

2 OPTIONAL ACCESSORIES

HOSE KITS

For vacuuming in hard to reach areas.

3" Vacuum Hose Kit for vacuuming heavy debris P/N 800086.
3"(76.2mm) x 10' (3.05m).

5" Vacuum Hose Kit for vacuuming bulk debris P/N 800084.
5"(127mm) x 10' (3.05m).

6" Vacuum Hose Kit for vacuuming large debris P/N 800359.
6"(152.4mm) x 10' (3.05m).

HOSE COUPLER KITS

Joins 2 or more hoses to increase vacuuming distance.

3" (76.2mm) COUPLER
P/N 800332

5" (127mm) COUPLER
P/N 800334

6" (152.4mm) COUPLER
P/N 800336

**EXHAUST HOSE KIT
P/N 800077**

Increases exhaust distance.

BAG SUPPORT

P/N 800484 *Keeps bag from dragging ground.*

DEBRIS BAGS

REPLACEABLE DEBRIS

BAG P/N 800730
DEBRIS BAG COVER
P/N 800993 *Directs dust downward, away from operator.*

BRUSH KIT P/N 800082

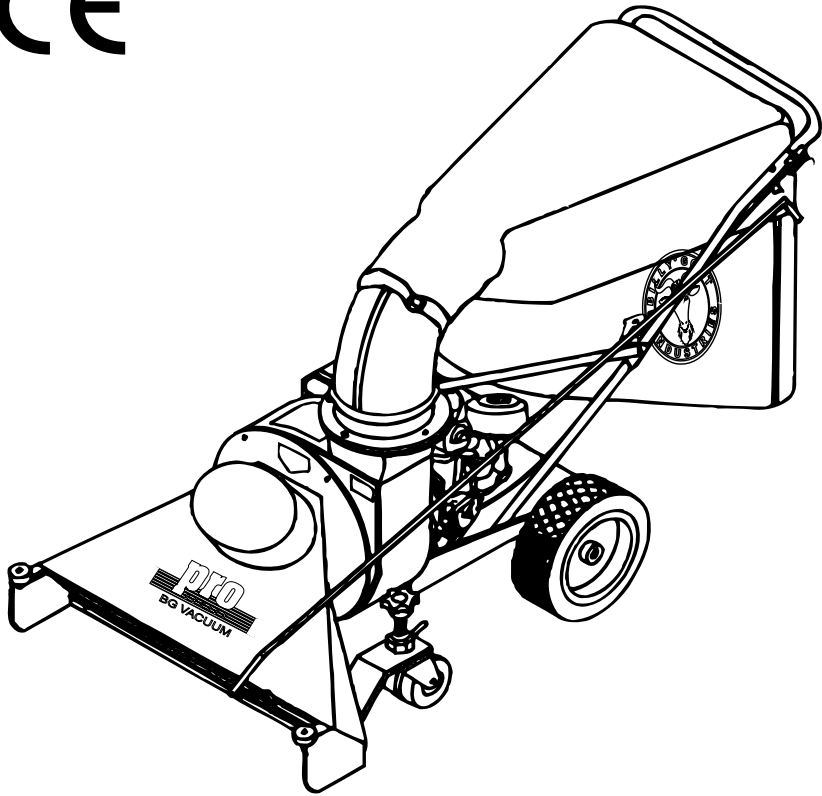
Improves vacuum pickup.

SP UNITS ONLY

SPEED UP KIT P/N

810233 *Increases ground drive speed to 2.9 mph (3.68 kmh) from 1.53 mph (2.46 kmh).*

1



Thank You for Selecting
The Powerful BG SELF-PROPELLED VACUUM

Operator Owner's Manual

PUSH MODELS:
BG1002

SELF PROPELLED MODEL:
BG1002SP

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Specifications

	BG1002	BG1002SP
ENGINE: H.P.	10 (7.45 kW)	10 (7.45 kW)
ENGINE: TYPE	B&S INTEK I/C	B&S INTEK I/C
ENGINE: FUEL CAP.	4 qt. (3.8 L)	4 qt. (3.8 L)
ENGINE: OIL CAP.	0.875 qt. (0.8 L)	0.875 qt. (0.8 L)
WEIGHT: UNIT	166 lbs. (75.5 kg)	203 lbs. (92.3 kg)
WEIGHT: SHIPPING	183 lbs. (85.3 kg)	215 lbs. (97.5 kg)
ENGINE: WEIGHT	52 lbs. (23.6 kg)	52 lbs. (23.6 kg)
UNIT SIZE:	OVERALL LENGTH: 68"(1.73m)	OVERALL WIDTH 30" (0.76m)
		OVERALL HEIGHT 42" (1.07m)

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IN THE INTEREST OF SAFETY



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

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 starts.

17. **DO NOT** 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 or slope.

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.

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SOUND

Sound tests conducted were in accordance with 2000/14/EEC and were performed on 2/14/2002 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 97 dBA at operator position

GENERAL CONDITION: Sunny

TEMPERATURE: 50° F (10° C)

WIND SPEED: 15 MPH (24.1 kmh)

WIND DIRECTION: North

HUMIDITY: 32 %

BAROMETRIC PRESSURE: 30.06" Hg (764mm Hg)



118 dB

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VIBRATION

VIBRATION LEVEL 8.0 g

Vibration levels at the operators handles were measured in the vertical, lateral, and longitudinal directions using calibrated vibration test equipment. Tests were performed on 05/26/94 under the conditions listed:

GENERAL CONDITION: Sunny

TEMPERATURE: 70° F (21.1° C)

WIND SPEED: 16 MPH (25.8 kmh)

WIND DIRECTION: South West

HUMIDITY: 44 %

BAROMETRIC PRESSURE: 29.7" Hg (754mm Hg)

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. Optional bag cover directs dust toward ground, away from the operator.

- DO NOT place hands or feet inside nozzle intake opening, near debris outlet or near any moving parts.
- DO NOT start engine without debris bag and quick disconnect connected firmly in place to exhaust outlet.

- DO NOT start or operate machine with debris bag zipper open.
- DO NOT operate during excessive vibration.
- DO NOT remove bag until engine has been turned off and has come to a complete stop.
- DO NOT remove hose kit cap on nozzle until engine has been turned off and has come to a complete stop.
- DO NOT operate machine with hose cap, bag or hose removed.
- DO NOT use this machine for vacuuming **exclusively** sand, dust, fine dirt, rock, glass, string like material, grain, rags, cans, metal, bark or water.
- DO NOT operate this machine on slopes greater than 20%.
- DO NOT pick up any hot or burning debris, or any toxic or explosive material.
- DO NOT allow children to operate this equipment.

10 ASSEMBLY

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

PUT OIL IN ENGINE BEFORE STARTING.

Your Billy Goat is shipped from the factory in one carton, completely assembled except for the debris bag, upper and lower handles, handle brace, nozzle control rods, exhaust elbow, gasket, and (sp only) rod lever shift assy.

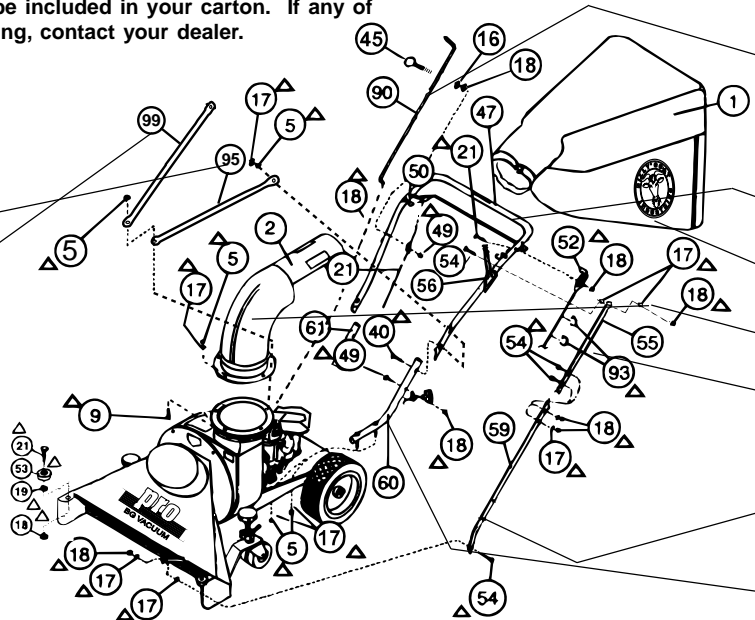
- 1 Lower handles:** Assemble lower handles (items 60, 61) to engine base using washers (item 17) and lock nuts (item 5).
HANDTIGHTEN ONLY.
- 2 Upper Handle, Handle Braces:**
 - 2.1** Assemble upper handle (item 47), and handle braces (items 95 and 99) to lower handles using screws (item 40), washers (item 17) and lock nuts (item 5) with ends of handle brace on inside of handle and screw heads facing inward, toward debris bag, otherwise premature bag wear could result. **HAND TIGHTEN ONLY.**
 - 2.2** After elbow assembly has been installed, attach front of handle braces (items 95 and 99) to 3/8 inch stud on elbow mounting flange, using lock nut (item 43).
- 3.** Tighten all handle screws and nuts on lower handles, upper handle and handle brace.
- 4. Throttle control (item 52):**
 - 4.1** Attach throttle to upper handle using screw (item 21) and lock nut (item 18).
 - 4.2** Attach throttle control conduit to handles using cable clamps (item 93).

- 5. Nozzle door control rods (items 55, 59):**
 - 5.1** Attach end of link (item 59) with single hole to nozzle door mounting hole using screw (item 54), washers (item 17-2 req'd) and lock nut (item 18).
 - 5.2** Assemble link (item 55) to lever assembly (item 56) using screws (item 54), washers (item 17-2 req'd) and lock nuts (item 18).
 - 5.3** Attach link ends (item 59, 55) to each other in 2 holes using screw (item 21), washers (item 17) and lock nut (item 18).
- 6. Elbow Assembly (item 2):**
Attach elbow assembly (item 2) and flange gasket to exhaust outlet of main unit using screws (item 17) and lock nuts (item 5).
- 7. Debris Bag (item 1):**
 - 7.1** Attach neck of debris bag onto elbow assembly. **SECURELY TIGHTEN BAG NECK STRAP.**
 - 7.2** Attach bag hanger clips to bag loops (item 50) preassembled to upper handle.
- 8. SP MODEL ONLY. Rod Lever Shift Assy.**
 - 8.1** Remove eye bolt (item 45), from hardware bag and slide curved end of rod through eye bolt (item 45).
 - 8.2** Slide curved end of Rod Lever Shift (item 90) through hole in shift bracket located on rear of transmission so that shift lever end of rod is up. Reinstall eye bolt (item 45) and hardward through upper handle and clutch cable mounting bracket.
- 9.** Attach "z" end of cable (item 86) to inside of bracket on rod bail assy (item 88).
- 10.** Connect spark plug wire.

11 PACKING CHECK LIST

These items should be included in your carton. If any of these parts are missing, contact your dealer.

Boxing Checklist	
Brace Handle LH 800821	<input type="checkbox"/> Check
Brace Handle RH 800822	<input type="checkbox"/> Check
Per Model	
Parts Bag & Lit. Assy.	
BG1002 800014	<input type="checkbox"/> Check
BG1002SP 800015	<input type="checkbox"/> Check
Engine Manual	
Briggs & Stratton 10 HP Intek	<input type="checkbox"/> Check



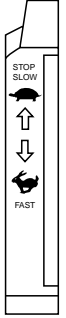
△ Denotes parts found in Parts Bag Assembly (shown on page 4).

Boxing Checklist	
— Self Propelled Only —	
<input type="checkbox"/> Check	Rod Lever 810162
Per Model	
<input type="checkbox"/> Check	Handle Bail Assy SP Units Only 810164
<input type="checkbox"/> Check	Handle Assy Push Units Only 800043
All Models	
<input type="checkbox"/> Check	Debris Bag 800730
<input type="checkbox"/> Check	Elbow Assembly 800967
<input type="checkbox"/> Check	Bar Link Upper 811061
<input type="checkbox"/> Check	Link 810987
<input type="checkbox"/> Check	Handle Lower L.H. 800933
<input type="checkbox"/> Check	Handle Lower R.H. 800943

Throttle Control 8 HP

Stop position

Briggs engine have a choke type carburetor that is operated using choke lever on side of engine.



Start position

PARTS BAG ASSEMBLY CHECKLIST P/N 810166 & 800757

<p>9 Screw Cap 5/16-18 x 3/4 8041026 Qty. 3</p> <p>40 Screw Cap 5/16-18 x 1 3/4 8041032 Qty. 2</p> <p>54 Screw Cap 1/4-20 x 1 8041006 Qty. 4</p> <p>49 Screw Cap 1/4-20 x 1 1/2 8041008 Qty. 2</p> <p>21 Screw Cap 1/4-20 x 1 3/4 8041009 Qty. 3</p> <p>45 Bolt Eye Clutch Lever 800312 Qty. 1 (SP-only).</p> <p>93 TY WRAP 900407 Qty. 3 Push, Qty. 5 SP.</p>	<p>19 Nut Reg. 1/4-20 8142001 Qty. 2</p> <p>18 Nut Lock 1/4-20 8160001 Qty. 8 Push units & Qty. 9 SP units.</p> <p>5 Nut Lock 5/16-18 8160002 Qty. 10</p> <p>16 Washer 1/4 Flat Cut 8171002 Qty. 1</p> <p>17 Washer 5/16 SAE 8172008 Qty. 16</p> <p>53 Wheel Protector 800169 Qty. 2 (Not To Scale)</p>
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Owner's Manual	Check <input type="checkbox"/>	Owner's Manual 800012
Declaration	Check <input type="checkbox"/>	Declaration 811023
Literature Parts Bag	Check <input type="checkbox"/>	Literature Parts Bag 800018
Literature BG Accessories	Check <input type="checkbox"/>	Literature BG Accessories 800998
Warranty Card	Check <input type="checkbox"/>	Warranty Card 400972

These labels should be included on your Vacuum. 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..

WARNING
EXPLOSIVE FUEL
STOP ENGINE AND ALLOW TO COOL BEFORE REFUELING.

DANGER
KEEP HANDS and FEET AWAY

Label Danger Keep Hands and Feet Away Item 100 Part No.400424

CAUTION
READ OWNER'S MANUAL

USE PROTECTION

BEFORE OPERATING, MAKE SURE:

- EXHAUST ELBOW IS ATTACHED.
- EXHAUST IS DISCHARGING INTO ENCLOSED CONTAINER.
- HOSE IS ATTACHED.
- ALL GUARDS ARE ATTACHED.
- OPERATING INSTRUCTION IS OBTAINED.

STOP ENGINE AND ALLOW TO COOL BEFORE REFUELING. KEEP ENGINE CLEAN OF DEBRIS.

INSPECT MACHINE BEFORE EACH USE AND REPLACE ANY WORN AND DAMAGED PARTS. PROPERLY SECURE EQUIPMENT BEFORE TRANSPORTING. NEVER SERVICE UNIT WITHOUT DISCONNECTING SPARK PLUG WIRE. USE ONLY A QUALIFIED MECHANIC TO SER VICE THIS MACHINE. ABRASIVE DEBRIS WILL SHORTEN UNIT LIFE.

Debris Bag Label item 1

Label Caution Item No. 101 Part No. 830138

Label Read Item No. 106 Part No. 890301

DANGER

Label Flying Debris Item No. 102 Part No. 810736

Label Ear Eye Breathing Item No. 103 Part No. 890254

Self Propelled Units Only

WARNING

Label Warning Guards Item 104 Part No.900327

Label Drive Item No. 44 Part No. 830502

Label Oil Chain Item No. 51 Part No. 830502

RELEASE TO DISENGAGE CLUTCH
PULL TO ENGAGE CLUTCH

Label Clutch Item No. 105 Part No. 830503

Briggs & Stratton

ON OFF

|| RUN || CHOKE ||

THIS ENGINE EQUIPPED WITH LOW OIL SENSOR, IF ENGINE WILL NOT START, CHECK OIL LEVEL

WARNING

- Read and follow Operating Instructions before running engine.
- Gasoline is flammable. Allow engine to cool at least 2 minutes before fueling.
- Engines emit carbon monoxide, DO NOT run in enclosed area.

INTENDED USE: This machine is designed for vacuuming leaves, grass clippings and other types of organic litter. Debris mixed with cans, bottles and small amounts of sand can be vacuumed; however, it is not this machine's primary purpose. Vacuuming cans, bottles and sand will affect the longevity of your machine.

Do not operate if excessive vibration occurs. If excessive vibration occurs, shut engine off immediately and check for damaged or worn impeller, loose impeller bolt, loose impeller key, loose engine or lodged foreign objects. Note: See parts list for proper impeller bolt torque specifications. (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.



PUT OIL IN ENGINE BEFORE STARTING.

16.1 STARTING



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 handle. Under normal conditions, operate at minimum throttle to accomplish your current cleaning task.

FUEL VALVE: Move fuel valve to "ON" position (when provided on engine).

CHOKE: Located at lower rear area of carburetor bowl. Choke engine before starting when engine is cold.

PRIMER: Push primer per engine instructions.

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

IF YOUR UNIT FAILS TO START:
See Troubleshooting on page 12.

16.2 VACUUMING OPERATION

VACUUM NOZZLE HEIGHT ADJUSTMENT: Is adjusted by unlocking wing nut (item 13) and turning caster knob. Turning the knob clockwise increases height. Be sure the nozzle height is level (left to right) before tightening caster wing nuts.

Adjust nozzle height according to surface conditions and debris size; For vacuuming on flat surfaces, set nozzle 1/2" (12.7 mm) to 5/8" (15.8 mm) above ground; Higher for uneven terrain and turf.

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.

NOZZLE GOBBLER DOOR.

Large debris can be vacuumed without readjusting nozzle height by temporarily opening the remote **Nozzle Gobbler Door**. For maximum pickup of small debris, the gobbler door must be down, flush with front face of nozzle.

OPTIONAL HOSE KIT (see page 1).

16.3

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 breathe to have good vacuum performance.

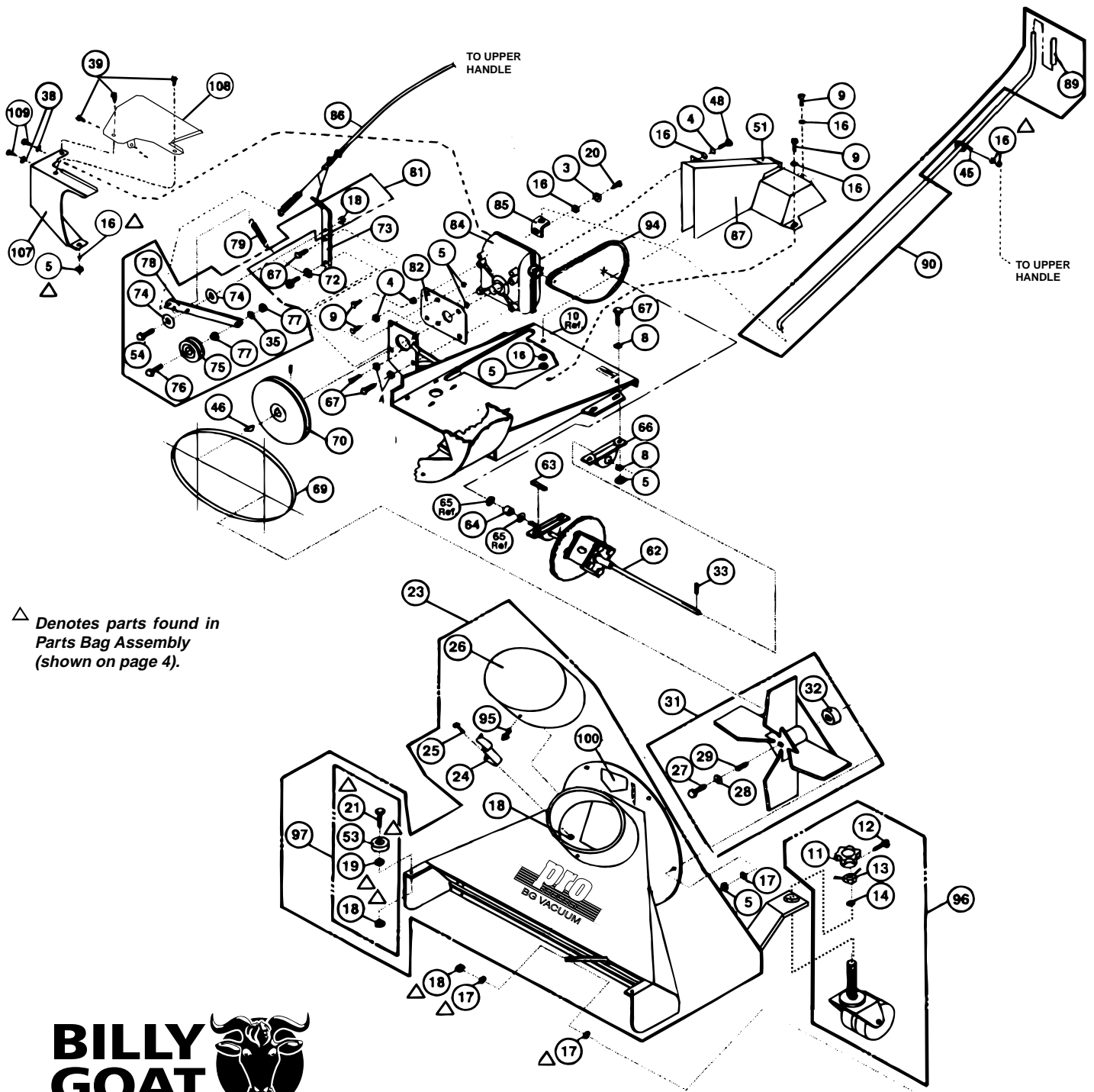
Be sure engine has come to a complete stop before removing or emptying bag.

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:

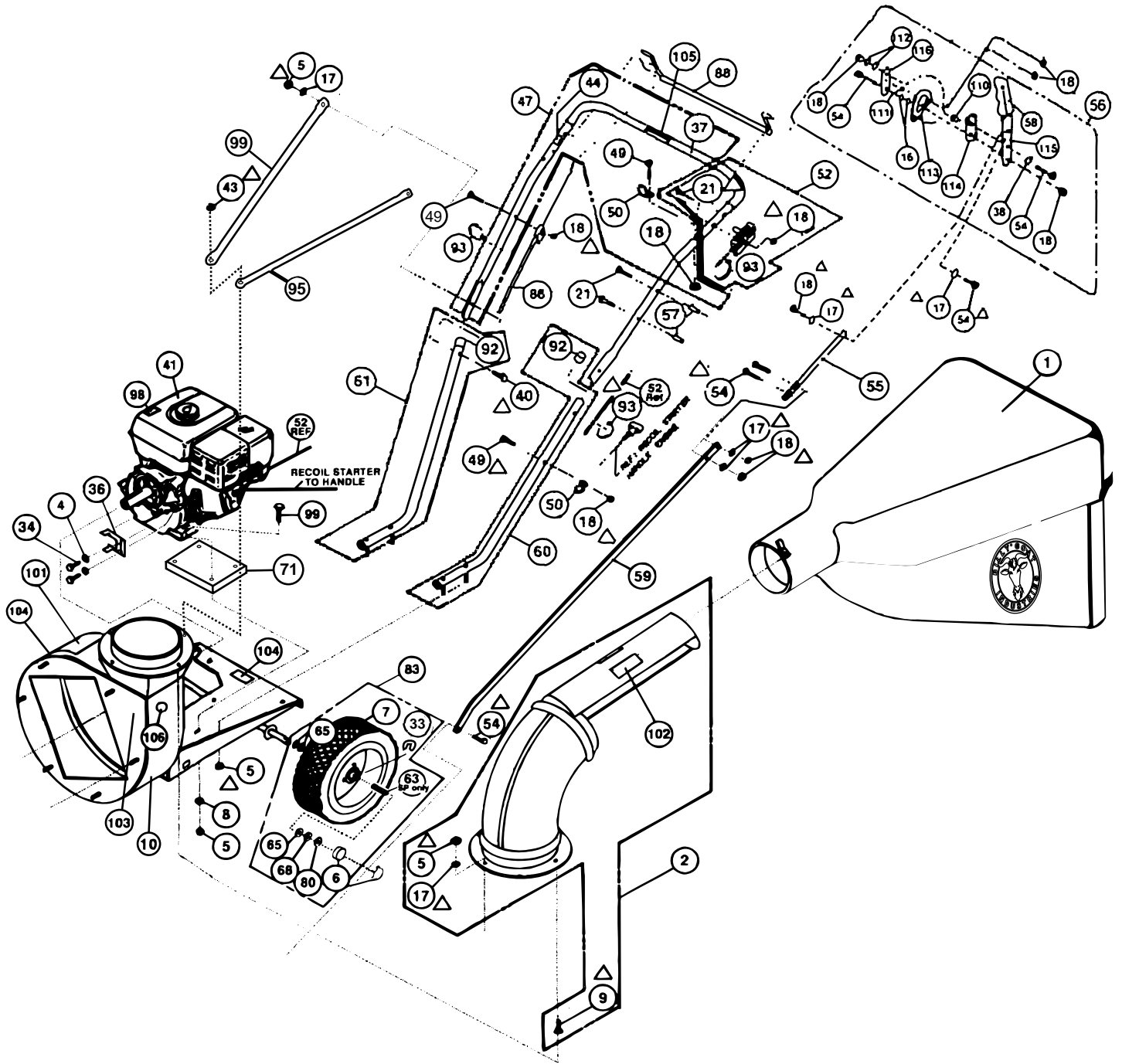
- Run machine at idle to quarter throttle.
- The debris bag must be cleaned more frequently. A vacuum with a clean, pillow soft bag will have good pickup performance. One with a dirty, tight bag will have poor pickup performance. If dirty, empty debris and vigorously shake bag free of dust.
- Machine 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.



18 PARTS DRAWING
BG1002, BG1002SP



Item No.	19 PARTS LIST	Description	BG1002	Qty.	BG1002SP	Qty.
			Part No.		Part No.	
1	BAG (SERVICE STRAP ASSY NO. 900606) (SERVICE ZIPPER NO. 900478)		800730	1	800730	1
2	ELBOW ASS'Y (INCLUDES ITEM 5, 9, 17)		*810139	1	810139	1
3	WASHER, LOCK SPRING 1/4 MED		-	-	*8177010	1
4	WASHER, LOCK SPRING 5/16 MED		-	-	*8177011	5
5	NUT, LOCK 5/16-18		*8160002	20	*8160002	33
6	HUB CAP		900486	2	900486	2
7	WHEEL (PNEUMATIC PART NO. 400295)		400295	2	800994	2
8	WASHER, FLAT 5/16		*8171003	4	*8171003	4
9	SCREW, CAP 5/16-18 X 3/4		*8041026	4	*8041026	8
10	FRAME		811045	1	811046	1
11	KNOB, HAND		850154	2	850154	2
12	SCREW, MACHINE #10 - 24 X 2		*8059143	2	*8059143	2
13	NUT, LOCK CASTER		800227	2	800227	2
14	WASHER, 3/4 PLASTIC		800109	2	800109	2
15						
16	WASHER, FLAT CUT 1/4 (5/16 X 3/4 X 1/16)		*8171002	2	*8171002	11
17	WASHER, 5/16 SAE		*8172008	18	*8172008	18
18	NUT, LOCK 1/4-20		*8160001	14	*8160001	16
19	NUT, REGULAR 1/4-20		*8142001	2	*8142001	2
20	SCREW, CAP 1/4-28 X 1/2		-	-	850408	1
21	SCREW, CAP 1/4 - 20 NC x 1 3/4		*8041009	3	*8041009	3
22						
23	NOZZLE ASS'Y (INCLUDES ITEMS 97, 26, 95, 25, 24, 18)		800931	1	800931	1
24	LATCH SPRING		800311	1	800311	1
25	SCREW, CAP 1/4 - 20 X 3/4		*8041004	2	*8041004	2
26	CAP		800183	1	800183	1
27	SCREW CAP 7/16 - 20 X 1-1/4 GR 5 (TORQUE 60 FT - LBS)(81.4N.m)		800554	1	800554	1
28	WASHER LOCK 7/16 TWISTED TOOTH		850132	1	850132	1
29	KEY 1/4 SQ X 2.25 "		9201123	1	9201123	1
30	PARTS & LIT. BAG (INCL. 117(14), 5(10), 40(6), 93(3 push, 5 SP), 43(1), 54(3), 49(1), 9(4), 18(7 push, 8 SP), 19(2), 21(3), [SP only 45(1)])		800757	1	810166	1
31	IMPELLER ASSEMBLY (INCLUDES ITEMS 27, 28, 29, 32)		800988	1	800090	1
33	COTTER PIN 1/8 X 1		850230	2	850230	2
34	SCREW CAP 3/8-16 X 3/4		-	-	*8041048	2
35	WASHER LOCK 3/8		-	-	*8177012	4
36	GUARD BELT GUIDE		-	-	811053	1
37	GRIP HANDLE		400570	2	400570	2
38	WASHER LOCK 1/4 EXT		*8181007	1	*8181007	3
39	SCREW SM 1/4 x 3/8 HEX		*8122082	1	*8122082	3
40	SCREW CAP 5/16-18 X 2		*8041032	2	*8041031	2
41	ENGINE BRIGGS 10 HP INTEK IC		430352	1	430352	1
42						
43						
44	LABEL DRIVE		-	-	810207	1
45	EYE BOLT - CLUTCH LEVER		-	-	800312	1
46	KEY HI PRO 3/16 X 3/4		-	-	850234	1
47	HANDLE TOP ASS'Y (INCLUDES ITEMS 49(2), 50(2), 18(2))		810134	1	810134	1
48	SCREW SELF TAP 5/16 X 3/4 HEX		-	-	8123128	1
49	SCREW CAP 1/4-20 X 1 - 1/2		*8041008	3	*8041008	3
50	BAG LOOP		800178	3	800178	3
51	LABEL OIL CHAIN		-	-	830502	1
52	THROTTLE CONTROL ASS'Y (INCLUDES ITEMS 18, 21, 93)		900514-00	1	900514-00	1
53	WHEEL PROTECTOR		800169	2	800169	2
54	SCREW CAP 1/4-20 X 1		*8041006	6	*8041006	7
55	BAR LINK UPPER		811061	1	811061	1
56	DOOR NOZZLE FRICTION ASSY		830288	1	830288	1
57	SPACER		850198	2	850198	2
58	GRIP		850190	1	850190	1
59	LINK		810987	1	810987	1
60	LOWER HANDLE SECTION L.H. ASS'Y (INCLUDES ITEM 92)		800933	1	800933	1
61	LOWER HANDLE SECTION R. H. ASS'Y (INCLUDES ITEM 92)		800943	1	800943	1
62	DIFFERENTIAL WITH SPROCKET (DRIVE SPROCKET ONLY)		-	-	800996	1
63	KEY 3/16 SQ X 1 - 3/4 LG.		-	-	9201084	2
64	SPACER		-	-	800421	1
65	WASHER 3/4 SAE		*8172015	4	*8172015	6
66	BEARING PILLOW BLOCK		-	-	800557	2
67	SCREW CAP 5/16-18 X 1		-	-	*8041028	8
68	WASHER 3/4 (0.765 X 1.25 X 0.06)		-	-	850238	2
69	BELT DRIVE		-	-	800250	1
70	PULLEY WITH SET SCREW		-	-	800251	1
71	SPACER ENGINE INTEK		800965	1	430353	1
72	WASHER 3/8 WITH HOLE		-	-	800889	1
73	BAR BRACKET IDLER		-	-	810159	1
74	WASHER FENDER 1/4 (9/32 I.D. X 1 - 1/4 O.D. X 3/64)		-	-	*8172019	2
75	PULLEY IDLER		-	-	800260	1
76	BOLT IDLER		-	-	800888	1
77	NUT 3/8-16 REGULAR		-	-	*8142003	2
78	BAR IDLER		-	-	800261	1
79	SPRING		-	-	800242	1
80	WASHER HUB CAP		-	-	850237	2
81	IDLER ASS'Y, (INCLUDES 18 (1), 35 (1), 54(1), 73 THRU 78)		-	-	810211	1
82	PLATE ADAPTER		-	-	810157	1
83	WHEEL ASS'Y, BGSP includes 6 (1), 7(1), 65(1), 68 (1), 80(1), 63(1))		800137-S	1	800995	2
84	TRANSMISSION REV FWD.		-	-	810206	1

19 Parts List continued from page 11.

Item No.	19 PARTS LIST	Description	BG1002	Qty.	BG1002SP	Qty.
			Part No.		Part No.	
85	BRACKET ANGLE SHIFT		-	-	810158	1
86	CABLE CLUTCH ASS'Y BG		-	-	810160	1
87	GUARD CHAIN W/LABELS (INCLUDES ITEM 51)		-	-	811041	1
88	ROD BAIL ASS'Y		-	-	900970	1
89	GRIP		-	-	800885	1
90	ROD LEVER SHIFT ASS'Y (INCLUDES ITEM 89)		-	-	810162	1
91						
92	CAP ENDS		800392	2	800392	2
93	TY WRAP		900407	3	900407	5
94	CHAIN DRIVE BG		-	-	810156	1
95	HANDLE BRACE LH		800821	1	800821	1
96	CASTER DUAL ASSY (INCLUDES (1) OF EACH 11, 12, 13, 14)		800682	2	800682	2
97	PROTECTOR WHEEL ASS'Y (INCLUDES ONE EACH OF 21, 19, 18, 53)		800347	2	800347	2
98	LABEL DO NOT FILL WHILE ENGINE IS HOT		400268	1	400268	1
99	HANDLE BRACE RH		800822	1	800822	1
100	LABEL DANGER KEEPS HANDS & FEET AWAY		400424	1	400424	1
101	LABEL CAUTION		830138	2	830138	2
102	LABEL FLYING MATERIAL		810736	1	810736	1
103	LABEL EAR EYE BREATHING		890254	2	890254	2
104	LABEL WARNING GUARDS		-	-	900327	1
105	LABEL CLUTCH		-	-	830503	1
106	LABEL READ		890301	1	890301	1
107	GUARD PULLEY BG80		-	-	811037	1
108	GUARD BELT BG80		-	-	800021	1
109	SCREW SELF TAP 1/4 - 14 X 3/4		-	-	900505	2
110	NUT JAM 1/4-20		*8143001	1	*8143001	1
111	BALL 1/4		850194	1	850194	1
112	WASHER BELLVILLE 1/4		850207	2	850207	2
113	PLATE QUAD LIFT		850192	1	850192	1
114	PLATE FRICTION LIFT		850191	1	850191	1
115	BAR LEVER DOOR		850189	1	850189	1
116	PLATE CLAMP LIFT		850193	1	850193	1

* Denotes standard hardware item that may be purchased locally.

△ Denotes parts found in parts bag assembly.

16 OPERATION continued

16.6 PROPULSION self propelled only

PROPULSION: BG self-propelled vacuums are equipped with 1 forward gear, neutral and reverse. With the engine running, the bail in released position and brake in on position, select desired drive gear. Lift bail against handle to engage drive (see figure 1 & 2). Smoothly engage the bail. Use good judgement when operating the self-propelled drive.

Using neutral, on level terrain is advisable when maneuvering in tight areas. This increases operator control, and can prevent bumping into nearby objects.

Do not force-shift gears of transmission. To assist gear meshing, it may be necessary to partially engage bail while shifting.

To stop machine, release operator's bail.

For reverse - Set Throttle to Idle.

With operator's bail released, pull shift lever reverse position. Then smoothly lift operator's bail against handle. Release bail to stop (see figure 2).

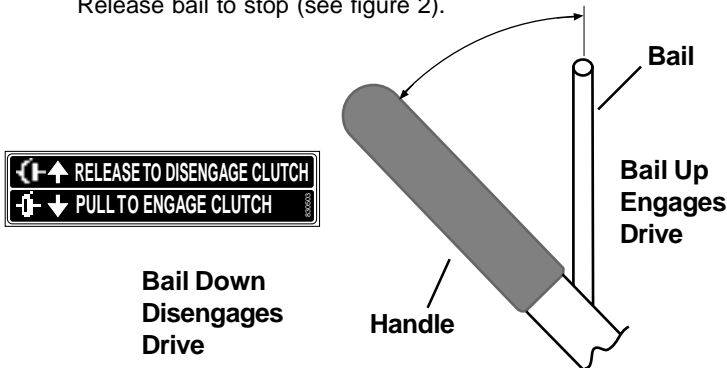


Fig. 1

Drive gear selection

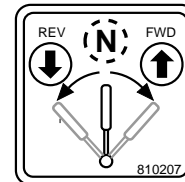


Fig. 2

16.4 HANDLING & TRANSPORTING:

Using two people to lift machine is recommended. Lift holding the handle and front of nozzle. Secure in place during transport.

16.5 STORAGE

⚠ 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:

⚠ Be sure engine is cool. Do not smoke. 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. Run engine until fuel tank is empty and engine runs out of gasoline.

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.

⚠ Do not store with debris in bag.

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.

DEBRIS BAG: See page 5.



RECONNECT SPARK PLUG WIRE, GUARDS, BAG, CAPS AND / OR HOSE BEFORE STARTING ENGINE.

17.1

IMPELLER REMOVAL

1. Disconnect spark plug wire.
2. Disconnect remote control rod from nozzle gobbler door.
3. Elevate front of machine using stable support blocks between housing and ground so that front caster wheels are not touching ground.
4. Remove nozzle and caster wheel brackets from the housing
5. **(Self propelled models only)** Loosen wire belt guide located on front face of engine on left side of unit between housing and engine.
6. **(Self propelled models only)** Slide belt toward engine, out of belt groove in impeller hub drive pulley.
7. Remove impeller bolt and lock washer.
8. If impeller slides off freely, proceed to (step 11).
(Do not drop impeller).
9. If impeller does not slide off crankshaft, place two crowbars between impeller and housing on opposite sides. Pry impeller away from engine until it loosens. *Using a penetrating oil can help loosen a stuck impeller.*
10. If the impeller cannot be loosened, obtain a 1" (25.4mm) longer bolt of the same diameter and thread type as the impeller bolt. Invert engine and impeller and support engine above ground to prevent recoil damage. Thread longer bolt by hand into the crankshaft until bolt bottoms. Using a suitable gear or wheel puller against the bolt head and the impeller back-plate (near the blades), remove impeller from shaft.
11. Remove engine base mounting bolts, and nuts.
12. Slide engine shaft out of impeller.
13. When impeller is free of the engine shaft, align impeller with opening, and diagonally lift impeller out of housing.
14. Using a new impeller bolt and lockwasher, reinstall new impeller in reverse order of removal.
15. Tighten impeller bolt (see item 27 of parts list on page 8 for proper torque specifications).

16. **(Self propelled models only)** When impeller is installed, slide belt into drive pulley and adjust guard belt guide as shown on page 11 (see fig. 3 & 4).
17. Reattach nozzle and both caster brackets in reverse order of removal.
18. **(Self propelled models only)** Check operator's bail to ensure that it operates properly. If not, see drive adjust ments on page 11). *Note: Drive must completely disengage with bail released and must engage when bail is depressed within 1.0" (25.4mm) of the operator's handle..*
19. Reconnect spark plug wire.

17.2

Maintenance Schedule

Follow these hourly maintenance intervals.

More frequent service is required for extremely dusty conditions.

Maintenance Operation	Every Use	Every 5 hrs or (Daily)	Every 25 hours	Every 50 hours
Engine (See Engine Manual)				
Check for excessive vibration		●		
Clean Debris Bag	●			
Check bag strap tightness	●			
Inspect for loose parts		●		
Inspect for damaged parts		●		
Check tire pressure (SP only)			●	
Oil control pivot points			●	
Lubricate Drive Chain			●	
Check belt adjustment				●
Grease wheel zerks				●

ENGINE

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. 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

Inspect machine for loose bolts before starting engine.

Maximum Vacuum: See Maximum Vacuum found in Operation section on page 5. The debris Bag can be washed.

Lubrication: Using S.A.E. 30 weight oil or equivalent. See maintenance schedule.



Chain: See DRIVE section below.

Lower Control Ends: Oil moving parts, such as bail, and height control.

Grease: Wheels, Casters, and Rear Axle Bearings.

Tire air pressure: SP units only. Check at regular intervals & maintain. Rear SP tires at **24 psi.** (17 kPa).

17.3

DRIVE SP MODELS ONLY

Chains and Belts are normal replaceable wear items. A new chain should not be used on worn sprockets. Sprockets should be replaced when replacing chains.

BELT ADJUSTMENT

As V-belt wears, adjustments may be required. Adjust belt by tightening or by loosening clutch cable nut as required. See figure 3 & 4. When replacing belt, see impeller removal on page 10. See parts list for impeller bolt torque specifications. **DO NOT OVER ADJUST.**

CHAIN LUBRICATION

With machine not running, oil chain using general S.A.E. 30 weight oil every 25 hours or as needed. Note: Be sure that entire length of chain is properly oiled. Oiling only a few positions in the chain rotation will not properly oil the chain.

CHAIN ADJUSTMENTS

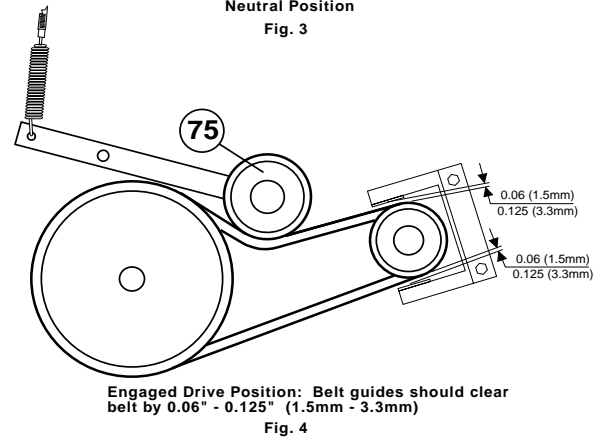
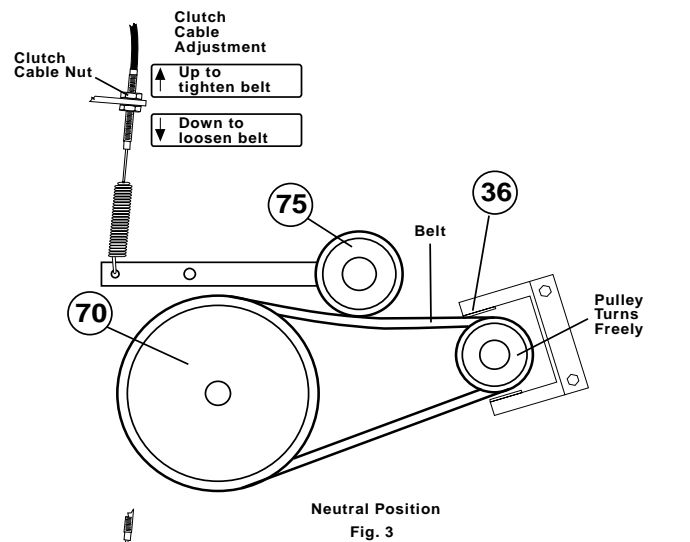
1. Remove chain guard
2. Inspect chains and sprockets for wear, lubrication and tension. Replace if badly worn or damaged.

CHAIN TENSION AND ALIGNMENT

3. Install new chain, locating keeper clip of chain connecting link on inboard side of chain.
4. Reinstall bearing onto axle and assemble bearing mounting screws. Leave screws only partially tightened.
5. Push bearings outward against each rear wheel, fully spreading wheels to both ends of axle.
6. With bearings pressed fully outward against wheels, keeping axle square with engine base, align and tension chain, and slightly tighten front bearing screws first. Then slightly tighten rear bearings. (Note: Tightening front of bearings first, helps keep chain tight.)
7. Recheck chain alignment, tension and axle squareness. If ok, fully tighten front and then rear bearing screws. Repeat adjustment steps if necessary.
8. Check chain tension and roll wheels to be sure there are no excessively tight areas in the chain. Readjust if necessary.

A slightly loose chain is better than an over tightened one.


9. Reinstall chain guard.
10. Reinstall spark plug wire.




Reference: Label CAUTION
Part No. 830138



CAUTION



READ OWNER'S MANUAL



USE PROTECTION

BEFORE OPERATING, MAKE SURE:

- EXHAUST ELBOW IS ATTACHED.
- EXHAUST IS DISCHARGING INTO ENCLOSED CONTAINER.
- HOSE IS ATTACHED.
- ALL GUARDS ARE ATTACHED.
- OPERATING INSTRUCTION IS OBTAINED.



**STOP ENGINE AND ALLOW TO COOL BEFORE REFUELING.
KEEP ENGINE CLEAN OF DEBRIS.**

INSPECT MACHINE BEFORE EACH USE AND REPLACE ANY WORN AND DAMAGED PARTS.
PROPERLY SECURE EQUIPMENT BEFORE TRANSPORTING.
NEVER SERVICE UNIT WITHOUT DISCONNECTING SPARK PLUG WIRE.
USE ONLY A QUALIFIED MECHANIC TO SER VICE THIS MACHINE.
ABRASIVE DEBRIS WILL SHORTEN UNIT LIFE.


830138

20 TROUBLESHOOTING *Before Requesting Service Review These Suggestions*


Problem	Possible Cause	Solution
Will not vacuum or has poor vacuum performance.	Dirty debris bag. Nozzle height set too high or too 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 (see page 5). Allow air to feed with debris.
Abnormal vibration.	Loose or out of balance impeller or loose engine.	Check impeller and replace if required. Check Engine.
Engine will not start.	Throttle in off position. Out of gasoline. Bad or old gasoline. Spark Plug wire disconnected. Dirty air cleaner.	Check stop switches, throttle, and gasoline. Connect spark plug wire. Clean or replace air cleaner. Or contact a qualified service person.
No self-propelling	Transmission not in gear. Operator's bail not engaging belt or out of adjustment. Worn out or broken belt. Broken or mispositioned belt.	Check transmission gear selection. Check clutch cable adjustment and belt and chain (See page 11).
Self propelled drive will not release	Sticking belt idler arm. Belt fingers out of adjustment, bent or broken.	Check idler. Idler arm mounting screw may be too tight or too loose. Check wire belt guide adjustment. Replace if broken. (see fig. 3 & 4 adjustment on page 11).
Noisy or broken chain	No chain lubrication. Chain out of alignment or over tensioned.	See Chain Adjustments on page 11.
Engine is locked, will not pull over.	Debris locked inside impeller. Engine problem.	See page 5, Contact an engine servicing dealer for engine problems.

22.1 Engine Service and Warranty
Contact your nearest engine manufacturer's authorized servicing dealer.


21 Serial Plate *Record your machine model, serial number and date-of-purchase and where purchased*



118 dB



BILLY GOAT INDUSTRIES, INC.
1803 S. Jefferson P.O. Box 308
Lee's Summit, MO 64063 / USA
(816) 524-9666 (816) 524-6983



Model

Serial No.

Unit (weight)

 lbs kg

Engine Power

 hp kw


Purchase Date _____ **Purchased from** _____

22 WARRANTY PROCEDURE

Please fill in the WARRANTY CARD and send the upper part to Billy Goat. The WARRANTY terms are stated on the lower part which remains with the user. Whenever a Billy Goat Machine is faulty due to a defect in material and / or workmanship, the owner should make a warranty claim as follows:

- The Machine should be taken to the dealer from whom it was purchased or to an authorized Billy Goat dealer.
- The owner should present the remaining half of the Warranty Registration Card, or, if this is not available, the invoice or receipt.
- The Warranty Claim will be filled in by the authorized Billy Goat Dealer, who will send it with the faulty part to Billy Goat headquarters.
- The Quality / Service department at Billy Goat headquarters will study the claim and parts and will notify their conclusions.
- The decision by the Quality / Service department at Billy Goat headquarters 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 who are printed on the Billy Goat Serial Plate.



BILLY GOAT INDUSTRIES INC.
 1803 S.W. JEFFERSON STREET; LEE'S SUMMIT, MO 64082-2312 / USA
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