



OVERSEEDER/POWER RAKE Owner's Manual



Patent 6253416 and other patents pending

POWER RAKE AND OVERSEEDER Owner's Manual

PR550, PR550H, OS552, OS552H

Accessories

SLICING REEL	SLICING BLADES
A complete verticising reel for your PR. 20" wide reel for use in grasses that require vertical cutting, and for assisting in lawn overseeding projects.	A full set of blades for replacement. Includes new lock washers for replacement installation.
P/N 350414	P/N 350187

OVERSEEDER KIT
The new light weight Plastic Overseeding Kit is constructed of durable High Density Polypropylene 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. <i>NOTE:</i> Overseeder Conversion Kit (350328) includes Slicing Reel (350113). Part No. (350325) comes with the Overseeder Box only.
P/N 350325 / 350328

Replacement Parts

FLAIL BLADES	FLAIL SHAFTS
A complete set of our high quality flail blades for your PR. Includes new lock clips for replacement installation.	A full set of shafts for replacement. Includes new lock clips for replacement installation.
P/N 350186	P/N 350185



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Not for Reproduction



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SPECIFICATIONS

	PR550	PR550H	OS552	OS552H
Engine: HP	5.5 (4.1 kW)	5.5 (4.1 kW)	5.5 (4.1 kW)	5.5 (4.1 kW)
Engine: Model	12H1320118B8	GX160T1QX2	12H1320118B8	GX160T1QX2
Engine: Type	B&S VANGUARD	HONDA OHV	B&S VANGUARD	HONDA OHV
Engine: Fuel Capacity	3.0 qt. (2.84 L)	3.88 qt. (3.6 L)	3.0 qt. (2.84 L)	3.88 qt. (3.6 L)
Engine: Oil Capacity	0.66 qt. (0.62 L)	0.69 qt. (0.65 L)	0.66 qt. (0.62 L)	0.69 qt. (0.65 L)
Total Unit Weight:	149# (67.7 kg)	147# (66.8 kg)	162# (73.6 kg)	160# (72.7 kg)
Engine weight:	36# (16.3 kg)	34# (15.4 kg)	36# (16.3 kg)	34# (15.4 kg)
Max. operating slope	15°	20°	15°	15°
Sound test in accordance with 2000/14/EC	101 dB(a)	101 dB(a)	101 dB(a)	101 dB(a)
Sound at operators ear	82 dB(a)	82 dB(a)	82 dB(a)	82 dB(a)
Vibration at operator position	0.82g (8.04 m/s ²)	0.82g (8.04 m/s ²)	3.2g	3.2g

SOUND



L_{WA}

101

SOUND LEVEL 82 dB(a) at Operators Position

Sound tests were conducted in accordance with 2000/14/EC, and were performed on 2-13-2002 under the conditions listed below.

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

General Conditions:

Temperature:

Wind Speed:

Wind Direction:

Humidity:

Barometric Pressure:

Sunny

48°F (8.9°C)

2 mph (3.2 km/h)

South East

29%

30.34Hg (770 mm Hg)

VIBRATION DATA

VIBRATION LEVEL .82g (8.04m/s²)

Vibration levels at the operator's handles were measured in the vertical, lateral and longitudinal directions using calibrated vibration test equipment. Tests were performed on 5-25-2006 under the conditions listed below.

General Conditions:

Temperature:

Wind Speed:

Wind Direction:

Humidity:

Barometric Pressure:

Sunny

72.32°F (22.4°C)

3.8 mph (6.12kph)

East

62.2%

29.9Hg (101.3kpa)



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INSTRUCTION LABELS

The labels shown below were installed on your BILLY GOAT® Power Rake/Overseeder. If any labels are damaged or missing, replace them before operating this equipment. Item numbers from the Illustrated Parts List and part numbers are provided for convenience in ordering replacement labels. The correct position for each label may be determined by referring to the Figure and Item numbers shown.



LABEL DANGER KEEP HANDS AND FEET AWAY
ITEM #51 P/N 400424



LABEL CLUTCH ITEM #49
P/N 830503



DANGER FLYING DEBRIS
ITEM # 48 P/N 810736



LABEL SPARK ARREST
ITEM #81 100252

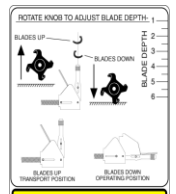


LABEL CAUTION GUARDS
ITEM #52 P/N 900327

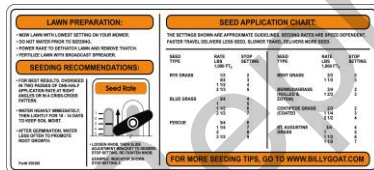


LABEL EXPLOSIVE FUEL
ITEM # 50 P/N 400268

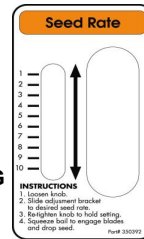
LABEL INSTRUCTION HEIGHT ADJ.
ITEM #35 P/N 350176



LABEL INSTRUCTIONS SEEDER BOX
ITEM #30 P/N 350386
(page 8)

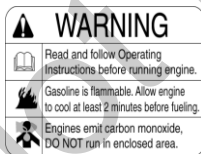


LABEL SEED METERING
ITEM #29 P/N 350392
(page 8)

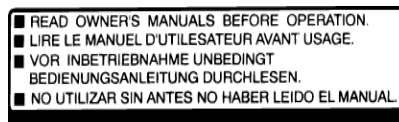


ENGINE LABELS

BRIGGS & STRATTON

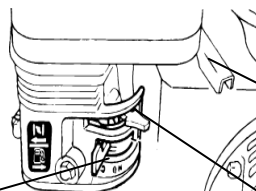


HONDA



ENGINE CONTROLS

Honda



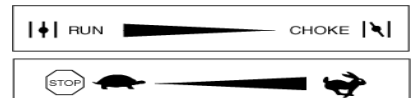
Fuel valve

Throttle lever

Choke lever

Briggs & Stratton

Set lever to choke when starting cold



Set lever to desired engine speed. Move lever completely to the left to stop engine



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OPERATION

NOTE: Items in () can be referenced in the Parts Illustration and Parts list on pages 11-16.

SLICING OPERATION

NOTE: NEVER PARK THIS UNIT ON A SLOPE OF ANY KIND. Always keep the reel in the up position when parking the unit.

BLADE POSITION & DEPTH CONTROL LEVER: The blades can be raised or lowered into the ground by height adjustment 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.

ADJUSTING BLADE DEPTH: 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.

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.

SPRING TINE CONVERSION

If you are converting your Power Rake to a spring tine reel, you will need to replace the spacer on the control lever to accommodate for the tine. First remove the clip (item 18), then unscrew the yoke (item 17), remove the washer (items 69) and insert the spacer (item 75) in front of the spring. Reassemble in reverse order.

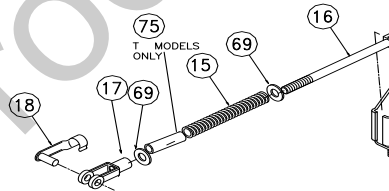


Fig. 3

RAKING OPERATION-FLAIL REEL (See Fig. 4)

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

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

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 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: 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.

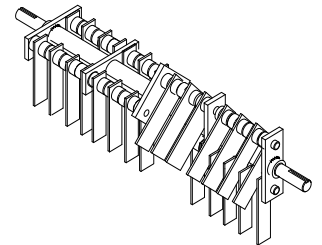


Fig. 4

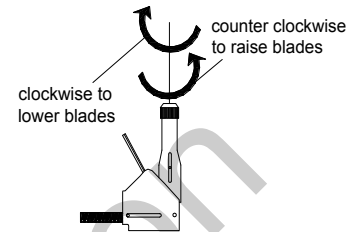


Fig. 1

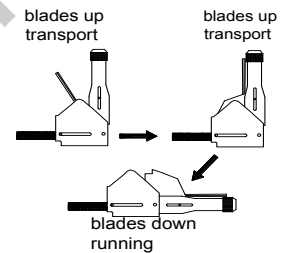


Fig. 2



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RAKING OPERATION-SPRING REEL (See Fig. 5)

NOTE: Must have the spring tine reel assembly (350354) for this operation.

SET DEPTH: With engine off, set the raking depth so that the spring tines are just above touching the flat surface (i.e. driveway, or sidewalk) the units height is being adjusted on. **NOTE:** Allowing the spring tines to have substantial contact with the ground will cause premature wear and failure of the spring tines.

ENGAGE TINES: Pull back on the bail on the operators handle. **NOTE:** When engaging the spring tines 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 spring tines. 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 healthy grass, adjust the spring tine 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 spring tine 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.

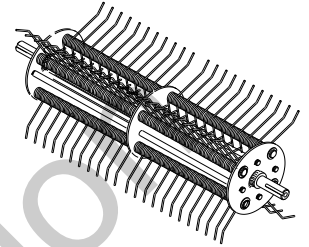


Fig. 5

VERTI-CUTTING OPERATION (See Fig. 6)

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

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

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.

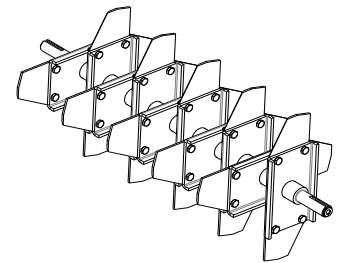


Fig. 6

OVERSEEDING OPERATION

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

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 m²])

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).

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.

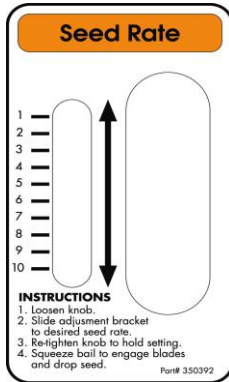
SLICE: Run machine over the area that has been seeded to incorporate the seed into the soil. If excessive damage occurs to healthy grass, adjust the blade depth to decrease damage. Continue raking the yard, working in one direction (i.e. north-south, or east-west). **NOTE:** If a large drop in engine 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.



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ADJUSTING SEED RATE



SEED APPLICATION CHART:

THE SETTINGS SHOWN ARE APPROXIMATE GUIDELINES. SEEDING RATES ARE SPEED DEPENDENT. FASTER TRAVEL DELIVERS LESS SEED, SLOWER TRAVEL DELIVERS MORE SEED.

SEED TYPE	RATE LBS 1,000 FT ²	STOP SETTING	SEED TYPE	RATE LBS 1,000 FT ²	STOP SETTING
RYE GRASS	1/2	2	BENT GRASS	2/3	2
	3/4	3		1 1/3	3
	1 1/2	4	BERMUDAGRASS (HULLED & ZOYSIA)	3/4	2
	2 1/3	5		1 2/3	3
BLUE GRASS	3/4	4	CENTIPEDE GRASS (COATED)	2/3	2
	1	5		1 1/4	3
	1 1/2	6		2 1/2	4
FESCUE	2 1/2	7	ST. AUGUSTINE GRASS	3/4	4
	3/4	6		1	5
	1 1/4	7		1 1/3	6
	2	8		1 1/2	7
	3 1/2	9			

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.
- For best results overseed in two passes of one-half application rate each, at right angles or in a criss-cross pattern. (See Fig 7 & 8)
- Water heavily immediately then lightly for 10 - 14 days, keeping soil moist.
- After germination, water less often to promote root growth.

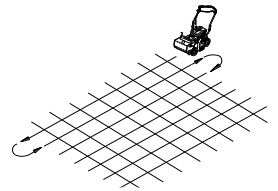


Fig. 7

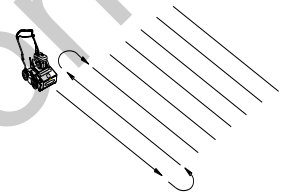


Fig. 8

*****TIPS*****

Before beginning, 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.

MOW

Mow the lawn to its normal cut height. Be sure grass is dry. Wet conditions can cause increased damage to healthy grass.

INSPECT

Check the lawn before beginning work. Remove all rocks, wire, string, or other objects that can present a hazard during work

IDENTIFY

Mark all fixed objects to be avoided during work, such as sprinkler heads, water valves, buried cables, or clothes line anchors, etc.

THATCH

Thatch is a dense layer of dead grass, clippings, and roots that builds up over time at the base 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 the slope. 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 adjustment on your unit is provided to allow for blade wear. Setting the reel deeper will not produce better 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. Setting the reel deeper will only result in premature wear on the unit (i.e. failed belt). If you desire to work the ground deeper than the above guidelines, 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. 7 & 8).