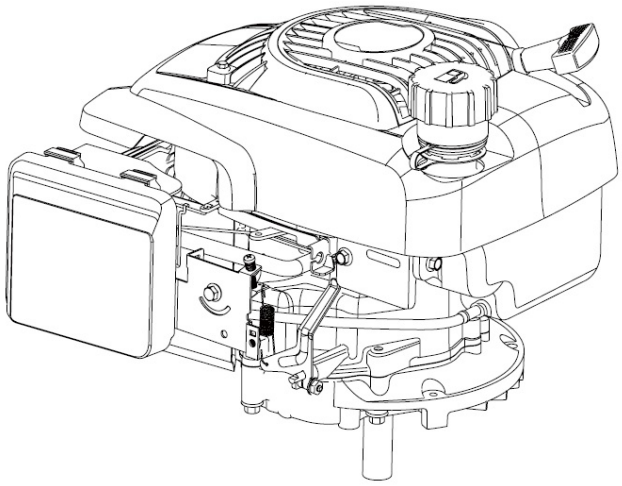
173cc Vertical Engine

Item # 56173
Owner's Manual
Manual del Propietario



Questions? Problems?
Please call our customer help line:

(800) 232-1195 M-F 8-5 CST

FEATURES

- Low Oil Automatic Shutoff
- Circuit Breaker for Overload Protection
- 0.3 Gallon Fuel Tank Capacity
- Meets EPA Phase III Emission Standards and CARB Emission Standards

2012

www.wenproducts.com

ENGINE IDENTIFICATION

For information and questions, please contact the Customer Service Help Line by calling **800-232-1195**. Certain information will be requested by the Customer Service Representative and to facilitate that, please fill in the information below.

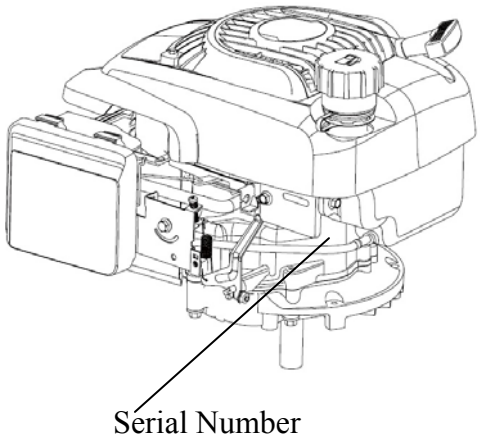
Refer to the illustration below for the location of Serial Number. Record engine information in the spaces provided below.

DATE OF PURCHASE: _____

PURCHASED FROM: _____

ITEM NUMBER: _____

ENGINE SERIAL NUMBER: _____



SERVICE RECORD

Record Service Dates:

	Date	Date	Date	Date	Date	Date
Oil Change						
Change spark plug						
Clean Fuel Tank						
Clean Air Cleaner						

TABLE OF CONTENTS

INTRODUCTION

Thank You for Purchasing a WEN Power ™ Product.

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This manual provides information regarding the safe operation and maintenance of this product. Every effort has been made to ensure the accuracy of the information in this manual.
WEN Power ™ reserves the right to change this product and specifications at any time without prior notice.

Please keep this manual available to all users during the entire life of the product.

Special Messages

This manual contains special messages to bring attention to potential safety concerns, engine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

Questions? Problems?

In order to answer questions and solve problems in the most efficient and speedy manner, contact Customer Service at:

(800) 232-1195 M-F 8-5 CST

NOTICE REGARDING EMISSIONS

Engines that are certified to comply with U.S. EPA emission regulations for SORE (Small Off Road Equipment), are certified to operate on regular unleaded gasoline, and may include the following emission control systems: (EM) Engine Modifications and (TWC) Three-Way Catalyst (if so equipped).

SAFETY INFORMATION

Before operating this engine read and observe all warnings, cautions, and instructions on this sheet, on the engine, and in the Owner's Manual.

NOTE: The following safety information is not meant to cover all possible conditions and situations that may occur. Read the entire Owner's Manual for safety and operating instructions. Failure to follow instructions and safety information could result in serious injury or death.

This safety alert symbol is used to identify safety information about hazards that can result in personal injury.

A signal word (**DANGER**, **WARNING**, or **CAUTION**) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.

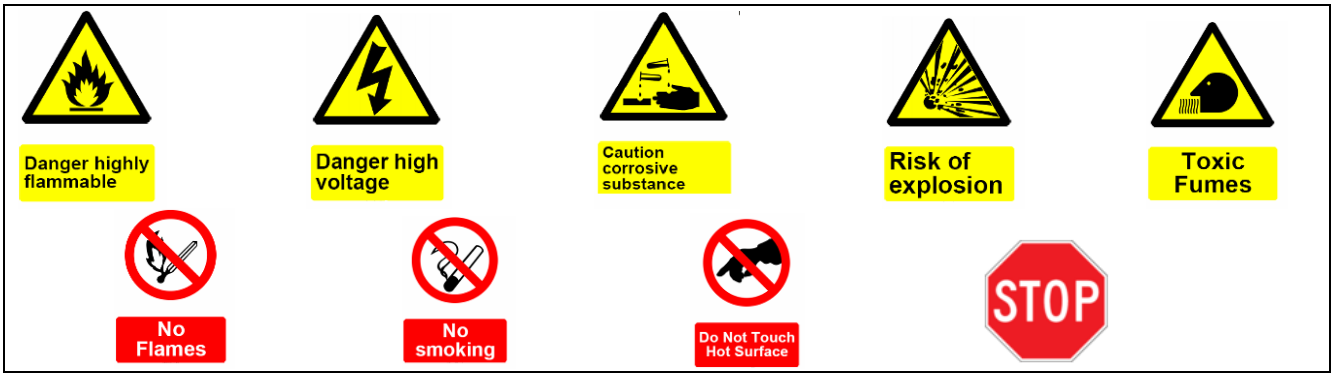
DANGER indicates a hazard, which, if not avoided, **will result in death or serious injury.**

WARNING indicates a hazard, which, if not avoided, **could result in death or serious injury.**

CAUTION indicates a hazard, which, if not avoided, **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 or engine.**

SAFETY SYMBOLS AND MEANINGS



GENERAL SAFETY PROCEDURES

For any questions regarding the hazard and safety notices listed in this manual or on the product, please call (800) 232-1195 M-F 8-5 CST before using the engine.

DANGER: CARBON MONOXIDE. Using an engine indoors CAN KILL YOU IN MINUTES.

Engine exhaust contains carbon monoxide (CO). This is a poison gas you cannot see or smell. If you can smell the engine exhaust, you are breathing CO. But even if you cannot smell the exhaust, you could be breathing CO.

- **NEVER use an engine inside homes, garages, crawlspaces, or other partly enclosed areas. Deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors does NOT supply enough fresh air.**
- **ONLY use an engine outside and far away from windows, doors, and vents. These openings can pull in engine exhaust.**

Even if you use an engine correctly, CO may leak into the home. ALWAYS use a battery-powered or battery-backup CO alarm in the home.
If you start to feel sick, dizzy, or weak after the engine has been running, move to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

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

WARNING: This engine may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death, if ignited. A nearby open flame can lead to explosion even if not directly in contact with gasoline.

- **Do not operate near open flame.**
- **Do not smoke near engine.**
- **Always operate on a firm, level surface.**
- **Always turn engine off before refueling. Allow engine to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.**
- **Do not overfill fuel tank. Gasoline may expand during operation. Do not fill to the top of the tank. Allow for expansion.**
- **Always check for spilled fuel before operating.**
- **Empty fuel tank before storing or transporting the engine.**
- **Before transporting, turn fuel valve to off and disconnect spark plug wire.**

WARNING: This engine produces heat when running. Temperatures near exhaust can exceed 150º F (65º C).

- **Do not touch hot surfaces. Pay attention to warning labels on the engine identifying hot parts of the machine.**
- **Allow engine to cool down after use before touching engine or areas of the engine that become hot during use.**

CAUTION: Misuse of this engine can damage it or shorten its life.

- Use engine only for its intended purposes.
- Operate only on dry, level surfaces.
- Turn engine switch to "off" position when the engine is not running.

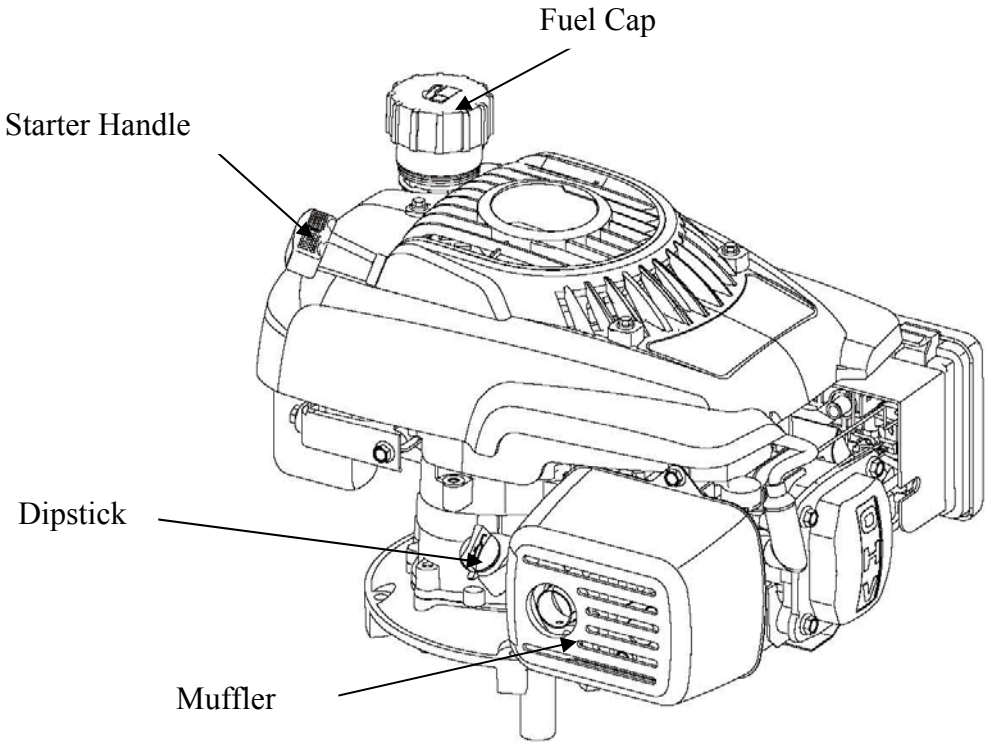
IMPORTANT SAFETY INSTRUCTIONS

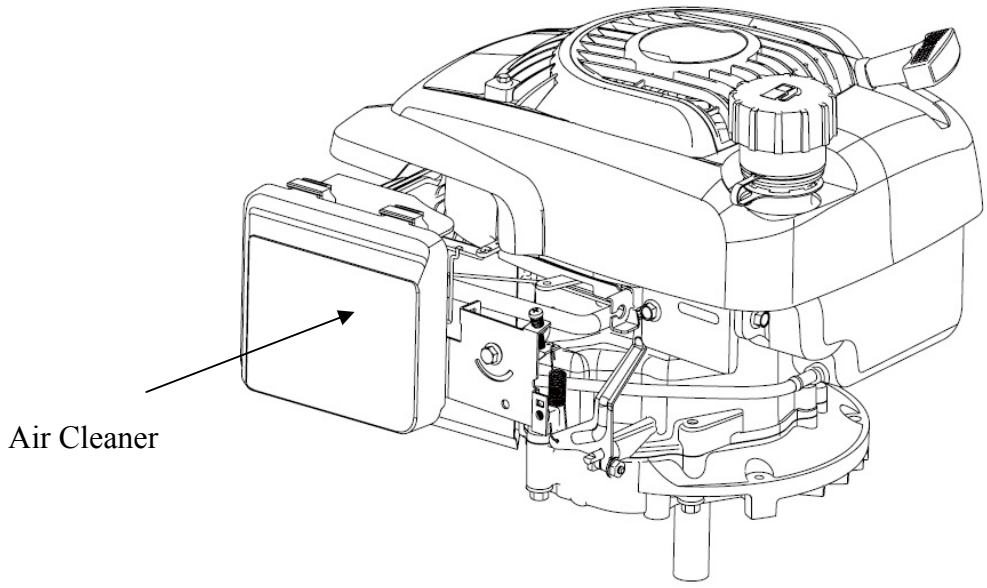
- **SAVE THESE INSTRUCTIONS** – This manual contains important instructions for WEN engine that should be followed during installation and maintenance of the engine.
- Engines vibrate in normal use. Have damaged items repaired or replaced as necessary.

In addition to the previous safety notices, please become familiar with the safety and hazard markings on the engine.

ENGINE COMPONENTS

Please familiarize yourself with the locations and functions of the various components and controls of your engine.





SET UP

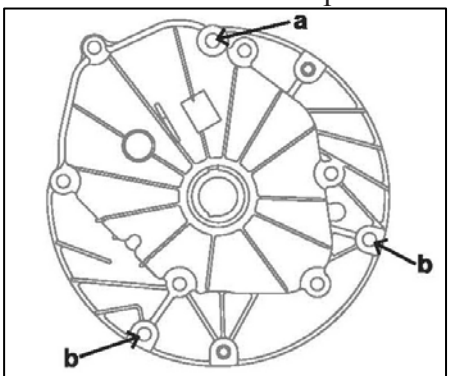
Warning:
TO PREVENT SERIOUS INJURY:
Operate only with proper spark arrestor installed.

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

At high altitudes, the engine's carburetor, governor (if so equipped), and any other parts that control the fuel-air ratio will need to be adjusted by a qualified mechanic to allow efficient high altitude use and to prevent damage to the engine and any other devices used with this product.

1. **IMPORTANT:** If you have any doubts about your ability to perform the following procedures, have a qualified service technician perform the installation.
2. Install this engine on a lawn mower only.
3. Set the Engine upright on the mower, and align at least three 3/8" diameter coarse threaded engine mounting holes with mower mounting holes.

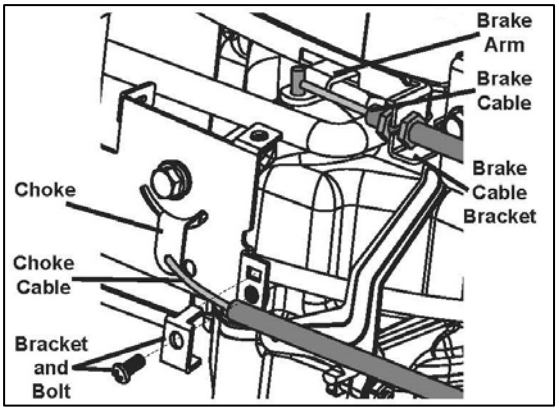


a. one 3/8 in. x 24 threaded; 1 in. deep
b. two Ø0.34 in. / 8.7mm unthreaded (use 5/16 in. / 8mm diameter hardware)

NOTE: Depending on the mower, it may be necessary to drill mounting holes or make a mounting plate to align with the engine mounting holes. Only a qualified technician should attempt these solutions.

4. Use 3/8" diameter, coarse threaded, hardened, stainless steel Bolts, Lock Washers, and Washers (not included) of appropriate length to secure the Engine to the mower.

Make sure the hardware does not contact moving parts.



5. Insert the mower's brake cable sheath through the hole in the Brake bracket. Secure the mower brake cable to the brake arm. Adjust the brake cable sheath to remove all slack and secure it in place using the adjusting nuts on the cable sheath, as shown in the illustration below.

THE ENGINE BRAKE IS FOR EMERGENCY SHUTOFF; DO NOT REPLACE THE BRAKE SPRING WITH A WEAKER SPRING. If operating the engine brake is too difficult, a qualified technician must install a different brake handle on the mower.

Note: The brake cable on some mowers may need to be adjusted in a different manner. Install according to mower manufacturer's instructions.

6. Attach the end of the mower's Choke Cable to the Choke. Use the Bracket and Bolt to secure its sheath in place as shown above.
7. This engine is set to a single speed that should not be adjusted.
8. Refer to the mower's service manual for instructions on how to properly attach a belt drive pulley, chain drive gear, etc. onto the output shaft of the engine.

ENGINE PREPARATION

Using the Engine for the First Time

The following section describes steps necessary to prepare the engine for use. If after reading this section, you are unsure about how to perform any of the steps please call (800) 232-1195 M-F 8-5 CST for customer service. Failure to perform these steps properly can damage the engine or shorten its life.

Step 1 - Fill Oil

The engine is shipped without oil. User must add the proper amount of oil before operating the engine for the first time. The oil capacity of the engine crankcase is 0.5 quart.

Select good quality detergent oil bearing the American Petroleum Institute (API) service classifications SJ, SL, or SM. (Synthetic oils may be used.) Use the SAE viscosity grade of oil from the following chart that matches the starting temperature anticipated before the next oil changes.

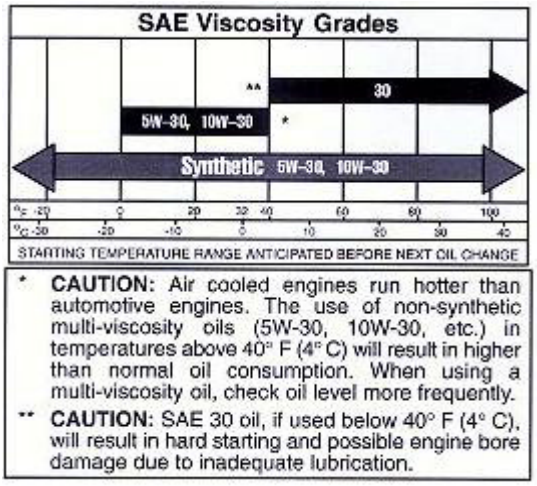


Figure1- Engine oil recommendations

To fill oil to the crankcase, follow these steps:

1. Make sure the engine is on a level surface. **Tilting the engine to assist in filling will cause oil to flow into engine areas and will cause damage. Keep engine level!**
2. Remove the oil filler/dipstick cap from the engine.
3. Using a funnel, add the appropriate type and amount of oil into the crankcase. The crankcase is full when the oil level has reached the second thread from the lip of the opening.
4. Check for oil leaks. Reinstall oil filler cap before starting engine.

Step 2- Add Gasoline

WARNING: This engine may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death if ignited. A nearby open flame can lead to explosion even if not directly in contact with gasoline.

- **Do not operate near open flame.**
- **Do not smoke near engine.**
- **Always operate on a firm, level surface.**
- **Always turn engine off before refueling. Allow engine to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.**
- **Do not overfill fuel tank. Gasoline may expand during operation. Do not fill to the top of the tank. Allow for expansion.**
- **Always check for spilled fuel before operating. Clean up any spilled fuel before starting.**
- **Empty fuel tank before storing or transporting the engine.**
- **Before transporting, turn fuel valve to off position and disconnect spark plug wire.**

Use fresh (within 30 days from purchase), unleaded gasoline with a minimum 87 octane rating. Do not use gasoline which contains Methanol. Do not mix oil with gasoline.

To add gasoline, follow these steps:

1. Make sure the engine is on a level surface.
2. Unscrew fuel cap and set aside (NOTE: the fuel cap may be tight and hard to unscrew).
3. Slowly add unleaded gasoline to the fuel tank. Be careful not to overfill. The fuel tank capacity is 0.9 gallon. NOTE: **Do not fill the fuel tank to the very top**. Gasoline will expand and spill over during use even with the fuel cap in place.
4. Reinstall fuel cap and wipe off any spilled gasoline with a dry cloth.

IMPORTANT:

- Never use an oil/gasoline mixture.
- Never use old gasoline.
- Avoid letting dirt or water into the fuel tank.
- Gasoline can age in the tank and make it hard to start up the engine in the future. Never store engine for extended periods of time with fuel in the tank.

STARTING THE ENGINE

Before starting the engine, make sure you have read and performed the steps in the "Engine Preparation" section of this manual. If you are unsure about how to perform any of the steps in this manual please call (800) 232-1195 M-F 8-5 CST for customer service.

DANGER: CARBON MONOXIDE. Using an engine indoors CAN KILL YOU IN MINUTES.

Engine exhaust contains carbon monoxide (CO). This is a poison gas you cannot see or smell. If you can smell the engine exhaust, you are breathing CO. But even if you cannot smell the exhaust, you could be breathing CO.

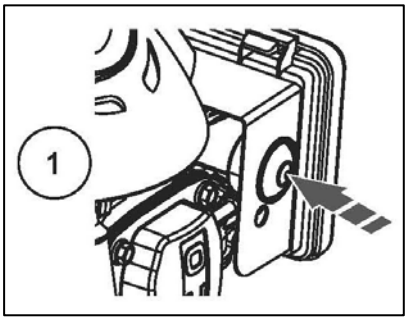
- **NEVER use an engine inside homes, garages, crawlspaces, or other partly enclosed areas. Deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors does NOT supply enough fresh air.**
- **ONLY use an engine outside and far away from windows, doors, and vents. These openings can pull in engine exhaust.**

Even if you use an engine correctly, CO may leak into the home. ALWAYS use a battery-powered or battery-backup CO alarm in the home.

If you start to feel sick, dizzy, or weak after the engine has been running, move to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

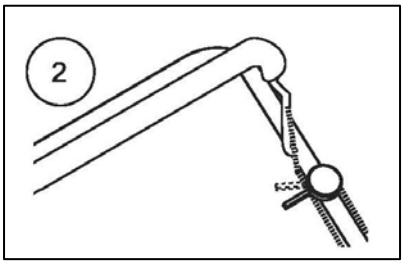
To start your engine, perform the following steps:

1. Press the Priming Bulb 2-3 times to prime the engine.

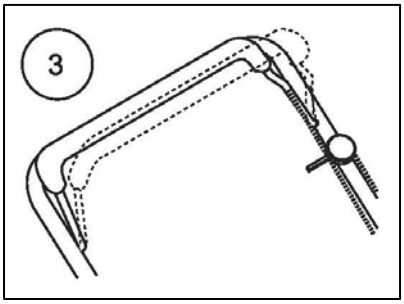


2. If the engine is cold, adjust the Mower's choke control to the CHOKE (START/CLOSED) position.

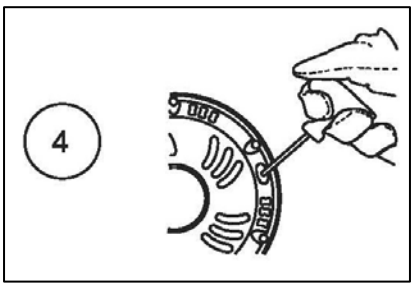
Note: Location, operation, and design of the choke control will vary from manufacturer to manufacturer. Adjust the control so that it pulls the choke cable to close the choke.



3. Hold the mower's brake handle closed.

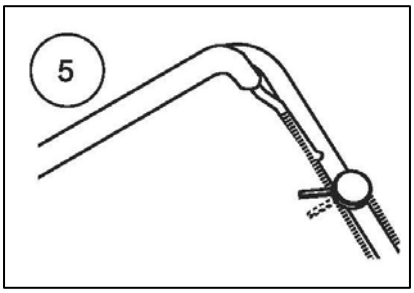


4. Grip the Starter Handle of the Engine loosely and pull it gently until resistance is felt. Allow Cable to retract fully and then pull it quickly. Repeat until the engine starts.



Note: Do not let the Starter Handle snap back against the engine. Hold it as it recoils so it doesn't hit the engine.

5. Allow the Engine to run for several seconds. Then, if the Mower's choke control is in the CHOKE (START/CLOSED) position, move the choke control very slowly to its RUN (OPEN) position.



NOTE: Moving the Choke Lever too fast could stall the engine.

IMPORTANT: Allow the engine to run at no load for a minute or two with no load after each start-up so that the engine can stabilize.

6. Break-in Period:
   a. Breaking-in the engine will help to ensure proper equipment and engine operation.
   b. The operational break-in period will last about 3 hours of use. During this period: Do not apply a heavy load to the equipment.
   c. The maintenance break-in period will last about 20 hours of use. After this period: Change the engine oil.
      Under normal operating conditions subsequent maintenance follows the schedule explained in the MAINTENANCE AND SERVICING section.

SUBSEQUENT STARTING OF THE ENGINE

If this is not the first time using the engine, user should take the following steps to prepare it for operation.

IMPORTANT: At this point the user should be familiar with the procedures described in the section titled "Using the Engine for the First Time." If the user has not yet read this section, go back and read it now.

Step 1- Check the Oil

Oil consumption is normal during engine usage. The engine is equipped with a low-oil shutoff to protect it from damage. The oil level in the engine should be checked before each use to ensure that the engine crankcase contains sufficient lubricant.

To check or add oil, follow these steps:

1. Make sure the engine is on a level surface. Clean around oil fill.
2. Remove the oil filler/dipstick cap and check oil level.
3. If oil level is below the second thread from the lip of the oil fill opening, slowly add oil until the engine crankcase is filled.
4. Reinstall and tighten oil filler cap before starting the engine. .

Step 2 – Check the Fuel Level

Before starting the engine, check to see that there is sufficient gasoline in the fuel tank. The fuel gauge on top of the engine will indicate the fuel level in the tank. Add gasoline if necessary but leave sufficient room in tank for expansion.

WARNING: This engine may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death if ignited. A nearby open flame can lead to explosion even if not directly in contact with fuel.

- **Do not operate near open flame.**
- **Do not smoke near engine.**
- **Always operate on a firm, level surface.**
- **Always turn engine off before refueling. Allow engine to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.**
- **Do not overfill fuel tank. Gasoline may expand during operation. Do not fill to the top of the tank. Allow for expansion.**
- **Always check for spilled fuel before operating. Clean up any spilled fuel before starting.**
- **Empty fuel tank before storing or transporting the engine.**
- **Before transporting, turn fuel valve to off and disconnect spark plug wire.**

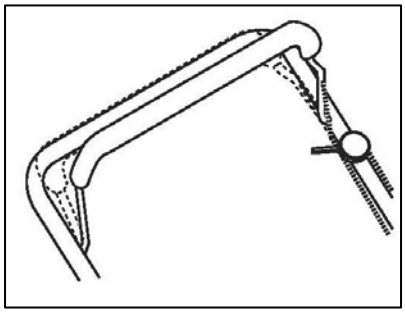
IMPORTANT:

- Use only UNLEADED gasoline with an octane rating of 87 or higher.
- Do not use old gasoline.
- Never use an oil/gasoline mixture.
- Avoid letting dirt or water into the fuel tank.

STOPPING THE ENGINE

To stop the engine:

To stop the engine, release the brake handle.



WARNING: Allow the engine to cool for several minutes before touching areas that become hot during use.

CAUTION: Allowing gasoline to sit in the engine tank for long periods of time without use can make it difficult to start the engine in the future. Never store engine for extended periods of time with fuel in the tank.

MAINTENANCE / CARE

Proper routine maintenance of your engine will help prolong the life of your machine. Please perform maintenance checks and operations according the schedule below.

If you have questions about any of the maintenance procedures listed in this manual, please call **(800) 232-1195** M-F 8-5 CST.

CAUTION: Never perform maintenance operations while the engine is running.

Recommended Maintenance Schedule

		each use	first month then every 20 hrs	every 3 months or 50 hrs	every 6 months or 100 hrs	every year or 300 hrs
Engine oil	check level	x				
	replace		x	x		
Air cleaner	check	x				
	clean			x		
fuel filter cup	clean				x	
spark plug	check/ clean				x	
fuel tank	check fuel level	x				
	clean					x

Recommended maintenance schedule

Cleaning the Engine

Never clean the engine when it is running! Never clean with a bucket of water or a hose. Water can get inside the working parts of the engine and cause a short circuit or corrosion.
Always try to use the engine in a cool, dry place. If the engine becomes dirty, clean the exterior with a damp cloth, a soft brush, vacuum or pressurized air.

Checking the Oil

Check the oil level of the engine according to the Recommended Maintenance Schedule in Figure 7. The engine is equipped with an automatic shutoff to protect it from running with low oil pressure. The engine should be checked before each use for proper oil level. This is a critical step for proper engine starting.

To check or add oil, follow these steps:

1. Make sure the engine is on a level surface. Clean around oil fill.
2. Remove the oil filler/dipstick cap and check oil level.

3. If oil level is below the second thread from the lip of the oil fill opening, slowly add oil until the engine crankcase is filled.
4. Reinstall and tighten oil filler cap before starting the engine.

Changing/ Adding Oil

Change the oil according to the maintenance schedule. Change the oil when the engine is warm. This will allow for complete drainage. Change oil more often if operating under heavy load or high ambient temperatures. It is also necessary to drain the oil from the crankcase if it has become contaminated with water or dirt.

The oil capacity of the engine in this engine is 0.5 quart. Add oil when the oil level is low.

To fill the crankcase with oil, follow these steps:

1. Make sure the engine is on a level surface. **Tilting the engine to assist in filling will cause oil to flow into engine areas and will cause damage. Keep engine level!**
2. Remove the oil filler/dipstick cap from the engine.
3. Using a funnel, add the appropriate type and amount of oil into the crankcase. The crankcase is full when the oil level has reached the second thread from the lip of the opening.
4. Check for oil leaks. Reinstall oil filler cap before starting engine.

NOTE: Never dispose of used motor oil in the trash or down a drain. Please call your local recycling center or auto garage to arrange oil disposal.

Air Cleaner Maintenance

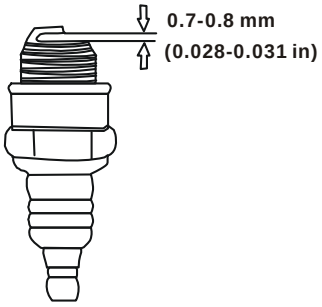
Routine maintenance of the air cleaner helps maintain proper air flow to the carburetor. Check that the air cleaner is free of excessive dirt.

1. Remove the air cleaner cover and the air cleaner elements and check for dirt. Clean or replace if necessary.
2. Wipe the dirt from inside the empty air cleaner casing.

Spark Plug Maintenance

The spark plug is important for proper engine operation. A good spark plug should be intact, free of deposits, and properly gapped. To inspect the spark plug:

1. Pull on the spark plug cap to remove it.
2. Unscrew the spark plug from the engine using the spark plug wrench included with this product.
3. Visually inspect the spark plug. If it is cracked or chipped, discard and replace with a new spark plug.
4. Measure the plug gap with a gauge . The gap should be 0.7-0.8mm (0.028-0.031in).
5. If you are re-using the spark plug, use a wire brush to clean any dirt from around the spark plug base and then re-gap the spark plug.
6. Screw the spark plug back into its place on the engine using the spark plug wrench. **Do not** over-tighten spark plug. Recommended tightening of spark plug is ½ to ¾ of a turn after spark plug gasket contacts spark plug hole. Reinstall the spark plug cap.



Measuring the spark plug gap
Recommended Spark Plug: NGK- BP7ES, Torch- F6TC

Draining the Fuel Tank

Clean fuel tank each year or before storing the engine for extended periods of time. To drain the fuel tank and carburetor:

1. Turn the fuel valve to the "OFF" position. Move the engine in a well-ventilated area away from ignition sources.
2. Place a funnel leading to a proper gasoline container below the carburetor.
3. Remove the drain bolt from the bottom of the carburetor bowl and allow the fuel to drain.
4. Open the fuel valve. After all fuel has drained, reinstall the drain bolt. Tighten securely.
5. Store the emptied gasoline in a suitable place.

⚠ **CAUTION: Do not store fuel for more than 3 months.**

STORAGE / TRANSPORT PROCEDURES

CAUTION: Never place any type of storage cover on the engine while it is still hot.

If the engine is being stored for short periods of time (30 – 60 days), add stabilized fuel to the fuel tank until full. NOTE: Filling the tank reduces the amount of air in the tank and helps reduce deterioration of fuel. Run the engine for 2 – 3 minutes allowing stabilized fuel mixture to circulate through the carburetor.

When transporting or storing the engine for extended periods of time:

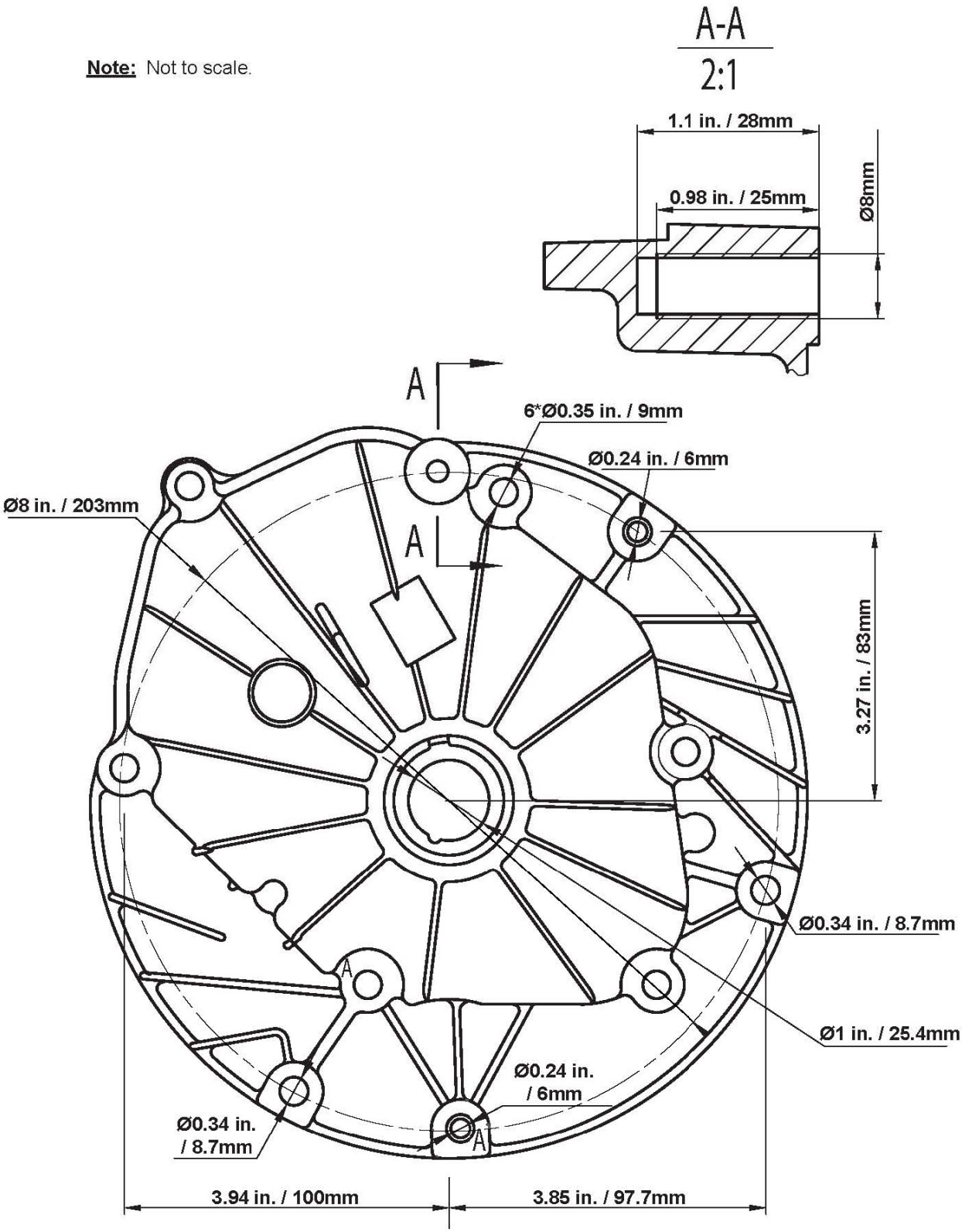
- Drain the fuel tank (see "Draining the Fuel Tank" in the "Maintenance" section).
- Disconnect the spark plug cap from the spark plug.
- Do not obstruct any ventilation openings.
- Keep the engine in a cool dry area.

SPECIFICATIONS

Displacement		173cc
Max. Output		3.2 KW/3600RPM
Max. Torque		9 N·m/2500RPM
Engine Type		Vertical Single Cylinder 4 stroke OHV
		Meets EPA phase III and CARB compliant
Cooling System		Forced air cooled
Fuel	Type	87+ octane unleaded gasoline
	Capacity	0.3 Gallon
Engine Oil	Type SAE	10W-30 above 32° F
		5W-30 at 32° F or below
	Capacity	0.6 Quart
Lubrication System		Forced Splash
Run Time @ 50% Load with full tank		40 minutes
Sound Level at 22 feet		104 dB
Bore x Stroke		70 mm x 45 mm
Compression Ratio		8.5:1
Rotation viewed from PTO (power takeoff - the output shaft)		Counterclockwise
Shaft	Shaft	7/8″ x 3.16″
	Keyway	3/16″ (4.76 mm)
	End Tapped	3/8″ - 24 UNF
Spark Plug	Type	NGK: BP-6ES, Torch: F6TC/F7RTC
	Gap	0.7-0.8 mm
Valve Clearance	Intake	0.10-0.15 mm
	Exhaust	0.15-0.20 mm
Idle Speed		1,800 ± 50 RPM
Dimensions		17.9x15x16.5 inches
Weight		30.8 lbs

MOUNTING HOLE DIAGRAM

Note: Not to scale.



TROUBLESHOOTING

IMPORTANT: If trouble persists please call our customer help line at **(800) 232-1195** M-F 8-5 Central Time.

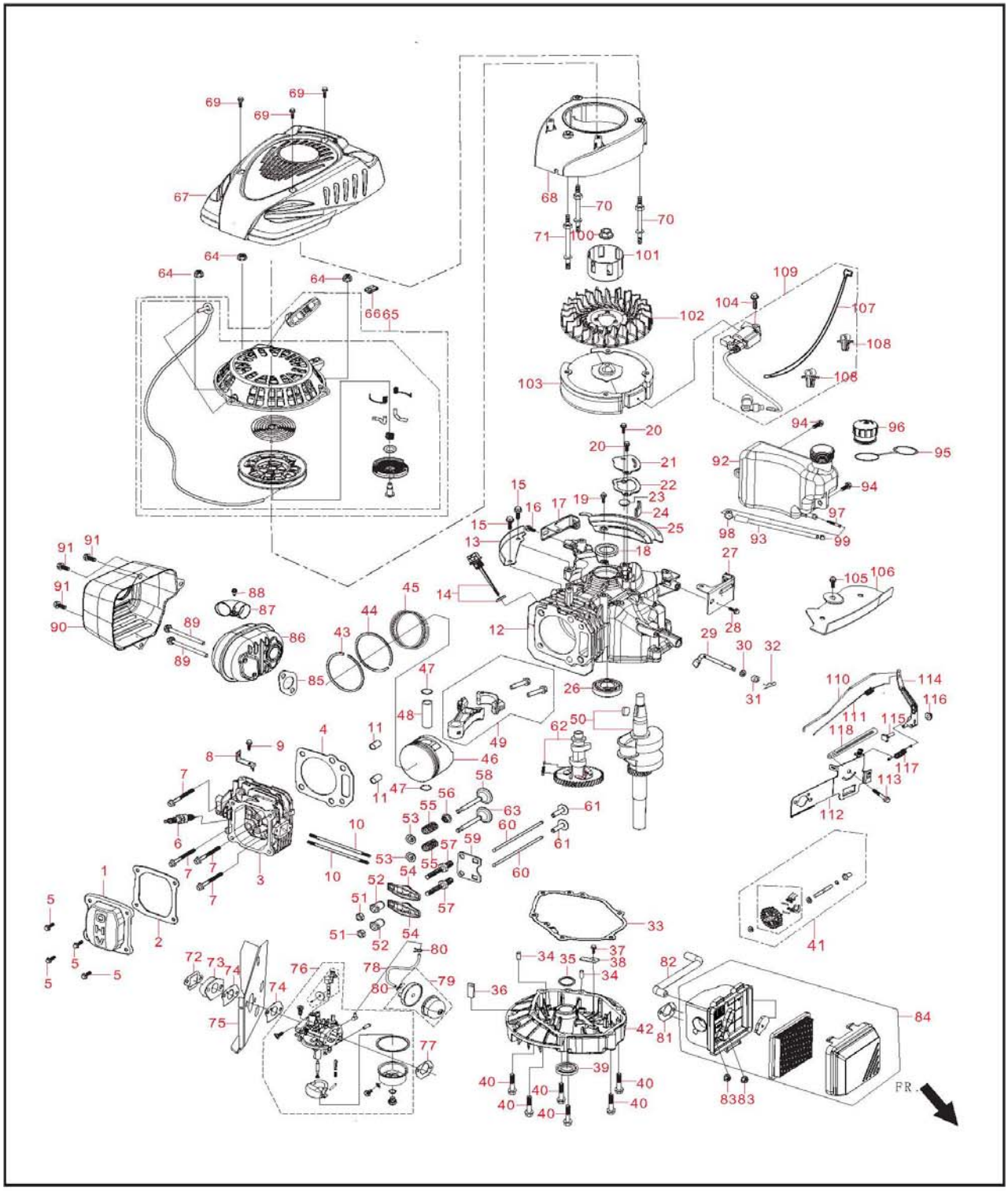
Problem	Cause	Solution
Engine will not start	Fuel Related:	Fuel Related:
	No fuel in tank or fuel valve closed.	Fill fuel tank and open fuel valve.
	Choke not in CHOKE position, cold engine.	Move Choke to CHOKE position.
	Gasoline with more than 10% ethanol used. (E15, E20, E85, etc.)	Clean out ethanol rich gasoline from fuel system. Replace components damaged by ethanol. Use fresh 87+ octane unleaded gasoline only.Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).
	Low quality or deteriorated, old gasoline.	Use fresh 87+ octane unleaded gasoline only.Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.).
	Carburetor not primed.	Pull on Starter Handle to prime.
	Dirty fuel passageways.	Clean out passageways using fuel additive. Heavy deposits may require further cleaning.
	Carburetor needle stuck. Fuel can be smelled in the air.	Gently tap side of carburetor float chamber with screwdriver handle.
	Too much fuel in chamber. This can be caused by the carburetor needle sticking.	Turn Choke to RUN position. Remove spark plug and pull the start handle several times to air out the chamber. Reinstall spark plug and set Choke to CHOKE position.
	Clogged Fuel Filter.	Replace Fuel Filter.
	IGNITION (SPARK) RELATED:	IGNITION (SPARK) RELATED:
	Spark plug cap not connected securely.	Connect spark plug cap properly.
	Spark plug electrode wet or dirty.	Clean spark plug.
	Incorrect spark plug gap.	Correct spark plug gap.
	Spark plug cap broken.	Replace spark plug cap.
	Incorrect spark timing or faulty ignition system.	Have qualified technician diagnose/repair ignition system.

Problem	Cause	Solution
Engine will not start	COMPRESSION RELATED: Cylinder not lubricated. Problem after long storage periods.	COMPRESSION RELATED: Pour tablespoon of oil into spark plug hole. Crank engine a few times and try to start again.
	Loose or broken spark plug. (Hissing noise will occur when trying to start.)	Tighten spark plug. If that does not work, replace spark plug. If problem persists, may have head gasket problem.
	Loose cylinder head or damaged head gasket. (Hissing noise will occur when trying to start.)	Tighten head. If that does not remedy problem, replace head gasket.
	Engine valves or tappets misadjusted or stuck.	Have qualified technician diagnose/repair ignition system.
Engine misfires	Spark plug cap loose.	Check wire connections.
	Incorrect spark plug gap or damaged spark plug.	Re-gap or replace spark plug.
	Defective spark plug cap.	Replace spark plug cap.
	Old or low quality gasoline.	Use only fresh 87+ octane unleaded gasoline.
	Incorrect compression.	Diagnose and repair compression. (Use Engine will not start: COMPRESSION RELATED section.)
Engine stops suddenly	Low oil shutdown.	Fill engine oil to proper level. Check engine oil before EVERY use.
	Fuel tank empty or full of impure or low quality gasoline.	Fill fuel tank with fresh 87+ octane unleaded gasoline.
	Defective fuel tank cap creating vacuum, preventing proper fuel flow.	Test/replace fuel tank cap.
	Faulty magneto.	Have qualified technician service magneto.
	Disconnected or improperly connected spark plug cap.	Secure spark plug cap.

Problem	Cause	Solution
Engine stops when under heavy load	Dirty air filter	Clean or replace element.
	Engine running cold.	Allow engine to warm up prior to operating equipment.
Engine knocks	Old or low quality gasoline.	Fill fuel tank with fresh 87+ octane unleaded gasoline.
	Engine overloaded.	Do not exceed equipment's load rating.
	Incorrect spark timing, deposit buildup, worn engine, or other mechanical problems.	Have qualified technician diagnose and service engine.
Engine backfires	Impure or low quality gasoline.	Fill fuel tank with fresh 87+ octane unleaded gasoline.
	Engine too cold.	Use cold weather fuel and oil additives to prevent backfiring.
	Intake valve stuck or overheated engine.	Have qualified technician diagnose and service engine.
	Incorrect timing.	Check engine timing.

Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

EXPLODED VIEW AND PARTS LIST



Part #	Stock #	Description
1	56173-001	CYLINDER HEAD COVER
2	56173-002	CYLINDER HEAD COVER GASKET
3	56173-003	CYLINDER HEAD
4	56173-004	CYLINDER HEAD GASKET
5	56173-005	BOLT
6	56173-006	SPARK PLUG
7	56173-007	CYLINDER HEAD BOLT
8	56173-008	MUFFLER BRACKET
9	56173-009	BOLT
10	56173-010	STUD
11	56173-011	PIN
12	56173-012	CRANKCASE ASSEMBLY
13	56173-013	CRANKCASE SIDE SHIELD
14	56173-014	OIL DIPSTICK
15	56173-015	BOLT
16	56173-016	BOLT
17	56173-017	TANK RIGHT BRACKET
18	56173-018	OIL SEAL
19	56173-019	BOLT
20	56173-020	BOLT
21	56173-021	COVER PLATE
22	56173-022	BREATH GROOVE GASKET
23	56173-023	BREATH PIECE
24	56173-024	STRAINER
25	56173-025	SHIELD, CRANKCASE REAR
26	56173-026	BEARING
27	56173-027	FUEL TANK LEFT BRACKET
28	56173-028	BOLT
29	56173-029	GOVERNOR ARM
30	56173-030	WASHER
31	56173-031	OIL SEAL
32	56173-032	PIN
33	56173-033	CRANKCASE GASKET
34	56173-034	PIN
35	56173-035	WASHER
36	56173-036	RETURNING OIL BLOCK
37	56173-037	BOLT
38	56173-038	GOVERNOR PLATE
39	56173-039	OIL SEAL
40	56173-040	BOLT
41	56173-041	GEAR ASSEMBLY
42	56173-042	CRANKCASE COVER
43	56173-043	THE FIRST RING
44	56173-044	THE SECOND RING
45	56173-045	OIL RING SET
46	56173-046	PISTON
47	56173-047	PISTON PIN CLIP
48	56173-048	PISTON PIN
49	56173-049	CONNECTING ROD
50	56173-050	CRANKSHAFT ASSEMBLY

Part #	Stock #	Description
51	56173-051	VALVE LOCK NUT
52	56173-052	VALVE ADJUSTING NUT
53	56173-053	VALVE SPRING SEAT
54	56173-054	ROCKER, VALVE
55	56173-055	SPRING, VALVE
56	56173-056	GUIDE, SEAL
57	56173-057	BOLT, VALVE ADJUSTING
58	56173-058	VALVE, INTAKE
59	56173-059	LIFTER STOPPER PLATE
60	56173-060	VALVE LIFTER
61	56173-061	VALVE TAPPET
62	56173-062	CAMSHAFT ASSEMBLY
63	56173-063	EXHAUST VALVE
64	56173-064	BOLT
65	56173-065	RECOIL STARTER ASSEMBLY
66	56173-066	CABLE COVER CLIP
67	56173-067	ENGINE HOUSING
68	56173-068	SHROUD
69	56173-069	NUT
70	56173-070	STUD
71	56173-071	STUD
72	56173-072	INSULATOR PLATE GASKET
73	56173-073	CARBURETOR INSULATOR PLATE
74	56173-074	CARBURETOR GASKET
75	56173-075	CARBURETOR INSULATOR GASKET
76	56173-076	CARBURETOR ASSEMBLY
77	56173-077	AIR CLEANER GASKET
78	56173-078	VALVE TUBE
79	56173-079	PRIMING BULB
80	56173-080	CLAMP
81	56173-081	AIR CLEANER GASKET
82	56173-082	BREATHER TUBE
83	56173-083	NUT
84	56173-084	AIR CLEANER
85	56173-085	EXHAUST OUTLET GASKET
86	56173-086	MUFFLER ASSEMBLY
87	56173-087	BRAKE ASSEMBLY
88	56173-088	BOLT
89	56173-089	BOLT
90	56173-090	MUFFLER OUTER COVER
91	56173-091	BOLT
92	56173-092	FUEL TANK
93	56173-093	FUEL TUBE
94	56173-094	BOLT
95	56173-095	TANK COVER CHAIN
96	56173-096	TANK COVER
97	56173-097	FUEL STRAINER
98	56173-098	CLAMP
99	56173-099	CLAMP
100	56173-100	FLYWHEEL NUT

Part #	Stock #	Description
101	56173-101	FLYWHEEL
102	56173-102	BOLT
103	56173-103	IGNITION COIL
104	56173-104	GOVERNEOR ROD
105	56173-105	THROTTLE VALVE RETURNING SPRING
106	56173-106	THROTTLE CONTROL
107	56173-107	BOLT
108	56173-108	GOVEROR SUPPORT
109	56173-109	GOVERNOR SUPPORT BOLT
110	56173-110	NUT
111	56173-111	GOVERNOR SPRING
112	56173-112	CLIP

NOTES:

WARRANTY STATEMENT
FOR WEN® ENGINES

WEN® engines are warranted (to the original purchaser) to be free from defects in materials and workmanship for a period of two (2) years from the date of original purchase. Engines used for commercial or for rental have a warranty period of 90 days from date of original purchase. Please fill out and mail the enclosed warranty card and mail it to Power Pro Technology along with a copy of the receipt. The information is required to process warranty claims.

WEN® will repair or replace, at its discretion, any part that is proven to be defective in materials or workmanship under normal use during the two (2) year warranty period. Warranty repairs or replacements will be made without charge for parts or labor. Parts replaced during warranty repairs will be considered as part of the original product and will have the same warranty period as the original product.

TO EXERCISE WARRANTY COVERAGE:

Do not return to retailer! For warranty and technical support call the toll-free Customer Service Number: (800) 232-1195 and you will be informed of the nearest authorized service center. We will prearrange the repair with the center.

WARRANTY COVERAGE:

This warranty is conveyed to the original purchaser and is not transferable.

Engines contain parts that will wear out with usage and parts that need maintenance. The warranty does not cover wear or maintenance parts. Specifically, the warranty does not cover replacement of air filter, spark plug, brush and recoil starter rope.

Warranty does not extend to engines damaged or affected by accidents, neglect, misuse, contaminated fuel, unauthorized alterations, use in applications beyond product design and any other modification or abuse.

WEN® is not liable for any indirect, incidental or consequential damages from the sale or use of this product. Any implied warranties are limited to two (2) years as stated in this written limited warranty. Some states do not allow limitation on the length of an implied warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you the specific legal right, and you may have other rights that vary by state.

Wen®. Elgin, IL 60123. www.wenproducts.com.