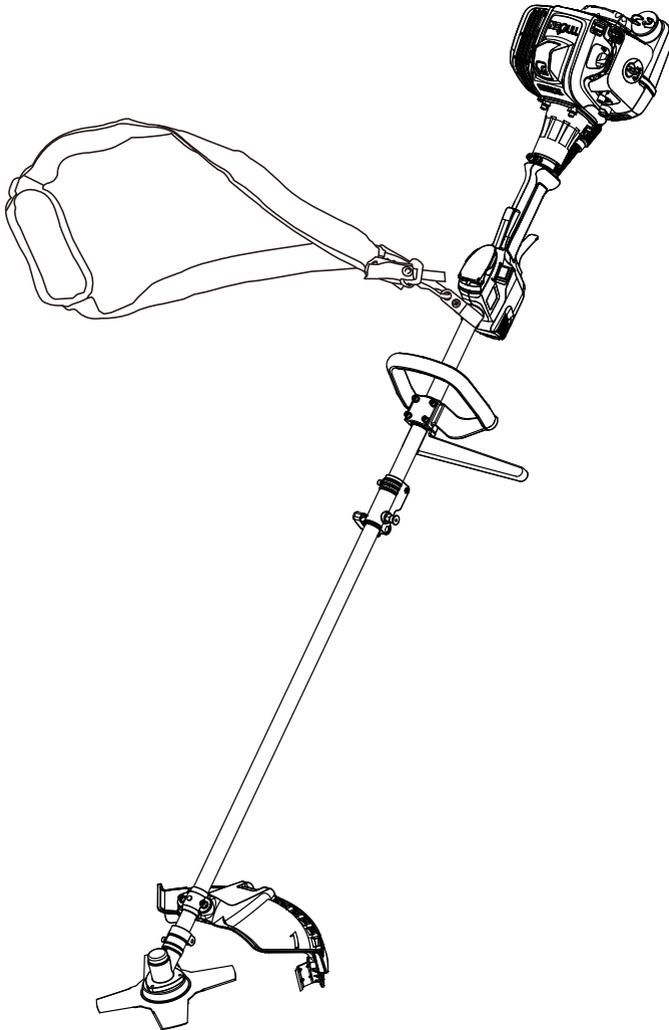


LawnMaster[®]

SERVICE MANUAL

26cc 2-Cycle Brush Cutter

NPTBSP2609A



Read all safety rules and instructions carefully before servicing this tool.
601 Regent Park Court Greenville, SC 29607, 1-866-384-8432

CONTENTS

Section	Page
CONTENTS	2
SPECIFICATIONS	3-4
GENERAL SAFETY RULES	5
PARTS AND FEATURES	6-11
WIRING DIAGRAM AND MANAGEMENT	12
GENERAL TROUBLESHOOTING	13-21
AIR & FUEL SYSTEM	22-29
THROTTLE AND STARTER SYSTEM	30-34
NOPULL™ STARTER SYSTEM	35-38
26CC 2-CYCLE ENGINE	39
GEAR HEAD AND BRUSH CUTTER BLADE	40
MANUFACTURER'S WARRANTY AND CONTACT	41

SPECIFICATIONS

UNIT SPECIFICATIONS

Engine

Engine Size	2-Stroke / Full Crank
Engine Displacement Claimed / Rated	26cc / 25.4cm ³
Ignition	Capacitor Discharge Ignition (CDI)

Fuel System

Carburetor	All Position Diaphragm Type With Primer Bulb
Air Filter	Foam (Dry)
Engine Shut Off	Auto-Reset
Throttle Control	Variable Speed Trigger
Fuel / Oil Ratio	40 : 1
Fuel Tank Capacity	400 ml

General

Spark Plug	Champion RCJ6Y
Rotor Air Gap	0.012"-0.015" (0.30-0.40 mm)
Spark Plug Gap	0.026" (0.65 mm)
Run Time on Full Tank	30 Minutes

TORQUE SPECIFICATIONS

Application	Description	Torque	Torque
		(IN.LBS)	(N.m)
Crankcase	Apply a thermostable screw-thread glue onto the 4 screws (M5X30) and then fix the crankcase cover.	53-62	6-7
Cylinder to crankcase	Apply a thermostable screw-thread glue onto the 4 screws (M5X20) and then tighten the screws securing the cylinder to crankcase.	53-62	6-7
Spark plug to cylinder	Pre-screw the spark plug to the cylinder, and then tighten with a torque spanner.	115-137	13-15.5
Carburetor mount to cylinder	Apply a thermostable screw-thread glue onto the 2 screws (M5X20) and tighten the screws securing the carburetor mount to the cylinder.	35-44	4-5

SPECIFICATIONS

Flywheel to crankshaft	Apply a thermostable screw-thread glue onto the crankshaft thread. Pre-screw the flange hexagon nut (M8) and then tighten.	89-133	10-15
Clutch to flywheel	Slide the corrugated washers onto the clutch bolts (M6X21.5). Apply a thermostable screw-thread glue onto the bolt thread head section. Install the bolts into the clutch and tighten the bolts securing the clutch to flywheel.	71-89	8-10
Ignition coil to cylinder	Put the 2 screws (M5X20) through the ignition coil and two spacers respectively. Apply a thermostable screw-thread glue into the cylinder holes and then pre-screw the 2 screws (M5X20). Insert a feeler gauge of 0.014 in. (0.35mm) between the flywheel and the ignition coil. Press down the ignition coil flush against the feeler gauge. Tighten the screws with a torque spanner securing the ignition coil. Remove the feeler gauge.	27-35	3-4
Muffler to crankcase	Put the 2 bolts (M5X50) through the muffler assembly. Apply a thermostable screw-thread glue onto the 2 bolts and secure the muffler to the crankcase using the torque wrench.	62-71	7-8
	Apply a thermostable screw-thread glue onto the head section of 1 screw (M5X10). Pass the screw through the positioning hole on the muffler assembly holder and tighten the screw securing the muffler to crankcase.	62-71	7-8
Pawl assembly to crankshaft	Apply a thermostable screw-thread glue onto the crankshaft thread. Pre-screw the pawl assembly to crankshaft, and then tighten using the torque wrench.	62-80	7-9
Air filter base to carburetor	Pre-screw the nuts (M5) with washers, and then tighten using the pneumatic tool.	27-35	3-4
Fuel tank bracket to crankcase	Apply a thermostable screw-thread glue onto the screw (M5X10) and pass it through the hole on fuel tank bracket. Tighten the screw securing the fuel tank bracket to crankcase.	27-35	3-4
Fuel tank to crankcase	Apply a thermostable screw-thread glue onto the screw (M5X12). Pass it through the fuel tank hole. Tighten the screw securing the fuel tank to crankcase.	27-35	3-4
Cylinder pressure plate	Apply a thermostable screw-thread glue onto the screw (M5X10). Pass the screw through the cylinder pressure plate hole and then tighten it onto the cylinder.	27-35	3-4
Electric starter assembly to crankcase	Align the 2 screw holes on the electric starter assembly with the screw holes on crankcase. Tighten the 2 screws (M5X60) securing the electric starter assembly to crankcase.	27-35	3-4
Rear engine cover assembly	Tighten the 2 screws (ST3.9X30F) to secure the rear engine cover.	12-13	1.3-1.5

SPECIFICATIONS

Flywheel cover to crankcase	Apply a thermostable screw-thread glue into the two holes on crankcase. Tighten the 2 screws (M5X15) securing the flywheel cover to crankcase.	53-64	6-7.2
Lower engine cover assembly	Place the lower engine cover onto crankcase. Tighten the 3 screws (1*ST3.9X8, 2*M5X10) securing the lower engine cover.	10-12	1.1-1.3 (for 1*ST3.9X8)
		27-35	3-4 (for 2*M5X10)
Upper engine cover assembly	Tighten the 3 screws (M5X35) securing the upper engine cover.	27-35	3-4
Spark plug cover to upper engine cover	Tighten the screw (M5X10) securing the spark plug cover to upper engine cover.	27-35	3-4
Lower engine cover to upper engine cover	Tighten the screw (ST3.9X12) to secure the upper and lower engine covers (on muffler side).	10-12	1.1-1.3
Right handle cover to left handle cover	Tighten the screws (ST3.9X16) to secure the right and left parts of the main handle.	10-12	1.1-1.3
Transmission yoke to flywheel cover	Apply a thermostable screw-thread glue into the four screw holes on flywheel cover. Tighten the screws (M5X20) securing the transmission yoke.	53-62	6-7
Shaft connection sleeve to upper shaft	Align the shaft connection sleeve with the screw holes on upper shaft. Tighten the screws (M5X25 & M5X12) securing the shaft connection sleeve to upper shaft.	53-62	6-7
Gear box to lower shaft	Align the screw holes on the gear box with the lower shaft. Tighten the screws (M5X12, M6X25, M6X10) securing the gear box to lower shaft.	53-62	6-7
Transmission yoke assembly	Align the screw holes on the transmission yoke with the screw holes on upper shaft. Tighten the screws (M5X12 & M6X25) securing the transmission yoke to upper shaft.	53-62	6-7
Shoulder strap clasp assembly	Adjust the position of the shoulder strap clasp and tighten the screw (M5X16).	27-35	3-4
Trimming line cutting blade assembly	Tighten the screws (ST3.9X16) with washers to secure the trimming line cutting blade to the debris guard.	10-12	1.1-1.3
Ratchet to electric starter assembly	Attach the ratchet to the electric starter lower cover. Apply a thermostable screw-thread glue onto the head section of the screw (M5X10) and tighten the screw (M5X10) securing the ratchet.	27-35	3-4
Electric starter motor assembly	Align the electric starter motor with the screw holes on the electric starter upper cover. Apply a thermostable screw-thread glue onto the head section of the screws (M3X8) and tighten the screw securing the electric motor.	4-6	0.5-0.7
Electric starter lower and upper covers assembly	Tighten the two screws (ST2.9X12F) securing the lower and upper covers of the electric starter.	4-5	0.4-0.6

GENERAL SAFETY RULES

SAFETY

To protect the eyes from loose objects that could be thrown from the brush cutter, always wear eye protection with side shields marked to comply with ANSI Z87.1 when operating the brush cutter.

Use only genuine manufacturer's replacement parts for this product. Failure to do so may cause poor fit, poor function and possible injury.

Scarves, neckties, jewelry, jackets or other loose clothing and accessories should be avoided as they can be caught on or become entangled in the brush cutter. Secure hair so it is above shoulder level. To protect your legs and feet, long pants and closed toed shoes should be worn.

To improve your grip and protect your hands, wear heavy-duty nonslip gloves.

The sound level exceeds 85 dB(A). To prevent hearing damage, always wear sound barriers (ear plugs or ear mufflers).

GENERAL BRUSH CUTTER SAFETY

Never operate the brush cutter with a damaged guard or without the guard in place.

Avoid getting into direct contact with the brush cutter blade.

Always remember to keep both hands on the control handles when the engine is running.

Do not operate the brush cutter if there is a fuel leak as it is a fire hazard. The fuel leak must be fixed prior to operating the brush cutter.

Empty the fuel tank before storing if the brush cutter will not be used for a few days.

Make sure the control handles have not accumulated oil and fuel and are clean and dry.

Beware of blade kickback:

- Blade kickback may occur when the spinning blade contacts an object that it does not immediately cut.
- Blade kickback can be violent enough to cause the unit and/or operator to be propelled in any direction, and possibly lose control of the unit.
- Blade kickback can occur without warning if the blade snags, stalls or binds.
- Blade kickback is more likely to occur in areas where it is difficult to see the brush or vegetation being cut.

A coasting blade can cause injury while it continues to spin after the engine is stopped or throttle trigger is released. Maintain proper control until the blade has completely stopped rotating.

See Operator's Manual for additional safety precautions.

WORK AREA

Operate only in well ventilated areas.

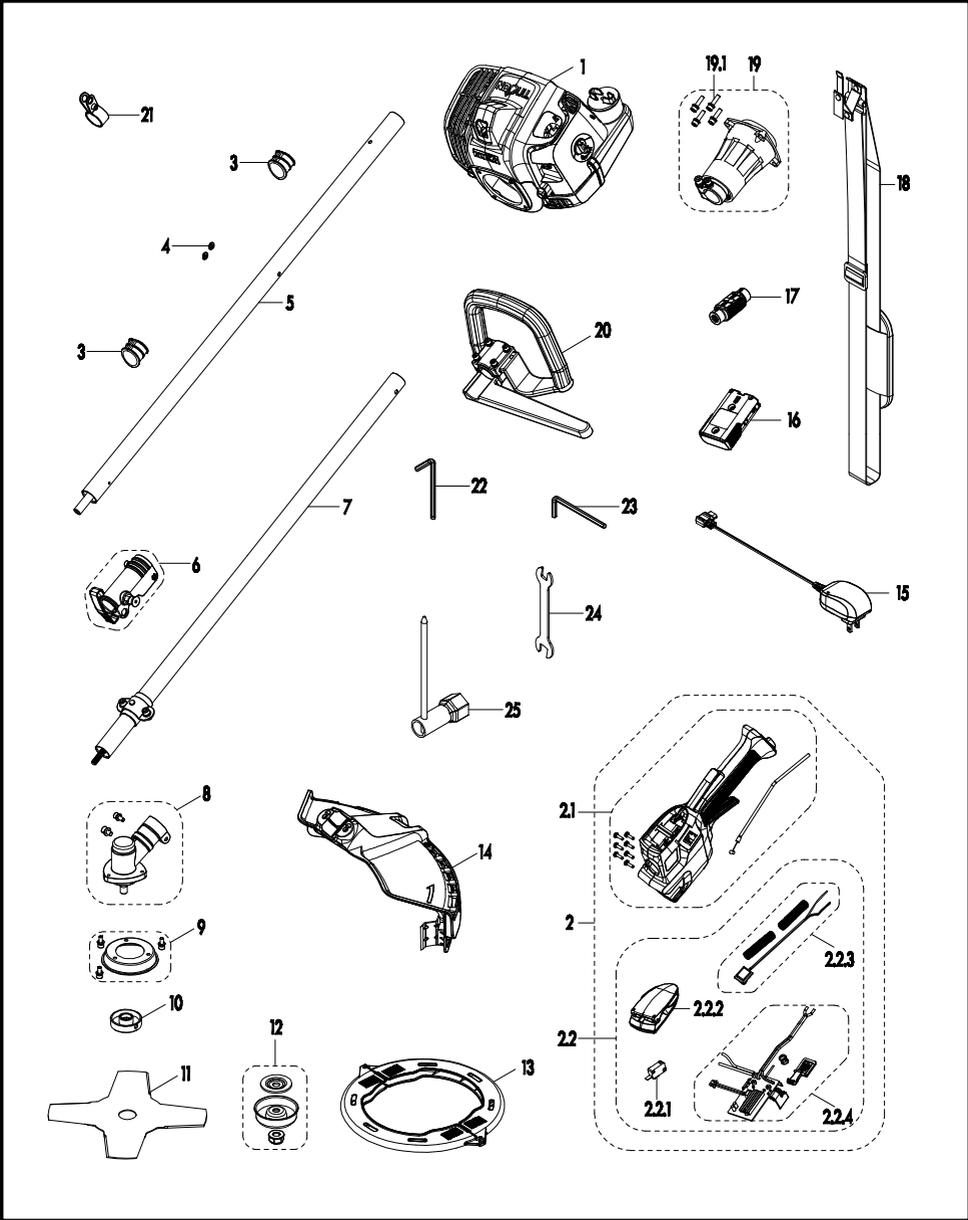
Observe all safety regulations for the safe handling of fuel. Mix and handle fuel in a container approved for storing gasoline. Wipe the brush cutter dry if fuel is spilled on it. Always move away from the fueling area before starting the engine.

Fuel the brush cutter at least 10 ft. (3 m) from the place where you start the engine and operate the brush cutter.

NOTE: The brush cutter blade will rotate during carburetor adjustment. Wear protective equipment and observe all safety instructions.

PARTS AND FEATURES

NPTBSP2609A EXPLODED VIEW

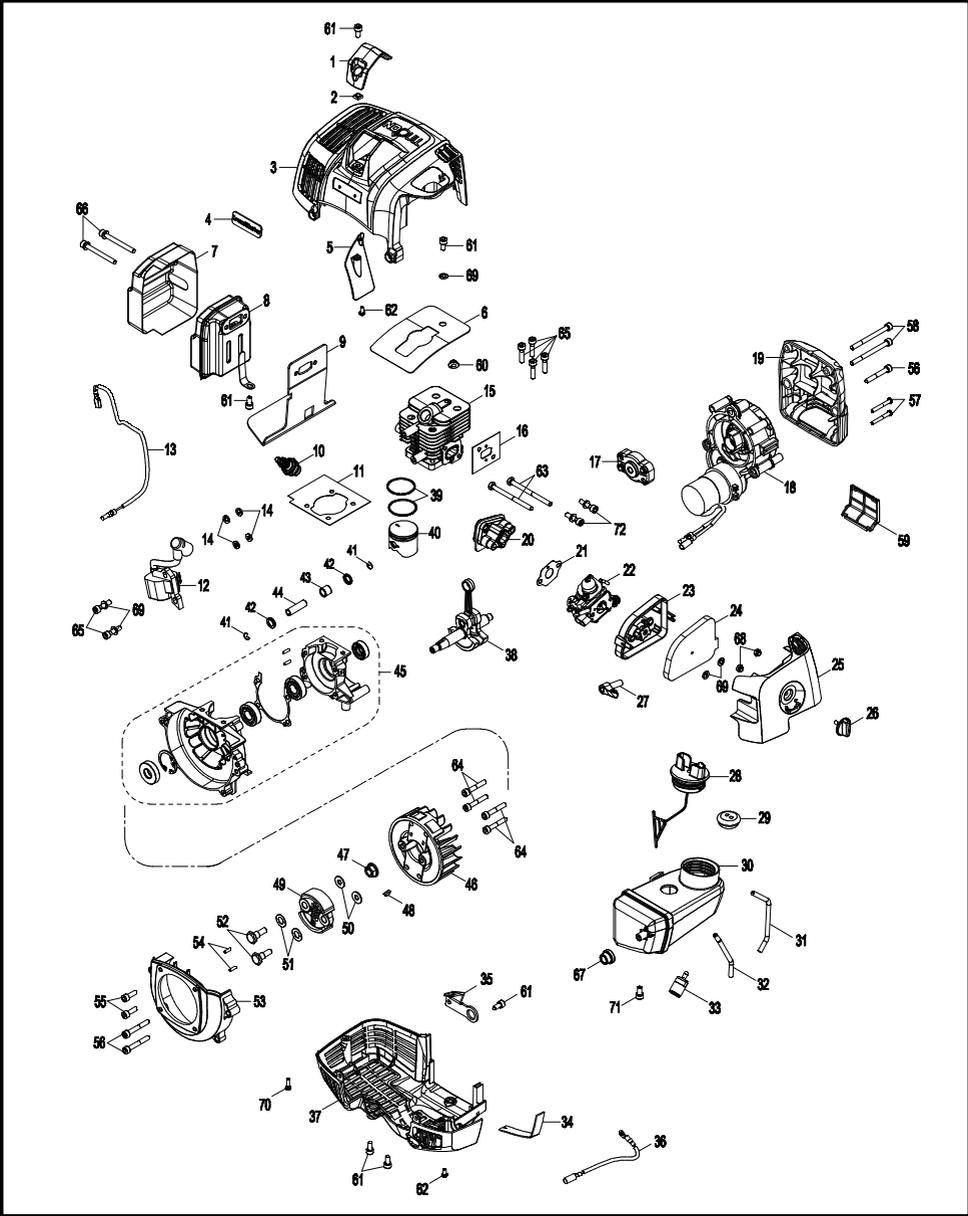


PARTS AND FEATURES

NPTBSP2609A PARTS LIST			
Key Number	Application	Description	Quantity
1	641002101	Cleva 26cc 2-Cycle Engine	1
2	321001102	Throttle-body & Start Set	1
2.1	321001103	Throttle-body Set	1
2.2	321001104	Starter Set	1
2.2.1	321001105	Micro Switch	1
2.2.2	321001106	Starter Switch Assembly	1
2.2.3	321001107	Stop Switch Set	1
2.2.4	321001108	PCB Assembly	1
3	321001109	Handle Spacer	2
5	641001104	Aluminum Upper Shaft	1
4	141004102	Cable Clamp	2
6	641001105	Shaft Connection Sleeve	1
7	641001106	Aluminum Lower Shaft	1
8	641001107	Gear Box	1
9	641001108	Blade Guard Assembly	1
10	221003105	Cover Plate	1
11	RBB2609A	9" Blade	1
12	641001111	Blade Clamp Assembly	1
13	641001112	Saw Blade Sheath	2
14	641001113	Debris Guard	1
15	321001127	Charger	1
16	321001114	7.2V Lithium-Ion Battery	1
17	321001113	Wire Lock	1
18	221003102	Shoulder Strap	1
19	641001115	Clutch Assembly	1
19.1	321005103	Screw	4
20	641001116	P-Handle	1
21	321001128	Shoulder Strap Clasp	1
22	321004122	M5 Hexagon Socket Wrench	1
23	321004121	M6 Hexagon Socket Wrench	1
24	321004123	Open End Wrench	1
25	321004124	Socket Wrench	1

PARTS AND FEATURES

EXPLODED VIEW 26CC 2-CYCLE ENGINE



PARTS AND FEATURES

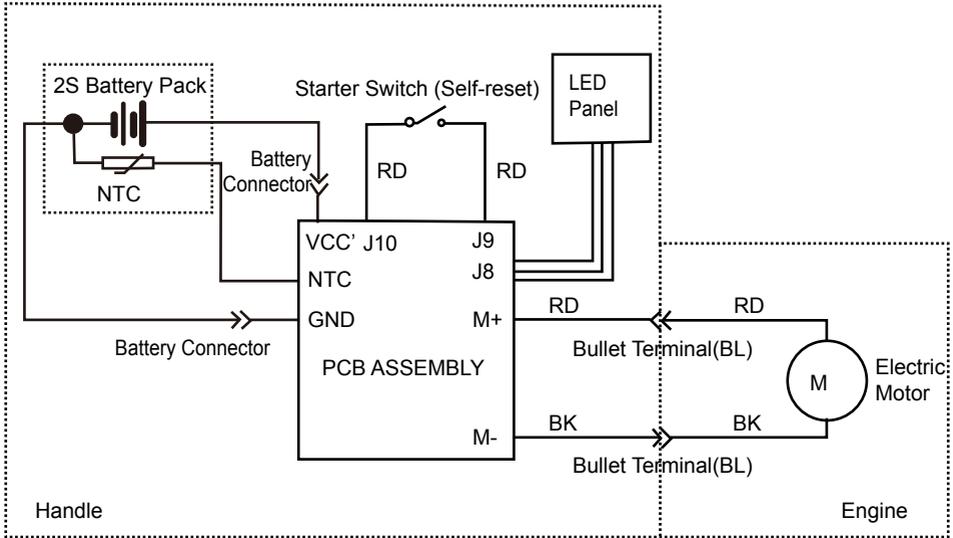
NPTBSP2609A PARTS LIST			
Key Number	Application	Description	Quantity
1	321001130	Spark Plug Cover	1
2	321001131	Nut	1
3	321001132	Upper Engine Cover	1
4	321001133	Logo	1
5	321001134	Air Deflector	1
6	321002109	Cylinder Air Damper	1
7	321001136	Muffler Cover	1
8	321001137	Muffler	1
9	321001138	Insulation Sheet	1
10	321001139	Spark Plug	1
11	321002110	Gasket	1
12	641002103	Ignition Coil Assembly	1
13	321002112	Positive Stop Switch Cable	1
14	321002113	Spacer Set	4
15	321002114	Cylinder	1
16	321002115	Gasket	1
17	321001143	Pawl Assembly	1
18	321002116	Electric Starter Assembly	1
19	321002117	Rear Engine Cover	1
20	321002118	Carburetor Mount Assembly	1
21	321002119	Washer	1
22	321002120	Carburetor	1
23	321001147	Air Filter Base	1
24	321001148	Air Filter	1
25	321001149	Air Filter Cover	1
26	321001150	Rotary Knob	1
27	321001151	Choke Lever	1
28	321001152	Fuel Cap Assembly	1
29	321002121	Fuel Tank Grommet	1
30	321002122	Fuel Tank	1
31	321002123	Fuel Tube	1
32	321002124	Fuel Tube	1
33	321002125	Fuel Line Filter	1
34	321001154	Rubber Pad	1
35	321001155	Fuel Tank Bracket	1
36	321002126	Negative Stop Switch Cable	1
37	321001156	Lower Engine Cover	1

PARTS AND FEATURES

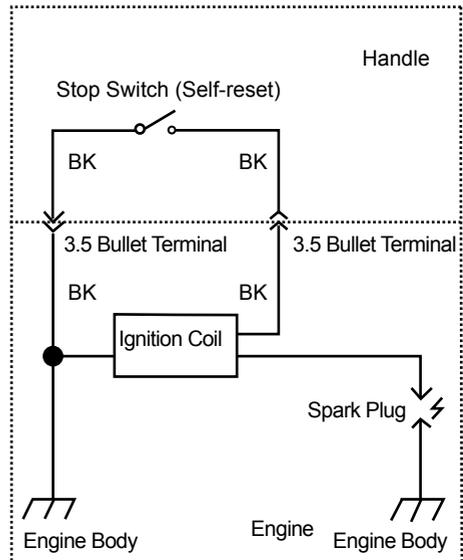
38	321002127	Crankshaft Set	1
39	321002128	Piston Ring	2
40	321002129	Piston	1
41	321002130	Retainer Ring	2
42	321002131	Retainer Ring	2
43	321002132	Needle bearing	1
44	321002133	Piston Pin	1
45	321002134	Crankcase Assembly	1
46	641001126	Flywheel	1
47	321002143	Flange Nut M8	1
48	311014125	Flat Key	1
49	321002145	Clutch Assembly	1
50	321002146	Washer	2
51	321002147	Corrugated Washer	2
52	321002148	Bolt	2
53	321002149	Flywheel Cover	1
54	321002150	Round Ring	2
55	321002151	Screw	2
56	321002152	Screw	3
57	321002153	Self-Tapping Screw	2
58	321002154	Screw	2
59	321002155	Lower Rear Engine Cover Plate	1
60	321002156	Heat Resistant Grommet	1
61	321001160	Screw	6
62	321001161	Self-Tapping Screw	2
63	321002157	Screw	2
64	321002158	Screw	4
65	321002159	Screw	6
66	321001163	Screw	2
67	321001164	Rubber Plug	1
68	321001165	Nut	2
69	321001166	Washer	5
70	321001162	Self-Tapping Screw	1
71	321001210	Screw	1
72	321005103	Screw	2

WIRING DIAGRAM AND MANAGEMENT - IGNITION AND STARTING

Push-Start



Ignition



GENERAL TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The electric motor does not start, and the battery indicator LED flashes red.	The battery is not fully charged or not inserted correctly.	Charge the battery fully and insert it correctly.
The motor does not start, and the battery indicator LED flashes yellow.	The battery is overheated.	Allow the battery to cool to room temperature. Re-start the tool after about 30 minutes.
The motor does not start, and the battery indicator LED flashes green.	Possible short circuit in the electric motor or the motor drive lines.	Check if there is a short circuit in the electric motor or the motor drive lines referring to page 36.
The motor does not start, and the battery indicator LED flashes alternatively red and green.	The starting current is excessive - the engine or electric motor may be seized or cannot rotate smoothly.	Check if the engine or the electric motor is stuck and cannot rotate smoothly referring to page 36.
The motor does not start, and the battery indicator LED is continuously on.	There is an open circuit from the PCB output to the motor connecting line.	Check if there is an open circuit occurs from the PCB output to the motor connecting line referring to page 36.
The motor starts, but the engine does not start.	The starter drive system is broken.	Remove the electric starter. Replace the drive system.
		If drive system of the starter is in good condition, the engine may be broken.
The engine does not start.	No spark or weak spark.	Clean or replace the spark plug. Reset the spark plug gap 0.026"±0.002" (0.65±0.05 mm).
		Check the gap between ignition coil and flywheel. Make sure the gap is 0.012"-0.015" (0.30-0.40mm).
	The air filter is blocked.	Clean the air filter.
	The fuel tank valve is blocked.	Remove the blockage or replace.
	Incorrect lubricant/fuel.	Use correct lubricant/fuel.
	The fuel tube is blocked or broken.	Clean or replace.
	Incorrect carburetor adjustment.	Re-adjust the carburetor.
	The carburetor is blocked.	Remove the blockage.
Excessive oil in carburetor.	Tighten the carburetor nut or replace the carburetor washer.	

GENERAL TROUBLESHOOTING

The engine stops during operation.	No fuel.	Add fuel to the fuel tank.
	The fuel tube is blocked.	Remove the blockage.
	The carburetor nut loosens and has air leakage.	Tighten the carburetor nut or replace the carburetor washer.
	No spark or weak spark.	Clean or replace the spark plug. Reset the spark plug gap.
		Check the gap between ignition coil and flywheel. Make sure the gap is 0.012"-0.015" (0.30-0.40mm).
Abnormal engine compression.	Check if the piston ring sinters and the piston and piston ring wear status. Check the carbon deposit status in combustor. Check the wear status inside cylinder. Check if the spark plug loosens. Check the gap between ignition coil and flywheel. Make sure the gap is 0.012"-0.015" (0.30-0.40mm).	
The engine is flooded.	Remove the spark plug. Clip the fuel tube for fuel entering. Press the start button to remove the fuel inside the cylinder.	
The engine has less power.	The choke lever is closed.	Open the choke lever.
	The air filter is blocked.	Clean the air filter.
	The fuel filter is blocked.	Remove the blockage or replace.
	Incorrect lubricant/fuel.	Use correct lubricant/fuel.
	Incorrect carburetor adjustment.	Re-adjust the carburetor.
	Carburetor washer hardens.	Replace.
	The main nozzle of the carburetor is blocked.	Clean or replace the carburetor if necessary.
	The spark plug is worn out.	Replace with new spark plug.
	The carburetor has air leakage.	Tighten the carburetor.
	The fuel has been contaminated with water.	Empty tank and replace with clean fuel.
	Muffler has carbon deposit.	Remove the carbon deposit.
	Exhaust port has carbon deposit.	Remove the carbon deposit.
	Piston ring sinters.	Clean the ring groove or replace the piston ring.
	Cylinder worn.	Replace the cylinder.
Piston and piston ring are worn out.	Replace.	

GENERAL TROUBLESHOOTING

No spark.	Electrode of the spark plug is wet.	Dry the spark plug.
	Spark plug has carbon deposit.	Remove the carbon deposit.
	Spark plug insulation is broken.	Replace the spark plug.
	Spark plug gap is too big/small.	Adjust to 0.026"±0.002" (0.65±0.05 mm).
	Electrode of the spark plug is burnt out.	Replace the spark plug.
	High voltage line of the ignition coil is broken.	Replace the high voltage line.
	Stator of the ignition coil is broken or burnt out.	Replace the stator.
	Poor contact of the high voltage line and the jump ring.	Amend.
	Spark plug cap is broken.	Replace.
Engine will not start but spark plug fires.	Excess fuel inside spark plug.	Remove the spark plug. Clip the fuel tube for fuel entering. Press the start button to remove the fuel inside the cylinder.
	Fuel is not clean, with water.	Replace the fuel.
	Cylinder and piston ring wear.	Replace.
	The spark plug loosens.	Tighten.
	Crankcase has air leakage.	Replace the gasket.
	Cylinder has air leakage.	Replace the gasket.
	No fuel.	Add fuel.
	No fuel in primer bulb.	Prime the bulb.
	Engine is not choked.	Engage the choke.
Fuel tank valve is blocked.	Remove the blockage.	
The engine cannot be stopped.	The switch wire does not connect.	Connect the wire.
	The switch is broken.	Replace.
The clutch engages during idle speed.	Clutch is damaged.	Replace.
	The free length of the clutch spring is too long.	Replace.
	Clutch is off center.	Replace.

GENERAL TROUBLESHOOTING

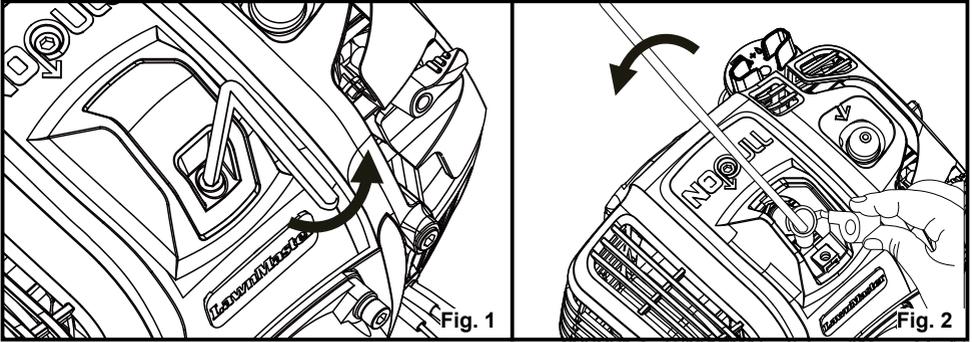
No load speed is not stable/consistent.	Incorrect carburetor adjustment.	Re-adjust the carburetor.
	The carburetor has an air leakage.	Replace or re-tighten.
	Fuel tube is broken.	Replace.
	Crankcase washer has air leakage.	Replace.
	Fuel seal has air leakage.	Replace.
After release the throttle lever, the brush cutter blade remains rotating.	Idle speed is too high.	Adjust the engine.
	Clutch spring is broken.	Replace.
	Clutch friction plate is broken.	Replace.
The engine accelerates, but the brush cutter blade does not rotate.	Spline of the axle of rotation or the spline of the transmission yoke is worn out.	Replace.
Irregular vibration.	Brush cutter blade is not installed tightly.	Secure the brush cutter blade into place.
	Brush cutter blade is bent.	Repair or replace.
	Brush cutter blade is worn out.	Replace.
	The drive shaft is bent.	Replace.
	Worn bearings.	Replace.
	Clutch is off center.	Replace.

GENERAL TROUBLESHOOTING

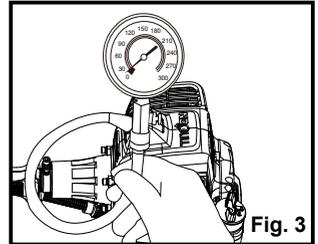
Engine Compression (See Figs. 1-3)

Low compression will cause erratic idling, low power, and hard starting when hot. To test the engine compression:

- Remove the spark plug cover using the provided hex wrench (Fig. 1).
- Remove the spark plug cap. Fully cover the spark plug using the provided socket wrench. Rotate the wrench counter-clockwise to remove the spark plug (Fig. 2).

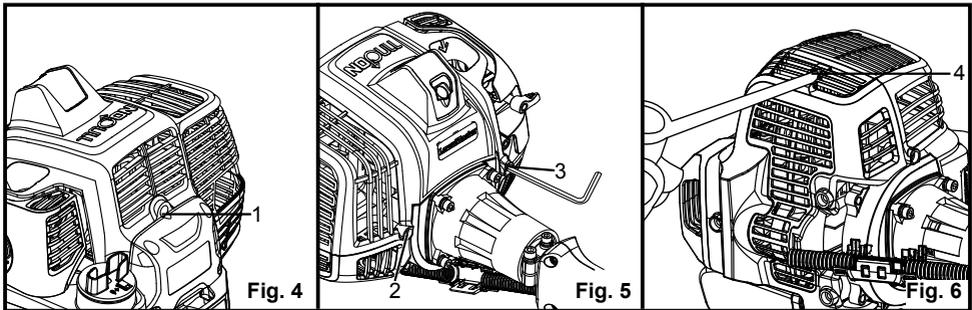


- Rotate a compression gauge into the spark plug hole (Fig. 3). Place the choke lever in the RUN position. Engage the throttle safety and throttle trigger together to open the throttle and the choke lever in the on position. Lift the start button cover and press the start button 3-5 times until the gauge needle reaches its peak (stops moving). Engine compression should be $>0.6\text{MPa}$.



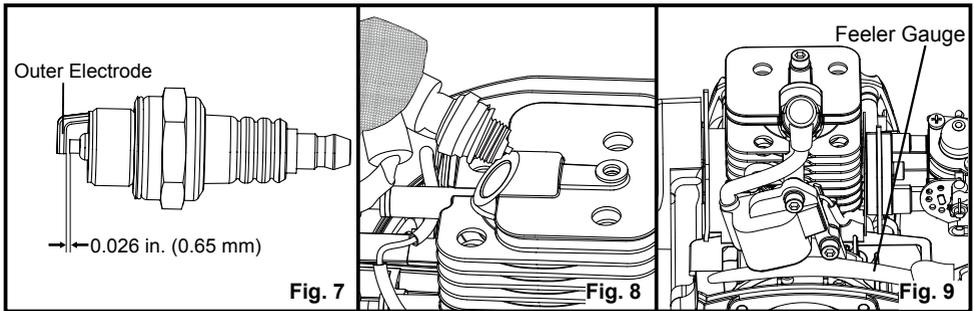
Ignition System (See Figs. 4-9)

- Remove the upper engine cover by removing the 4 screws with the provided hex wrench and screwdriver (Fig. 4 - 6)



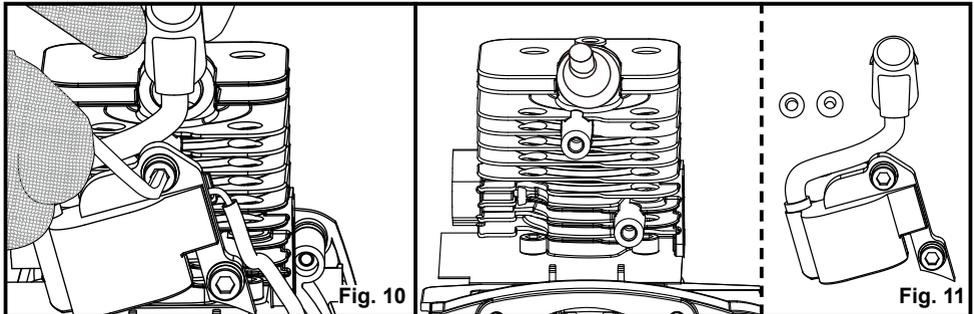
GENERAL TROUBLESHOOTING

- Remove the spark plug cover. Remove the spark plug cap and the spark plug. Check and remove the carbon deposit in the spark plug. The spark plug gap should be 0.65 ± 0.05 mm. Inspect the electrodes for wear and deposits (Fig. 7).
- Install the spark plug into the spark plug cap. Contact the negative electrode to the aluminum part (Fig. 8).
- Press the start button to check if the spark plug sparks.
- Check the gap between the rotor and the ignition coil. Make sure the gap is between 0.012 and 0.015 in. (0.30-0.40 mm) as instructed in step 3 of the Ignition Coil Replacement section (Fig. 9).



Ignition Coil Replacement (See Figs. 10-11)

- Remove the upper engine cover.
- Remove the spark plug cover and the spark plug cap. Remove the 2 screws. Remove the ignition coil and the washers (Fig. 10 - 11).



- Replace with a new ignition coil.
- To adjust the gap between the rotor and the ignition coil, first insert a feeler gauge of 0.014 in. (0.35mm) between the rotor and the ignition coil, then rotate the rotor and align the magnetic pole of the rotor with the ignition coil. Press down the ignition coil flush against the feeler gauge. Tighten the screws to fix the ignition coil. Rotate the rotor counter-clockwise to remove the feeler gauge. Re-check to ensure the gap is 0.012-0.015 in. (0.30-0.40 mm) (Fig. 9).

GENERAL TROUBLESHOOTING

Clutch Replacement (See Figs. 12-18)

- Remove the 4 screws to remove the transmission yoke (Fig. 12 & 13).

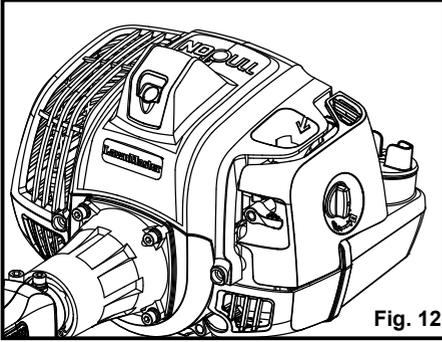


Fig. 12

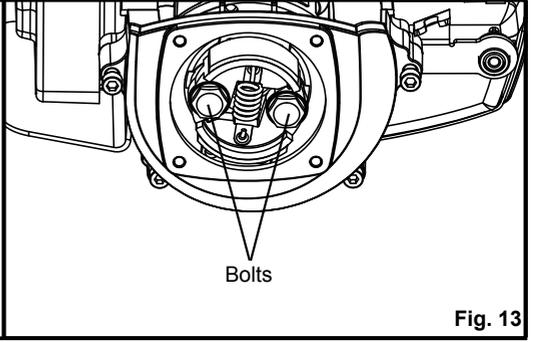


Fig. 13

- Remove the upper engine cover.
- Unscrew the bolts on the clutch assembly using an impact driver or wrench (Fig. 14).
- Remove the 2 bolts and corrugated washers. Then remove the clutch and flat washers (Fig. 15).

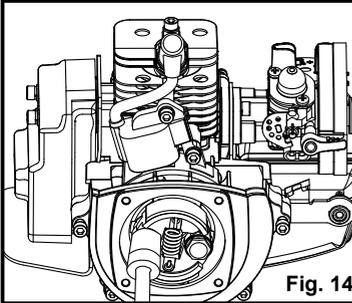


Fig. 14

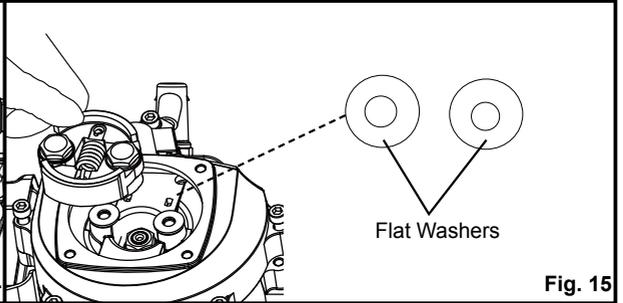


Fig. 15

- Replace with a new clutch.
- Slide the corrugated washers onto the bolts. Then install the bolts together with the corrugated washers into the clutch, with the side of the clutch marked with the direction of rotation facing upwards (Fig. 16).

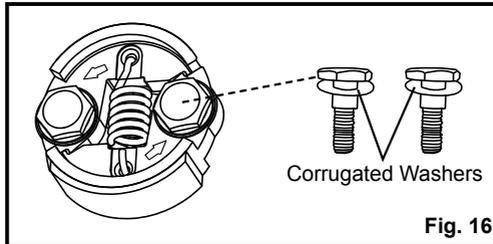


Fig. 16

GENERAL TROUBLESHOOTING

- Turn the clutch upside down and slide the flat washers onto the bolts. Apply the thread-locking glue for 3-5 screw threads and then re-install the clutch (Fig. 17 & 18).

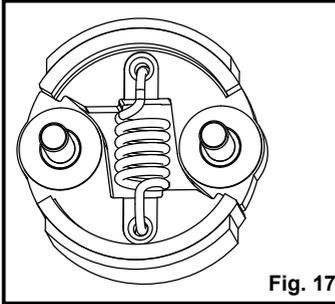


Fig. 17

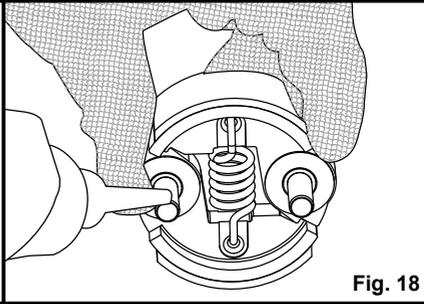


Fig. 18

Flywheel (Rotor) Replacement (See Figs. 19-22)

- Remove the clutch.
- Remove the nut using an impact driver (Fig. 19).
- Remove the 2 screws to remove the flywheel cover (Fig. 20).

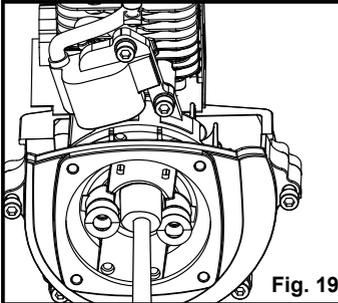


Fig. 19

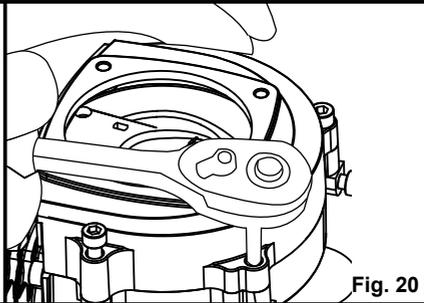


Fig. 20

- The flywheel can be removed by a puller (Fig. 21). Choose an appropriate puller to remove the flywheel. Before using the puller, rotate screw rod ① counter-clockwise till it is 1/4 to 1/2 its length through. Ensure screw rods ② and ③ are protruded longer than screw rod ①. Rotate screw rods ② and ③ clockwise into the corresponding threaded holes as shown in Fig. 21. Make sure screw rods ② and ③ are level and in same length. Then use a spanner to rotate screw rod ① clockwise until the flywheel is removed. Rotate screw rods ①, ② and ③ counter-clockwise to remove the puller from the flywheel.

GENERAL TROUBLESHOOTING

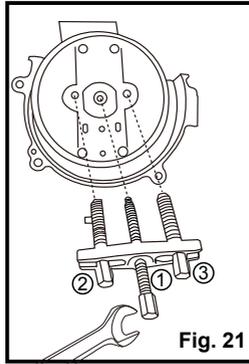


Fig. 21

- Check the woodruff key is in good condition and installed into place. Examine it for signs of damage. Check if the rotor magnets meet the requirements. Check that the fins are in good condition. Replace with a new flywheel if necessary (Fig. 22).

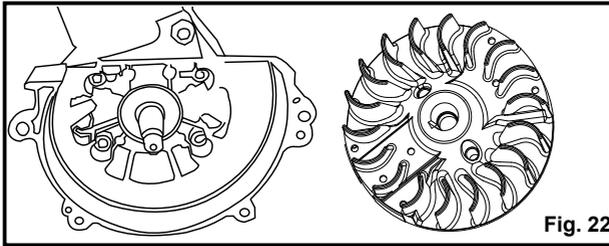


Fig. 22

AIR & FUEL SYSTEM

Air Filter Replacement (See Figs. 23-26)

- Rotate the air filter knob counter-clockwise and gently pull off the air filter cover (Fig. 23).
- Remove the air filter from the air filter cover (Fig. 24).

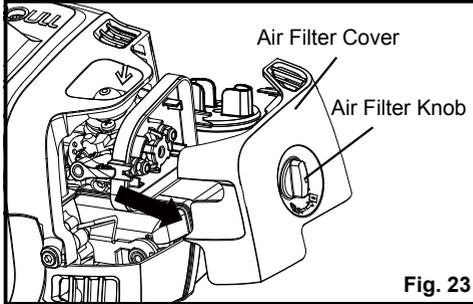


Fig. 23

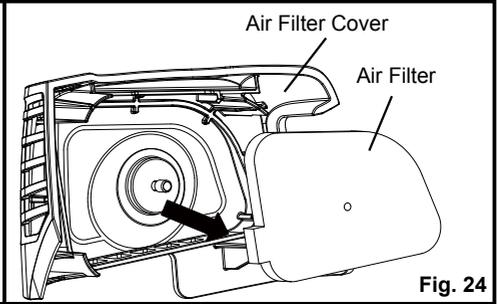


Fig. 24

- Clean the foam filter with warm soapy water and rinse. Air dry the filter.
- Place the air filter back, ensuring that it is properly seated onto the air filter cover. Installing the filter correctly will decrease the chances of engine wear caused by dirt entering the engine (Fig. 25).
- Replace the air filter cover ensuring the air filter is completely covered (Fig. 26).
- Turn the air filter knob clockwise to secure the air filter cover.

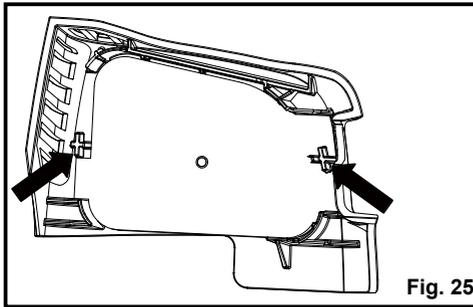


Fig. 25

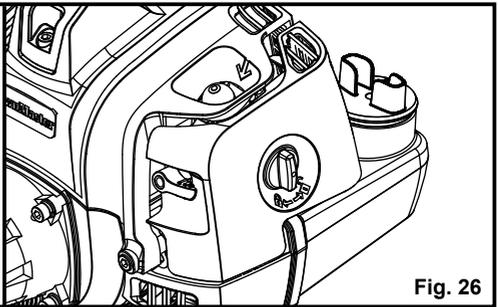


Fig. 26

Carburetor Adjustment (See Figs. 27-33)

NOTE: The brush cutter blade will rotate during carburetor adjustment. Wear protective equipment and observe all safety instructions.

Adjust the T screw with the Philips screwdriver (Fig. 27).

Use the carburetor adjustment tool to adjust the L screw (left) and H screw (right) (Fig. 28).

T screw: adjust the idle speed. To adjust the idle speed, adjust the T screw together with the L screw.

L screw: adjust the low speed flow rate, and assist the T screw to adjust the idle speed.

H screw: adjust the high-speed flow rate and maximum no load speed.

AIR & FUEL SYSTEM

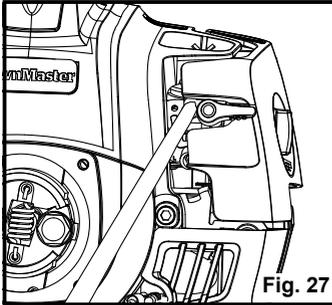


Fig. 27

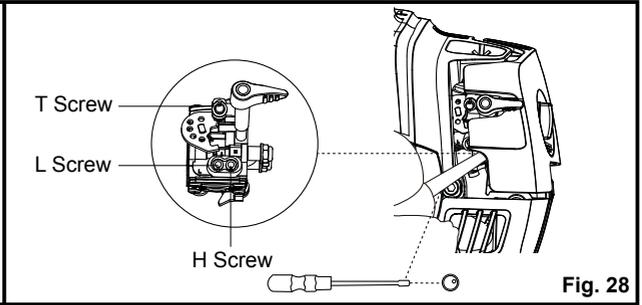


Fig. 28

The requirements of carburetor flow rate:

- With the flowmeter: The idle speed flow rate is 0.26-0.28 lbs./h (0.12-0.13 kg/h). The high-speed flow rate is 0.88-0.97 lbs./h (0.40-0.44 kg/h).
- Without the flowmeter: The idle speed is 3000+1000 rich. Adjust to maximum speed, then adjust the H screw counter-clockwise 1/4 turn.

To adjust the carburetor, a tachometer is needed (Fig. 29). When testing the speed, the tachometer should be placed near the spark plug of the brush cutter.

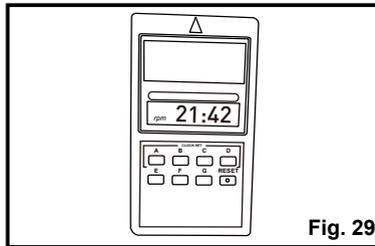


Fig. 29

NOTE: When adjusting the carburetor, place the brush cutter on a flat stable surface in an open area. Keep the cutter off the ground and away from any objects when making adjustments. Keep all parts of your body away from the brush cutter blade.

- Start the cutter and run at half or low throttle for about 2 minutes, to warm the engine.
- Adjust the H screw: while running the cutter at full throttle, first turn the H screw clockwise slightly with the carburetor adjustment tool, and observe the RPM displayed on the tachometer to verify the correct adjustment direction (clockwise or counter-clockwise) for reaching the max no load speed. Then turn the H screw slowly in the correct direction, and observe the RPM displayed on the tachometer until it reaches the max speed (Fig. 30).

	Max speed
NPTBSP2609A	About 10000-10800RPM

AIR & FUEL SYSTEM

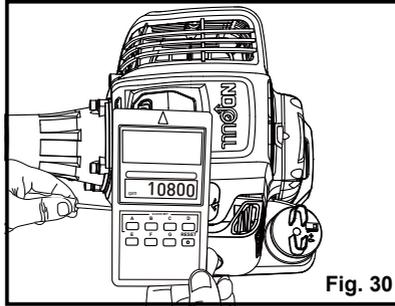


Fig. 30

- Remove the carburetor adjustment tool and re-check the max no load speed. Engage and release the throttle trigger quickly to operate the cutter at full throttle, and observe the RPM displayed on the tachometer. Make sure the max speed is correct.
- Adjust the L screw: while the cutter is idling, turn the L screw clockwise using the carburetor adjustment tool. Observe the RPM displayed on the tachometer until it reaches the max speed (Fig. 31). This max speed could be greater than or less than 4000 RPM.

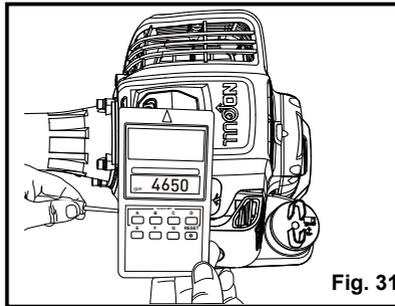


Fig. 31

- Adjust the T screw:
 - If the max speed adjusted in previous step is greater than 4000 RPM, turn the T screw counter-clockwise using the screwdriver. Observe the RPM displayed on the tachometer until it reaches about 4000 RPM.
 - If the max speed adjusted in previous step is less than 4000 RPM, turn the T screw clockwise using the screwdriver. Observe the RPM displayed on the tachometer until it reaches about 4000 RPM.
- Adjust the L screw: turn the L screw counter-clockwise using the carburetor adjustment tool. Observe the RPM displayed on the tachometer until the idle speed reaches about 3000 RPM (Fig. 32).

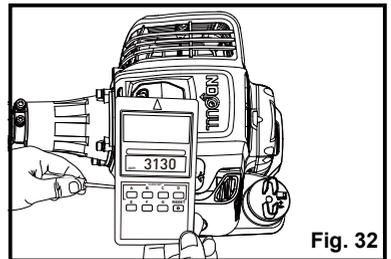
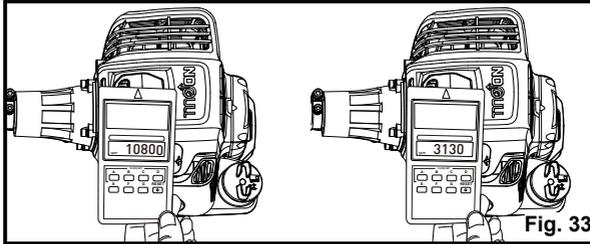


Fig. 32

AIR & FUEL SYSTEM

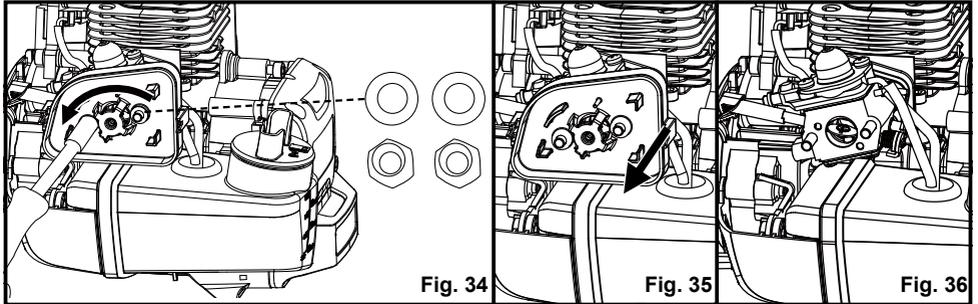
- Remove the carburetor adjustment tool and re-check the idle speed and the max no load speed again. Make sure they are correct (Fig. 33).



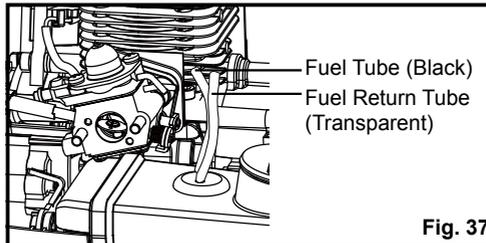
General Fuel Systems Operations (See Figs. 34-50)

Carburetor Replacement

- Remove the air filter cover and air filter.
- Remove the 2 nuts and washers on the air filter base by rotating the socket wrench counter-clockwise. Remove the air filter base (Fig. 34 - 36).



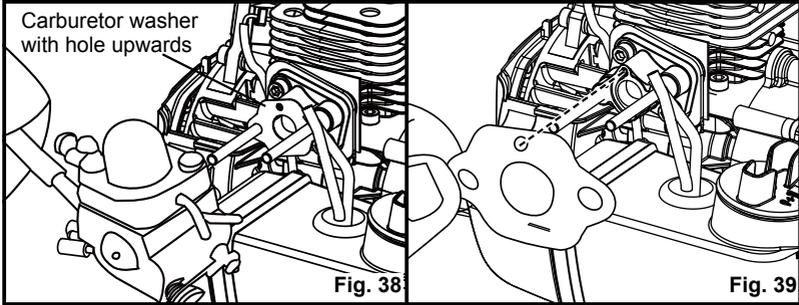
- Unplug the fuel tubes with hands or pliers. PAY ATTENTION NOT to damage the tube for fuel entering. The black tube is for fuel entering. The transparent is for fuel return (Fig. 37).



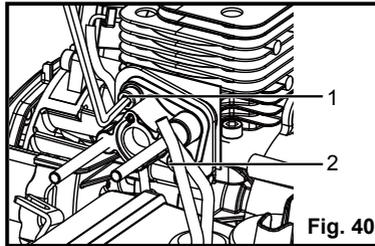
AIR & FUEL SYSTEM

- Remove the carburetor and the carburetor washer from the stud. Replace with a new one if necessary. Place the washer correctly with the hole upwards. Align the hole on washer with the hole on carburetor mount (Fig. 38 & 39).

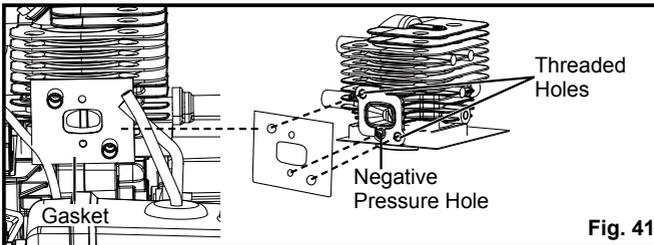
NOTE: Make sure the new carburetor and washer should be placed in the exact order in which they were removed.



- If the carburetor mount needs to be replaced, remove the 2 screws to remove it (Fig. 40).



- Remove the gasket of the carburetor mount (Fig. 41).

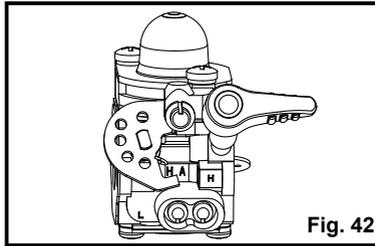


- Replace with a new carburetor mount and gasket. Make sure to align the holes on the gasket with the 2 threaded holes and the negative pressure hole on the cylinder.

NOTE: Make sure a new carburetor mount and gasket are replaced in the exact order in which they were removed.

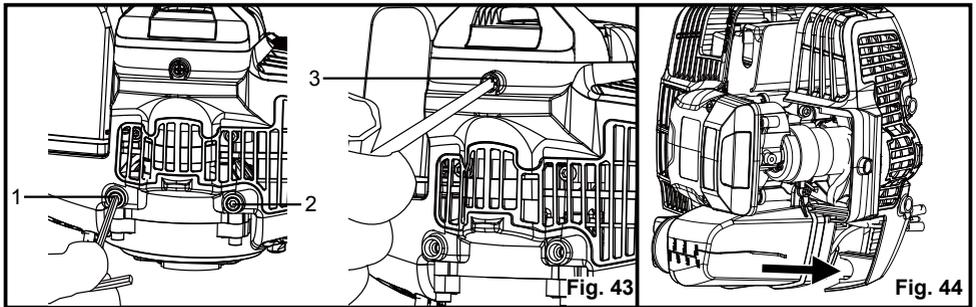
AIR & FUEL SYSTEM

- The choke lever is installed on the carburetor. Inspect the lever for signs of wear or damage and replace if needed. (Fig. 42).

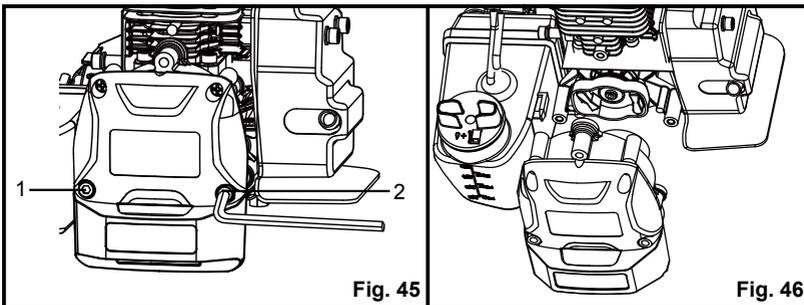


Fuel Tank Replacement

- Remove the upper engine cover.
- Remove the 3 screws to remove the lower engine cover with the provided hex wrench and screwdriver (Fig. 43 & 44).



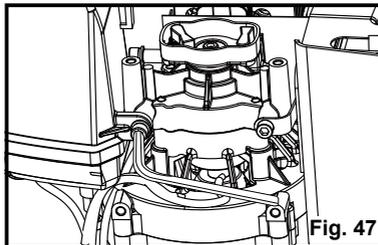
- Remove the 2 screws on the electric starter assembly to remove the starter assembly (Fig. 45 & 46).



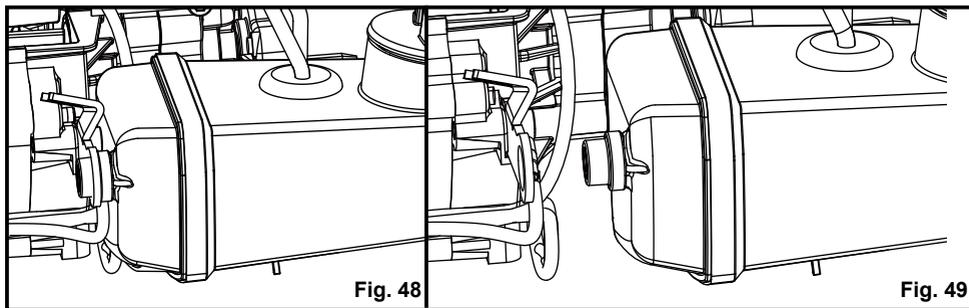
NOTE: If only replacing the fuel tank, do not remove the carburetor. Just remove the fuel tubes from the carburetor.

AIR & FUEL SYSTEM

- Remove the screw on the bottom of fuel tank (Fig. 47).



- Unplug the rubber plug in the front of fuel tank and remove the fuel tank (Fig. 48 & 49).



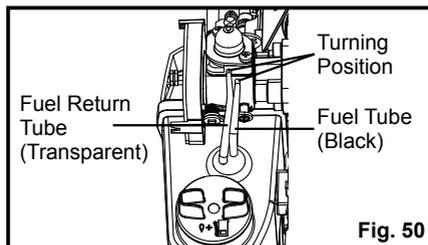
- Replace with a new fuel tank.

NOTE: Make sure all parts are replaced in the exact order in which they were removed.

Insert the Fuel Tube

Connect the fuel tubes with the carburetor. The black tube is for fuel entering. The transparent is for fuel return. The fuel tubes should be connected to the turning position as shown (Fig. 50).

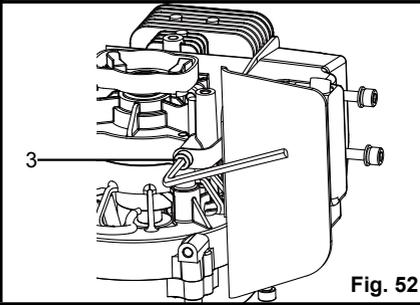
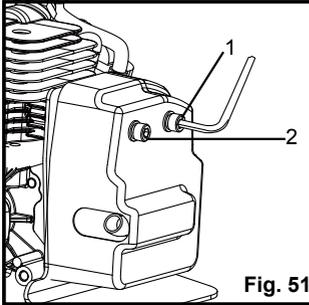
NOTE: Do not damage or fold the fuel tubes.



AIR & FUEL SYSTEM

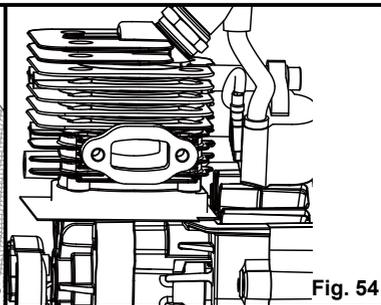
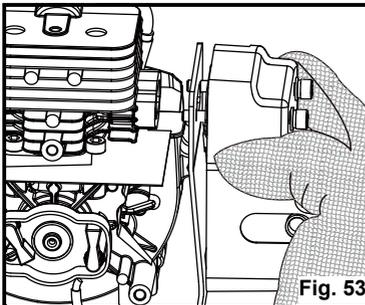
Exhaust System Service (See Figs. 51-54)

- Remove the upper and lower covers.
- Remove the 3 screws to remove the muffler (Fig. 51 & 52).



- Appropriate protective equipment is required when removing the muffler (Fig. 53).
- The cylinder fins and housings should be checked periodically and cleaned to help prevent the engine from overheating. Check the cylinder exhaust, piston, and piston ring for carbon build up.

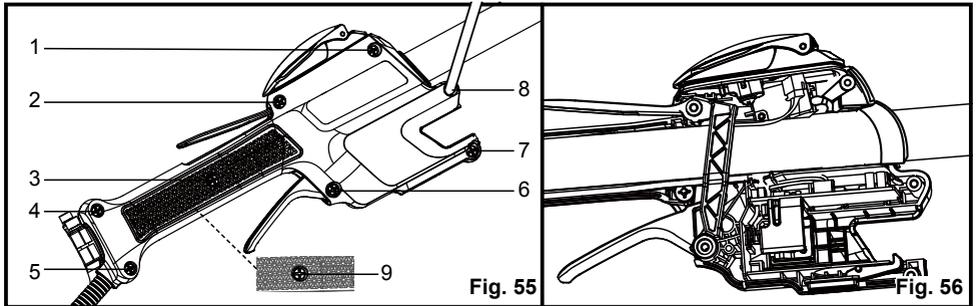
NOTE: Do not allow the carbon deposit to fall into the cylinder when removing the buildup (Fig. 54).



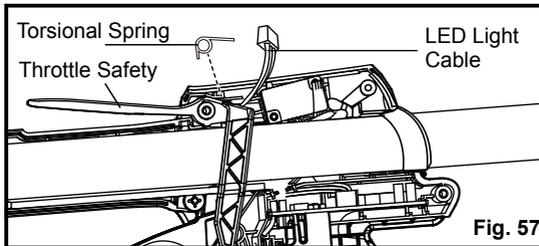
THROTTLE AND STARTER SYSTEM

Disassembly, Inspection & Repair of Throttle and Starter System (See Figs. 55-74)

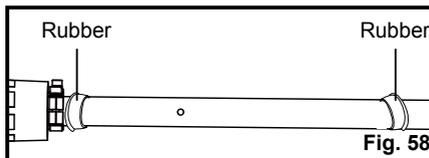
- Remove the 9 screws on the main handle (8 screws on the right cover and 1 screw on the left cover). Then remove the right cover of the main handle (Fig. 55 & 56).



- Disconnect the LED light cable from the electric starter cover plate and then remove the electric starter cover plate. Then remove the throttle safety and the torsional spring. Keep them properly for reassembly (Fig. 57).

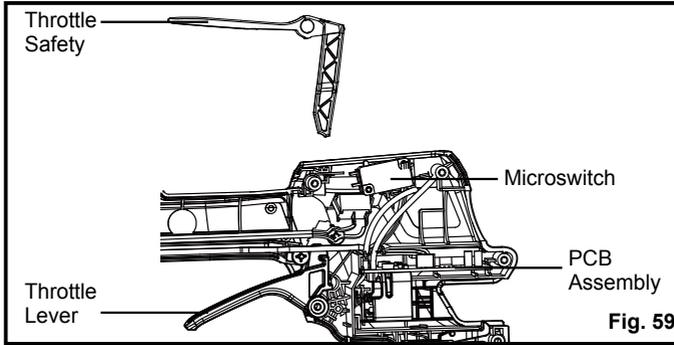


- Remove the shaft. Pay attention not to change the position of the two rubbers (Fig. 58).

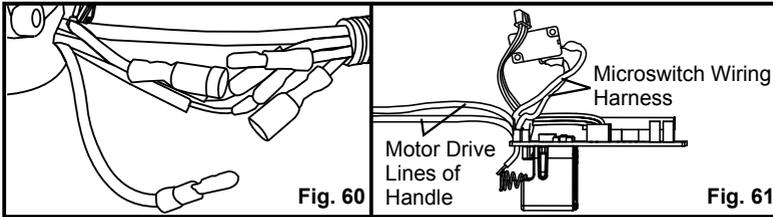


THROTTLE AND STARTER SYSTEM

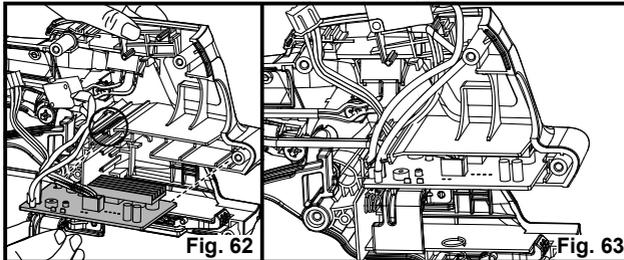
- Check the PCB assembly, microswitch, throttle safety and throttle lever. Replace if required (Fig. 59).



- Use a proper tool (e.g. a screwdriver) to pry off the microswitch.
- Open the corrugated pipe buckle and disconnect the male and female terminals of the motor drive lines (blue). Remove the motor drive lines of the handle part from the corrugated pipe. Remove the PCB assembly by pulling it out of its slot (Fig. 60 & 61).

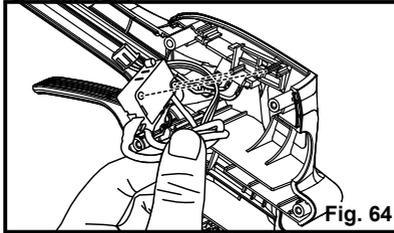


- Replace with a new PCB assembly and microswitch.
- Pass the motor drive lines of the handle part through the corrugated pipe, and connect with the motor drive lines of the engine part.
- Restore the motor drive lines of the handle part, the wiring harness of the microswitch, and the LED cable into the slot as circled in Fig. 62. Align and re-insert the PCB assembly into the slot. Make sure it is installed into place (Fig. 62 & 63).

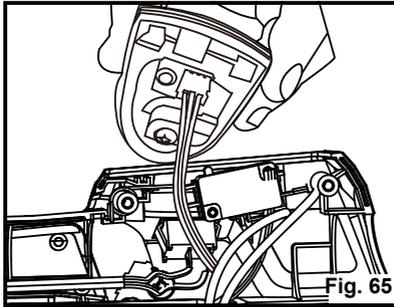


THROTTLE AND STARTER SYSTEM

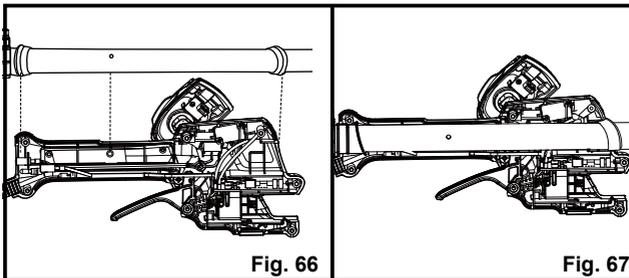
- Restore the microswitch into place (Fig. 64).



- Connect the LED light cable to the electric starter cover plate. Always pull gently after assembly to ensure that terminals of the LED cable are connected in place (Fig. 65).

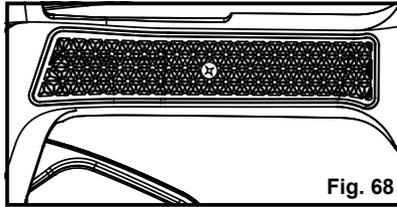


- Arrange the wirings inside the handle cover to make them straight. Then align the two ends of the handle cover with the slots of the two rubbers on the shaft, and align the hole on the handle cover with the hole on the shaft as shown in Fig. 66. Connect the handle cover and the shaft together, and make sure they are installed in place. (Fig. 66 & 67).

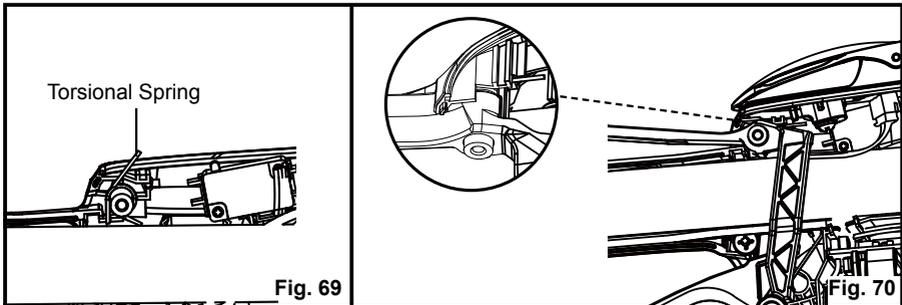


THROTTLE AND STARTER SYSTEM

- Turn over the handle cover and re-install 1 screw (Fig. 68).



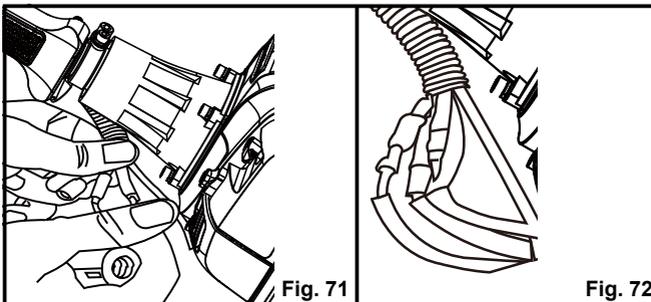
- To install the torsional spring and throttle safety, first pay attention to the correct direction of the torsional spring with the long end upwards as shown (Fig. 69). Make sure the throttle safety and the torsional spring are installed into place (Fig. 70). Install the electric starter cover plate.



- Restore the right cover of the main handle by tightening the 8 screws.

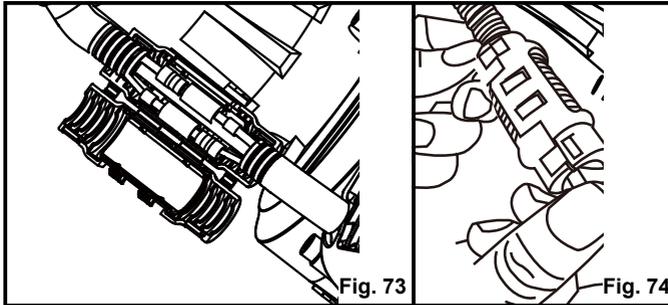
Power Line Connection

- Align and connect the male and female terminals of the wiring harness of the main handle to the male and female terminals of the wiring harness of the engine. Always gently pull the wiring harness once they are connected and make sure they are connected well without any loosening. Check that all the insulation covering outside the wiring harness wrap the terminals completely. Ensure the metal terminals are not exposed (Fig. 71 & 72).



THROTTLE AND STARTER SYSTEM

- Wrap the wiring harness of the engine with the opened corrugated pipe. One end of the wiring harness is exposed and another end of the power lines should be straightened out and thrust into the engine cover.
- Wrap the connected terminals of the wiring harness with the corrugated pipe buckle (Fig. 73 & 74).
- Recheck to ensure that all the insulation covering outside the wiring harness should wrap the terminals completely and all the metal terminals are not exposed. The upper and lower covers of the corrugated pipe buckle must be connected tightly, without any warp or twist.



NOPULL™ STARTER SYSTEM

Special troubleshooting instructions for No-Pull™ Start Button (See Figs. 75-82)

Starting Operation

Lift the start button cover and press the start button to start the electric motor. Release the start button to stop the electric motor (Fig. 75).

NOTE: When the start button remains pressed, the electric motor will run for about 5 seconds then it will stop automatically. When this occurs, release the start button and press it again to re-start the electric motor.

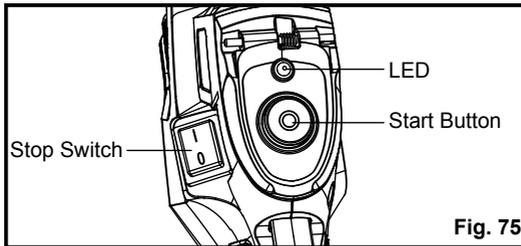


Fig. 75

During the starting process the LED will indicate the battery voltage as below if there is no alarm indicator:

Battery Voltage	LED Status
$\geq 7.7V$	Green
7.1V-7.7V	Orange
6.6V-7.1V	Red

Tolerance is $\pm 0.2V$

Troubleshooting

- The electric motor does not start when pressing the start button. According to LED indicators, the possible causes are as below:
 - A. Yellow flashing of the battery indicator LED indicates battery cells are too hot and needs to cool to room temperature (Fig. 76).

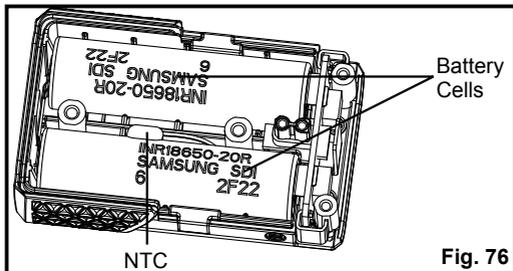
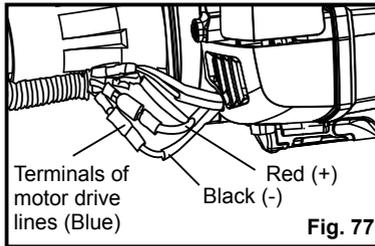


Fig. 76

NOPULL™ STARTER SYSTEM

- B. Red flashing of the battery indicator LED indicates that battery voltage is too low and needs to be charged.
- C. Green flashing of the battery indicator LED indicates that a short circuit occurs in the electric starter.
Check the electric motor and the motor drive lines as below:

Open the corrugated pipe buckle and disconnect the male and female terminals of the motor drive lines (blue) (Fig. 77). Press the start button and check if the LED flashes green. LED does not flash - the short circuit occurs in the electric motor or the motor drive lines of the engine. LED flashes green - the short circuit occurs in the motor drive lines of the handle.



- D. Alternate red and green flashing of the battery indicator LED indicates that an overcurrent occurs in the electric starter part. Check if the engine is stuck and cannot be rotated smoothly. Check if there is any foreign matter, such as metal, magnetized on the flywheel.
- E. If the battery indicator LED is continuously on, check that if an open circuit occurs from the PCB output to the motor connecting line.

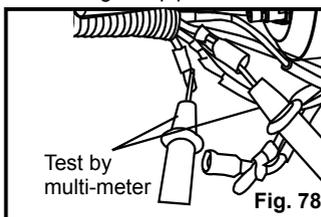
When pressing the start button and the LED is continuously on, test the voltage output in the motor drive lines using the DC voltage stall of multi-meter (Fig. 78).

If there is voltage output, the possible causes are as below:

- 1). The electric motor has broken down;
- 2). The motor drive lines of the engine have detached from their welding position to the electric motor;
- 3). There is loose or failed contact in the connection from the motor drive lines of the engine to the male and female terminals in the corrugated pipe buckle.

If there is no voltage output, the possible causes are as below:

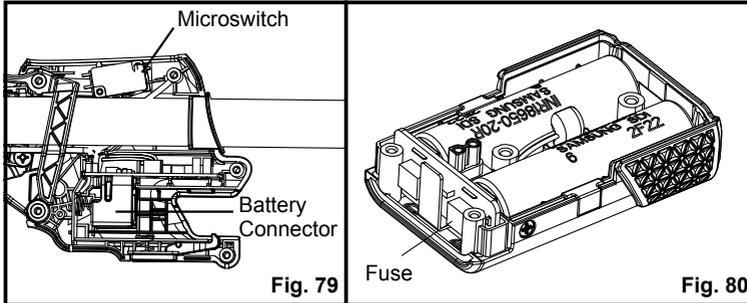
- 1). The motor drive lines of the handle have detached from their welding position to the PCB;
- 2). There is loose or failed contact in the connection from the motor drive lines of the handle to the male and female terminals in the corrugated pipe buckle.



NOPULL™ STARTER SYSTEM

F. If the battery indicator LED does not turn on, the possible causes are as below:

- 1). The microswitch is broken. Replace it.
- 2). The wiring harness of the microswitch has detached. Re-weld it.
- 3). There is failed contact in the battery connector to the PCB. Adjust the battery connector (Fig. 79).
- 4). The battery does not have voltage output. Use a multi-meter to test if an open circuit occurs in the fuse of the battery. If yes, replace it (Fig. 80).



- The electric motor starts then stops when pressing the start button. According to LED indicators, the possible causes are as below:
 - A. If there is no LED flashing, the start button may have broken (or if the start button remains pressed for 5 seconds, the motor will stop automatically).
 - B. Green flashing of the battery indicator LED indicates a short circuit in the electric starter. Check the electric motor and the motor drive lines as illustrated above.
 - C. Alternate red and green flashing of the battery indicator LED indicates an overcurrent in the electric starter. Check if the engine is stuck and cannot be rotated smoothly.
- The electric motor starts normally but the LED does not turn on when pressing the start button. Possible causes are:
 - A. There is loose, or failed contact, or fall-off in the connection of PCB or LED panel to the flat cable.
 - B. LED panel is broken.
- The engine cannot be stopped when pressing the stop switch. The possible causes may be that the stop switch has failed or the wiring harness of the stop switch has broken. Check as below:

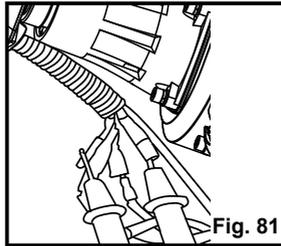
Open the corrugated pipe buckle, disconnect the male and female terminals of the stop switch wiring harness (covered by two transparent insulation covering):

 - A. Press the stop switch, test the stop switch wiring harness of the handle part using the resistance stall of multi-meter (Fig. 81). If conduction fails, the possible causes are:
 - 1). The wiring harness of the handle has detached from their welding position to the stop switch;
 - 2). There is loose or failed contact in the connection of the wiring harness of the handle part to the

NOPULL™ STARTER SYSTEM

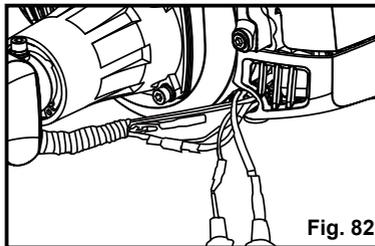
male and female terminals in the corrugated pipe buckle;

3). The stop switch has broken.



B. Test the stop switch wiring harness of the engine (Fig. 82). If conduction fails, the possible causes are:

- 1). An open circuit in the connection position between the wiring harness of the engine and the ignition coil;
- 2). An open circuit in the connection position between the wiring harness of the engine part and the engine cover;
- 3). There is loose or failed contact in the connection between the wiring harness of the engine and the bullet terminals.



26CC 2-CYCLE ENGINE

Internal Engine Disassembly Inspection & Repair

Engine Start Requirements and Inspection

- Ignition System: Require a strong spark in the best ignition time. Inspection sequence (from exit to entrance): spark plug → spark plug cap → starter switch → high voltage line, ground line and on-off switch line → igniter → rotor.
- Fuel System and Carburetor: Air and fuel mixture supplied at the optimum ratio. Inspection sequence (from entrance to exit): fuel tank cap → fuel → fuel filter → fuel tube → carburetor → carburetor intake.
- Compression: Keep optimum cylinder pressure. No loss in this pressure. Inspection sequence (from external to internal): external condition → fastening condition → cylinder → piston → crankcase.
- Battery: Sufficient battery capacity.
- Electric motor: Good motor performance.

Engine Disassembly and Inspection

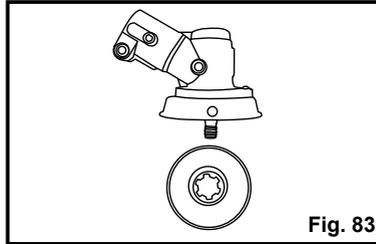
- Spark plug: Inspect the spark status. Remove carbon deposit. Inspect electrodes for wear and deposits. Adjust the spark plug gap (0.65 ± 0.05 mm).
- Air filter: Clean the air filter after every 5 hours of use. Inspect the filter for damage and replace with a new filter if necessary.
- Carburetor: Adjust the L/H/T screws when adjusting the carburetor.
- Remove the upper and lower engine covers.
- Electric starter assembly: If the electric starter malfunctions, disassemble it to check if the electric motor is broken; test if the wires are in good condition and the gears are in working order.
- Fuel tank: Check if there is leakage in the tank or in the fuel tube connection. Replace the fuel tank if leakage occurs.
- Muffler: Check and clean carbon deposit. The brush cutter should never be operated without the muffler in place.
- Clutch: If the engine speed is lower than 4200 RPM and the brush cutter rotates rapidly, the clutch needs to be replaced.
- Flywheel (rotor): If the engine overheats, check if rotor fins are in good condition. Always replace the rotor if rotor fins are missing or if there is visible damage to the rotor. If the spark is too small, check the magnets. Test the rotor magnets by placing a large socket on the rotor magnets. Shake the rotor, the magnets should hold on to the socket unless the field is weak.
- Ignition coil: Check if the high voltage power line is in good condition. Ensure the rotor air gap is 0.012-0.015 in. (0.30-0.40 mm).
- Crankcase: Pressure and vacuum test the crankcase.
- Cylinder: If the above issues are checked and fixed and the engine still malfunctions, examine the cylinder exhaust, piston, and piston ring for carbon buildup. If the exhaust port is clogged, rotate the piston until it fully covers the exhaust port, and then carefully remove the carbon with a plastic or wooden scraper. Do not scratch the piston or damage the edges of the exhaust port.

GEAR HEAD AND BRUSH CUTTER BLADE

Gear Head (See Fig. 83)

After every 25 hours of use, check the level of grease inside the gear box and outside the axle. Add approximately 0.01 lbs. (5 g) of grease if necessary.

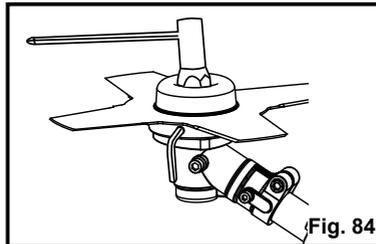
The gear head of the straight shaft brush cutter has a left-hand rotation (Fig. 83). The screw thread specification is M10×1.25-LH.



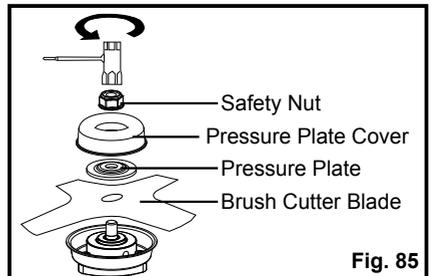
Brush Cutter Blade Replacement (See Figs. 84-85)

NOTE: The brush cutter blade is sharp. When removing the blade cover avoid contact with the blade. Failure to do so can result in serious personal injury.

- Stop the engine and remove the battery pack. Place the cutter on a flat stable surface with the blade facing upwards.
- Insert the provided hex wrench into the hole on the flange to lock the spindle. Then rotate the safety nut clockwise to remove using socket wrench (Fig. 84).



- To install a new blade, first remove the brush cutter blade from the blade cover carefully.
- Fit the blade onto the spindle with print side down.
- Put the pressure plate onto the blade. Then put the pressure plate cover onto the pressure plate.
- Secure the blade with the safety nut counter-clockwise using socket wrench (Fig. 85).
- Remove the hex wrench.



MANUFACTURER'S WARRANTY AND CONTACT



LawnMaster®

LawnMaster® No-Pull™ LIMITED WARRANTY

We take pride in producing a high quality, durable product. This LawnMaster® product carries a limited three (3) year warranty against defects in workmanship and materials from date of purchase under normal household use. This product carries a ninety (90) day warranty from the date of purchase when used for commercial or rental purposes. **Batteries and chargers carry a two-year warranty against defects in workmanship and materials from date of purchase.** Batteries must be charged in accordance with the Operator's Manual directions and regulations in order to be valid. Warranty does not apply to defects due to alterations, direct or indirect abuse, negligence, misuse, accidents, repairs, and lack of maintenance. Please keep your receipt/packing list as proof of purchase. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. For product service contact your authorized dealer or call Customer Service at 866-384-8432.

Items not covered by warranty:

1. Any part that has become inoperative due to alteration, misuse, commercial use, abuse, neglect, accident, or improper storage or maintenance.
2. The unit, if it has not been operated and/or maintained in accordance with the Operator's Manual.
3. The unit, if damage or engine failure is due to absence of 2-stroke oil, improper 2-stroke oil mix ratio, or use of 2-stroke oils not meeting standards specified in this manual.
4. The unit, if damage is caused by the use of gasoline containing more than 10% ethanol content (E10).
5. Normal wear, except as noted below.
6. Routine maintenance items such as lubricants, blade sharpening, etc.
7. Normal deterioration of the exterior finish due to use or exposure.
8. Parts that can wear out from normal use within the warranty period, such as the blades, collection bags, spools, spool covers, etc.

Transportation Charges: Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. It is the purchaser's responsibility to pay transportation charges for any part submitted for replacement under this warranty unless such return is requested in writing by LawnMaster®.

**THIS WARRANTY ONLY APPLIES TO ORIGINAL PURCHASER WITH PROOF OF PURCHASE.
THIS WARRANTY IS VOID WITHOUT PROOF OF PURCHASE.**

