

CE



BILLY GOAT LB VACUUM

Owner's Manual

LB352

Optional Accessories

HOSE KIT	HOSE CONNECTOR KIT	BAG SUPPORT KIT	STANDARD FELT DEBRIS BAGS	OPTIONAL TURF DEBRIS BAGS
4"(102mm) x 7' (3.05m) <i>For vacuuming in hard to reach areas.</i>	To connect two lengths of 4" hose (hose not included).	Extends bag life by keeping bag from dragging ground.	For use in dusty conditions.	For use in leaves and grass in non-dusty conditions.
P/N 900460	P/N 890045	P/N 900645	P/N 900719	P/N 900722



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Specifications

LB351

Engine: cc	158cc
Engine: Type	B & S 500 series
Engine: Model	10T502 9305 14
Engine: Fuel Capacity	.9 qt (.85 L)
Engine: Oil Capacity	18 to 20 oz. (.54-.59L)
Total Unit Weight:	57# (25.85 kg)
Overall Length	47" (1.19 m)
Overall Width	21.5" (0.55 m)
Overall Height	40.5" (1.02 m)
Max. operating slope	20°
Sound in accordance with 2000/14/EEC standards	97 dBa
Sound at operators ear	77 dBa
Vibration at operator position	.5g (5.17m/s ²)

SOUND



SOUND LEVEL 77.5 dB(a) at Operator Ear

97 dB

Sound tests were conducted in accordance with 2000/14/EEC, and were performed on 6-17-2013 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:	Sunny
Temperature:	71°F (21.7°C)
Wind Speed:	4 mph (6.4 kmh)
Wind Direction:	North
Humidity:	90%
Barometric Pressure:	29.94"Hg (760.5 mm Hg)

VIBRATION DATA

VIBRATION LEVEL .5g (5.17m/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 6-17-13 under the conditions listed below.

General Conditions:	Sunny
Temperature:	71°F (21.7°C)
Wind Speed:	4 mph (6.4 kmh)
Wind Direction:	North
Humidity:	90%
Barometric Pressure:	29.94"Hg (760.5 mm Hg)



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INSTRUCTION LABELS

The labels shown below were installed on your BILLY GOAT® LB Vacuum. 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 #67 P/N 400424



LABEL EAR EYE BREATHING ITEM #23
P/N 890254



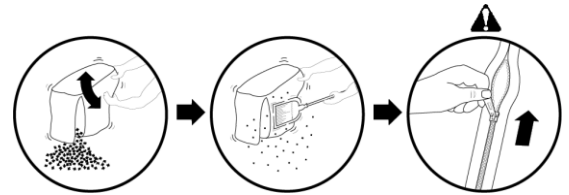
DANGER FLYING DEBRIS
ITEM # 73 P/N 810736



LABEL READ MANUAL
ITEM #76 P/N 430363



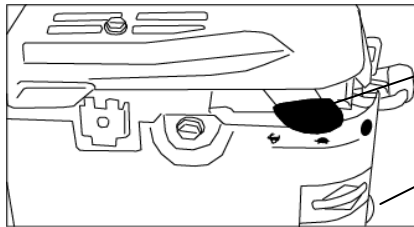
LABEL EXPLOSIVE FUEL
ITEM # 75 P/N 400268



DEBRIS BAG LABEL
ITEM #10

ENGINE CONTROLS & LABELS

BRIGGS & STRATTON



Throttle Control

Choke Control



Briggs engines have a primer button carburetor rather than choke type carburetor.





PACKING CHECKLIST

Your Billy Goat LB Vacuum is shipped from the factory in one carton, completely assembled except for the upper handle, debris bag.



READ all safety instructions before assembling unit.

TAKE CAUTION when removing the unit from the box the Handle Assembly is attached by cables and folded over



PUT OIL IN ENGINE BEFORE STARTING

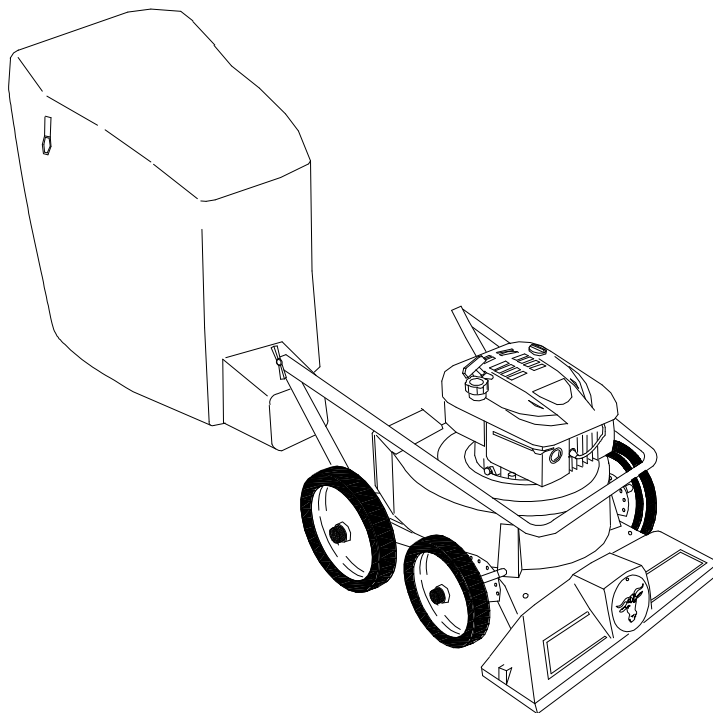
PARTS BAG & LITERATURE ASSY

Warranty card P/N- 400972, Owner's Manual P/N-901015, General Safety and Warnings Manual P/N-100294. Declaration of Conformity P/N-900782. Literature LB Accessories 900714.

Boxing Parts Checklist

- Debris Bag
P/N-900718
- Literature Assy
P/N-901016

- Briggs & Stratton
500 Series



ASSEMBLY

Your Billy Goat is shipped from the factory in one carton, completely assembled except for the debris bag.

1. **ROTATE** upper handle into upward position and securely tighten knobs. Machine can be stored with handle folded in down position.
2. **UNFOLD** the debris bag (item 10) and fasten bag neck onto exhaust discharge opening.
3. **ATTACH** bag hanger straps to loops (item 38), preassembled to upper handle.
4. **CONNECT** spark plug wire.



OPERATION

VACUUMING OPERATION

VACUUM NOZZLE HEIGHT ADJUSTMENT: is raised and lowered by adjusting front wheel height control.

FOR MAXIMUM PICKUP: Adjust nozzle close to debris, but without blocking airflow into the nozzle. *NOTE:* Never bury nozzle into debris.

CLEARING A CLOGGED NOZZLE & EXHAUST: Turn engine off and wait for impeller to stop completely and disconnect spark plug wire. Wearing durable gloves, remove clog. **Danger**, the clog may contain sharp materials. Reconnect spark plug wire.

DEBRIS BAG

Debris bags are normal replaceable wear items.

Note: Frequently empty debris to prevent bag overloading with more weight than you can lift.

An optional bag and dust cover is available for use where debris will be vacuumed in dusty conditions (**see Optional Accessories shown on page 1**).

DO NOT place bag on or near hot surface, such as engine. Run engine at 1/2 throttle for first 1/2 hour to condition new bag. Your new bag requires a break-in period to condition the pores of the material against premature blockage.

The entire bag surface serves as a filter, and must be able to breath to have good vacuum performance.

Be sure engine has come to a complete stop before removing or emptying bag.

This vacuum is designed for picking up trash, organic material and other similar debris (see Safety Warnings page 2 & 3).

However, many vacuums are used where dust is mixed with trash. Your unit can intermittently vacuum in dusty areas. Dust is the greatest cause of lost vacuum performance. However, following these rules will help maintain your machine's ability to vacuum in dusty conditions:

- Run machine at idle to quarter throttle.
- The debris bag must be cleaned more frequently. A vacuum with a clean, pillow soft bag will have good pickup performance. One with a dirty, tight bag will have poor pickup performance. If dirty, empty debris and vigorously shake bag free-of-dust.
- Machine or pressure-wash debris bag if normal cleaning does not fully clean bag. Bag should be thoroughly dry before use.

Having one or more spare debris bags is a good way to reduce down time while dirty bags are being cleaned.

- DO NOT** leave debris in bag while in storage.

COMPOST

Vacuumed leaves, grass and other organic material from your own yard can be emptied into a pile or composter to provide enriched soil for later use as fertilizer in gardens and flower beds

NOTE: Allow green chips to dry before spreading around living plants.



MAINTENANCE

PERIODIC MAINTENANCE

Periodic maintenance should be performed at the following intervals:

Maintenance Operation	Every Use (daily)	Every 5 hrs (daily)
Inspect for loose, worn or damaged parts.		●
Clean Debris bag	●	
Check bag strap tightness	●	
Engine (See Engine Manual)		
Check for excessive vibration		●

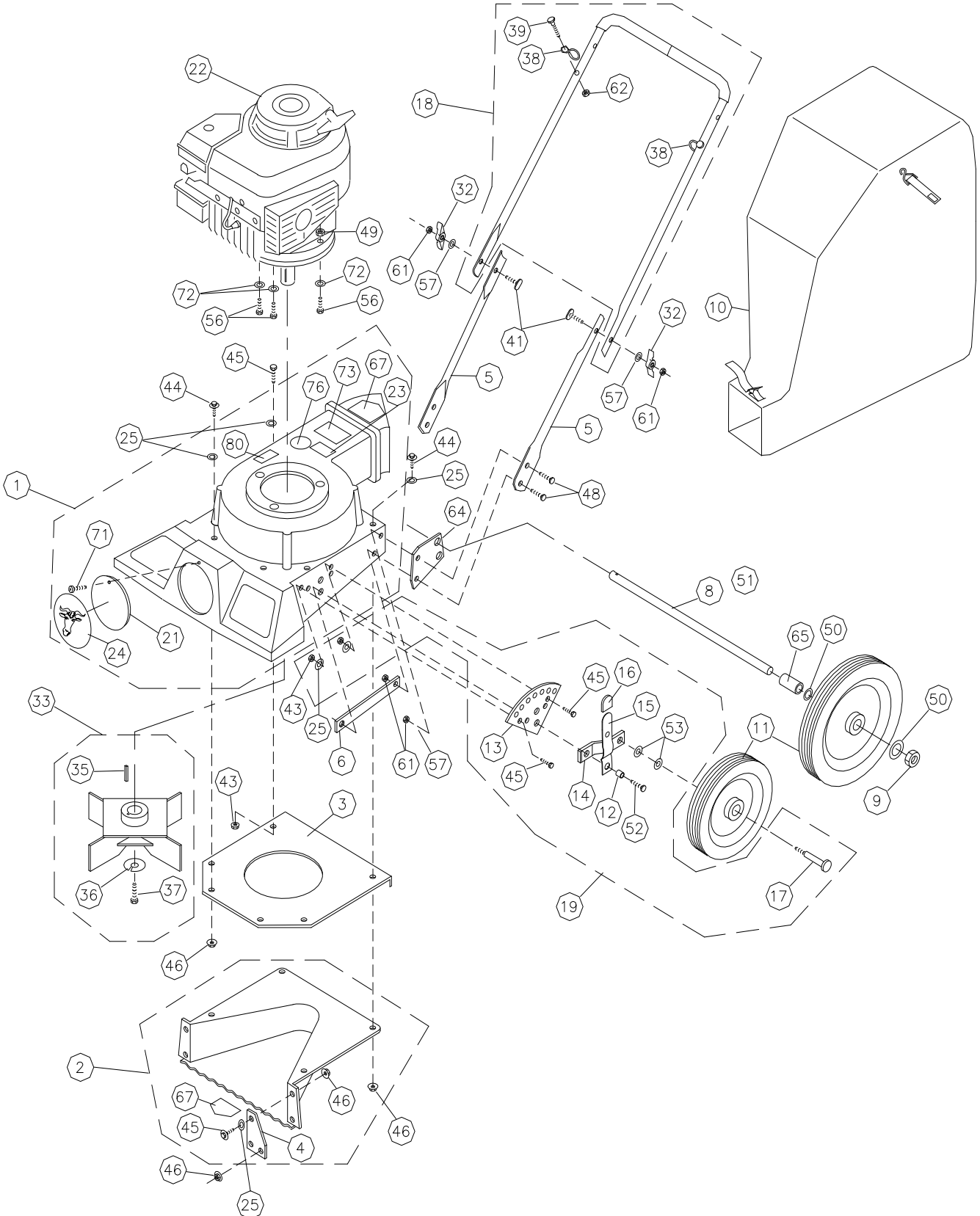
IMPELLER REMOVAL

1. Wait for engine to cool and disconnect spark plug.
2. Drain fuel and oil from engine.
3. Remove bag and remove upper handle.
4. Invert and support machine without engine touching to prevent damage to recoil starter.
5. Remove rear wheels (item 11), and bolt axle bracket (item 48), [one each side, closest to middle inlet plate (item 3)], washer (item 57) and nut (item 49).
6. Remove intake wrapper (item 2), assembly and middle inlet plate (item 3), eight screws and eight nuts.
7. Remove impeller bolt (item 37) and lock washer (item 36).
8. Lift impeller free of engine.
9. If impeller does not remove easily, obtain a 1" (25.4mm) longer bolt of the same diameter and thread type as the impeller bolt. Thread longer bolt by hand into crankshaft until bolt bottoms. Using a suitable gear or wheel puller against the bolt head and impeller back-plate (near the blades), remove impeller from shaft.
10. Reinstall new impeller, impeller bolt and lock washer in reverse order. Torque impeller bolt to 33-38 ft-lbs (45-52 N.m).

Troubleshooting

Problem	Possible Cause	Solution
Abnormal vibration.	· Loose or out of balance impeller or loose engine	· Check impeller and replace if required. Check engine
Will not vacuum or has poor vacuum performance	· Dirty debris bag. Nozzle height set too high or low. Hose kit cap missing. Clogged nozzle or exhaust. Excessive quantity of debris.	· Clean debris bag. Shake bag clean or wash. Adjust nozzle height. Check for hose kit cap. Unclog nozzle or exhaust. Allow air to feed with debris
Engine will not start.	· Throttle in off position. Out of gasoline. Bad or old gasoline. Sparkplug wire disconnected. Dirty air cleaner	· Check throttle, Connect spark plug wire. Clean or replace air filter. Or contact a qualified service person.
Engine is locked, will not pull over.	· Debris locked in impeller. Engine problem.	· See page 10. Contact a engine service dealer for engine problems
Nozzle scrapes ground in lowest height setting.	Nozzle height out of adjustment	Adjust nozzle height (See Nozzle height fine adjustment for hard surfaces on page 10

PARTS DRAWING LB





LB Owner's Manual

PARTS LIST

ITEM NO.	DESCRIPTION	LB612 Part No.	QTY	LB351 Part No.	QTY
1	HOUSING ASSY	900590-04	1	900590-04	1
2	WRAPPER-INTAKE ASSY	900607-04	1	900607-04	1
3	PLATE MIDDLE INLET	900418	1	900418	1
4	PLATE WRAPPER	900413	2	900413	2
5	HANDLE LOWER	900483	2	900483	2
6	PLATE BACKUP	900484	2	900484	2
7	WHEEL REAR 10"	900817	2	900817	2
8	AXLE SHAFT	900818	1	900818	1
9	NUT LOCK 1/2 -13 THIN HT.	8161044	2	8161044	2
10	BAG DEBRIS	900719	1	900719	1
11	WHEEL FRONT 8"	900816	2	900816	2
12	SPACER	900384	2	900384	2
13	PLATE- HT ADJ.	900414	2	900414	2
14	AXLE ARM- HT. ADJ.	900416	2	900416	2
15	ARM ASSY - HT ADJ.	900417	2	900417	2
16	TIP -HT. ADJ.	900459	2	900459	2
17	SCREWCAP 3/8-16 X 2 1/2"	8041056	2	8041056	2
18	HANDLE - UPPER ASSY	900777	1	900777	1
19	HT. ADJ. ASSY	900820	2	900820	2
20	SPACER FRONT WHEEL	900819	2	900819	2
21	PLUG	900146-01	1	900146-01	1
22	ENGINE 6.0 H.P. BRIGGS	890622	1	-	-
	ENGINE BRIGGS 500 SERIES	-	-	901012	1
23	LABEL EAR/EYE BREATHING	890254	1	890254	1
24	LABEL LOGO SMALL FRAME	441152	1	441152	1
25	WASHER 1/4 SAE	8172007	13	8172007	13
26	SCREWCAP 5/16-16 X 1 1/4	8041029	1	8041029	1
27					
28					
29					
30	WASHER 1/2" FLAT KD WHEEL MTG	900230	4	900230	4
31					
32	KNOB-FOLDING HANDLE	900456	2	900456	2
33	IMPELLER ASSY	900421	1	900421	1
34					
35	KEY-3/16 SQ. X 1 1/4"	9201080	1	9201080	1
36	WASHER LOCK 3/8 S/T MED	8177012	1	-	-
	WASHER LOCK 7/16 S/T MED	-	-	8177013	1
37	SCREWCAP 3/8-24 X 1" GR. 8 TORQUE 33-38 FT. LBS (45-52 N.m.)	900154	1	-	-
	SCREWCAP 7/16-20 X 1" HCS GR. 8 W/PATCH	-	-	510213	1
38	BAG LOOP	800178	2	800178	2
39	SCREW CAP 1/4-20 X 1 1/4"	8041007	2	8041007	2
40					
41	BOLT CARRIAGE 5/16-18x2 1/4"	900466	2	900466	2
42					
43	NUT LOCK 1/4 - 20 HEX ZP	8160001	5	8160001	5
44	SCREWCAP 1/4 -20 X 1"	8041006	2	8041006	2
45	SCREWCAP 1/4-20 X 3/4"	8041004	13	8041004	13
46	NUT LOCK WASHER 1/4-20	900453	10	900453	10
47					
48	SCREWCAP 5/16-18 X 1 1/4"	8041029	4	8041029	4
49	NUT LOCK 5/16-18 HEX ZP	8160002	3	8160002	3
50	WASHER FLAT 1/2 SAE (17/32 X 1 1/16 X 3/32)	8172011	4	8172011	4
51					
52	SCREWCAP 3/8-16 X 1 1/2"	8041052	2	8041052	2
53	WASHER LOCK 3/8 S/T MED	8177012	2	8177012	2
54					
55	WASHER FLAT 3/8 SAE (13/32 X 13/16/ X 1/16)	8172009	2	8172009	2
56	SCREW CAP 5/16-18 X 1 1/4	8041030	3	8041030	3
57	WASHER 5/16 SAE (11/32 X 11/16 X 1/16)	8172008	2	8172008	2
58					
59					
60					
61	NUT LOCK 5/16-18	8160002	5	8160002	5
62	NUT LOCK 1/4-20	8160001	2	8160001	2
63					
64	BRACKET AXLE	900487	2	900487	2
65	SPACER 1/2 X 5/8	900231	2	900231	2
66					
67	LABEL DANGER KEEP HANDS AND FEET AWAY	400424	2	400424	2
71	SCREW SELF-TAPPING 10-24 X 1/2	8123086	1	8123086	1
72	WASHER 5/16 FLAT CUT	8171003	3	8171003	3
73	LABEL FLYING DEBRIS	810736	1	810736	1
76	LABEL READ MANUAL	430363	1	430363	1
80	LABEL MADE IN U.S.A.	520116	1	520116	1