

## **Operating & Maintenance Instructions** **FROSTGUARD**



Version: .....

Serial number: .....

This manual has to be used according the European legislation. It has to be considered as a part of the machine. The manual has to be kept with the machine until the final dismantle as described in the European legislation. The purpose of this manual is to help use and maintain the Frostbuster safely.

The user manual has to be kept by the owner or the user on a safe, dry and sun protected place on the working area. It must always be available to consult. When the manual is damaged, the user has to ask AGROFROST for a new one.

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# POINTS OF ATTENTION IN THIS MANUAL



Hint: to give suggestions and advice to ease certain tasks

Attention: a remark with extra information to call your attention for possible problems

Warning: to call your attention for avoiding danger

## ABOUT THE USERS OF THE FROSTGUARD

- Required user characteristics.

Persons who are familiar with the use of agricultural machinery may operate the FrostGuard. They have to be at least 18 years old and be able of all their physical and psychical capacities. They must read this manual before using the FrostGuard.



Someone who **has not read** this manual, cannot use the FrostGuard safely.

- The profile of the user.

The user's manual is created for two main groups:

1. The user: the person who operates the FrostGuard
2. The mechanical maintainer: the person who does the assembling, maintenance and repairs.

The user has to read at least chapter 1, 2, 3, 5, 6 and 8 before using the FrostGuard. The maintainer has to read chapter 1, 2, 3, 5, 6 and 8 before performing any work on the FrostGuard.

**It is not allowed to use the FrostGuard in a closed area, because of three reasons:**

1. The engine and burner consume a lot of oxygen. So the supply of fresh air is very important.
2. The engine produces carbon monoxide, an odorless, colorless, poisonous gas. Breathing carbon monoxide can cause nausea, fainting or death.
3. If gas would escape because of a gas leak, it would create life threatening situations in a closed area because of the danger of explosions.



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# 1 Assembling, transport and placement.

## 1.1 ASSEMBLING.

All the parts that are delivered separately have to be mounted before use.

After the gas cylinders have been connected with the gas hoses, always check for leaks with a leak spray.



## 1.2 TRANSPORT.

The FrostGuard can be moved with a tractor that is equipped with a forklift.

Always move the support for the gas cylinders without the gas cylinders mounted.

In the fields, orchards, vineyards, do not drive faster than 5 km/hour.

## 1.3 PLACEMENT.

1. Make sure that the Frostguard is stable and that the legs cannot sink into the ground.
2. If the machine is placed on a slope, attach it to the ground.
3. For the model with outlet below : make sure the outlet is between 20 and 50 cm above the ground.
4. Make sure that the hot air passes under or above the gas cylinders. If the transmission of the outlet falls out for any reason, the hot air stream could overheat the gas cylinders if the airstream is fixed on the gas cylinders. This would create a very dangerous situation. 
5. Ask your dealer for the exact position in the field. Every application is different and especially when you put more machines together, the position is very important.
6. **Use only propane gas. Another kind of gas will freeze when used at low temperatures.**
7. Make sure that the support for the gas cylinders is stable and that the legs cannot sink into the ground, so it cannot turn over. 
8. The gas cylinders have to be heated with the exhaust gases of the engine. So connect the exhaust tube to the support of the gas cylinders. Be careful: the exhaust pipe can reach temperatures exceeding 250°C so use protective gloves. If this is not done correctly, the gas cylinders will freeze and the burner will stop after a while.





## 2 When and how to start.

### 2.1 WHEN TO START AND TO STOP THE MACHINE.

In case of night frost, start the FrostGuard before the wet temperature drops below 0°C. The machine has to work at least 30 minutes before it will create a positive effect. As soon as the wet temperature outside the treated plot (at least 100 m away from the plot, and against the wind) is again positive, you can stop the FrostGuard.



The ideal way to measure the wet temperature: place a plastic film (1m x 1m) on the ground, on the lowest part (coldest point) of the orchard. Place the temperature sensor on this film. Start the engine immediately if the temperature reaches 0°C.

A good night frost alarm, connected to a mobile phone, is indispensable.

### 2.2 PREPARATIONS BEFORE TO START.

Make sure that the FrostGuard is put in to place well in advance, so it can be started immediately in case of a night frost.



Prepare the following things in advance:

- Place the machine in the right position. Make sure it is stable and that the legs cannot sink into the ground. If the machine is on a slope, attach it to the ground.
- Do not use the FrostGuard on a slope of more than 15 %, otherwise lubrication of the engine is no longer guaranteed.
- Fill the fuel tank sufficiently so that the FrostGuard can operate all night long without refill. (Consumption is approx. 3 litres/hour)
- Never fill the fuel tank whilst the FrostGuard is operating, whilst the engine is running or whilst the burner is burning.
- Never fill the fuel tank whilst the burner or engine or still hot.
- Always place 4 gas cylinders of the support and use them all together. Make sure there is enough gas to last all night. (Gas consumption is approx. 10 kg/hour).
- After mounting the gas cylinders, always check for gas leaks with a leak spray.
- The gas cylinders has to be heated with the exhaust gases of the engine. So connect the exhaust tube to the support of the gas cylinders. Be careful: the exhaust pipe can reach temperatures exceeding 250°C so use protective gloves.





## 2.3 TO START THE MACHINE.

### 2.3.1 To start the engine.



A. Throttle/choke control

B. Stop switch

C. Rope handle

D. Fuel shut-off switch

#### **To start the engine:**

- Turn on the fuel shut-off switch (D).
- Move stop control (B) to 'ON' position.
- Move throttle control to 'FAST' position.



- If the engine is cold, move choke control (A) to 'CHOKE' position.

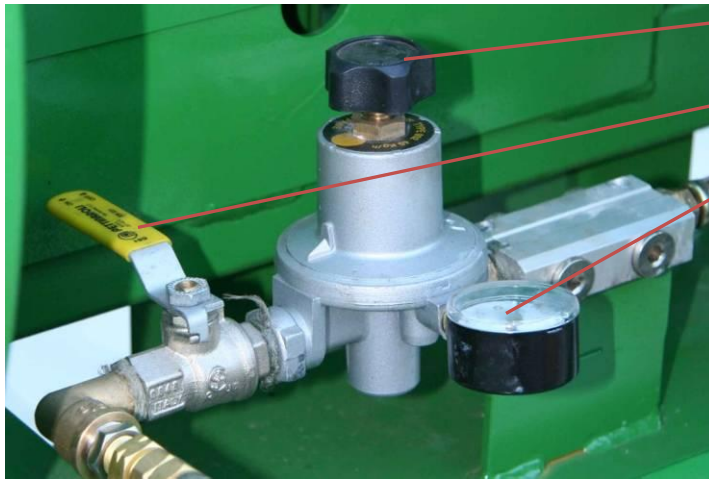


- Grasp rope handle (C) and pull slowly until resistance is felt. Then pull cord rapidly to overcome compression, prevent kickback and start engine.
- After 5 seconds, put the choke control (A) in position 'RUN'.





### 2.3.2 To start the burner.



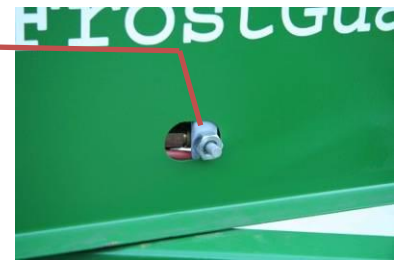
E. Gas pressure regulator

F. Gas valve

G. Manometer

To start the burner:

- Start the engine (see point 2.3.1).
- Put the throttle control in position 'SLOW' but make sure that the fan is still running and does not come to a stop.
- Open **all** the gas cylinders : it's important to open them all to prevent them from freezing.
- Make sure that the air outlet is not pointed towards yourself and will not be in the next 3 minutes. If necessary, push it away from you.**
- Open the gas valve (F).
- Press the **'start button'** for one second and control the pressure on the manometer.(G). At 0 C°, the pressure must be between 0,5 and 1 bar. If necessary, adjust the pressure with the gas pressure regulator (E) and check again.
- After you have checked the pressure, always wait at least 10 seconds before lightning the burner. In this way, gas that escaped during the pressure test will be removed by the fan.
- Take a ZIP-lightning block, light it and put it just behind the burning circle. Push the start button. The gas will come out and will start the burner. If the gas starts burning, accelerate the engine immediately (FULL THROTTLE) and keep the start button pushed in for 10 seconds. Then you may release the start button. If the burner falls out, restart at point h.



- If the gas will not burn after 2 seconds, release the start button and wait for at least 15 seconds before trying again. This to make sure that not too many not burned gas will stay in the machine. After 15 seconds, you can make another attempt.
- Adjust the temperature with the gas pressure regulator (E).
- Make sure the temperature stays stable between 80 and 110 °C. It will take a few minutes before the temperature will be stable. Before you leave the machine, make sure that the temperature has been stable for at least one complete turn of the outlet (8 minutes).



### 2.3.3 Security

The machine has a security that closes the gas in case the the reps of the fan are too low. In this way, the burner will always stop in case of a malfunctioning of the engine are fan. Therefore it's important that the engine always runs at full speed.



### 2.3.4 The heating of the gas cylinders.

To prevent the gas cylinders from freezing, the exhaust gases are used to heat the gas cylinders. The main tube that supports gas cylinders has 4 holes, one for each gas cylinders, where the hot air exits. It's important to place the cylinders exactly on top of these holes.

### 2.3.5 The use in a closed area.

**It is not allowed to use the FrostGuard in a closed area, because of three reasons:**

- 1. The engine and burner consume a lot of oxygen. So the supply of fresh air is very important.**
- 2. The engine produces carbon monoxide, an odorless, colorless, poisonous gas. Breathing carbon monoxide an cause nausea, fainting or death.**
- 3. If gas would escape because of a gas leak, it would create life threatening situations in a closed area because of the danger of explosions.**



## 2.4 TO STOP THE MACHINE

- a. Close the gas valve (F).
- b. Close all the gas cylinders.
- c. Let the engine run for a few minutes, so the machine can cool down.
- d. Move throttle control to 'SLOW' position.
- e. Move stop control (B) to 'OFF' position.
- f. Close the fuel shut-off valve (D).

### 3 Maintenance.

#### 3.1 ENGINE.

- a. For maintenance of the Briggs & Stratton engine, see manual of manufacturer.
- b. Check oil level every 8 hours with the low oil fill (YELLOW) . Oil should be at FULL mark. If oil is required, add slowly and **DO NOT OVER-FILL**. Use oil SAE 30.



- c. Change oil every 50 hours.

#### 3.2 BURNER.

The burner does not require any maintenance.

#### 3.3 FAN AND TRANSMISSION.

Regularly grease the bearings.

## 4 Warranty – scrapping – spare parts list.

### 4.1 WARRANTY.

The warranty period is 2 years.

The warranty covers all parts that show defects from the beginning and parts manufactured by AGROFROST. This warranty will expire in case of abnormal use, bad maintenance, use of non genuine parts or if the user has not read the manual completely.

We do not accept concerning to improvements that me make.

### 4.2 SCRAPPING.

The following table gives an overview of the correct way of disposal of the different parts, in case the Frostbuster has to be dismantled.

Part	Way of disposal
Bearings	scrap
Oil	chemical waste
Engine	scrap
Frame	scrap
Screws, bolts, washers	scrap
Gaskets – gas hoses	container for synthetic material

### 4.3 SPARE PARTS LIST.

In case you need a spare parts list, please send an inquiry by e-mail to : [info@agrofrost.be](mailto:info@agrofrost.be) !!

Are make an inquiry through our website : [www.agrofrost.be](http://www.agrofrost.be) !!

## 5 Technical data – working principle - applications.

### 5.1 TECHNICAL DATA

#### Dimensions L x W x H (mm):

Type L: 230 x 150 x 150 (with low outlet )

Type H: 230 x 150 x 200 (with high outlet )

Weight without gas cylinders: 290 Kg.

#### Average capacity:

Type L (low outlet): oval of 50 by 60 meters.

Type H (high outlet) : circle of 80 to 100 meters diameter.

#### Drive of fan:

Motor Briggs & Stratton, Vanguard, 13 HP.

Average petrol consumption: app. 3 litres/hour.

With extra fuel tank of 45 litres.

#### Gas installation:

Equipped for 2 of 3 cylinders (depends on cylinder size).

Average gas consumption:

- approx. 10 kilograms/hour for the model with outlet below
- approx. 13 kilograms/hour for the model with outlet above

#### Transport:

The **FROSTGUARD** can be moved easily by a tractor fork lift or with our FrostGuard Lift.



### 5.2 WORKING PRINCIPLE

The success and effectiveness of the **FROSTGUARD** are a result of the temperature fluctuations that are created by the machine, and of the lowering of the humidity, reducing the possibility of forming ice crystals. The big advantage of creating fluctuations is that this requires much less energy than raising the temperature above the critical values constantly. Therefore, the input of energy is up to 10 times less than with other systems.

Machines can be spaced out in groups in relation to the shape and area to be protected.

Another important advantage of the **FROSTGUARD** is that it's easy to spread the investment over several years: you can start with 1 or 2 machines and buy more during the following years. So, no big initial investment is necessary.

### 5.3 APPLICATIONS

The **FROSTGUARD** can be used almost everywhere and for several applications:

- 1) For **night frost protection** in orchards for all kind of fruits, in vineyards, in greenhouses and plastic tunnels, for strawberries, raspberries, flowers, vegetables, apples, pears, peaches, plums etc.
- 2) To **improve the fruit set** in low temperature during blossom.
- 3) To **raise the temperature** in plastic tunnels, to bring forward the first harvest date in the beginning of the season, or to pick later at the end of the season.

6 Engine Briggs & Stratton.

**(GB) Operating & Maintenance Instructions**



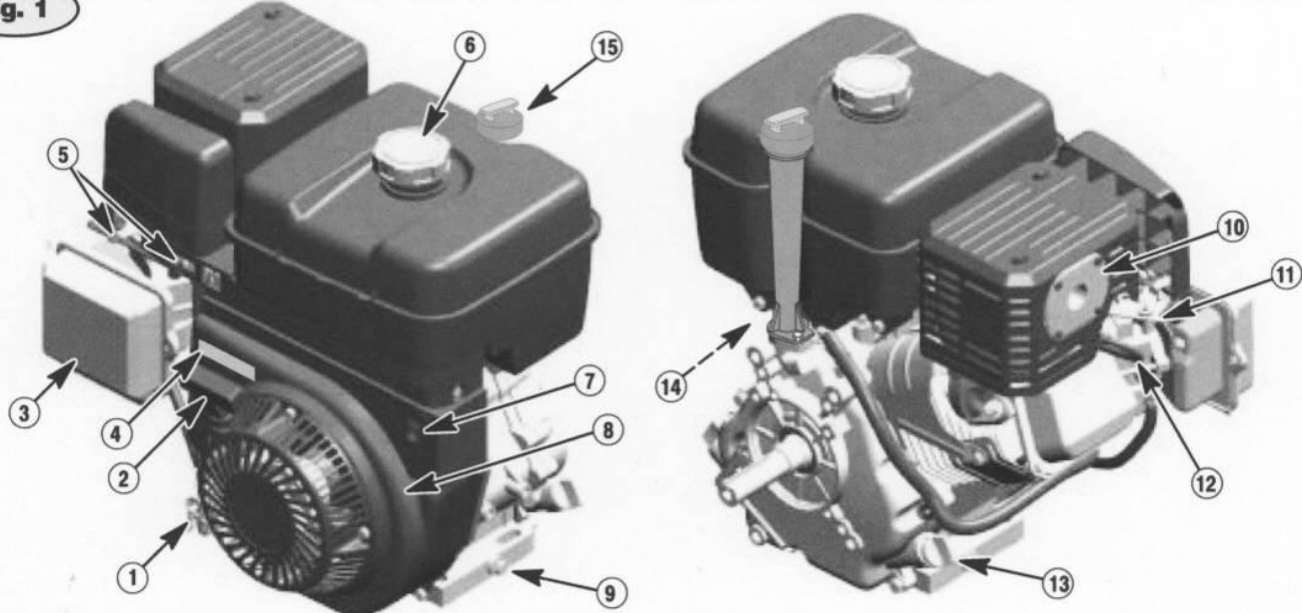
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Model	Vanguard
50000	
85400	
86400	
117400	
118400	
138400	
185400	
187400	
235400	
237400	
245400	
246400	
247400	

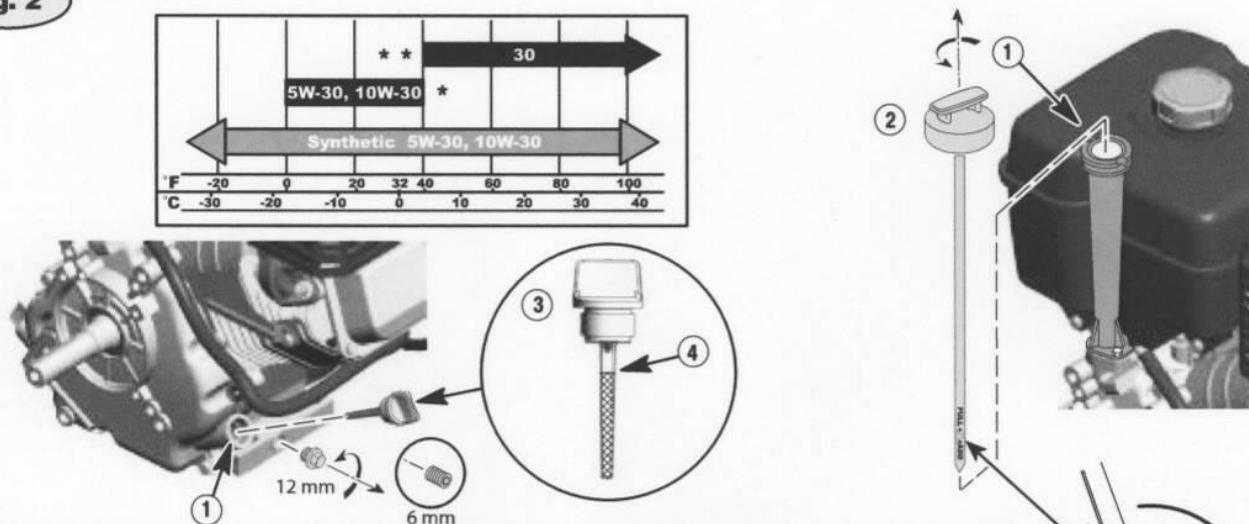




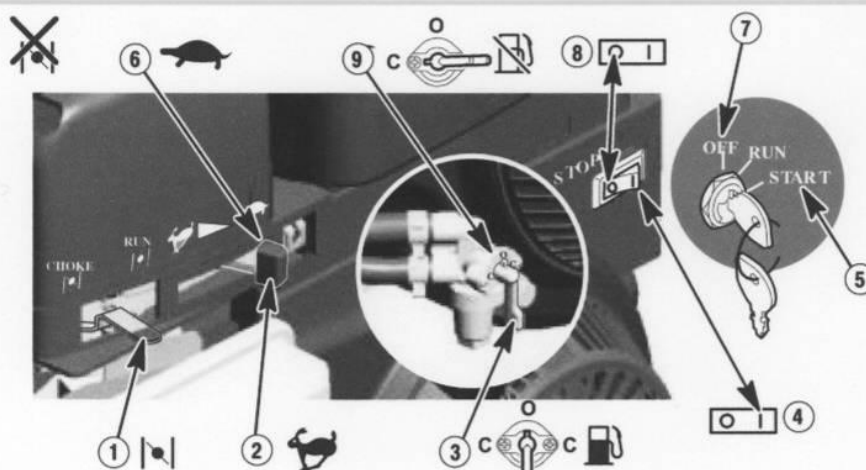
**Fig. 1**



**Fig. 2**



**Fig. 3**

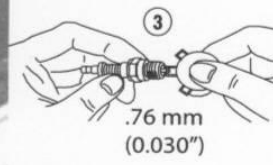
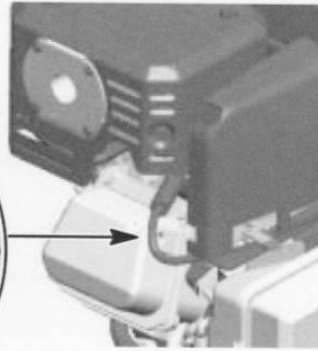




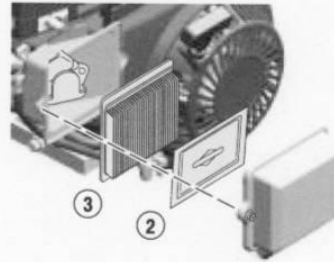
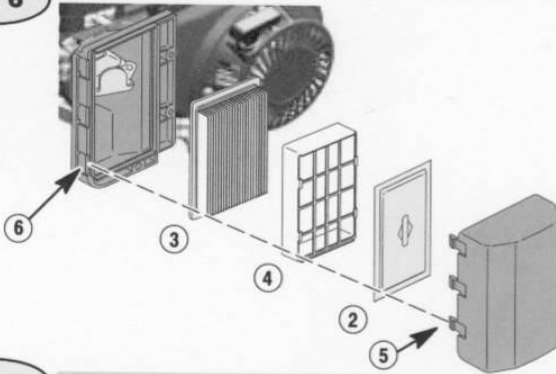
**Fig. 4**



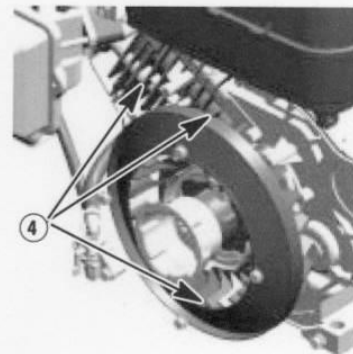
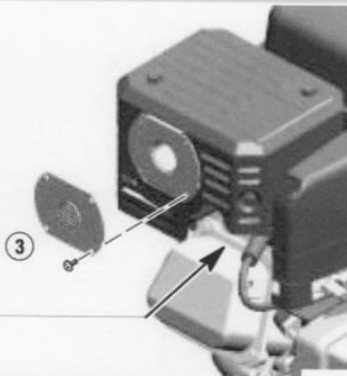
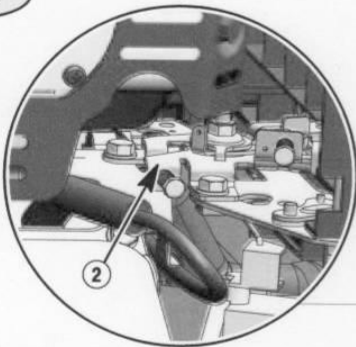
**Fig. 5**



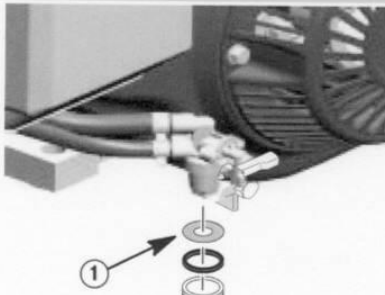
**Fig. 6**



**Fig. 7**



**Fig. 8**



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.



## ENGINE COMPONENTS

**Fig. 1**

- ① Fuel shut-off valve
  - ② Rope handle
  - ③ Air cleaner
  - ④ **Engine Model Type Code**  
xxxxxx xxxx xx xxxxxxxx
  - ⑤ Throttle and choke controls
  - ⑥ Fuel fill
  - ⑦ Stop switch
  - ⑧ Blower housing
  - ⑨ Oil drain plug
  - ⑩ Muffler guard/Muffler
  - ⑪ Carburetor
  - ⑫ Spark plug wire
  - ⑬ Oil fill/Dipstick - Low
  - ⑭ 12V electric starter, if equipped
  - ⑮ Oil fill/Dipstick - High
- Record your engine Model, Type and Code numbers here for future use.

Record your date of purchase here for future use.

## 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). Torque values are derived at 3060 RPM; horsepower values are derived at 3600 RPM. 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 power). 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.

## GENERAL INFORMATION

In the state of California, Model 50000, 85400, 86400, 117400, 118400, 138400 engines are certified by the California Air Resources Board to meet emissions standards for 125 hours; Model 185400, 187400, 235400, 237400, 245400, 246400, 247400 for 250 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



### BEFORE OPERATING ENGINE

- Read entire Operator's Manual AND the instructions for the equipment this engine powers.\*
- Failure to follow instructions could result in serious injury or death.

### THE OPERATOR'S MANUAL CONTAIN SAFETY INFORMATION TO

- Make you aware of hazards associated with engines
- Inform you of the risk of injury associated with those hazards, and
- Tell you how to avoid or reduce the risk of injury.

\* Briggs & Stratton does not necessarily know what equipment this engine will power. For that reason, you should carefully read and understand the operating instructions for the equipment on which your engine is placed.



### WARNING



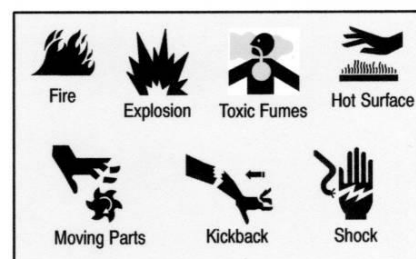
The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



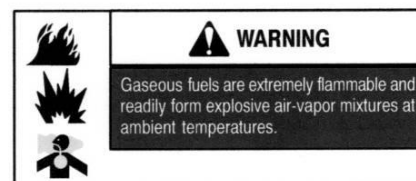
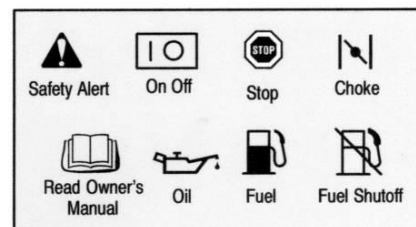
### WARNING

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.

## Hazard Symbols



## International Symbols and Meanings



**WARNING**

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

**WHEN ADDING GASOLINE**

- Turn engine OFF and let engine cool at least 2 minutes before refueling engine.
- Fill fuel tank outdoors or in well-ventilated area.
- Do not overfill fuel tank. Fill tank to approximately 1-1/2 inches below top of neck to allow for fuel expansion.
- 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 WITH GASOLINE ENGINE**

- Do not tip engine or equipment at angle which causes gasoline to spill.
- Do not choke carburetor to stop engine.

**WHEN TRANSPORTING EQUIPMENT**

- Transport with fuel tank EMPTY or with fuel shut-off valve OFF, and/or fuel tank empty.

**WHEN STORING FUEL OR EQUIPMENT**

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

**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.
- 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**

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

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

**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 battery at negative (-) terminal.
- Disconnect spark plug wire and keep it away from spark plug.

**WHEN TESTING FOR SPARK**

- Use only Briggs & Stratton Spark Plug Tester.
- DO NOT check for spark with spark plug removed.

**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.
- Servicing of products fueled by Natural Gas (NG) or Liquid Petroleum Gas (LPG) may require licensing or permits issued by state, provincial, and/or local governments.

**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.
- Engine should be kept clean to reduce the risk of overheating and ignition of accumulated debris. Clean engine when it is cold, especially in the muffler and manifold areas.
- 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 Public Resources Code Section 4442 requires a spark arrester in working order.) Other states may have similar laws. Federal laws apply on federal land.

**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.

## OIL RECOMMENDATIONS

**Fig. 2**

**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 30W, Part Number 100005 (20 oz.) or 100028 (48 oz.). 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.

**Note:** Synthetic oil meeting ILSAC GF-2, API certification mark and API service symbol (shown at left) with "SJ/CF ENERGY CONSERVING" or higher, is an acceptable oil at all temperatures. **Use of synthetic oil does not alter required oil change intervals.**

\* 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.

\*\* SAE 30 oil, if used below 40° F (4° C), will result in hard starting and possible engine bore damage due to inadequate lubrication.

### Oil Capacity

(Approximate amount when changing oil and filter.)

Model	Liters	Ounces
050000	.4	13.5
085400, 086400	.6	20
117400	.7	24
118400	.7	24
138400	.9	32
184400, 185400, 187400	.9	32
235400, 237400, 245400, 246400, 247400	.9	32

Place engine level and clean around oil fill ❶.

Remove dipstick in oil fill – tighten down with clean cloth ❷. Insert dipstick in oil fill – tighten down if high oil fill ❸, but do not tighten down if low oil fill ❹ – remove dipstick to check oil level. Oil should be at FULL mark ❺.

If oil is required, add slowly. Do not over-fill. Tighten dipstick firmly before starting engine.

## FUEL RECOMMENDATIONS

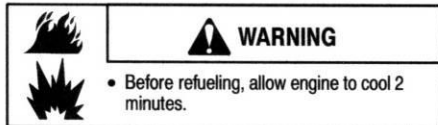
**THE GASOLINE ENGINE IS CERTIFIED TO OPERATE ON GASOLINE.** Exhaust Emission Control System: EM (Engine Modifications).

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.

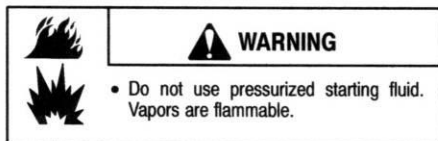
Do not use gasoline which contains Methanol. Do not mix oil with gasoline.

### Check fuel level



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

## STARTING



Check oil level.

Open fuel shut-off valve, if equipped.

### OIL GARD

If engine is equipped with **OIL GARD**, and if engine runs low on oil and cannot be started or has stopped and cannot be restarted, add oil. Fill to FULL mark on dipstick. Do not over-fill.

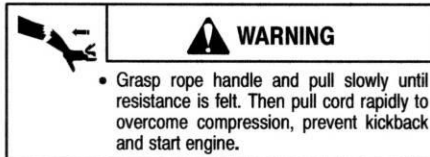
**CAUTION: OIL GARD** will shut down a running engine. Engine damage may occur if oil level is not properly maintained and will void warranty coverage.

## STARTING

**Fig. 3**

1. Move choke control ① to CHOKE position.
2. Move throttle control ② to FAST position.
3. Turn on fuel shut-off valve ③.
4. Move stop control ④ to ON position, if equipped.

## Rewind starter



Repeat if necessary with choke in RUN position and throttle in FAST. When engine starts, operate in FAST position.

### Electric starter, if equipped

Turn key ⑤ to START position. Repeat if necessary with throttle control in FAST position. When engine starts, operate in FAST position.

Note: If equipment manufacturer has supplied battery, charge it before trying to start engine, as equipment manufacturer recommends.

Note: Use short starting cycles (15 secs. per min.) to prolong starter life. Extended cranking can damage starter motor.

## STOPPING

**Fig. 3**

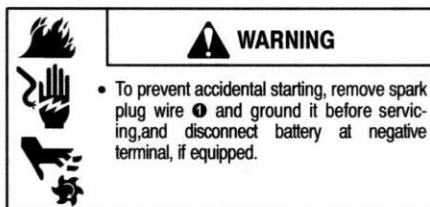
Do not move choke control to CHOKE position to stop engine. Backfire or engine damage may occur. Move throttle control ⑥ to IDLE or SLOW position, if equipped. Then turn key ⑦ to OFF or move stop control ⑧ to OFF position. Close fuel shut-off valve ⑨.

Note: Always remove key from switch when equipment is not in use or left unattended.

Note: When engine is transported, close fuel shut-off valve to prevent leakage.

## MAINTENANCE

**Fig. 4**



See **Maintenance Schedule**. Follow the hourly or calendar intervals, whichever occur first. More frequent service is required when operating in adverse conditions.

### Oil service

**Fig. 2**

Check oil level regularly.

Be sure correct oil level is maintained. Check every 8 hours or daily, before starting engine. See oil filling procedure under **Oil Recommendations**.

### Change oil.

Change oil after first 5 hours of operation. Change oil while engine is warm. Refill with new oil of recommended SAE viscosity grade.

## Air cleaner service

**Fig. 6**

Replace pre-cleaner ②, and/or cartridge ③ if very dirty or damaged.

1. Loosen screws. Remove cover and air cleaner assembly from base.
2. Remove cartridge retainer ④, (if equipped) and pre-cleaner.

To service pre-cleaner, wash in liquid detergent and water. Squeeze dry in a clean cloth. Saturate in engine oil. Squeeze in clean, absorbent cloth to remove ALL EXCESS oil.

To service cartridge, clean by tapping gently on a flat surface. Do not use petroleum solvents, e.g., kerosene, which will cause cartridge to deteriorate. Do not use pressurized air, which can damage cartridge. Do not oil cartridge.

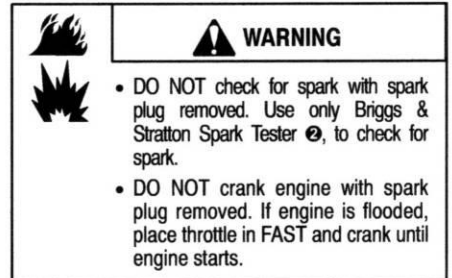
3. Reinstall pre-cleaner on retainer, if equipped.
4. Install pre-cleaner in cover with mesh side toward cartridge. Install cartridge in cover or on base.
5. Seat cover and air cleaner assembly squarely onto base (tabs ⑤ into slots ⑥, if equipped).
6. Tighten cover screws securely.

### Check valve clearance:

intake is .05 mm and exhaust .10 mm.

## Spark plug service

**Fig. 5**



Spark plug gap ③ should be .76 mm or 0.030 in.

Replace spark plug every 100 hours or every season, whichever occurs first. Spark tester and spark plug wrench are available from any Authorized Briggs & Stratton Service Dealer.

Note: 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.

## Keep engine clean

**Fig. 7**

Periodically remove chaff and debris build-up from engine. Do not spray engine with water to clean because water could contaminate fuel. Clean with a brush or compressed air.

To assure smooth operation, keep governor linkage, springs and controls free of debris ②.



**WARNING**

- Accumulation of debris around muffler ❸ could cause a fire. Inspect and clean before every use.

If muffler is equipped with spark arrester screen ❸, remove spark arrester screen for cleaning and inspection every 50 hours or every season. Replace if damaged.

Clean cooling system. Chaff or debris may clog engine's air cooling system, especially after prolonged operation. Internal cooling fins and surfaces may require cleaning to prevent overheating and engine damage. Remove blower housing and clean as shown ❹.

**Clean fuel filter****Fig. 8****WARNING**

- Drain fuel tank or close fuel shut-off valve before cleaning filter

**Gasoline Engines:** Clean fuel filter screen ❶.

**Maintenance Schedule**

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

**First 5 Hours**

- Change oil

**Every 8 hours or daily**

- Check oil level
- Clean around muffler, springs and linkages

**Every 25 hours or every season**

- Service air cleaner pre-cleaner\*

**Every 50 hours or every season**

- Change oil if operating under heavy load or high ambient temperature
- Clean and inspect spark arrester, if equipped
- Clean fuel filter

**Every 100 hours or every season**

- Change oil
- Service air cleaner cartridge\*
- Replace spark plug
- Clean cooling system\*

**Every season**

- Check valve clearance

\* Clean more often under dusty conditions, or when airborne debris or chaff is present.

**Partial List of Genuine Briggs & Stratton Parts**

**CAUTION:** Part numbers listed may be model specific, use correct part to prevent damage to your engine.

Model	Part	Part No.
ALL	Oil (20 oz., 0.59 l)	100005
ALL	Oil (48 oz., 1.42 l)	100028
ALL	Oil Pump (uses standard electric drill)	5056
ALL	Fuel Stabilizer	5058
050000	Air Cleaner Cartridge	711351
050000	Air Cleaner Pre-cleaner	11352
085400	Air Cleaner Cartridge	710265
085400	Air Cleaner Pre-cleaner	710267
050000, 086400, 117400, 118400, 138400, 185400*, 187400*, 237400*, 245400*, 246400	Square Air Cleaner Cartridge	491588
246400, 247400	Square Air Cleaner	711785
050000, 086400, 117400, 118400, 138400, 185400*, 187400*, 237400*, 245400*, 246400	Square Air Cleaner Pre-cleaner	491435
185400, 235400, 245400	Air Cleaner Cartridge	710266
185400, 235400, 237400, 245400	Air Cleaner Pre-cleaner	710268
ALL (Except 050000, 086400, 118400)	Resistor Spark Plug	491055
050000, 086400, 118400	Resistor Spark Plug	711252
ALL OHV engines (Except 050000, 086400, 118400)	Long Life Platinum Spark Plug	491055
ALL	Spark Tester	19368
ALL	Spark Plug Wrench	19374

\* If equipped.

**STORAGE**

Gasoline engines stored over 30 days need to be protected or drained of fuel to prevent gum from forming in fuel system or on essential carburetor parts.

For gasoline engine protection, we recommend use of Briggs & Stratton Fuel Stabilizer available from an Authorized Briggs & Stratton Service Dealer. Mix stabilizer with fuel in fuel tank or storage container. Run engine for a short time to circulate stabilizer through carburetor. Engine and fuel can be stored up to 24 months.

Note: If stabilizer is not used or if engine is operating on gasoline containing alcohol, e.g. gasohol, remove all fuel from tank and run engine until it stops from lack of fuel.

**Storage Procedures for Gas/LPG/NG engines.****Fig. 2****Fig. 7**

1. Change oil. See **Oil service**.
2. Remove spark plug and pour about 15 ml (1/2 oz.) of engine oil into cylinder. Replace spark plug and crank slowly to distribute oil.
3. Clean chaff and debris from cylinder and cylinder head fins, under finger guard and behind muffler.
4. Store in a clean and dry area, but NOT near a stove, furnace or water heater which uses a pilot light or any device that can create a spark.

**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. Trained mechanics assure expert repair service on all Briggs & Stratton engines. Only dealers advertising as "Authorized Briggs & Stratton" are required to meet Briggs & Stratton standards.

When you purchase equipment powered by a Briggs & Stratton engine, you are assured of highly skilled, reliable service at more than 30,000 Authorized Service Dealers worldwide, including more than 6,000 Master Service Technicians. Look for these signs wherever Briggs & Stratton service is offered.



You may locate your nearest Authorized Briggs & Stratton Service Dealer in our dealer locator map on our web site [www.briggsandstratton.com](http://www.briggsandstratton.com) or in the



"Yellow Pages™" directory under "Engines, Gasoline" or "Gasoline Engines," or "Lawn Mowers" or similar category.

Note: Walking fingers logo and "Yellow Pages" are registered trademarks in various jurisdictions.

An illustrated shop manual includes "Theories of Operation," common specifications and detailed information covering adjustment, tune-up and repair of Briggs & Stratton single cylinder, OHV 4 cycle engines. Order P/N 272147 from an Authorized Briggs & Stratton Service Dealer.

Insist on Genuine Briggs & Stratton replacement parts with our logo on the box and/or part. Non-original parts may not perform as well and may void your warranty.

**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 Emissions  
Durability Period and  
Air Index Information On  
Your Engine Emissions Label**

Engines that are certified to meet the California Air Resources Board (CARB) Tier 2 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 proper maintenance 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.

Certain Briggs & Stratton engines will be certified to meet the United States Environmental Protection Agency (USEPA) Phase 2 emissions 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 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

## BRIGGS & STRATTON ENGINE OWNER WARRANTY POLICY

Effective 12/06

### 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 [BRIGGSandSTRATTON.com](http://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 TERMS\*\*

Brand / Product Type	Consumer Use	Commercial Use
Vanguard™	2 years	2 years
Extended Life Series™, I/C®, Intek I/C®, Intek Pro™	2 years	1 year
Kerosene fuel operated engines	1 year	90 days
All other Briggs & Stratton engines	2 years	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 of 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 [BRIGGSandSTRATTON.com](http://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	



## 7 EC declaration of conformity.

### EC DECLARATION OF CONFORMITY (Directive 2006/42/EG)

We declare under our own responsibility that the machine complies with the safety and health requisities established by the European Directive 2006/42/EG.

**Manufacturer** : Agrofrost SA  
**Address** : Canadezenlaan 62 – 2920 Kalmthout Belgium

**Authorized representative** : Stynen Patrik  
**Address** : Canadezenlaan 62 – 2920 Kalmthout Belgium

**Machine** : FrostGuard Type .....

**Serial number** : .....

**Signature:**



Patrik Stynen - Director

Agrofrost SA  
Canadezenlaan 62  
B-2920 Kalmthout - Belgium

## 8 Installation procedure.

### Installation procedure - Copy for the customer.

#### Customer

Name : .....

Address: .....

.....

.....

#### Dealer

Name: .....

Address: .....

.....

.....

Technician : .....

**FrostGuard Type .....**

**Serial number : .....**

#### CHECK LIST & DEMONSTRATION PROCEDURE

**(To be carried out by the technician and the customer)**

Demonstration:

Positioning of the machine.

Start up.

Temperature regulation

Connection of the gas cylinders

Stopping the machine.

Precautions and safety measures to be respected:

Gas connections (Leak spray).

Safety measures delivered with the machine.

The user's manual.

Changing the gas cylinders.

Storage and transport of the machine and gas cylinders if not in use.

Additional information according to the use on a specified terrain and the principle of working.

#### INSTALLATION PROCEDURE COMPLETED

I have received the Lazo FrostGuard in satisfactory condition and have received operating and safety training to my satisfaction.

Technician signature: .....

Name in Capitals: .....

Date: .....

**Customer Signature: .....**

**Name in Capitals: .....**

**Date: .....**

## **Installation procedure - Copy for the dealer/technician.**

### **Customer**

Name : .....

Address: .....

.....

.....

### **Dealer**

Name: .....

Address: .....

.....

.....

Technician : .....

**FrostGuard Type .....**

**Serial number : .....**

### **CHECK LIST & DEMONSTRATION PROCEDURE**

**(To be carried out by the technician and the customer)**

Demonstration:

Positioning of the machine.

Start up.

Temperature regulation

Connection of the gas cylinders

Stopping the machine.

Precautions and safety measures to be respected:

Gas connections (Leak spray).

Safety measures delivered with the machine.

The user's manual.

Changing the gas cylinders.

Storage and transport of the machine and gas cylinders if not in use.

Additional information according to the use on a specified terrain and the principle of working.

### **INSTALLATION PROCEDURE COMPLETED**

I have received the Lazo FrostGuard in satisfactory condition and have received operating and safety training to my satisfaction.

Technician signature: .....

Name in Capitals: .....

Date: .....

**Customer Signature: .....**

**Name in Capitals: .....**

**Date: .....**



## **Installation procedure - Copy for AGROFROST.**

### **Customer**

Name : .....

Address: .....

.....

.....

### **Dealer**

Name: .....

Address: .....

.....

.....

Technician : .....

**FrostGuard Type .....**

**Serial number : .....**

### **CHECK LIST & DEMONSTRATION PROCEDURE**

**(To be carried out by the technician and the customer)**

#### **Demonstration:**

Positioning of the machine.

Start up.

Temperature regulation

Connection of the gas cylinders

Stopping the machine.

#### **Precautions and safety measures to be respected:**

Gas connections (Leak spray).

Safety measures delivered with the machine.

The user's manual.

Changing the gas cylinders.

Storage and transport of the machine and gas cylinders if not in use.

Additional information according to the use on a specified terrain and the principle of working.

### **INSTALLATION PROCEDURE COMPLETED**

I have received the Lazo FrostGuard in satisfactory condition and have received operating and safety training to my satisfaction.

Technician signature: .....

Name in Capitals: .....

Date: .....

**Customer Signature: .....**

**Name in Capitals: .....**

**Date: .....**

This document has to be send back to the manufacturer.. If his document is not send back, the manufacturer reserves the right to refuse any warranty claim.

Send to : AGROFROST NV – Canadezenlaan 62 – B-2920 Kalmthout (Belgium).

The address is already printed on the other side.

AGROFROST NV  
Canadezenlaan 62  
B-2920 Kalmthout  
Belgium