



13 HP Gas Engine

Stock No. GE13/03215



Instructions Manual

Please read this Manual BEFORE use this tools

INTRODUCTION


A FEW WORDS ABOUT SAFETY


Your safety and the safety of others is very important. And using this engine safely is an important responsibility.


To help you make informed decisions about safety, we have provided operating procedures and other information on labels and in this manual. This information alerts you to potential hazards that could hurt you or others.


Of course, it is not practical or possible to warn you about all the hazards associated with operating or maintaining an engine. You must use your own good judgment.

You will find important safety information in a variety of forms, including:

- **Safety Messages** — preceded by a safety alert symbol  and one of three signal words, DANGER, WARNING, or CAUTION. These signal words mean:

 **DANGER** You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

 **WARNING** You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

 **CAUTION** You CAN be HURT if you don't follow instructions.

- **Safety Headings** — such as *IMPORTANT SAFETY INFORMATION*.
- **Safety Section** — such as *ENGINE SAFETY*.
- **Instructions** — how to use this engine correctly and safely.

This entire book is filled with important safety information — please read it carefully.

ENGINE SAFETY

▲ WARNING

- The engines are designed to give safe and dependable service if operated according to instructions. Read and understand this Owner's Manual before operating the engine. Failure to do so could result in personal injury or equipment damage.
- To prevent fire hazards and to provide adequate ventilation, keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation. Do not place flammable objects close to the engine.
- Children and pets must be kept away from the area of operation due to a possibility of burns from hot engine components or injury from any equipment the engine may be used to operate.
- Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
- Gasoline is extremely flammable and is explosive under certain conditions.
- Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the refueling area or where gasoline is stored.
- Do not overfill the fuel tank. After refueling, make sure the tank cap is closed properly and securely.
- Be careful not to spill fuel when refueling. Fuel vapor or spilled fuel may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- Never run the engine in an enclosed or confined area. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. To avoid severe burns or fire hazards, let the engine cool before transporting it or storing it indoors.

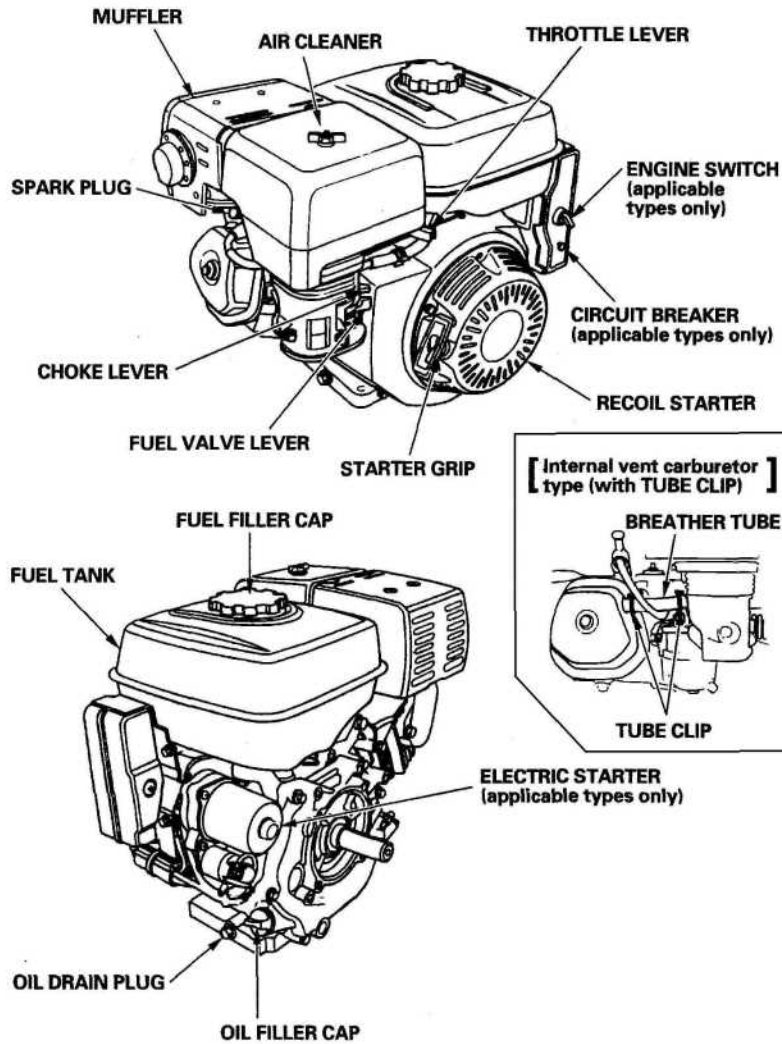
Specifications

GE11 GE13

Length x Width x Height		15.0 x 17.7 x 17.4in (380 x 450 x 443mm)
Dry weight		68.3 lbs (31.0kg)
Engine type		4-stroke,overhead valve,single cylinder
Displacement [Bore x Stroke]	GE11	20.6 cu-in(337 cm ³) [3.2 x2.5in(82 x 64mm)]
	GE13	23.7cu-in(389cm ³) [3.5 x2.5in(88 x 64mm)]
Max.output	GE11	11bhp (8.1kW)at 3,600 rpm
	GE13	13bhp (9.6kW)at 3,600 rpm
Max.torque	GE11	17.4 lbf-ft(23.5 N·m,2.4kgf·m) at 2,500 rpm
	GE13	19.5 lbf-ft(26.5 N·m,2.7kgf·m) at 2,500 rpm
Engine oil capacity		1.16 US qt(1.10 ℓ)
Fuel tank capacity		1.72 US gal (6.5ℓ)
Fuel consumption		0.51 lb/hph(313 g/kWh,230 g/PSh)
Cooling system		Forced air
Ignition system		Transistorized magneto
PTO shaft rotation		Counterclockwise

CONTROLS & FEATURES

COMPONENT & CONTROL LOCATIONS



TECHNICAL & CONSUMER INFORMATION

Battery Connections for Electric Starter (applicable types only)

Use a 12-volt battery with an ampere-hour rating of at least 18 Ah.

Be careful not to connect the battery in reverse polarity, as this will short circuit the battery charging system. Always connect the positive (+) battery cable to the battery terminal before connecting the negative (–) battery cable, so your tools cannot cause a short circuit if they touch a grounded part while tightening the positive (+) battery cable end.

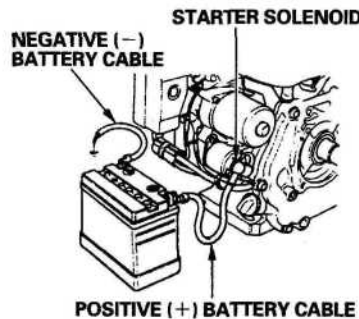
⚠ WARNING

A battery can explode if you do not follow the correct procedure, seriously injuring anyone nearby.

Keep all sparks, open flames, and smoking materials away from the battery.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds. **Wash hands after handling.**

1. Connect the battery positive (+) cable to the starter solenoid terminal as shown.
2. Connect the battery negative (–) cable to an engine mounting bolt, frame bolt, or other good engine ground connection.
3. Connect the battery positive (+) cable to the battery positive (+) terminal as shown.
4. Connect the battery negative (–) cable to the battery negative (–) terminal as shown.
5. Coat the terminals and cable ends with grease.

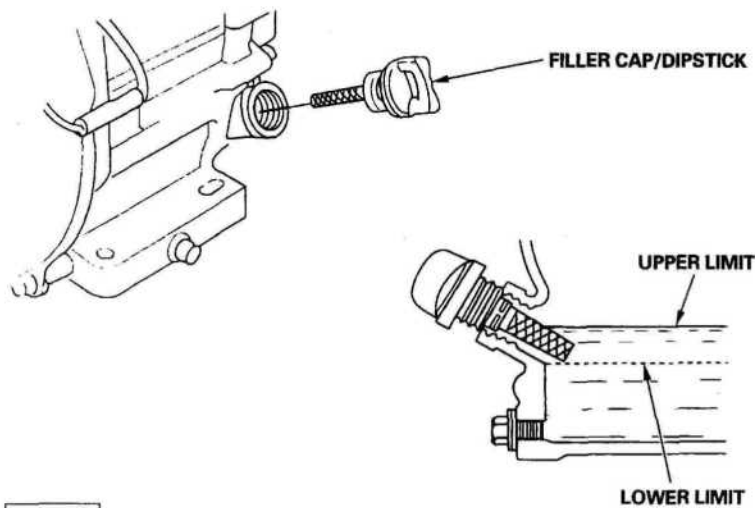


PRE-OPERATION CHECK

ENGINE OIL LEVEL CHECK

Check the engine oil level with the engine stopped and in a level position.

1. Remove the filler cap/dipstick and wipe it clean.
2. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
3. If the oil level is low, fill to the edge of the oil filler hole with the recommended oil.
4. Screw in the filler cap/dipstick securely.



NOTICE

Running the engine with a low oil level can cause engine damage.

The Oil sensor system (applicable engine types) will automatically stop the engine before the oil level falls below safe limit. However, to avoid the inconvenience of an unexpected shutdown, always check the engine oil level before startup.

PRE-OPERATION CHECK

ENGINE OIL CHANGE

Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

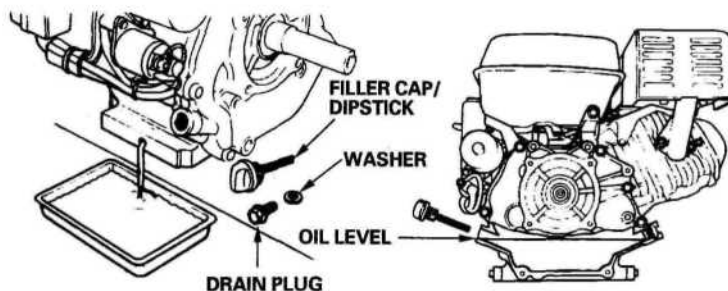
1. Place a suitable container below the engine to catch the used oil, then remove the filler cap/dipstick, drain plug, and washer.
2. Allow the used oil to drain completely, then reinstall the drain plug, washer, and tighten drain plug securely.
3. Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or down a drain.
4. With the engine in a level position, fill to the outer edge of the oil filler hole with the recommended oil (see page 28).

NOTICE

Running the engine with a low oil level can cause engine damage.

The Oil sensor system (applicable engine types) will automatically stop the engine before the oil level falls below the safe limit. However, to avoid the inconvenience of an unexpected shutdown, fill to the upper limit, and check the oil level regularly.

5. Screw in the filler cap/dipstick securely.

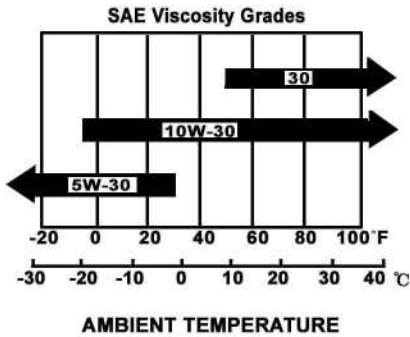


PRE-OPERATION CHECK

ENGINE OIL RECOMMENDATIONS

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.



The SAE oil viscosity and service classification are in the API label on the oil container. The expert recommends that you use API SERVICE category SJ or SL oil.

PRE-OPERATION CHECK

REFUELING

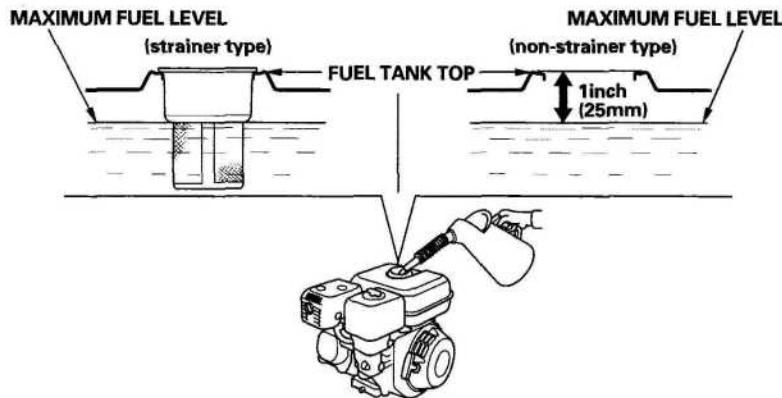
With the engine stopped and on a level surface, remove the fuel tank cap and check the fuel level. Refill the tank if the fuel level is low.

⚠ WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Stop the engine and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.



Refuel in a well-ventilated area before starting the engine. If the engine has been running, allow it to cool. Refuel carefully to avoid spilling fuel. Do not fill the fuel tank completely. Fill tank to approximately 1 inch (25 mm) below the top of the fuel tank to allow for fuel expansion. It may be necessary to lower the fuel level depending on operating conditions. After refueling, tighten the fuel tank cap securely.

PRE-OPERATION CHECK

Never refuel the engine inside a building where gasoline fumes may reach flames or sparks. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.

Spilled fuel is not only a fire hazard, it causes environmental damage. Wipe up spills immediately.

NOTICE

Fuel can damage paint and plastic. Be careful not to spill fuel when filling your fuel tank. Damage caused by spilled fuel is not covered under warranty.

FUEL RECOMMENDATIONS

Use unleaded gasoline with a pump octane rating of 86 or higher.

These engines are certified to operate on unleaded gasoline. Unleaded gasoline produces fewer engine and spark plug deposits and extends exhaust system life.

Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.

Occasionally you may hear a light "spark knock" or "pinging" (metallic rapping noise) while operating under heavy loads. This is no cause for concern.

If spark knock or pinging occurs at a steady engine speed, under normal load, change brands of gasoline.

NOTICE

Running the engine with persistent spark knock or pinging can cause engine damage.

Running the engine with persistent spark knock or pinging is considered misuse, and the Distributor's Limited Warranty does not cover parts damaged by misuse.

OPERATION

SAFE OPERATING PRECAUTIONS

Before operating the engine for the first time, please review the *IMPORTANT SAFETY INFORMATION*.

⚠ WARNING

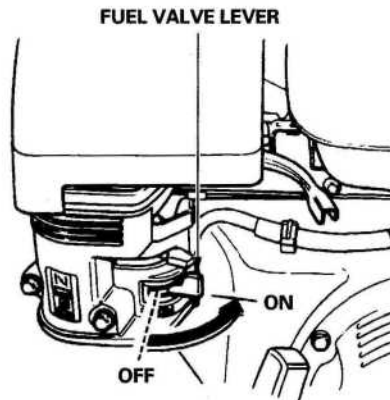
Carbon monoxide gas is toxic.
Breathing it can cause
unconsciousness and even kill you.

Avoid any areas or actions that
expose you to carbon monoxide.

Review the instructions provided with the equipment powered by this engine for any safety precautions that should be observed in conjunction with engine startup, shutdown, or operation.

STARTING THE ENGINE

1. Move the fuel valve lever to the ON position.

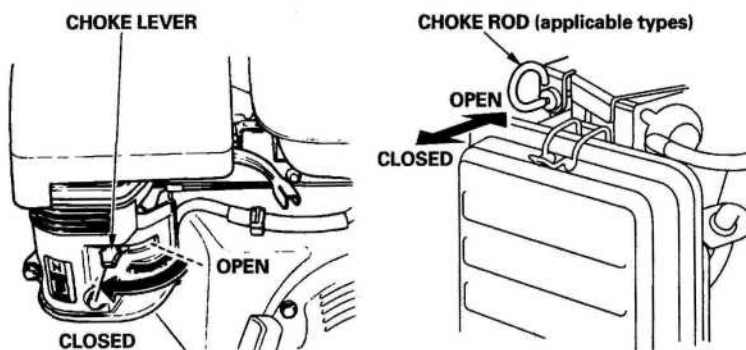


OPERATION

2. To start a cold engine, move the choke lever or choke rod (applicable types) to the CLOSED position.

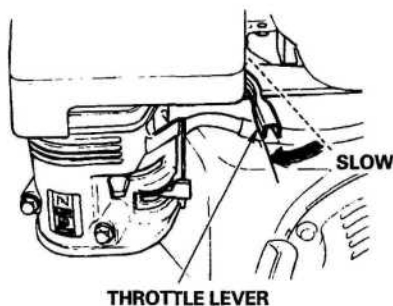
To restart a warm engine, leave the choke lever in the OPEN position.

Some engine applications use a remote-mounted choke control rather than the engine-mounted choke lever shown here.



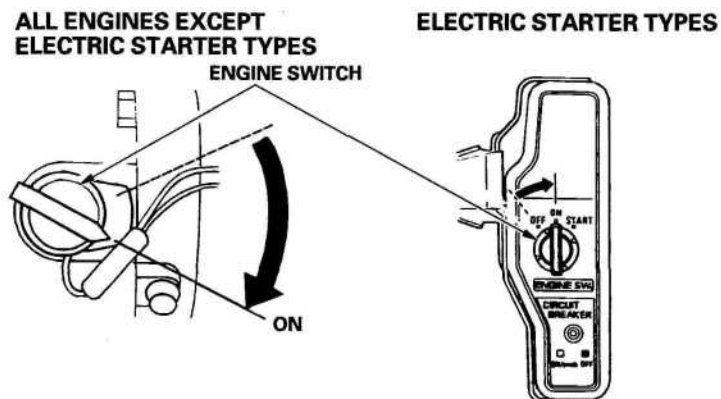
3. Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position.

Some engine applications use a remote-mounted throttle control rather than the engine-mounted throttle lever shown here.



OPERATION

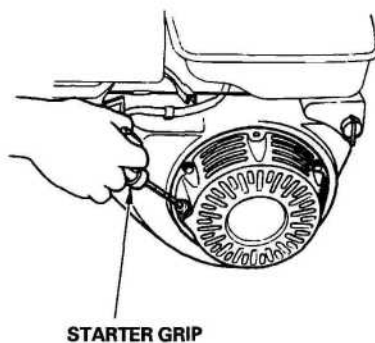
4. Turn the engine switch to the ON position.



5. Operate the starter.

RECOIL STARTER (all engine types):

Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.



OPERATION

ELECTRIC STARTER (applicable types only):

Turn the key to the START position, and hold it there until the engine starts.

If the engine fails to start within 5 seconds, release the key, and wait at least 10 seconds before operating the starter again.

NOTICE

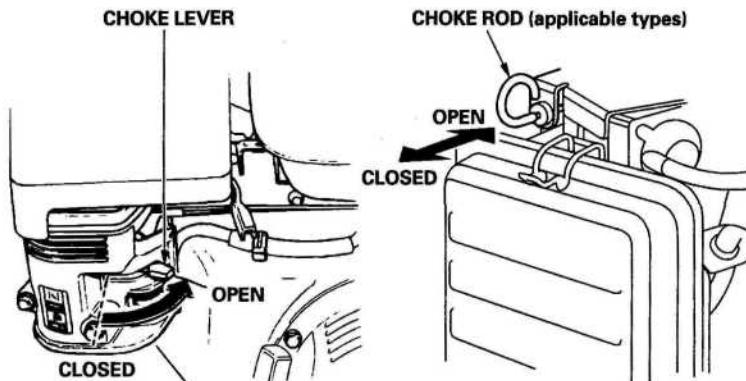
Using the electric starter for more than 5 seconds at a time will overheat the starter motor and can damage it.

When the engine starts, release the key, allowing it to return to the ON position.



ENGINE SWITCH
(applicable types only)

6. If the choke lever or choke rod (applicable types) has been moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.



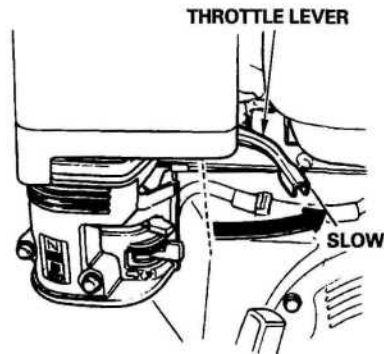
OPERATION

STOPPING THE ENGINE

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure.

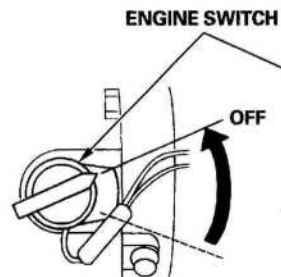
1. Move the throttle lever to the SLOW position.

Some engine applications use a remote-mounted throttle control rather than the engine-mounted throttle lever shown here.



2. Turn the engine switch to the OFF position.

**ALL ENGINES EXCEPT
ELECTRIC STARTER TYPES**

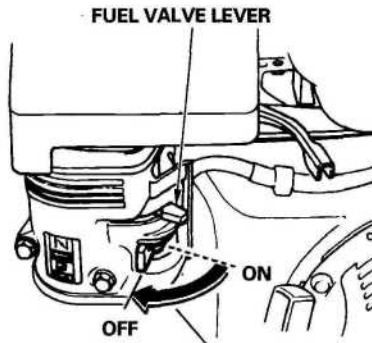


ELECTRIC STARTER TYPES



OPERATION

3. Turn the fuel valve lever to the OFF position.

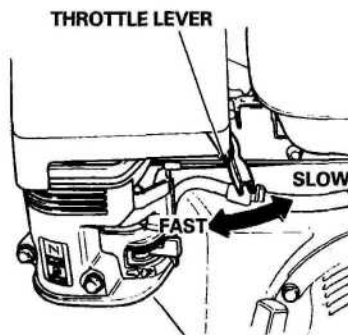


SETTING ENGINE SPEED

Position the throttle lever for the desired engine speed.

Some engine applications use a remote-mounted throttle control rather than the engine-mounted throttle lever shown here.

For engine speed recommendations, refer to the instructions provided with the equipment powered by this engine.



SERVICING YOUR ENGINE

MAINTENANCE SAFETY

Some of the most important safety precautions follow. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

⚠ WARNING

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed.

Always follow the procedures and precautions in the owner's manual.

Safety Precautions

- Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:
 - **Carbon monoxide poisoning from engine exhaust.**
Be sure there is adequate ventilation whenever you operate the engine.
 - **Burns from hot parts.**
Let the engine and exhaust system cool before touching.
 - **Injury from moving parts.**
Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks and flames away from all fuel-related parts.

Remember that your servicing dealer knows your engine best and is fully equipped to maintain and repair it.

To ensure the best quality and reliability, use only new, genuine JD parts or their equivalents for repair and replacement.

SERVICING YOUR ENGINE

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD(3)			Each use	First month or 20 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs.
ITEM	Perform at every indicated month or operating hour interval, whichever comes first.						
• Engine oil	Check level		○				
	Change			○		○	
• Reduction gear oil (applicable types)	Check level		○				
	Change			○		○	
• Air filter	Check		○				
	Clean				○(1)	○* (1)	
	Replace						○**
• Sediment cup	Clean					○	
• Spark plug	Check-adjust					○	
	Replace						○
• Spark arrester (optional parts)	Clean					○	
• Idle speed	Check-adjust						○(2)
• Valve clearance	Check-adjust						○(2)
• Combustion chamber	Clean			After every 500 Hrs.(2)			
• Fuel tank & filter	Clean					○ (2)	
• Fuel tube	Check			Every 2 years (Replace if necessary)(2)			

• Emission-related items.

* Internal vent carburetor with dual element type only.

* * Replace paper element type only. Cyclone type every 2 years or 600 hours.

(1) Service more frequently when used in dusty areas.

(2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient.

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

SERVICING YOUR ENGINE

AIR CLEANER SERVICE

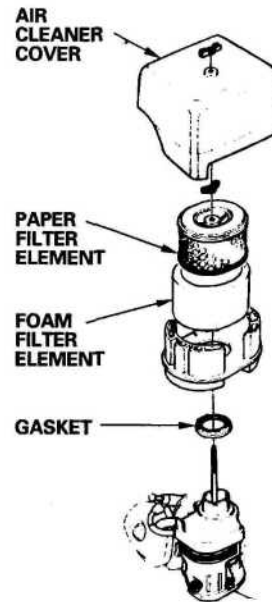
A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the MAINTENANCE SCHEDULE.

NOTICE

Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty.

Dual-Filter-Element Type

1. Remove the wing nut from the air cleaner cover, and remove the cover.
2. Remove the wing nut from the air filter, and remove the filter.
3. Remove the foam filter from the paper filter.
4. Inspect both air filter elements, and replace them if they are damaged. Always replace the paper air filter element at the scheduled interval
5. Clean the air filter elements if they are to be reused.
6. Wipe dirt from the inside of the air cleaner base and cover, using a moist rag. Be careful to prevent dirt from entering the air duct that leads to the carburetor.
7. Place the foam air filter element over the paper element, and reinstall the assembled air filter. Be sure the gasket is in place beneath the air filter. Tighten the air filter wing nut securely.
8. Install the air cleaner cover, and tighten the cover wing nut securely.



SERVICING YOUR ENGINE

SEDIMENT CUP CLEANING

1. Move the fuel valve to the OFF position, then remove the fuel sediment cup and O-ring.

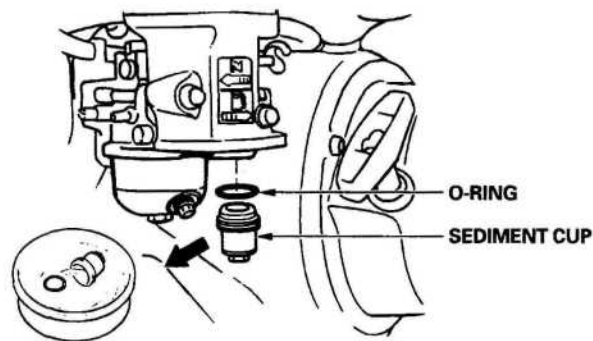
⚠ WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

2. Wash the sediment cup and O-ring in nonflammable solvent, and dry them thoroughly.
3. Place the O-ring in the fuel valve, and install the sediment cup. Tighten the sediment cup securely.
4. Move the fuel valve to the ON position, and check for leaks. Replace the O-ring if there is any leakage.



SERVICING YOUR ENGINE

SPARK PLUG SERVICE

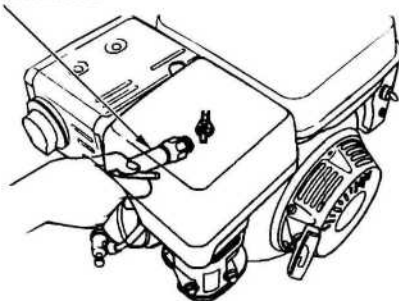
Recommended spark plugs: BPR6ES (NGK)
W20EPR-U (DENSO)

NOTICE

An incorrect spark plug can cause engine damage.

1. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.
2. Remove the spark plug with a 13/16-inch spark plug wrench.

SPARK PLUG WRENCH



3. Inspect the spark plug. Replace it if the electrodes are worn heavy carbon buildup is found, or if the insulator is cracked or chipped.
4. Measure the spark plug electrode gap with a suitable gauge. The gap should be 0.028 – 0.031 in (0.70 – 0.80 mm). Correct the gap, if necessary, by carefully bending the side electrode.
5. Install the spark plug carefully, by hand, to avoid cross-threading.



SERVICING YOUR ENGINE

6. After the spark plug seats, tighten with a 13/16-inch spark plug wrench to compress the sealing washer.

If reinstalling the used spark plug, tighten 1/8–1/4 turn after the spark plug seats.

If installing a new spark plug, tighten 1/2 turn after the spark plug seats.

NOTICE

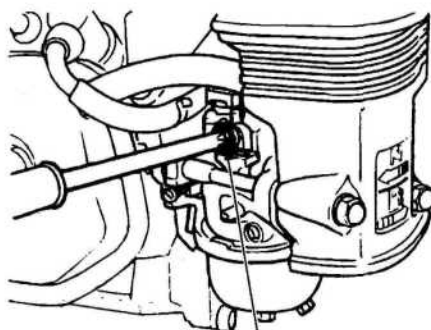
*A loose spark plug can overheat and damage the engine.
Overtightening the spark plug can damage the threads in the cylinder head.*

7. Attach the spark plug cap.

IDLE SPEED ADJUSTMENT

1. Start the engine outdoors, and allow it to warm up to operating temperature.
2. Move the throttle lever to its slowest position.
3. Turn the throttle stop screw to obtain the standard idle speed.

Standard idle speed: 1,400 \pm 150 rpm



THROTTLE STOP SCREW

TAKING CARE OF UNEXPECTED PROBLEMS

ENGINE WILL NOT START	Possible Cause	Correction
1. Electric starting (applicable types): Check battery and fuse.	Battery discharged.	Recharge battery:
	Fuse burnt out.	Replace fuse
2. Check control positions.	Fuel valve OFF.	Move lever to ON.
	Choke OPEN.	Move lever to CLOSED unless engine is warm.
	Engine switch OFF.	Turn engine switch to ON.
3. Check fuel.	Out of fuel.	Refuel
	Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor Refuel with fresh gasoline
4. Remove and inspect spark plug.	Spark plug faulty, fouled, or improperly gapped.	Gap, or replace spark plug
	Spark plug wet with fuel (flooded engine).	Dry and reinstall spark plug. Start engine with throttle lever in FAST position.
5. Take engine to an authorized JD servicing dealer. or refer to shop manual.	Fuel filter clogged, carburetor malfunction., ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary.

ENGINE LACKS POWER	Possible Cause	Correction
1. Check air filter.	Filter element(s) clogged.	Clean or replace filter element(s)
2. Check fuel.	Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor Refuel with fresh gasoline
3. Take engine to an authorized JD servicing dealer. or refer to shop manual.	Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary.

HELPFUL TIPS & SUGGESTIONS

STORING YOUR ENGINE

Storage Preparation

Proper storage preparation is essential for keeping your engine troublefree and looking good. The following steps will help to keep rust and corrosion from impairing your engine's function and appearance, and will make the engine easier to start after storage.

Cleaning

If the engine has been running, allow it to cool for at least half an hour before cleaning. Clean all exterior surfaces, touch up any damaged paint, and coat other areas that may rust with a light film of oil.

NOTICE

- *Using a garden hose or pressure washing equipment can force water into the air cleaner or muffler opening. Water in the air cleaner will soak the air filter, and water that passes through the air filter or muffler can enter the cylinder, causing damage.*
- *Water contacting a hot engine can cause damage. If the engine has been running, allow it to cool for at least half an hour before washing.*

Fuel

Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves gum deposits that clog the fuel system. If the gasoline in your engine deteriorates during storage, you may need to have the carburetor and other fuel system components serviced or replaced.

The length of time that gasoline can be left in your fuel tank and carburetor without causing functional problems will vary with such factors as gasoline blend, your storage temperatures, and whether the fuel tank is partially or completely filled. The air in a partially filled fuel tank promotes fuel deterioration. Very warm storage/temperatures accelerate fuel deterioration. Fuel deterioration problems may occur within a few months, or even less if the gasoline was not fresh when you filled the fuel tank.

HELPFUL TIPS & SUGGESTIONS

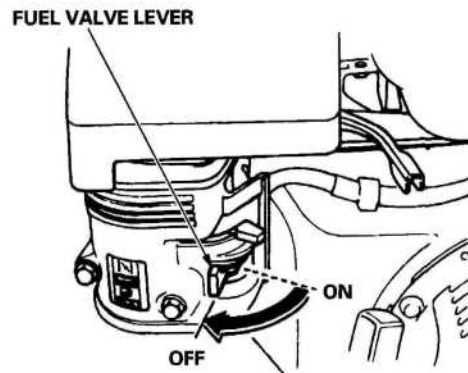
The *Distributor's Limited Warranty* does not cover fuel system damage or engine performance problems resulting from neglected storage preparation.

You can extend fuel storage life by adding a fuel stabilizer that is formulated for that purpose, or you can avoid fuel deterioration problems by draining the fuel tank and carburetor.

ADDING A FUEL STABILIZER TO EXTEND FUEL STORAGE LIFE

When adding a fuel stabilizer, fill the fuel tank with fresh gasoline. If only partially filled, air in the tank will promote fuel deterioration during storage. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline.

1. Add fuel stabilizer following the manufacturer's instructions.
2. After adding a fuel stabilizer, run the engine outdoors for 10 minutes to be sure that treated gasoline has replaced the untreated gasoline in the carburetor.
3. Stop the engine, and move the fuel valve lever to the OFF position.



HELPFUL TIPS & SUGGESTIONS

DRAINING THE FUEL TANK AND CARBURETOR

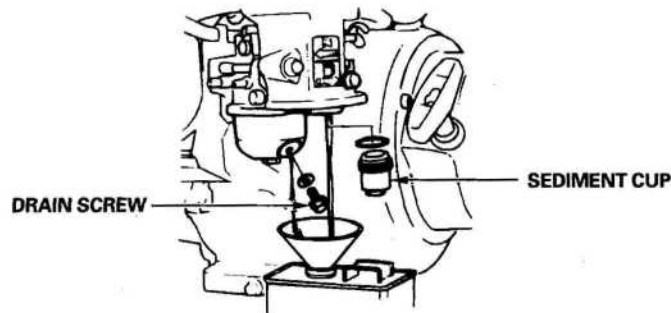
1. Place an approved gasoline container below the carburetor, and use a funnel to avoid spilling fuel.
2. Remove the carburetor drain bolt and sediment cup, then move the fuel valve lever to the ON position.

⚠ WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.



3. After all the fuel has drained into the container, reinstall the drain bolt and sediment cup. Tighten them securely.

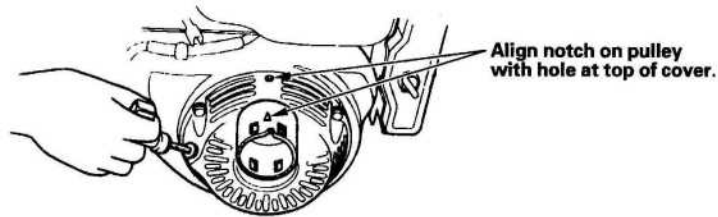
HELPFUL TIPS & SUGGESTIONS

Engine Oil

1. Change the engine oil

Engine Cylinder

2. Remove the spark plug
3. Pour a tablespoon (5 — 10 cc) of clean engine oil into the cylinder.
4. Pull the starter rope several times to distribute the oil in the cylinder.
5. Reinstall the spark plug.
6. Pull the starter rope slowly until resistance is felt and the notch on the starter pulley aligns with the hole at the top of the recoil starter cover. This will close the valves so moisture cannot enter the engine cylinder. Return the starter rope gently.



Storage Precautions

If your engine will be stored with gasoline in the fuel tank and carburetor, it is important to reduce the hazard of gasoline vapor ignition. Select a well-ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater, or clothes dryer. Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because that promotes rust and corrosion.

Unless all fuel has been drained from the fuel tank, leave the fuel valve lever in the OFF position to reduce the possibility of fuel leakage.

HELPFUL TIPS & SUGGESTIONS

Position the equipment so the engine is level. Tilting can cause fuel or oil leakage.

With the engine and exhaust system cool, cover the engine to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the engine, promoting rust and corrosion.

If equipped with a battery for electric starter types, recharge the battery once a month while the engine is in storage. This will help to extend the service life of the battery.

Removal From Storage

Check your engine as described in the *BEFORE OPERATION* chapter of this manual.

If the fuel was drained during storage preparation, fill the tank with fresh gasoline. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline. Gasoline oxidizes and deteriorates over time, causing hard starting.

If the cylinder was coated with oil during storage preparation, the engine may smoke briefly at startup. This is normal.

TRANSPORTING

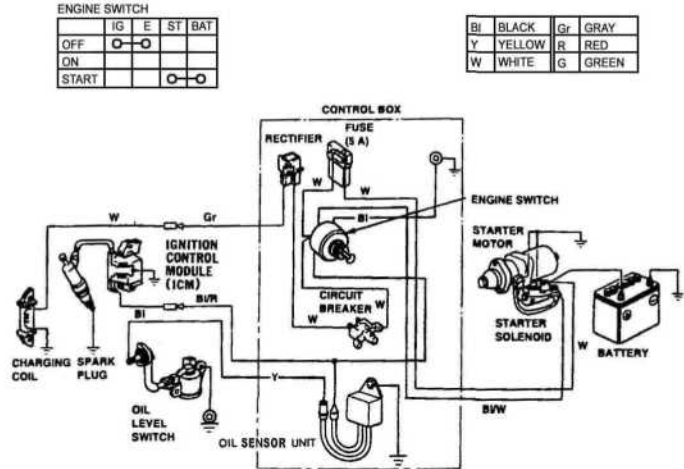
If the engine has been running, allow it to cool for at least 15 minutes before loading the engine-powered equipment on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

Keep the engine level when transporting to reduce the possibility of fuel leakage. Turn the fuel valve lever to the OFF position.

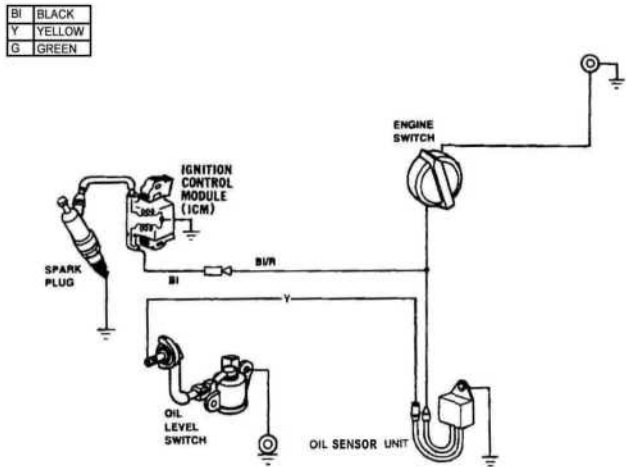
TECHNICAL & CONSUMER INFORMATION

Wiring Diagrams

Oil sensor and Electric Starter Types



Engine Types With Oil sensor and Without Electric Starter



TECHNICAL& CONSUMER INFORMATION

GE11/GE13 Tune-up

<u>ITEM</u>	<u>SPECIFICATION</u>
Spark plug gap	0.028 0.03iin <u>(0.70-0.80mm)</u>
<u>Idle speed</u>	<u>1,400 + 150rpm</u>
Valve clearance	IN: 0.15 + 0.02mm(cold) <u>EX: 0.20 +0.02mm (cold)</u>
Other specifications	No other adjustments needed