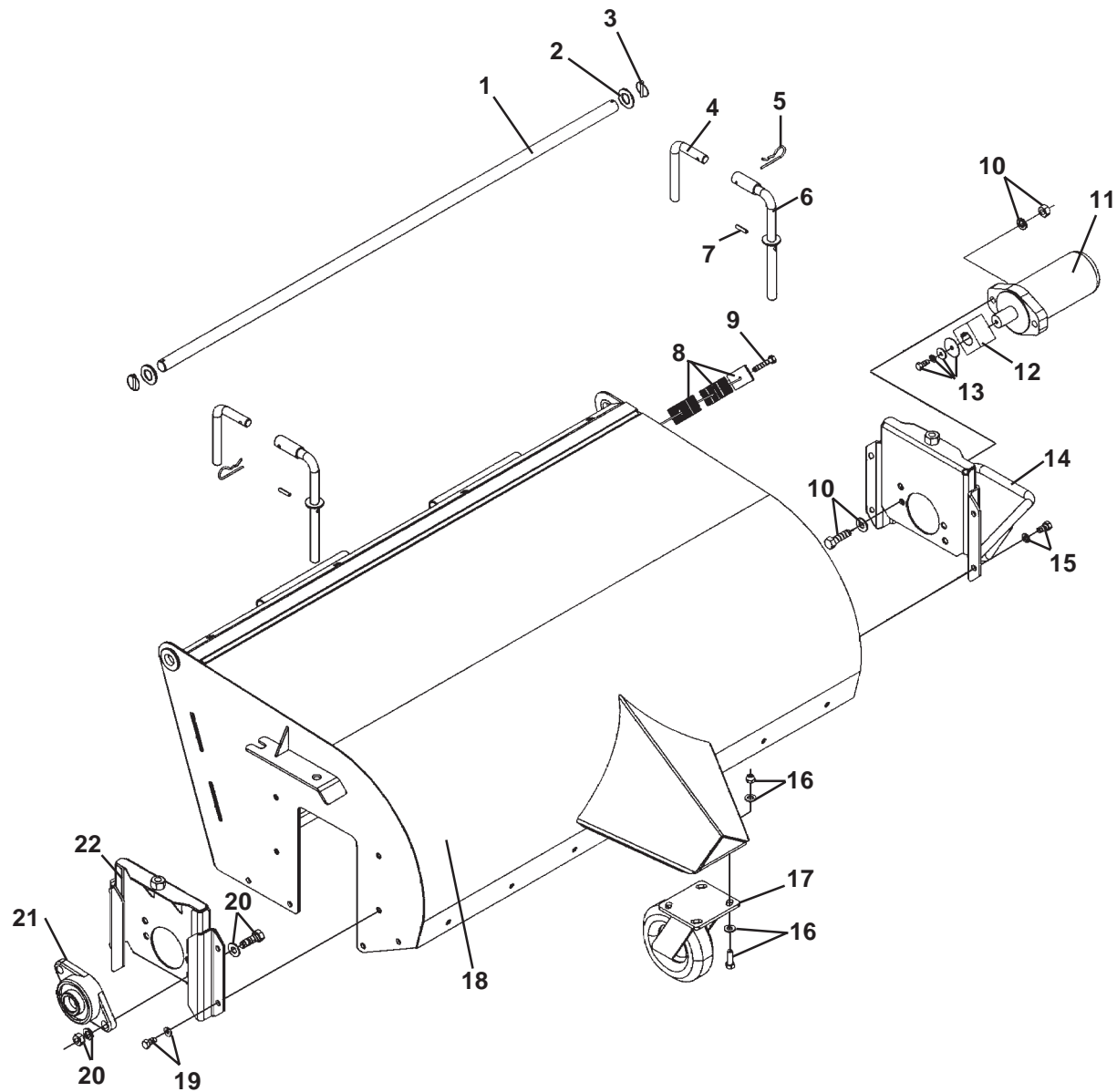
MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	101201	Bucket (No Mount)
2	1	101211	Bolt-On Cutting Edge
3	4	1712	.50" UNC X 1.50" Plow Bolt
4	4	1646	.50" Hard Flat Washer
5	4	1841	.50" UNC Deformed Lock Nut

MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY



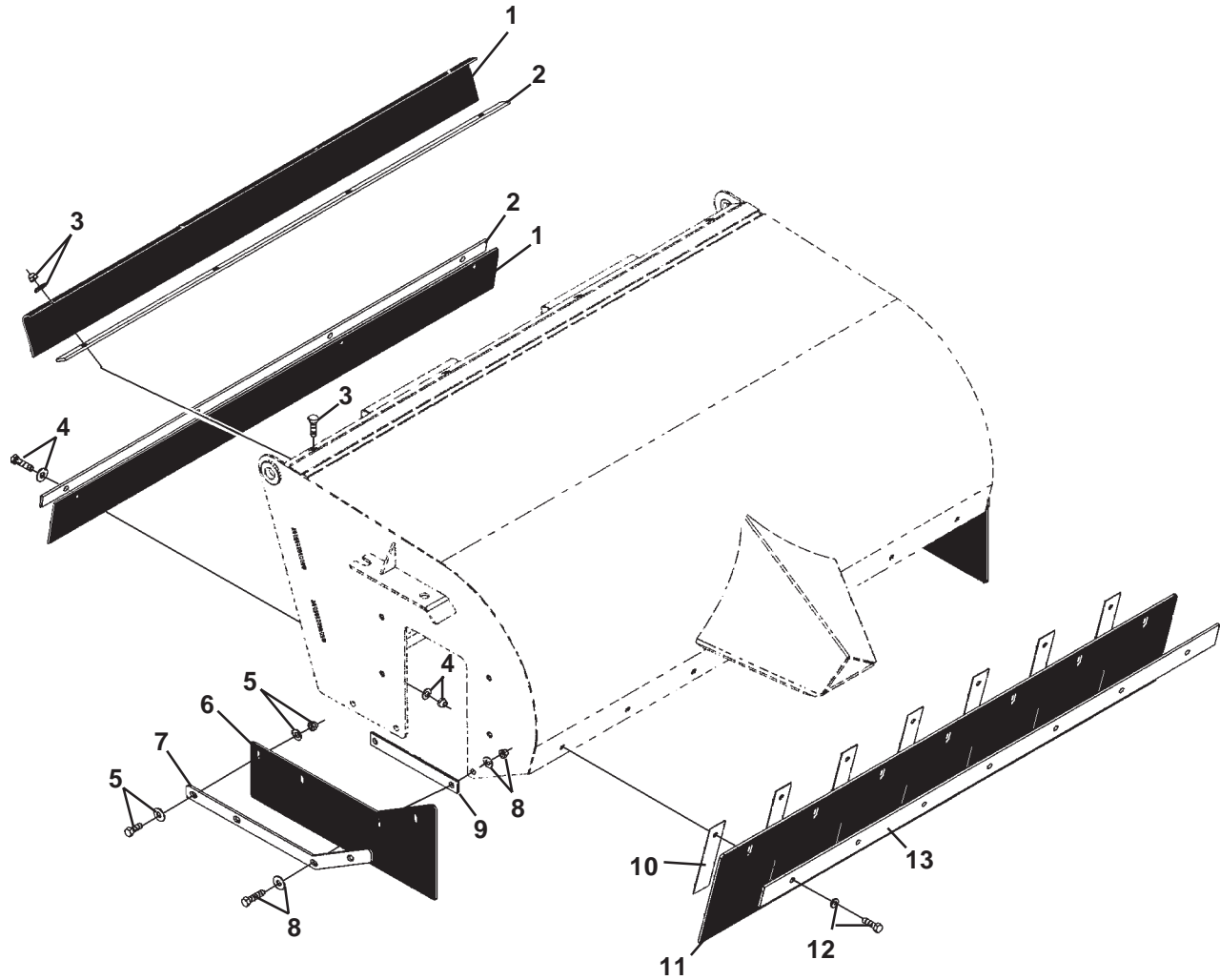
MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	101405	Hinge Pin
2	2	1845	.88" Hard Flat Washer
3	2	21169	Klik Pin
4	2	101406	Pin
5	2	1860	Hair Cotter Pin
6	2	101394	Adjustment Pin
7	2	2001095	Roll Pin
8	1	81358	Hose Clamp
9	1	1025	.31" UNC X 1.75" Hex Capscrew
10	2	1091	.50" UNC X 1.75" Hex Capscrew
	4	1646	.50" Hard Flat Washer
	2	1841	.50" UNC Deformed Lock Nut
11	1	101307	Hydraulic Motor
	2	22552	Straight Adapter 10MBo-8MFS
12	1	11174	2" Square Drive
	1	1999	Set Screw
13	1	1022	.31" UNC X 1.00" Hex Capscrew
	1	1502	.31" Lock Washer
	1	1513	.31" Flat Washer
	1	22298	.31" Fender Washer
14	1	101351	Side Plate
	1	101358	Motor Guard
15	4	1042	.38" UNC X .75" Hex Capscrew
	4	1503	.38" Lock Washer
16	4	1044	.38" UNC X 1.25" Hex Capscrew
	8	1800	.38" Hard Flat Washer
	4	1536	.38" UNC Nylock Nut
17	1	2004426	Caster Wheel Assembly
18	1	101210	Cannister
19	4	1042	.38" UNC X .75" Hex Capscrew
	4	1503	.38" UNC Lock Washer
20	2	1090	.50" UNC X 1.50" Hex Capscrew
	4	1646	.50" Hard Flat Washer
	2	1841	.50" UNC Deformed Lock Nut
21	1	14536	Flange Bearing
22	1	101351	Side Plate
	2	101356	Mounting Bracket

MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY



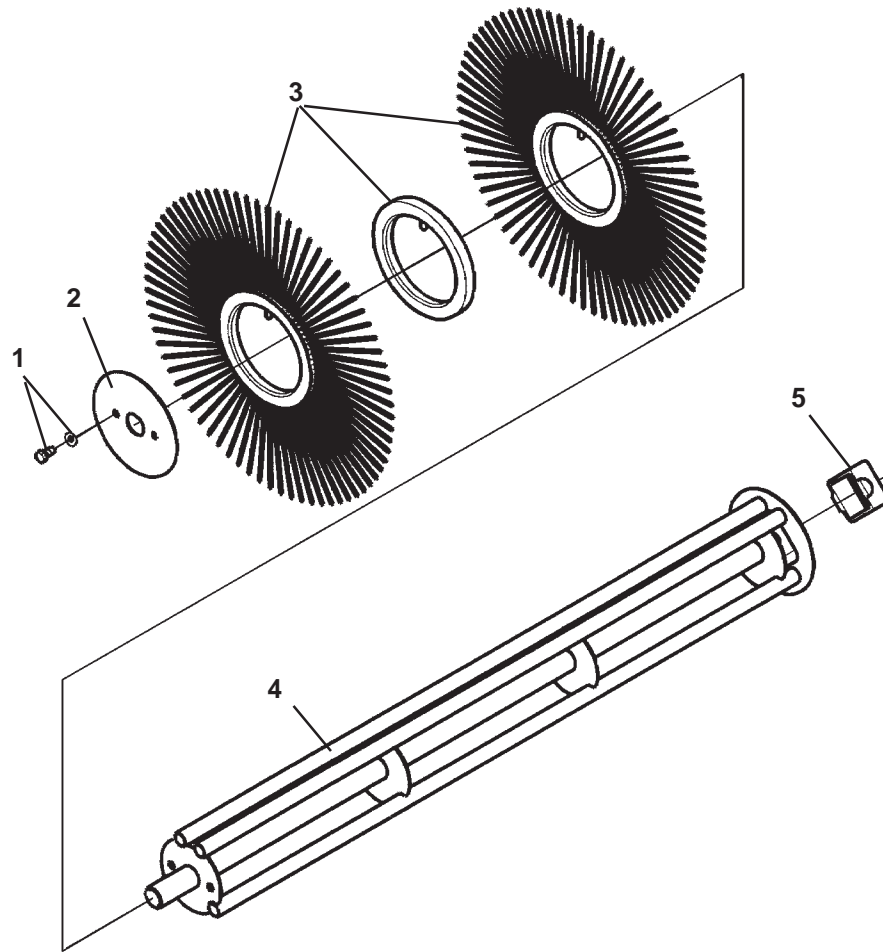
MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	101377	Rubber Skirt - Rear
2	2	101404	Rubber Skirt Support - Rear
3	4	10008	.38" UNC X 1.00" Carriage Bolt
	4	1514	.38" Flat Washer
	4	1536	.38" UNC Nylock Nut
4	4	1044	.38" UNC X 1.25" Hex Capscrew
	8	1514	.38" Flat Washer
	4	1536	.38" UNC Nylock Nut
5	4	1044	.38" UNC X 1.25" Hex Capscrew
	8	1514	.38" Flat Washer
	4	1536	.38" UNC Nylock Nut
6	1	101378	Rubber Skirt - Right Side (Shown)
	1	101577	Rubber Skirt - Left Side
7	2	101380	Rubber Skirt Support - Side
8	4	1045	.38" UNC X 1.50" Hex Capscrew
	8	1514	.38" Flat Washer
	4	1536	.38" UNC Nylock Nut
9	2	101353	Inside Skirt Support - Side
10	7	101949	Spring Strip
11	1	101379	Rubber Skirt - Front
12	7	1044	.38" UNC X 1.25" Hex Capscrew
	7	1503	.38" Lock Washer
13	1	101381	Rubber Skirt Support - Front

MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY



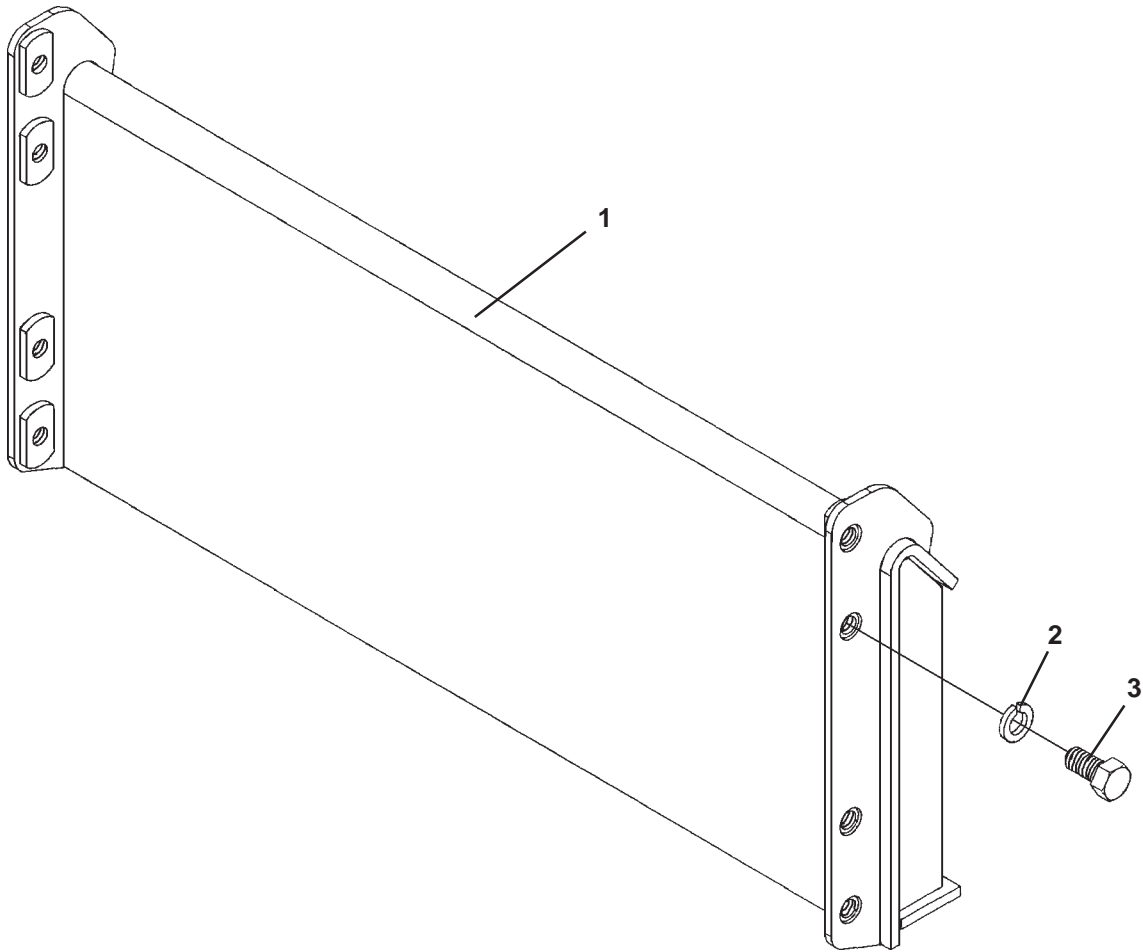
MOUNTING KIT INSTALLATION

42" BUCKET BROOM ASSEMBLY

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	1042	.38" UNC X .75" Hex Capscrew
	2	1503	.38" Lock Washer
2	1	101457	Plate
3	1	103602	Replacement Wafer Kit (Includes 32 Poly Wafers)
	-	101948	Wafer Set
			(Includes 32 Poly Wafers and 31 Spacers)
4	1	101218	Core
5	1	101350	Bushing

MOUNTING KIT INSTALLATION

UNIVERSAL MOUNTING KIT ASSEMBLY #102458



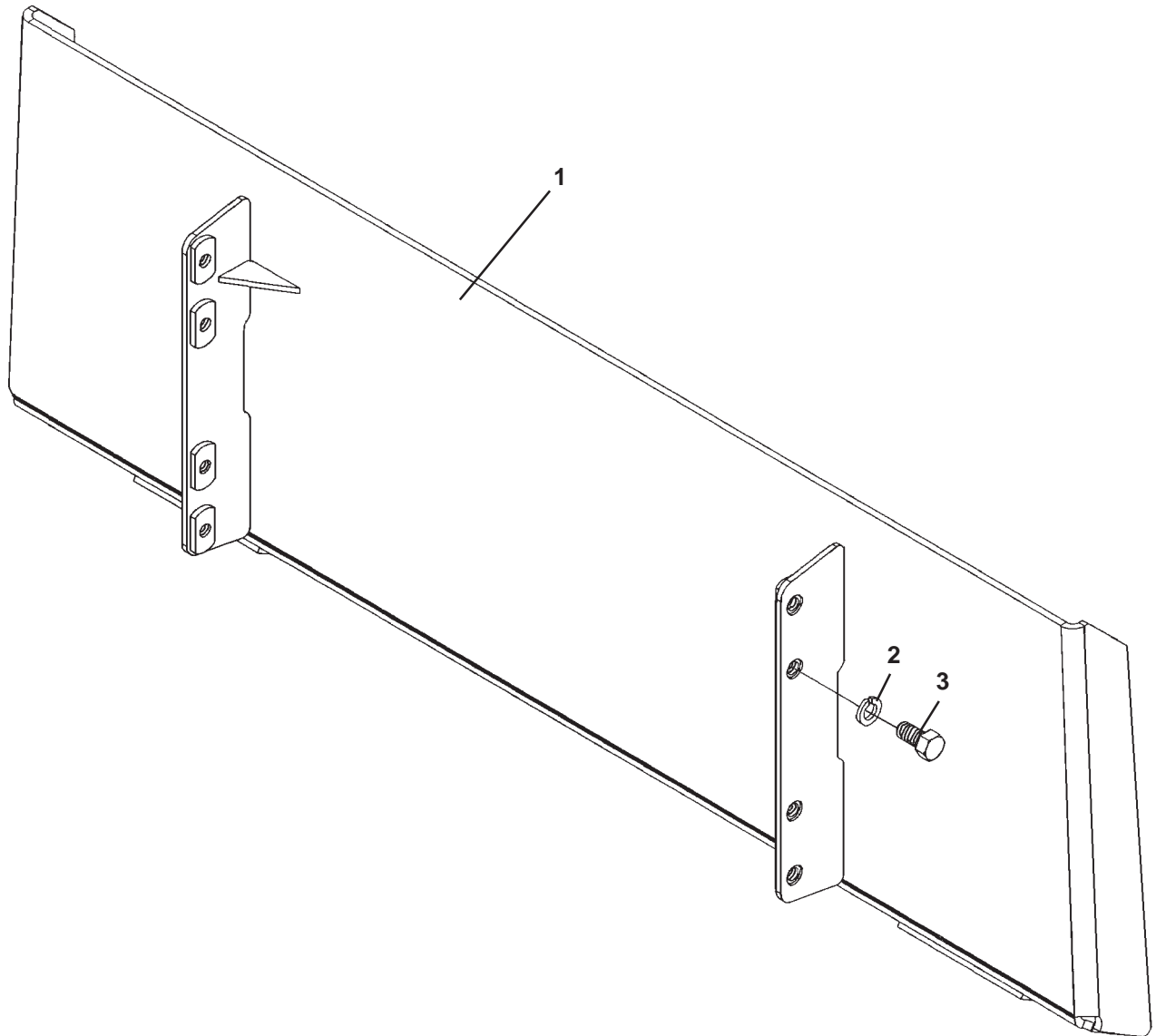
MOUNTING KIT INSTALLATION

UNIVERSAL MOUNTING KIT ASSEMBLY #102458

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	102096	Adjustable Hitch Mounting Bracket (Universal Hitch)
2	4	1505	.50" Lock Washer
3	4	1088	.50" UNC X 1.00" Hex Capscrew

MOUNTING KIT INSTALLATION

POLARIS/ASV MOUNTING KIT ASSEMBLY #102459



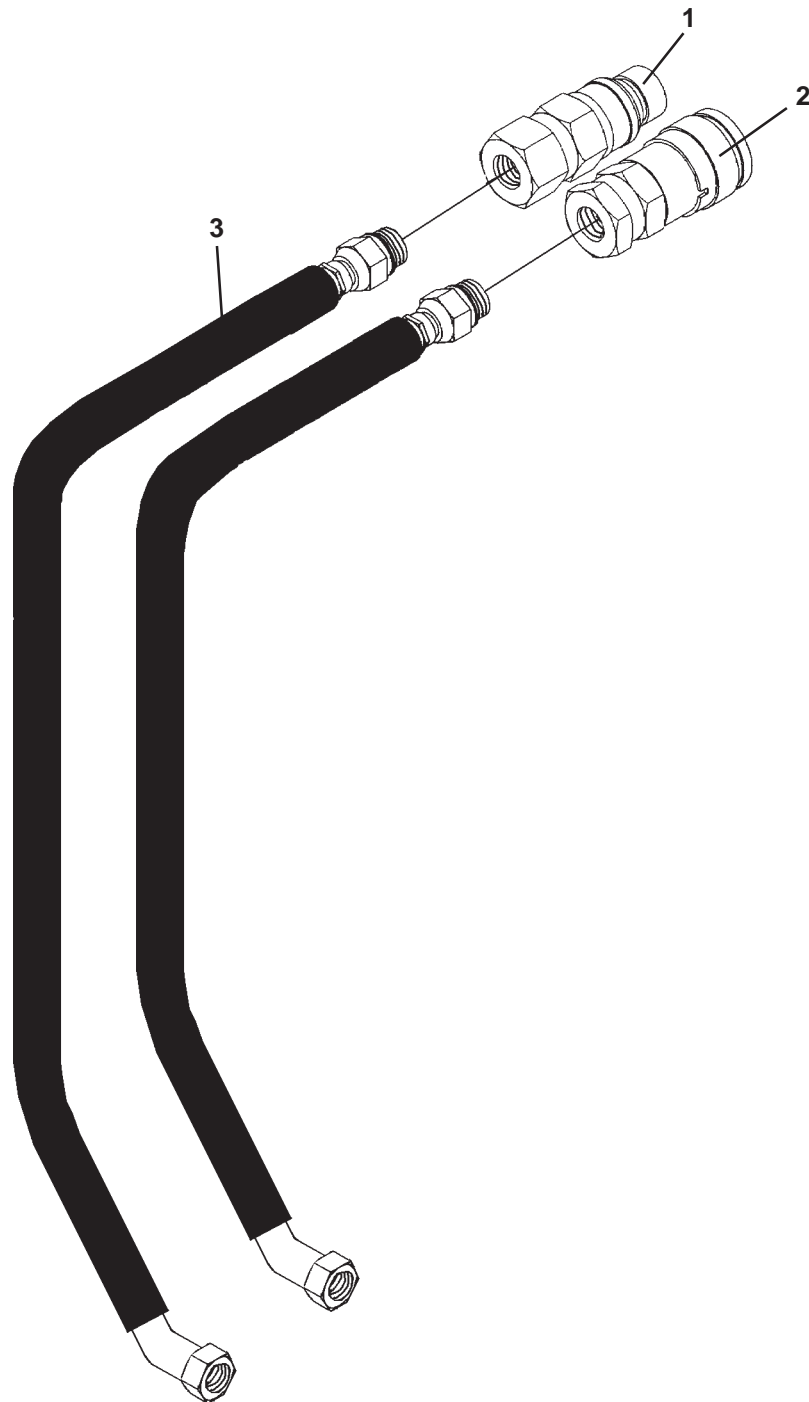
MOUNTING KIT INSTALLATION

POLARIS/ASV MOUNTING KIT ASSEMBLY #102459

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	102475	Adjustable Hitch Mounting Bracket (Polaris/ASV Hitch)
2	4	1505	.50" Lock Washer
3	4	1088	.50" UNC X 1.00" Hex Capscrew

MOUNTING KIT INSTALLATION

HYDRAULIC KITS



MOUNTING KIT INSTALLATION

HYDRAULIC KITS

<u>NO</u>	<u>REQ'D</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	-	14176	Male Coupler - .50" 8FBo Flat Face
	-	17139	Male Coupler - .50" 8FBo Poppet
2	-	14175	Female Coupler - .50" 8FBo Flat Face
	-	17140	Female Coupler - .50" 8FBo Poppet
3	2	38230	Hose Assembly .50" X 80" 8MBo-8FFS 45°

MOUNTING KIT INSTALLATION

GENERAL INFORMATION

The following instructions will help you install your mounting kit onto the bucket broom and also mount your bucket broom onto your loader. The broom uses the quick attach system for ease of installation. Therefore, if you know how to attach the loader bucket, attaching the bucket broom should prove no problem.

Remember to read all safety warnings, decals and operating instructions before operating the loader or attachment.

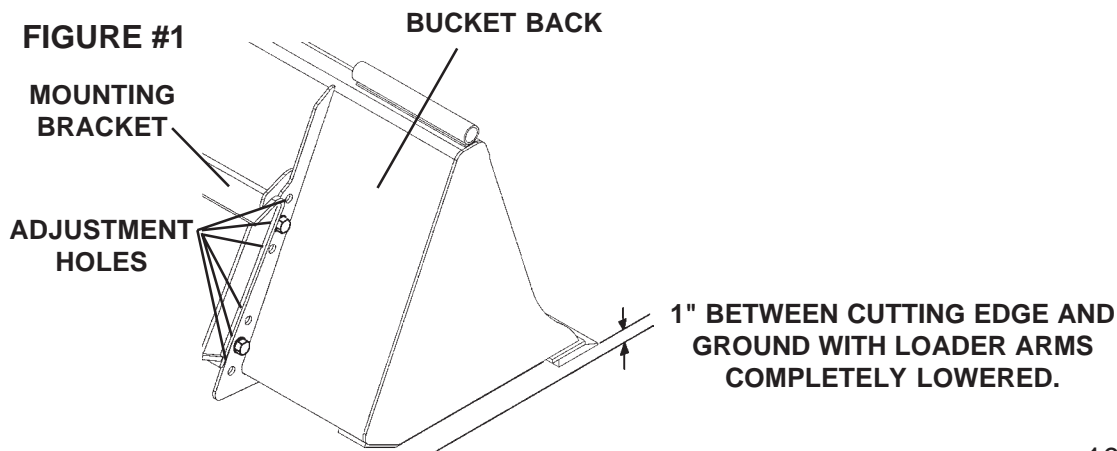
MOUNTING INSTRUCTIONS

Although the mounting kit may have been installed onto the bucket at the factory, it is adjustable and should be test fitted to your loader.

1. Remove the steel shipping banding from around the broom and skid.
2. Remove any attachments from the front of the loader.
3. If the mounting bracket was not installed at the factory, install it now by positioning the bracket on the back of the bucket using the middle holes. See Figure #1
4. Following all standard safety practices and the instructions for attaching as attachment in your loader operator's manual. Install the rotary broom onto your loader.

NOTE: It is important to make sure the locking mechanism on your quick attach is engaged, therefore locking the attachment onto the loader.

5. Lower the loader arms completely and while keeping the broom parallel with the ground, measure the distance between the bottom of the cutting edge and the ground. We recommend this distance be approximately 1". See Figure #1



MOUNTING KIT INSTALLATION

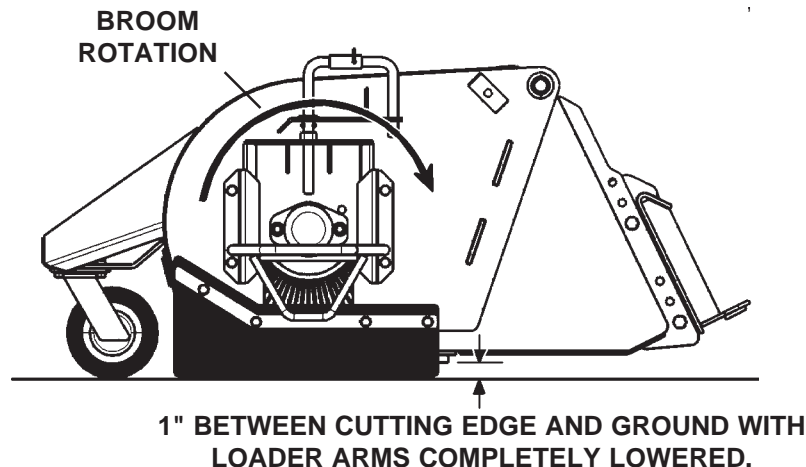
NOTE: If the distance from the cutting edge to the ground is over 1", raise the mounting bracket to the top set of holes on the broom, therefore lowering the broom. If the broom is contacting the ground, lower the mounting bracket to the bottom set of holes, therefore raising the broom.

6. Adjust the mounting bracket on the broom accordingly and repeat step #4 & step #5.

IMPORTANT: Make sure all foreign matter is cleaned from the hydraulic connectors before making connections.

7. If the hydraulic kit was not installed at the factory, install the two hoses supplied to the straight connectors on the broom. Route the hoses through the hose clamp located on the left side of the broom and install the couplers provided to the ends of the hoses.
8. With the auxiliary hydraulic system turned off, route the hoses on the broom in such a fashion as to avoid pinching and chafing and connect them to their proper auxiliary couplers on the loader.

IMPORTANT: When the auxiliary hydraulics is activated the broom must turn **AWAY** from the operator. If the broom rotates in the opposite direction, switch the hoses at the motor.



9. Complete the predelivery checklist located at the back of this manual (Section R). Broom installation is now complete.

ADJUSTMENTS

BRADCO BROOMS

ADJUSTING THE SWEEPER BRUSH

A properly adjusted brush offers the best sweeping performance.

To adjust the brush pattern:

1. Move the sweeper to a dusty, flat surface.
2. Set the prime mover brake; leave the engine running.
3. Start the sweeper at a slow speed; then lower the sweeper bucket to 1" above the ground.
4. Run the sweeper in a stationary position for 30 seconds.
5. Raise the sweeper and back away.
6. Switch off the prime mover engine, and remove the key.
7. Check the brush pattern left in the dust. The swept area should be 3" - 4" wide, running the full length of the brush. See Figure #1
8. If the brush pattern is not 3" - 4" wide the brush height needs to be adjusted. The brush height is adjusted by removing pin #101406 from its storage position and rotating it 180° and reinstalling. This will serve as a handle for turning the adjusting pin. See Figure #2

FIGURE #1

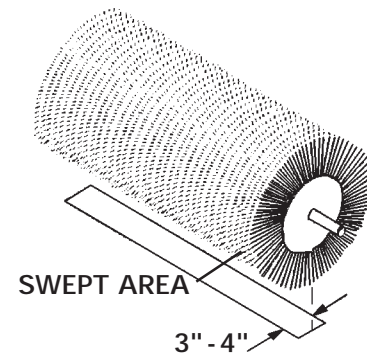
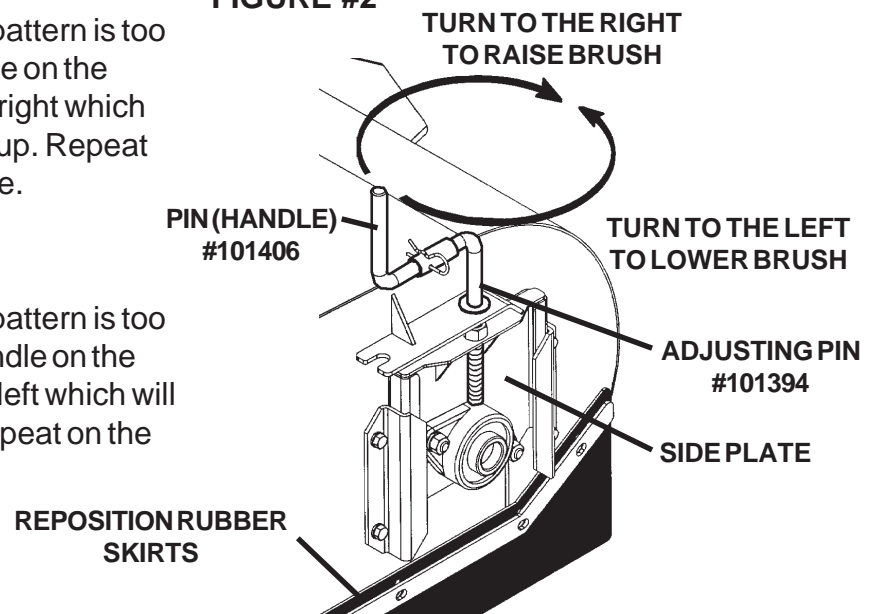


FIGURE #2

- a. If the brush pattern is too wide, turn the handle on the adjusting pin to the right which will raise the brush up. Repeat on the opposite side.

- b. If the brush pattern is too narrow, turn the handle on the adjusting pin to the left which will lower the brush. Repeat on the opposite side.



9. Repeat steps #1 through #8 until the brush pattern is 3" - 4" wide.
10. Adjust the front and side flaps to contact the sweeping surface lightly and evenly.

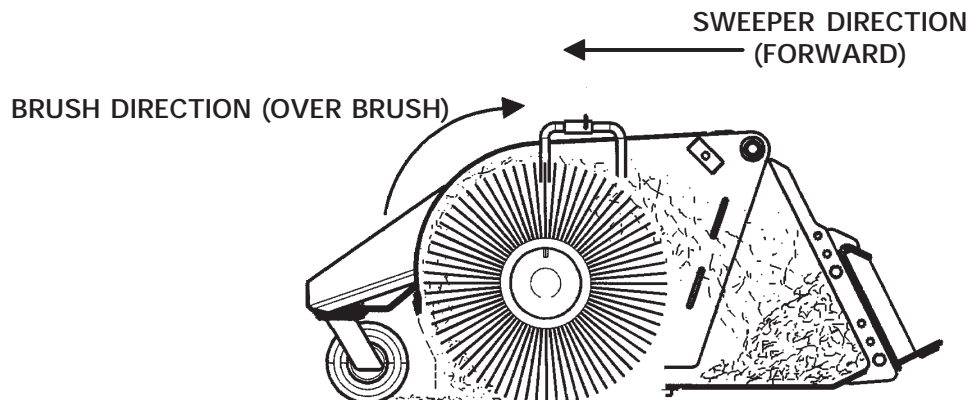
OPERATING INSTRUCTIONS

OPERATING THE BROOM

The **BRADCO**® Bucket Sweepers use the prime movers hydraulic flow to operate. To start the brush, turn on the skid-steer's auxiliary hydraulics; to stop it, turn off the hydraulic flow.

With this broom, you sweep "Over" the brush while moving in a forward direction.

NOTE: Broom rotation should always be away from the operator, except during end of pass - pile clean up.



CAUTION!



Only fully trained operators or trainee operators under the close supervision of a fully trained person should use this machine.

Check all hydraulic fittings for leaks, and to ensure that they are properly connected and routed. Check hardware for tightness.

Be sure all persons not operating the sweeper are clear of the sweeper discharge area.

To increase or decrease brush speed, change the skid-steer's rpm. Use the **LOWEST** speed that will complete the job. In general, half throttle provides plenty of engine speed.

The front caster wheel feature allows the broom to follow ground contours.

DUMPING

Empty the bucket by raising the sweeper above the container, then dump using the prime mover tilt controls.

DANGER!



Avoid electrical shock. Stay away from overhead wires.

OPERATING INSTRUCTIONS

STOPPING THE BROOM

Never stop the sweeper at high engine speed. Decrease skid-steer engine speed before stopping the hydraulic flow to the broom.

IMPORTANT: Avoid sweeper and motor damage. Decrease prime mover engine speed (rpm) before stopping hydraulic flow to disengage the sweeper.

END OF PASS - PILE CLEAN UP

During normal sweeping operation, a small pile of material is pushed along in front of the broom. End of pass - pile clean up is one of the two reasons the main brush should be operated in reverse direction with "Stuck on Material" being the second. **NOTE: Using reverse mode for normal sweeping will NOT clean as well, and will result in premature wear of the cutting edge and machine surfaces.**

To clean up this pile at the end of the sweeping pass, throttle down the prime mover, drop the bucket cutting edge to the grade surface, and change the hydraulic flow (operating with broom rotation in reverse), and inch forward. This action (similar to that of a broom and dust pan), will wisp the small pile of debris into the bucket.

STUCK ON MATERIAL

When stuck on material is encountered that cannot be removed by the rotating brush alone, the operator may simply back over the material and lower the bucket edge to the ground and scrape the material loose. The broom direction may be reversed to assist if needed.

IMPORTANT: DO NOT forget to return the bucket to its approximate 1" clearance position and change the broom rotation to forward direction after pile clean up and/or removal of stuck on material.

OPERATING TIPS

- Follow ALL safety precautions outlined in this manual.
- Operate the sweeper on flat, level surfaces only.
- DO NOT engage or disengage the brush at a high engine speed. This damages the sweeper and motor.
- DO NOT scrape with the bucket while sweeping. It is for collection and loading (when sweeper is removed) and will wear prematurely if it is used for scraping. Never operate the sweeper with the bucket less than 1" from the ground.

MAINTENANCE & SERVICE

GENERAL INFORMATION

Regular maintenance is the key to long equipment life and safe operation. Maintenance requirements have been reduced to the absolute minimum. However, it is very important that these maintenance functions be performed as described below.

DAILY

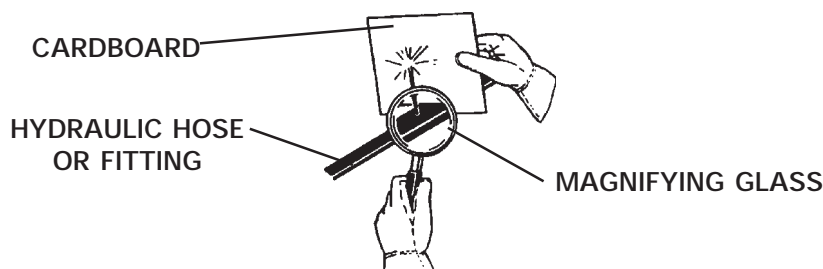
- Check all bolts and nuts for tightness.
- Replace any missing bolts or nuts with approved replacement parts.
- Check hydraulic system for hydraulic oil leaks. See procedure below.
- Visually inspect the machine for worn parts or cracked welds and repair as necessary.

WARNING! Escaping fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.



Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research it immediately to determine proper treatment.



IMPORTANT: When replacing parts use only factory approved replacement parts. Manufacturer will not claim responsibility for use of unapproved parts or accessories and/or other damages as a result of their use.

WEEKLY

- Lubricate all grease fittings. One on flange bearing and one on caster wheel.

REMOVAL AND STORAGE

REMOVING BUCKET AND SWEEPER

1. Move the sweeper to the storage area.
2. Raise the brush as far as possible using the adjusting pins.
3. Set the bucket on blocks to keep the wafers off the ground during storage.
4. Disconnect the power and return hoses from the skid-steer and connect couplers together to prevent contaminants from entering the hydraulic system.
5. Unlock the sweeper from the skid-steer and, following the instructions in your skid-steer operators manual, remove the bucket.
6. Back the skid-steer away from the sweeper.

To re-Install the sweeper, follow the instructions in Section E "Mounting and Installation" and Section F "Adjustments".

REMOVING THE SWEEPER ONLY

1. Move the sweeper to the storage area.
2. Raise the brush as far as possible using the adjusting pins.
3. Set the sweeper on blocks to keep the wafers off the ground during storage.
4. Disconnect the power and return hoses from the skid-steer and connect couplers together to prevent contaminants from entering the hydraulic system.
5. Remove the klik pins from the ends of the hinge pin and remove the hinge pin.
6. Back the skid-steer (with bucket) away from the sweeper.
7. Reinstall the hinge pin in the sweeper for storage.

IMPORTANT: The bucket is for collection and loading only. Scraping with the bucket edge wears the bucket prematurely.

To reinstall the sweeper: Remove the hinge pin from its storage position. Slowly position the bucket to the back of the sweeper aligning the pivot (hinge) tubes. Secure the bucket to the sweeper using the hinge pin, hard flat washers and klik pins provided. Connect the power and return lines to the skid-steer auxiliary hydraulics. Make any adjustments necessary.

IMPORTANT: Do not store the sweeper with weight on the brush. This will deform the bristles, destroying their effectiveness. To avoid this problem, place the sweeper on blocks.

Do not store the polypropylene wafers in direct sunlight. They will deteriorate and crumble.

Keep polypropylene wafer material away from intense heat or flame. It will melt.

TROUBLESHOOTING

<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>POSSIBLE REMEDY</u>
Brush rotates wrong direction.	Hoses installed incorrectly.	Switch hoses at quick couplers.
Broom fails to operate.	Low oil supply	Add oil.
	Improper hose hookup.	Check hydraulic diagram; reinstall properly.
	Motor damaged.	Check pressure, flow & back pressure. Check flow on return side for bypassing, more than 2 GPM, replace motor.
	Broken hydraulic lines.	Check for leaks and replace damaged line.
	Pinched hose or tube.	Reroute hose; replace tube.
	Motor drive block loose.	Retighten block to shaft.
	Motor shaft key broken.	Replace.
Brush slows or stops when sweeping.	Brush pattern too wide.	Check brush pattern and adjust to 3-4". (See Adjustments Section of this manual.)
	Travel speed too fast.	Travel no more than 5 MPH when sweeping.
	Trying to sweep too much material at once.	Make several passes.
	Motor failing.	Replace motor.
Broom operates too slow.	Cold oil.	Warm oil with engine at idle speed.
	Engine speed too slow.	Advance throttle. (Use the lowest speed that will complete the job.)
	Oil too heavy.	Use recommended oil
	Motor damaged.	Check pressure, flow & back pressure.
Brush wears into cone shape.	Sweeper is not level.	Level sweeper before each use.
	Tires on prime mover at different pressure or are different size.	Check tire size and ratings. Make corrections, as necessary.

TROUBLESHOOTING








<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>POSSIBLE REMEDY</u>
Brush head assembly "bounces" during sweeping.	Sweeper stored with weight on the brush causing deformation of bristles.	Replace wafers.
	Travel speed too fast and/or brush speed too slow.	Find correct combination of ground and brush speeds.
	Core is bent.	Replace.
Brush wears too quickly. or bristles falling out.	Brush pattern too wide.	Check brush pattern and adjust to 3-4". (See Adjust ments Section of this
	Wafer damaged.	Replace.
	Sweeping large debris causing extensive wear of wafers.	Replace worn wafers.
Hydraulic oil over-heating.	To much down force.	Check brush pattern and adjust to 3-4". (See Adjust ments Section of this manual.)
	Quick coupler or hose restriction.	Inspect couplers and hoses for dirt, rust, and other contaminates and repair or replace as needed.
	Skid-steer relief valve set too low.	See skid-steer operator's manual and/or dealer for proper relief valve service and adjustment.
External leakage.	Loose fitting.	Tighten all fittings.
	O'ring damaged on fittings.	Replace o'ring.
	Broken hydraulic line.	Check for leaks and replace damaged line.
	Motor housing damaged.	Replace.

BOLT TORQUE

BOLT TORQUE SPECIFICATIONS

GENERAL TORQUE SPECIFICATION TABLE

Use the following torques when special torques are not given. These values apply to fasteners as received from suppliers, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads. Remember to always use grade five or better when replacing bolts.

SAE Grade No.		2				5				8*			
Bolt head identification marks as per grade. NOTE: Manufacturing Marks Will Vary						  				  			
Bolt Size		TORQUE				TORQUE				TORQUE			
Inches	Millimeters	Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	20	23	27.1	31.2	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	30	25	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	45	52	61.0	70.5	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	65	75	88.1	101.6	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	160	200	216.8	271.0	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5
1-1/8	25.58	-	-	-	-	800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1-1/4	31.75	-	-	-	-	1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1-3/8	34.93	-	-	-	-	1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1-1/2	38.10	-	-	-	-	1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4

* Thick Nuts must be used with Grade 8 bolts

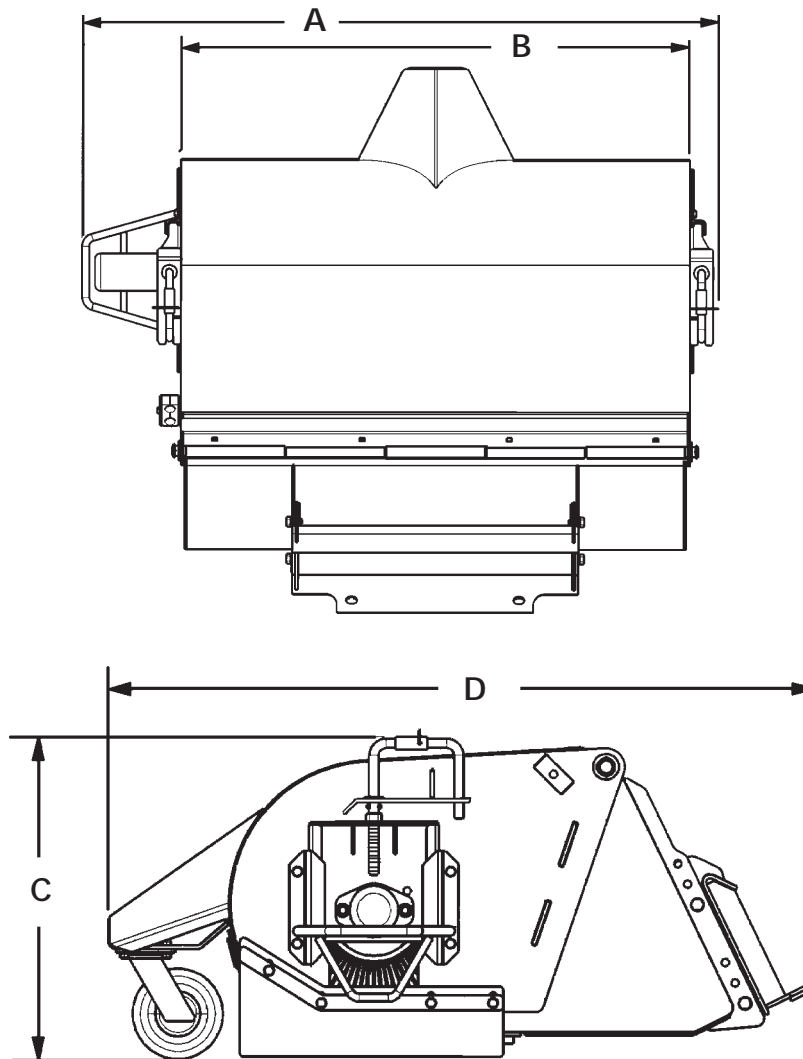
METRIC BOLT TORQUE SPECIFICATIONS

		5.6			8.8			10.9		
Size of Screw	Grade No.	Coarse Thread			Fine Thread					
		Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters			
M6	5.6	1.0	3.6-5.8	4.9-7.9	-	-	-			
	8.8		5.8-9.4	7.9-12.7		-	-			
	10.9		7.2-10	9.8-13.6		-	-			
M8	5.6	1.25	7.2-14	9.8-19	1.0	12-17	16.3-23			
	8.8		17-22	23-29.8		19-27	25.7-36.6			
	10.9		20-26	27.1-35.2		22-31	29.8-42			
M10	5.6	1.5	20-25	27.1-33.9	1.25	20-29	27.1-39.3			
	8.8		34-40	46.1-54.2		35-47	47.4-63.7			
	10.9		38-46	51.5-62.3		40-52	54.2-70.5			
M12	5.6	1.75	28-34	37.9-46.1	1.25	31-41	42-55.6			
	8.8		51-59	69.1-79.9		56-68	75.9-92.1			
	10.9		57-66	77.2-89.4		62-75	84-101.6			
M14	5.6	2.0	49-56	66.4-75.9	1.5	52-64	70.5-86.7			
	8.8		81-93	109.8-126		90-106	122-143.6			
	10.9		96-109	130.1-147.7		107-124	145-168			
M16	5.6	2.0	67-77	90.8-104.3	1.5	69-83	93.5-112.5			
	8.8		116-130	157.2-176.2		120-138	162.6-187			
	10.9		129-145	174.8-196.5		140-158	189.7-214.1			
M18	5.6	2.0	88-100	119.2-136	1.5	100-117	136-158.5			
	8.8		150-168	203.3-227.6		177-199	239.8-269.6			
	10.9		175-194	237.1-262.9		202-231	273.7-313			
M20	5.6	2.5	108-130	146.3-176.2	1.5	132-150	178.9-203.3			
	8.8		186-205	252-277.8		206-242	279.1-327.9			
	10.9		213-249	288.6-337.4		246-289	333.3-391.6			

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SPECIFICATIONS

BRADCO 42" BUCKET BROOM



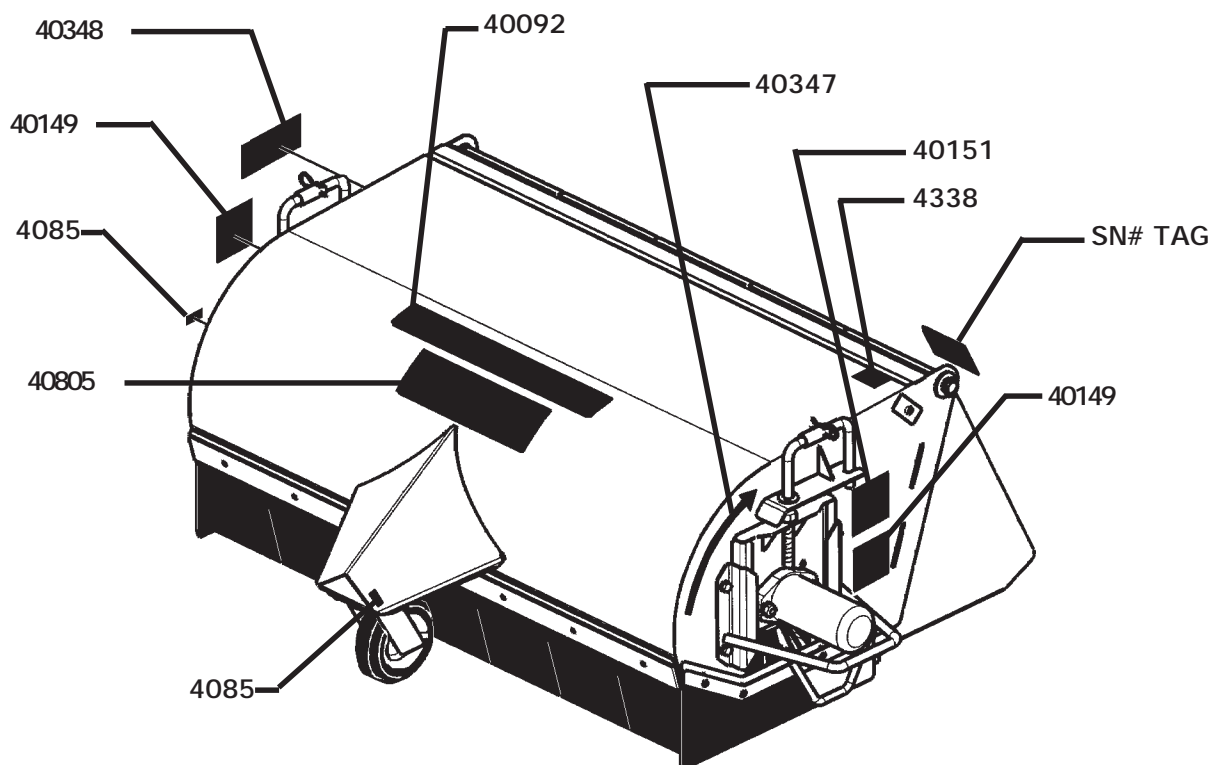
SPECIFICATIONS

DESCRIPTION	BB42
A. Overall Width	55.25"
B. Sweeping Width	42.00"
C. Overall Height	21.38"
D. Overall Length	47.12"
Weight	400#
Bucket Capacity (Cu. Ft.)	3.6 ³
Brush Diameter	18.00"
Wafers (Quantity)	32
Spacer (Quantity)	31
Hydraulic Flow (GPM)	12
Hydraulic Pressure (PSI)	2000 - 2500

DECALS

DECAL LOCATION

The diagram on this page shows the location of all the decals used on the BRADCO bucket Broom. The decals are identified by their part numbers, with reductions of the actual decals located on the following pages. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the broom. They contain information you need to know for both safety and longevity.



Keep all safety signs clean and legible. Replace all missing, illegible, or damaged safety signs. When replacing parts with safety signs attached, the safety signs must also be replaced.

Replacing Safety Signs: Clean the area of application with nonflammable solvent, then wash the same area with soap and water. Allow the surface to fully dry. Remove the backing from the safety sign, exposing the adhesive surface. Apply the safety sign to the position shown in the diagram above, and smooth out any bubbles.

DECALS

DECALS

BRADCO®

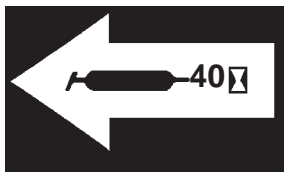
BRADCO LOGO
PART #40092



DANGER! PINCH POINTS
PART #40149



WARNING! HIGH PRESSURE FLUID
PART #40151



GREASE 40 HOURS
PART #4085



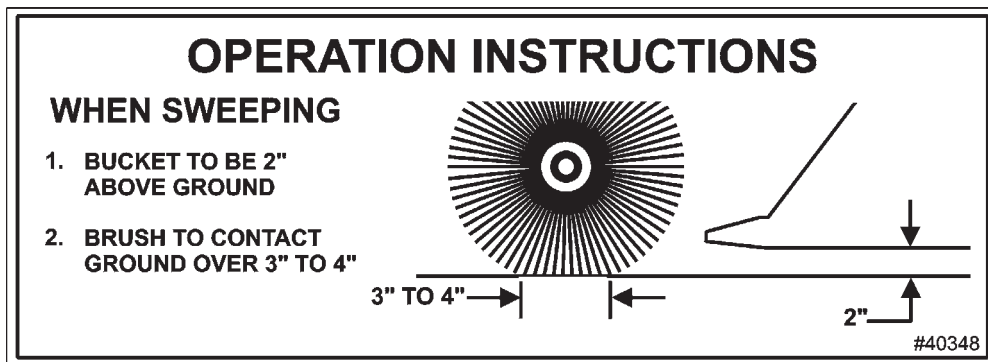
MADE IN USA
PART #4338

DECALS

DECALS



DIRECTION OF ROTATION
PART #40347



OPERATION INSTRUCTIONS
PART #40348

BB42

MODEL NUMBER DECAL
PART #40805

PREDELIVERY CHECKLIST

GENERAL INFORMATION

The following is a list of areas that should be inspected by the dealer prior to delivery of the BRADCO Rotary Broom to the customer. The customer should check the list and make sure that the dealer has completed the inspection. Completion of this checklist will help insure that the customer receives the unit in complete working order, ready to install.

PREDELIVERY CHECKLIST - CHECK AND ADJUST AS NECESSARY

1. _____ Visually inspect the broom for bent, loose, cracked, damaged or missing parts. Check for any other irregularities.
2. _____ Check bolts for tightness. Retighten after the first eight working hours, and after every forty working hour intervals thereafter. See "Bolt Torque", Section O.
3. _____ Check all hydraulic connections for leaks and all hoses for proper positioning to reduce chafing and binding.
4. _____ Make sure decals are not damaged or missing and are in their correct location. See "Decals" Section Q.
5. _____ Make sure the customer has the necessary couplers to attach the unit to the loader auxiliary hydraulic couplers.
6. _____ Complete and return the manufacturer's "Warranty Validation Form" and sign your dealership predelivery checklist.

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Limited Warranty

Except for the Excluded Products as described below, all new products are warranted to be free from defects in material and/or workmanship during the Warranty Period, in accordance with and subject to the terms and conditions of this Limited Warranty.

1. Excluded Products. The following products are excluded from this Limited Warranty:

(a) Any cable, part that engages with the ground (i.e. sprockets), digging chain, bearing, teeth, tamping and/or demolition head, blade cutting edge, pilot bit, auger teeth and broom brush that either constitutes or is part of a product.

(b) Any product, merchandise or component that, in the opinion of Paladin Light Construction¹, has been (i) misused; (ii) modified in any unauthorized manner; (iii) altered; (iv) damaged; (v) involved in an accident; or (vi) repaired using parts not obtained through Paladin Light Construction.

2. Warranty Period. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the first to occur of: (i) the date of initial purchase by an end-user, (ii) the date the product is first leased or rented, or (iii) the date that is six (6) months after the date of shipment by Paladin Light Construction as evidenced by the invoiced shipment date (the "Commencement Date") and ends on the date that is twelve (12) months after the Commencement Date.

3. Terms and Conditions of Limited Warranty. The following terms and conditions apply to the Limited Warranty hereby provided:

(a) Option to Repair or Replace. Paladin Light Construction shall have the option to repair or replace the product.

(b) Timely Repair and Notice. In order to obtain the Limited Warranty, (i) the product must be repaired within thirty (30) days from the date of failure, and (ii) a claim under the warranty must be submitted to Paladin Light Construction in writing within thirty (30) days from the date of repair.

(c) Return of Defective Part or Product. If requested by Paladin Light Construction, the alleged defective part or product shall be shipped to Paladin Light Construction at its manufacturing facility or other location specified by Paladin Light Construction, with freight PRE-PAID by the claimant, to allow Paladin Light Construction to inspect the part or product.

Claims that fail to comply with any of the above terms and conditions shall be denied.

LIMITATIONS AND EXCLUSIONS.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF PALADIN LIGHT CONSTRUCTION, THE REPAIR OR REPLACEMENT, OF THE PARTICULAR PRODUCT ON WHICH ANY CLAIM OF LOSS OR DAMAGE IS BASED. THIS LIMITATION OF LIABILITY APPLIES IRRESPECTIVE OF WHETHER THE CLAIM IS BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHER CAUSE AND WHETHER THE ALLEGED DEFECT IS DISCOVERABLE OR LATENT.

¹Attachment Technologies Inc., a subsidiary of Paladin Brands Holding, Inc. (PBHI) is referred to herein as Paladin Light Construction.