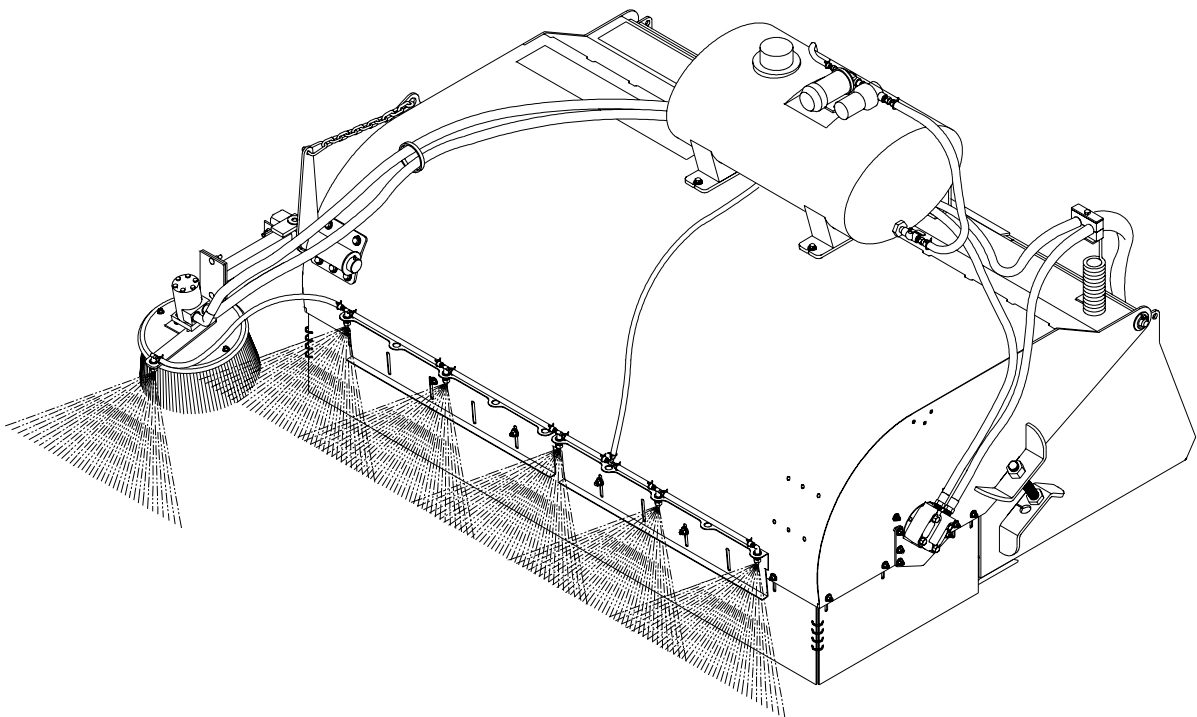




SB Hopper Broom AND Cold Planer Special



PALADIN LIGHT CONSTRUCTION



Sweepster Serial Number _____

Manual Number: 51-3764
Release Date: January 2005

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Notes

Operation and Maintenance

SB Hopper Brooms

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SAFETY SECTION
INTRODUCTION

Introduction

Importance of this Manual



Read this manual before attempting to operate the equipment.

This operator's manual should be regarded as part of the sweeper. Suppliers of both new and secondhand sweepers are advised to keep documentation indicating that this manual was provided with the sweeper.

The manual contains information regarding installation, operation and maintenance required for this sweeper and optional equipment. It also includes detailed parts lists.

Purpose of SB Hopper Sweeper

This sweeper is designed solely for use in construction cleanup, road maintenance, grounds maintenance and similar operations. Use in any other way is considered contrary to the intended use. Compliance with and strict adherence to operation, service and repair conditions, as specified by the manufacturer, are also essential elements of the intended use.

This sweeper should be operated, serviced and repaired only by persons who are familiar with its characteristics and acquainted with relevant safety procedures.

Accident prevention regulations, all other generally recognized safety regulations and all road traffic regulations must be observed at all times.

Any modifications made to this sweeper may relieve the manufacturer of liability for any resulting damage or injury.

Safety Alert Symbol



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury. Carefully read the message that follows and inform other operators.

Warranty

To validate the warranty for this unit, fill out the warranty card or warranty pages located at the back of this manual. Then, send this information to SWEEPSTER.

Contacting SWEEPSTER, LLC

If you have any questions about information in this manual or need to order parts, please call, write, fax or e-mail SWEEPSTER, LLC.

SWEEPSTER, LLC.
2800 North Zeeb Road
Dexter, Michigan 48130
Phone: (800) 456-7100
FAX: (734) 996-9014
e-mail: sweep@sweepster.com

FFC ATTACHMENTS
100 East Lee Road
Lee, Illinois 60530
Phone: (800) 747-2132
www.ffcattachments.com

For help with installation, operation or maintenance procedures, contact our Technical Service Department. Direct product questions and parts orders to our Sales Department.

When ordering parts or accessories, be prepared to give the following information:

- Sweeper model number, serial number and date of purchase
- Prime mover, make and model
- Part number, description and quantity

Terms Used in Manual

Right-hand, left-hand, front and rear are determined from the operator's perspective (either the operator's seat or standing behind a walk-behind unit), facing forward in the normal operating position.

Prime mover refers to the tractor, truck, loader or tow vehicle that the sweeper is mounted on or towed by.

Optional Equipment

Installation instructions for optional equipment, if applicable, appear in the Service Manual Section.

Specifications & Features

Due to continuous product improvement, specifications and features may change without notice.

Safety Information

Read this manual

Read all safety information in this manual. All operators must read and understand the entire contents of this manual before sweeping. General safety practices are listed on Safety Information pages and specific safety information is located throughout this manual.

Hazard Definitions

Four hazard classifications are used in this manual.



DANGER - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



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



CAUTION - Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

CAUTION - Used for instructions when machine damage may be involved.

Operation



CAUTION - A sweeper is a demanding machine. Only fully trained operators or trainee operators under the close supervision of a fully trained person should use this machine.

Before operating sweeper:

- Learn sweeper and prime mover controls in an off-road location.
- Be sure that you are in a safe area, away from traffic or other hazards.
- Check all hardware holding the sweeper to the prime mover, making sure it is tight.
- Replace any damaged or fatigued hardware with properly rated fasteners. See Maintenance Section.
- Make sure all hydraulic hardware and hydraulic fittings are tight.
- Replace any damaged or fatigued fittings or hoses.

- Check prime mover tire pressure before sweeping. Improper tire pressure can affect sweeping performance.
- Check tire ratings to be sure they match the prime mover load. Weigh the sweeper end of the prime mover, if necessary, to insure proper tire rating.
- Remove from the sweeping area all property that could be damaged by flying debris.
- Be sure all persons not operating the sweeper are clear of the sweeper discharge area.
- Always wear proper apparel such as a long-sleeved shirt buttoned at the cuffs; safety glasses, goggles or a face shield; ear protection; and a dust mask.

While operating sweeper:

- When operating sweeper, adhere to all government rules, local laws and other professional guidelines for your sweeping application.
- Before leaving the operator's area for any reason - lower the sweeper to the ground, stop the prime mover engine, set the parking brake and remove the key from the ignition.
- Only operate the sweeper while you are in the operator's position of the prime mover. The safety restraints must be fastened while you operate the prime mover.
- Minimize flying debris - use the slowest rotating speed that will do the job. See Operation Section: Operating Tips.
- Keep hands, feet, hair and loose clothing away from all moving parts.
- Leave all shields and safety equipment in place when operating the sweeper and prime mover.
- Be aware of the extra weight and width a sweeper adds. Reduce travel speed accordingly. See Product Information Section.
- When operating the sweeper on rough terrain, reduce speed to avoid "bouncing" the sweeper. Loss of steering can result.
- Never sweep toward people, buildings, vehicles or other objects that can be damaged by flying debris.
- While you operate the sweeper slowly in an open area, check for proper operation of all controls and all protective devices. Note any needed repairs during operation of the sweeper. Report any needed repairs.

SAFETY SECTION
GENERAL SAFETY INFORMATION

Service & Repair - General



CAUTION - Do not modify the sweeper in any way. Personal injury could result. If you have questions, contact your dealer or SWEEPSTER, LLC.

Repair or adjust the sweeper in a safe area, away from traffic and other hazards.

Before adjusting or servicing - lower the sweeper to the ground, set parking brake, shut down the prime mover and remove the key from the ignition.

When working on or around the sweeper, safely secure it from falling or shifting.

Service & Repair - Hydraulic Safety

Stop the prime mover engine and release hydraulic pressure before servicing or adjusting sweeper hydraulic systems.



WARNING - Escaping hydraulic fluid can have enough pressure to penetrate the skin, causing serious personal injury.

Check lines, tubes and hoses carefully. Do not use your hand to check for leaks. Use a board or cardboard to check for leaks. Tighten all connections to the recommended torque. See Appendix.

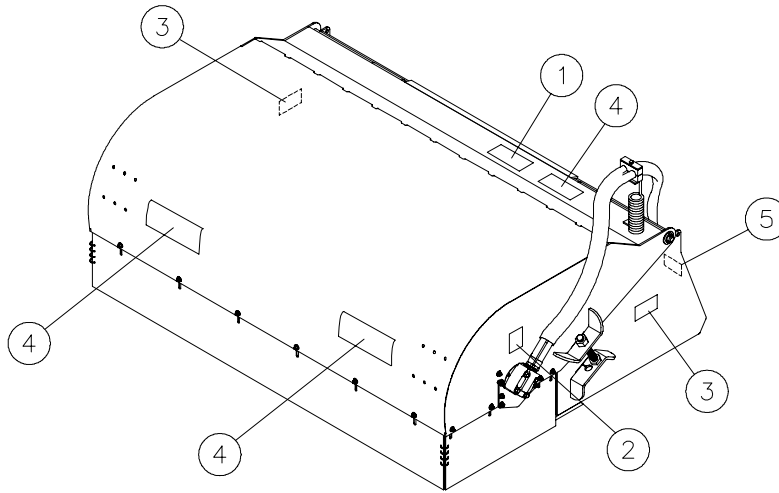
Do not bend high pressure lines. Do not strike high pressure lines. Do not install bent lines, bent tubes, or kinked hoses. Do not install damaged lines, damaged tubes, or damaged hoses.

Repair loose lines, loose tubes, and loose hoses. Repair damaged lines, damaged tubes, and damaged hoses. Leaks can cause fires. See your SWEEPSTER/FFC dealer for repair or replacement parts.

Replace the parts if any of the following conditions are present:

- The end fittings are damaged or leaking.
- The outer covering is chafed or cut.
- The reinforcing wire layer is exposed.
- The outer covering is ballooning locally.
- The hose is kinked or crushed.
- The armoring is embedded in the outer cover.
- The hoses have been pulled or stretched.

Make sure that all clamps, guards, and shields are installed correctly.



| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|---------|----------------|
| 1 | 1 | 50-0723 | Read Manual |
| 2 | 1 | 50-0724 | Hydraulics |
| 3 | 2 | 50-0737 | Pinch Point |
| 4 | 3 | 50-0727 | Flying Objects |
| 5 | 1 | RDL3254 | Serial Tag |

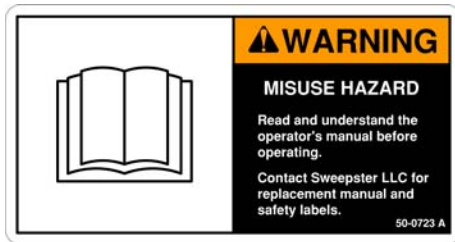
Placement or Replacement of Safety Signs

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

Instructions

- Keep all safety signs clean and legible.
- Replace all missing, illegible, or damaged safety signs.
- Replacement parts, for parts with safety signs attached, must also have safety signs attached.
- Safety signs are available, free of charge, from your dealer or from SWEEPER, LLC.

Item 1



Item 2



Item 3



Item 4



Item 5

FFC ATTACHMENTS **MODEL #** _____
 10776 Lee Road, Lee, Illinois 62457 **DATE** _____
 www.sweeperllc.com (618) 304-2158 **FFC**

SERIAL # _____
 MODEL # _____
 WEIGHT _____ lbs **MPG** _____
 CAPACITY: _____

OPERATION SECTION
MOUNTING & OPERATING TIPS

Operating Tips

Before each Use

Perform daily maintenance as indicated in the Maintenance Schedule.

Run the sweeper with the prime mover at a slow idle. Check for hydraulic leaks or other problems and make corrections, if necessary, before using the sweeper. See "Hydraulic Inspection Guideline" (pg. 14.)

During Use



WARNING - Avoid serious injury. Check for large objects that could harm the operator or others if thrown by the sweeper. Remove these items before operating.

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

Avoid excessive downward pressure on the brush sections to prevent excessive wear. A two to four inch wide pattern for the SB Hopper Broom is sufficient for most applications. Ensure that the adjustment bolts are equally adjusted in order to prevent an uneven wear pattern. To adjust brush pattern see "Adjusting Brush Pattern" on page 12.

Directing Debris

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

If necessary, use a dust suppression kit to suppress the dust. Contact SWEEPSTER, LLC or your SWEEPSTER/FFC dealer.

Operating Tips

CAUTION - Avoid sweeper damage. Do not ram into piles. Use an appropriate attachment for this type of job.

Brush, Engine & Travel Speeds

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

Dirt & Gravel

To keep dust at a minimum, use the optional sprinkler kit or plan sweeping for days when it is overcast and humid or after it has rained. Also, sweep so the wind blows at your back.

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

Heavy Debris

Travel slowly - less than 5 mph (8 kph)

Sweep a path less than the full width of the sweeper.

Increase engine speed if debris becomes very heavy.

Sweeper Installation (Broom to Prime Mover)



WARNING - Improper attachment of sweeper could result in injury or death. Do not operate this machine until you have positive indication that the attachment is securely mounted.

1. Position the broom on a level surface.
2. Enter the machine.
3. Fasten the safety restraints.
4. Start the engine.
5. Disengage the parking brake.
6. Align the attachment mechanism with the mounting on the bucket, attach to the prime mover. Follow the attaching procedure in the prime mover owners manual.
7. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
8. Unfasten safety restraints and exit the prime mover.
9. Ensure that the hydraulic quick couplers are clean. Connect hydraulic lines for the broom to the prime mover. Twist the collar of the quick couplers one quarter of a turn in order to secure the hydraulic connections.
10. While the loader arms are lowered, visually inspect the attachment mechanism to ensure that it is securely mounted.



WARNING - Improper attachment of sweeper could result in injury or death. Do not operate this machine until you have positive indication that the attachment is securely mounted.

Removing the Sweeper



WARNING - Serious injury or death may result from disengaging the sweeper when the sweeper is in an unstable position or carrying a load. Place the sweeper in a stable position before disengaging.

CAUTION - Hoses for the sweepers must be removed before the quick attach is disengaged. Pulling the sweeper with the hoses could result in damage to the prime mover or the sweeper.

1. Lower the broom to the ground.
2. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
3. Unfasten safety restraints and exit prime mover.
4. Disconnect the broom hydraulic lines from the prime mover. Connect quick couplers together to keep clean.
5. Disengage attachment mechanism. (mechanical type)
6. Enter prime mover, fasten safety restraints and start the prime mover.
7. Disengage attachment mechanism. (hydraulic type)
8. Disengage the parking brake, and back away from the broom.

Storage

CAUTION - Do not store the sweeper with weight on the brush. Weight will deform the bristles, destroying the sweeping effectiveness. To avoid this problem, place the sweeper on blocks.

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

Keep polypropylene brush material away from intense heat or flame.

Product Information

Specifications

| SB Hopper Broom | | CP Special |
|-----------------------------------|---|---|
| Overall Length without Coupler | 54 inches | 56 inches |
| Overall Width | 20060 - 66 inches 20072 - 78 inches 20084 - 90 inches | 20059 - 66 inches 20071 - 78 inches 20083 - 90 inches |
| Flow Requirements | 12-25 gpm | 12-25 gpm |
| Maximum Hydraulic Oil Pressure | 3000 psi | 3000 psi |

Brush Pattern for SB Hopper

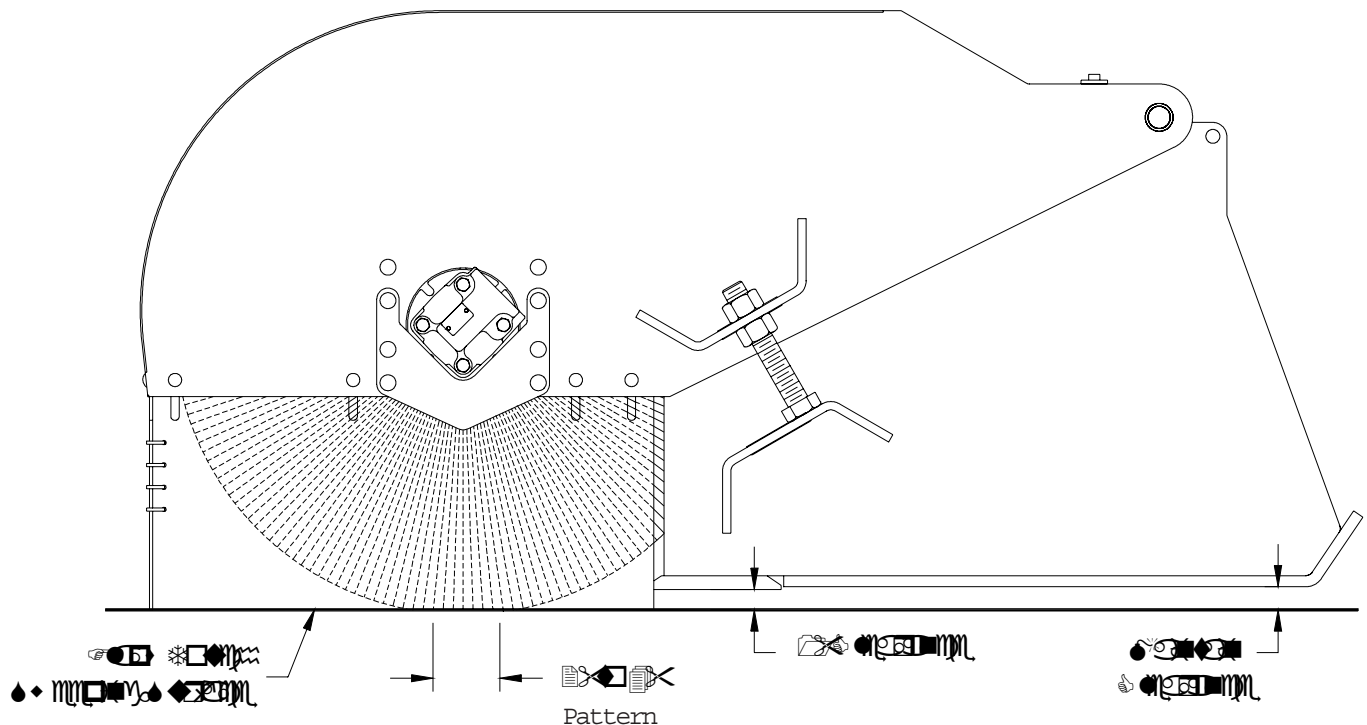
A properly adjusted brush offers the best sweeping performance. To check the brush pattern:

1. Move the sweeper to a dusty, flat surface.
2. Set the prime movers parking brake.
3. Start the sweeper rotating at a slow speed; then, lower it so the broom arms bottom out. Run the sweeper in the operating position (bottom of bucket about 1 inch off Ground) for 10 seconds.
4. Raise the sweeper and back away, set parking brake, shut down the prime mover, remove the ignition key, exit the prime mover and inspect the brush pattern. The brush pattern left in the dust should be 2-4 inches wide, running the length of the brush.
5. Adjust the brush pattern as necessary according to the following instructions and recheck the brush pattern.

Adjusting Brush Pattern for SB Hopper

1. Loosen bottom 1 inch nuts.
2. Adjust top 1 inch nuts to set pattern.
Tighten (clockwise) to increase pattern.
Loosen (counterclockwise) to decrease pattern.
3. When the pattern is set, tighten bottom 1 inch nuts.
4. Adjust the flaps so they just touch the ground.

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



MAINTENANCE SECTION
REPLACING BRUSH SECTIONS

Replacing Brush Sections

1. Remove motor mount screws. Retain hardware for reinstallation. Remove motor mount.
2. Remove bearing mounting plate screws from side . Retain hardware for reinstallation.
3. Remove the side flaps. Retain hardware for reinstallation.
4. Lift sweeper body leaving core on ground.
5. Remove the bearing mounting plate and section retainer plate. Retain hardware for reinstallation.
6. Remove old sections.
7. Install new sections by doing the following:
 - a. Number the tubes on the core as 1, 2 and 3 (figure 1).
 - b. Slide the first section onto the core with the drive pins on either side of square stock 1. Make sure that the drive pins angle up (figure 1).
 - c. Place the second section on the core with the drive pins on either side of square stock 2. Be sure the drive pins angle down (figure 2).
 - d. Put the third section on with the drive pins around square stock 3. Be sure the drive pins angle up. (Proceed to step e or f.)
 - e. For SB Hopper, slide sections on until the core is full, making sure to alternate the square stock used and the direction of the drive pins. (Proceed to step 8.)
 - f1. For CP Special, slide sections on as stated above up to a predetermined point which is 1/2 of the densely packed area below the center of the core. (figure 3)
 - f2. For CP Special, slide the next section on with the drive pins in the same up or down angle as the previous section but continue positioning the drive pins on either side of the next sequential square stock. Continue assembly in this manner until the densely packed area is full. (figure 3)
 - f3. For the CP Special revert back to the alternating up and down angle for the drive pins until the core is full. (figure 3)
8. Reattach the section retainer and bearing mounting plate with previously removed hardware.
9. Lay core on ground. Lower body over core.
10. Reattach bearing mounting plate with previously removed hardware.
11. Reattach motor mount with hardware removed in first step.

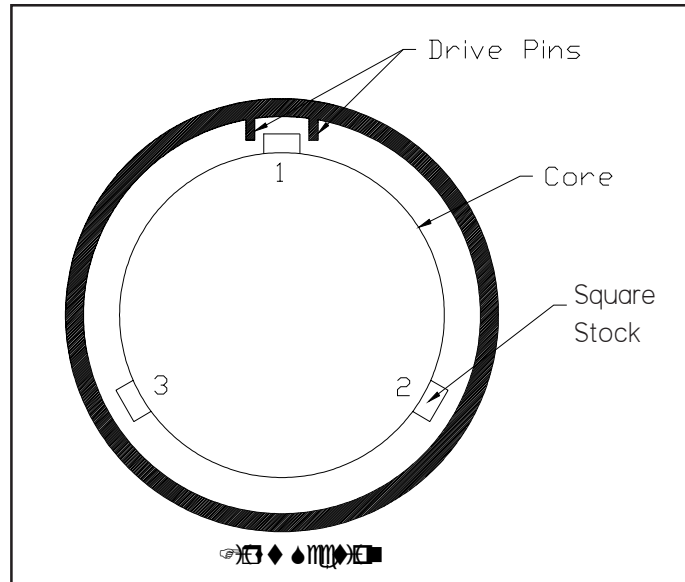


figure 1

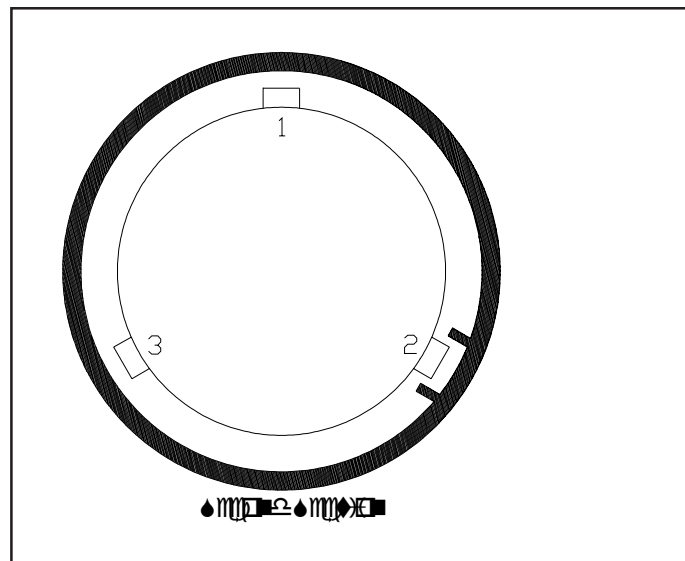


figure 2

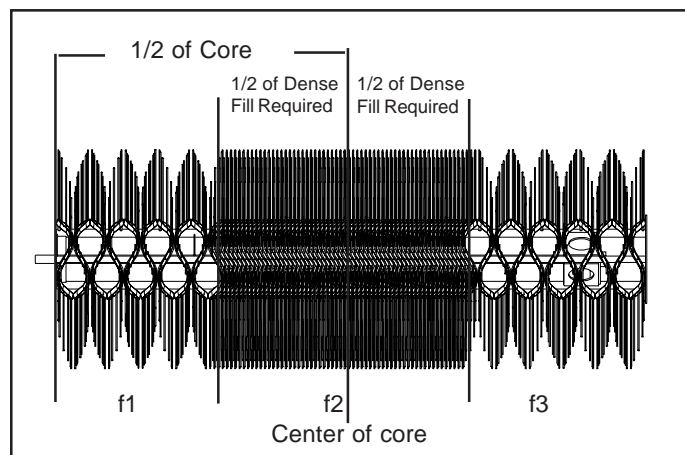


figure 3 (CP Special Only)

Maintenance Schedule

| Procedure | Before Each Use | After Each Use | 100 Hours | 500 Hours | See Prime Mover Manual |
|--|-----------------|----------------------------|-----------|-----------|------------------------|
| Brush pattern - Check (See Pattern Adj. Section) | ✓ | | | | |
| Fittings/hoses, hydraulic - Check for leaks/tighten - Check for damage | ✓ | | | | |
| Fittings, zerk - Grease (See Lubrication Points) | ✓ | | | | |
| Oil, hydraulic (Prime Mover) - Check Level | ✓ | See Below for Requirements | | | |
| Hardware - Check for tightness | ✓ | | | | |

Oil Cleanliness Requirements

IMPORTANT - All hydraulic fluid shall be filtered before use in any SWEEPSTER, LLC product to obtain the ISO cleanliness standard of 20/18/15. Unless explicitly specified otherwise.

Fittings/Hoses Inspection Guideline

Stop the prime mover engine and release hydraulic pressure before servicing or adjusting sweeper hydraulic systems.



WARNING - Escaping hydraulic fluid can have enough pressure to penetrate the skin, causing serious personal injury.

Do not bend high pressure lines. Do not strike high pressure lines. Do not install bent lines, bent tubes, or kinked hoses. Do not install damaged lines, damaged tubes, or damaged hoses.

Repair loose lines, loose tubes, and loose hoses. Repair damaged lines, damaged tubes, and damaged hoses. Leaks can cause fires. See your SWEEPSTER/FFC dealer for repair or replacement parts.

Check lines, tubes, and hoses carefully. Do not use your hand to check for leaks. Use a board or cardboard to check for leaks. Tighten all connections to the recommended torque.

Replace the parts if any of the following conditions are present:

- The end fittings are damaged or leaking.
- The outer covering is chafed or cut.
- The reinforcing wire layer is exposed.
- The outer covering is ballooning locally.
- The hose is kinked or crushed.
- The armoring embedded in the outer cover.
- The hoses have been pulled or stretched.

Make sure that all clamps, guards, and shields are installed correctly.

Service

SB Hopper Brooms

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SERVICE SECTION
TROUBLESHOOTING

Troubleshooting

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

Troubleshooting

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

SERVICE SECTION INSTALLING GUTTERBROOM

Installing the Gutterbroom

1. Unpack parts and then compare them to the parts list. If you discover any shortages, contact SWEEPSTER, LLC or your dealer.
2. Remove plugs from mounting holes on right or left side of sweeper.
3. Install the gutterbroom mounting plate and backing plate to the sweeper.
4. Mount motor to the motor mounting plate.
5. Mount the motor mounting plate on the gutterbroom arm.
6. Mount the gutterbroom arm to the pivot arm.
7. Insert the bushings, washers, and pivot arm into the attachment plate. Insert pin into the pivot arm.
8. Attach the adjustment plate to the side of the sweeper with the slot towards the front.
9. Mount the brush plate to the motor.
10. Attach the gutterbroom section to the brush plate.
11. Connect hydraulic fittings and hoses per "Gutterbroom Hydraulics Layout" (See page 26)
12. Place the chain in the keyhole slot. Adjust per "Adjusting Gutterbroom Pattern".

IMPORTANT

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

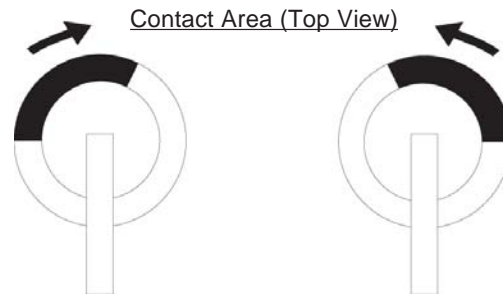
Adjusting Gutterbroom Pattern

When the gutterbroom height is properly adjusted, bristles contact the ground as shown in figure 1.

To adjust the gutterbroom:

1. Lower the gutterbroom to the ground.
2. Loosen the hardware holding the gutterbroom motor mounting plate.
3. Turn the motor mounting plate to the right or left.
4. Adjust the tension chain so it holds the gutterbroom in place.
5. Tighten the hardware holding the motor mounting plate.

fig. 1



Shading represents the area that touches the ground on properly adjusted gutterbrooms.

Adjusting Gutterbroom Swing

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

To adjust gutterbroom swing:

1. Loosen the nut.
2. Adjust the screw. Turn it in for more swing or turn it out for less swing.
3. Tighten the nut.

Using Gutterbroom

The gutterbroom is for sweeping forward only.

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

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



WARNING - Escaping hydraulic fluid can have enough pressure to penetrate the skin, causing serious personal injury.

Replacing Gutter Brush

1. Remove the worn gutter brush section from the brush plate.
2. Mount a new gutter brush section to the brush plate reusing the hardware.
3. Adjust according to "Adjust Gutterbroom Pattern" and "Adjusting Gutterbroom Swing".

Installing the Sprinkler System Kit

1. Unpack parts and then compare them to the parts list. If you discover any shortages, contact SWEEPSTER, LLC or your dealer.
2. Attach tank mounting plates to tank using flat head screws.
3. Remove plugs from tank mounting location. Non skid tape will need to be trimmed.
4. Mount tank to the sweeper using four screws, flat washers and lock washers.
5. Install the shut-off assembly onto the tank per parts break down. (See pages 36-37)
6. Mount the pump onto the tank using four screws and flat washers.
7. Assemble the strainer and fittings to the pump per the parts break down. (See pages 36-37)
8. Mount the nozzle mounting plates to the front of the sweeper using nuts, flat washers and lock washers.
9. Install the nozzles on the mounting plate.
10. Cut and install 3/8 hose between the nozzles using hose clamps. Only use enough hose to reach the next nozzle.
11. Install tee barbs between nozzles as shown in parts break down. (See pages 36-37)
12. Connect hose to the tee barb and the barb on the pump outlet.
13. Attach nozzle bracket to gutterbroom (if used), 90° nozzle to bracket and connect hose.
14. Mount switch in a convenient location on the prime mover.
15. Connect the black wire to a good ground on the prime mover.
16. Connect the red wire to a 12 volt power supply.
17. Connect the switch wiring harness to the pump wiring.
18. Fill tank with water.
19. Open shut-off valve.
20. Turn on pump.
21. Adjust the nozzles to create a fine mist 8 to 10 inches in front of sweeper.
22. Check system for leaks.

CAUTION - Avoid fire damage. Route wire away from hot and /or moving parts.

17. Connect the switch wiring harness to the pump wiring.

Notes

Parts

SB Hopper Brooms

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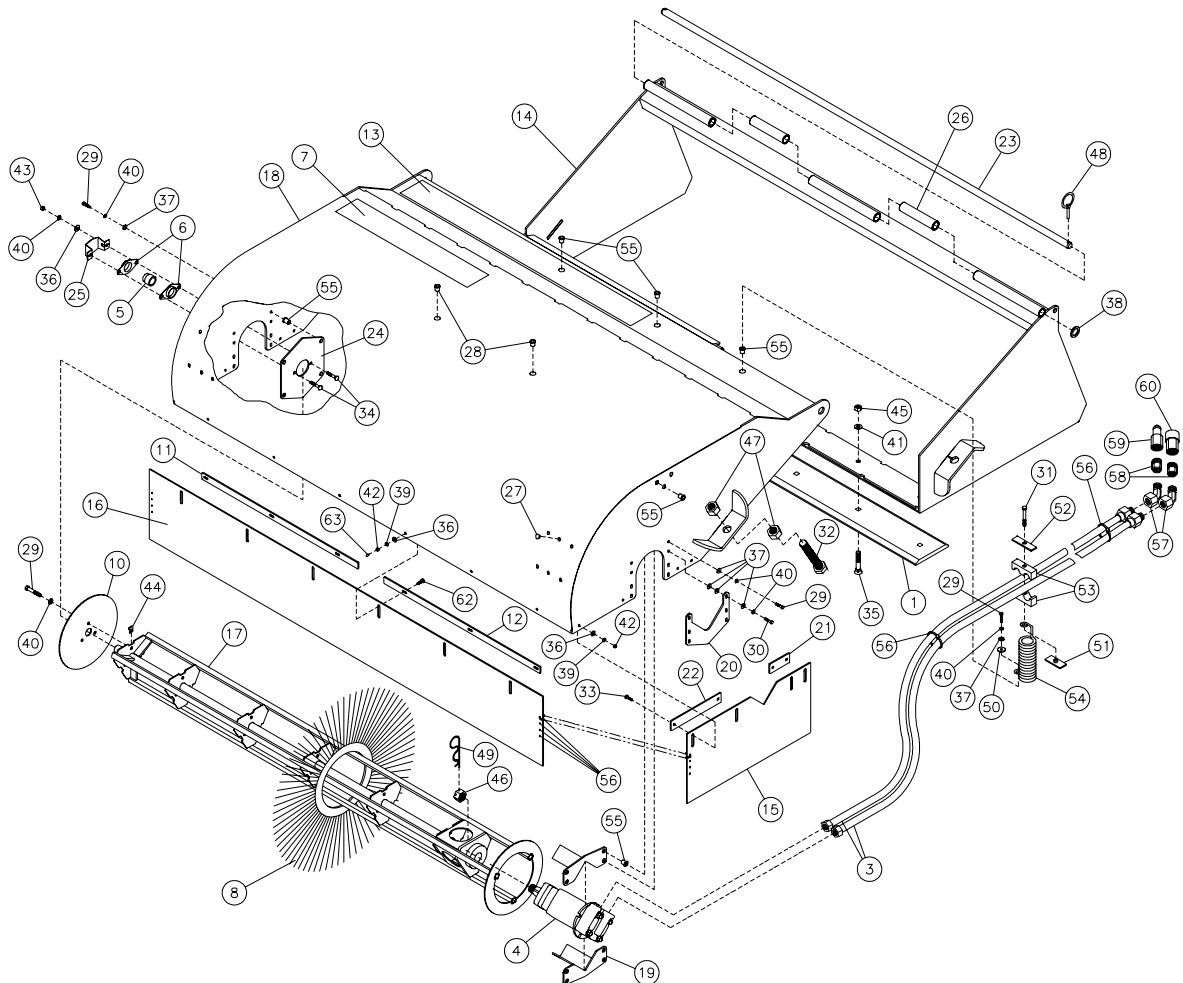
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PARTS SECTION
HOPPERBROOM**SB Hopper Broom**

| Ref. | Qty | 20060 60" | 20072 72" | 20084 84" | Description |
|------|--------|--------------|--------------|--------------|---|
| 1 | 1 | LAF8361 | LAF2803 | LAF8337 | Bucket Edge, 5/8 x 6 x Nominal Broom Width |
| 3. | 2 | 03-10006 | 03-10006 | 03-10006 | Hose, 1/2 x 120, 100R2, 10MORS-12MOR |
| 4. | 1 | 03-3029 | 03-3029 | 03-3029 | Hydraulic Motor |
| 5. | 1 | 08-0006 | 08-0006 | 08-0006 | Bearing, Core Shaft |
| 6. | 2 | 08-0005 | 08-0005 | 08-0005 | Flange, Bearing, Core Shaft |
| 7. | 1 | 07-2656 | 07-2656 | 07-2656 | Tape, Anti-Slip, Abrasive, 4" x 2', Black |
| 8. | Varies | 01-5210 | 01-5210 | 01-5210 | Brush, Section, Poly, 26 In, Black, Quantity Noted (XXXXX-P) |
| | | 35 | 41 | 49 | |
| | Varies | 01-5010 | 01-5010 | 01-5010 | Brush, Section, Mixed, 26 In, Black, Quantity Noted (XXXXX-M) |
| | | 35 | 41 | 49 | |
| 10. | 1 | LAF8259 | LAF8259 | LAF8259 | Brush, Section, Retainer |
| 11. | 1 | LAF8346 | LAF8301 | LAF8301 | Flap, Retainer |
| 12. | 1 | LAF8301 | LAF8301 | LAF8302 | Flap, Retainer |
| 13. | 1 | LAF8303 | LAF8303 | LAF8303 | Tape, Anti-Slip, Abrasive, 4" x 3 1/2', Black |
| 14. | 1 | LAF8321 | LAF8322 | LAF8323 | Bucket Weldment (without mounting) |
| 15. | 2 | LAF8324 | LAF8324 | LAF8324 | Flap, Side |
| 16. | 1 | LAF8338 | LAF8325 | LAF8342 | Flap, Front |
| 17. | 1 | LAF8339 | LAF8326 | LAF8343 | Core Weldment |
| 18. | 1 | 13-50082 | 13-50083 | 13-50084 | Housing, Sweeper |
| 19. | 2 | LAF8328 | LAF8328 | LAF8328 | Cradle, Motor, Hydraulic, Weldment |
| 20. | 1 | LAF8329 | LAF8329 | LAF8329 | Plate, Motor, Hydraulic, Clamping |
| 21. | 2 | LAF8330 | LAF8330 | LAF8330 | Retainer, Flap, Side, 3 5/8" |
| 22. | 2 | LAF8331 | LAF8331 | LAF8331 | Retainer, Flap, Side, 9 1/8" |
| 23. | 1 | LAF8341 | LAF8332 | LAF8345 | Rod, Pivot |
| 24. | 1 | LAF8333 | LAF8333 | LAF8333 | Plate, Bearing, Mounting |
| 25. | 1 | LAF8334 | LAF8334 | LAF8334 | Plate, Bearing, Cover |
| 26. | 2 | Not Used | LAF8335 | LAF8336 | Spacer, Pipe |
| 27. | 8 | LAF9853 | LAF9853 | LAF9853 | Plug, 3/8, Black |
| 28. | 2 | RHW8645 | RHW8645 | RHW8645 | Nut, Rivet, 5/16-18, .027-.15 Grip Length |
| 29. | 10 | 07-1714 | 07-1714 | 07-1714 | Screw, Hex, Cap, 5/16-18 x 1, Gr8, Quantity Noted |
| 30. | 6 | 07-3647 | 07-3647 | 07-3647 | Screw, Hex, Cap, 5/16-18 x 1 1/2, Gr8 |
| 31. | 1 | 07-1784 | 07-1784 | 07-1784 | Screw, Hex, Cap, 5/16-18 x 2 1/2, Gr8 |
| 32. | 2 | 07-3623 | 07-3623 | 07-3623 | Screw, Hex, Cap, 1-8 x 6, Full Thread, Gr5 |
| 33. | 8 | 07-3691 | 07-3691 | 07-3691 | Bolt, Carriage, 1/4-20 x 1, Gr5 |
| 34. | 2 | 07-3438 | 07-3438 | 07-3438 | Bolt, Carriage, 5/16-18 x 1, Gr5 |
| 35. | Varies | 07-4454 | 07-4454 | 07-4454 | Bolt, Plow, 1/2-13 x 1 1/2, Gr8 |
| | | 6 | 7 | 8 | |
| 36. | Varies | 07-4032 | 07-4032 | 07-4032 | Washer, Flat, 1/4, Gr8 |
| | | 15 | 16 | 17 | |
| 37. | 25 | 07-3275 | 07-3275 | 07-3275 | Washer, Flat, 5/16, Gr8 |
| 38. | 2 | 07-5451 | 07-5451 | 07-5451 | Washer, Flat, 7/8, Gr8 |
| 39. | Varies | 07-4038 | 07-4038 | 07-4038 | Washer, Lock, 1/4, Split, Medium |
| | | 13 | 14 | 15 | |
| 40. | 18 | 07-3273 | 07-3273 | 07-3273 | Washer, Lock, 5/16, Split, Medium |
| 41. | Varies | 07-1762 | 07-1762 | 07-1762 | Washer, Lock, 1/2, Split, Medium |
| | | 6 | 7 | 8 | |
| 42. | Varies | 07-4039 | 07-4039 | 07-4039 | Nut, Hex, 1/4-20 |
| | | 13 | 14 | 15 | |
| 43. | 2 | 07-3278 | 07-3278 | 07-3278 | Nut, Hex, 5/16-18 |
| 44. | 3 | RHW7110 | RHW7110 | RHW7110 | Nut, U-Style, Clip, 5/16-18 |

SB Hopper Broom

| Ref. | Qty | 20060 60" | 20072 72" | 20084 84" | Description |
|------|--------|------------------------------------|--------------|--------------|--|
| 45. | Varies | 07-1764 6 | 07-1764 7 | 07-1764 8 | Nut, Hex, 1/2-13 |
| 46. | 1 | 07-6081 | 07-6081 | 07-6081 | Nut, Hex, Slotted, 1-20, Gr5 |
| 47. | 4 | 07-4035 | 07-4035 | 07-4035 | Nut, Hex, 1-8 |
| 48. | 2 | 07-0244 | 07-0244 | 07-0244 | Pin, Lynch, 1/4 x 1 9/16 |
| 49. | 1 | 07-0210 | 07-0210 | 07-0210 | Pin, Cotter, Hairpin, 1/8 x 2 3/8 |
| 50. | 1 | 07-4942 | 07-4942 | 07-4942 | Washer, Fender, 5/16 x 1 1/2 x 0.08 |
| 51. | 1 | RHW8613 | RHW8613 | RHW8613 | Plate, Weld, 5/16 Threaded Hole |
| 52. | 1 | RHW8614 | RHW8614 | RHW8614 | Plate, Cover, Hose Clamp Cradle |
| 53. | 1pair | RHW8616 | RHW8616 | RHW8616 | Clamp, Cradle, 7/8 Hoses |
| 54. | 1 | RHW8618 | RHW8618 | RHW8618 | Spring, 1 1/2 x 11 5/8 |
| 55. | 21 | RHW8642 | RHW8642 | RHW8642 | Nut, Rivet, 5/16-18, .15-.312 Grip |
| 56. | 10 | RMR5002 | RMR5002 | RMR5002 | Ties, Nylon, Cable, 1/4 x 11, Black |
| 57. | 2 | Contact SWEEPSTER for correct item | | | Elbow, Hydraulic (Not Required on Some Models) |
| 58. | 2 | Contact SWEEPSTER for correct item | | | Adapter, Hydraulic (Not Required on Some Models) |
| 59. | 1 | Contact SWEEPSTER for correct item | | | Quick Coupler, Hydraulic, Male End |
| 60. | 1 | Contact SWEEPSTER for correct item | | | Quick Coupler, Hydraulic, Female End |
| 62. | Varies | 07-3692 5 | 07-3692 6 | 07-3692 7 | Bolt, Carriage, 1/4-20 x 1 1/4, Gr5 |
| 63. | Varies | RHW8611 5 | RHW8611 6 | RHW8611 7 | Cap, Vinyl, 1/4 x 1/2 |



PARTS SECTION
COLD PLANER SPECIAL

Cold Planer Special

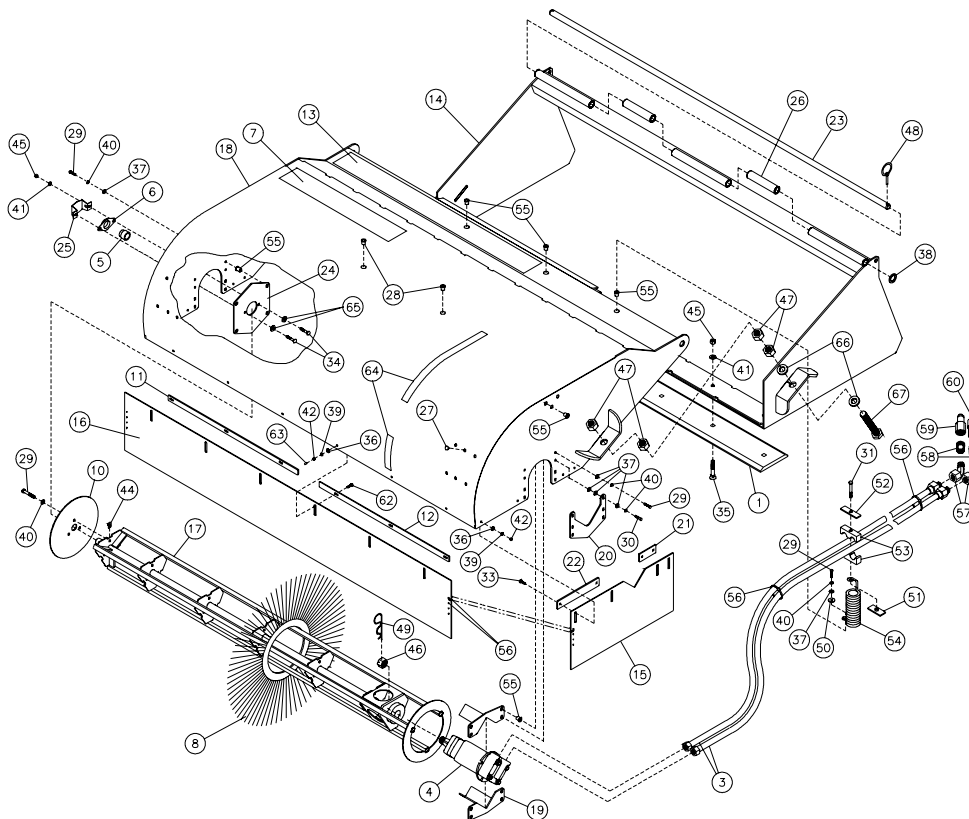
| Ref. | Qty | 20059P 60" | 20071P 72" | 20083P 84" | Description |
|------|--------|---------------|---------------|---------------|---|
| 1. | 1 | LAF8361 | LAF2803 | LAF8337 | Bucket Edge, 5/8 x 6 x Nominal Broom Width |
| 3. | 2 | 03-10006 | 03-10006 | 03-10006 | Hose, 1/2 x 120, 100R2, 10MORS, 12MOR |
| 4. | 1 | 03-3029 | 03-3029 | 03-3029 | Hydraulic Motor |
| 5. | 1 | LAF3533 | LAF3533 | LAF3533 | Assembly, Taper, Lock, Adapter |
| 6. | 1 | LAF3534 | LAF3534 | LAF3534 | Brush Bearing |
| 7. | 1 | 07-2656 | 07-2656 | 07-2656 | Tape, Anti-Slip, Abrasive, 4" x 2', Black |
| 8. | Varies | 01-5847 | 01-5847 | 01-5847 | Brush, Section, Poly, 26 inch, Black (See chart for quantity) |
| 10. | 1 | LAF8259 | LAF8259 | LAF8259 | Brush, Section, Retainer |
| 11. | 1 | LAF8346 | LAF8301 | LAF8301 | Flap, Retainer |
| 12. | 1 | LAF8301 | LAF8301 | LAF8302 | Flap, Retainer |
| 13. | 1 | LAF8303 | LAF8303 | LAF8303 | Tape, Anti-Slip, Abrasive, 4" x 3 1/2', Black |
| 14. | 1 | 13-50134 | 13-51165 | 13-50739 | Bucket Weldment |
| 15. | 2 | LAF8324 | LAF8324 | LAF8324 | Flap, Side |
| 16. | 1 | LAF8338 | LAF8325 | LAF8342 | Flap, Front |
| 17. | 1 | 13-51157 | 13-51158 | 13-50939 | Core Weldment |
| 18. | 1 | 13-50082 | 13-50083 | 13-50084 | Housing, Sweeper |
| 19. | 2 | LAF8328 | LAF8328 | LAF8328 | Cradle, Motor, Hydraulic, Weldment |
| 20. | 1 | LAF8329 | LAF8329 | LAF8329 | Plate, Motor, Hydraulic, Clamping |
| 21. | 2 | LAF8330 | LAF8330 | LAF8330 | Retainer, Flap, Side, 3 5/8" |
| 22. | 2 | LAF8331 | LAF8331 | LAF8331 | Retainer, Flap, Side, 9 1/8" |
| 23. | 1 | LAF8341 | LAF8332 | LAF8345 | Rod, Pivot |
| 24. | 1 | 13-51081 | 13-51081 | 13-51081 | Plate, Bearing, Mounting |
| 25. | 1 | 13-51161 | 13-51161 | 13-51161 | Plate, Bearing, Cover |
| 26. | 2 | Not Used | LAF8335 | LAF8336 | Spacer, Pipe |
| 27. | 8 | LAF9853 | LAF9853 | LAF9853 | Plug, 3/8, Black |
| 28. | 2 | RHW8645 | RHW8645 | RHW8645 | Nut, Rivet, 5/16-18, .027-15 Grip Length |
| 29. | 10 | 07-1714 | 07-1714 | 07-1714 | Screw, Hex, Cap, 5/16-18 x 1, Gr8 |
| 30. | 6 | 07-3647 | 07-3647 | 07-3647 | Screw, Hex, Cap, 5/16-18 x 1 1/2, Gr8 |
| 31. | 1 | 07-1784 | 07-1784 | 07-1784 | Screw, Hex, Cap, 5/16-18 x 2 1/2, Gr8 |
| 33. | 8 | 07-3691 | 07-3691 | 07-3691 | Bolt, Carriage, 1/4-20 x 1, Gr5 |
| 34. | 2 | 07-3708 | 07-3708 | 07-3708 | Bolt, Carriage, 1/2-13 x 1 1/2, Gr5 |
| 35. | Varies | 07-4454 | 07-4454 | 07-4454 | Bolt, Plow, 1/2-13 x 1 1/2, Gr8 |
| | | 6 | 7 | 8 | |
| 36. | Varies | 07-4032 | 07-4032 | 07-4032 | Washer, Flat, 1/4, Gr8 |
| | | 13 | 14 | 15 | |
| 37. | 25 | 07-3275 | 07-3275 | 07-3275 | Washer, Flat, 5/16, Gr8 |
| 38. | 2 | 07-5451 | 07-5451 | 07-5451 | Washer, Flat, 7/8, Gr8 |
| 39. | Varies | 07-4038 | 07-4038 | 07-4038 | Washer, Lock, 1/4, Split, Medium |
| | | 13 | 14 | 15 | |
| 40. | 16 | 07-3273 | 07-3273 | 07-3273 | Washer, Lock, 5/16, Split, Medium |
| 41. | Varies | 07-1762 | 07-1762 | 07-1762 | Washer, Lock, 1/2, Split, Medium |
| | | 8 | 9 | 10 | |
| 42. | Varies | 07-4036 | 07-4036 | 07-4036 | Nut, Hex, 1/4-20 |
| | | 13 | 14 | 15 | |
| 44. | 3 | RHW7110 | RHW7110 | RHW7110 | Nut, U-Style, Clip, 5/16-18 |
| 45. | Varies | 07-1764 | 07-1764 | 07-1764 | Nut, Hex, 1/2-13 |
| | | 8 | 9 | 10 | |
| 46. | 1 | 07-6081 | 07-6081 | 07-6081 | Nut, Hex, Slotted, 1-20, Gr5 |
| 47. | 8 | 07-4035 | 07-4035 | 07-4035 | Nut, Hex, 1-8 |
| 48. | 2 | 07-0244 | 07-0244 | 07-0244 | Pin, Lynch, 1/4 x 1 9/16 |
| 49. | 1 | 07-0210 | 07-0210 | 07-0210 | Pin, Cotter, Hairpin, 1/8 x 2 3/8 |
| 50. | 1 | 07-4942 | 07-4942 | 07-4942 | Washer, Fender, 5/16 x 1 1/2 x 0.08 |
| 51. | 1 | RHW8613 | RHW8613 | RHW8613 | Plate, Weld, 5/16 Threaded Hole |
| 52. | 1 | RHW8614 | RHW8614 | RHW8614 | Plate, Cover, Hose Clamp Cradle |
| 53. | 1pair | RHW8616 | RHW8616 | RHW8616 | Clamp, Cradle, 7/8 Hoses |
| 54. | 1 | RHW8618 | RHW8618 | RHW8618 | Spring, 1 1/2 x 11 5/8 |
| 55. | 21 | RHW8642 | RHW8642 | RHW8642 | Nut, Rivet, 5/16-18, .15-.312 Grip |

Cold Planer Special

| Ref. | Qty | 20059P 60" | 20071P 72" | 20083P 84" | Description |
|------|--------|------------------------------------|---------------|---------------|---|
| 56. | 6 | RMR5002 | RMR5002 | RMR5002 | Ties, Nylon, Cable, 1/4 x 11, Black |
| 57. | 2 | Contact SWEEPSTER for correct item | | | Elbow, Hydraulic (Not Required on Some Models) |
| 58. | 2 | Contact SWEEPSTER for correct item | | | Adapter, Hydraulic (Not Required on Some Models) |
| 59. | 1 | Contact SWEEPSTER for correct item | | | Quick Coupler, Hydraulic, Male End |
| 60. | 1 | Contact SWEEPSTER for correct item | | | Quick, Coupler, Hydraulic, Female End |
| 62. | Varies | 07-3692 | 07-3692 | 07-3692 | Bolt, Carriage, 1/4-20 x 1 1/4, Gr5 |
| | | 5 | 6 | 7 | |
| 63. | Varies | RHW8611 | RHW8611 | RHW8611 | Cap, Vinyl, 1/4 x 1/2 |
| | | 5 | 6 | 7 | |
| 64. | 48" | 07-10012 | 07-10012 | 07-10012 | Tape, Vinyl, White, Marking, 1 inch (Order by the Inch) |
| 65. | 2 | 07-3120 | 07-3120 | 07-3120 | Washer, Flat, 5/8, Gr8 |
| 66. | 4 | 07-6156 | 07-6156 | 07-6156 | Washer, Flat, 1 SAE, Gr8 |
| 67. | 2 | 07-3623 | 07-3623 | 07-3623 | Screw, Hex, Cap, 1-8 x 7, Full Thread, Gr5 |

Brush Quantity Chart

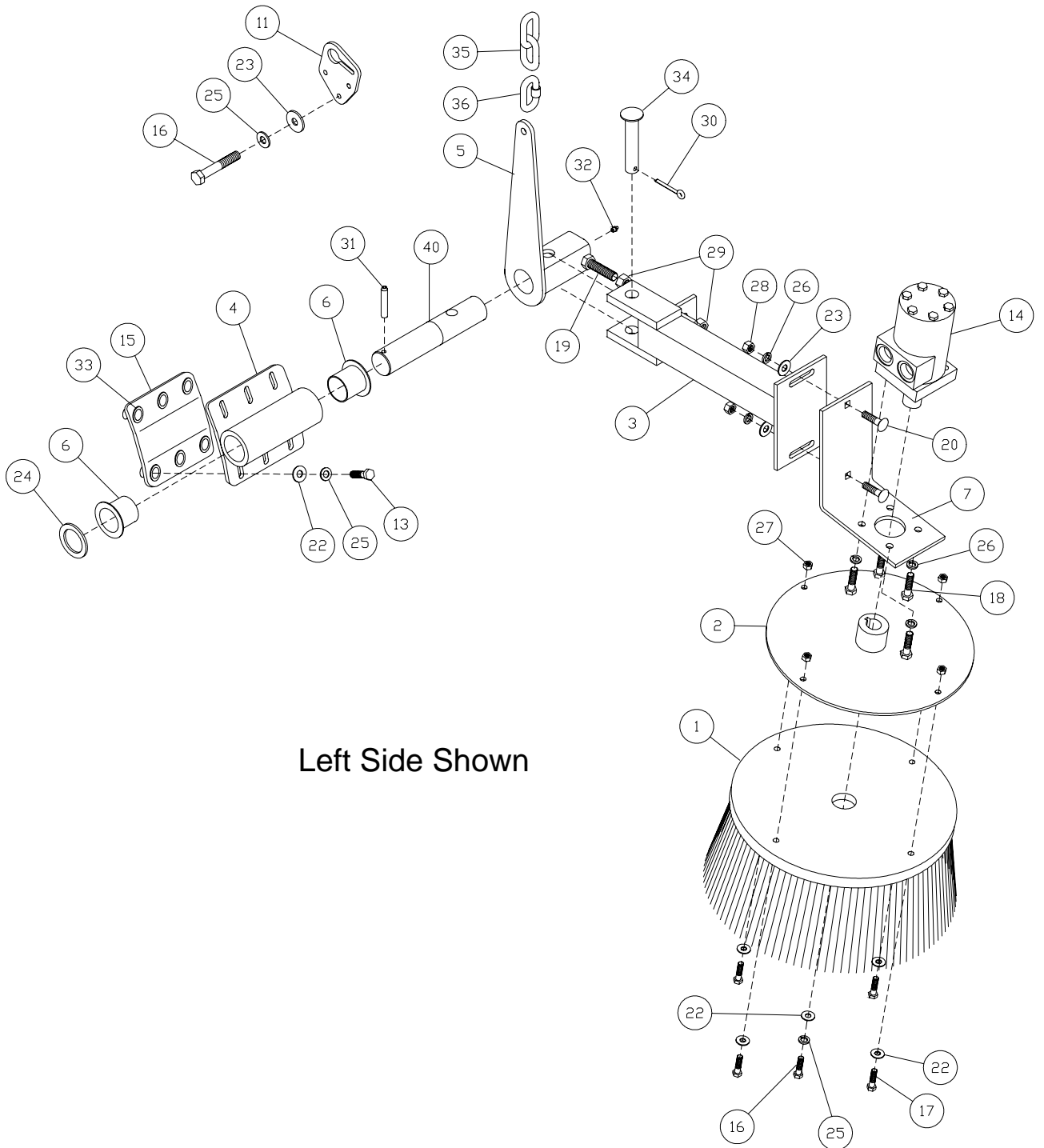
| | Nominal 60" | Nominal 72" | Nominal 84" |
|---------------------|-----------------------|-----------------------|-----------------------|
| Nested Width | Total Quantity | Total Quantity | Total Quantity |
| 12 | 44 | 51 | 57 |
| 16 | 48 | 54 | 61 |
| 20 | 51 | 58 | 64 |
| 24 | 54 | 61 | 68 |
| 30 | 59 | 66 | 73 |
| 36 | 64 | 71 | 78 |
| 40 | 68 | 74 | 81 |
| 48 | 74 | 81 | 88 |
| Full | 82 | 98 | 115 |



Gutterbroom 20003

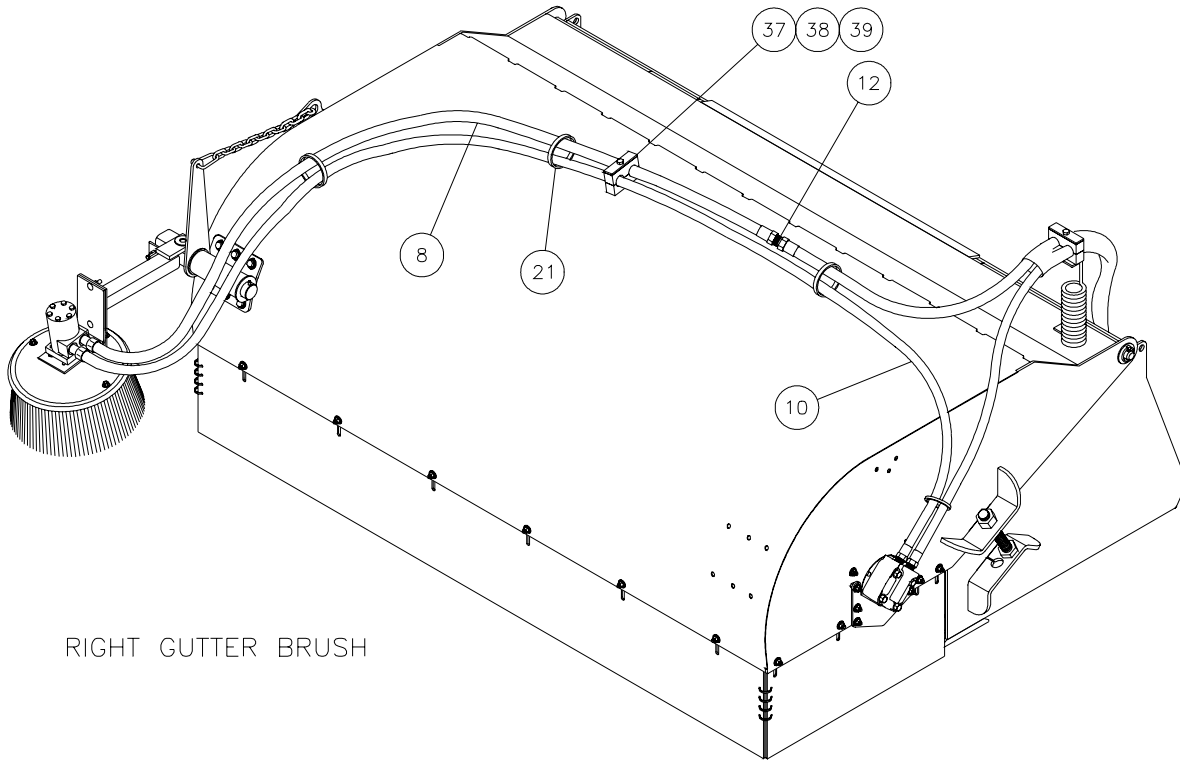
| Ref | Qty | Part # | Description |
|-----|-----|----------|--|
| 1. | 1 | 01-0523 | Brush, Wire |
| | | 01-0704 | Brush, Poly |
| 2. | 1 | 13-0374 | Plate, Brush, Mounting |
| 3. | 1 | 13-2264 | Arm |
| 4. | 1 | 13-50088 | Plate, Attachment |
| 5. | 1 | 13-50096 | Pivot, Weldment |
| 6. | 2 | 09-0156 | Bushing, Pivot |
| 7. | 1 | 13-2265 | Plate, Motor, Mount |
| 8. | 1 | 03-10008 | Hose, 1/2 x 87, 100R2, 10MOR, 10MORS |
| 10. | 1 | 03-10007 | Hose, 1/2 x 140, 100R2, 10MOR, 10MORS |
| 11. | 1 | 13-50075 | Plate, Adjustment |
| 12. | 1 | LAF4441 | Adapter, Hydraulic, 10FOR, 10FOR, Union |
| 13. | 6 | 07-1973 | Screw, HHC, Gr5, 5/16-18 x 1 1/4 |
| 14. | 1 | 03-3151 | Motor, Hydraulic |
| 15. | 1 | 13-50076 | Plate, Mounting |
| 16. | 4 | 07-1714 | Screw, HHC, Gr8, 5/16-18 x 1 |
| 17. | 4 | 07-1698 | Screw, HHC, Gr8, 5/16-18 x 2 |
| 18. | 4 | 07-0018 | Screw, HHC, Gr8, 3/8-16 x 1 |
| 19. | 1 | 07-1125 | Screw, HHC, Gr5, 1/2-13 x 2 1/2 Fully Threaded |
| 20. | 2 | 07-1717 | Bolt, Carriage, Gr5, 3/8-16 x 1 1/4 |
| 21. | 4 | RMR5002 | Tie, Zip, 11 inch |
| 22. | 14 | 07-3275 | Washer, Flat, Gr8, 5/16 |
| 23. | 2 | 07-3279 | Washer, Flat, Gr8, 3/8 |
| 24. | 1 | 13-12291 | Bushing, 10ga, 1 1/2 - 2 1/4 |
| 25. | 10 | 07-3273 | Washer, Lock, Gr5, 5/16 |
| 26. | 6 | 07-1718 | Washer, Lock, Gr5, 3/8 |
| 27. | 4 | 07-3270 | Nut, Lock, Gr8, 5/16-18 |
| 28. | 2 | 07-3654 | Nut, Hex, Gr8, 3/8-16 |
| 29. | 2 | 07-1764 | Nut, Hex, Gr8, 1/2-13 |
| 30. | 1 | 07-4961 | Pin, Cotter, Gr2, 1/8 x 2 |
| 31. | 1 | 07-0204 | Pin, Roll, .25 x 2 |
| 32. | 1 | 07-3112 | Zerk, Grease, 1/4-28, Self-tapping |
| 33. | 6 | RHW8642 | Nut, Rivet, 5/16-18, .15-.312 Grip |
| 34. | 1 | 07-6358 | Pin, Clevis, 3/4 x 3 1/2 (3 1/4 usable) |
| 35. | 1 | 07-0387 | Chain, 3/16 (26 Links) |
| 36. | 1 | 07-5054 | Link, Quick, 3/16 |
| 37. | 1 | 07-1784 | Screw, Hex, Cap, 5/16-18 x 2 1/2, Gr8 |
| 38. | 1 | RHW8614 | Plate, Cover, Hose Clamp Cradle |
| 39. | 1Pr | RHW8616 | Clamp, Cradle, 7/8 Hoses |
| 40. | 1 | 13-50093 | Pin, Pivot, Gutterbroom |

Gutterbroom 20003

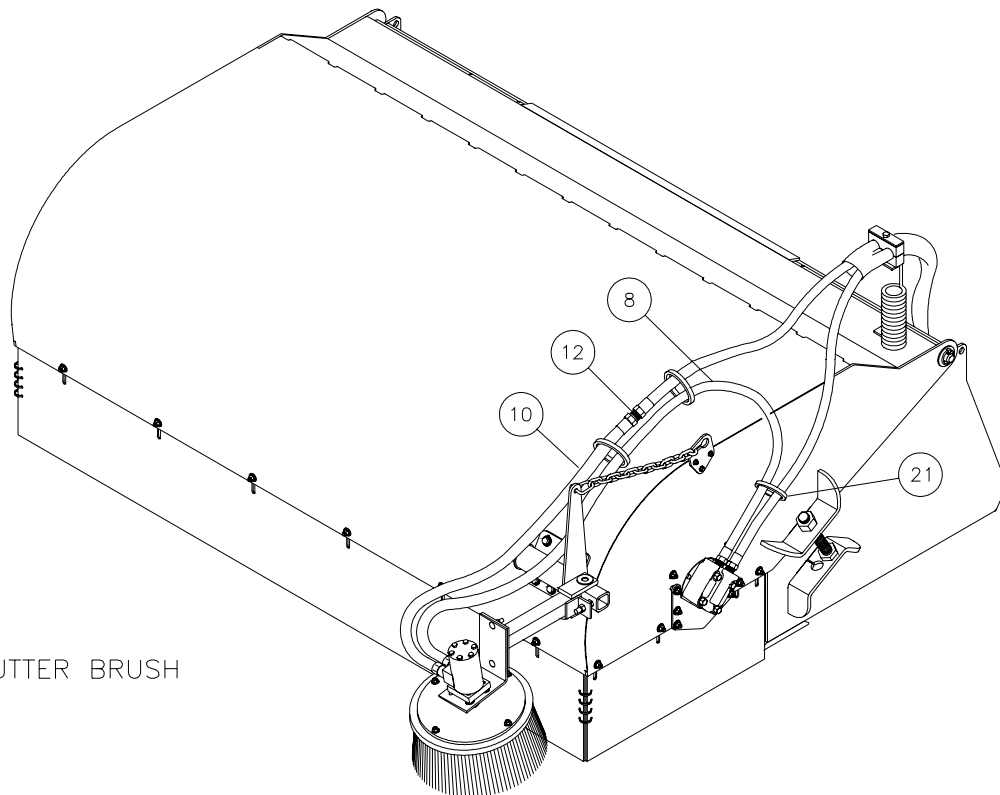


Left Side Shown

PARTS SECTION
GUTTERBROOM



RIGHT GUTTER BRUSH



LEFT GUTTER BRUSH

Notes

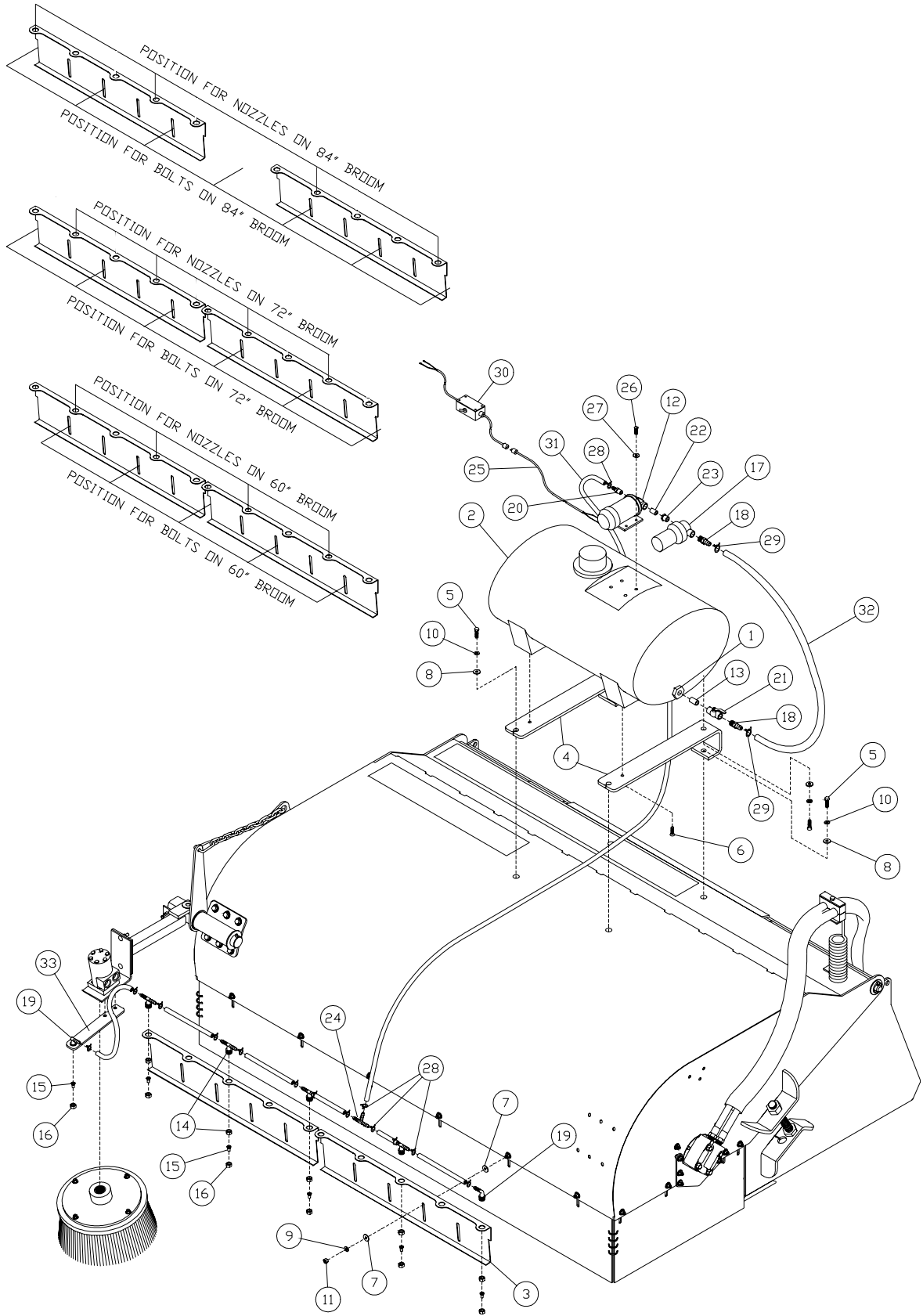
PARTS SECTION
 SPRINKLER KIT

Sprinkler Kit
20001 - W/O Tank
20002 - W/ Tank

| Ref | Qty | Part # | Description |
|-----|------|---------|---|
| 1. | 1 | LAF2823 | Fitting, Outlet, Tank with Nut/O-Ring (20002 only) |
| 2. | 1 | 07-3150 | Tank, Plastic, 25 gallon, with Lid (20002 only) |
| 3. | 2 | LAF8347 | Bracket, Mount, Nozzle |
| 4. | 2 | LAF8378 | Bracket, Mounting, Tank (20002 only) |
| 5. | 6 | 07-1714 | Screw, HHC, Gr8, 5/16-18 x 1 (20002 only) |
| 6. | 2 | RHW2135 | Bolt, Socket, Counter Sunk, Gr5, 5/16-18 x 3/4 (20002 only) |
| 7. | 8 | 07-4032 | Washer, Flat, Gr8, 1/4 |
| 8. | 6 | 07-3275 | Washer, Flat, Gr8, 5/16 (20002 only) |
| 9. | 4 | 07-4038 | Washer, Lock, Gr5, 1/4 |
| 10. | 6 | 07-3273 | Washer, Lock, Gr5, 5/16 (20002 only) |
| 11. | 4 | 07-4039 | Nut, Hex, Gr8, 1/4-20 |
| 12. | 1 | 03-1326 | Pump, 12 Volt |
| 13. | 1 | 03-0152 | Fitting, Nipple, Close, 1/2 |
| 14. | 4* | 07-0411 | Tee, Nozzle, Spray |
| 15. | 6 | 07-0414 | Nozzle, Spray |
| 16. | 6* | 07-0413 | Nut, Nozzle, Spray |
| 17. | 1 | 07-0532 | Strainer |
| 18. | 2 | 03-1226 | Fitting, 5/8 Barb, 1/2 NPT |
| 19. | 2* | 07-0412 | Elbow, Nozzle, Spray, 90°, with Jam Nut |
| 20. | 1 | 03-0457 | Fitting, 3/8 Barb, 3/8 NPT |
| 21. | 1 | 03-1392 | Valve, Shut-off, 1/2 NPT |
| 22. | 1 | 03-0076 | Fitting, Nipple, Close, 3/8 |
| 23. | 1 | 03-0819 | Bushing, Reducer, 1/2 - 3/8 |
| 24. | 1 | 07-3869 | Fitting, Tee, Barb, 3/8 |
| 25. | 1 | LAF8320 | Cable, Pump, Control, 11 Ft. |
| 26. | 4 | 07-0006 | Screw, Cap, #10-24 x 1 |
| 27. | 8 | 07-1536 | Washer, Flat, Gr2, 3/16 |
| 28. | 14* | 07-0549 | Clamp, Hose, 5/8 |
| 29. | 2 | 07-0547 | Clamp, Hose, 7/8 |
| 30. | 1 | LAF8316 | Harness, Wiring, Control Box with Cables |
| 31. | 300" | 09-0056 | Hose, 3/8 |
| 32. | 84" | 09-0028 | Hose, 5/8 |
| 33. | 2* | LAF2826 | Bracket, Nozzle, Gutterbroom |

* Full quantity of part is supplied, but quantity used is dependant upon configuration of unit.

Sprinkler Kit



Notes

Appendix

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APPENDIX
TORQUE SPECS.

Bolt Torque Specifications

| Body Size Grade 5 | Ft-lbs | | Body Size Class 8.8 | Ft-lbs |
|----------------------|----------|--|------------------------|----------|
| 1/4 - 20 | 6 ± 1 | | M6 - 1.0 | 5 ± 1 |
| - 28 | 7 ± 1 | | n/a | - |
| 5/16 - 18 | 13 ± 3 | | n/a | - |
| - 24 | 14 ± 3 | | n/a | - |
| 3/8 - 16 | 23 ± 5 | | M8 - 1.25 | 14 ± 3 |
| - 24 | 26 ± 5 | | - 1.0 | - |
| 7/16 - 14 | 37 ± 8 | | M10 - 1.5 | 29 ± 6 |
| - 20 | 41 ± 9 | | - 0.75 | - |
| 1/2 - 13 | 56 ± 11 | | M12 - 1.75 | 50 ± 10 |
| - 20 | 63 ± 12 | | - 1.0 | - |
| 9/16 - 12 | 82 ± 14 | | M14 - 2.0 | 80 ± 14 |
| - 18 | 91 ± 16 | | - 1.5 | - |
| 5/8 - 11 | 113 ± 20 | | M16 - 2.0 | 125 ± 22 |
| - 18 | 127 ± 23 | | - 1.5 | - |
| 3/4 - 10 | 201 ± 26 | | n/a | - |
| - 16 | 223 ± 29 | | n/a | - |
| 7/8 - 9 | 321 ± 41 | | M20 - 2.5 | 244 ± 31 |
| - 14 | 355 ± 46 | | - 1.5 | - |
| 1 - 8 | 483 ± 62 | | M24 - 3.0 | 422 ± 54 |
| - 12 | 528 ± 68 | | - 2.0 | - |

| Body Size Grade 8 | Ft-lbs | | Body Size Class 10.9 | Ft-lbs |
|----------------------|----------|--|-------------------------|----------|
| 1/4 - 20 | 9 ± 2 | | M6 - 1.0 | 8 ± 1 |
| - 28 | 10 ± 2 | | n/a | - |
| 5/16 - 18 | 18 ± 4 | | n/a | - |
| - 24 | 20 ± 4 | | n/a | - |
| 3/8 - 16 | 32 ± 7 | | M8 - 1.25 | 20 ± 4 |
| - 24 | 37 ± 8 | | - 1.0 | - |
| 7/16 - 14 | 52 ± 11 | | M10 - 1.5 | 40 ± 8 |
| - 20 | 58 ± 12 | | - 0.75 | - |
| 1/2 - 13 | 80 ± 16 | | M12 - 1.75 | 69 ± 14 |
| - 20 | 90 ± 18 | | - 1.0 | - |
| 9/16 - 12 | 115 ± 20 | | M14 - 2.0 | 110 ± 20 |
| - 18 | 128 ± 23 | | - 1.5 | - |
| 5/8 - 11 | 159 ± 28 | | M16 - 2.0 | 173 ± 31 |
| - 18 | 180 ± 32 | | - 1.5 | - |
| 3/4 - 10 | 282 ± 36 | | n/a | - |
| - 16 | 315 ± 41 | | n/a | - |
| 7/8 - 9 | 454 ± 59 | | M20 - 2.5 | 337 ± 44 |
| - 14 | 500 ± 65 | | - 1.5 | - |
| 1 - 8 | 681 ± 88 | | M24 - 3.0 | 583 ± 75 |
| - 12 | 746 ± 97 | | - 2.0 | - |

Foot-pounds may be converted to Newton Meters by multiplying by 1.35582

Foot-pounds may be converted to Inch-pounds by multiplying by 12.

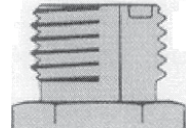
If the nut and screw are not the same grade, the lower grade will always be used.

NOTE - Nylock nuts are utilized when greater resistance to vibrating loose is required, and greater operating temperatures are not a factor. In addition, like lock nuts, nylock nuts have a safety feature that if the bolt does vibrate loose, the nut will remain on the screw. Install nylock nuts to the standard torque shown above.

Hydraulic Torque Specifications

Face Seal: Assembly, Tube to Fitting

Note - Face seal fittings have a very reliable sealing method and therefore, should be used whenever possible.



Installation

1. Make sure threads and sealing surfaces are free of burrs, nicks, scratches, or any foreign materials.
2. Install proper SAE o-ring to end of fitting if not already installed. Ensure o-ring is fully seated and retained properly.
3. Lubricate o-ring with a light coating of clean hydraulic oil.
4. Position tube and nut squarely on face seal of fitting and tighten nut finger tight.
5. Using appropriate torquing device, tighten to given torque rating from the table below.

Torque Values:

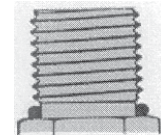
| SAE Dash Size | Tube Side Thread Size | In-lbs | Ft-lbs |
|---------------|-----------------------|------------|---------|
| -4 | 9/16 - 18 | 220 ± 10 | 18 ± 1 |
| -6 | 11/16 - 16 | 320 ± 25 | 27 ± 2 |
| -8 | 13/16 - 16 | 480 ± 25 | 40 ± 2 |
| -10 | 1 - 14 | 750 ± 35 | 63 ± 3 |
| -12 | 1 3/16 - 12 | 1080 ± 45 | 90 ± 4 |
| -16 | 1 7/16 - 12 | 1440 ± 90 | 120 ± 8 |
| -20 | 1 11/6 - 12 | 1680 ± 90 | 140 ± 8 |
| -24 | 2 - 12 | 1980 ± 100 | 165 ± 8 |

NOTE - ft-lb may be converted to NewMeters by multiplying by 1.35582.
NOTE - in-lbs may be converted to Newton Meters by multiplying by 0.11298.

Hydraulic Torque Specifications

Straight Thread O-ring Fitting: Assembly, Fitting to Port

NOTE - Straight thread o-ring fittings are utilized to adapt hydraulic systems to motors, pumps, cylinders, and valves.



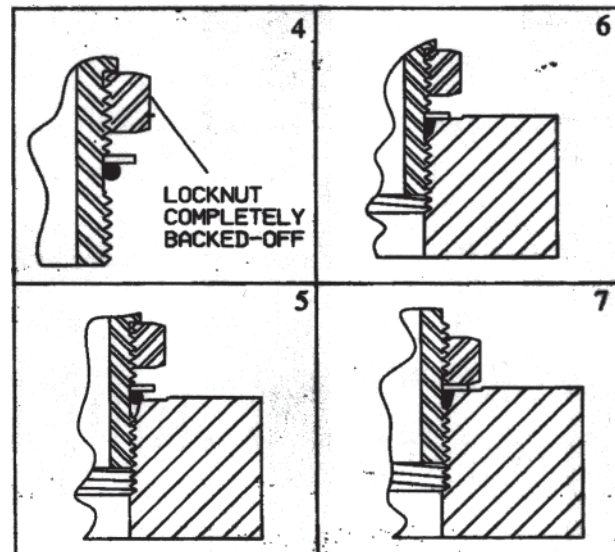
Installation (Adjustable Fitting)

1. Make sure threads and sealing surfaces are free of burrs, nicks, scratches, or any foreign materials.
2. Install proper SAE o-ring on port end of fitting if not already installed. Ensure o-ring is fully seated and retained properly.
3. Lubricate o-ring with a light coating of clean hydraulic oil.
4. Back off nut as far as possible and push washer up as far as possible. (Figure 4 & 5)
5. Screw fitting into port. Hand tighten fitting until backup washer contacts face of port. (Figure 6)
6. To position the fitting, unscrew to desired position, but not more than one full turn.
7. Hold fitting in position with wrench. Using appropriate torquing device, tighten nut to given torque rating from the table in section. (Figure 7)

Figures 4, 5, 6 and 7

Torque Values

| Fitting Size | SAE Port Thread Size | In - lbs | Ft - lbs |
|--------------|----------------------|------------|----------|
| -4 | 7/16 - 20 | 190 ± 10 | 16 ± 1 |
| -6 | 9/16 - 18 | 420 ± 15 | 35 ± 1 |
| -8 | 3/4 - 14 | 720 ± 25 | 60 ± 2 |
| -10 | 7/8 - 14 | 1260 ± 50 | 105 ± 5 |
| -12 | 1 1/16 - 12 | 1680 ± 75 | 140 ± 6 |
| -16 | 1 5/16 - 12 | 2520 ± 100 | 210 ± 8 |
| -20 | 1 5/8 - 12 | 3100 ± 150 | 260 ± 12 |
| -24 | 1 7/8 - 12 | 3800 ± 150 | 315 ± 12 |



NOTE - ft-lb may be converted to NewMeters by multiplying by 1.35582.
NOTE - in-lbs may be converted to Newton Meters by multiplying by 0.11298.

angle or angle assembly - portion of the sweeper that allows the brush head assembly to angle.

BP - black pipe.

brush head assembly - assembly that includes the core, hood, and brush frame.

brush pattern - area of dirt removed from sweeping surface; with a properly adjusted sweeper; the pattern is the same width for the entire length.

castellated - having battlements like a castle.

caution - indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

core - weldment that holds brush sections.

danger - indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

F - female.

FS - face seal.

front - side that is in front when facing the normal forward direction of travel of the machine.

gpm - gallons per minute.

HP - high pressure.

hood - brush shield.

hydraulic angle kit - means of swinging an assembly hydraulically.

important - used for instructions when machine damage may be involved.

in. - inches.

kph - kilometers per hour.

lb - pounds.

left-hand - side that is on the left when facing the normal forward direction of travel of the machine.

lift cylinder - means of raising the brush head assembly hydraulically.

lps - liters per second.

M - male.

mm - millimeters.

mph - miles per hour.

manual angle kit - means of swinging the brush head assembly mechanically.

mid pump unit - sweeper in which the pump is mounted on the mid PTO.

mounting assembly - portion of the sweeper that attaches to the prime mover; designed specifically for each prime mover.

NPT - national pipe thread.

note - indicates supplementary information.

OR - o-ring.

psi - pounds per square inch.

PTO - power take off; shaft on the prime mover used to drive attachments.

plate swing - swing assembly that includes a half-moon plate.

power pack - auxiliary hydraulic package used when prime mover hydraulics do not have enough flow available.

prime mover - refers to the tractor, truck, loader or other vehicle to which a sweeper is attached.

qty - quantity.

quick change core - core designed in a way that allows brush sections to be changed without removing hoses from motors.

rpm - revolutions per minute.

rear - side that is in rear when facing the normal forward direction of travel of the machine.

rear pump unit - sweeper in which the pump is mounted on a rear PTO.

retainer - removable plate or set of plates that keeps sections on the core.

right-handed - side that is on the right when facing the normal forward direction of travel of the machine.

section - single brush wafer.

section set - replacement brush wafers.

sprinkler system - system that sprays water ahead of the sweeper used to reduce dust.

sprinkler tank - assembly that includes the water reservoir and mounting used in a sprinkler system.

stands - devices designed to keep the brush bristles off the ground when the sweeper is dismounted.

swing or swing assembly - portion of the sweeper that allows the brush head assembly to angle.

swing cylinder - means of angling the brush head assembly hydraulically.

tank assembly, hydraulic - assembly that includes the hydraulic reservoir, filter and fittings; may also incorporate valves.

warning - indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

weld - weldment.

windrow - pile of debris.

zerk - grease fitting.

SWEEPSTER WARRANTY REGISTRATION

Thank you for purchasing a Sweepster product. Warranty protection on this equipment is valid only when completed and signed by customer and dealer and mailed to SWEEPSTER. If you have any questions, please give us a call at 1-800-456-7100 or (734) 996-9116.

PLEASE PRINT - PRESS HARD MULTIPLE COPIES

| | |
|---------------------------------|-----------------------------------|
| <i>Purchaser's Name</i> | |
| <i>Address</i> | <i>City</i> |
| <i>State</i> | <i>Zip</i> |
| <i>Model Number</i> | <i>Serial Number</i> |
| <i>Engine Make</i> | <i>Engine Model</i> |
| <i>Date Delivered to Dealer</i> | <i>Date Delivered to Customer</i> |
| <i>Dealer's Name</i> | |
| <i>Address</i> | <i>City</i> |
| <i>State</i> | <i>Zip</i> |
| <i>Phone</i> | |

1. MATERIAL YOU ARE SWEEPING?
 Snow Dirt General Debris Thatch
 Other _____

2. MAKE AND MODEL NUMBER OF PRIME MOVER.
 (For attachment sweepers only.) _____

3. DID YOU OR YOUR CUSTOMER RECEIVE AN OPERATION/PARTS MANUAL? Yes No

4. DID THE UNIT FIT CORRECTLY TO PRIME MOVER?
 Yes No Comments _____

5. WHY DID YOU PURCHASE A SWEEPSTER? (check one)
 Quality Price Reputation Simplicity Prior Use
 Dealer Referral Operation Features Availability
 Other _____

6. PLEASE RATE THE FOLLOWING (check one)
 Appearance: Excellent Good Poor
 Delivery Time: Excellent Good Poor
 Sales Service: Excellent Good Poor
 Performance: Excellent Good Poor
 Technical Support: Excellent Good Poor

7. SUGGESTIONS/COMMENTS? _____

White-Customer Yellow-Dealer Card-Return to Sweepster postage paid

Form: SWR Rev 4/97



SWEEPSTER LLC Limited 12 Month Warranty

Thank you for purchasing a Sweepster, LLC. product. Warranty protection is valid only when this Warranty Registration is completed and signed by the customer and dealer, and mailed to Sweepster LLC. I hereby acknowledge that I have received a copy of the owners Limited Warranty and I accept the terms therein.

For a period of 12 months from the date of delivery of product to the original user, Sweepster, LLC. warrants each product to be free from manufacturing defects, subject to the limitations contained in this policy.

This warranty does not apply to defect caused, in whole or in part, by unreasonable use while in the possession of the user, including, but not limited to: failure to properly set up product; failure to provide reasonable and necessary maintenance; normal wear; routine tune ups or adjustments; improper handling or accidents; operation at speed or load conditions contrary to published specification; improper or insufficient lubrication; improper storage. This warranty is also not a guarantee that performance of each product will meet the expectations of the purchaser.

Sweepster, LLC. shall not be liable for consequential damages of any kind, including, but not limited to: consequential labor costs or transportation charges in connection with the replacement or repair of defective parts; lost time or expense which may have accrued because of said defects. In no event shall Sweepster, LLC.'s total liability hereunder exceed the product purchase price.

Sweepster, LLC. makes no warranty with respect to trade accessories or any component or accessory of the product which was not manufactured by Sweepster, LLC. including any purchased components of any kind. These are subject to the warranties of their respective manufacturers. The warranty will be considered void if the product or any part of the product is modified or repaired in any way not expressly authorized by Sweepster, LLC. or if closed components are disassembled prior to return. Closed components include, but are not limited to: gearboxes, hydraulic pumps, motors, cylinders, and actuators.

Our obligation under the warranty is expressly limited, at our option, to the replacement or repair at Sweepster, LLC or at a service facility designated by us, or such part or parts as inspection shall disclose to have been defective. We are not responsible for unauthorized repairs or replacements. Any implied or statutory warranties, including any warranty of merchantability or fitness for a particular purpose, are expressly limited to the duration of this written warranty. We make no other express or implied warranty, nor is anyone authorized to make any on our behalf. This warranty cannot be extended, broadened, or changed except in writing by an authorized officer of Sweepster, LLC.