Air-flo®
SPREADERS

PSV-9 SPREADER MANUAL

Air-Flo Manufacturing
365 Upper Oakwood Avenue
Elmira Heights, NY 14903
(607) 733-8284

PSV-9 PICK-UP SPREADER

TABLE OF CONTENTS

CHECK LISTS

PRE-USE CHECK LIST

- ☐ Read this entire Owners Manual before operating this spreader. This includes the Briggs & Stratton engine Owners Manual.
- ☐ Before loading and operating the sander, check the recommended maximum payload. DO NOT OVERLOAD THE SANDER!
- ☐ Read and understand all the safety CAUTION, WARNING and DANGER signs on the spreader.
- ☐ Before starting your spreader, check that the engine crankcase and gearbox are filled to the proper levels with lubricant and the viscosities meet your requirements.
- ☐ Make sure the engine cover is securely fastened to the spreader before operating the spreader.
- ☐ Verify that all personnel are clear of the spreader spray area before starting or operating this spreader.
- ☐ Make sure the spreader is securely fastened to the vehicle in accordance with this manual.

GENERAL INFORMATION

The purpose of this manual is to assist the owner / operator in maintaining and operating the Air-Flo PSV-9 Pick-Up Spreader. Read it carefully before attempting operation, maintenance or repair.

VEHICLE REQUIREMENTS

1 ton pick-up above 15,000 # GVWR

CAUTION! Do not overload vehicle beyond the vehicle GVWR or GAWR. Check the vehicle's load rating certification sticker for maximum vehicle capacity.

Spreader and Material Weights

MATERIAL	WEIGHT (POUNDS PER CUBIC YARD)
#1 Rock Salt	950 lbs.
#2 Rock Salt	1,215 lbs.
Coarse Sand – Dry	2,565 lbs.
Coarse Sand – Wet	3,240 lbs.

SAFETY

WARNING! Observe the following Safety Precautions before, during and after operating this spreader. By following these precautions and common sense, possible injury to persons and potential damage to this machine may be avoided.

1) Persons who install, mount, operate, or service this equipment must be properly instructed and warned.

2) Read operators manuals completely before operating equipment.

3) Read decal instructions, cautions, and warnings.

4) Check spreader to ensure that all shields and grates are in place.

5) Use care when mounting and dismounting.

6) The drive shafts, conveyor and spinner assemblies transmit great amounts of power, and accordingly, are hazardous when in operation. All maintenance, inspections or operator adjustments must be made with all power off.

7) Keep spreader and surrounding area clear of personnel and property when operating.

8) Keep spreader unit and components in proper working condition. Replace missing or damaged safety signs.

9) Unauthorized modifications to the spreader and related components may impair the function and / or safety.

10) Check to make sure all safety guards are securely mounted into place before operating this spreader.

11) Keep all loose clothing, hair, jewelry and limbs clear of the spreader before starting or operating this spreader.

12) Do not adjust, clean, oil or unclog material jambs without first turning off the spreader, removing the engine spark plug, and control panel fuse.

13) Do not climb on or in the spreader during operation. Do not ride on the spreader while the vehicle is in motion.

14) Do not operate a spreader that is in need of maintenance or repair.

SAFETY DECALS & LOCATIONS

DANGER

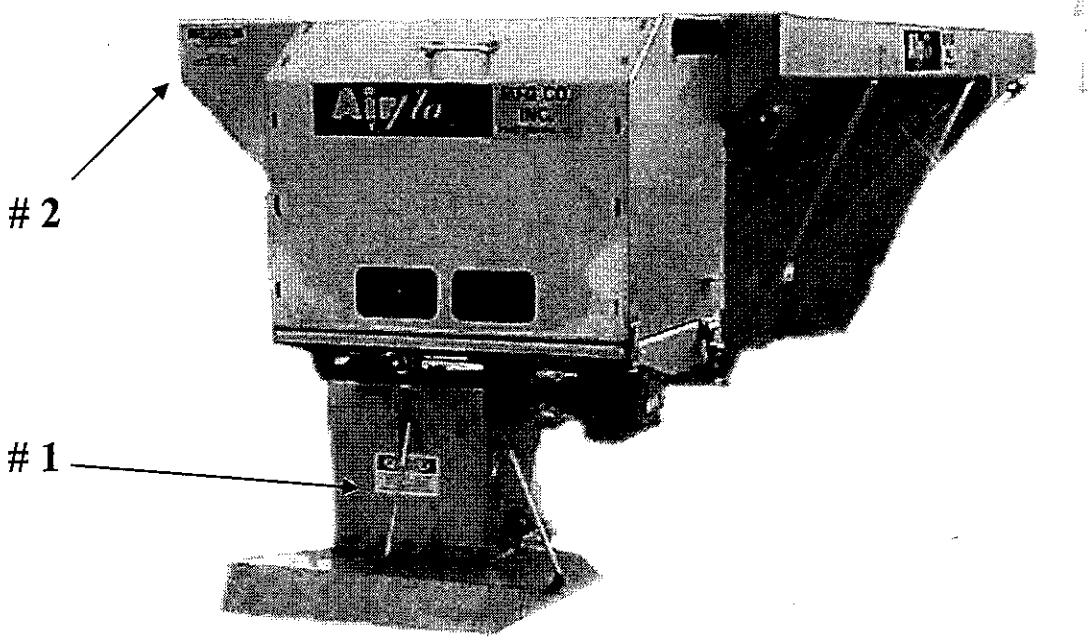
FLYING MATERIAL - STAY AWAY.
WEAR EYE PROTECTION.
MAKE NO ADJUSTMENTS
UNTIL SPINNERS STOP TURNING.

CAUTION

STAY OUT OF BOX
WHILE CONVEYOR IS MOVING

DO NOT RIDE
ON ANY PART OF SPREADER
WHILE VEHICLE IS IN MOTION.

Sticker #1 Sticker #2



Model	Powered By	Hopper Length	Overall Length	Overall Width	Empty Weight	Capacity Struck
PSV-9E	B&S Gas	9'	128"	70"	1500#	4.0 YDS
PSV-9H	Honda Gas	9'	128"	70"	1500#	4.0 YDS
PSV-9Y	Hydraulic	9'	128"	70"	1430#	4.0 YDS

INSTALLATION INSTRUCTIONS

1) Mounting the spreader onto the Vehicle:

A. Install inverted "V" in spreader with the bolts provided.

B. Remove the tailgate from the vehicle.

C. Lift the spreader by means of the (4) lift hooks on each corner of the spreader.

WARNING! The lifting device must be adequately rated to lift a payload equal to or greater than the spreader weight.

D. Elevate the spreader off the vehicle with lumber. Place lumber under the side gussets of the spreader. This will help remove the excess material that accumulates under the spreader. Please refer to Figure 1.

E. Center the spreader on the vehicle with the ends of the rails 14" to the rear of the nearest vertical obstruction (bumper, trailer hitch, ect). It is recommended that the Spinner / Chute assembly be loosely attached to the hopper. This should be done to avoid any interference between the vehicle and the Spinner / Chute Assembly.

F. Bolt the spreader to the vehicle frame using the holes located in each of the four (4) side gussets. Use ½" hardware as required by vehicle application.

G. Secure the spreader to the vehicle using the optional mounting kit (4 chain and bracket assemblies, a tailgate latch bar) or a satisfactory securing system.

WARNING! The optional mounting kit is intended only to supplement the tie-down of the spreader to the vehicle. The spreader must be securely fastened to the frame of the vehicle.

Verify with the vehicle's manufacturer that the factory installed anchor points are designed for this application.

Periodically check that the spreader mounting hardware is securely tightened.

2) Mounting the Spinner / Chute assembly

A. Attach the Spinner / Chute Assembly to the spreader using the six (6) 3/8-16 X 1 ¼" hex head bolts, lock washers and nuts. The head of the bolt is to be placed on the inside of the chute assembly. Push the chute assembly towards the cab of the vehicle. Loosely attach the hardware, but do not tighten at this time.

B. Install the roller chain between the sprocket mounted to the Spinner / Chute Assembly and the Gearbox Sprocket. Make sure both sprockets are in-line with one another. Tighten the Gearbox Sprocket set screw. Install the roller chain master link.

INSTALLATION INSTRUCTIONS

C. To adjust the roller chain tension, loosen the Spinner Shaft Bearing Bolts and slide the shaft away from the Gearbox Sprocket. Be sure to maintain the vertical alignment of the Spinner Shaft and Bearings before tightening the hardware. The correct chain tension should allow a 5/16" deflection midway between both chain sprockets.

CAUTION! Do not over-tighten the chain tension. This can cause damage to the chain, bearings, and Gearbox.

D. Install the chain guard using the three (3) ¼-20 X ¾" hex head bolts, lock washers, and nuts.

E. Tighten all hardware to the recommended torque specifications as shown in this manual.

SPREADER OPERATION

NOTE: Before starting engine, follow all safety precautions.

1) Control Panel Description:

A. The clutch switch is a three position switch with the following functions:

"OFF" Position: While in this position, with the engine running, the Spreader Feed Chain and the Spinner Disc will not spin. Therefore, the spreader will not spread not or ice control material.

"ON" Position: While in this position, the Spreader Feed chain and the Spinner Disc will spin with the engine running.

"BLAST" Position: While in this position, with the engine running, the Spreader Feed Chain and the Spinner Disc will spin. This switch cannot be locked into an "ON" position. Instead, this switch can only be activated when held into the "BLAST" position.

B. The ignition Switch is a three position switch with the following functions:

"OFF" Position: While in this position, 12 VDC power is shut off to the spreader. To turn off the spreader, push the toggle switch to the off position.

"ON" Position: While in this position, 12 VDC power is turned on to the spreader.

"START" Position: While in this position, the spreader's engine starter is activated.

SPREADER OPERATION

C. The throttle switch is a two position switch with the following functions:

"FAST" Position: While in this position, the engine speed will increase.

"IDLE" Position: While in this position, the engine speed will decrease.

2) Starting the Engine

A. Verify that the Clutch Switch and Ignition Switch on the Cab Control Panel are in the "OFF" position.

B. Turn the Spreader Ignition Switch to the "ON" position.

C. Move the Throttle Switch on the Cab Control Panel to the "Idles" Position and hold for approximately two seconds.

D. Turn the Ignition Switch to the "START" position.

E. While the engine is cranking, move the Throttle Switch to the "CHOKE/FAST" position.

F. Release the Throttle Switch when the engine starts to fire.

G. Release the ignition Switch when the engine starts.

H. After the engine starts, move the Throttle Switch to the "Idle" position to release the choke (hold switch for ½ - 1 second).

3) Stopping the Engine:

A. To stop the engine, push the toggle switch to the "OFF" position.

4) Clutch Operation:

A. Start the engine and adjust the speed to slightly above idle.

B. Move the Clutch Switch into the "ON" position.

C. Increase the engine RPM by moving the Throttle Switch.

D. It is recommended that the clutch only be engaged at the lowest possible speed without stopping the engine. This practice will prevent premature spinner chain failure and chain tension loss.

SPREADER OPERATION

5) Spinner / Chute Assembly Operation:

The spread pattern and the amount of material dispensed depends on the following:

- Engine RPM
- Feed Gate Position
- Baffle Settings

B. Keep the following rules in mind:

Decreasing engine RPM will decrease the amount of material coming to the spinner.

Increase engine RPM will increase the amount of material coming to the spinner.

Size of Feed Gate opening will increase or decrease the amount of material coming to the spinner.

6) Precautions:

CAUTION! Always follow the spreader precautions so as not to cause damage to the spreader.

A. If the feed chain does not move because of dense material or jambs, remove all materials from the hopper and free the chain.

B. If the material in the hopper freezes, move the spreader into a warm area to thaw.

C. To prevent the feed chain from freezing, do not store material in the spreader.

D. The gear case is designed to only accept torque from the input shaft. Therefore, DO NOT ATTEMPT TO FREE THE FEED CHAIN BY USING A PIPE OR SIMILAR TOOL TO MOVE OR DISLODGE THE CHAIN. If the feed chain is moved, the gears within the gear case will strip. This action will void the warranty.

E. Check and maintain the correct oil level for both the engine crankcase and the gearbox. The engine crankcase is filled with 1 quart of SAE 5W-30 motor oil at the factory. The gearbox is filled with SAE 90 gear lubricant at the factory.

WARNING! The engine crankcase and gearbox must be filled and maintained with oil. The engine crankcase oil must be of the correct viscosity for the intended spreader operating conditions. Refer to the Briggs & Stratton owner manual to determine the correct viscosity. Operating the engine or gearbox without oil (or without a sufficient amount of oil) can cause permanent damage to the engine or crankcase.

SPREADER MAINTENANCE

1. Use dielectric grease on all electrical connections before and electrical connection is made or after a connector is disconnected.

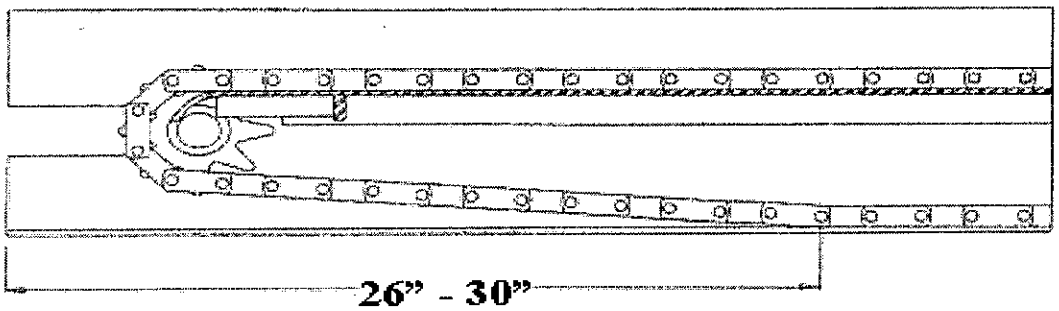
2. Grease the following:

   - Idler Shaft Bushings (2).
   - Drive Shaft Bearings (2).
   - Spinner Shaft Bearings (2).
   - Flanged Bearing located between gearbox and clutch.
   - Gearbox input shaft bearing. (Do not over grease. Over-greasing may cause seal damage.)

3. Fill the gear case to the oil level plug with SAE 90 gear-type lubricant. Check the level periodically and maintain the oil level.

4. Fill the engine crankcase with recommended oil to the fill line. Read the Briggs & Stratton owners manual for the recommended oil viscosity for your operating conditions. Check the oil level periodically and maintain the oil level.

5. Check the Feed Chain tension periodically. Check the chain tension by measuring the distance between the end of the rear rail and the point where the chain contacts the lower flange on the rail. The correct distance between these two points is 26" to 30". See the diagram below to clarify.



SPREADER MAINTENANCE

6. Maintain the correct tension on the following roller chains:

   - Engine to Gearbox Input Sprocket.
   - Spinner Shaft to Gearbox Input Sprocket.

   The correct chain tension allows 5/16" deflection midway between respective sprockets. Oil both roller chains often, and at the end of each season.

   To loosen or tighten Chain A, loosen four (4) 3/8"-16 X 1" carriage bolts that fasten the Motor Mount Weldment to the drive base and slide the Engine Mount Stand.

   To loosen or tighten Chain B, loosen the spinner Bearing Mounting hardware and slide the Spinner Shaft. Verify that the Spinner Shaft is vertical after any adjustments.

CAUTION! Do not over-tighten either roller chain. Over-tightening can cause damage to bearings, roller chain, sprockets or the engine.

7. Empty the spreader of all snow control material when not in use to prevent a frozen feed chain.

8. Wash out the spreader when it is not in use. At the end of the season wash out the spreader to remove all snow control materials. Thoroughly dry all metal surfaces. Paint and oil all bare carbon steel surfaces, to protect from rust. Properly store spreader for the next season.

9. To minimize problems and extend the life of the Electric Clutch, the following procedures are recommended:

   A. At the end of the season, remove and clean the clutch.

   B. After cleaning, coat both mating surfaces of the clutch with oil or light grease.

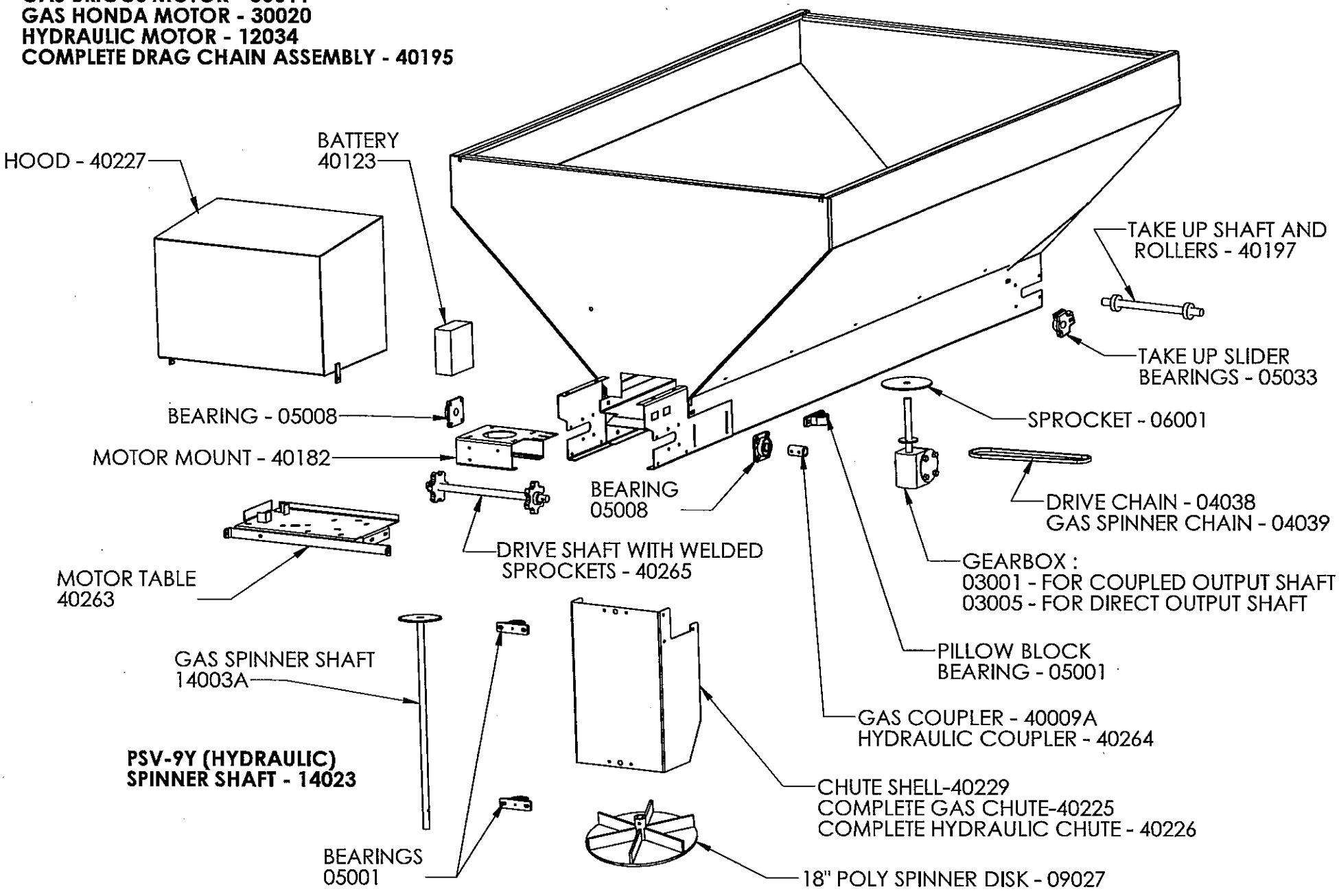
   C. Remove oil and grease prior to using the clutch again.

10. Engine Repair – Maintain the spreader engine according to the Engine Owner's Manual. This manual is shipped with the spreader. The engine warranty is covered by Briggs & Stratton or Honda. If service is required, contact an authorized Briggs & Stratton or Honda Service Center.

Air-Flo
PSV-9E, PSV-9H, PSV-9Y PARTS LIST

PART #	DESCRIPTION
03009	20:1 GEARBOX (ENGINE)
04001	#40 ROLLER CHAIN (ENGINE)
04002	#40 MASTER LINK (ENGINE)
04003	#40 OFFSET LINK (ENGINE)
40265	PSV-9 DRIVE SHAFT W/SPROCKETS WELDED
05001	1" PILLOWBLOCK BEARING
05008	1 1/8" FLANGE BEARING
05033	1 1/4" TAKE UP BEARING
06020	40A48 3-HOLE SPROCKET (ENGINE)
07012	STARTER SOLENOID
07026	14 GAUGE FUSE HOLDER (ENGINE)
07051	THROTTLE MOTOR (ENGINE)
07155	6 AMP FUSE (ENGINE)
09026	PSV-9 18" POLY DISC W/HUB
09038	.250 X 1 1/2 X 5 HANDLE COVER
12034	CONVEYOR & SPINNER MOTOR (HYDRAULIC) (2 REQ'D)
28002	HOOD CATCH
30011	PSV-9 10.5 BRIGGS & STRATTON ENGINE
30020	PSV-9 HONDA ENGINE
34040	31" X 51" SCREENS (4 REQ'D)
40032	CLUTCH (ENGINE)
40149	COMPLETE CONTROL PANEL (ENGINE)
40123	BATTERY (ENGINE)
40189	BEDPLATE
40192	PSV-9 LEFT SIDE CONV. EXT.
40193	PSV-9 RIGHT SIDE CONV. EXT.
40195	PSV-9 DRAG CHAIN
40196	PSV-9 BAR FLIGHT
40197	PSV-9 IDLER SHAFT W/WELDED SPROCKETS
40198	PSV-9 INVERTED V
40199	PSV-9 BEARING SLIDE
40201	PSV-9 CHAIN SHIELD RIGHT
40202	PSV-9 CHAIN SHIELD LEFT
40212	PSV-9Y DUAL MOTOR MOUNT TABLE
40225	PSV-9 CHUTE COMPLETE (GAS)
40226	PSV-9 CHUTE COMPLETE (HYDRAULIC)
40227	PSV-9 HOOD (GAS)
40229	PSV-9 CHUTE SHELL ONLY

GAS BRIGGS MOTOR - 30011
GAS HONDA MOTOR - 30020
HYDRAULIC MOTOR - 12034
COMPLETE DRAG CHAIN ASSEMBLY - 40195



MATERIAL SPREADER WARRANTY

AIR-FLO MANUFACTURING CO., INC., hereinafter referred to as "Manufacturer", warrants each new Material Spreader sold by the manufacturer to be free from defects in material and workmanship, under normal use and service, for a period of One (1) year after the date of delivery to the original retail purchaser, and Manufacturer will, at it's option, replace or repair, at one of the Manufacture's Dealers, or at a point designated by the Manufacturer, any part or parts which shall appear to the satisfaction of the Manufacturer upon inspection at such point, to have been defective in material or workmanship. This Warranty does not obligate the Manufacturer to bear any transportation charges in connection with the replacement or repair of defective parts.

This Warranty shall not apply to any Spreader which shall have been installed or operated in a manner not recommended by the Manufacturer; nor to any Spreader which shall have been installed or operated in a manner not recommended by the Manufacturer; nor to any Spreader which shall have been repaired, altered, neglected or used in any way which, in the Manufacture's opinion, adversely affects it's performance; nor to any Spreader in which parts not manufactured by the Manufacturer, or supplied by the Manufacturer or by one of the Manufacture's Distributors or Service Centers, have been used; nor any accessories installed on the Spreader where the accessory manufacturer has it's own warranty; nor to normal maintenance services or replacement of normal service items.

Manufacturer reserves the right to modify, alter, and improve any Spreader or parts without incurring any obligation to replace any Spreader or parts previously sold with such modified, altered, or improved Spreader or part.

THIS WARRANTY, AND THE MANUFACTURER'S OBLIGATION HEREUNDER, IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTIES OF MERCHANT ABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, and all other obligations or liabilities, including special or consequential damages or contingent liabilities arising out of the failure of any Spreader or part to operate properly. No person is authorized to give any other warranty or to assume any additional obligation on the Manufacturer's behalf unless made in writing and signed by the Manufacturer.