

SERVICE BULLETIN

TO: BRIGGS & STRATTON AUTHORIZED SERVICE DEALERS

BULLETIN #: DSB-1037

DATE: DECEMBER 2014

SUBJECT: UTILITY AND GENERATOR ENGINES (306 CC)

MODELS: 19N100, 19T100 OHV HORIZONTAL SHAFT

CODE OR SERIAL #: N/A

- | | |
|-------------------------------------|--------------------|
| <input type="checkbox"/> | - ACTION REQUIRED |
| <input type="checkbox"/> | - IF ENCOUNTERED |
| <input checked="" type="checkbox"/> | - INFORMATION ONLY |

- | | |
|-------------------------------------|-------------|
| <input checked="" type="checkbox"/> | - ENGINE |
| <input type="checkbox"/> | - EQUIPMENT |
| <input type="checkbox"/> | - BOTH |

Briggs & Stratton recently introduced the model 19N100 and 19T100 (306cc) general purpose and generator engines. This information bulletin provides some initial servicing information for these engines. Please retain it for future service reference until the new repair manual is completed and released.

Because system tests and component removal/installation procedures are common with most other Briggs & Stratton engines, they are not described here. See the Illustrated Parts List for service part numbers. The specifications, part numbers, and/or procedures provided here are preliminary and subject to change.

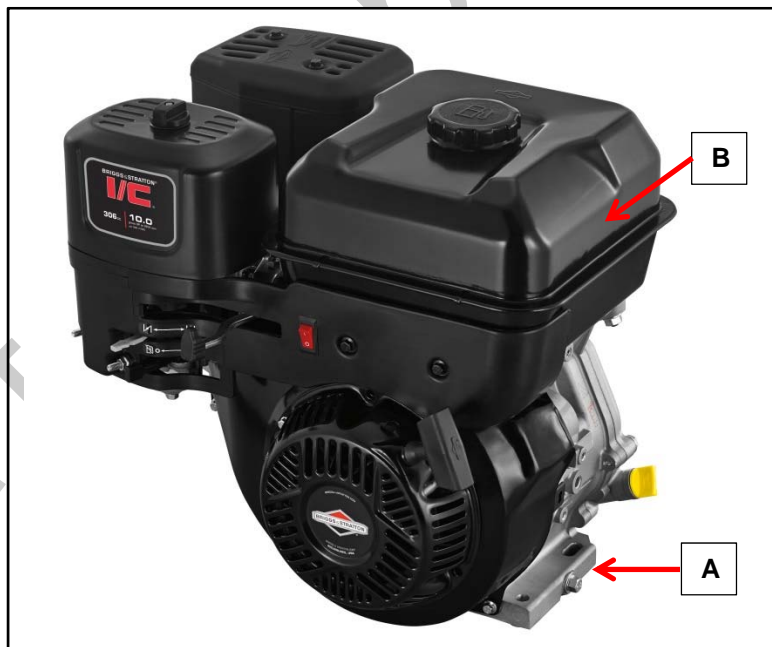


Figure 1

MODEL IDENTIFICATION LOCATION

The Model-Type-Trim and Code numbers are stamped or etched into the engine base (A, Figure 1) below the starter motor area. The bar code serial number label is located on the side of the fuel tank (B) or on the top of the blower housing on generator engines (not shown).

Engine Features	Style/Type
Air Cleaner	High Mount or Panel Style
Alternator System	3-Amp, 10-Amp, 60-Watt
Bearings - Mag	Ball
Bearings - PTO	Ball
Bore Type	Cast Iron Sleeve
Fuel Filter	In Tank
Fuel System/Tank	Metal Tank
Governor System	Mechanical
Lubrication System	Splash
Oil Fill	Low Fill Cap or High Fill Dipstick

Common Service Parts	Part Number
Air Filter Element - High Mount	592605
Air Filter Element - Panel Style, Small	491588
Air Filter Element - Panel Style, Large	591778
Carburetor Overhaul Kit (Utility)	592229
Carburetor Overhaul Kit (Generator)	593133
Engine Gasket Set	593112
Flywheel Puller Tool	19203
Sparkplug	797235
Sparkplug Wrench	19576
Spark Tester	19368

CRANKCASE COVER ASSEMBLY

The crankcase cover is removed similar to other engines. Note that the governor gear is not serviceable separately - if the gear needs replacing, the complete crankcase cover must be replaced. Always install a new gasket when reinstalling the cover to the cylinder.

- 1) Thoroughly clean the mating surfaces of the cover and the cylinder. DO NOT use metal or abrasive tools because they will damage the mating surfaces.
- 2) Place a new gasket on the cylinder.
- 3) Carefully fit the cover over the crankshaft and then press it into position against the cylinder.
- 4) Start the cover bolts by hand and step-torque them in the sequence shown below (Figure 2a or 2b) to 80 lb-in (9.0 Nm), then to 160 lb-in (18.0 Nm), then finally to 220 lb-in (24.9 Nm).

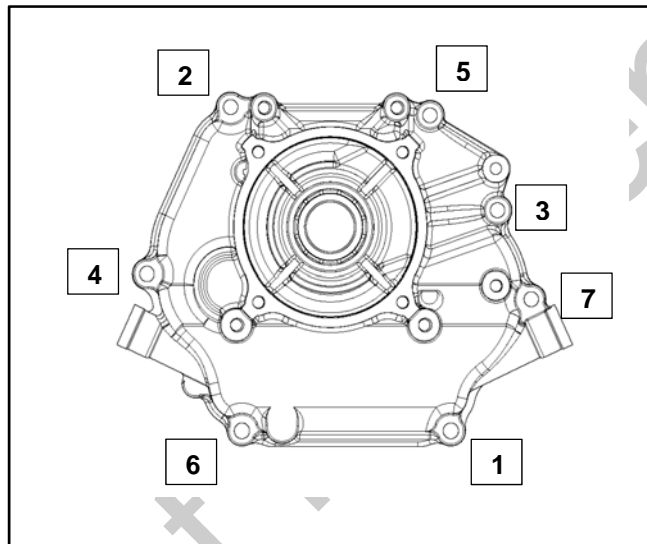


Figure 2a – Utility Cover

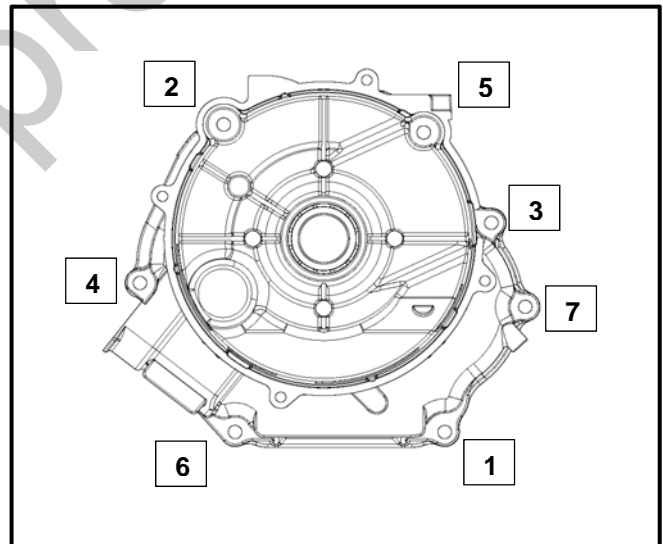


Figure 2b – Generator Cover

CYLINDER HEAD BOLT SEQUENCE

The four cylinder head bolts are tightened in a cross or “X” pattern. Step-torque the screws to 120 lb-in (13.6 Nm), then to 240 lb-in (27.1 Nm), and then finally to 360 lb-in (40.7 Nm).

FLYWHEEL ASSEMBLY

Use Flywheel Puller Tool # 19203 to remove the flywheel from the crankshaft. When installing, place the flywheel on the crankshaft with the keyways aligned, then install the key.

The starter cup, flywheel fan, and flywheel are self-aligning. Place the rewind starter cup into the flywheel fan and then into the flywheel. Install and tighten the flywheel nut to 90 lb-ft (122 Nm).

GOVERNOR ADJUSTMENT PROCEDURE

Spring Hole Location

The following table identifies the proper spring and hole location to achieve the desired RPM range.

Application	Spring	Hole Location	RPM Range
60Hz Generator	813718 Black	3	3,750
50Hz Generator	813718 Black	2	3,150
Utility	813718 Black	6	4100 - 4200
Utility	813718 Black	5	3800 - 4000
Utility	813718 Black	4	3500 - 3700
Utility	813717 Green	4	3200 - 3400
Utility	813717 Green	3	2800 - 3100
Utility	813717 Green	2	2600 - 2700

Static Adjustment

- 1) Ensure that the hook of the governor spring is installed on the governor lever in the orientation shown (A, Figure 3).
- 2) Ensure the throttle link is in the outer hole and the link spring is in the inner hole of the governor lever (B).
- 3) Loosen the governor lever nut (C).
- 4) While holding the carburetor throttle shaft at wide open throttle, rotate the governor shaft (D) counterclockwise until it stops.
- 5) Hold the throttle shaft and governor shaft in position, and then tighten the governor lever nut to 100 lb-in (11.3 Nm).

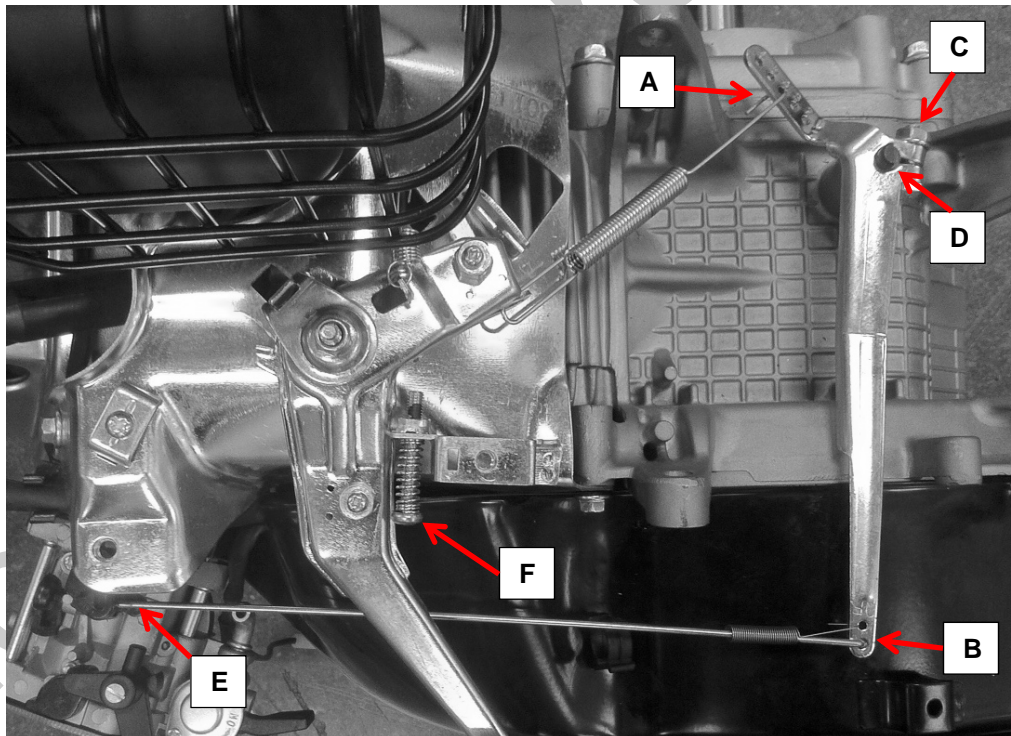


Figure 3

Dynamic Adjustment

- 1) Start the engine and allow it to warm up for 3-5 minutes.
- 2) Hold the throttle against the idle speed screw (E, Figure 3). Using an appropriate tachometer, adjust the screw to obtain 1750 +/- 100 RPM.
- 3) Move the throttle to high speed. Fine tune the top no load engine speed, if necessary, with the speed adjustment screw (F) to obtain the equipment manufacturer's top no load speed specification.

Common Specifications	SAE	Metric
Armature Air Gap	.008-.016 in	.20-.41 mm
Bearings - Mag Side	Ball	Ball
Bearings - PTO Side	Ball	Ball
Bolt Circle (1)	3.819 in	92 mm
Bolt Circle (2)	5.000 in	127 mm
Bolt Circle (3)	6.496 in	165 mm
Bore x Stroke	3.228 x 2.283 in	82 x 58 mm
Compression Ratio	8.5:1	8.5:1
Crankshaft End Play	.002-.014 in	.05-.35 mm
Displacement	18.67 ci	306 cc
Fuel Tank Capacity	3.2 qt or 5.3 qt	3.0 L or 5.0 L
Oil Capacity	36-38 oz	1.1 L
Sparkplug Gap	.030 in	.76 mm
Valve Clearance - Intake	.005-.007 in	.13-.18 mm
Valve Clearance - Exhaust	.005-.007 in	.13-.18 mm

Fastener Torque Specs	SAE	Metric
Air Cleaner Backplate	100 lb-in	11.3 Nm
Air Cleaner Cover	40 lb-in	4.5 Nm
Air Cleaner Support Bracket	55 lb-in	6.2 Nm
Air Cleaner Insert	40 lb-in	4.5 Nm
Air Cleaner Elbow Nut	55 lb-in	6.2 Nm
Armature	100 lb-in	11.3 Nm
Blower Housing	100 lb-in	11.3 Nm
Carburetor Stud	60 lb-in	6.8 Nm
Carburetor Bowl Nut	65 lb-in	7.4 Nm
Connecting Rod	170 lb-in	19.2 Nm
Control Bracket	100 lb-in	11.3 Nm
Crankcase Cover	220 lb-in	24.9 Nm
Cylinder Head	360 lb-in	40.7 Nm
Cylinder Shield	100 lb-in	11.3 Nm
Exhaust Manifold/Adapter	230 lb-in	26.0 Nm
Flywheel Nut	90 lb-ft	122.0 Nm
Fuel Tank	200 lb-in	22.6 Nm
Fuel Tank Outlet	65 lb-in	7.4 Nm
Governor Lever Nut	100 lb-in	11.3 Nm
Intake Manifold	230 lb-in	26.0 Nm
Muffler	200 lb-in	22.6 Nm
Muffler Guard	100 lb-in	11.3 Nm
Oil Drain Plug	250 lb-in	28.3 Nm
Oil Fill Cap	25 lb-in	2.8 Nm
Oil Fill Tube Screw	200 lb-in	22.6 Nm
Oil Gard Module	100 lb-in	11.3 Nm
Oil Gard Float Switch	100 lb-in	11.3 Nm
Remote Choke Stud and Nut	50 lb-in	5.7 Nm
Rewind Starter	80 lb-in	9.0 Nm
Rocker Arm Stud	220 lb-in	24.9 Nm
Rocker Ball Nut	100 lb-in	11.3 Nm
Sparkplug	265 lb-in	29.9 Nm
Starter Motor	200 lb-in	22.6 Nm
Starter Solenoid	40 lb-in	4.5 Nm

Stator	100 lb-in	11.3 Nm
Stator Wire Clip	100 lb-in	11.3 Nm
Trim Panel	45 lb-in	5.1 Nm
Valve Cover	100 lb-in	11.3 Nm
Voltage Regulator/Rectifier	100 lb-in	11.3 Nm

Dimensions	Engineering Std Dims.		Service Reject Dims.	
	SAE	Metric	SAE	Metric
<i>Cylinder</i>				
Mag Bearing	Ball	Ball	n/a	n/a
Cam Bearing	.630 in	16.00 mm	.632 in	16.05 mm
Bore Out-of-Round	n/a	n/a	.0015 in	.04 mm
<i>Cylinder Head</i>				
Intake -				
Valve Seat Angle	45 degrees	45 degrees	n/a	n/a
Valve Stem Diameter	.258 in	6.56 mm	.254 in	6.44 mm
Valve Guide	.260 in	6.60 mm	.262 in	6.66 mm
Exhaust -				
Valve Seat Angle	45 degrees	45 degrees	n/a	n/a
Valve Stem Diameter	.258 in	6.56 mm	.254 in	6.44 mm
Valve Guide	.260 in	6.60 mm	.262 in	6.66 mm
<i>Crankcase Cover/Sump</i>				
PTO Bearing	Ball	Ball	n/a	n/a
Cam Bearing	.630 in	16.00 mm	.632 in	16.05 mm
<i>Crankshaft</i>				
Crankpin Journal	1.299 in	33.00 mm	1.296 in	32.92 mm
Mag Journal	1.180 in	29.97 mm	1.178 in	29.92mm
PTO Journal	1.180 in	29.97 mm	1.178 in	29.92mm
<i>Cam Shaft</i>				
Mag-Side Journal	.629 in	15.98 mm	.627 in	15.92 mm
PTO-Side Journal	.629 in	15.98 mm	.627 in	15.92 mm
<i>Connecting Rod</i>				
Crankpin Bearing	1.300 in	33.03 mm	1.302 in	33.07 mm
Piston Pin Bearing	.709 in	18.01 mm	.711 in	18.07 mm
<i>Piston Pin</i>				
Diameter	.709 in	18.00 mm	.707 in	17.95 mm
<i>Piston</i>				
Pin Bore	.709 in	18.01 mm	.710 in	18.04 mm
<i>Piston Rings</i>				
End Gap - Top	.008 in	.20 mm	.014 in	.35 mm
End Gap - Middle	.020 in	.50 mm	.028 in	.70 mm
End Gap - Oil	.010 in	.25 mm	.031 in	.80 mm
Ring Land Clearance - Top	.002 in	.05 mm	.006 in	.15 mm
<i>Starter Rope</i>				
Rope Size	# 5.0	# 5.0	n/a	n/a
Rope Length	71 in	1.8 m	n/a	n/a

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