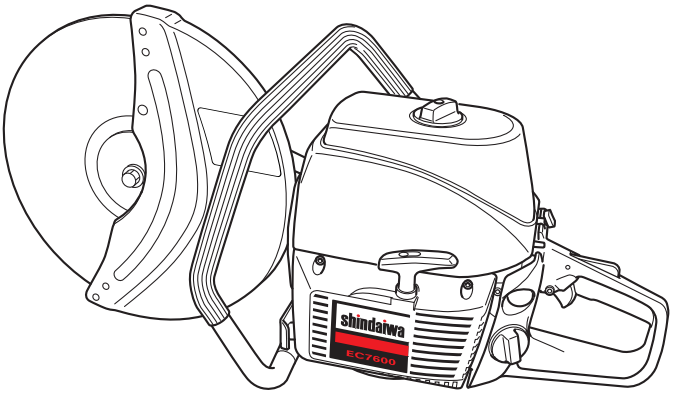
SHINDAIWA OWNER'S AND OPERATOR'S MANUAL

EC7600W
ENGINE CUTOFF SAW



WARNING

- Read this manual and familiarize yourself with its contents.
- This unit is designed primarily for cutting construction materials and metal according to the type of cutting wheel installed.
- To minimize the risk of injury to yourself and others, always wear hearing protection, a dustproof mask, goggles and a helmet when operating this unit.
- Keep this manual handy so you can refer to it when required.

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shindaiwa reserves the right to make changes to products without prior notice, and without obligation to make alterations to units previously manufactured.

Attention Statements

Throughout this manual are special "attention statements".

WARNING

A statement preceded by the word "WARNING" contains information that should be acted upon to prevent serious injury.

CAUTION

A statement preceded by the word "CAUTION" contains information that should be acted upon to prevent unit damage.

IMPORTANT

A statement preceded by the word "IMPORTANT" is one that possesses special significance.

NOTE:

A statement preceded by the word "NOTE" contains information that is handy to know and may make your job easier.

Labels and Symbols

The following are symbols and their meaning that appear on the unit.

Read and follow this operator's manual. Failure to do so could result in serious injury.

Always wear an ear muffler, a dust proof mask, goggles and a helmet when operating this machine.

Fuel Tank Opening

Choke

The following symbols are meant to provide important reminders.

Be aware of kickback!
Kickback may force the cutting-off wheel up and back toward the operator with a lightning-fast reaction. Kickback can occur whenever the upper-half of the cutting-off wheel touches an object while operating the unit.

Be aware of thrown objects!

WARNING

Using this cut-off saw, or any other high-speed power tool, can be hazardous. As a result, you must employ special safety precautions to reduce the risk of injury or fire.

Safety Precautions

WARNING

Before Operation

- Children and people who do not understand this manual must not use this unit.
- Never allow other people or animals to be near the unit when starting or operating.
- Never touch a rotating cut-off wheel.
- Operate the unit only in a well ventilated area.
- Never operate the unit in a closed area such as a room, warehouse or tunnel. Running the unit in a closed area may cause serious illness or even death due to exhaust gas.
- Never allow any people or animals near exhaust gas.
- Never inhale exhaust gas.
- Never make unauthorized modifications or alterations to any of the components of the unit, and never operate the unit without the wheel guard or muffler.
- This unit is designed for one-man operation and must be operated by only one person.
- Never operate the unit when you are tired or under influence of any substance that could impair vision, dexterity or judgement.
- When operating the unit, always wear snug-fitting clothing, safety gloves, safety non-skid footwear, hearing protection, a dust-proof mask, a helmet and goggles. Never wear floppy clothing, shorts, sandals or accessories that could become entangled.
- A first-time operator should obtain practical instruction from a dealer or an experienced user before using the unit.
- To minimize the risk of sparks igniting clothing while operating the unit, wear clothing made of leather, wool, tightly-woven cotton, or cotton treated with flame-retardant.
- Never use any cut-off wheel that is not recommended in this manual.
- Do not start or operate the unit unless you have a clear work area and secure footing.
- Do not operate the machine for more than two hours a day in total. Do not operate it for more than ten minutes continuously. Due to vibration, excessive operation may cause you white finger disease.
- Never smoke or use fire near the unit or its fuel.
- Since the muffler and exhaust gas become very hot, make sure there are no flammable substances near the unit.
- Never run the unit if you discover a fuel leak.
- Make sure all the components are in place and the bolts are securely fastened.
- Make sure the cut-off wheel is securely fastened and is not damaged. Never use a cut-off wheel with cracks, distortion, or one that is unbalanced.
- Make sure the belt tension is properly adjusted and the wheel guard, belt guard and clutch cover are securely assembled.
- Always inspect the front handle, rear handle and wheel guard before use, and never use the unit if the parts are damaged.

WARNING

- Before cutting into a material, familiarize yourself with the risks associated with dust, fumes, or mists that may be generated during operation.
  Make sure you provide adequate protection against harmful emissions.
  A high-performance respirator and/or water attachment may be required.
- Do not use the cut-off saw to cut or disturb asbestos or products containing or wrapped in asbestos. If you believe you might be cutting asbestos, contact your supervisor.

Fuelling the Unit

- Mixing fuel and engine fuelling must be done outside, and where no other combustibles are nearby.

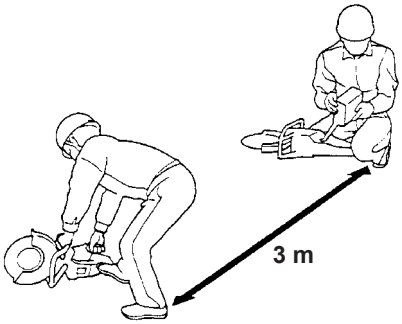


Figure 1. Start the engine at least 3 m from a fuelling location.

- Open the fuel cap slowly to release any possible build-up of pressure.
- Never refuel when the unit is hot. Allow to cool before refuelling.
- Never fuel when the engine is running.
- After fuelling, wipe all spilled fuel. Cutting metal may cause sparks from the cut-off wheel and may ignite spilled fuel which could result in serious injury.

Starting The Engine

- Start the engine at least 3 m away from a fuelling location.
- When starting the engine, make sure the cut-off wheel does not touch any object or ground. As soon as the engine starts, the cut-off wheel may begin to rotate.
- Start the engine according to the instructions in this manual. Start the engine on a firm, stable surface. Make sure the area is clear of bystanders. **Starting the engine must be done by only one person without any assistance.**
- The cut-off wheel should not rotate at engine idle. If it does, reduce idle speed.
- Never leave the unit running unattended.

WARNING

Kickback

- Kickback may force the cut-off wheel up and back toward the operator lightning-fast.
- Kickback can occur whenever the upper half of the cut-off wheel touches an object. Never cut an object using the upper half of the cut-off wheel.

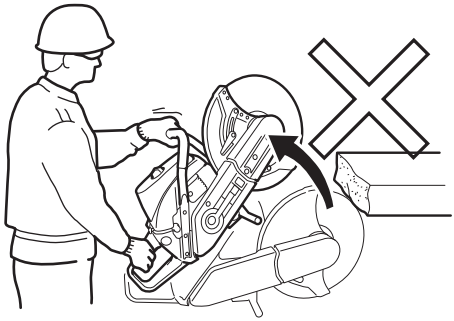


Figure 2. Always be aware of, and prepared for, kickback.

Operation

- The unit must be held firmly with both hands, one hand on the rear handle, the other on the front handle. Never hold onto any other part of the unit.

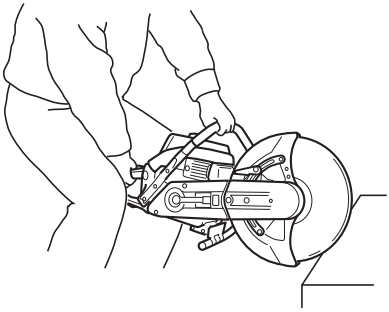


Figure 3. Always operate below chest level.

- This unit must be operated below chest level. Operating above chest level may result in serious injury.
- When cutting vertically, the unit should be positioned horizontally or with the wheel side tilted slightly down. When cutting horizontally, the recoil starter-side should face up.
- Never impact or apply pressure to the sides of the cut-off wheel for any reason.
- Maintain firm and stable footing during operation. Do not overreach.
- When working in a group, make sure operators are least 10 m away from each other.
- If you drop the unit or strike it against a hard surface, stop the engine immediately and inspect for damage. If you discover damage, have it repaired before you return the unit to service.
- Check the fuel filler cap regularly during operation to make sure it remains securely tightened.

WARNING

- If you discover fuel leakage, immediately stop the engine.
- Cutting may cause sparks from the cut-off wheel. Make sure there is no flammable substance nearby.
- Never cut live electrical wires. The shock you might receive could be very serious.
- Do not touch hot parts such as the muffler or cylinder. You could burn yourself severely.
- The cut-off wheel gets hot while cutting. Never touch the wheel immediately after cutting. You could burn yourself severely.
- While the engine is running, never touch high voltage parts such as the spark plug cap and plug cord.
- Breathing in **asbestos** fibres can pose a serious health risk and may cause severe or fatal respiratory diseases such as lung cancer. Do not use your cut-off saw to cut, damage, or disturb **asbestos** or products using **asbestos** in any form. If you believe you might be cutting **asbestos**, contact your employer immediately.

Stopping The Engine

- The cut-off wheel coasts for a while after the engine is stopped. Keep hold of the unit firmly until the wheel stops completely and then place it on the ground.

Inspection and Maintenance

- Before performing any inspection, maintenance, repair or cleaning of the unit, make sure engine and cut-off wheel are completely stopped and cooled down.
- Inspection and maintenance operations should be done in a well ventilated location and where there are no combustibles nearby.
- When replacing parts, always use **shindaiwa** genuine parts. Using non-**shindaiwa** genuine parts may result in serious injury.
- Inspection and maintenance operations not mentioned in this manual should be performed by an authorized **shindaiwa** dealer.

Transport and Storage

- When carrying the unit, make sure engine and cut-off wheel are completely stopped.
- Carry the unit with the front handle and with cut-off wheel facing rearward.
- When storing the unit, make sure the cut-off wheel is removed and the unit is placed on a secure, dry place.
- Keep the unit away from children.
- When storing the unit for more than a few days, empty the fuel tank completely.
- Store gasoline and mixed fuel in a closed, dry place and where combustibles are not nearby.

Safety and Operation Information Labels

IMPORTANT

Make sure all safety and operation information labels are undamaged and readable. Immediately replace damaged or missing safety and operation information labels, which are available from your authorized **shindaiwa** dealer.

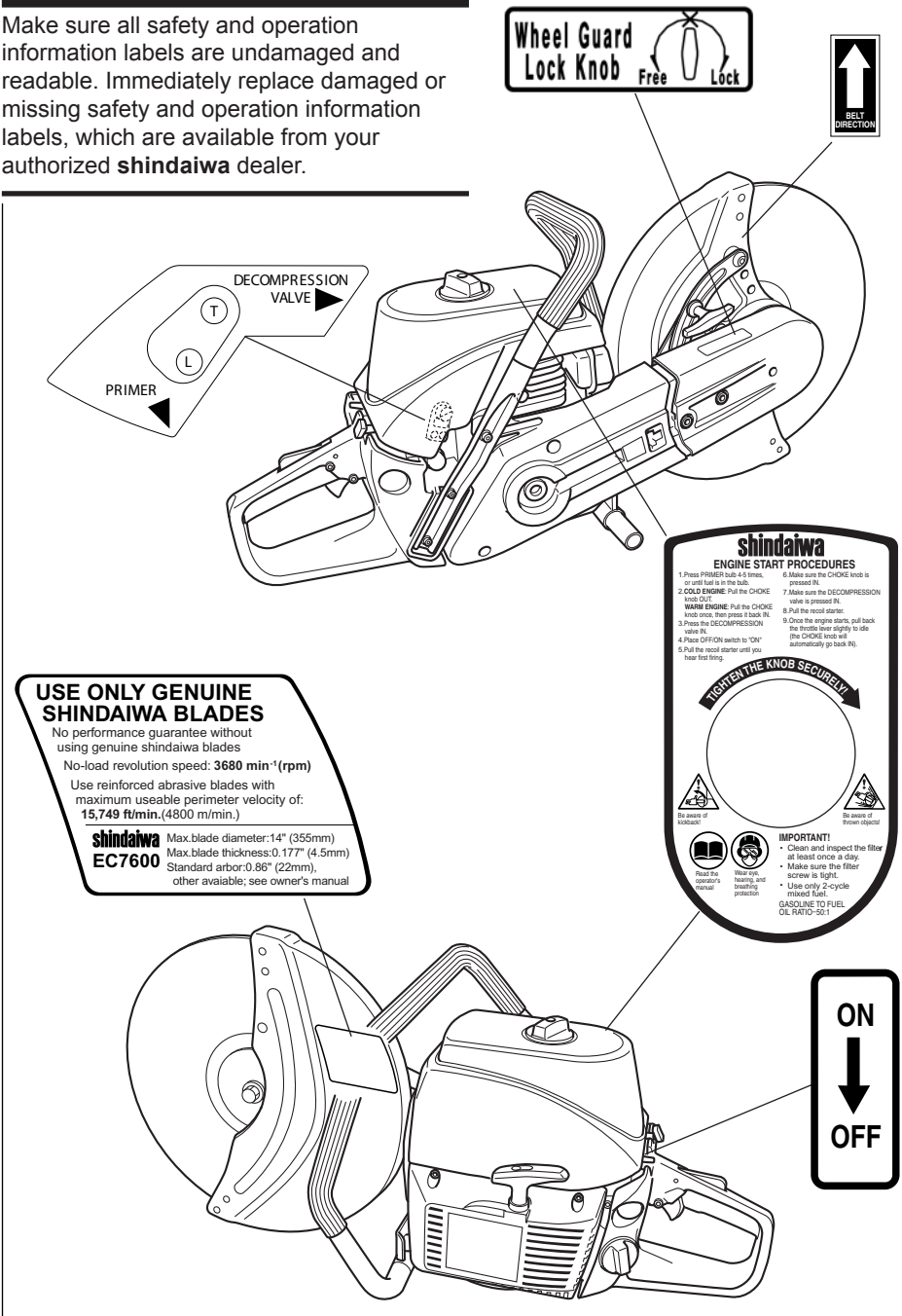


Figure 4. Safety and information labels.

Unit Description

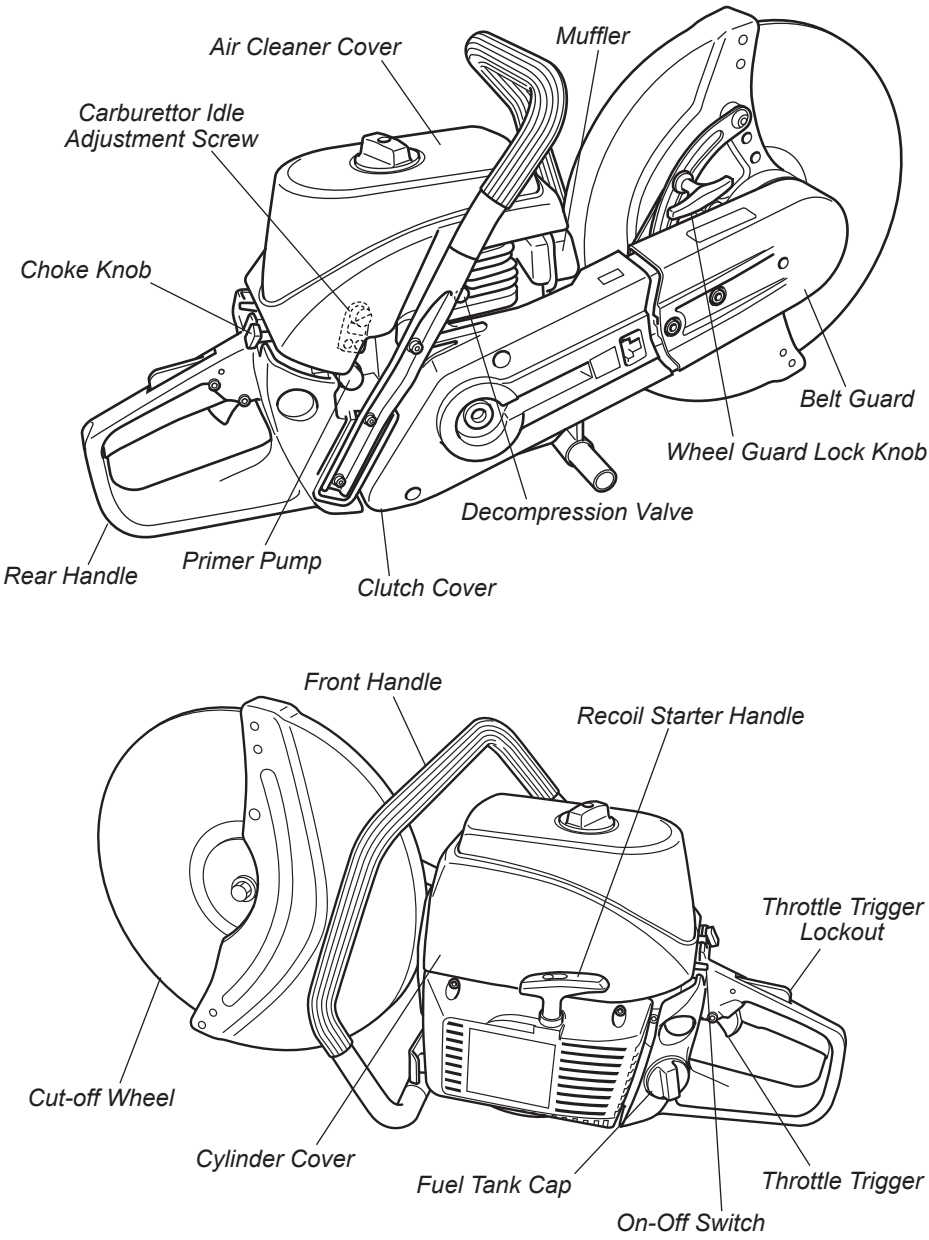


Figure 5. Component identification.

Technical Specifications

External dimensions (Lenght x Width x Height) ..... 770 x 220 x 385 mm

Mass (Without cutting wheel and empty tank) ..... 10.6 kg

Fuel tank volume ..... 800 mL

Fuel (Mixture ratio)

..... Regular grade petrol.
..... Minimum 89 Octane unleaded petrol is recommended.
50 : 1 (**2 %**) for ISO/CD13738), JASO FC, FD grade and **shindaiwa** 50 : 1 oil.

Cutting device

Belt 6PJ-808
Pulley ratio ..... 2.87 : 1
Belt tentioner ..... Spring
Cutting wheel ..... 355 x 4.5 x 22 mm diameter
Rated spindle speed ..... 3140 min^{-1}

Engine

Type ..... Air-cooled 2-stroke single cylinder
Carburettor ..... Diaphragm type, Inner vent type
Magneto ..... Flywheel magneto, CDI system
Spark plug ..... NGK BPMR7A
Starter ..... Recoil starter
Power transmission ..... Automatic centrifugal clutch
Engine displacement ..... 73.5 mL
Maximum shaft brake power (ISO 7293) ..... 3.4 kW
Recommended maximum speed with cutting attachment ..... 10550 min^{-1}
Recommended speed at idling ..... 2500 min^{-1}

Fuel consumption

Fuel consumption at maximum engine power ..... 2.45 L/h
Specific fuel consumption at maximum engine power ..... 522 g/kW•h

Vibration (EN 28662-1) Equivalent vibration value

Front handle ..... 10.4 m/s^2
Rear handle ..... 13.1 m/s^2

Sound pressure level (EN ISO 11201) Lp_{Aeq} ..... 96.8 dB(A)

Assembly

Prior to Assembly

Before assembling, make sure you have all the components required for a complete unit. This unit consists of the items shown in Figure 6.

Carefully inspect the engine unit for damaged or loosen bolts. If you find any damage or missing items, check with your dealer.

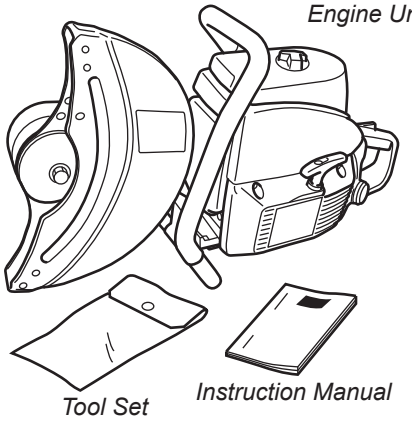


Figure 6. Components required for assembly.

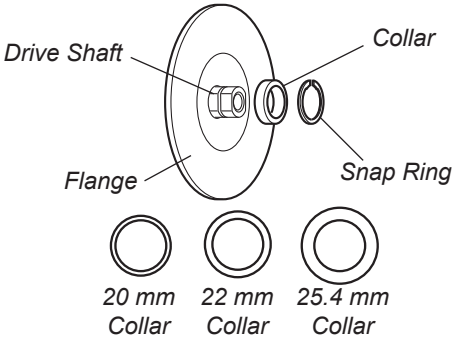
Mounting the Cut-off Wheel

1. Select a cut-off wheel for your work according to the following chart. Refer to the wheel manufacturer's manual for additional information.

Recommended Cut-off Wheels

Inner bore: 20 mm, 22 mm, 25.4 mm

Wheels for: 355 mm outer diameter



IMPORTANT

This unit is equipped with a 20 mm wheel collar. Wheel adapters for 22 mm and 25.4 mm cut-off wheels are located in the tool set. Before mounting a wheel, determine its arbor diameter. If it is necessary to replace the collar, remove the snap ring on the arbor, install the correct size arbor collar, and then replace the snap ring.

WARNING

Use of the incorrect collar size may lead to wheel failure and unit failure that could result in serious injury.

2. Make sure the ON-OFF switch is Off and the engine is stopped.
3. Insert a hex wrench into the hole in the belt guard to prevent the arbor from turning. See Figure 7.

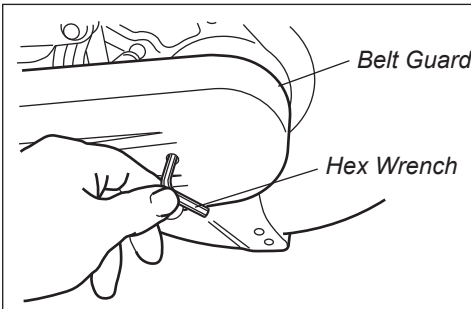


Figure 7. Insert the hex wrench in the belt guard hole.

4. Loosen bolt with the wrench and remove bolt and outer flange. See Figure 8.

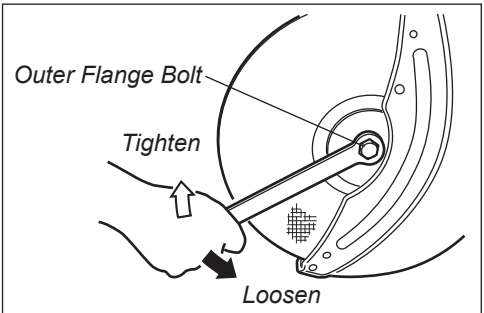


Figure 8. Loosen the outer flange bolt.

5. Place cut-off wheel so the inner bore is properly set onto the collar.

WARNING

Using an inappropriate cut-off wheel may cause the wheel to break and may result in serious injury.

6. Replace outer flange and bolt, and then, while holding hex wrench in the hole in belt guard, tighten the bolt with wrench.
7. Make sure the cut-off wheel is securely fastened. Spin the wheel to make sure it does not wobble.

Filling the Fuel Tank

WARNING

- When filling the fuel tank, make sure the engine is stopped and cool.
- Filling the fuel tank or mixing fuel and oil must be done in a place where there is no risk of fire.

CAUTION

Some gasoline contain alcohol as an oxygenate! Oxygenated fuel may cause increased operating temperature. Under certain conditions, alcohol-based fuel may also reduce the lubricating quality of some mixing oil. Never use any fuel containing more than 10 % alcohol by volume! Generic oil and some outboard motor oil may not be intended for use in high-performance air-cooled 2-stroke engine and should never be used in your **shindaiwa** engine.

This engine is designed to operate on a 50 : 1 mixture consisting of unleaded gasoline and premium 2-stroke mixing oil only.

- Use only fresh, clean unleaded gasoline with a pump octane of 89 or higher.
- Mix all fuel with a premium 2-stroke air-cooled mixing oil at a 50 : 1 gasoline / oil ratio.

Examples of 50 : 1 mixing quantities

- 5 L gasoline to 100 mL mixing oil.

IMPORTANT

Mix only enough fuel for your immediate needs. If fuel must be stored longer than 30 days and oil with fuel stabilizer is not used, it should first be treated with a fuel stabilizer such as StaBil™.

1. Use a container to pre-mix gasoline and oil. Pour oil in first, and then add gasoline.
2. Remove the fuel filler cap by turning anticlockwise.
3. Fill the tank with the mixed fuel, and then tighten the fuel filler cap securely.
4. Any spilled fuel must be wiped up completely. Make sure the unit has no fuel leaks.

Starting / Stopping the Engine
Starting the Cold Engine

WARNING

- Before starting the engine, place the unit on a clean, level surface. Make sure you have good secure footing and always keep a firm grip on the unit.
- Move at least 3 m away from the fuelling site before starting the engine.
- Make sure the cut-off wheel is well clear of obstacles. The cut-off wheel may rotate when the engine starts.
- Keep bystanders well away.
- Never start the engine without a cut-off wheel installed.

1. Move the On-Off switch to the (**I**) position.
2. Depress the primer pump a few times repeatedly until the primer pump is almost filled with fuel. See Figure 9.

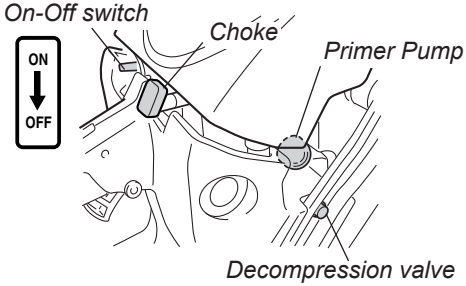


Figure 9. Depress the primer pump.

3. Push the decompression valve **in.**
4. Pull the choke all the way out (choke closed). The throttle will automatically be set to fast idle. See Figure 9.
5. Place the unit on firm ground.
6. Secure the unit by placing your right foot inside the rear handle and your left hand on the front handle. See Figure 10.

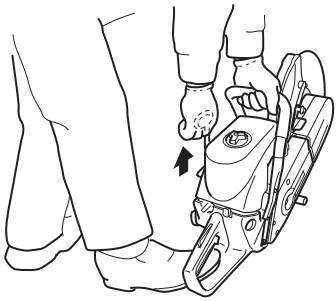


Figure 10. Secure the unit for starting.

7. Grip the recoil starter handle with your right hand, pull the starter handle slowly until you feel the starter engage, then…
8. …start the engine by pulling the starter handle upward rapidly.

CAUTION

- The recoil starter can be damaged by abuse.
- Never pull the starter handle to its full length.
- Always engage the starter before cranking the engine.
- Always rewind the starter cord slowly. Do not just let go of the cord.

9. When the engine fires, push the choke in to its original position (choke open).
10. If the engine does not continue to run, pull the starter handle again.
11. As the engine starts, clear excess fuel from the combustion chamber by revving the engine several times.

IMPORTANT

The throttle trigger can not be moved without first depressing the lockout lever. Operating the throttle will automatically disengage the fast idle setting.

12. Let the engine run at idle speed for 2-3 minutes to warm up.

Starting the Warm Engine

1. Move the On-Off switch to the **(I)** position**.**

WARNING

The cut-off wheel must not rotate at idle speed. If it rotates, reduce idle speed by adjusting the idle adjust screw.

2. Push the decompression valve **in**.
3. Pull the choke all the way out and push it back to the original position (choke open). The throttle is automatically set at a fast idle position.
4. Follow Steps 5 though 12, **Starting the Cold Engine** (previous page).

If the Engine does not Start

If the engine fails to start, repeat the appropriate starting procedure for a cold or warm engine.

WARNING

Keep well away from fire!

If the Engine still does not Start

1. Pull the choke all way out.
2. Unscrew the knob on the cleaner cover and remove the cleaner cover. See Figure 11.

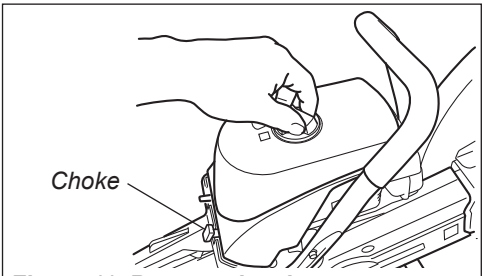


Figure 11. Remove the cleaner cover.

3. Unscrew the two bolts securing the filter element, remove the filter element. See Figure 12.

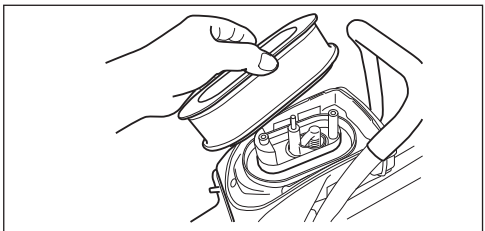


Figure 12. Remove the filter element.

4. Remove the plug cap and disconnect the spark plug by using the plug wrench. See Figure 13. Check to see if the spark plug electrode is fuel-soaked.

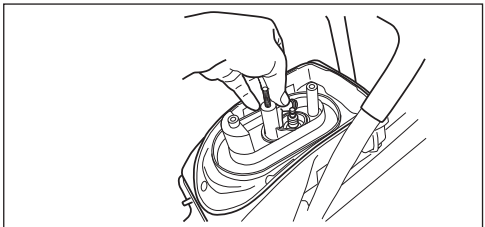


Figure 13. Remove the spark plug.

5. If the spark plug is wet, dry it completely. Clear excess fuel from the combustion chamber by cranking the engine several times with the spark plug is removed.
6. Reassemble the spark plug, plug cap, filter and cleaner cover.
7. Follow the appropriate starting procedure described above.
8. If the spark plug is dry, fuel is likely not being supplied to the combustion chamber properly.

- Check the fuel filter and carburettor. Refer to the Inspection and Maintenance Section.
- Refer to the Troubleshooting Section, page 24.

If the engine still does not start, contact your **shindaiwa** dealer.

Stopping the Engine

Let the engine run at idle speed for 2-3 minutes, then move the On-Off switch **(O)** position.

Operation

WARNING

- Never permit bystanders or animals near the unit when starting or operating the unit.
- **Be aware of kickback!** Kickback may force the cut-off wheel up and back toward the operator lightning-fast. Kickback can occur whenever the upper half of the cut-off wheel touches an object. **Never cut an object using the upper-half of the cut-off wheel.**
- When operating, always wear snug-fitting clothing, safety gloves, safety non-skid footwear, hearing protection, a dust-proof mask, a helmet and goggles.

WARNING

When using the cut-off saw, the wheel guard must be securely in position as a protection against a broken wheel. If the wheel guard is not in place, a broken wheel could project fragments at high speed and strike you or others, possibly resulting in serious injury.

Wet or Dry Operation

This unit is designed to be operated for either dry or wet cutting. A water dust-suppression kit is available for this unit but is not supplied in the unit packaging. Please refer to the assembly and operating instructions supplied with the water dust-suppression kit.

Adjusting Wheel Guard Angle

Adjust the position of the wheel guard so that fragments will not fly toward you if the wheel fractures. To reposition the wheel guard, loosen the lock knob (anticlockwise). When the wheel guard is positioned correctly, securely tighten the lock knob. See Figure 14.

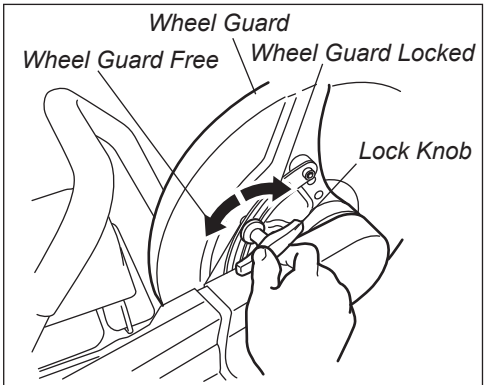


Figure 14. Positioning the wheel guard.

Cutting

This unit performs most efficiently when cutting between 8500 and 9500 min^{-1}. While running the engine at full throttle, apply slight pressure to the cut-off wheel against an object so that engine speed stays at 8500 to 9500 min^{-1}. Too much pressure to the wheel will lower wheel speed, reducing cutting efficiency considerably.

1. Make sure you have a clear work area and secure footing.
2. Position the cut-off wheel vertically to an object. Start cutting at a low speed and then gradually accelerate the speed.

Reversing Cutting Head for Flush Cutting operations

WARNING

Before performing any work on the cut-off saw, make sure the engine is stopped and the ignition switch is Off.

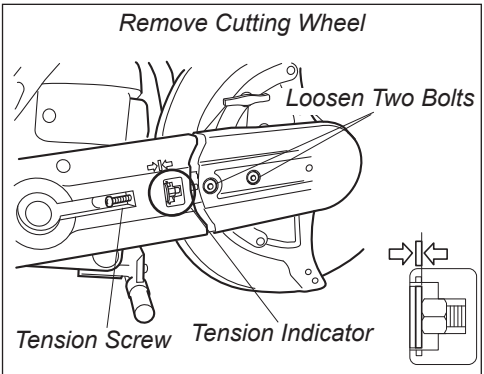


Figure 15

NOTE:

For units equipped with a water kit, loosen the two water nozzles and disconnect the main water line from the double nozzle.

1. Remove the cutting wheel (See pages 10 and 11). Using a Phillips screwdriver, loosen the tension screw until the tension indicator is all the way to the front of the scale. See Figure 15.

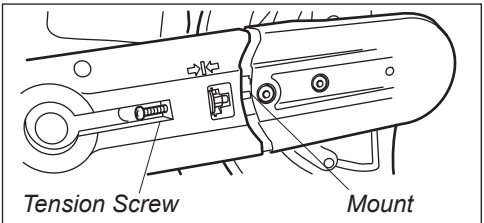


Figure 16

2. Back off tension screw another 4-5 turns so that adequate clearance is achieved where the tension screw contacts the mount when the mount is turned over. See Figure 16.

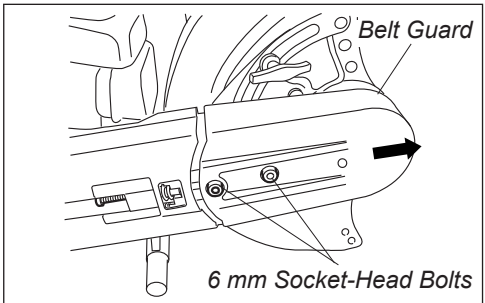


Figure 17

3. Using a 6 mm hex wrench, remove the two belt guard bolts and slide the belt guard forward to remove. See Figure 17.

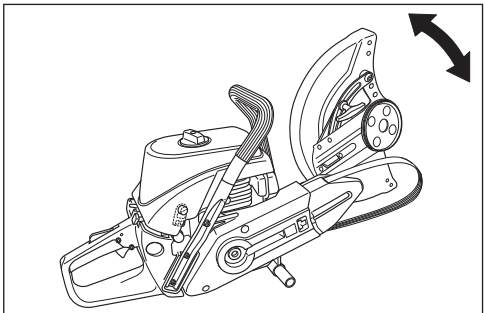
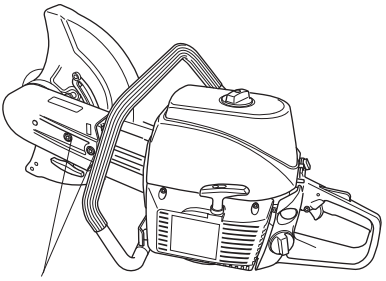


Figure 18

4. Remove the blade mount from the mounting surface and rotate the blade mount 180^0, then remount to the right hand side of mounting surface. See Figure 18.



6 mm Socket-Head Bolts

Figure 19

5. Making sure that the drive belt is fully engaged in the drive pulleys, slide the belt cover on and install the two socket-head bolts into the left-hand side of the mounting surface only until the bolts bottom on the belt cover. See Figure 19.

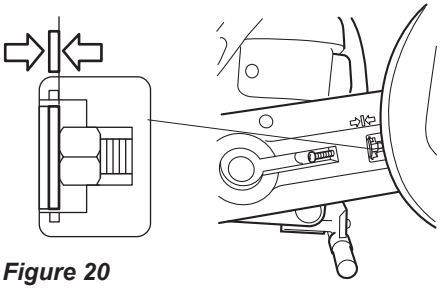


Figure 20

6. Adjust the tension screw until the tension indicator is in the middle of the scale. See Figure 20.
7. Tighten the two mounting bolts securely.
8. Reconnect the main water line, adjust and retighten water nozzles (if equipped with a water kit).
9. Reinstall the cutting wheel.

Inspection and Maintenance

Maintenance, replacement, or repair of emission control devices and system may be performed by any repair establishment or individual.
However, warranty repairs must be performed by a dealer or service centre authorized by YAMABIKO CORPORATION and use of parts that are not equivalent in performance and durability to authorized parts may impair the effectiveness of the emission control system and may have a bearing on the outcome of the warranty claim.

Inspection and Maintenance Requirements

Item	What to Do	Daily	Weekly	Monthly	As Required
Air Cleaner	Clean	■			
Cut-off Wheel	Check and Sharpen	■			
Bolts / Screws	Check and Retighten	■			
Fuel Cap	Check Leakage	■			
Fuel Tank	Check Leakage	■			
Wheel Guard	Check Function	■			
Clutch Bearing	Grease		■		
Belt	Check and Adjust		■		
Spark Plug	Check and Clean			■	
Cylinder Fins	Clean			■	
Fuel Filter	Clean			■	
Carburettor	Adjust				■

Cleaning the Air Cleaner

WARNING

Inspection and maintenance should be done in a well ventilated place and where there is no risk of fire.

Dust in the air cleaner will affect engine life. The air filter must be cleaned every time you start operating.

Clean the air filter once a day and replace the filter every 20 hours of operation according to the following procedures. See Figure 21.

1. Pull the choke lever out so that dust will not enter the carburettor.
2. Unscrew the knob on the cleaner cover and remove the cleaner cover and filter.
3. Remove the pre-filter from the filter.
4. Clean the pre-filter with soap and water and let dry.
5. If compressed air is available, blow air from inside the filter to remove dust. If compressed air is not available, remove dust by gently tapping the element on a hard surface.

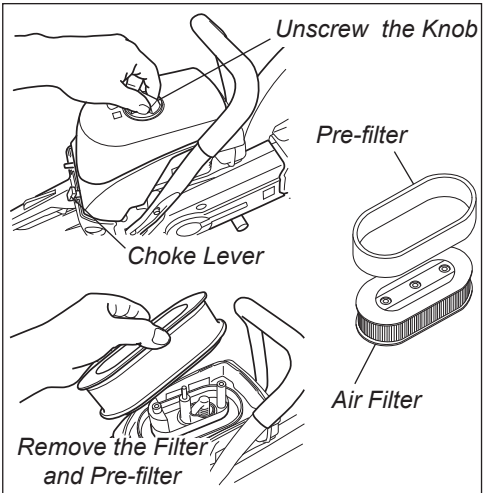


Figure 21. Air cleaner.

IMPORTANT

When cleaning the filter, the filter housing and the inside of the cleaner cover should also be cleaned.

6. Replace the pre-filter onto the filter and reassemble them into the filter housing. Make sure both filter bolts are securely tightened.
7. Reinstall the cleaner cover and make sure the knob is securely tightened.

Adjusting the Carburettor

It is not necessary to adjust the carburettor when the unit is new. Adjust the carburettor only when you are sure it is necessary due to differences in working conditions such as atmospheric pressure or temperature, or change in unit conditions after more than 10 hours of use.
If you are unfamiliar with carburettor adjustment techniques, ask your dealer for advice.
Adjust the carburettor in accordance with the following procedures.

WARNING

When adjusting the carburettor, keep bystanders well away, and make sure the cut-off wheel is clear of any interference because the wheel may rotate during carburettor adjustment.

1. Prior to adjusting, clean the air filter as described on the previous page and then run the engine for a few of minutes at idle speed to warm up the engine.

Adjusting Idle Speed

To adjust idle speed, turn the Idle Adjust Screw with a screwdriver. See Figure 22. Turn clockwise to increase idle speed. Adjust idle speed so the cut-off wheel does not rotate at idle.

Recommended idle speed:
2200 to 2600 min^{-1}

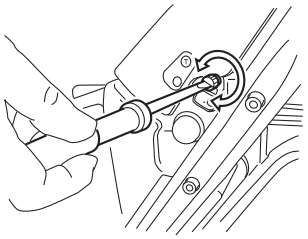


Figure 22. Adjusting Idle speed.

Adjusting Low Speed Needle (L)

CAUTION

Never run the engine at full throttle with no load. Doing so could cause the engine to seize. Do not use excessive force to turn the needle. Doing so could damage the carburettor.

It is normally not necessary to adjust the low speed needle. Adjust it only when you feel acceleration is not adequate. Before adjusting the low speed needle, make sure the idle speed is correctly adjusted.

To adjust the low speed needle

1. Use a small screwdriver to turn the low speed needle to the Standard Setting, which is of 1½ ± ¼ turns from the fully-closed position. See Figure 23.

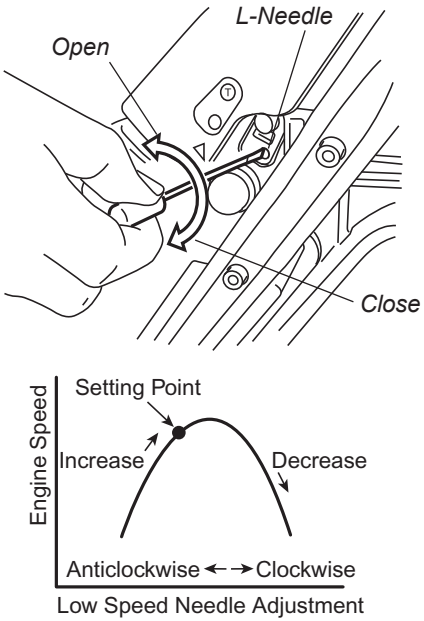


Figure 23. Adjusting the low speed needle.

2. Turn the needle to the position that provides the best acceleration.

3. Turn the low speed needle gradually in the direction required for engine speed to increase (one way or the other). Continue turning the needle until engine speed begins to decrease.
4. Turn the needle ½ turn anticlockwise from the very point where the engine speed begins to decrease.
5. Depress the throttle trigger rapidly to check acceleration. If acceleration is inadequate, turn the low speed needle anticlockwise a little at a time until adequate acceleration is achieved. Idle speed may require readjusting so it remains at 2200 to 2600 min^{-1}.

High and Low Speed Needle

The high and low speed needle is fixed and cannot be adjusted.

Spark Plug Maintenance

If the engine becomes hard to start or if idle speed is unstable, inspect the spark plug according to the following procedures.

1. Remove the spark plug. Refer to the procedures on page 13, **If the Engine does not Start**.
2. Clean the electrode with a wire brush. If necessary, adjust the electrode gap. The gap should be 0.6 mm. See Figure 24.

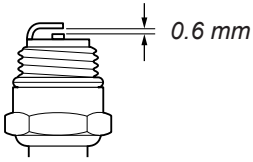


Figure 24. Spark plug gap.

Cleaning Cylinder Fins

WARNING

Before cleaning cylinder fins, make sure the engine is cold.

Dust and debris may accumulate between the cylinder fins and can lead to engine overheating. In order to maintain efficient service, cylinder fins should be cleaned once every month.

Checking the Drive Belt

The transmission belt tends to loosen and wear after a period of operation and should be checked and adjusted regularly according the following procedures. If the belt is worn, torn, cracked, scratched or otherwise damaged, replace it with a new one immediately.

Adjusting Belt Tension

1. Loosen the two bolts in the belt guard by one turn. See Figure 25.
2. Turn the tension screw so the washer aligns with the mark on the clutch cover.
3. Tighten the two bolts in the belt guard.

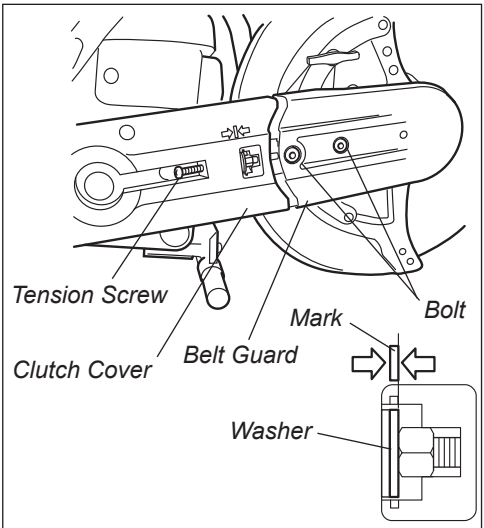


Figure 25. Adjusting the drive belt.

Replacing the Drive Belt

1. Loosen the tension screw. Loosen the two bolts on the belt guard and remove the belt guard by sliding it to the right. See Figure 26.
2. Loosen the two bolts in the clutch cover and remove the clutch cover.
3. Replace the old belt with a new one.

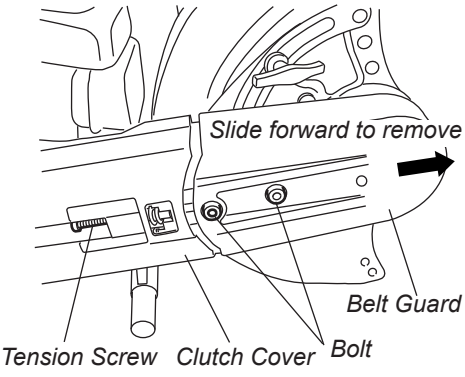


Figure 26. Replacing the transmission belt.

4. Reassemble the clutch cover and the belt guard and adjust the belt tension. Figure 27 illustrates the components.

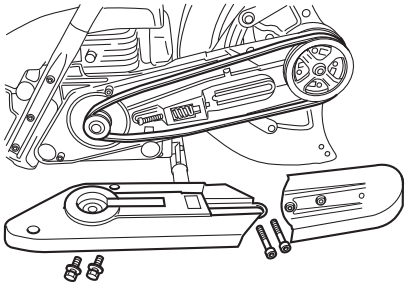


Figure 27. Transmission belt assembly components.

Checking the Cut-off Wheel

WARNING

Never use a wheel which has breakage, cracks or distortion.
The wheel may break while operating and may result in serious injury.

Always check the condition of the cut-off wheel before starting the engine. Make sure there are no breaks, cracks or warps. See Figure 28.

A faulty wheel must be replaced with a new one!

The tips of a diamond wheel should be sharpened regularly to maintain cutting efficiency. See page 21.

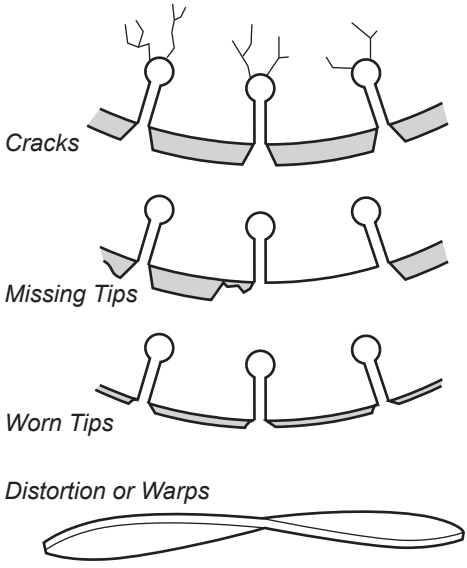


Figure 28. Unacceptable wheel conditions.

Replacing the Cut-off Wheel

1. Make sure the ignition switch is Off and the engine is stopped.
2. Insert a 6 mm hex wrench into the hole in the belt guard to prevent the drive shaft from turning.
   See Figure 29.

Replacing the Cut-off Wheel

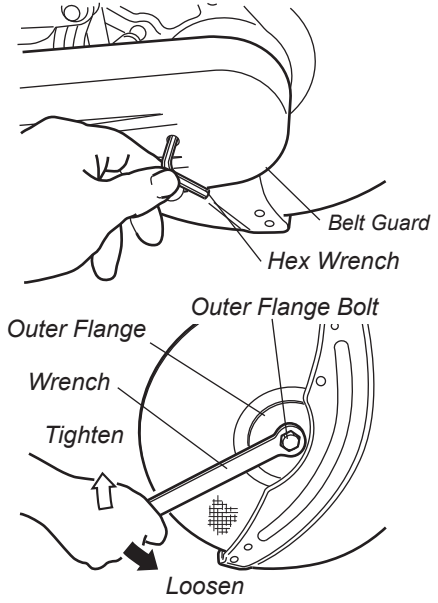


Figure 29. Replacing the cut-off wheel.

3. Loosen the outer flange bolt with the wrench and remove the bolt and outer flange.
4. Before mounting a cut-off wheel, determine its arbour diameter. If necessary, remove the snap ring from the arbour, install the correct collar, then re-install the snap ring.

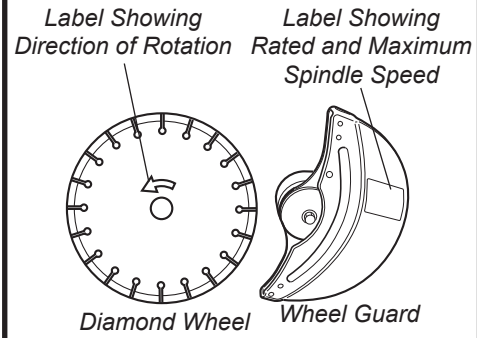
WARNING

Using the wrong size collar may lead to failure of the wheel or the unit and could result in serious injury.

5. Remove the old wheel and install the new one. Make sure the inner bore is properly set onto the collar.
6. Replace the outer flange and bolt, then holding the hex wrench in the hole of the belt guard, tighten the bolt with the wrench.
7. Make sure the cut-off wheel is securely fastened and does not wobble.

WARNING

Make sure the replacement cut-off wheel min^{-1} rating is greater than the speed indicated on the wheel guard label.



CAUTION

Make sure the rotating direction of wheel corresponds to the one indicated on the wheel guard. Make sure there is no dust around the outer flange.

Sharpening a Diamond Cut-off Wheel

While running the engine at low speed, make about 10 passes at cutting a concrete block or a soft brick. Keep the block watered while sharpening.

Checking the Fuel Filter

WARNING

Keep away form fire or excess heat!

1. Remove the fuel filler cap.
2. Take the filter out from the fuel opening by using a hooked wire. If the filter is hard and clogged with debris, replace it with a new one. See Figure 30.

CAUTION

Make sure the fuel line is not pierced by the hooked wire. The fuel line can be easily damaged.

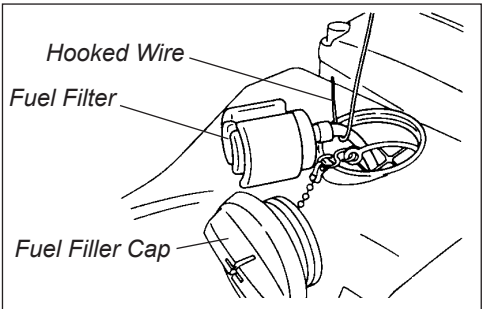


Figure 30. Removing the fuel filter.

3. Put the filter back into the fuel tank. Make sure the fuel tube is not bent and the filter stays at the bottom of the tank.
4. Put the fuel filler cap back and tighten it securely.

Lubricating the Clutch Bearing

Grease the clutch bearing every 20 hours of operation. Squeezing a grease gun three times will deliver an appropriate amount of grease. See Figure 31.

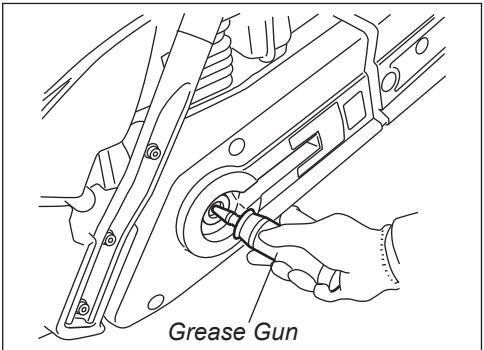


Figure 31. Lubricating the clutch bearing.

Long Term Storage

Whenever the unit will not be used for 30 days or longer, use the following procedures to prepare if for storage:

- Clean external parts thoroughly.
- Drain all the fuel from the carburettor and the fuel tank.

IMPORTANT

All stored fuel should be stabilized with a fuel stabilizer such as StaBil™.

To remove the remaining fuel from the fuel lines and carburettor and with the fuel drained from the fuel tank.

1. Prime the primer bulb until no more fuel passes through.
2. Start the engine and idle until it stops running.
3. Repeat Steps 1 and 2 until the engine will no longer start.

CAUTION

Gasoline stored in the carburettor for extended periods can cause hard starting and could also lead to increased service and maintenance costs.

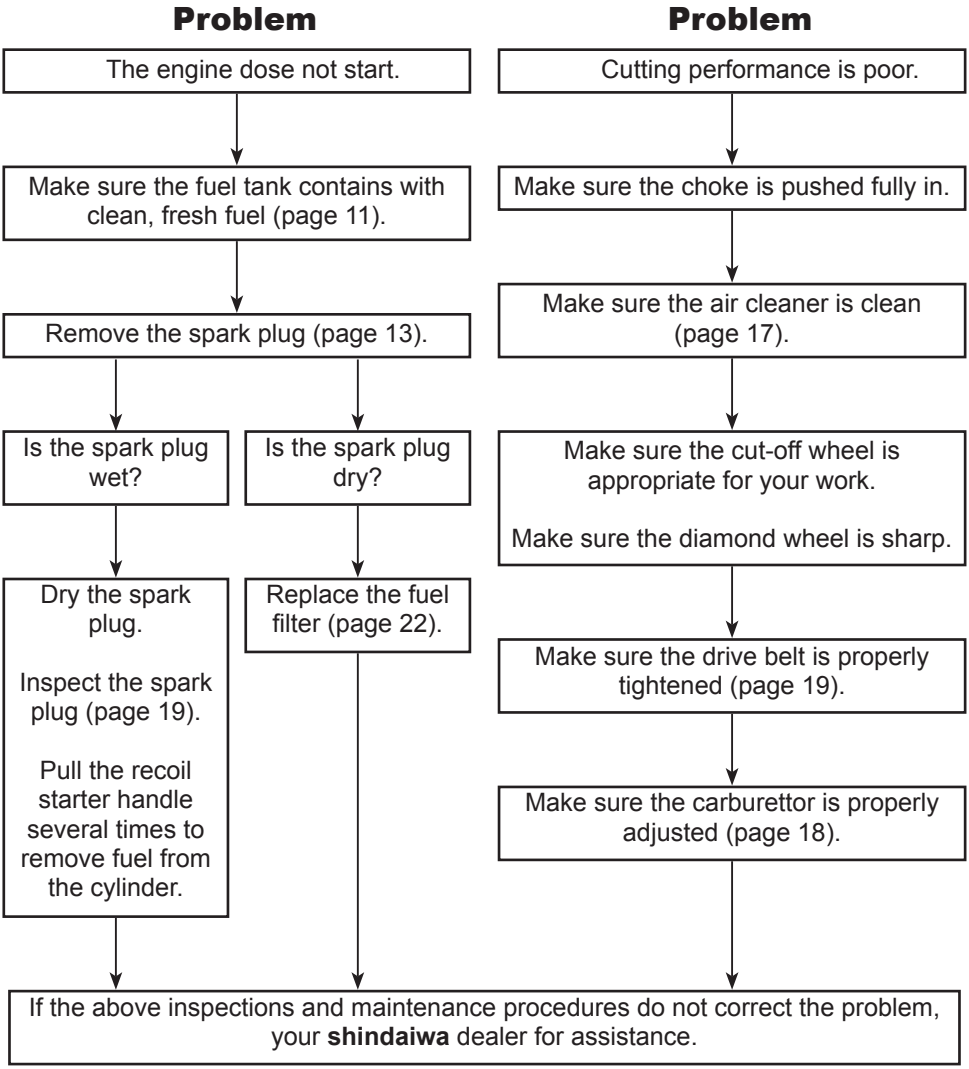
- Remove the spark plug and put a small amount of 2-stroke mixing oil (1-2 mL) into the cylinder through the spark plug hole. Slowly pull the recoil starter handle 2 or 3 times so oil will evenly coat the interior of the engine. Reinstall the spark plug.
- Before storing the unit, repair or replace any worn or damaged parts.
- Remove the air cleaner element from the carburettor and clean it as described on page 17, then reassemble the element.
- Clean the exterior of the unit thoroughly.
- Store the unit is a clean, dust-free area.

Carbon deposits in muffler will cause a drop in engine output and overheating. Spark arrestor screen must be checked periodically. Clean deposits from muffler.

IMPORTANT

Do not remove the muffler. If necessary, please consult your dealer.

Troubleshooting



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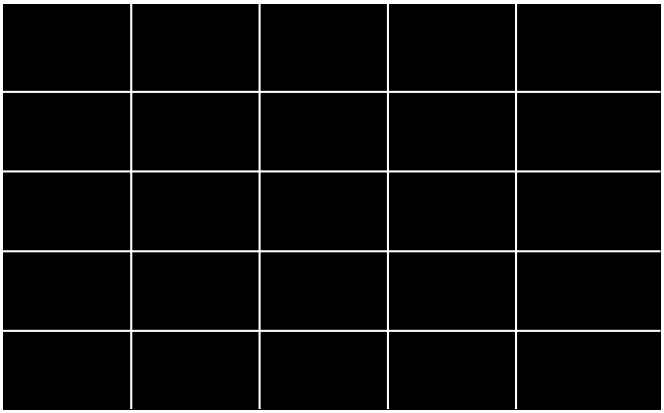

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YAMABIKO CORPORATION

7-2 SUEHIROCHO 1-CHOME, OHME, TOKYO 198-8760, JAPAN
PHONE: 81-428-32-6118. FAX: 81-428-32-6145.

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