2 REPLACEMENT PARTS

FLAIL BLADES

P/N 350186.

A complete replacement set. 52 of our high quality flail blades for your PR. Includes 8 new lock clips for replacement installation.

FLAIL SHAFTS

P/N 350185.

A full set of four shafts for replacement. Includes 8 new lock clips for replacement installation.

Note: We recommend replacing the shafts when you replace flails.

DRIVE BELT

P/N 350116.

Original Equipment drive belt for your PR.

SPACER BUMPERS

P/N 350258.

A complete replacement set. 44 of 1/2" spacer bumpers and 4 of 1/4" spacer bumpers

ACCESSORIES

SLICING REEL

P/N 350113.

A complete verti-slicing reel for your PR. 20" wide reel for use in grasses that require vertical cutting, and for assisting in lawn overseeding projects.

SLICING BLADES

P/N 350187.

A full set of twenty blades for replacement. Includes 40 new capscrews, and lock nuts for replacement installation.

OVERSEEDER KIT

P/N 350281 / 350282.

The new Overseeding Kit is constructed of all 12 gauge steel with two lift handles on each side to assist in lifting the entire unit and easily converts a PR Series Power Rake into an overseeder with 4 bolts and minimal tools.

NOTE: Overseeder Conversion Kit (350282) includes Slicing Reel (350113). Part No. (350281) comes with the Overseeder Box only.





Thank You for Selecting
The Powerful PR and OS
POWER RAKES and OVERSEEDERS

Operator Owner's Manual

PR550, PR550H, PR550V, PR550HV, OS550, OS550H

Specifications Specifications								
	PR550	PR550V	PR550H	PR550HV	OS550	OS550H		
ENGINE: H.P.	5.5 (4.1 kW)	5.5 (4.1 kW)						
ENGINE: TYPE	B&S OHV	B&S OHV	HONDA OHV	HONDA OHV	B&S OHV	HONDA OHV		
ENGINE: FUEL CAP.	3.0 qt. (2.84 L)	3.0 qt. (2.84 L)	3.88 qt. (3.6 L)	3.88 qt. (3.6 L)	3.0 qt. (2.84 L)	3.88 qt. (3.6 L)		
ENGINE: OIL CAP.	0.66 qt. (0.62 L)	0.66 qt. (0.62 L)	0.69 qt. (0.65 L)	0.69 qt. (0.65 L)	0.66 qt. (0.62 L)	0.69 qt. (0.65 L		
WEIGHT: UNIT	160# (72.5 kg)	163# (74.1 kg)	158# (71.8 kg)	161# (73.2 kg)	206# (93.4 kg)	204# (92.5 kg)		
WEIGHT: SHIPPING	183# (83.0 kg)	183# (83.0 kg)	178# (80.9 kg)	178# (80.9 kg)	229# (104.1 kg)	230# (104.5 kg		
ENGINE WEIGHT:	36# (16.3 kg)	36# (16.3 kg)	34# (15.4 kg)	34# (15.4 kg)	36# (16.3 kg)	34# (15.4 kg)		
MAX. ENGINE OPERATING SLOPE	15°	15°	20°	20°	15°	20°		

IN THE INTEREST OF SAFETY



BEFORE STARTING ENGINE, READ AND UNDERSTAND THE "ENTIRE OPERATOR'S MANUAL & EN-GINE MANUAL."



THIS SYMBOL MEANS WARNING OR CAUTION. DEATH, PERSONAL INJURY AND/OR PROPERTY DAMAGE MAY OCCUR UNLESS INSTRUCTIONS ARE FOLLOWED CAREFULLY.

WARNING: The Engine Exhaust from this product contains chemicals known

to the State of California to cause cancer, birth defects or other reproductive harm.

WARNING: DO NOT

- 1. **DO NOT** run engine in an enclosed area.
- Exhaust gases contain carbon monoxide, an odorless and deadly poison.
- 2. DO NOT place hands or feet near moving or rotating parts.
- 3. DO NOT store, spill or use gasoline near an open flame, or devices such as a stove, furnace, or water heater which use a pilot light or devices which can create a spark.
- 4. DO NOT refuel indoors where area is not well ventilated. Outdoor refueling is recommended.
- 5. DO NOT fill fuel tank while engine is running. Allow engine to cool for 2 minutes before refueling. Store fuel in approved safety containers.
- 6. DO NOT remove fuel tank cap while engine is running.
- 7. DO NOT operate engine when smell of gasoline is present or other explosive conditions exist.
- 8. DO NOT operate engine if gasoline is spilled. Move machine away from the spill and avoid creating any ignition until the gasoline has evaporated.
- 9. **DO NOT** transport unit with fuel in tank.
- 10. **DO NOT** smoke when filling fuel tank.
- 11. DO NOT choke carburetor to stop engine. Whenever possible, gradually reduce engine speed before stopping.
- 12. **DO NOT** run engine at excessive speeds. This may result in injury & /or damage to unit.
- **TABLE OF CONTENTS** 6 **SAFETY INSTRUCTIONS GENERAL SAFETY ASSEMBLY** 3 CONTROLS LARFIS 4 - 5 **OPERATION** 6 - 9 MAINTENANCE . 10 PARTS DRAWING & LIST... 14 - 15 TROUBLESHOOTING 16 WARRANTY PROCEDURE 16

- 13. DO NOT tamper with governor springs, governor links or other parts which may change the governed engine speed.
- 14. DO NOT tamper with the engine speed selected by the engine manufacturer.
- 15. DO NOT check for spark with spark plug or spark plug wire removed. Use an approved tester.
- 16. **DO NOT** crank engine with spark plug removed. If engine is flooded, place throttle in "FAST" position and crank until engine
- 17. **DO NO**T strike flywheel with a hard object or metal tool as this may cause flywheel to shatter in operation. Use proper tools to service engine.
- 18. **DO NOT** operate engine without a muffler. Inspect periodically and replace, if necessary. If engine is equipped with muffler deflector, inspect periodically and replace, if necessary, with correct deflector.
- 19. DO NOT operate engine with an accumulation of grass, leaves, dirt or other combustible material in the muffler area.
- 20. **DO NOT** use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

- 21. DO NOT touch hot muffler, cylinder, or fins because contact may cause burns.
- 22. DO NOT run engine without air cleaner or air cleaner cover.
- 23. DO NOT operate during excessive vibration!
- 24. **DO NOT** leave machine unattended while in operation.
- 25. DO NOT park machine on a steep grade

WARNING: DO

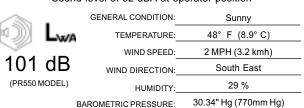
- 1. ALWAYS DO remove the wire from the spark plug when servicing the engine or equipment TO PREVENT ACCIDENTAL STARTING.
- 2. **DO** keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.
- 3. DO pull starter cord slowly until resistance is felt. Then pull cord rapidly to avoid kickback and prevent hand or arm injury.
- 4. DO examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.
- 5. **DO** use fresh gasoline. Stale fuel can gum carburetor and cause leakage.
- 6. **DO** check fuel lines and fittings frequently for cracks or leaks. Replace if necessary
- 7. Follow engine manufacturer operating and maintenance instructions.
- 8. Inspect machine and work area before starting unit.

7 SOUND

Sound tests conducted were in accordance with 2000/14/EEC and were performed on 2/13/2002 under the conditions listed:

NOTE: Sound power level listed is the highest value for any model in this manual. Please refer to serial plate on the unit for the sound power level for your model

Sound level of 82 dBA at operator position



VIBRATION 8

VIBRATION LEVELS 3.2 g max. Vibration levels at the operators handles were measured in the vertical, lateral, and longitudinal directions using calibrated vibration test equipment. Tests were performed on 09/08/97 under the conditions listed:

GENERAL CONDITION:_	Sunny
TEMPERATURE:_	85° F (29.4° C)
WIND SPEED:	10 MPH (16.1 kmh)
WIND DIRECTION:	East
HUMIDITY:	31 %
- ROMETRIC PRESSURE:	29.91" Hg (760mm Hg)
_	

Part No. 350177 Page 2 of 16 Form No. F021604B

GENERAL SAFETY

For your safety and the safety of others, these directions should be followed:



Do not operate this machine without first reading owner's manual and engine manufacturer's manual.



Use of Ear Protection is recommended while operating this machine.



Use of Eye and Breathing protection is recommended when using this machine, especially in dry and dusty conditions.



Wearing gloves is recommended while operating this machine.

- ·DO NOT place hands or feet underneath unit, near debris outlet or near any moving parts.
- ·DO NOT start engine without height adjust lever in up position and clutch bail disengaged.
- •DO NOT start or operate machine with guards removed.
- •DO NOT perform any service on the unit without removing the spark plug wire.

- -DO NOT operate a machine that exhibits excessive vibration.
- •DO NOT operate this machine on slopes greater than 19°.
- •DO NOT use this unit on any surface other than grass lawns.
- •DO NOT allow children to operate this equipment.
- -DO read all maintenance and operating instructions before begining work.
- -DO read all engine manufacturers operating and maintenance instructions.
- -DO inspect lawn before begining work. Remove all rocks, wire, string, or other objects that can present a hazard during work prior to starting.
- -DO identify and mark all fixed objects to be avoided during work, such as sprinkler heads, water valves, buried cables, or clothes line anchors, etc.

ASSEMBLY



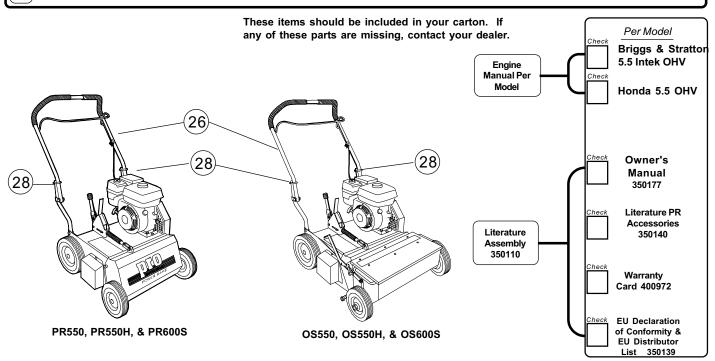
Read all safety and operating instructions before assembling or starting this unit.



- 1. **UNFOLD** the upper handle (item 26) and slide handle lock loops(item 28) into place to secure the upper handle to the lower.
- 2. CHECK engine oil level and fill to proper level with engine manufacturers recommended grade of oil. Move height adjust lever to down position, to level engine during checking. See engine manufacturers instruction manual.
- 3. CONNECT spark plug wire.

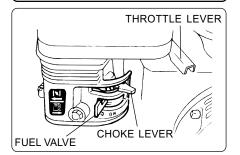
Your Billy Goat Power Rake is shipped from the factory in one carton, completely assembled.

11 PACKING CHECKLIST

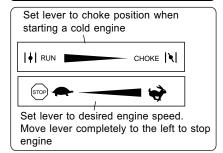


13 CONTROLS

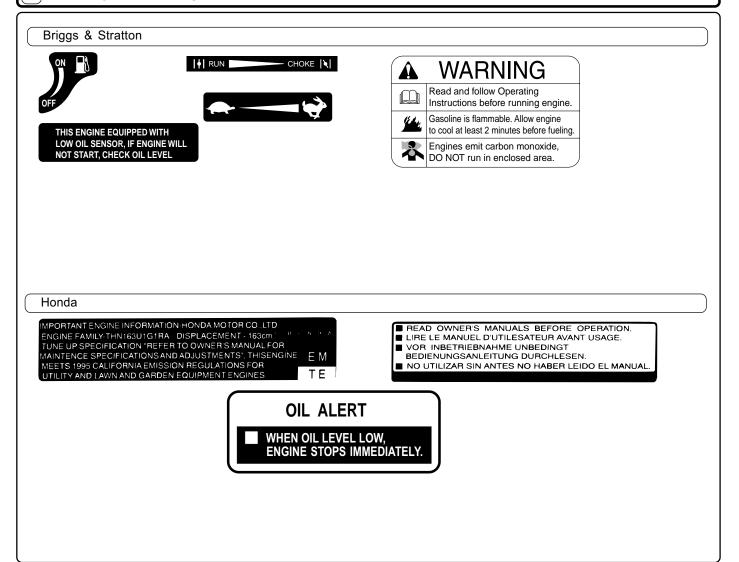
HONDA ENGINE THROTTLE CONTROL



B & S ENGINE THROTTLE CONTROL



(15) ENGINE LABELS



These labels should be included on your Power Rake. If any of these labels are damaged, replace them before putting this equipment into operation. Item and part numbers are given to help in ordering replacement labels.



Label Clutch Item 49 Part No.830503



Label Do Not Fill While Engine Is Hot Item 50 Part No.400268



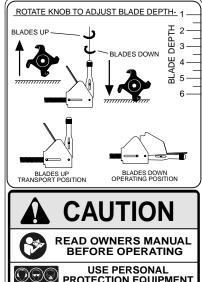
Label Danger Guard Item 52 Part No.900327



Label Danger Keep Hands and Feet Away Item 51 Part No.400424



Label Danger Flying Material Item 48 Part No.810736



PROTECTION EQUIPMENT

PROTECT BYSTANDERS FLYING DEBRIS

BEFORE STARTING, MAKE SURE

- HEIGHT ADJUST LEVER IS IN UP POSITION
 ALL GUARDS ARE ATTACHED.

- ALL GUARDS ARE ATTACHED.
 FOR PREVENTATIVE MAINTENANCE
 CHECK ENGINE OIL DAILY.
 INSPECT AND CLEAN ENGINE AIR FILTER
 DAILY. REPLACE AS NEEDED.
 CREASE REEL BEARINGS AND LUBRICATE DEPTH
 CONTROL LEVER EVERY ENGINE OIL CHANGE.
 ALWAYS:
 INSPECT MACHINE BEFORE EACH USE AND REPLACE ANY
 PROPERLY SECURE EQUIPMENT BEFORE TRANSPORTING.
 DISCONNECT SPARK PLUG WIRE BEFORE STROKING UNIT.

 115S ONLY A QUIAL FIER DIRECTAINCT OF SERVICING UNIT.
- ISE ONLY A QUALIFIED MECHANIC TO SERVICE THIS MACHINE

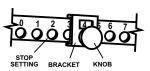
Label Instructions Height Adjust Item 35 Part No. 350176

LAWN PREPARATION:

- MOW LAWN TO LOWEST SETTING ON YOUR MOWER.
- DO NOT WATER PRIOR TO SEEDING
- POWER RAKE TO DETHATCH LAWN AND REMOVE THATCH.
- FERTILIZE LAWN WITH BROADCAST SPREADER.

SEEDING RECOMMENDATIONS:

- FOR BEST RESULTS OVERSEED IN TWO PASSES OF ONE-HALF APPLICATION RATE AT RIGHT ANGLES OR IN A CRISS-CROSS PATTERN.
- WATER HEAVILY IMMEDIATELY THEN LIGHTLY FOR 10 14 DAYS KEEPING SOIL MOIST.
- AFTER GERMINATION, WATER LESS OFTEN TO PROMOTE GROWTH.



- PULL BACK ON THE KNOB THEN SLIDE THE BRACKET TO DESIRED SLIDE THE BRAC
- EXAMPLE: STOP SETTING IS ON 4
- IF SLICING WITHOUT DROPPING SEEDS FOR LONG PERIOD OF TIME THEN SET THE STOP SETTING TO ZERO.

SEED APPLICATION CHART:

THESE SETTINGS ARE APPROXIMATE GUIDELINES. SEEDING RATES ARE SPEED DEPENDENT. FASTER TRAVEL DELIVERS LESS SEED.

SEED TYPE	RATE LBS 1,000 FT ²	STOP SETTING	SEED TYPE	RATE LBS 1,000 FT ²	STOP SETTING	REFE	RENCE
RYEGRASS	1/2 3/4 1 1/2 2 1/3	1 2 3 4	BENTGRASS BERMUDAGRASS (HULLED & ZOYSIA)	2/3 1 1/3 3/4 1 2/3	1 2 1 2		SCOTTS SEEDER SETTING (ALL DROP
BLUEGRASS	3/4 1 1 1/2 2 1/2	3 4 5 6	CENTIPEDEGRASS (COATED)	2/3 1 1/4 2 1/2	1 2 3	5 6 7	6 1/3 8 10
FESCUE	3/4 1 1/4 2 3 1/2	5 6 7 8	ST. AUGUSTINE GRASS	3/4 1 1 1/3 1 1/2	3 4 5 6	8 9	15 1/2 17

Label Instructions Seeder Box Item 45 Part No. 350288

16

Operation

INTENDED USE: This machine is designed for removing thatch from your lawn, renovation of existing lawns, and to assist in overseeding operations. The machine should not be used for any other purpose than that stated above.

Do not operate if excessive vibration occurs. If excessive vibration occurs, shut engine off immediately and check for damaged or worn reel, loose pulley bolts or set screws, loose engine or lodged foreign objects. (See trouble shooting section on page 12).



Like all mechanical tools, reasonable care must be used when operating machine.

Inspect machine work area and machine before operating. Make sure that all operators of this equipment are trained in general machine use and safety.

STARTING ENGINE



ENGINE: See engine manufacturer's instructions for type and amount of oil and gasoline used.

Engine must be level when checking and filling oil and gasoline.

ENGINE SPEED: Controlled by throttle lever on the engine. Under normal conditions, operate at full throttle to accomplish your task.

FUEL VALVE: Move fuel valve to "ON" position (Honda only).

CHOKE: Operated with lever on the engine.

THROTTLE: Move throttle control on engine to fast position. Pull starting rope to start engine.

IF YOUR UNIT FAILS TO START:

See Troubleshooting on page 12.

FOLDING HANDLE

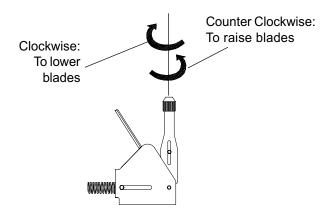
This unit is equipped with a folding upper handle for easier storage and transportation. The handle can be folded by sliding the handle lock loops(item 28) up. This releases the upper handle, allowing it to be folded over the unit.

HANDLING & TRANSPORTING



This unit requires two people to lift it. With the handle in the folded position, lift holding the lower handle and belt/ shaft guard one on each side of the machine. Secure the machine in place during transport.

ADJUSTING BLADE DEPTH

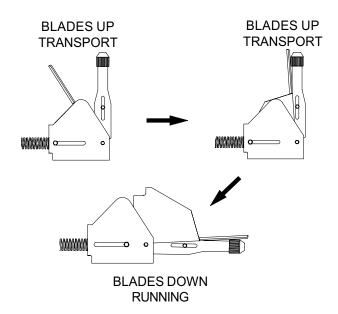


The depth of the blades can be raised or lowered by rotating the knob on the top of the adjustment lever. The blades are lowered by rotating the knob clockwise, and raised by rotating the knob counter-clockwise. The relative depth of the blades can be gauged by using the depth scale located on the right front corner of the engine base. With new blades installed the depth can be estimated as follows: 2.5 on the scale is even with the ground, 3 is equal to 0.25" deep, and 3.5 is equal to 0.5" deep

BLADE POSITION & DEPTH CONTROL LEVER

The blades can be raised or lowered into the ground by height adjusment lever on the engine base. The height adjuster lock lever must be pushed back against the adjustment lever in order to lower the blades into the ground. The resulting blade depth can be adjusted higher or lower.

See ADJUSTING BLADE DEPTH.





RAKING/SLICING TIPS

Before begining, it is best to evaluate the condition of the lawn by cutting one or more core samples from area to be treated. A core can be cut using a piece of pvc, or metal pipe. Hammer the pipe into the ground, remove it, push the core out of the pipe and inspect it to determine the depth of thatch in your yard.

THATCH: Thatch is a dense layer of dead grass, clippings, and roots that builds up over time at the base of of the lawn preventing air, water, and fertilizer from reaching the soil. This can cause shallow root development and make a lawn more susceptible to drought and disease. Thatch also provides an ideal environment for insects to hide and multiply. Periodic removal of thatch will keep your lawn in good health.

HEAVY THATCH: Lawns with an excessive amount of thatch will require multiple treatments for effective removal. Trying to remove excessive thatch (greater than 3/4"[19 mm] deep) in one treatment will damage or destroy the living part of the lawn. It is best to remove heavy thatch in seasonal treatments (i.e. spring, and fall).

SLOPES: Rake slopes across not up and down. This is much easier and safer for the operator and is better for the lawn. Raking across will help to reduce runoff during watering and allow the sloped ground to hold more seed, fertilizer, and water. The units maximum operating slope is 35% or 19°.

DEPTH: The wide range of depth adjusment on your unit is provided to allow for blade wear. Setting the reel deeper will not produce better, or quicker results. The flail reel is intended to be set so it just touches the surface on flat ground. The slicing reel should be set even with the ground for verti-slicing work, and set to a maximum 1/2" depth for overseeding jobs. Setting the reel deeper than this will only result in premature wear on the unit (i.e. failed belt). If you desire to work the ground deeper than the above guidlines allow, it should be done gradually in multiple passes..

SLICING / OVERSEEDING: Mow the lawn to shorter than the normal cut height before starting (i.e. approximately 2" tall for fescue grass). For the best result, Slice/Overseed in criss cross pattern (See Fig. 1 and See Fig 2).

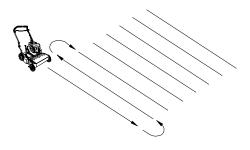


Fig. 1

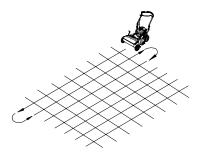


Fig. 2

RAKING OPERATION





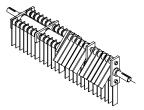


DO NOT- Use this machine on any surface other than a

DO NOT- Use this machine on slopes in excess of 19°. DO NOT- Allow persons unfamiliar with this equipment to

DO NOT- Allow children to operate this equipment.

NOTE: Must have the flail reel assembly (350112) for this operation.



MOW: Mow the lawn to it's normal cut height.

DRY: Be sure grass is dry. Wet conditions can cause increased damage to healthy grass.

SET DEPTH: With engine off, set the raking depth so that the blades just touch on a flat surface (i.e. driveway, or sidewalk).

START ENGINE: See page 5 for further instruction.

ENGAGE BLADES: Pull back on the bail on the operators handle. NOTE: When engaging the blades in heavy load conditions (i.e. heavy thatch, or very uneven turf), push down on the operators handle lifting the front wheels slightly. Engage the blades. Slowly lower the unit into the turf.

RAKE: Rake a small test area and examine the results. Thatch should be removed and deposited on top of the healthy grass. If excessive damage occurs to healty grass, adjust the blade depth to decrease damage. Continue raking the yard, working in one direction (i.e. north-south, or east-west). NOTE: If a large drop in engine RPM occurs, or the unit pulls you forward and bounces during operation the blade depth is set too low.

REMOVE THATCH: After raking, a layer of thatch will be deposited over the top of the lawn. This thatch must be removed prior to any fertilizing, seeding, or watering of the lawn. We suggest the use of a lawn vacuum or wheeled blower for collection and removal of the thatch.

OPERATION continued

VERTI-CUTTING OPERATION







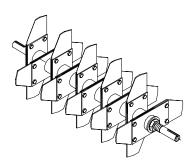
DO NOT- Use this machine on any surface other than a

DO NOT- Use this machine on slopes in excess of 19°.

DO NOT- Allow persons unfamiliar with this equipment to

DO NOT- Allow children to operate this equipment.

NOTE: Must have the slicing reel assembly (350113) for this operation.



MOW: Mow the lawn to shorter than the normal cut height (approximately 2" tall)

DRY: Be sure grass is dry. Wet conditions can cause increased damage to healty grass.

SET DEPTH: With engine off, set the raking depth so that the blades just touch on a flat surface (i.e. driveway, or sidewalk).

START ENGINE: See Page 5.

ENGAGE BLADES: Pull back on the bail on the operators handle. NOTE: When engaging the blades in heavy load conditions (i.e. heavy thatch, or very uneven turf), push down on the operators handle lifting the front wheels slightly. Engage the blades. Slowly lower the unit into the turf.

SLICE: Verti-cut a small test area and examine the results. Some thatch and cut stems should be removed and deposited on top of the healthy grass. Grass runners should be cut and ready for removal. If excessive damage occurs to healthy grass, adjust the blade depth to decrease damage. Continue raking the yard, working in one direction (i.e. north-south, or east-west). NOTE: If a large drop in engine RPM occurs, or the unit pulls you forward and bounces during operation the blade depth is set too low.

REMOVE THATCH/STEMS: After verti-cutting, a layer of thatch and cut stems will be deposited over the top of the lawn. We suggest the use of a lawn vacuum or wheeled blower for collection and removal of the thatch/stems.

OVERSEEDING OPERATION



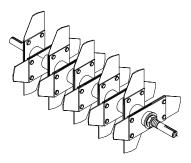


DO NOT- Use this machine on any surface other than a lawn.

DO NOT- Use this machine on slopes in excess of 19°. DO NOT- Allow persons unfamiliar with this equipment to

DO NOT- Allow children to operate this equipment.

NOTE: Must have the slicing reel assembly (350113) for this operation.



MOW: Mow the lawn to shorter than the normal cut height (approximately 2" tall)

DRY: Be sure grass is dry. Wet conditions can cause increased damage to healthy grass.

SEED: Spread grass seed according to the seed suppliers directions (e.g. 10 lbs. per 1000 ft² [4.5 kg. per 93 m²1)

SET DEPTH: With engine off, set the raking depth so that the blades reach 1/4"-1/2"(6-12 mm) below a flat surface (i.e. driveway, or sidewalk).

START ENGINE: See Page 5.

ENGAGE CLUTCH: Pull back on the bail on the operators handle. NOTE: When engaging the clutch in heavy load conditions (i.e. heavy thatch, or very uneven turf), push down on the operators handle lifting the front wheels slightly. Engage the clutch. Slowly lower the unit into the turf.

SLICE: Run machine over the area that has been seeded to incorporate the seed into the soil. If excessive damage occurs to healthy grass, adjust the blade depth to decrease damage. Continue raking the yard, working in one direction (i.e. north-south, or east-west). NOTE: If a large drop in engine RPM occurs, or the unit pulls you forward and bounces during operation the blade depth is set too low.

WATER/FERTILIZE: After the seed has been worked into the soil, water and fertilize according to the seed suppliers directions.

(16)

ADJUSTING SEED RATE

STOP SETTING BRACKET KNOB

- PULL BACK ON THE KNOB THEN SLIDE THE BRACKET TO DESIRED STOP SETTING. EXAMPLE: STOP SETTING IS ON 4
- EXAMPLE: STOP SETTING IS ON 4
 IF SLICING WITHOUT DROPPING
 SEEDS FOR LONG PERIOD THEN SET
 THE STOP SETTING TO ZERO.

LAWN PREPARATION

- MOW LAWN TO LOWEST SETTING ON YOUR MOWER.
- DO NOT WATER PRIOR TO SEEDING.
- POWER RAKE TO DETHATCH LAWN AND REMOVE THATCH.
- FERTILIZE LAWN WITH BROADCAST SPREADER.

LAWN PREPARATION

- FOR BEST RESULTS OVERSEED IN TWO PASSES OF ONE-HALF

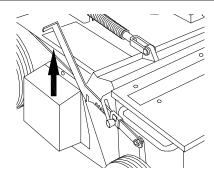
APPLICATION RATE AT RIGHT ANGLES OR IN A CRISS-CROSS PATTERN.

- WATER HEAVILY IMMEDIATELY THEN LIGHTLY FOR 10 - 14 DAYS

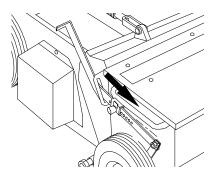
KEEPING SOIL MOIST.

- AFTER GERMINATION, WATER LESS OFTEN TO PROMOTE GROWTH.

DROPPING SEEDS



- AFTER ADJUSTING THE STOP SETTING, LIFT UP ON THE BAR TO OPEN THE DROP SEEDER DOOR.



- TO STOP DROPPING SEEDS, PUSH FORWARD ON THE HANDLE TO CLOSE THE DROP SEEDER DOOR.

NOTE: IF SLICING WITHOUT DROPPING SEEDS FOR LONG PERIOD OF TIME THEN SET THE STOP SETTING TO ZERO.

SEED APPLICATION CHART:

THESE SETTINGS ARE APPROXIMATE GUIDELINES. SEEDING RATES ARE SPEED DEPENDENT. FASTER TRAVEL DELIVERS LESS SEED.

SEED	RATE	STOP	SEED	RATE	STOP		
TYPE	LBS	SETTING	TYPE	LBS	SETTING		
	1,000 FT ²			1,000 FT ²		REFE	RENCE
					,		ART
RYEGRASS	1/2	1	BENTGRASS	2/3	1	<u> </u>	
	3/4	2		1 1/3	2	BILLY	SCOTTS
	1 1/2	3				GOAT	SEEDER
	2 1/3	4	BERMUDAGRASS	3/4	1	SEEDER	SETTING
DI UEODAGO	0/4	•	(HULLED & ZOYSIA)	1 2/3	2	SETTING	(ALL DROP SEEDER MODELS)
BLUEGRASS	3/4	3					WODELS)
	1	4	CENTIPEDEGRASS	2/3	1	5	6 1/3
	1 1/2	5	(COATED)	1 1/4	2	6	8
	2 1/2	6		2 1/2	3	7	10
						•	
FESCUE	3/4	5	ST. AUGUSTINE	3/4	3	8	15 1/2
	1 1/4	6	GRASS	1	4	9	17
	2	7		1 1/3	5		
	3 1/2	8		1 1/2	6		

[17]

MAINTENANCE



Use only a qualified mechanic for any adjustments, disassembly or any kind of repair.



WARNING: TO AVOID PERSONAL INJURY, ALWAYS TURN MACHINE OFF, MAKE SURE ALL MOVING PARTS COME TO A COMPLETE STOP.



DISCONNECT SPARK PLUG WIRE BEFORE SERVICING UNIT.



ENGINE: See engine manufacturer operator's instructions.



RECONNECT SPARK PLUG WIRE, AND ALL GUARDS, BEFORE STARTING ENGINE.

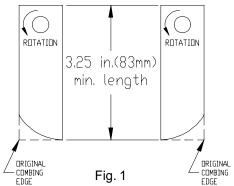


USE ONLY BILLY GOAT ORIGINAL EQUIPMENT PARTS FOR REPLACEMENT AND REPAIR

BLADE WEAR AND ROTATING REEL END TO END

FLAIL BLADE WEAR

- 1. Wait for engine to cool and disconnect spark plug.
- 2. Close fuel valve on engine (if available).
- 3. Lean unit back onto lower handles and secure in place.
- 4. Inspect blades for wear, and immediately replace any bent or cracked blades. Measure the overall length of the blade. (See fig. 1)
- **5.** If blades measure less than 3.25"(83 mm) in overall length they must be replaced. NOTE: We recommend replacing all the flails at once



SLICING BLADE WEAR

- 1. Wait for engine to cool and disconnect spark plug.
- 2. Close fuel valve on engine (if available).
- 3. Lean unit back onto lower handles and secure in place.
- 4. Inspect blades for wear, and immediately replace any bent or cracked blades. Measure the overall length of the blade from the center of the attachment bolt to the tip of the worn blade.
- 5. If blades measure less than 3"(76 mm) in length they must be replaced. NOTE: We recommend replacing all the blades at once.

ROTATING FLAIL REEL END TO END

To maximize flail blade life and performance the reel can be rotated end to end periodically to provide a fresh lead cutting edge. Takes approx. 20 min. and requires 1/2" and 9/16" socket wrenches with extension bar.

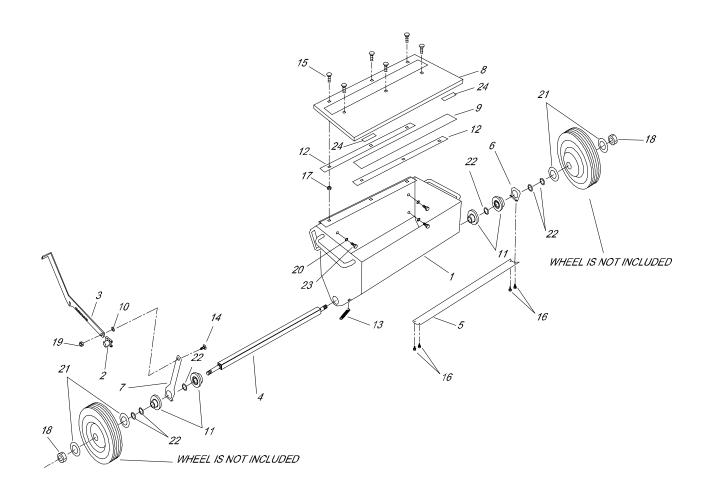
- 1. Wait for engine to cool and disconnect spark plug.
- 2. Close fuel valve on engine (if available).
- 3. Lean unit back onto lower handles and secure in place.
- **4**. Remove (6) lock nuts(item 62) holding the belt and shaft guards(item 21 &22) in place. It is necessary to lower the height adjust lever to reach the locknuts on the guards. Remove the guards.
- 5. Remove the drive belt(item 9) by "walking" it out of the groove on the reel pulley(item 2).
- **6.** Remove the (4) lock nuts(item 60) and washers(item 68) holding the bearings(item 23) to the frame of the unit.
- 7. The reel is now free from the machine. Slide the reel down and out of the machine.
- **8.** Remove the capscrew(item 71), lockwasher(item 57), reel pulley(item 2), key(item 42), and reel spacer(item 10) from the end of the reel.
- **9.** Rotate the reel end to end, and re-install these items on the opposite end of the reel.
- **10.** Re-install the reel in reverse order of removal. Re-install the guards in reverse order of removal.

DRIVE BELT REPLACEMENT

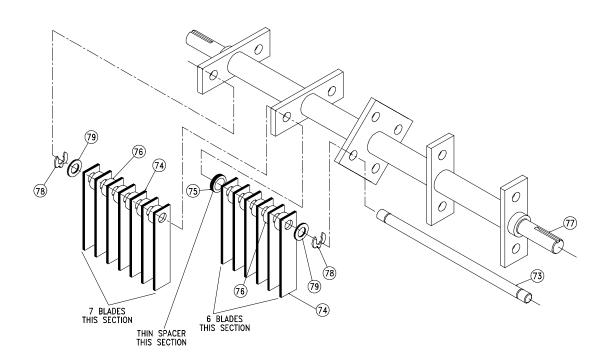
NOTE: Takes approx. 10 min. and requires 1/2" socket wrench with extension.

- 1. Wait for engine to cool and disconnect spark plug.
- **2** . Remove (3) lock nuts(item 62) holding the belt guard(item 21) in place. It is necessary to lower the height adjust lever to reach the locknuts on the guard. Remove the guard.
- **3.** Remove the belt(item 9) by rotating the reel pulley(item 2) and walking it out of the groove. Discard old belt
- **4**. Install new belt using same procedure to walk the belt into the groove.
- **5.** With new belt installed pull bail rod back to engaged position and measure extension of idler spring. Spring should stretch 3/4" 1" (19 25 mm) with bail engaged. Adjust clutch cable as necessary to achieve this extension.
- 6. Re-install the belt guard.

Maintenance Schedule	Follow these hourly maintenance intervals.	
Maintenance Operation	Every Use (Daily)	Every 25 hrs
Engine (See Engine Manual)		
Check engine oil	•	
Inspect and clean engine air filter	•	
Grease reel bearings		•
Inspect belt		•
Inspect for loose, worn, or damaged parts		•
Oil height adjustment linkage		•



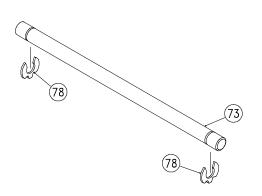
ITEM NO.	PART NO.	DESCRIPTION	QTY
1	350287	BOX DROP SEEDER WA	1
2	350306	BRACKET ADJ DROP SEEDER ASSY	1
3	350276	BAR DOOR LINKGAGE	1
4	350270	SHAFT DROP SEEDER	1
5	350271	PLATE DOOR DROP SEEDER	1
6	350272	PLATE DOOR DROP SEEDER END	1
7	350273	PLATE DOOR DROP SEEDER ARM	1
8	350274	BRACKET LID SEEDER BOX	1
9	350275	COVER CLEAR PLASTIC 19.5 X 3	1
10	8171003	WASHER 5/16 FLAT CUT	1
11	900321	BEARING CLIP 1.375 OD	4
12	510144	PLATE MOUNT FLAPPER	2
13	400217	SPRING TENSION	2
14	8024040	BOLT CARRAIGE 5/16 - 18 X 1	1
15	8024021	BOLT CARRAIGE 1/4 - 20 X 3/4"	6
16	350286	SCREW SHEET METAL	4
17	8160001	NUT LOCK 1/4	6
18	8160007	NUT LOCK 5/8 - 11	2
19	8160002	NUT LOCK 5/16	1
21	8172015	WASHER 3/4 SAE	4
22	350280	WASHER 0.906 OD X 0.656 ID	8
24	350310	RUBBER PAD 1/8" TK x 1/2" W	2
PARTS BA	G SEEDER	BOX KIT	
19	8160002	NUT LOCK 5/16 (REQUIRE ON THE OLD MODELS ONLY)	4
20	8177011	WASHER LOCK 5/16	4
23	8041026	SCREWCAP 5/16-18 x 3/4	4
-	350283	LIT SEEDER BOX (INCLUDES TEMPLATE)	1

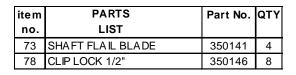


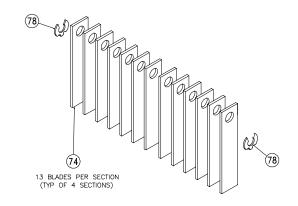
item	PARTS	PR500	QTY
no.	LIST	Part No.	
73	SHAFT FLAIL BLADE	350141	4
74	BLADE FLAIL	350100	52
75	SPACER BUMPER 5/8" x 1/4"	350143	4
76	SPACER BUMPER 5/8" x 1/2"	350144	44
77	SHAFT WA FLAIL REEL	350145	1
78	CLIP LOCK 1/2"	350146	8
79	WASHER 1/2 SAE	8172011	8

FLAIL SHAFT KIT 350185

FLAIL BLADE KIT 350186

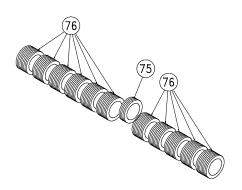




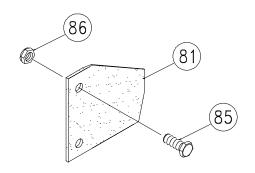


item	PARTS	Part No.	QTY
no.	LIST		
74	BLADE FLAIL	350100	52
78	CLIP LOCK 1/2"	350146	8

SLICING BLADE KIT 350187

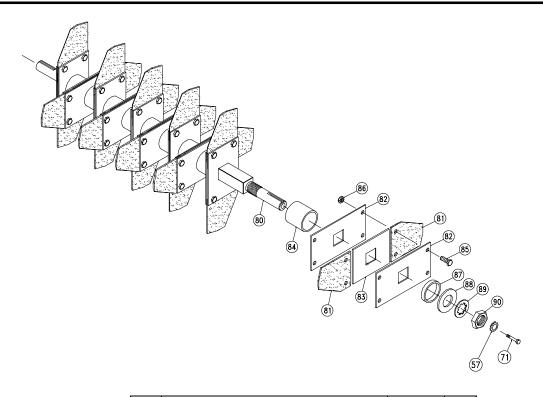


item no.	PARTS LIST	PR500 Part No.	QTY
75	SPACER BUMPER 5/8" x 1/4"	350143	4
76	SPACER BUMPER 5/8" x 1/2"	350144	44

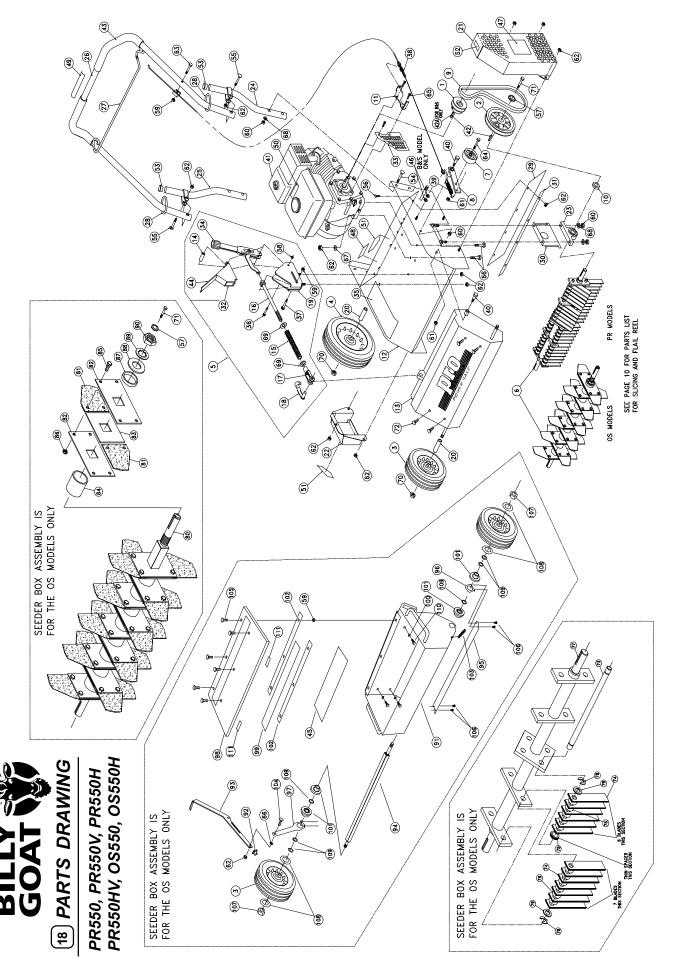


item	PARTS	PR500	QTY
no.	LIST	Part No.	
81	BLADE SLICING REEL	350147	20
85	SCREWCAP 1/4-20 x 3/4, GR. 5	350151	40
86	NUT LOCK 1/4-20	8142004	40

SLICING REEL ASSY 350113



item	PARTS	PR500	QTY
no.	LIST	Part No.	
57	LOCK WASHER 5/16 TWISTED TOOTH	800177	1
71	SCREWCAP 5/16 - 24 x 1" HCS GR. 5	400164	1
80	SHAFT SLICING WA	350142	1
81	BLADE SLICING REEL	350147	20
82	PLATE BLADE MTG.	350148	20
83	SPACER BLADE MTG.	350149	10
84	SPACER BLADE ASSY	350150	9
85	SCREWCAP 1/4-20 x 3/4, GR. 5	350151	40
86	NUT LOCK 1/4-20	8142004	40
87	COLLAR SPACER	350152	1
88	WA SHER 0.937 x 1.750 x 0.119	350153	1
89	WA SHER LOCK 7/8 INT. TOOTH	350154	1
90	NUT JAM 7/8-14	350155	1



	PARTS					OS550		OS550H	
item	LIST	PR550	QTY	PR550H	QTY	PR550V	QTY	PR550HV	QTY
no.	-	Part No.	1	Part No. 350101	1	Part No. 350101-01	1	Part No. 350101	1
2	Pulley 3" OD Pulley 6.5" OD X ¾"	350101-01 350102	1	350101	1	350101-01	1	350101	1
3	Wheel 8" Front PR	350102	2	350102	2	350102	2	350102	2
4	Wheel 10" Front PR	350103	2	350103	2	350103	2	350103	2
5	Height Adjust Assy	350104	1	350104	1	350104	1	350104	1
6	Reel Flail / Slicing Assy	350107	1	350107	1	350107	1	350107	1
7	Pulley Idler 2.75"	350112	1	350112	1	350113	1	350113	1
8	Arm Idler WA	350115	1	350115	1	350115	1	350115	1
9	Belt 5L X 36	350116	1	350116	1	350116	1	350116	1
10	Spacer Reel Pulley	350118	1	350118	1	350118	1	350118	1
11	Bracket Mount Clutch Cable	350110	1	350119	1	350119	1	350119	1
12	Chassis WA W/ Label	350119	1	350119	1	350119	1	350119	1
13	Frame Front WA	350121	1	350121	1	350121	1	350121	1
14	Bushing 0.375 OD X 0.256 ID X 0.88	350309	1	350309	1	350309	1	350309	1
15	Spring Height Adjust PR500	350125	1	350125	1	350125	1	350125	1
16	Link Height Adjust PR500	350126	1	350126	1	350126	1	350126	1
17	Yoke ½ - 20	350127	1	350127	1	350127	1	350127	1
18	Pin Yoke ½ "	350128	1	350128	1	350128	1	350128	1
19	Bracket Mount Hgt. Adj. WA	350182	1	350182	1	350182	1	350182	1
20	Spacer Spanner Wheel PR500	350130	4	350130	4	350130	4	350130	4
21	Guard Belt WA W/ Label	350195	1	350195	1	350195	1	350195	1
22	Guard Shaft WA W/ Label	350196	1	350196	1	350196	1	350196	1
23	Bearing 3/4" Cast Pillow Block	350133	2	350133	2	350133	2	350133	2
24	Handle Low er LH WA	350134	1	350134	1	350134	1	350134	1
25	Handle Low er RH WA	350135	1	350135	1	350135	1	350135	1
26	Handle Upper PR500	350136	1	350136	1	350136	1	350136	1
27	Bail Clutch WA	350137	1	350137	1	350137	1	350137	1
28	Loop Folding Handle	350138	2	350138	2	350138	2	350138	2
29	Deflector Rubber	350167	1	350167	1	350167	1	350167	1
30	Shield Bearing	350168	2	350168	2	350168	2	350168	2
31	Bar Clamp Deflector	350171	1	350171	1	350171	1	350171	1
32	Bracket Height Adjust Lock WA	350173	1	350173	1	350173	1	350173	1
33	Guard Pulley Back	350184	1	350174	1	350184	1	350174	1
34	Lever Height Control	350175	1	350175	1	350175	1	350175	1
35	Label Instr. Hgt. Adj.	350176	1	350176	1	350176	1	350176	1
36	Bolt Shoulder 1/4" x 1 3/4"	350178	1	350178	1	350178	1	350178	1
37	Bolt Shoulder 5/16" x 1 3/4"	350179	1	350179	1	350179	1	350179	1
38	Cable Clutch Reel PR500	350181	1	350181	1	350181	1	350181	1
39	Spring Extension	400217	1	400217	1	400217	1	400217	1
40	Bolt Shoulder 1/2" X 1"	500114	3	500114	3	500114	3	500114	3
41	ENGINE HONDA 5.5 H.P. GX160	-	-	600115	1	-	-	600115	1
	ENGINE INTEK 5.5HP OHV B&S	350197	1	-	-	350197	1	-	-
42	KEY 3/16" X 1"	9201078	1	9201078	2	9201078	1	9201078	2
42A	KEY 1/4" x 1"	9201113	1	-	-	9201113	1	-	-
43	GRIP 1" x 13"	400570	2	400570	2	400570	2	400570	2
44	GRIP LEVER 1/8 x 1 x 5"	500181	1	500181	1	500181	1	500181	1
45	LABEL INSTRUCTION SEEDER BOX	-	-	-	-	350288	1	350288	1
46	WASHER 5/16 FC (BELT GUARD)	8171003	2	-	-	8171003	2	-	-
47	LABEL GOAT HEAD	850209	1	850209	1	850209	1	850209	1
48	LABEL DANGER THROWN OBJECT	810736	1	810736	1	810736	1	810736	1
49	LABEL CLUTCH VQ	830503	1	830503	1	830503	1	830503	1
50 51	LABEL HOT ENGINE LABEL WARNING	400268 400424	1 2	400268 400424	1	400268 400424	1	400268 400424	1 2
52	LABEL WARNING LABEL DANGER GUARD	900327	1	900327	1	900327	1	900327	
	PLUG CAP 1" RD		2		2				1 2
53 54		890132	4	890132	4	890132	2	890132	4
55	BOLT CARRAIGE 3/8-16 x 1 3/4 BOLT CARRAIGE 5/16-18 x 1 3/4	8024061 8024043	2	8024061 8024043	2	8024061 8024043	2	8024061 8024043	2
56	BOLT CARRAGE 5/16-18 x 3/4	8024043	4	8024039	4	8024039	4	8024039	4
57	LOCK WASHER TW. TOOTH	400502	1	400502	1	8024039	1	8024039	1
58	NUT LOCK #10-24	8164005	1	8164005	1	8164005	1	8164005	1
59	NUT LOCK #10-24 NUT LOCK 1/4-20	8160001	2	8160001	2	8160001	8	8160001	8
60	NUT LOCK 1/4-20 NUT LOCK 3/8-16	8160003	9	8160001	9	8160003	9	8160001	9
- 50	2001 0/0 10	3100000	J	0.00003	Ű	0.00003	9	0100003	J

item	PARTS	PR550	QTY	PR550H	QTY	OS550 PR550V	QTY	OS550H PR550HV	QTY
no.	LIST	Part No.		Part No.		Part No.		Part No.	
61	NUT LOCK 3/8-16 THIN	8161042	3	8161042	3	8161042	3	8161042	3
62	NUT LOCK 5/16-18	8160002	18	8160002	18	8160002	19	8160002	19
63	SCREWCA P 1/4-20 x 1 1/2	8041008	1	8041008	1	8041008	1	8041008	1
64	SCREWCA P 3/8 - 16 x 1 1/4	8041051	1	8041051	1	8041051	1	8041051	1
65	SCREWCA P 5/16-24 x 1" GR.5	8042026	3	8042026	3	8042026	3	8042026	3
66	SCREWCA P 5/16 - 18 x 1 1/2	8041030	4	8041030	4	8041030	4	8041030	4
67	WASHER 5/16 FLAT CUT	8171003	4	8171003	4	8171003	5	8171003	5
68	WASHER 3/8 FLAT CUT	8171004	8	8171004	8	8171004	8	8171004	8
69	WASHER 1/2 FLAT CUT	8171006	2	8171006	2	8171006	2	8171006	2
70	NUT LOCK 1/2 - 13	8160005	4	8160005	4	8160005	4	8160005	4
71	SCREWCA P REEL PULLEY	8041050	1	8041050	1	400164	1	400164	1
72	BUTTON SOCKET 5/16-18X5/8"	350266	4	350266	4	-	-	-	-

FLAIL REEL ASSEMBLY (FOR PR550 AND PR550H MODELS ONLY)

73	SHAFT FLAIL BLADE	350141	4	350141	4	-	-		٠
74	BLADE FLAIL	350100	52	350100	52	-	-		
75	SPACER BUMPER 5/8" x 1/4"	350143	4	350143	4	-	-	-	•
76	SPACER BUMPER 5/8" x 1/2"	350144	44	350144	44	-	-	-	•
77	SHAFT WA FLAIL REEL	350145	1	350145	1	-	-	-	•
78	CLIP LOCK 1/2"	350146	8	350146	8	-	-	-	-
79	WASHER 1/2 SAE	8172011	8	8172011	8	-	-	-	-

SLICING REEL ASSEM BLY (FOR PR550V, PR550HV, OS550, AND OS550H M ODELS ONLY)

80	SHAFT SLICING WA	350142	1	350142	1	350142	1	350142	1
81	BLADE SLICING REEL	350147	20	350147	20	350147	20	350147	20
82	PLATE BLADE MTG.	350148	20	350148	20	350148	20	350148	20
83	SPACER BLADE MTG.	350149	10	350149	10	350149	10	350149	10
84	SPACER BLADE ASSY	350150	9	350150	9	350150	9	350150	9
85	SCREWCA P 1/4-20 x 3/4, GR. 5	350151	40	350151	40	350151	40	350151	40
86	NUT LOCK 1/4-20	8142004	40	8142004	40	8142004	40	8142004	40
87	COLLAR SPACER	350152	1	350152	1	350152	1	350152	1
88	WASHER 0.937 x 1.750 x 0.119	350153	1	350153	1	350153	1	350153	1
89	WASHER LOCK 7/8 INT. TOOTH	350154	1	350154	1	350154	1	350154	1
90	NUT JAM 7/8-14	350155	1	350155	1	350155	1	350155	1

SEEDER BOX ASSEMBLY (FOR OS550, AND OS550H MODELS ONLY)

91	BOX DROP SEEDER WA	-	-	-	-	350287	1	350287	1
92	BRACKET ADJ DROP SEEDER ASSY	-	-	-	-	350306	1	350306	1
93	BAR DOOR LINKGAGE	-	-	-	-	350276	1	350276	1
94	SHAFT DROP SEEDER	-	-	-	-	350270	1	350270	1
95	PLATE DOOR DROP SEEDER	-	-	-	-	350271	1	350271	1
96	PLATE DOOR DROP SEEDER END	-	-	-	-	350272	1	350272	1
97	PLATE DOOR DROP SEEDER ARM	-	•	-	-	350273	1	350273	1
98	BRACKET LID SEEDER BOX	-	•	-	-	350274	1	350274	1
99	COVER CLEAR PLASTIC 19.5 X 3	-	-	-	-	350275	1	350275	1
100	WASHER LOCK 5/16	-	-	-	-	8177011	4	8177011	4
101	BEARING CLIP 1.375 OD	-	•	-	-	900321	4	900321	4
102	PLATE MOUNT FLAPPER	-	•	-	-	510144	2	510144	2
103	SPRING TENSION	-	•	-	-	400217	2	400217	2
104	BOLT CARRAIGE 5/16 - 18 X 1	-	-	-	-	8024040	1	8024040	1
105	BOLT CARRAIGE 1/4 - 20 X 3/4"	-	•	-	-	8024021	6	8024021	6
106	SCREW SHEET METAL	-	•	-	-	350286	4	350286	4
107	NUT LOCK 5/8 - 11	-	•	-	-	8160007	2	8160007	2
108	WASHER 3/4 SAE	-	•	-	-	8172015	4	8172015	4
109	WASHER 0.906 OD X 0.656 ID	-	-	-	-	350280	8	350280	8
110	SCREWCA P 5/16-18 x 3/4	-	-	-	-	8041026	4	8041026	4
111	RUBBER PAD 1/8" TK X 1/2"W X 3"	-		-	-	350310	2	350310	2

TROUBLESHOOTING Before Requesting Service Review These Suggestions

Problem	Possible Cause	Solution		
Engine stalls or labors when raking.	Blades set too deep into ground	Raise blades so that they just touch the ground on a level surface.		
Abnormal vibration.	Damaged or missing blades. Loose handle bolts. Loose engine bolts	Stop work immediately. Replace any damaged or missing blades. Tighten all loose bolts and nuts.		
Engine will not start.	Stop switch off (Honda only). Throttle in off position. Engine not in full choke position. Out of gasoline. Bad or old gasoline. Spark Plug wire disconnected. Dirty air cleaner. Engine oil level too low (Honda only).	Check stop switches, throttle, choke position and gasoline. Connect spark plug wire. Clean or replace air cleaner. Contact a qualified service person.		
Engine is locked, will not pull over.	Debris locked against reel, or drive pulleys. Engine problem.	Pull spark plug wire and remove debris. Contact an engine servicing dealer for engine problems.		

ENGINE

GENERAL ENGINE SPECIFICATIONS

ENGINE	HORSEPOWER	MODEL NO.	GOVERNED RPM
BRIGGS & STRATTON	5.5	1104020191E1	3700
HONDA	5.5	GX160K1QX	3600
SUBARU	6.0	EX170D50020	3600

When servicing engine refer to specific manufacturers engine owner's manual. All engine warranty is covered by the specific engine manufacturer. If your engine requires warranty or other repair work contact your local servicing engine dealer. When contacting a dealer for service it is a good idea to have your engine model number available for reference(See table page above). If you can not locate a servicing dealer in your area you can contact the manufacturers national service organization.

To reach:

Briggs & Stratton: 800-233-3723 **American Honda:** 800-426-7701 **Subaru America:** 800-277-6246

UNIT STORAGE

gasoline.

Never store engine indoors or in enclosed poorly ventilated areas with fuel in tank, where fuel fumes may reach an open flame, spark or pilot light, as on a furnace, water heater, clothes dryer or other gas appliance.

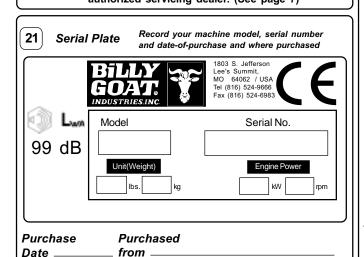
If engine is to be unused for 30 days or more, prepare as follows:

Remove all gasoline from carburetor and fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine. Drain fuel outdoors, into an approved container, away from open flame. Be sure engine is cool. Do not smoke. Run engine until fuel tank is empty and engine runs out of

NOTE: Fuel stabilizer (such as Sta-Bil) is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow mix ratio found on stabilizer container. Run engine at least 10 min. after adding stabilizer to allow it to reach the carburetor.

22.1

Engine Service and Warranty
Contact your nearest engine manufacturer's
authorized servicing dealer. (See page 7)



22

WARRANTY PROCEDURE

Should a Billy Goat Machine fail due to a defect in material and/or workmanship, the owner should make a warranty claim as follows:

- -The Machine must be taken to the dealer from whom it was purchased or to an authorized Servicing Billy Goat Dealer.
- -The owner must present the remaining half of the Warranty Registration Card, or, if this is not available, the invoice or receipt.
- -The Warranty Claim will be completed by the authorized Billy Goat Dealer and submitted to their respective Billy Goat Distributor for their territory. Attention: Service Manager. Any parts replaced under warranty must be tagged and retained for 90 days.
- -The distributor service manager will sign off on the claim and submit it to Billy Goat for consideration.
- -The Technical Service Department at Billy Goat will study the claim and may request parts to be returned for examination. Billy Goat will notify their conclusions to the distributor service manager from whom the claim was received.
- -The decision by the Quality / Service department at Billy Goat to approve or reject a Warranty claim is final and binding.

Note: To process a Warranty Claim, it is necessary to quote the Model & Serial Number which are printed on the Billy Goat Serial Plate (See owner's manual).



BILLY GOAT INDUSTRIES INC.

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