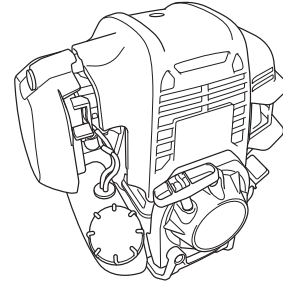


HONDA

OWNER'S MANUAL GX25 • GX35 • GX50



The illustrations in this manual are based on the GX50.
• The illustrations may vary according to the type.

SAFETY LABEL LOCATION / COMPONENT & CONTROL LOCATION

This label warns you of potential hazards that can cause serious injury. Read it carefully.
If the label comes off or becomes hard to read, contact your servicing dealer for replacement.

WARNING LABEL



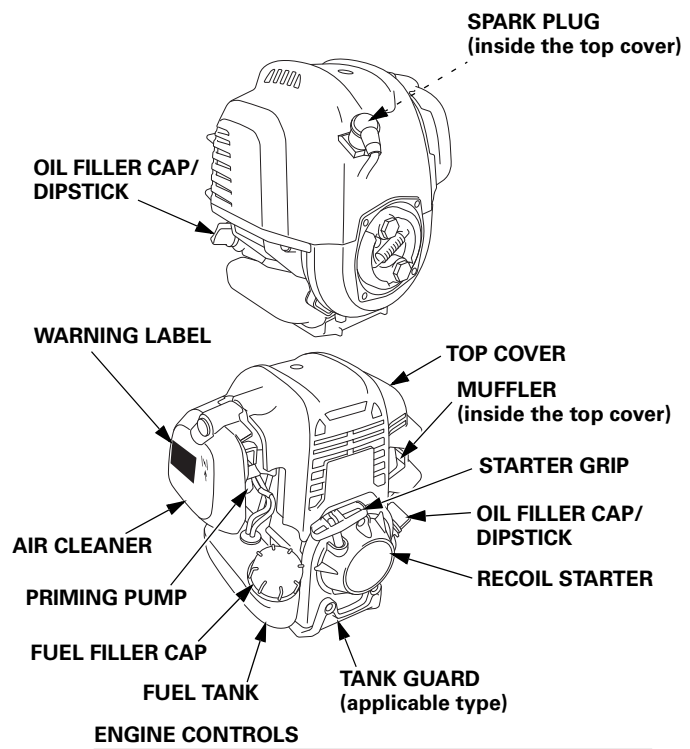
Gasoline is highly flammable and explosive. Stop the engine and let cool before refueling.



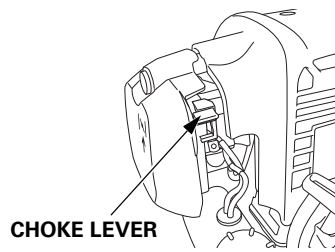
The engine emits toxic poisonous carbon monoxide gas. Do not run in an enclosed area.



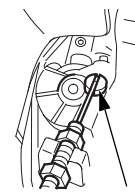
Read Owner's Manual before operation.



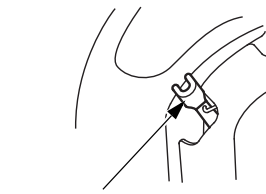
ENGINE CONTROLS



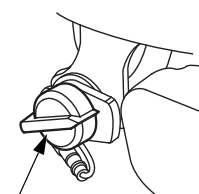
CHOKE LEVER



THROTTLE LEVER

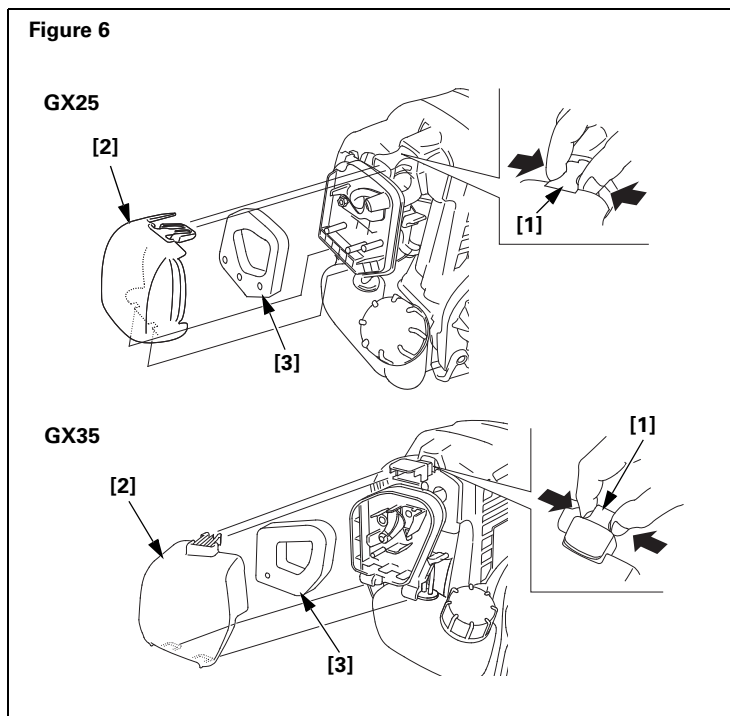
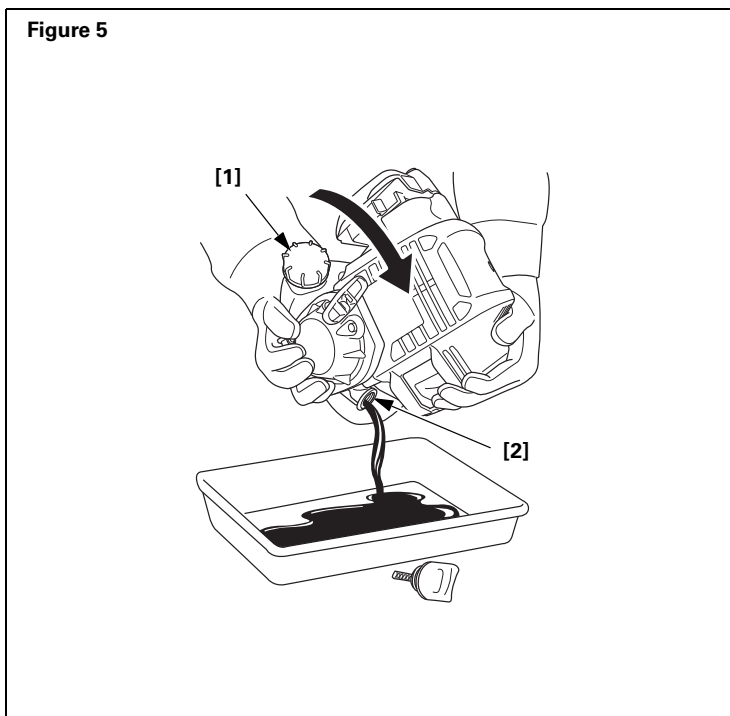
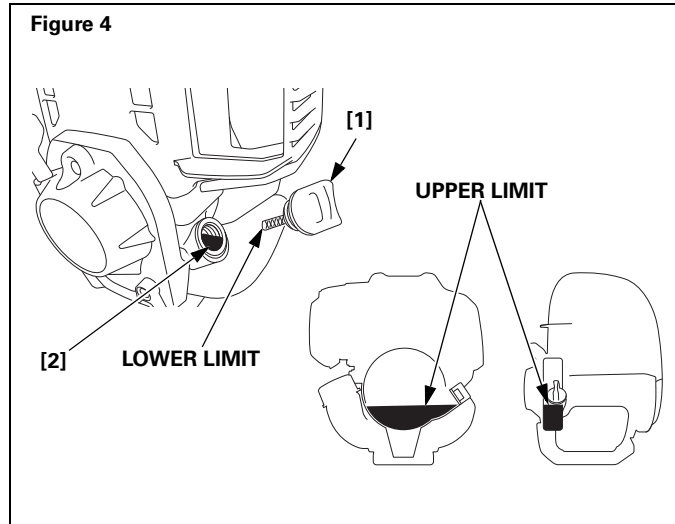
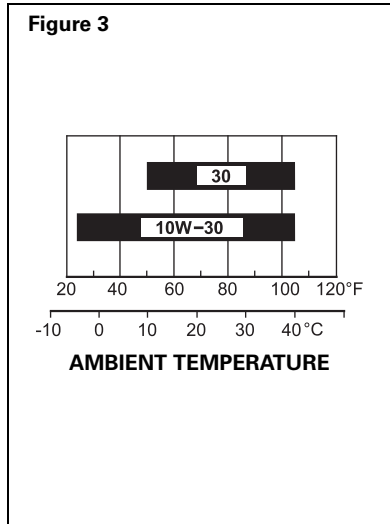
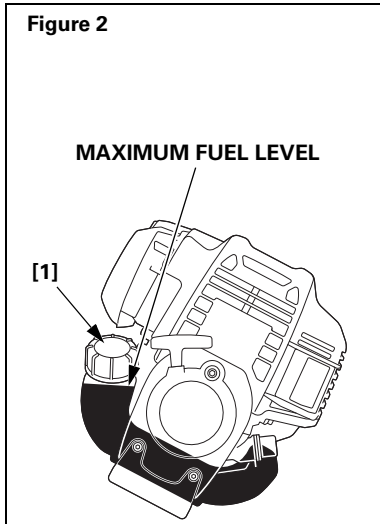
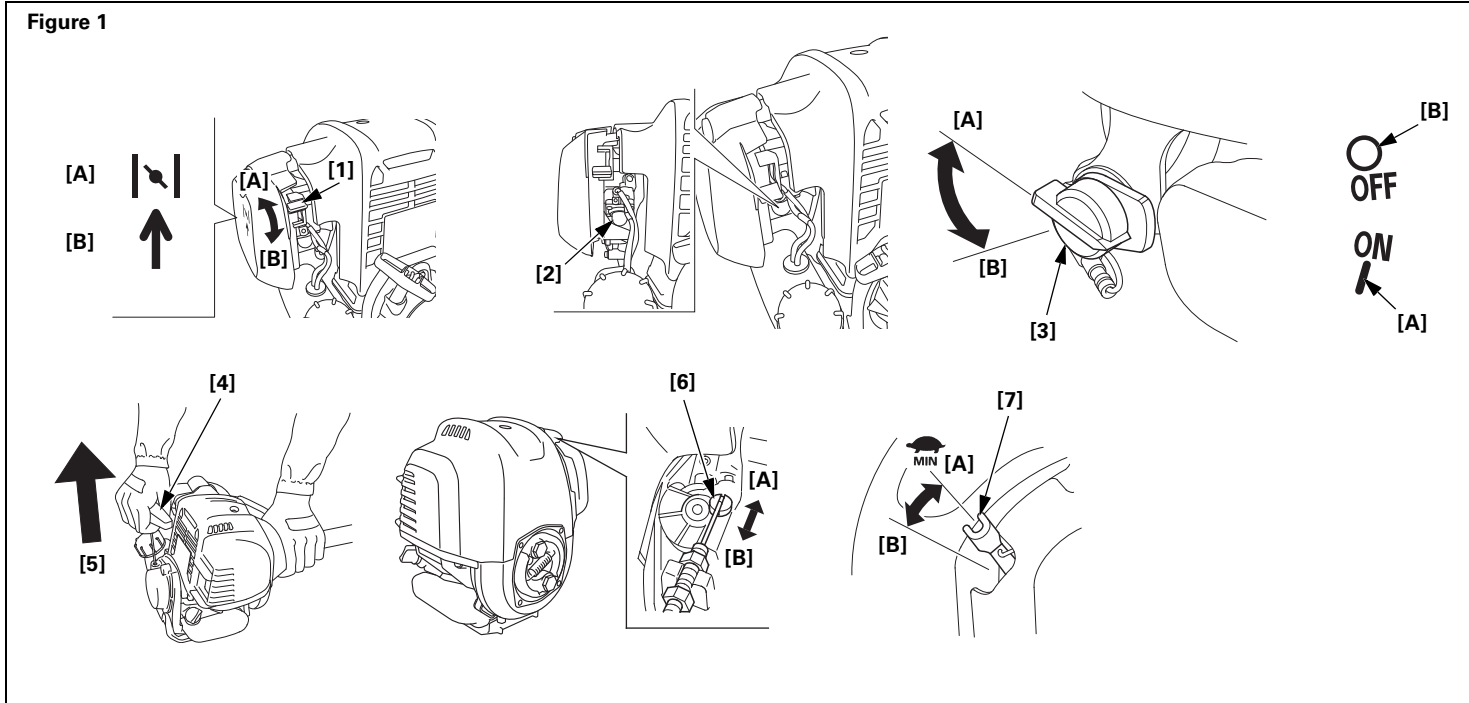


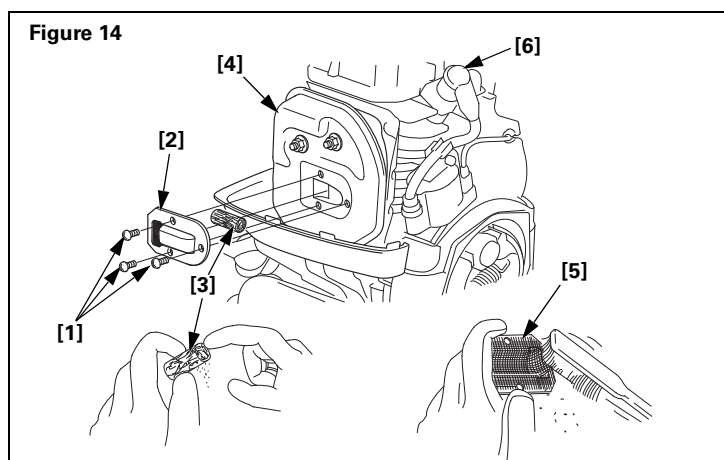
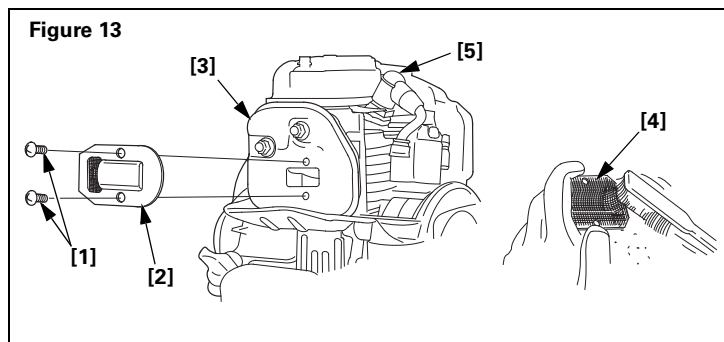
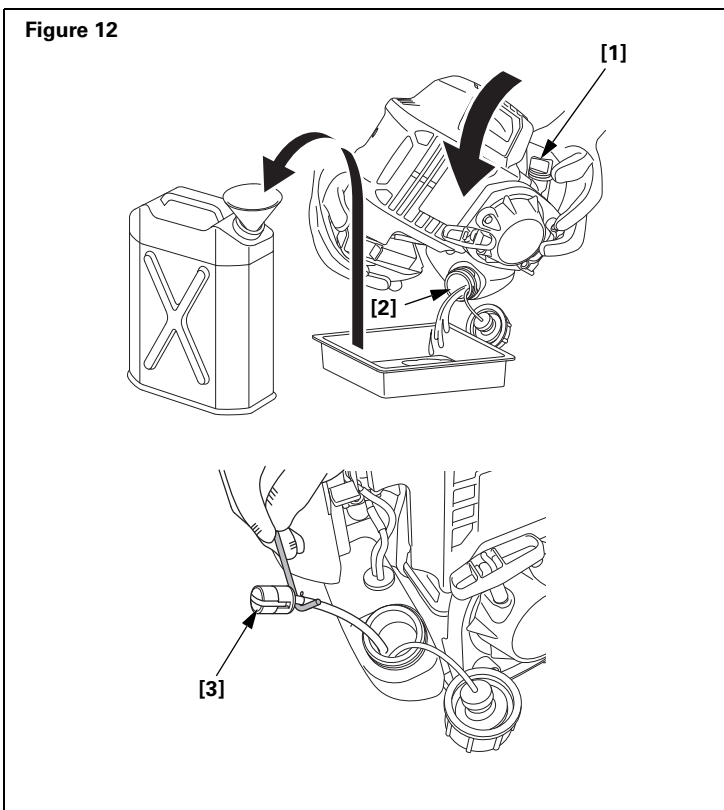
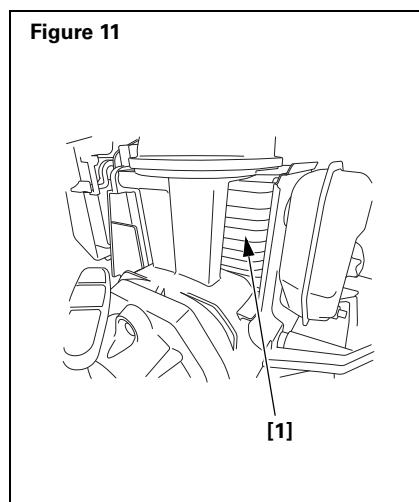
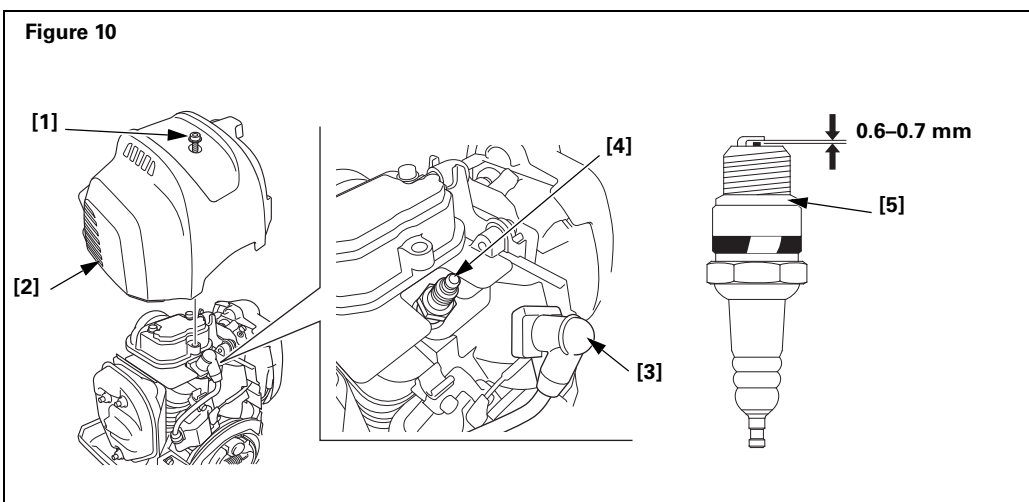
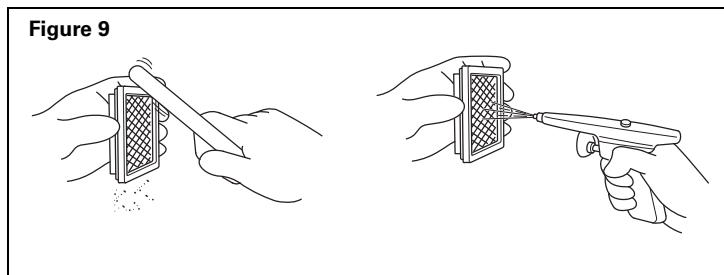
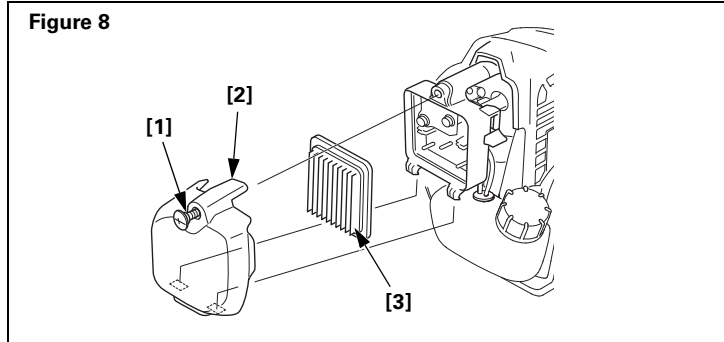
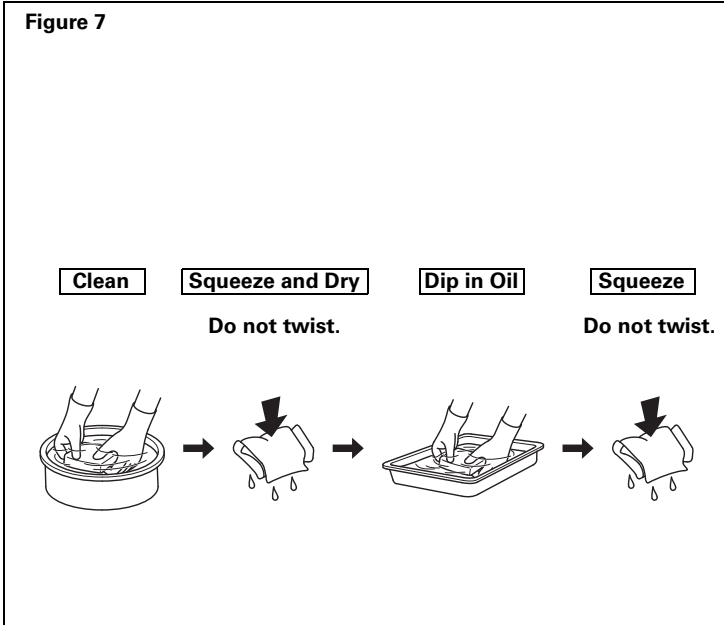
THROTTLE LEVER

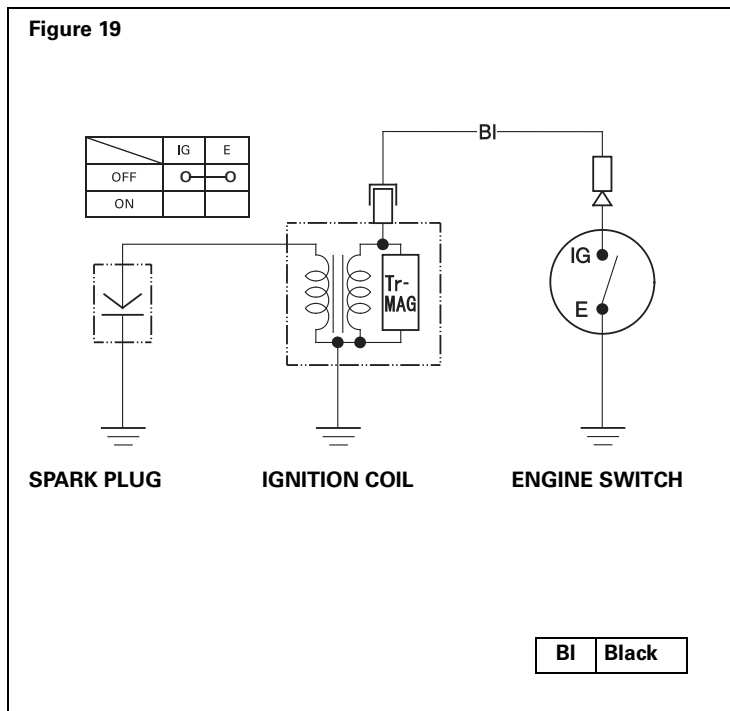
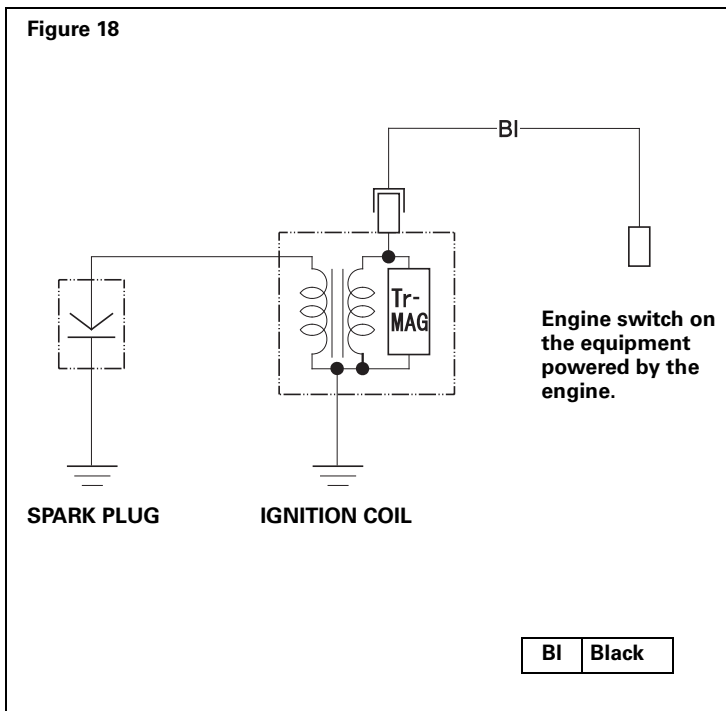
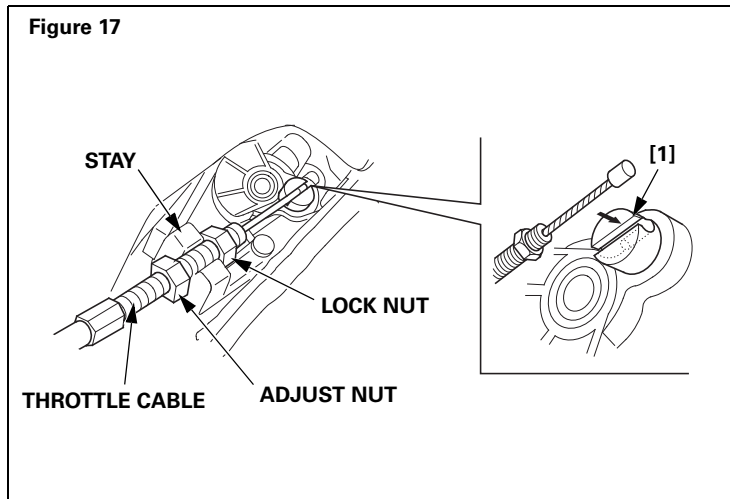
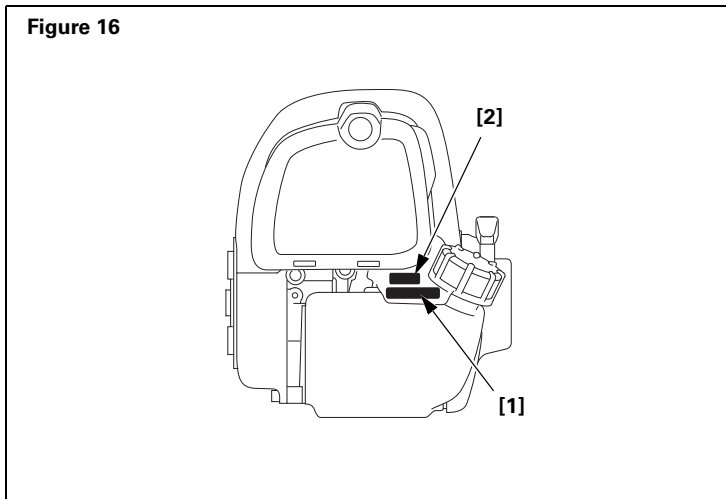
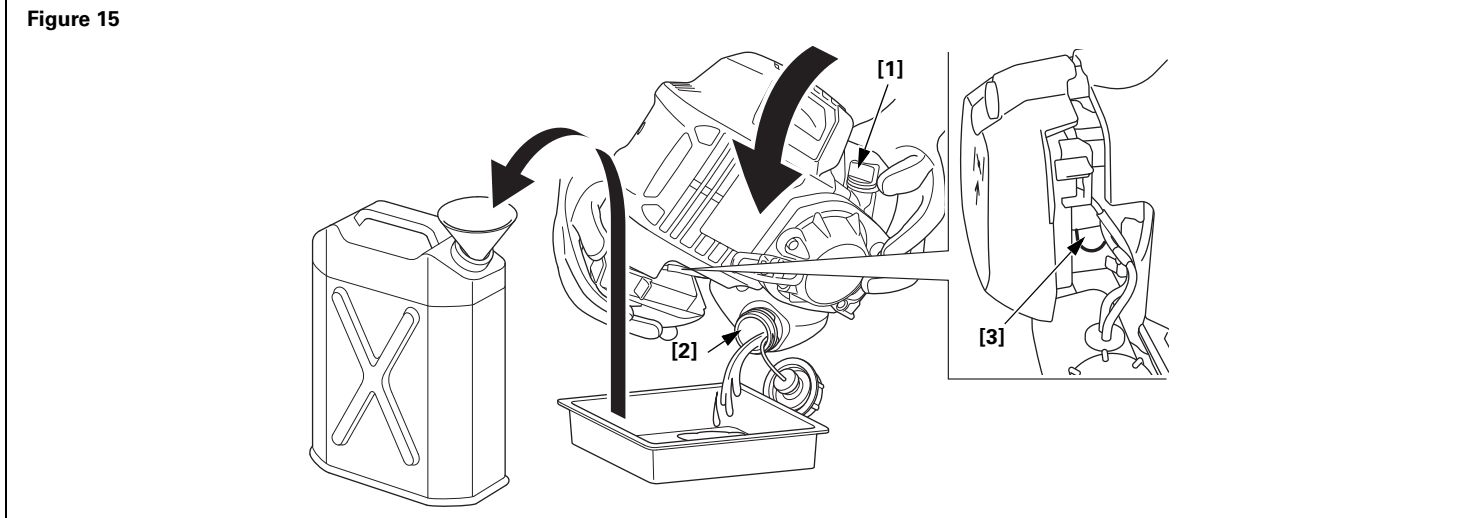


ENGINE SWITCH

GX25/GX35: applicable types







INTRODUCTION

Thank you for purchasing a Honda engine. We want to help you to get the best results from your new engine and to operate it safely. This manual contains information on how to do that; please read it carefully before operating the engine. If a problem should arise, or if you have any questions about your engine, consult your servicing dealer.

All information in this publication is based on the latest product information available at the time of printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation. No part of this publication may be reproduced without written permission.

This manual should be considered a permanent part of the engine and should remain with the engine if resold.

Review the instructions provided with the equipment powered by this engine for any additional information regarding engine startup, shutdown, operation, adjustments or any special maintenance instructions.


We suggest you read the warranty policy to fully understand its coverage and your responsibilities of ownership.

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SAFETY MESSAGES

Your safety and the safety of others are very important. We have provided important safety messages in this manual and on the engine. Please read these messages carefully.

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol  and one of three 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.

Each message tells you what the hazard is, what can happen, and what you can do to avoid or reduce injury.

DAMAGE PREVENTION MESSAGES

You will also see other important messages that are preceded by the word NOTICE.

This word means:

NOTICE

Your engine or other property can be damaged if you don't follow instructions.

The purpose of these messages is to help prevent damage to your engine, other property, or the environment.

SAFETY INFORMATION

- Understand the operation of all controls and learn how to stop the engine quickly in case of emergency. Make sure the operator receives adequate instruction before operating the equipment.
- Do not allow children to operate the engine. Keep children and pets away from the area of operation.
- Your engine's exhaust contains poisonous carbon monoxide. Do not run the engine without adequate ventilation, and never run the engine indoors.
- The engine and exhaust become very hot during operation. Keep the engine at least 1 meter away from buildings and other equipment during operation. Keep flammable materials away, and do not place anything on the engine while it is running.

FEATURES

Centrifugal Clutch

The centrifugal clutch automatically engages and transmits power when engine speed is increased above approximately GX25/GX35: 4,200 rpm, GX50: 4,400 rpm.

At idle speed, the clutch is disengaged.

NOTICE

Do not run the engine without mounting it on equipment that includes the centrifugal clutch drum and housing, or centrifugal force will cause the clutch shoes to contact and damage the engine case.

BEFORE OPERATION CHECKS

IS YOUR ENGINE READY TO GO?

For your safety, to ensure compliance with environmental regulations, and to maximize the service life of your equipment, it is very important to take a few moments before you operate the engine to check its condition. Be sure to take care of any problem you find, or have your servicing dealer correct it, before you operate the engine.

⚠ WARNING

Failure to properly maintain this engine, or failing to correct a problem before operation, could result in a significant malfunction.

Some malfunctions can cause serious injuries or death.

Always perform a pre-operation inspection before each operation and correct any problems.

Before beginning your pre-operation checks, be sure the engine is level and the engine switch is in the OFF position.

Always check the following items before you start the engine:

Check the General Condition of the Engine

1. Before each use, look around and underneath the engine for signs of oil or gasoline leaks.
2. Remove any excessive dirt or debris, especially around the muffler and recoil starter.
3. Look for signs of damage.
4. Check that all shields and covers are in place, and all nuts, bolts, and screws are tightened.

Check the Engine

1. Check the fuel level (see page 4). Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.
2. Check the engine oil level (see page 5). Running the engine with a low oil level can cause engine damage.
3. Check the air filter element (see page 5). A dirty air filter element will restrict air flow to the carburetor, reducing engine performance.
4. Check the equipment powered by this engine.

Review the instructions provided with the equipment powered by this engine for any precautions and procedures that should be followed before engine startup.

OPERATION

SAFE OPERATING PRECAUTIONS

Before operating the engine for the first time, please review the *SAFETY INFORMATION* section on page 1 and the *BEFORE OPERATION CHECKS*.

Carbon Monoxide Hazards

For your safety, do not operate the engine in an enclosed area such as a garage. Your engine's exhaust contains poisonous carbon monoxide gas that can collect rapidly in an enclosed area and cause illness or death.

⚠ WARNING

Exhaust contains poisonous carbon monoxide gas that can build up to dangerous levels in closed areas.

Breathing carbon monoxide can cause unconsciousness or death.

Never run the engine in a closed or even partially closed area.

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

STARTING THE ENGINE

See Figure 1, page A-2.

Refer to the instructions provided with the equipment for throttle lever and engine switch.

1. To start a cold engine, move the choke lever [1] to the CLOSED [A] position.

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

2. Press the priming pump [2] several times until the priming pump is filled with fuel. Even if the priming pump is pressed too many times, the extra fuel will return to the fuel tank. If the priming pump is not pressed enough, the engine may not start.
3. Turn the engine switch [3] to the ON (I) [A] position.
4. Pull the starter grip [4] lightly until you feel resistance, then pull briskly in the direction of the arrow [5]. Return the starter grip gently.

NOTICE

Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.

5. If the choke lever was moved to the CLOSED [A] position to start the engine, gradually move it to the OPEN [B] position as the engine warms up.

Hot Restart

If the engine is operated at higher ambient temperatures, then turned off and allowed to sit for a short time, it may not restart on the first pull.

If necessary, use the following procedure:

IMPORTANT SAFETY PRECAUTION

Turn the engine switch to the OFF position before performing the following procedure. This will prevent the engine from starting and running at maximum speed when the throttle is in the MAX. speed position. If the engine starts with the throttle in the MAX. speed position, the equipment can move forward rapidly or the trimmer attachment can spin at maximum speed. This may result in personal injury.

1. Turn the engine switch to the OFF (○) [B] position.
2. Move the choke lever to the OPEN position.
3. Hold the throttle lever [6] on the equipment in the MAX. [B] position.
4. Pull the starter grip 3 to 5 times.

Follow the STARTING THE ENGINE procedure on page 2 and start the engine with the choke lever in the OPEN position.

SETTING ENGINE SPEED

Position the throttle lever for the desired engine speed.

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

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 MIN. (↶) [A] position.
2. Turn the engine switch to the OFF (○) position.

SERVICING YOUR ENGINE

THE IMPORTANCE OF MAINTENANCE

Good maintenance is essential for safe, economical and trouble-free operation. It will also help reduce pollution.

⚠ WARNING

Failure to properly maintain this engine, or failing to correct a problem before operation, could result in a significant malfunction.

Some malfunctions can cause serious injuries or death.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

To help you properly care for your engine, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a Honda technician or other qualified mechanic.

The maintenance schedule applies to normal operating conditions.

If you operate your engine under severe conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your Honda servicing dealer for recommendations applicable to your individual needs and use.

Use only Honda Genuine parts or their equivalent. The use of replacement parts which are not of equivalent quality may damage the 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

Improper maintenance can cause an unsafe condition.

Failure to properly follow maintenance instructions and precautions can cause serious injuries or death.

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

SAFETY PRECAUTIONS

- Make sure the engine is off before you begin any maintenance or repairs. To prevent unintentional startup, disconnect the spark plug cap. This will eliminate several potential hazards:
 - **Carbon monoxide poisoning from engine exhaust.**
Operate outside, away from open windows or doors.
 - **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 non-flammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks and flames away from all fuel related parts.

Remember that an authorized Honda 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 Honda Genuine parts or their equivalents for repair and replacement.

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.		Before each use	First month or 10 hrs.	Every 3 months or 25 hrs.	Every 6 months or 50 hrs.	Every year or 100 hrs.	Every 2 years or 300 hrs.	Refer to Page
ITEM								
Engine oil	Check level	o (6)						5
	Change		o		o			
Air cleaner	Check	o (6)						5
	Clean			o (1)				
	Replace					o (5)		
Spark plug	Check-adjust					o		6
	Replace						o	
Timing belt	Check	After every 300 hrs. (2) (4)						Shop manual
Spark arrester (Applicable types)	Clean					o		7
Exhaust filter (Applicable types)	Clean					o		7
Engine cooling fins	Check-clean				o			6
Nuts, bolts, fasteners (Retighten if necessary)	Check	o						2
Clutch shoes	Check				o (2)			Shop manual
Idle speed	Check-adjust					o (2)		Shop manual
Valve clearance	Check-adjust					o (2)		Shop manual
Combustion chamber	Clean	After every 300 Hrs. (2)						Shop manual
Fuel filter and Fuel tank	Clean					o		7
Fuel tubes	Check	Every 2 years (Replace if necessary) (2)						Shop manual
Oil tube	Check	Every 2 years (Replace if necessary) (2)						Shop manual

- (1) To reduce the service period when used in bad conditions such as dusty areas.
- (2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
- (3) For commercial use, log hours of operation to determine proper maintenance intervals.
- (4) Check that there is no crack and abnormal wear-out in the belt, and replace if it is abnormal.
- (5) Replace paper air filter element type (GX35, GX50) only.
- (6) To clean or replace when it looks so dirty.

Failure to follow this maintenance schedule could result in non-warrantable failures.

REFUELING

See Figure 2, page A-2.

Recommended Fuel

Unleaded gasoline
Research octane rating 91 or higher
Pump octane rating 86 or higher

This engine is certified to operate on unleaded gasoline with a pump octane rating of 86 or higher (a research octane rating of 91 or higher).

Refuel in a well ventilated area with the engine stopped. If the engine has been running, allow it to cool first. Never refuel the engine inside a building where gasoline fumes may reach flames or sparks.

You may use unleaded gasoline containing no more than 10% ethanol (E10) or 5% methanol by volume. In addition, methanol must contain cosolvents and corrosion inhibitors. Use of fuels with content of ethanol or methanol greater than shown above may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of the fuel system.

Engine damage or performance problems that result from using a fuel with percentages of ethanol or methanol greater than shown above are not covered under the Warranty.

If your equipment will be used on an infrequent or intermittent basis, please refer to the "Fuel" section of the "STORING YOUR ENGINE" chapter (see page 8) for additional information regarding fuel deterioration.

Never use gasoline that is stale, contaminated, or mixed with oil.

Avoid getting dirt or water in the fuel tank.

⚠ WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- Stop the engine and let it cool before handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Keep away from your vehicle.
- Wipe up spills immediately.

Fuel level check

NOTICE

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

1. Check the fuel level visually from the outside of the fuel tank while keeping the fuel filler neck upright.
2. If the fuel level is low, refuel in a well-ventilated area with the engine stopped. If the engine has been running, allow it to cool.

Remove the fuel filler cap [1], and fill the tank with gasoline to the bottom of the filler neck. Refuel carefully to avoid spilling fuel. Do not overfill. There should be no fuel in the filler neck. After refueling, tighten the fuel filler cap securely.

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.

ENGINE OIL

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

Recommended Oil

See Figure 3, page A-2.

Use 4-stroke motor oil that meets or exceeds the requirements for API service classification SE or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SE or later (or equivalent).

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 indicated range.

Oil Level Check

See Figure 4, page A-2.

Check the engine oil level before each use, or every 10 hours if operated continuously.

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

1. Remove the oil filler cap/dipstick [1] and wipe it clean.
2. Insert and remove the oil filler cap/dipstick without screwing it into the oil filler neck, then remove it to check the oil level shown on the dipstick.
3. If the oil level is near or below the lower limit mark on the dipstick, fill to the bottom edge of the oil fill hole [2] with the recommended oil. To avoid overfilling or underfilling, be sure the engine is in a level position, as shown, while adding oil.
4. Reinstall the oil filler cap/dipstick and tighten securely.

NOTICE

Running the engine with a low oil level can cause engine damage. This type of damage is not covered by the Warranty.

Oil Change

See Figure 5, page A-2.

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

1. Check that the fuel filler cap [1] is tightened securely.
2. Place a suitable container below the engine to catch the used oil.
3. Remove the oil filler cap/dipstick and drain the oil into the container by tipping the engine toward the oil filler neck [2].

NOTICE

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 pour it down a drain.

4. With the engine in a level position, fill to the bottom edge of the oil fill hole with the recommended oil.

Some oil will remain in the engine after draining. When refilling with fresh oil, start with less than engine oil capacity. Slowly add enough oil to fill to the bottom edge of the oil fill hole.

Engine oil capacity: GX25: 0.08 L
GX35: 0.10 L
GX50: 0.13 L

NOTICE

Running the engine with a low or excessive oil level can cause engine damage. This type of damage is not covered by the Warranty.

5. Reinstall the oil filler cap/dipstick securely. If any oil is spilled, make sure to wipe it up.

AIR CLEANER

A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter element more often than specified in the MAINTENANCE SCHEDULE (see page 4).

NOTICE

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

Inspection (foam air filter element type)

See Figure 6, page A-2.

Press the latch tab [1] on the top of the air cleaner cover, and remove the cover [2]. Inspect the air filter element [3]. Clean or replace dirty air filter element. Always replace damaged air filter element.

Reinstall the air filter element and air cleaner cover securely.

Refer to the cleaning instruction for air cleaner and filter as following.

Cleaning (foam air filter element type)

See Figures 7, page A-3.

1. Clean the filter element in warm soapy water, rinse, and allow to dry thoroughly. Or clean in non-flammable solvent and allow to dry.
2. Dip the filter element in clean engine oil, then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the element.
3. Wipe dirt from the air cleaner body and cover, using a moist rag. Be careful to prevent dirt from entering the carburetor.
4. Reinstall the filter element and air cleaner cover securely.

Inspection (paper air filter element type)

See Figures 8, page A-3.

Loosen the screw [1] and remove the air cleaner cover [2]. Inspect the air filter element [3]. Clean or replace dirty air filter element. Always replace damaged air filter element. Reinstall the air filter element and air cleaner cover and tighten the screw securely. Refer to the cleaning instruction as following.

Cleaning (paper air filter element type)

See Figure 9, page A-3.

1. Loosen the screw [1] and remove the air cleaner cover [2].
2. Remove the paper air filter element [3] from the air cleaner body.
3. Inspect the air filter element, and replace it if it is damaged. Always replace the paper air filter element at the scheduled interval (see page 4).
4. Clean the air filter element if it is to be reused.

Tap the paper air filter element several times on a hard surface to remove dirt, or blow compressed air [not exceeding 200 kPa (2.0 kgf/cm², 29 psi)] through the filter element from the air cleaner body side. Never try to brush off dirt; brushing will force dirt into the fibers. Replace the paper air filter element if it is excessively dirty.

5. Wipe dirt from the inside of the air cleaner body and cover using a moist rag. Be careful to prevent dirt from entering the air duct that leads to the carburetor.
6. Reinstall the paper air filter element to the air cleaner body.
7. Install the air cleaner cover, and tighten the screw securely.

SPARK PLUG

See Figure 10, page A-3.

Recommended Spark Plug: CM5H (NGK), CMR5H (NGK)

The recommended spark plug has the correct heat range for normal engine operating temperatures.

NOTICE

An incorrect spark plug can cause engine damage.

For good performance, the spark plug must be properly gapped and free of deposits.

1. Loosen the hex bolt [1] with a hexagon wrench, then remove the top cover [2].

CAUTION

Do not operate the engine when the top cover is removed.
Do not pull the recoil starter handle when the top cover is removed.

You may be injured from the rotating parts or burned by the muffler.

2. Disconnect the spark plug cap [3], and remove any dirt from around the spark plug area.
3. Remove the spark plug [4] with a 5/8-inch spark plug wrench.
4. Inspect the spark plug. Replace it if damaged or badly fouled, if the sealing washer [5] is in poor condition, or if the electrode is worn.
5. Measure the spark plug electrode gap with a wire-type feeler gauge. Correct the gap, if necessary, by carefully bending the side electrode.
The gap should be: 0.6–0.7 mm
6. Install the spark plug carefully, by hand, to avoid cross-threading.
7. After the spark plug is seated, tighten with a 5/8-inch spark plug wrench to compress the sealing washer.

When installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.

When reinstalling the original spark plug, tighten 1/8–1/4 turn after the spark plug seats to compress the washer.

TORQUE: 11.8 N·m (1.2 kgf·m)

NOTICE

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

8. Attach the spark plug cap to the spark plug.
9. Install the top cover, and tighten the hex bolt securely with a hexagon wrench.

COOLING FINS

See Figure 11, page A-3.

Inspection and clean

1. Loosen the hex bolt, then remove the top cover.
2. Disconnect the spark plug cap (see page 6).
3. Inspect the engine cooling fins [1], and clean out debris if necessary.
4. Reconnect the spark plug cap.
5. Install the top cover, and tighten the hex bolt securely.

FUEL FILTER AND FUEL TANK

Fuel filter inspection and Fuel tank cleaning

See Figure 12, page A-3.

⚠ WARNING

Gasoline is highly flammable and explosive.
You can be burned or seriously injured when handling fuel.

- Stop the engine and let it cool before handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Keep away from your vehicle.
- Wipe up spills immediately.

1. Check that the engine oil filler cap / dipstick [1] is tightened securely.
2. Remove the fuel filler cap, and drain the fuel into an approved gasoline container by tipping the engine toward the fuel filler neck [2].
3. Pull the fuel filter [3] out through the fuel filler neck by hooking the black fuel tube with a piece of wire, such as a partly straightened paper clip.
4. Inspect the fuel filter. If the fuel filter is dirty, wash it gently with non-flammable or high flash point solvent. If the fuel filter is excessively dirty, replace it.
5. Remove water and dirt from the fuel tank by rinsing the inside of the fuel tank with non-flammable or high flash point solvent.
6. Insert the fuel filter into the fuel tank and tighten the fuel filler cap securely.

SPARK ARRESTER (applicable types)

The spark arrester may be standard or an optional part, depending on the engine type. In some areas, it is illegal to operate an engine without a spark arrester. Check local laws and regulations. A spark arrester is available from authorized Honda servicing dealers.

The spark arrester must be serviced every 100 hours to keep it functioning as designed.

If the engine has been running, the muffler will be hot. Allow it to cool before servicing the spark arrester.

GX25

See Figure 13, page A-3.

Spark Arrester Removal

1. Loosen the hex bolt, then remove the top cover (see page 6).
2. Remove the screws [1] from the spark arrester [2], and remove the spark arrester from the muffler [3].

Spark Arrester Cleaning & Inspection

1. Use a brush to remove carbon deposits from the spark arrester screen [4]. Be careful to avoid damaging the screen.

The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged.

2. Install the spark arrester in the reverse order of disassembly.

When you install the spark arrester, the spark arrester's outlet must point to the side opposite the spark plug [5].

3. Install the top cover, and tighten the hex bolt securely (see page 6).

GX35, GX50

See Figure 14, page A-3.

Spark Arrester Removal

1. Loosen the hex bolt, then remove the top cover (see page 6).
2. Remove the self-tapping screws [1] from the spark arrester [2], and remove the spark arrester and exhaust filter [3] from the muffler [4].

Exhaust Filter Cleaning & Inspection

Pinch the exhaust filter, and strike it lightly with a finger, to remove carbon deposits. Be careful not to strike it too hard. The exhaust filter must be free of breaks and holes. If it is damaged or fouled excessively, have it serviced by your dealer.

Spark Arrester Cleaning & Inspection

1. Use a brush to remove carbon deposits from the spark arrester screen [5]. Be careful to avoid damaging the screen.

The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged.

2. Install the exhaust filter and spark arrester in the reverse order of disassembly.

When you install the spark arrester, the spark arrester's outlet must point to the side opposite the spark plug [6].

3. Install the top cover, and tighten the hex bolt securely.

HELPFUL TIPS & SUGGESTIONS

STORING YOUR ENGINE

Storage Preparation

Proper storage preparation is essential for keeping your engine trouble-free 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 when you use it again.

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.

Fuel

NOTICE

Depending on the region where you operate your equipment, fuel formulations may deteriorate and oxidize rapidly. Fuel deterioration and oxidation can occur in as little as 30 days and may cause damage to the carburetor and/or fuel system. Please check with your servicing dealer for local storage recommendations.

Gasoline will oxidize and deteriorate in storage. Deteriorated 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.

Fuel system damage or engine performance problems resulting from neglected storage preparation are not covered under the Warranty.

Draining the Fuel Tank and Carburetor

See Figure 15, page A-4.

⚠ WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

- Stop the engine and let it cool before handling fuel.
- Keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Keep away from your vehicle.
- Wipe up spills immediately.

1. Make sure the engine oil filler cap / dipstick [1] is tightened securely.
2. Remove the fuel filler cap and drain the fuel into an approved gasoline container by tipping the engine toward the fuel filler neck [2].
3. Press the priming pump [3] several times until all fuel has returned to the fuel tank.
4. Tip the engine toward the fuel filler neck again to drain the fuel.
5. After all fuel has drained, reinstall the fuel filler cap securely.

Engine Oil

See Figure 5, page A-2.

See Figure 10, page A-3.

1. Change the engine oil (see page 5).
2. Loosen the hex bolt, then remove the top cover.
3. Remove the spark plug (see page 6).
4. Apply a couple of drops of clean engine oil into the cylinder.
5. Install the top cover temporarily.
6. Pull the starter grip several times to distribute the oil in the cylinder.
7. Remove the top cover, then reinstall the spark plug.
8. Install the top cover, and tighten the hex bolt securely.
9. Pull the starter grip slowly until resistance is felt.

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.

Keep the engine level in storage. 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 a plastic sheet as a dust cover. A nonporous cover will trap moisture around the engine, promoting rust and corrosion.

Removal from Storage

Check your engine as described in the *BEFORE OPERATION CHECKS* section of this manual (see page 2).

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 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 will 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.

TAKING CARE OF UNEXPECTED PROBLEMS

ENGINE WILL NOT START

Possible Cause	Correction
Choke open.	Move lever to CLOSED position unless the engine is warm.
Engine switch OFF. (on the equipment)	Turn engine switch to ON position.
Out of fuel.	Refuel (p. 4).
Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 8). Refuel with fresh gasoline (p. 4).
Spark plug faulty, fouled, or improperly gapped.	Gap or replace spark plug (p. 6).
Spark plug wet with fuel (flooded engine).	Allow the spark plug to dry. After drying, install the spark plug and start the engine (p. 2).
Fuel filter restricted, carburetor malfunction, ignition malfunction, valves stuck, etc.	Take engine to your servicing dealer, or refer to shop manual.

ENGINE LACKS POWER

Possible Cause	Correction
Filter element restricted.	Clean or replace filter element (p. 5).
Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 8). Refuel with fresh gasoline (p. 4).
Fuel filter restricted, carburetor malfunction, ignition malfunction, valves stuck, etc.	Take engine to your servicing dealer, or refer to shop manual.

TECHNICAL & CONSUMER INFORMATION

TECHNICAL INFORMATION

Serial Number Location

See Figure 16, page A-4.

Record the engine serial number [1], type [2] and purchase date in the spaces below. You will need this information when ordering parts and when making technical or warranty inquiries.

Engine serial number: _____ — _____

Engine type: _____

Date Purchased: _____ / _____ / _____

Remote Control Linkage

See Figure 17, page A-4.

The throttle control lever is provided with a fitting for cable attachment [1].

Remove the air cleaner cover (see page 5) for access to the throttle lever and cable fitting.

Attach the throttle cable as shown in the illustration.

To adjust the throttle cable, follow the equipment manufacturer's instructions.

Carburetor Modifications for High Altitude Operation

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

High altitude performance can be improved by specific modifications to the carburetor. If you always operate your engine at altitudes above 1,500 meters, have your servicing dealer perform this carburetor modification. This engine, when operated at high altitude with the carburetor modifications for high altitude use, will meet each emission standard throughout its useful life.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 300 meter increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

NOTICE

When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 1,500 meters with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have your servicing dealer return the carburetor to original factory specifications.

Specifications**GX25 (Basic types)**

Description code	GX25T
	GCALT
Length×Width×Height	198×221×230 mm
Dry mass [weight]	2.90 kg
Engine type	4-stroke, overhead camshaft, single cylinder
Displacement [Bore×Stroke]	25.0 cm ³ [35.0×26.0 mm]
Net power <small>(in accordance with SAE J1349*)</small>	0.72 kW (1.0 PS) at 7,000 rpm
Max. Net torque <small>(in accordance with SAE J1349*)</small>	1.0 N·m (0.10 kgf·m) at 5,000 rpm
Engine oil capacity	0.08 L
Fuel tank capacity	0.53 L
Cooling system	Forced air
Ignition system	Transistor magneto
PTO shaft rotation	Counterclockwise

GX35 (Basic types)

Description code	GX35T
	GCAMT
Length×Width×Height	205×234×240 mm
Dry mass [weight]	3.46 kg
Engine type	4-stroke, overhead camshaft, single cylinder
Displacement [Bore×Stroke]	35.8 cm ³ [39.0×30.0 mm]
Net power <small>(in accordance with SAE J1349*)</small>	1.0 kW (1.4 PS) at 7,000 rpm
Max. Net torque <small>(in accordance with SAE J1349*)</small>	1.6 N·m (0.16 kgf·m) at 5,500 rpm
Engine oil capacity	0.10 L
Fuel tank capacity	0.63 L
Cooling system	Forced air
Ignition system	Transistor magneto
PTO shaft rotation	Counterclockwise

GX50 (Basic types)

Description code	GX50T
	GCCFT
Length×Width×Height	199×260×263 mm
Dry mass [weight]	4.13 kg
Engine type	4-stroke, overhead camshaft, single cylinder
Displacement [Bore×Stroke]	47.9 cm ³ [43.0×33.0 mm]
Net power <small>(in accordance with SAE J1349*)</small>	1.47 kW (2.0 PS) at 7,000 rpm
Max. Net torque <small>(in accordance with SAE J1349*)</small>	2.2 N·m (0.22 kgf·m) at 5,000 rpm
Engine oil capacity	0.13 L
Fuel tank capacity	0.63 L
Cooling system	Forced air
Ignition system	Transistor magneto
PTO shaft rotation	Counterclockwise

* The power rating of the engine indicated in this document is the net power output tested on a production engine for the engine model and measured in accordance with SAE J1349 at 7,000 rpm (Net Power) and at GX25/GX50: 5,000 rpm, GX35: 5,500 rpm (Max. Net Torque). Mass production engines may vary from this value. Actual power output for the engine installed in the final machine will vary depending on numerous factors, including the operating speed of the engine in application, environmental conditions, maintenance, and other variables.

Tuneup Specifications

ITEM	SPECIFICATION	MAINTENANCE
Spark plug gap	0.6–0.7 mm	Refer to page 6
Idle speed	3,100±200 rpm	See your authorized Honda dealer
Valve clearance (cold)	IN: 0.08±0.02 mm EX: 0.11±0.02 mm	
Other specifications	No other adjustments needed.	

Wiring Diagrams

See Figure 18, page A-4.

Engine switch type: See Figure 19, page A-4.

Honda General Purpose Engine International Warranty

The Honda General Purpose Engine installed on this brand product is covered by a Honda General Purpose Engine Warranty, on the following assumptions.

- The warranty conditions conform to those for the general purpose engine established by Honda for each country.
- The warranty conditions apply to engine failures caused by any manufacturing or specification problem.
- The warranty does not apply to countries where there is no Honda distributor.

To obtain warranty service:

You must take your Honda general purpose engine, or the equipment in which it is installed, together with proof of original retail purchase date to a Honda engine dealer authorized to sell that product in your country or the dealer who you purchased your product from. To locate a Honda distributor/dealer near you or check warranty condition in your country, visit our global service information website

<https://www.hppsv.com/ENG/> or contact distributor in your country.

Exclusions:

This engine warranty does not include the following:

1. Any damage or deterioration resulting from the following:

- Neglect of the periodic maintenance as specified in the engine owner's manual
- Improper repair or maintenance
- Operating methods other than those indicated in the engine owner's manual
- Damage caused by the product on which the engine is installed
- Damage caused by conversion to, or use of, fuel other than the fuel(s) that the engine was originally manufactured to use, as set forth in the engine owner's manual and/or warranty booklet
- The use of non-genuine Honda parts and accessories, other than those approved by Honda (other than recommended lubricants and fluids) (does not apply to the emissions warranty unless non-genuine part used is not comparable to Honda part and was cause of the failure)
- Exposure of the product to soot and smoke, chemical agents, bird droppings, sea water, sea breeze, salt or other environmental phenomena
- Collision, fuel contamination or deterioration, neglect, unauthorized alteration, or misuse
- Natural wear and tear (natural fading of painted or plated surfaces, sheet peeling and other natural deterioration)

2. Consumable parts: Honda does not warrant parts deterioration due to normal wear and tear. The parts listed below are not covered by warranty (unless they are needed as a part of another warranty repair):

- Spark plug, fuel filter, air cleaner element, clutch disc, recoil starter rope
- Lubricant: oil and grease

3. Cleaning, adjustment, and normal periodic maintenance work (carburetor cleaning and engine oil draining).

4. Use of the Honda general purpose engine for racing or competition.

5. Any engine that is part of a product that has ever been declared a total loss or sold for salvage by a financial institution or insurer.

About SERVICE & SUPPORT Label

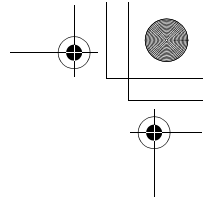
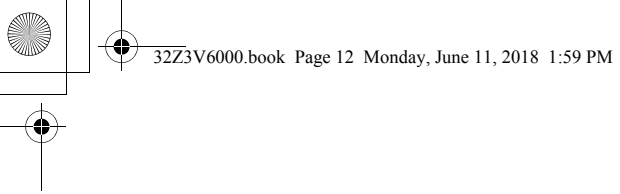
There may be the SERVICE & SUPPORT label* affixed to the Honda General Purpose Engine.

As you visit our website by scanning this two-dimensional barcode (QR code), you will find service information.

* This label is not affixed to all models.



https://www.hondappsv.com/ENG/QR/GX25_35_50/



HONDA

