<table>
<thead>
<tr>
<th>Model</th>
<th>Vanguard™ Gasoline</th>
<th>Model</th>
<th>Vanguard™ Gasoline</th>
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</table>

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**Operator Safety**

**SAFETY AND CONTROL SYMBOLS**

- Fire
- Moving Parts
- Oil
- Toxic Fumes
- Slow
- Fast
- Explosion
- Shock
- Fuel
- Choke
- Stop
- On Off
- Fuel Shutoff
- Kickback
- Wear Eye Protection
- Hazardous Chemical
- Read Manual
- Hot Surface
- Frostbite

The safety alert symbol (!) is used to identify safety information about hazards that can result in personal injury. A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.

- **DANGER** indicates a hazard which, if not avoided, will result in death or serious injury.
- **WARNING** indicates a hazard which, if not avoided, could result in death or serious injury.
- **CAUTION** indicates a hazard which, if not avoided, could result in minor or moderate injury.
- **NOTICE** indicates a situation that could result in damage to the product.

**WARNING**

Certain components in this product and its related accessories contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling.

**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**

Briggs & Stratton Engines are not designed for and are not to be used to power: fun-karts; go-karts; children's, recreational, or sport all-terrain vehicles (ATVs); motorbikes; hovercraft; aircraft products; or vehicles used in competitive events not sanctioned by Briggs & Stratton. For information about competitive racing products, see www.briggsracing.com. For use with utility and side-by-side ATVs, please contact Briggs & Stratton Engine Application Center, 1-866-927-3349. Improper engine application may result in serious injury or death.

NOTICE: This engine was shipped from Briggs & Stratton without oil. Before you start the engine, make sure you add oil according to the instructions in this manual. If you start the engine without oil, it will be damaged beyond repair and will not be covered under warranty.
**WARNING**
Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death.

**When Adding Fuel**
- Turn engine off and let engine cool at least 2 minutes before removing the fuel cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary
- If fuel spills, wait until it evaporates before starting engine.

**When Starting Engine**
- Ensure that spark plug, muffler, fuel cap, and air cleaner (if equipped) are in place and secured.
- Do not crank engine with spark plug removed.
- If engine floods, set choke (if equipped) to OPEN/RUN position, move throttle (if equipped) to FAST position and crank until engine starts.

**When Operating Equipment**
- Do not tip engine or equipment at angle which causes fuel to spill.
- Do not choke the carburetor to stop engine.
- Never start or run the engine with the air cleaner assembly (if equipped) or the air filter (if equipped) removed.

**When Changing Oil**
- When you drain the oil from the top oil fill tube, the fuel tank must be empty or fuel can leak out and result in a fire or explosion.

**When Tipping Unit for Maintenance**
- When performing maintenance that requires the unit to be tipped, the fuel tank must be empty or fuel can leak out and result in a fire or explosion.

**When Transporting Equipment**
- Transport with fuel tank EMPTY or with fuel shut-off valve OFF.

**When Storing Fuel or Equipment With Fuel in Tank**
- Store away from furnaces, stoves, water heaters or other appliances that have pilot lights or other ignition sources because they can ignite fuel vapors.

**WARNING**
Starting engine creates sparking.
Sparking can ignite nearby flammable gases.
Explosion and fire could result.
- If there is natural or LP gas leakage in area, do not start engine.
- Do not use pressurized starting fluids because vapors are flammable.

**WARNING**
POISONOUS GAS HAZARD. Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy, or weak while using this product, shut it off and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.
- Operate this product ONLY outside far away from windows, doors and vents to reduce the risk of carbon monoxide gas from accumulating and potentially being drawn towards occupied spaces.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer’s instructions. Smoke alarms cannot detect carbon monoxide gas.
- DO NOT run this product inside homes, garages, basements, crawlspaces, sheds, or other partially-enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after this product has shut off.
- ALWAYS place this product downwind and point the engine exhaust away from occupied spaces.

**WARNING**
Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go.
Broken bones, fractures, bruises or sprains could result.
- When starting engine, pull the starter cord slowly until resistance is felt and then pull rapidly to avoid kickback.
- Remove all external equipment/engine loads before starting engine.
- Direct-coupled equipment components such as, but not limited to, blades, impellers, pulleys, sprockets, etc., must be securely attached.

**WARNING**
Rotating parts can contact or entangle hands, feet, hair, clothing, or accessories.
Traumatic amputation or severe laceration can result.
- Operate equipment with guards in place.
- Keep hands and feet away from rotating parts.
- Tie up long hair and remove jewelry.
- Do not wear loose-fitting clothing, dangling drawstrings or items that could become caught.

**WARNING**
Running engines produce heat. Engine parts, especially muffler, become extremely hot.
Severe thermal burns can occur on contact.
Combustible debris, such as leaves, grass, brush, etc., can catch fire.
- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated debris from muffler area and cylinder area.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact the original equipment manufacturer, retailer, or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.

**WARNING**
Unintentional sparking can result in fire or electric shock.
Unintentional start-up can result in entanglement, traumatic amputation, or laceration.
Fire hazard.

Before performing adjustments or repairs:
- Disconnect the spark plug wire and keep it away from the spark plug.
- Disconnect battery at negative terminal (only engines with electric start.)
- Use only correct tools.
- Do not tamper with governor spring, links or other parts to increase engine speed.
- Replacement parts must be the same design and installed in the same position as the original parts. Other parts may not perform as well, may damage the unit, and may result in injury.
- Do not strike the flywheel with a hammer or hard object because the flywheel may later shatter during operation.

When testing for spark:
- Use approved spark plug tester.
- Do not check for spark with spark plug removed.
Features and Controls

Compare the illustration with your engine to familiarize yourself with the location of various features and controls.
A. Engine Identification
   Model Type Code
B. Spark Plug
C. Air Cleaner
D. Dipstick/Oil Fill
E. Oil Filter (optional)
F. Oil Drain Plug
G. Oil Pressure Sensor
H. Finger Guard
I. Electric Starter
J. Rewind Starter (optional)
K. Carburetor
L. Exhaust Manifold
M. Fuel Pump
N. Fuel Filter (optional)
O. Oil Cooler (optional)
P. Muffler (optional)

Operation

Oil capacity (see the Specifications section)

Oil Recommendations

We recommend the use of Briggs & Stratton Warranty Certified oils for best performance. Other high-quality detergent oils are acceptable if classified for service SF, SG, SH, SJ or higher. Do not use special additives.

Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.

![Viscosity Chart]

* Below 40°F (4°C) the use of SAE 30 will result in hard starting.
** Above 80°F (27°C) the use of 10W-30 may cause increased oil consumption. Check oil level more frequently.

How To Check/Add Oil - Figure 2

Before adding or checking the oil
- Place engine level.
- Clean the oil fill area of any debris.
  1. Remove the dipstick (A) and wipe with a clean cloth (Figure 2).
  2. Fully insert the dipstick.
  3. Remove the dipstick and check the oil level. It should be at the top of the full indicator (B) on the dipstick.
  4. If low, add oil slowly into the engine oil fill (C). Do not overfill. After adding oil, wait one minute and then recheck the oil level.
  5. Fully insert the dipstick.

Low Oil Protection System (if equipped)

Some engines are equipped with a low oil sensor. If the oil is low, the sensor will either activate a warning light or stop the engine. Stop the engine and follow these steps before restarting the engine.
- Make sure the engine is level.
- Check the oil level. See the How To Check/Add Oil section.

Fuel Recommendations

Fuel must meet these requirements:
- Clean, fresh, unleaded gasoline.
- A minimum of 87 octane/87 AKI (87RON). High altitude use, see below.
- Gasoline with up to 10% ethanol (gasohol) is acceptable.

CAUTION: Do not use unapproved gasoline, such as E15 and E85. Do not mix oil in gasoline or modify the engine to run on alternate fuels. Use of unapproved fuels will damage the engine components and void the engine warranty.

To protect the fuel system from gum formation, mix a fuel stabilizer into the fuel. See Storage. All fuel is not the same. If starting or performance problems occur, change fuel providers or change brands. This engine is certified to operate on gasoline. The emissions control system for this engine is EM (Engine Modifications).

High Altitude

At altitudes over 5,000 feet (1524 meters), a minimum 85 octane/85 AKI (89 RON) gasoline is acceptable. To remain emissions compliant, high altitude adjustment is required. Operation without this adjustment will cause decreased performance, increased fuel consumption, and increased emissions. See an authorized Briggs & Stratton Dealer for high altitude adjustment information.

Operation of the engine at altitudes below 2,500 feet (762 meters) with the high altitude kit is not recommended.

How To Add Fuel - Figure 3

WARNING
Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death.

When Adding Fuel
- Turn engine off and let engine cool at least 2 minutes before removing the fuel cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
- If fuel spills, wait until it evaporates before starting engine.

1. Clean the fuel cap area of dirt and debris. Remove the fuel cap (A, Figure 3).
2. Fill the fuel tank (B) with fuel. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck (C).
3. Reinstall the fuel cap.

How To Start The Engine - Figure 4

WARNING
Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.

When Starting Engine
- Ensure that spark plug, muffler, fuel cap and air cleaner (if equipped) are in place and secured.
- Do not crank engine with spark plug removed.
- If engine floods, set choke (if equipped) to OPEN/RUN position, move throttle (if equipped) to FAST position and crank until engine starts.
**WARNING**

**POISONOUS GAS HAZARD.** Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy, or weak while using this product, shut it off and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

- Operate this product ONLY outside far away from windows, doors and vents to reduce the risk of carbon monoxide gas from accumulating and potentially being drawn towards occupied spaces.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer’s instructions. Smoke alarms cannot detect carbon monoxide gas.
- DO NOT run this product inside homes, garages, basements, crawlspaces, sheds, or other partially-enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after this product has shut off.
- ALWAYS place this product downwind and point the engine exhaust away from occupied spaces.

**NOTICE:** This engine was shipped from Briggs & Stratton without oil. Before you start the engine, make sure you add oil according to the instructions in this manual. If you start the engine without oil, it will be damaged beyond repair and will not be covered under warranty.

Note: Some engines and equipment have remote controls. See the equipment manual for location and operation of remote controls.

1. Check the oil level. See the How To Check/Add Oil section.
2. Make sure equipment drive controls, if equipped, are disengaged.
3. Turn the fuel shut-off valve (A), if equipped, to the on position (Figure 4).
4. Push the stop switch (F), if equipped, to the on position.
5. Move the throttle control (B) to the fast position. Operate the engine in the fast position.
6. Move the choke control (C) to the choke position.
Note: Choke is usually unnecessary when restarting a warm engine.
7. Rewind Start: Turn the key switch (D), if equipped, to the run position.
8. Rewind Start: Firmly hold the starter cord handle (E). Pull the starter cord handle slowly until resistance is felt, then pull rapidly.
9. Electric Start: Turn the electric start switch (D) to the on/start position.
Note: If the engine does not start after repeated attempts, go to VanguardEngines.com or call 1-800-999-9333 (in USA). 

**NOTICE:** To extend the life of the starter, use short starting cycles (five seconds maximum). Wait one minute between starting cycles.
10. As the engine warms up, move the choke control (C) to the run position.

**How To Stop The Engine - Figure 4**

**WARNING**

**Fuel and its vapors are extremely flammable and explosive.** Fire or explosion can cause severe burns or death.

1. With the throttle control (B) in the slow position, turn the key switch (D) to the off position (Figure 4). Remove the key and keep in a safe place out of the reach of children.
2. Push the stop switch (F) to the off position.
3. After the engine stops, turn the fuel shut-off valve (A), if equipped, to the closed position.

**Maintenance**

We recommend that you see any Briggs & Stratton Authorized Dealer for all maintenance and service of the engine and engine parts.

**NOTICE:** All the components used to build this engine must remain in place for proper operation.

**WARNING:** When performing maintenance that requires the unit to be tipped, the fuel tank must be empty or fuel can leak out and result in a fire or explosion.

**Emissions Control**

Maintenance, replacement, or repair of the emissions control devices and systems may be performed by any non-road engine repair establishment or individual. However, to obtain “no charge” emissions control service, the work must be performed by a factory authorized dealer. See the Emissions Warranty.

**WARNING**

Unintentional sparking can result in fire or electric shock.
Unintentional start-up can result in entanglement, traumatic amputation, or laceration.

**Fire hazard**

Before performing adjustments or repairs:
- Disconnect the spark plug wire and keep it away from the spark plug.
- Disconnect battery at negative terminal (only engines with electric start.)
- Use only correct tools.
- Do not tamper with governor spring, links or other parts to increase engine speed.
- Replacement parts must be of the same design and installed in the same position as the original parts. Other parts may not perform as well, may damage the unit, and may result in injury.
- Do not strike the flywheel with a hammer or hard object because the flywheel may later shatter during operation.

When testing for spark:
- Use approved spark plug tester.
- Do not check for spark with spark plug removed.

**Maintenance Chart**

**First 5 Hours**
- Change oil

**Every 8 Hours or Daily**
- Check engine oil level
- Clean area around muffler and controls

**Every 100 Hours or Annually**
- Clean or change air filter *
- Clean pre-cleanser (if equipped) *
- Change engine oil and filter
- Replace spark plug
- Check muffler and spark arrestor

**Every 250 Hours or Annually**
- Check valve clearance, Adjust if necessary.

**Every 400 Hours or Annually**
- Change air filter
- Replace fuel filter
- Clean air cooling system *
- Clean oil cooler fins *

* In dusty conditions or when airborne debris is present, clean more often.

**Carburetor And Engine Speed Adjustment**

Never make adjustments to the carburetor or engine speed. The carburetor was set at the factory to operate efficiently under most conditions. Do not tamper with the governor spring, linkages, or other parts to change the engine speed. If any adjustments are required contact a Briggs & Stratton Authorized Service Center for service.

VanguardEngines.com
How To Replace The Spark Plug - Figure 5

Check the gap (A, Figure 5) with a wire gauge (B). If necessary, reset the gap. Install and tighten the spark plug to the recommended torque. For gap setting or torque, see the Specifications section.

Note: In some areas, local laws require using a resistor spark plug to suppress ignition signals. If this engine was originally equipped with a resistor spark plug, use the same type for replacement.

Inspect Muffler And Spark Arrester - Figure 6

WARNING

Running engines produce heat. Engine parts, especially muffler, become extremely hot.

Severe thermal burns can occur on contact.

Combustible debris, such as leaves, grass, brush, etc. can catch fire.

- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated debris from muffler area and cylinder area.
- It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact the original equipment manufacturer, retailer or dealer to obtain a spark arrester designed for the exhaust system installed on this engine.

How To Change The Oil - Figure 7

Used oil is a hazardous waste product and must be disposed of properly. Do not discard with household waste. Check with your local authorities, service center or dealer for safe disposal/recycling facilities.

Remove Oil
1. With engine off but still warm, disconnect the spark plug wire (A) and keep it away from the spark plug (Figure 7).
2. Remove the oil drain plug (B, Figure 8). Drain the oil into an approved container.
3. After the oil has drained, install and tighten the oil drain plug.

Change The Oil Filter (if equipped)

Some models are equipped with oil filter. For replacement intervals, see the Maintenance chart.

1. Drain the oil from the engine. See Remove Oil section.
2. Remove the oil filter (C) and dispose of properly. See Figure 9.
3. Before you install the new oil filter, lightly lubricate the oil filter gasket with fresh, clean oil.
4. Install the oil filter by hand until the gasket contacts the oil filter adapter, then tighten the oil filter 1/2 to 3/4 turns.
5. Add oil. See Add Oil section.
6. Start and run the engine. As the engine warms up, check for oil leaks.
7. Stop the engine and check the oil level. It should be at the top of the full indicator (F) on the dipstick (Figure 10).

Add Oil
- Place engine level.
- Clean the oil fill area of any debris.
- See the Specifications section for oil capacity.
1. Remove the dipstick (D) and wipe with a clean cloth (Figure 10).
2. Pour the oil slowly into the engine oil fill (E). Do not overfill. After adding oil, wait one minute and then check the oil level.
3. Install and tighten the dipstick.
4. Remove the dipstick and check the oil level. It should be at the top of the full indicator (F) on the dipstick.
5. Install and tighten the dipstick.

How To Service The Air Filter - Figure 11

WARNING

Fuel and its vapors are extremely flammable and explosive.

Fire or explosion can cause severe burns or death.

- Never start or run the engine with the air cleaner assembly (if equipped) or the air filter (if equipped) removed.

How To Replace The Fuel Filter - Figure 12

WARNING

Fuel and its vapors are extremely flammable and explosive.

Fire or explosion can cause severe burns or death.

- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
- Before replacing the fuel filter, drain the fuel tank or close the fuel shut-off valve. Replacement parts must be the same and installed in the same position as the original parts.
- If fuel spills, wait until it evaporates before starting engine.

1. Before replacing the fuel filter (A, Figure 12), if equipped, drain the fuel tank or close the fuel shut-off valve. Otherwise, fuel can leak out and cause a fire or explosion.
2. Use pliers to squeeze tabs (B) on the clamps (C), then slide the clamps away from the fuel filter. Twist and pull the fuel lines (D) off the fuel filter.
3. Check the fuel lines for cracks or leaks. Replace if necessary.
4. Replace the fuel filter with an original equipment replacement filter.
5. Secure the fuel lines with the clamps as shown.

How To Clean The Air Cooling System - Figure 13

WARNING

Running engines produce heat. Engine parts, especially muffler, become extremely hot.

Severe thermal burns can occur on contact.

Combustible debris, such as leaves, grass, brush, etc. can catch fire.

- Allow muffler, engine cylinder and fins to cool before touching.
- Remove accumulated debris from muffler area and cylinder area.

NOTICE: Do not use water to clean the engine. Water could contaminate the fuel system. Use a brush or dry cloth to clean the engine.

This is an air cooled engine. Dirt or debris can restrict airflow and cause the engine to overheat, resulting in poor performance and reduced engine life.

Use a brush or dry cloth to remove debris from the finger guard (A). Keep linkage, springs and controls (B) clean. Keep the area around and behind the muffler (C) free of any combustible debris (Figure 13). Make sure that the oil cooler fins (D) are free of dirt and debris.
**Specifications**

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<tr>
<th>Engine Specifications</th>
<th>Model</th>
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<th>Bore</th>
<th>Stroke</th>
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<th>Model</th>
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<th>Model</th>
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**Tune-up Specifications**

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<tr>
<th>Model</th>
<th>Spark Plug Gap</th>
<th>Spark Plug Torque</th>
<th>Armature Air Gap</th>
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<td>290000, 300000</td>
<td>0.030 in (0.76 mm)</td>
<td>180 lb-in (20 Nm)</td>
<td>0.008 - 0.012 in (0.20 - 0.30 mm)</td>
<td>0.004 - 0.006 in (0.10 - 0.15 mm)</td>
<td>0.004 - 0.006 in (0.10 - 0.15 mm)</td>
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<tr>
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<td>0.004 - 0.006 in (0.10 - 0.15 mm)</td>
<td>0.004 - 0.006 in (0.10 - 0.15 mm)</td>
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</tbody>
</table>

* Engine power will decrease 3.5% for each 1,000 feet (300 meters) above sea level and 1% for each 10°F (5.6°C) above 77°F (25°C). The engine will operate satisfactorily at an angle up to 15°. Refer to the equipment operator’s manual for safe allowable operating limits on slopes.

**Common Service Parts**

* We recommend that you see any Briggs & Stratton Authorized Dealer for all maintenance and service of the engine and engine parts.

* VanguardEngines.com
**BRIGGS & STRATTON ENGINE WARRANTY POLICY**

**LIMITED WARRANTY**

Briggs & Stratton warrants that, during the warranty period specified below, it will repair or replace, free of charge, any part that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for and is subject to the time periods and conditions stated below. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at BRIGGSandSTRATTON.COM. The purchaser must contact the Authorized Service Dealer, and then make the product available to the Authorized Service Dealer for inspection and testing.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one year from purchase, or to the extent permitted by law. All other implied warranties are excluded. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law. Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state and country to country.

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**STANDARD WARRANTY TERMS**

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</tr>
<tr>
<td>50 Series: with Dura-Bore&lt;sup&gt;™&lt;/sup&gt; Cast Iron Sleeve;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snow Series MAX&lt;sup&gt;™&lt;/sup&gt;: with Dura-Bore&lt;sup&gt;™&lt;/sup&gt; Cast Iron Sleeve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Other Briggs &amp; Stratton Engines Featuring Dura-Bore&lt;sup&gt;™&lt;/sup&gt; Cast Iron Sleeve</td>
<td>2 years</td>
<td>90 days</td>
</tr>
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</table>

* These are our standard warranty terms, but occasionally there may be additional warranty coverage that was not determined at time of publication. For a listing of current warranty terms for your engine, go to BRIGGSandSTRATTON.COM or contact your Briggs & Stratton Authorized Service Dealer.

**Commercial Use**

- **Vanguard**
- **Commercial Turf Series**
- **Extended Life**
- **Professional Series**
- **Snow Series MAX**
- **All Other Briggs & Stratton Engines**

**About Your Warranty**

Briggs & Stratton welcomes warranty repair and apologizes to you for being inconvenienced. Any Authorized Service Dealer may perform warranty repairs. Most warranty repairs are handled routinely, but sometimes requests for warranty service may not be appropriate. To avoid misunderstanding which might occur between the customer and the dealer, listed below are some of the causes of engine failure that the warranty does not cover.

**Normal wear:** Engines, like all mechanical devices, need periodic parts service and replacement to perform well. Warranty will not cover repair when normal use has exhausted the life of a part or an engine. Warranty would not apply if engine damage occurred because of misuse, lack of routine maintenance, shipping, handling, warehousing or improper installation. Similarly, warranty is void if the serial number of the engine has been removed or the engine has been altered or modified.

**Improper maintenance:** The life of an engine depends upon the conditions under which it operates, and the care it receives. Some applications, such as tillers, pumps and rotary mowers, are very often used in dusty or dirty conditions, which can cause what appears to be premature wear. Such wear, when caused by dirt, dust, spark plug clogging grit, or other abrasive material that has entered the engine because of improper maintenance, is not covered by warranty.

This warranty covers engine related defective material and/or workmanship, and not replacement or refund of the equipment to which the engine may be mounted. Nor does the warranty extend to repairs required because of:

1. **Problems caused by parts that are not original Briggs & Stratton parts.**
2. **Equipment controls or installations that prevent starting, cause unsatisfactory engine performance, or shorten engine life.** (Contact equipment manufacturer.)
3. **Leaking carburetors, clogged fuel lines, sticking valves, or other damage, caused by using contaminated or stale fuel.**

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4. Parts which are scored or broken because an engine was operated with insufficient or contaminated lubricating oil, or an incorrect grade of lubricating oil (check and refill when necessary, and change at recommended intervals). OIL GARD may not shut down running engine. Engine damage may occur if oil level is not properly maintained.
5. **Repair or adjustment of associated parts or assemblies such as clutches, transmissions, remote controls, etc., which are not manufactured by Briggs & Stratton.**
6. **Damage or wear to parts caused by dirt, which entered the engine because of improper air cleaner maintenance, re-assembly, or use of a non-original air cleaner element or cartridge.** At recommended intervals, clean and/or replace the filter as stated in the Operator's Manual.
7. **Parts damaged by over-speeding, or overheating caused by grass, debris, or dirt, which plugs or dogs the cooling fins, or flywheel area, or damage caused by operating the engine in a confined area without sufficient ventilation. Clean engine debris at recommended intervals as stated in the Operator's Manual.**
8. **Engine or equipment parts broken by excessive vibration caused by a loose engine mounting, loose cutter blades, unbalanced blades or loose or unbalanced impellers, improper attachment of equipment to engine crankshaft, over-speeding or other abuse in operation.**
9. **A bent or broken crankshaft, caused by striking a solid object with the cutter blade of a rotary lawn mower, or excessive v-belt tightness.**
10. **Routine tune-up or adjustment of the engine.**
11. **Engine or engine component failure, i.e., combustion chamber, valves, valve seats, valve guides, or burned starter motor windings, caused by use of alternate fuels such as, liquefied petroleum, natural gas, gasoline formulated with ethanol greater than 10%, etc.**

**Warranty service is available only through Briggs & Stratton Authorized Service Dealers. Locate your nearest Authorized Service Dealer in our dealer locator map at BRIGGSandSTRATTON.COM or by calling 1-800-223-3723 (In USA).**
The California Air Resources Board, U.S. EPA, and Briggs & Stratton (B&S) are pleased to explain the emissions control system warranty on your Model Year 2013-2014 engine/equipment. In California, new small off-road engines and large spark ignited engines less than or equal to 1.0 liter must be designed, built, and equipped to meet the State's stringent anti-smog standards. B&S must warrant the emissions control system for the periods of time listed below provided there has been no abuse, neglect, or improper maintenance of your engine/equipment.

Your exhaust emissions control system may include parts such as the carburetor or fuel injection system, ignition system, and catalytic converter. Also included may be hoses, belts, connectors, sensors, and other emissions-related assemblies. Your evaporative fuel cap, valves, canisters, filters, vapor hoses, clamps, connectors, and other associated components. Where a warrantable condition exists, B&S will repair your engine/equipment at no cost to you including diagnosis, parts, and labor.

**Manufacturer’s Warranty Coverage:**
Small off-road engines and large spark ignited engines less than or equal to 1.0 liter, and any related emissions components of the equipment, are warranted for two years. If any emissions-related part on your B&S engine/equipment is defective, the part will be repaired or replaced by B&S.
- Two years or for the time period listed in the respective engine or product warranty statement, whichever is greater.

**Owner's Warranty Responsibilities:**
- As the engine/equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. B&S recommends that you retain all receipts covering maintenance on your engine/equipment, but B&S cannot deny warranty solely for the lack of receipts or your failure to ensure the performance of all scheduled maintenance.
- As the engine/equipment owner, you should however be aware that B&S may deny warranty coverage if your engine/equipment or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for presenting your engine/equipment to a B&S authorized service center, servicing dealer, or other equivalent entity, as applicable, as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have any questions regarding your warranty rights and responsibilities, you should contact B&S at 1-800-444-7774 (In USA) or BRIGGSandSTRATTON.COM.

**Briggs & Stratton Emissions Control Warranty Provisions**

The following are specific provisions relative to your Emissions Control Warranty Coverage. It is in addition to the B&S engine warranty for non-regulated engines found in the Owner’s Manual.

1. Warranted Emissions Parts
   - Coverage under this warranty extends only to the parts listed below (the emissions control systems parts) to the extent these parts were present on the B&S engine and/or B&S supplied fuel system.
   - **a. Fuel Metering System**
     - Cold start enrichment system (soft choke)
     - Carburetor and internal parts
     - Fuel pump
     - Fuel line, fuel line fittings, clamps
     - Fuel tank, cap and tether
     - Carbon canister
   - **b. Air Induction System**
     - Air cleaner
     - Intake manifold
     - Purge and vent line
   - **c. Ignition System**
     - Spark plug(s)
     - Magneto ignition system
   - **d. Catalyst System**
     - Catalytic converter
     - Exhaust manifold
     - Air injection system or pulse valve
   - **e. Miscellaneous Items Used In Above Systems**
     - Vacuum, temperature, position, time sensitive valves and switches
     - Connectors and assemblies
   - **2. Length of Coverage**
     - For a period of two years from date of original purchase, B&S warrants to the original purchaser and each subsequent purchaser that the engine is designed, built and equipped as to conform with all applicable regulations adopted by the California Air Resources Board, that it is free from defects in material and workmanship that could cause the failure of a warranted part, and that it is identical in all material respects to the engine described in the manufacturer’s application for certification. The warranty period begins on the date the engine is originally purchased.
     - Two years or for the time period listed in the respective engine or product warranty statement, whichever is greater.

2. Consequential Coverage
   - Coverage shall extend to the failure of any engine components caused by the failure of any warranted emissions parts.

3. Claims and Coverage Exclusions
   - Warranty claims shall be filed according to the provisions of the B&S engine warranty policy. Warranty coverage does not apply to failures of emissions parts that are not original equipment B&S parts or to parts that fail due to abuse, neglect, or improper maintenance as set forth in the B&S engine warranty policy. B&S is not liable for warranty coverage of failures of emissions parts caused by the use of add-on or modified parts.

**Look For Relevant Emissions Durability Period and Air Index Information On Your Small Off-Road Engine Emissions Label**

Engines that are certified to meet the California Air Resources Board (CARB) small off-road Emissions Standards must display information regarding the Emissions Durability Period and the Air Index. Briggs & Stratton makes this information available to the consumer on our emissions labels. The engine emissions label will indicate certification information.

The Emissions Durability Period describes the number of hours of actual running time for which the engine is certified to be emissions compliant, assuming compliance in accordance with the Operating & Maintenance Instructions. The following categories are used:

**Moderate:**
- Engine is certified to be emissions compliant for 125 hours of actual engine running time.
- Intermediate:
- Engine is certified to be emissions compliant for 250 hours of actual engine running time.
- Extended:
- Engine is certified to be emissions compliant for 500 hours of actual engine running time.

For example, a typical walk-behind lawn mower is used 20 to 25 hours per year. Therefore, the Emissions Durability Period of an engine with an intermediate rating would equate to 10 to 12 years.

Briggs & Stratton engines are certified to meet the United States Environmental Protection Agency (USEPA) Phase 2 or Phase 8 emissions standards. The Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of hours for which the engine has been shown to meet Federal emissions requirements.

For engines less than 225 cc displacement:
- Category C = 125 hours, Category B = 250 hours, Category A = 500 hours

For engines of 225 cc or more displacement:
- Category C = 250 hours, Category B = 500 hours, Category A = 1000 hours