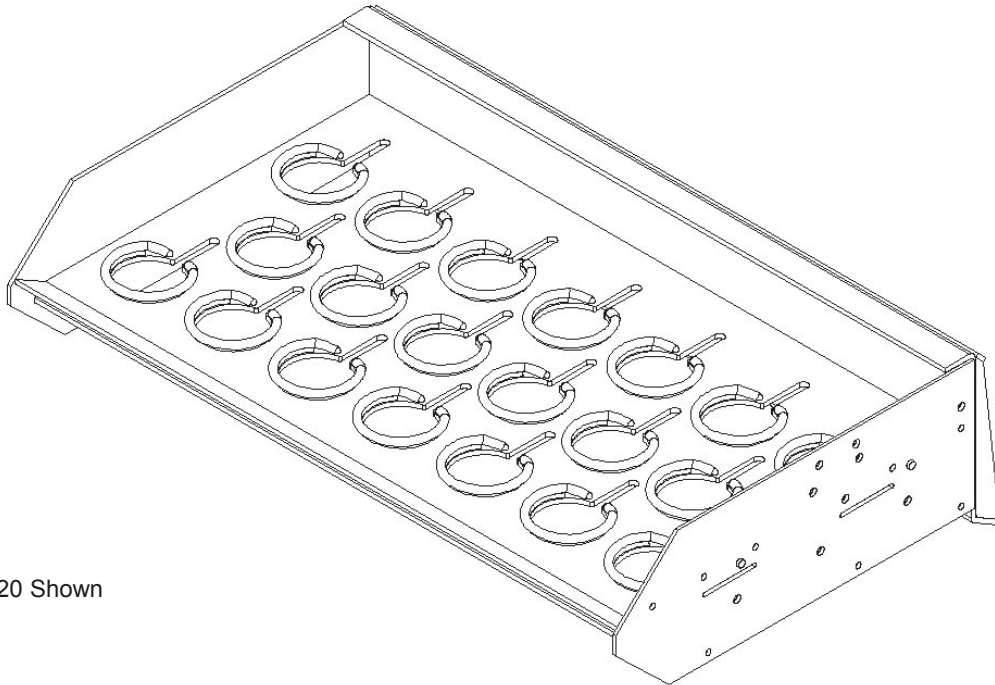




SandMaster Attachment



SM20 Shown

Manual Number: SM2020

Models covered: SM20, SM26, SM26UM

MACHINE SERIAL NUMBER: _____

360-217-8215 www.barriersystemsllc.com
Barrier systems LLC: P.O. Box 854, Kula, HI 96790, United States of America

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INTRODUCTION

Congratulations on your purchase of a new **SandMaster Attachment**. This product has been designed and built to fill, transport, securely close and place multiple sandbags at or near the area of need. You or any other people who will be assembling, operating, maintaining, or working with this product are required to read and completely understand the information and instructions contained in this manual. If anyone does not fully understand every part of this manual, please obtain further assistance by contacting the dealer from which this product was purchased or by contacting Barrier Systems LLC at the telephone number or address listed on the cover of this manual. Keep this manual available for reference whenever this product is being handled or used. Provide this manual to any new owners and/or operators.

This manual covers model(s) **SM20, SM26 and SM26E**. The difference between the models is the width, weight, number of apertures for holding bags and attachment method to the receiving power unit, details of which are covered on the parts list and specifications page(s).

GENERAL INFORMATION

The purpose of this manual is to assist in assembling, mounting, operating, and maintaining your **SandMaster Attachment**. Read this manual carefully to obtain valuable information and instructions that will help you achieve years of safe and dependable service.

The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and/or production changes, this product may vary slightly in detail. Barrier Systems LLC reserves the right to redesign and/or change components as may be necessary without notification to anyone.

Throughout this manual, references may be made to:

| | |
|--------------------------|---|
| Power Unit | The engine-driven machine to which this product must be attached. |
| Right, Left, Front, Rear | Directions that are determined in relation to the operator of the equipment when seated in the normal operating position. |
| IMPORTANT NOTICE | Precautions that must be followed to prevent damage to equipment. |
| | Precautions that must be followed to prevent substandard performance. |

SERIAL NUMBER LOCATION

Always refer to the model and serial number when ordering parts or requesting information from your dealer. The serial number plate for this product is located **on the upper left rear portion of your SandMaster Attachment**.

REFERENCE MATERIAL

| | |
|-----------------------------|------------------------------|
| Model Number _____ | Loader Make _____ |
| Serial Number _____ | Loader Model _____ |
| Date Purchased _____ | Loader Serial # _____ |

DEFINITION OF SAFETY TERMS AND SYMBOLS

Throughout this manual, the terms **DANGER**, **WARNING**, and **CAUTION** are used to indicate the degree of hazard to personnel if proper safety procedures are not followed. These words will be used in conjunction with the Safety Alert Symbol: a dark triangle containing a white exclamation mark.



The Safety Alert Symbol means:

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

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 minor or moderate injury;**

OR

may also be used to alert against unsafe practices that may result in personal injury.

ACCIDENTS CAN BE PREVENTED WITH **YOUR HELP !**

Accident prevention programs can only be successful with complete cooperation of the person who is directly responsible for the operation of the equipment.

Accidents can be prevented only if the operator of the equipment can consistently anticipate the results of their actions.

If accidents are to be prevented (which they can), that prevention will come from equipment operators who accept their complete responsibility.

The manufacturer, safety engineer and designer, work diligently in creating a safe product, but the operator is ultimately responsible for the safety of themselves and others in and around the equipment.

A careful operator is the best safety device. Barrier Systems LLC asks that **you** be that careful responsible operator.

YOU can reduce the risk of injury or death by following all safety precautions and by using good safety practices.

YOU ARE THE KEY TO SAFETY BECAUSE:

YOU are responsible for the SAFE operation and maintenance of **YOUR SandMaster Attachment.**

YOU are responsible to familiarize yourself, and anyone else who will assemble, operate, maintain, or work around this product, with the SAFETY information contained in this manual.

YOU are responsible to read ALL information contained in this manual to any operators or maintenance personnel who are not fully able to read the written English language. Whether you read the manual as written or translate it into another language.

YOU must make certain that all operators and maintenance personnel have a complete understanding of the full and exact contents of this manual. Translations of this manual into other languages are available by submitting an order to Barrier Systems LLC.

SAFETY INSTRUCTIONS

WORK SAFELY - A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS !!

WARNING SECTION

WARNING

Obey all the safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

BEFORE ATTEMPTING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE, OR OTHER WORK ON OR NEAR THIS PRODUCT:

- **READ AND COMPLETELY UNDERSTAND THIS MANUAL.**
- **READ AND COMPLETELY UNDERSTAND THE MANUALS PROVIDED WITH YOUR *power unit, loader, and quick-attach.***
- Read and understand all safety signs on this product and on your power unit, loader, and quick-attach.
- Know all your controls and know how to quickly stop all power unit movement, the SandMaster Attachment movement, and the engine in case of an emergency.
- Know and obey all applicable government rules, O.S.H.A. regulations, local laws and other professional guidelines for your operation.
- Make sure that anyone who will be assembling, mounting, maintaining, repairing, removing, and/or storing this product:
 - Has been instructed in the safe operation of this product and of the power unit, loader, and quick-attach to which this product is attached.
 - Is physically and mentally capable of the safe operation of this type of equipment.
 - Is not under the influence of drugs or alcohol.
 - Is carefully supervised from a safe distance, especially if such person is inexperienced.
 - Wears appropriate protective equipment (i.e. hardhat, safety glasses, work gloves, protective shoes, respirator, ear protection, etc.).
 - Does not wear loose fitting clothing, loose or uncovered hair, or any accessories (jewelry, necktie, scarf, wrist watch, etc.) that can catch in moving parts.
 - Has annually reviewed all safety instructions.
- Know and follow good work practices when assembling, mounting, maintaining, repairing, removing, and storing this product:
 - Work on a level surface in a well-lit area.
 - Keep the area clean and dry.

- Use properly grounded electrical outlets & tools.
- Use the right tool for the job at hand.
- Make sure that your tools are in good condition for performing the desired function.
- When using tools, wear the protective equipment specified by the tool manufacturer. (i.e. hardhat, safety glasses, work gloves, protective shoes, etc.)

WHEN YOUR POWER UNIT IS USED DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE, OR OTHER WORK ON OR NEAR THIS PRODUCT:

- Before leaving the operator's station or before beginning any type of work on this product, lower this product to the ground, apply your power unit's parking brake, stop the engine, remove the starter key, wait for all moving parts to stop, and then relieve all pressure in the hydraulic lines. Refer to your power unit's operator's manual for instructions on how to relieve hydraulic pressure in lines.
- Know your loader's safe lifting and operating capacity and the weight of this product. See the specifications in this manual for the weight of this product and refer to your power unit's and your loader's operator's manuals for safe operating limits. Lift capacity may be reduced if using a quick-attach.
- Never allow anyone, except the operator, to be around the power unit or this product when either is in motion. Do not startup unless others are clear of the work area.
- Do not allow riders on this product or the power unit.
- Do not stand or climb on this product when raised.
- Do not place any part of your body under any part of this product unless this product is securely resting on specified blocking or on the ground.
- Do not use blocking made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Do not use wood or steel blocking that shows any signs of material decay. Do not use blocking that is warped, twisted, or tapered.
- Never operate controls from the ground. Operate the controls only from the operator's station.
- Never leave equipment unattended with the engine running or with this product raised on the loader.
- Be aware of the added weight and width of this product. Reduce travel speeds accordingly, especially when traveling over rough ground.
- Keep this product close to the ground and under control when transporting.

SAFETY INSTRUCTIONS

WORK SAFELY - A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS !!

WARNING SECTION (CONTINUED)

WARNING

Obey all the safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

WHEN DEALING WITH HYDRAULICS DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE, OR OTHER WORK ON OR NEAR THIS PRODUCT:

- Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible!
- If any fluid penetrates the skin, GET IMMEDIATE MEDICAL ATTENTION!!
- Wear safety glasses, protective clothing, and use a sound piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS!**
- Before connecting or disconnecting hydraulic hoses, read your power unit's operator's manual for detailed instructions on connecting and disconnecting hydraulic attachments.
- Make certain that all parts meet the specifications for this product when installing or replacing hydraulic hoses or fittings.
- After connecting hydraulic lines:
 - Slowly and carefully raise the loader and cycle the rollback / dump cylinders to check hose clearances and to check for any interference.
 - Operate the hydraulics on this product to check hose clearances and to check for any interference.
 - Make certain that the hoses cannot interfere with or actuate the quick-attach mechanism.
 - Make certain that hoses will not be pinched, or get tangled, in any equipment.
- Refer to your power unit's operator's manual and this manual for procedures and intervals, then inspect and maintain the entire hydraulic system to insure that the fluid remains clean, that all devices function properly, and that there are no fluid leaks.

WHEN MOUNTING THIS PRODUCT TO YOU'RE POWER UNIT:

- Refer to the operator's manuals of your power unit, your loader, and your quick-attach for special or detailed mounting instructions.
- SM20 - should fit onto the quick-attach or loader arms of your power unit the same as the original products that were designed by your loader / quick-attach manufacturer.
- SM26 – supplied hooks must be welded to your current loader bucket, and holes must be drilled into loader bucket to bolt support arms.
- If this product does not fit properly, contact Barrier Systems LLC before operating.
- Never place your finger into the mounting plate or loader holes. A slight movement of the power unit or this product could cause serious injury.

BEFORE EACH USE, THOROUGHLY INSPECT THIS PRODUCT AND:

- Make certain that all safety signs are in place and legible. Refer to the safety sign page in this manual for the placement of safety signs for this product.
- Replace all damaged or excessively worn parts and hardware only with genuine Barrier Systems LLC parts or with properly rated fasteners, hydraulic hoses, or fittings.
- **Make certain that all locking pins, latches, and connection devices are properly installed and secured.**
- Make certain that all protective guards, canopies, doors, etc. are in place and secure.

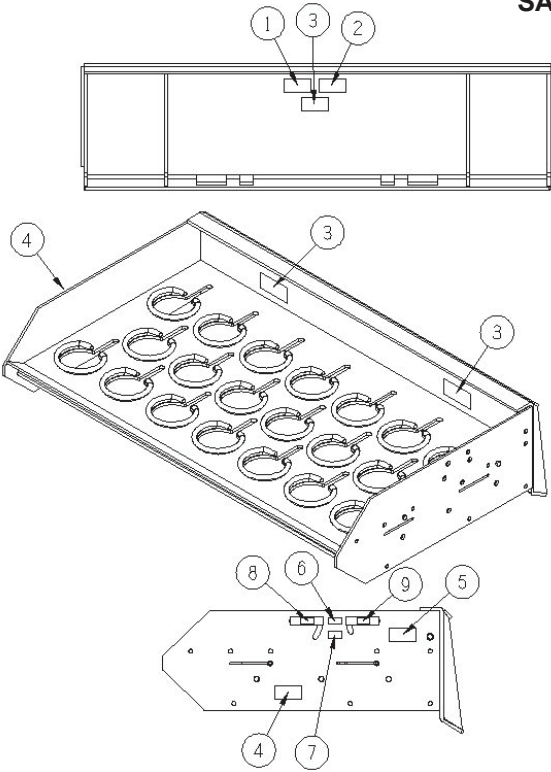
WHEN OPERATING THIS PRODUCT IN ACCORDANCE WITH DESIGN INTENTIONS:

- Never get between the floor and the Power Unit or SandMaster Attachment.
- Do not roll back this product so far that materials fall toward the operator.
- Always place the SandMaster Attachment in the level position before setting the unit down on the ground.

WHEN ADJUSTING, SERVICING OR REPAIRING THIS PRODUCT:

- Make no modifications to your SandMaster Attachment.
- When making repairs, use only genuine Barrier Systems LLC parts or, for fasteners, hydraulic hoses, or hydraulic fittings, use only properly rated parts.
- Replacement parts, for parts with safety signs attached, must also have safety signs attached.

SAFETY SIGN LOCATIONS



| ITEM | QTY. | PART # - DESCRIPTION |
|------|------|-------------------------------|
| 1 | 1 | 50-0723– Read Manual |
| 2 | 1 | 50 -0724– Hydraulics |
| 3 | 3 | 50-0737 – Pinch Point |
| 4 | 2 | LB-0158 – Crush Hazard |
| 5 | 1 | 020033816 – Sandbag Loading |
| 6 | 1 | 020033817– Contains Items 6-9 |
| 7 | 1 | 020033817– Contains Items 6-9 |
| 8 | 1 | 020033817– Contains Items 6-9 |
| 9 | 1 | 020033817– Contains Items 6-9 |

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 Barrier Systems LLC

(SM 20 Shown)

PLACEMENT OR REPLACEMENT OF SAFETY SIGNS

1. Clean the area of application with non-flammable 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.

ITEM 1



ITEM 2



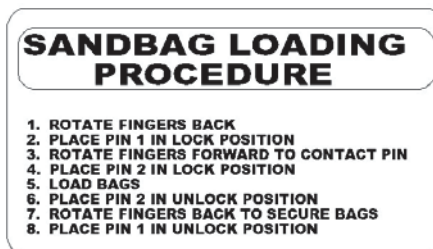
ITEM 3



ITEM 4



ITEM 5



ITEM 6



ITEM 7



ITEM 8



ITEM 9



POWER UNIT SPECIFICATIONS

IMPORTANT

Exceeding any of the maximum recommended power unit specifications **CAN** result in damage to this product and **WILL** void all Barrier System LLC warranties.

| | | |
|--------------------------------------|-------|--|
| Operating Capacity of Power Unit | 2,150 | Lbs. Minimum |
| Lift Capacity of Power Unit's Loader | 2,150 | Lbs. Minimum |
| Hydraulic Pressure Output | | 4,000 psi. Maximum |
| Rear Ballast | | As required to maintain full power unit stability (Note the Shipping Weight on this page, then see the operator's manual for your power unit, loader, and quick- attach for ballasting) |

Shipping Weight

| | | |
|------------------|---------------|------------|
| SandMaster 20 | Approximately | 1,150 lbs. |
| SandMaster 26 | Approximately | 1,186 lbs. |
| SandMaster 26 UM | Approximately | 2,150 lbs. |

SANDMASTER ATTACHMENT MOUNTING



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY SANDMASTER ATTACHMENT MOUNTING

1. Place this product on a firm, level surface that is large enough to safely accommodate this product, your power unit and all workers involved in the mounting process.
2. Refer to the operator's manual(s) for your power unit, loader, and quick-attach and follow the mounting instructions contained therein.
3. Carefully raise the loader and cycle the tilt cylinders to check clearances and to verify that all mounting procedures have been successfully completed.
4. **IMPORTANT** Lubricate all grease fittings before connecting this product to your power unit's hydraulic system. Refer to SandMaster Attachment MAINTENANCE on page 9 and follow the instructions.

**SANDMASTER ATTACHMENT
HYDRAULIC CONNECTION**

**SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY
INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY
SANDMASTER ATTACHMENT HYDRAULIC CONNECTION**

1. You must purchase and install two hydraulic hoses that have fittings permanently attached to each end. These hoses and fittings must meet the following specifications: (NOTE: If your SandMaster Attachment was supplied with hoses, skip to step 4.)
 - Inside Diameter:..... 0.375" (3/8")
 - Minimum Operating Pressure:..... 4,000 psi.
 - Hose End Fittings:..... One hose end must be a #6 (#8 for H.D. Construction Models) female JIC fitting. The fitting for the other end can be whatever you determine to be the most beneficial to making the connection to your power unit.
 - Length:..... You must make this determination based upon recommendations provided in your power unit's operator's manual. The hoses must be long enough to avoid applying any tension to them (i.e. stretching) in all operating positions of this product. The hoses must not be excessively long either, because this could cause the hoses to drag on the ground, be pinched in the equipment, become entangled in moving parts, etc., any of which will shorten the life of the hose and could cause injury to the operator or others near the equipment.
2. Remove all the protective plastic caps from the hose ends and this product's connection fittings.
3. Make certain that the male and female threads, as well as the inside of the hoses, are clean, then place the #6 (or #8) hose ends on/in to the fittings on this product and tighten to 27 ft. lbs., + or - 2.0 ft. lbs. (#6 is 9/16" dia. with 18 tpi.) or 48 ft. lbs., + or - 2.0 ft. lbs. (#8 is 3/4" dia. with 16 tpi.).
4. Make the connection to your power unit using the appropriate method below for your power unit:
 - If your power unit has male or female threads for connecting the hydraulic hoses to the auxiliary hydraulic lines, make certain that the threads, as well as the inside of the fittings and hoses, are clean, then secure the hoses to the fittings using the torque specified in your power unit's operator's manual.
 - If your power unit has quick-couplers for connecting the hydraulic hoses to the auxiliary hydraulic lines, you may need to purchase the proper quick-coupler fittings that you must install on the free ends of the two hoses. In most cases, the owner's manual for your power unit will describe the exact type of fitting that is needed for your hydraulic coupling system, but in no case should any fitting have an allowable operating pressure of less than 4,000 psi. Once all the quick-coupler fittings are properly installed, then the hoses can be coupled to the power unit's hydraulic valve body or auxiliary hydraulic lines as per the instructions found in your power unit's operator's manual.
5. Carefully raise the loader and cycle the tilt cylinders to check hose clearances and to check for any interference. Operate the hydraulic cylinder(s) on this product to make the same checks.
6. Cycle the hydraulic cylinder(s) on this product several times from fully retracted to fully extended until all air has been completely removed from the cylinder(s).

NOTICE: When shipped, the hydraulic cylinder(s) on this product contained air or an air-fluid mixture. Also, there are orifices beneath the port(s) in the hydraulic cylinder barrel(s) that will restrict the exit of that air. Failure to remove all the air from the hydraulic cylinder(s) can cause uneven, jerky cylinder movement when the hydraulic controls are being operated and unwanted cylinder movement when those controls are not being operated.

**SANDMASTER ATTACHMENT
IMPLEMENT OPERATION**



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY SANDMASTER ATTACHMENT OPERATION



WARNING

Failure to obey the following procedures could result in death or serious injury.

- Never get between the floor and the Power Unit or SandMaster Attachment.
- Do not roll back this product so far that materials fall toward the operator.
- Always place the SandMaster Attachment in a level position before setting the unit down on the ground.

IMPORTANT

Back-dragging material

CAN result in damage to this product and WILL void all Barrier System LLC warranties.

- Sandbag loading Operations:** Position the SandMaster Attachment at approximately 45 degrees 2 feet off of the ground near the material pile and Speed Loader.
- Rotate triggers completely back.
 - Place Pin 1 of the safety mechanism into the LOCK position then rotate triggers forward into the LOAD position.
 - Place PIN 2 of the safety mechanism into the LOCK position.
 - Insert the empty bag filled Speed Loader into the apertures on the SandMaster Attachment then remove leaving the empty bags within the attachment apertures.
 - Wrap top of bag around tension ring starting at the bottom working toward the top then insert draw string cord into trigger slot.
 - Place PIN 2 of the safety mechanism into the UNLOCK position. **(Keep Clear)**
 - Rotate triggers all the way back to tension cord.
 - Place PIN 1 of the safety mechanism into the UNLOCK position and stand clear of power unit and attachment.

- Filling Operations:** Position the SandMaster Attachment in front the material pile and place the unit at approximately 60 degrees with the front edge approximately 6 inches off of the ground.
- Slowly drive into the pile while simultaneously raising and curling the SandMaster Attachment maximizing the amount of materials on top of the unit.
 - Once bags are filled tip unit slightly forward to remove access materials.

- Transporting Operations:** With the SandMaster Attachment fully loaded and the triggers fully rotated back, lower the unit where the operator can clearly see, then transport the filled sandbags to their desired location.

- Securely Closing the Bags:** At the desired location, partially rotate the trigger forward allowing the bag to slip off of the ring with the line remaining on the trigger. Gravity then takes over cinching the top of the bag closed.

- Dropping the Bags:** Rotate the trigger to the fully open position (forward) allowing the bags to drop to the ground.

BARRIER SYSTEM LLC

Warranty Registration Form and Delivery Inspection Report

IMPORTANT! Warranty **Void** if card is not returned with 10 days.
All Applicable sections **must** be filled in.

This section to be filled out and signed by Dealer at time of delivery.

Warranty Registration

| | |
|----------------------------------|----------------------------------|
| Customer's Name _____ | Dealer's Name _____ |
| Address _____ | Address _____ |
| City _____ State _____ Zip _____ | City _____ State _____ Zip _____ |
| Phone _____ | CHECK ONE: |
| Loader / Tractor Model _____ | Construction Use _____ |
| Delivery Date _____ | Agricultural Use _____ |
| Model or Part # _____ | Landscape Use _____ |
| Serial # _____ | Other: _____ |

Dealer Inspection *(check items applicable)*

| | |
|--|--|
| _____ All Decals installed (see operator's manual) | _____ Review Operating and Safety Instructions |
| _____ Hydraulic fittings tight and free of leaks | _____ Guards and covers in place and secure |
| _____ Fasteners tight | _____ Does Product Function Properly |

I have thoroughly instructed the buyer on the above described equipment. This review included: The Operator's manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's Rep. Signature _____

This section to be completed and signed by the customer

| | 1 Excellent | 2 Good | 3 Average | 4 Unsatisfactory | 5 Poor |
|--------------------------------------|----------------|-----------|--------------|---------------------|-----------|
| QUALITY ASSURANCE RATING | | | | | |
| Question: | | | | | |
| Quality of Product: Appearance | | | | | |
| Construction | | | | | |
| Quality of Service | | | | | |
| Value (Priced Fairly) | | | | | |
| Does it perform as claimed | | | | | |

The above described equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date: _____ Owner's signature _____

NOTE! Make one copy each for the dealer's and owner's records. Mail original to Barrier Systems LLC.

Barrier Systems LLC • PO Box 854 • Kula, HI 96790 • 360-217-8215
www.barriersystemsllc.com