BRIGGS&STRATTON®

(GB) *Operating & Maintenance Instructions*
(D) *Betriebsanleitung & Wartungsvorschriften*
(DK) *Drifts- og vedligeholdelsesvejledning*
(E) *Instrucciones de Mantenimiento & Operación*
(F) *Instructions d'utilisation et de maintenance*
(GR) *Οδηγίες Λειτουργίας & Συντήρησης*
(I) *Istruzioni per l'uso e la manutenzione*
(N) *Anvisninger for bruk og vedlikehold*
(NL) *Gebruiksaanwijzing*
(P) *Instruções de operação e de manutenção*
(S) *Instruktionsbok*
(SF) *Käyttö & Huolto-ohjeet*

Model 21000	Fource	Model 21100	Fource

BRIGGSandSTRATTON.com

Form No. MS-4957-9/06
Printed in U.S.A.

Fig. 1

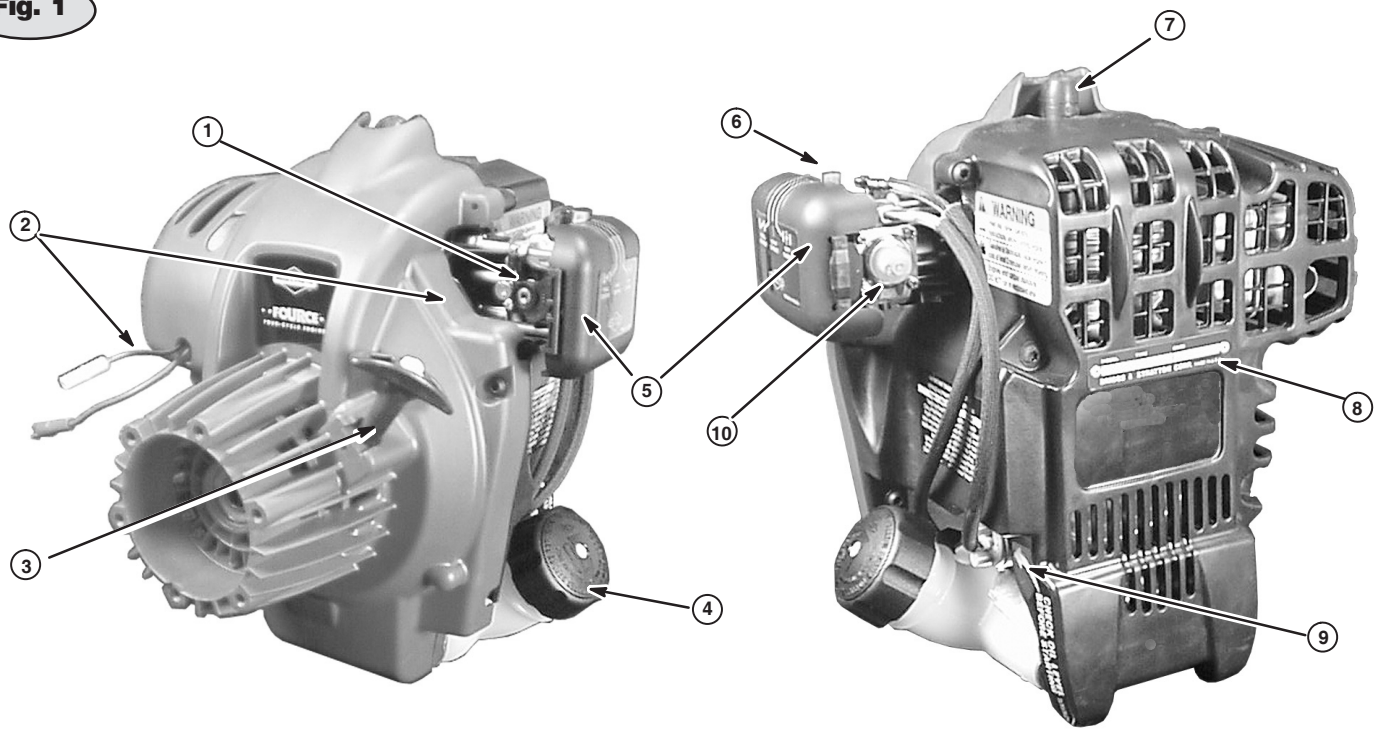


Fig. 2

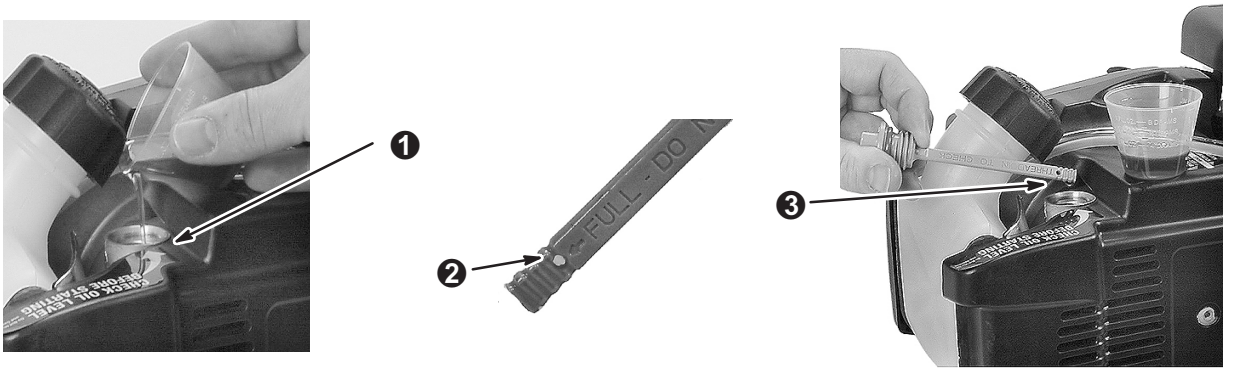
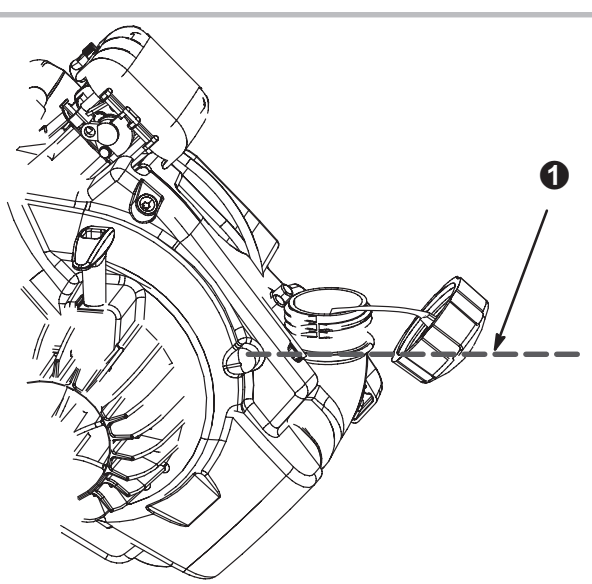


Fig. 3



Note: (This note applies only to engines used in the U.S.A.) Maintenance, replacement or repair of the emission control devices and systems may be performed by any nonroad engine repair establishment or individual. However, to obtain no charge repairs under the terms and provisions of the Briggs & Stratton warranty statement, any service or emission control part repair or replacement must be performed by a factory authorized dealer.

GB

ENGINE COMPONENTS

Fig. 1

1. Carburetor
2. Stop switch wires or stop switch location on engine.
3. Rope handle
4. Fuel fill
5. Air cleaner
6. Choke
7. Resistor spark plug
8. Engine Model / Type / Code number
9. Oil fill / dipstick
10. Primer bulb

Record your engine **Model, Type and Code** numbers here for future use.

_____ _____ _____

Record your date of purchase here for future use.

_____

GENERAL INFORMATION

In the U.S.A., the 21000 and 21100 engines covered in this manual are certified by the California Air Resources Board to meet emissions standards for 50 hours. Such certification does not grant the purchaser, owner or operator of this engine any additional warranties with respect to the performance or operational life of this engine. This engine is warranted solely according to the product and emissions warranties stated elsewhere in this manual.

SAFETY SPECIFICATIONS

This manual contains safety information to make you aware of the hazards and risks associated with engines, and how to avoid them. Because Briggs & Stratton does not necessarily know what equipment this engine will power, it is important that you read and understand these instructions and the instructions for the equipment this engine powers.

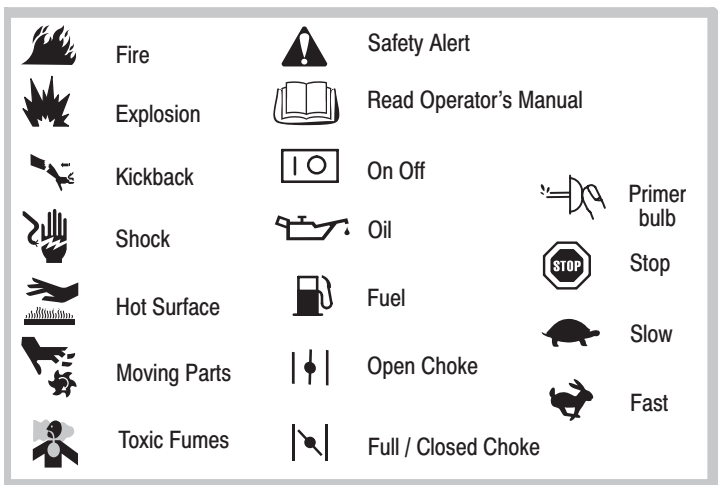
WARNING

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 does not approve or authorize the use of these engines on 3-wheel All Terrain Vehicles (ATVs), motor bikes, fun/recreational go-karts, aircraft products or vehicles intended for use in competitive events. Use of these engines in such applications could result in property damage, serious injury (including paralysis), or even death.

Symbols Associated with this Engine



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, **might result in minor or moderate injury.**

CAUTION, when used **without** the alert symbol, indicates a situation that **could result in damage to the engine.**

WARNING

Gasoline 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 gas cap.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank.
- Keep gasoline 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.

WHEN STARTING ENGINE

- Make sure spark plug, muffler, fuel cap and air cleaner are in place.
- Do not crank engine with spark plug removed.
- If fuel spills, wait until it evaporates before starting engine.
- If engine floods, set choke to OPEN/RUN position, place throttle in FAST and crank until engine starts.

WHEN OPERATING EQUIPMENT

- Do not choke carburetor to stop engine.

WHEN TRANSPORTING EQUIPMENT

- Transport with fuel tank EMPTY.

WHEN STORING GASOLINE OR EQUIPMENT WITH FUEL IN TANK

- Store away from furnaces, stoves, water heaters or other appliances that have pilot light or other ignition source because they can ignite gasoline 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

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 cord slowly until resistance is felt, then pull rapidly.
- Direct coupled equipment components such as, but not limited to, blades, impellors, 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

Engines give off carbon monoxide, an odorless, colorless, poison gas.
Breathing carbon monoxide can cause nausea, fainting or death.

- Start and run engine outdoors.
- Do not start or run engine in enclosed area, even if doors or windows are open.

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 combustibles from muffler area and cylinder area.
- Install and maintain in working order a spark arrester before using equipment on forest-covered, grass-covered, brush-covered unimproved land. The state of California requires this (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.

WARNING

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

BEFORE PERFORMING ADJUSTMENTS OR REPAIRS

- Disconnect spark plug wire and keep it away from spark plug.

WHEN TESTING FOR SPARK

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

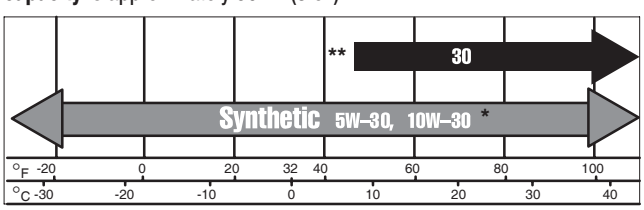
OIL RECOMMENDATIONS

CAUTION:
Engine shipped from Briggs & Stratton without oil. Before starting engine, fill with oil. Do not over-fill.

Use a high quality detergent oil classified "For Service SF, SG, SH, SJ" or higher such as Briggs & Stratton 30, Part Number 100005. Use no special additives with recommended oils. **Do not mix oil with gasoline.**

Choose the SAE viscosity grade of oil from this chart that matches the starting temperature anticipated before the next oil change.

Oil capacity is approximately 90 ml (3 oz).

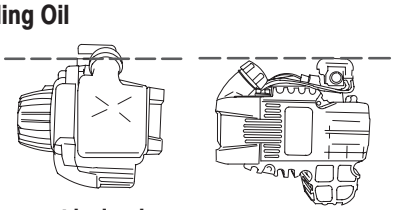


CAUTION: Air cooled engines run hotter than automotive engines. The use of non-synthetic multi-viscosity oils (5W-30, 10W-30, etc.) in temperatures above 40° F (4° C) will result in higher than normal oil consumption. When using a multi-viscosity oil, check oil level more frequently.

* **CAUTION: Synthetic oil must be used** when operating engine under 40° F (4° C) or engine damage will occur.

** **CAUTION:** SAE 30 oil, if used below 50° F (10° C), will result in hard starting and possible engine bore damage due to inadequate lubrication.

Checking or Adding Oil



CAUTION:
To check oil, engine must be level,
with oil fill facing up. If not level, dipstick reading will not be accurate and could lead to possible over/under filling of oil. This may lead to possible engine damage.

- Check oil level *before* starting the engine.
- Check oil level before every use.
- Keep oil level at FULL.
- DO NOT overfill, use oil measure cup for filling.
- Add only 15 ml ❷ (0.5 oz) to 30 ml ❶ (1 oz) of oil at a time. Oil capacity is approximately 90 ml (3 oz).

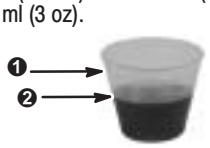


Fig. 2 **OIL PROCEDURE**

1. Place engine level. Remove dipstick. Using oil measure cup, pour oil slowly. Do not overfill. ❶.

Note: Engine holds approximately 90 ml (3 oz).

2. To check oil level, remove dipstick and wipe clean with cloth. Replace dipstick and tighten down.
3. Remove and check oil level. Level should be at FULL mark. ❷
4. Verify FULL level of oil by the presence of oil in hole on dipstick, or by measure line.
5. If oil is required, add 15 ml (0.5 oz) oil at a time. Recheck level.

FUEL RECOMMENDATIONS

Do not mix oil with gasoline.
Use clean, fresh, lead-free gasoline with a minimum of 85 octane. Leaded gasoline may be used if it is commercially available and if unleaded is unavailable. Purchase fuel in quantity that can be used within 30 days. See ***Storage***.

In U.S.A. leaded gasoline may not be used. Some fuels, called oxygenated or reformulated gasolines, are gasolines blended with alcohols or ethers. Excessive amounts of these blends can damage the fuel system or cause performance problems. If any undesirable operating symptoms occur, use gasoline with a lower percentage of alcohol or ether.

This engine is certified to operate on gasoline. Exhaust Emission Control System: EM (Engine Modifications).

Do not use gasoline which contains Methanol.

For engine protection, we recommend using Briggs & Stratton Fuel Stabilizer available from an Authorized Briggs & Stratton Service Dealer.

Fig. 3 **ADDING FUEL**

Tilt engine at angle shown to properly refuel. Clean around fuel fill before removing cap. Fill tank to approximately 1-1/2 inches below top of neck ❶ to allow for fuel expansion. Be careful not to overfill.

⚠ WARNING

Before refueling, allow engine to cool 2 minutes.

STARTING

Fig. 4

CAUTION: Check oil level before starting engine. Oil level should be at Full mark on dipstick before starting engine. If started without oil, engine damage will occur.

1. Push ❶ primer bulb **15** times **FOR NEW ENGINE**, **8** times for all consecutive starts.
2. Red choke lever ❷ should be in the FULL CHOKE ❸ position.
3. If equipped with a throttle, hold throttle on, or place in FULL position. If engine is still warm from previously running, do not hold down throttle.
4. Pull starter handle ❹ sharply until engine runs.
5. Wait for 10 seconds, then move choke lever to HALF CHOKE ❺ position.
6. Run the engine at HALF CHOKE for 20 seconds or until unit accelerates smoothly. Move choke to OFF ❻ position. (Colder temperatures will require a longer warm-up period on HALF CHOKE.)

CAUTION: Operating engine at an excessive speed without proper engine loading will cause damage. Engines used on pump applications, ALWAYS prime pump before starting the engine. Never run pump with out priming.

STOPPING

- Depress stop switch ❼ on engine or equipment to stop engine.

⚠ WARNING

DO NOT close choke to stop engine. Backfire, fire may emit and cause injury.

MAINTENANCE

Fig. 5

⚠ WARNING

To prevent accidental starting, disconnect spark plug wire ❶ and keep it away from spark plug before servicing.

Regular maintenance improves performance and extends engine life. More frequent service is required when operating in adverse conditions.
Need assistance? Go to www.briggsandstratton.com.

⚠ WARNING

Do not strike the flywheel with hammer or hard object. If done, the flywheel may shatter during operation.
Do not tamper with links or other parts to increase engine speed.

Follow the hourly or calendar intervals, whichever occur first. More frequent service is required when operating in adverse conditions noted below.

Before Every Use

- Check oil level

First 4 Hours

- Change oil

Every 8 Hours or Every Season

- Change oil
- Service air cleaner *

Every 50 Hours or Every Season

- Replace spark plug **

* *Clean more often under dusty conditions, or when airborne debris is present or after prolonged operation cutting tall, dry grass.*
On string trimmer applications:
clean debris at each refueling, sooner if needed;
have qualified technician clean air cooling system every 30 hours, every season, sooner if needed, especially in high debris conditions.

** *In some areas, local law requires using a resistor spark plug to suppress ignition signals. If this engine was originally equipped with resistor spark plug, use same type of spark plug for replacement.*

Fig. 6 **CHANGING OIL & CHECKING OIL LEVEL**

1. Change oil while the engine is warm, ensure fuel cap is tightened securely.
2. Remove dipstick, and drain oil ❶ in direction shown.
3. Place engine level. Using oil measure cup pour oil slowly adding 15 ml (0.5 oz) at a time ❷. Do not overfill.

   Note: Engine holds approximately 90 ml (3 oz).
4. To check oil level, remove dipstick and wipe clean with cloth. Replace dipstick and tighten down.
5. Remove and check oil level. Level should be at FULL mark. ❸ Verify by the presence of oil in hole on dipstick, or by measure line.
6. If oil is required, add 15 ml (0.5 oz) oil at a time. Recheck level.
7. Replace dipstick tightly before starting engine.

Fig. 7 **AIR CLEANER MAINTENANCE**

Replace Oil-Foam element if very dirty or damaged.

- Push cover tab ❶ to release cover, then pull cover away from engine to service air filter.
- Check and clean the intake chamber ❷ for dirt.
- Wash Oil-Foam element ❸ in liquid detergent and water. Squeeze dry in a clean cloth. Saturate Oil-Foam element in engine oil and squeeze in a clean cloth to remove excess oil.
- Engine will smoke if too much oil is left on filter.

CAUTION: Do not use pressurized air or solvents to clean. Pressurized air can damage filter; solvents will dissolve filter.

Fig. 8 **SPARK PLUG MAINTENANCE**

The electrodes on a spark plug must be clean and sharp to produce the powerful spark required for ignition. If the spark plug is worn or dirty, the engine may be hard to start.. Replace the spark plug each season. Set the gap ❷ on the spark plug to the following:

- Spark plug gap (Champion style) 0.64 mm or 0.025 in.
- Spark plug gap (NGK style) 0.50 – 0.60 mm or 0.020 – 0.024 in.

⚠ WARNING

DO NOT crank engine or test for spark with spark plug removed. Fuel could ignite and cause injury.

KEEP ENGINE CLEAN

Periodically remove grass and chaff build-up from engine. Clean finger guard.

Do not spray engine with water to clean because water could contaminate fuel. Clean with a brush or compressed air.

⚠ WARNING

To avoid injury or burns, clean engine when engine is cold.

STORAGE

The following precautions should be taken if storing unit for a period exceeding 30 days, or for seasonal storage.

- While engine is still warm, change oil.
- This unit may be stored in a variety of positions. It is best to store in horizontal position with the spark plug up. Do not store or transport with the spark plug down. If stored with spark plug down, it will result in hard starting.
- Clean engine of surface debris, chaff or grass.
- Drain all fuel from fuel tank into proper receptacle for storage.
- Press the primer bulb 15 times to purge fuel from carburetor and fuel lines.
- Remove spark plug. Place 1 teaspoon or 5 cc of oil into spark plug hole.
- Pull starter rope **slowly** 8-10 times to properly coat the cylinder bore and piston for storage. Replace spark plug and tighten. Any residual oil may burn off in subsequent starts. This may result in white smoke emission from muffler.

⚠ WARNING

Store in a clean, dry area. DO NOT store near a stove, furnace or water heater which uses a pilot light or any device that can create a spark.

- When removing the unit from storage, only use fresh gasoline. Perform operation checks, see maintenance schedule, before starting engine.

SERVICE

See an Authorized Briggs & Stratton Service Dealer. Each one carries a stock of Genuine Briggs & Stratton Parts and is equipped with special service tools.

Partial List of Genuine Briggs & Stratton Parts

Oil	100005
Synthetic Oil	100074
Oil pump kit (uses standard electric drill to remove oil from engine quickly)	5056
Gas additive	5041
Fuel hose assembly	696935
Air filter-foam	696923
Resistor spark plug	696876
Spark tester	19368
Spark plug wrench	89838 -or- 5023
Repair manual	275072

To purchase, or view other products Briggs & Stratton has available, see an Authorized Briggs & Stratton Service Dealer. Use our web site at **www.briggsandstratton.com** to find a dealer nearest you, or check the "Yellow Pages™".

Need Assistance? Go to the website or call, 1-800-233-3723, (U.S.A. and Canada) to hear a menu of pre-recorded messages offering engine maintenance information.

TROUBLESHOOTING

Engine will not start

Out of fuel

- Prime engine
- If engine is cold, ensure choke is set correctly.
- Add fuel

Engine flooded

- Set choke to FULL CHOKE position and continue to pull starter handle.

Fouled spark plug / engine fails to produce spark

- Remove spark plug and clean it. Check the spacing on the electrode and set the gap to the correct dimension. See Maintenance Section. If plug is damaged, replace with a new spark plug.
- Ensure the spark plug is installed and wire is connected.

Engine is smoking or running rough

- There maybe slight oil accumulation in the crankcase upon starting. This is normal.
- If excessive smoke or smoke is heavy, ensure choke is in OFF CHOKE position.
- Check for fouled spark plug.
- Check air filter for debris.

TUNE-UP SPECIFICATIONS

Spark plug gap (Champion style)	0.76 mm (0.025 in.)
Spark plug gap (NGK style)	0.50 – 0.60 mm (0.020 – 0.024 in.)
Armature air gap	0.25 – 0.36 mm (0.010 – 0.014 in.)
Intake / exhaust valve clearance	0.05 – 0.10 mm (0.002 – 0.004 in.)

Note: Engine power will decrease 3-1/2% for each 1,000 feet (300 meters) above sea level and 1% for each 10° F (5.6° C) above 77° F (25° C).

Model 21000

Bore	40 mm (1.575 in.)
Stroke	27 mm (1.065 in.)
Displacement	34 cc (2.074 cu. in.)

Model 21100

Bore	40 mm (1.575 in.)
Stroke	31.75 mm (1.250 in.)
Displacement	40 cc (2.44 cu. in.)

TECHNICAL INFORMATION

Engine Power Rating Information

The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-05). Actual gross engine power will be lower and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given both the wide array of products on which engines are placed and the variety of environmental issues applicable to operating the equipment, the gas engine will not develop the rated gross power when used in a given piece of power equipment (actual "on-site" or net horsepower). This difference is due to a variety of factors including, but not limited to, accessories (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this Series engine.

Briggs & Stratton Corporation (B&S), the California Air Resources Board (CARB) and the United States Environmental Protection Agency (U.S. EPA) Emissions Control System Warranty Statement (Owner's Defect Warranty Rights and Obligations)

California, United States and Canada Emissions Control Defects Warranty Statement

The California Air Resources Board (CARB), U.S. EPA and B&S are pleased to explain the Emissions Control System Warranty on your small off-road engine (SORE). In California, new small off-road engines model year 2006 and later must be designed, built and equipped to meet the State's stringent anti-smog standards. Elsewhere in the United States, new non-road, spark-ignition engines certified for model year 1997 and later must meet similar standards set forth by the U.S. EPA. B&S must warrant the emissions control system on your engine for the periods of time listed below, provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emissions control system includes parts such as the carburetor, air cleaner, ignition system, fuel line, muffler and catalytic converter. Also included may be connectors and other emissions related assemblies.

Where a warrantable condition exists, B&S will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

Briggs & Stratton Emissions Control Defects Warranty Coverage

Small off-road engines are warranted relative to emissions control parts defects for a period of two years, subject to provisions set forth below. If any covered part on your engine is defective, the part will be repaired or replaced by B&S.

Owner's Warranty Responsibilities

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your Operating and Maintenance Instructions. B&S recommends that you retain all your receipts covering maintenance on your small off-road engine, but B&S cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine owner, you should however be aware that B&S may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine to an Authorized B&S Service Dealer as soon as a problem exists. The undisputed 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 a B&S Service Representative at 1-414-259-5262.

The emissions warranty is a defects warranty. Defects are judged on normal engine performance. The warranty is not related to an in-use emissions test.

Briggs & Stratton Emissions Control Defects Warranty Provisions

The following are specific provisions relative to your Emissions Control Defects Warranty Coverage. It is in addition to the B&S engine warranty for non-regulated engines found in the Operating and Maintenance Instructions.

1. Warranted 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 engine purchased.

   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

   B&S warrants to the initial owner and each subsequent purchaser that the Warranted Parts shall be free from defects in materials and workmanship which caused the failure of the Warranted Parts for a period of two years from the date the engine is delivered to a retail purchaser.

3. No Charge

   Repair or replacement of any Warranted Part will be performed at no charge to the owner, including diagnostic labor which leads to the determination that a Warranted Part is defective, if the diagnostic work is performed at an Authorized B&S Service Dealer. For emissions warranty service contact your nearest Authorized B&S Service Dealer as listed in the "Yellow Pages" under "Engines, Gasoline," "Gasoline Engines," "Lawn Mowers," or similar category.

4. Claims and Coverage Exclusions

   Warranty claims shall be filed in accordance with the provisions of the B&S Engine Warranty Policy. Warranty coverage shall be excluded for failures of Warranted Parts which are not original B&S parts or because of abuse, neglect or improper maintenance as set forth in the B&S Engine Warranty Policy. B&S is not liable to cover failures of Warranted Parts caused by the use of add-on, non-original, or modified parts.

5. Maintenance

   Any Warranted Part which is not scheduled for replacement as required maintenance or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted as to defects for the warranty period. Any Warranted Part which is scheduled for replacement as required maintenance shall be warranted as to defects only for the period of time up to the first scheduled replacement for that part. Any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. The owner is responsible for the performance of all required maintenance, as defined in the B&S Operating and Maintenance Instructions.

6. Consequential Coverage

   Coverage hereunder shall extend to the failure of any engine components caused by the failure of any Warranted Part still under warranty.

Look For Relevant Emission Durability Period and Air Index Information On Your Engine Emission Label

Engines that are certified to meet the California Air Resources Board (CARB) Tier 2 Emission Standards must display information regarding the Emissions Durability Period and the Air Index. Briggs & Stratton makes this information available to the consumer on our emission labels. The engine emission 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 proper maintenance in accordance with the Operating & Maintenance Instructions. The following categories are used:

Moderate:
Engine is certified to be emission compliant for 50 hours of actual engine running time.

Intermediate:
Engine is certified to be emission compliant for 125 hours of actual engine running time.

Extended:
Engine is certified to be emission compliant for 300 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.

Certain Briggs & Stratton engines will be certified to meet the United States Environmental Protection Agency (USEPA) Phase 2 emission standards. For Phase 2 certified engines, the Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements.

For handheld engines:

Category C = 50 hours

Category B = 125 hours

Category A = 300 hours

In the U.S.A., the 21000 and 21100 engines covered in this manual are certified by the California Air Resources Board to meet emissions standards for 50 hours. Such certification does not grant the purchaser, owner or operator of this engine any additional warranties with respect to the performance or operational life of this engine. This engine is warranted solely according to the product and emissions warranties stated elsewhere in this manual.

BRIGGS & STRATTON ENGINE OWNER WARRANTY POLICY

Effective September 1, 2006

LIMITED WARRANTY

Briggs & Stratton Corporation will repair or replace, free of charge, any part(s) of the engine 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 www.briggsandstratton.com, or by calling 1-800-233-3723, or as listed in the 'Yellow Pages™.

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 ANY AND ALL 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 also have other rights which vary from state to state and country to country.

WARRANTY TIME PERIOD EXCEPTIONS**

Brand / Product Type	Consumer Use	Commercial Use
Vanguard™	2 years	2 years
Extended Life Series™	2 years	1 year
I/C®, Intek I/C®, Intek Pro™	2 years	180 days
Kerosene fuel operated engines	1 year	90 days
All other Briggs & Stratton engines	2 year	90 days

Engines used on Home Standby Generator applications are warranted under consumer use only. This warranty does not apply to engines on equipment used for prime power in place of a utility. **Engines used in competitive racing or on commercial or rental tracks are not warranted.

The warranty period begins on the date of purchase by the first retail consumer or commercial end user, and continues for the period of time stated in the table above. "Consumer use" means personal residential household use by a retail consumer. "Commercial use" means all other uses, including use for commercial, income producing or rental purposes. Once an engine has experienced commercial use, it shall thereafter be considered as a commercial use engine for purposes of this warranty.

NO WARRANTY REGISTRATION IS NECESSARY TO OBTAIN WARRANTY ON BRIGGS & STRATTON PRODUCTS. SAVE YOUR PROOF OF PURCHASE RECEIPT. IF YOU DO NOT PROVIDE PROOF OF THE INITIAL PURCHASE DATE AT THE TIME WARRANTY SERVICE IS REQUESTED, THE MANUFACTURING DATE OF THE PRODUCT WILL BE USED TO DETERMINE THE WARRANTY PERIOD.

ABOUT YOUR ENGINE 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. For example, 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.

If a customer differs with the decision of the Service Dealer, an investigation will be made to determine whether the warranty applies. Ask the Service Dealer to submit all supporting facts to his Distributor or the Factory for review. If the Distributor or the Factory decides that the claim is justified, the customer will be fully reimbursed for those items that are defective. 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.

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 cleaning 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 only, 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 pipes, sticking valves, or other damage, caused by using contaminated or stale fuel.
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 clogs 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 the use of alternate fuels such as, liquified petroleum, natural gas, altered gasolines, etc.

Warranty service is available only through authorized service dealers by Briggs & Stratton Corporation. Locate your nearest Authorized Service Dealer in our dealer locator map on www.briggsandstratton.com or by calling 1-800-233-3723, or as listed in the 'Yellow Pages™'.

Briggs & Stratton Engines Are Made Under One Or More Of The Following Patents: Design D-247,177 (Other Patents Pending)

6,691,683	6,520,141	6,325,036	6,145,487	6,012,420	5,803,035	5,548,955	5,243,878	5,138,996	4,875,448	D 476,629
6,647,942	6,495,267	6,311,663	6,142,257	5,992,367	5,765,713	5,546,901	5,235,943	5,086,890	4,819,593	D 457,891
6,622,683	6,494,175	6,284,123	6,135,426	5,904,124	5,732,555	5,445,014	5,234,038	5,070,829	4,720,638	D 368,187
6,615,787	6,472,790	6,263,852	6,116,212	5,894,715	5,645,025	5,503,125	5,228,487	5,058,544	4,719,682	D 375,963
6,617,725	6,460,502	6,260,529	6,105,548	5,887,678	5,642,701	5,501,203	5,197,426	5,040,644	4,633,556	D 309,457
6,603,227	6,456,515	6,242,828	6,347,614	5,852,951	5,628,352	5,497,679	5,197,425	5,009,208	4,630,498	D 372,871
6,595,897	6,382,166	6,239,709	6,082,323	5,843,345	5,619,845	5,320,795	5,197,422	4,996,956	4,522,080	D 361,771
6,595,176	6,369,532	6,237,555	6,077,063	5,823,153	5,606,948	5,301,643	5,191,864	4,977,879	4,520,288	D 356,951
6,584,964	6,356,003	6,230,678	6,064,027	5,819,513	5,606,851	5,271,363	5,188,069	4,977,877	4,512,499	D 309,457
6,557,833	6,349,688	6,213,083	6,040,767	5,813,384	5,605,130	5,269,713	5,186,142	4,971,219	4,453,507	D 308,872
6,542,074	6,347,614	6,202,616	6,014,808	5,809,958	5,497,679	5,265,700	5,150,674	4,895,119	4,430,984	D 308,871

Fig. 4

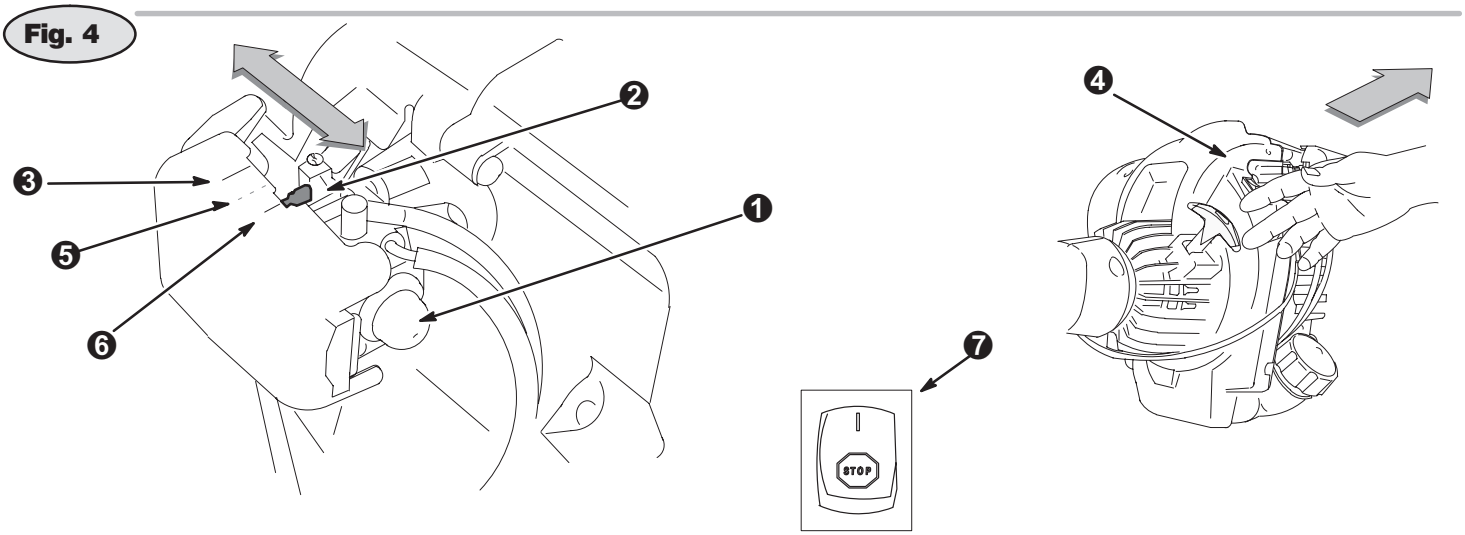


Fig. 5

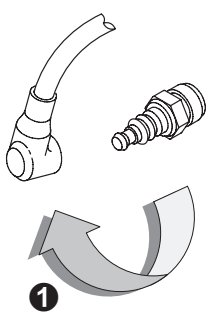


Fig. 6

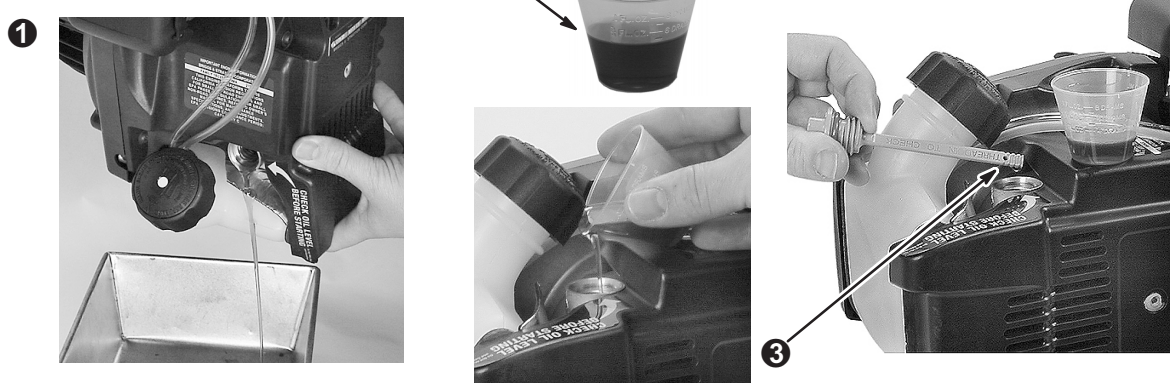


Fig. 7

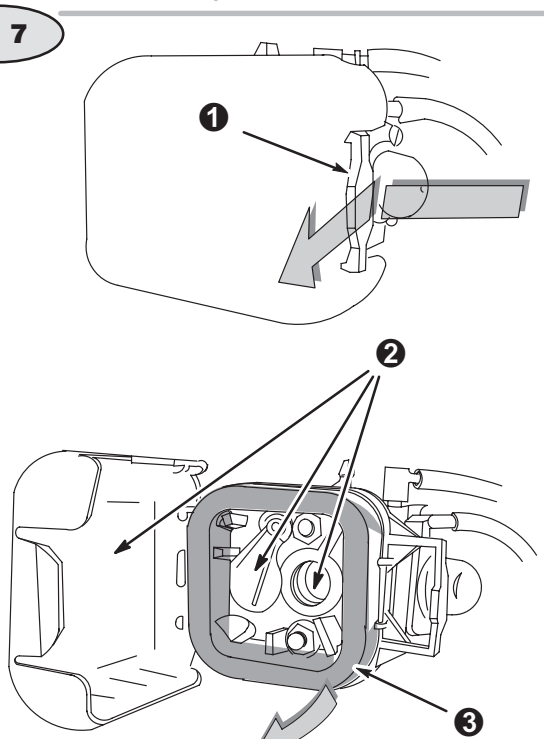
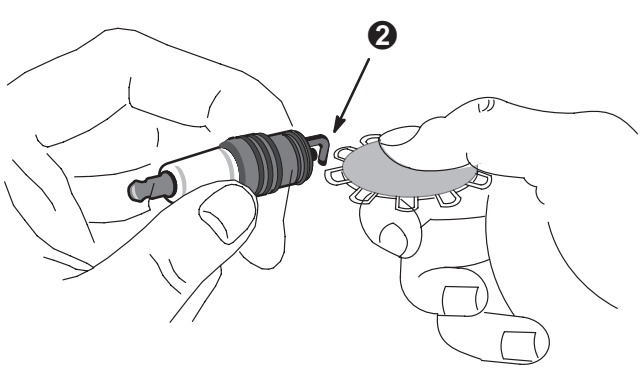


Fig. 8



THE POWER WITHIN™