

HONDA

Rotary Mower

HRS536C



**OWNER'S MANUAL
MANUEL DE L'UTILISATEUR
BEDIENUNGSANLEITUNG
MANUAL DE EXPLICACIONES
GEBRIUKSAANWIJZING
MANUALE DELL'UTENT**



Thank you for purchasing a Honda lawn mower.

This manual covers the operation and maintenance of the Honda HRS536CSD AND HRS536CPD lawn mowers.

We want to help you get the best results from your new mower and to operate it safely. This manual contains the information on how to do that; please read it carefully.

This manual should be considered a permanent part of the lawn mower and should remain with it if it is resold.

If you have a problem or questions concerning the mower, contact your supplying dealer.

We recommend that you read the warranty policy to fully understand your rights and responsibilities. The warranty policy is a separate document provided by your dealer.

Honda Power Equipment Mfg., Inc. reserves the right to make changes at any time without notice and without incurring any obligation.

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SAFETY MESSAGES

Pay special attention to statements preceded by the following words:

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 following word:

NOTICE

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

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

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1. SAFETY INSTRUCTIONS

WARNING

– To ensure safe operation –



- Honda lawn mowers are designed to give safe and dependable service if operated according to instructions. Read and understand the Owner's Manual before operating the mower. Failure to do so could result in personal injury or equipment damage.

- Read instructions carefully, become familiar with controls and proper use of equipment.
- Never allow children or people unfamiliar with these instructions to use the lawn mower. Local regulations may restrict the age of the operator.
- Never mow while people, especially children, or pets are nearby.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
- While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.
- Gasoline is highly flammable:
 - Store fuel in containers specifically designed for this purpose.
 - Refuel outdoors only and do not smoke while refuelling.
 - Add fuel before starting the engine. Never remove the cap of the fuel tank or add gasoline while the engine is running or when the engine is hot.
 - If gasoline is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until the gasoline vapors have dissipated.
 - Install fuel caps securely.

1. SAFETY INSTRUCTIONS

- Replace faulty mufflers.
- Before using, always visually inspect to see that the blade(s), blade bolt(s) and mower housing are not worn or damaged. Replace worn or damaged blade(s) and bolt(s) in sets to preserve balance.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Mow only in daylight or good artificial light.
- Avoid operating the equipment in wet grass, where feasible.
- Mowing on slopes:
 - Always be sure of your footing on slopes.
 - Mow across slopes, never up and down.
 - Walk, never run.
 - Exercise extreme caution when changing direction on slopes.
 - Do not mow excessively steep slopes.
- Use extreme caution when reversing or pulling the lawn mower toward you.
- Stop the blade(s) if the lawn mower has to be tilted for transporting, when crossing surfaces other than grass and when transporting the lawn mower to and from the area to be mowed.
- Never operate the lawn mower with defective guards or shields, or without safety devices (for example, deflectors and/or grass catchers in place).
- Do not attempt to make wheel height adjustments while the machine is running.
- Do not change the engine governor setting or over-speed the engine.
- Disengage all blade and drive clutches before starting the machine.
- Start the engine carefully according to the instructions and with feet well away from the blade(s).
- Do not tilt the lawn mower when starting the engine.

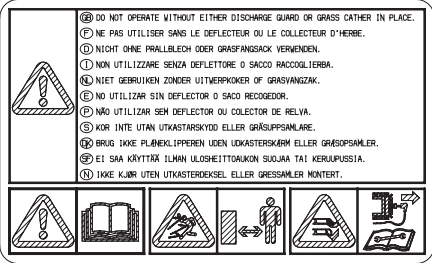
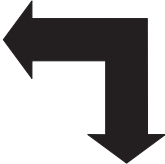



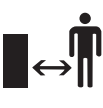


1. SAFETY INSTRUCTIONS

- Do not start the engine when standing in front of the discharge chute opening.
- Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
- Never pick up or carry a lawn mower while the engine is running.
- Stop the engine and disconnect the spark plug wire:
 - Before clearing a blockage or unclogging the lawn mower.
 - Before checking, cleaning or working on the lawn mower.
 - After striking a foreign object. Inspect the lawn mower for damage and make repairs before restarting and operating the lawn mower.
 - If lawn mower starts to vibrate abnormally, check immediately.
- Stop the engine:
 - Whenever you leave the lawn mower.
 - Before refuelling the lawn mower.
 - Before removing the grass catcher, side discharge adapter or mulching plug.
- Reduce the throttle setting during engine shut down and turn the fuel valve off at the conclusion of mowing.
- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the engine, muffler, battery compartment (if applicable) and gasoline storage area free of grass, leaves or excessive grease.
- Check the grass catcher frequently for wear or deterioration.
- Replace worn or damaged parts for safety.
- If the fuel tank has to be drained, this should be done outdoors.
- Wear eye protection.

1. SAFETY INSTRUCTIONS

SAFETY LABEL LOCATION

This label warns you of potential hazards that can cause serious injury. Carefully read meaning. If label comes off or becomes hard to read, contact your dealer for a replacement.

Letter	Markings	Meaning
A		
	 	Read and understand the owner's manual and the operation of all controls before using the machine.
	 	Avoid mowing when people, mainly children, or pets are in the operating area.
	 	Keep hands and feet away from the mower deck. Pull off the spark plug cap before carrying out maintenance work.

PRODUCT IDENTIFICATION PLATE

1. Permissible sound power level according to Directive 2000/14/EC.

2. Conformity mark, according to the EEC/89/392 modified Directive.

3. Nominal power in kilowatt.

4. Recommended engine speed in rpm.

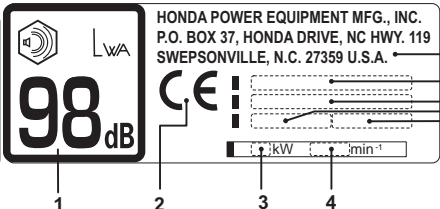
5. Weight in kilograms.

6. Year of manufacture.

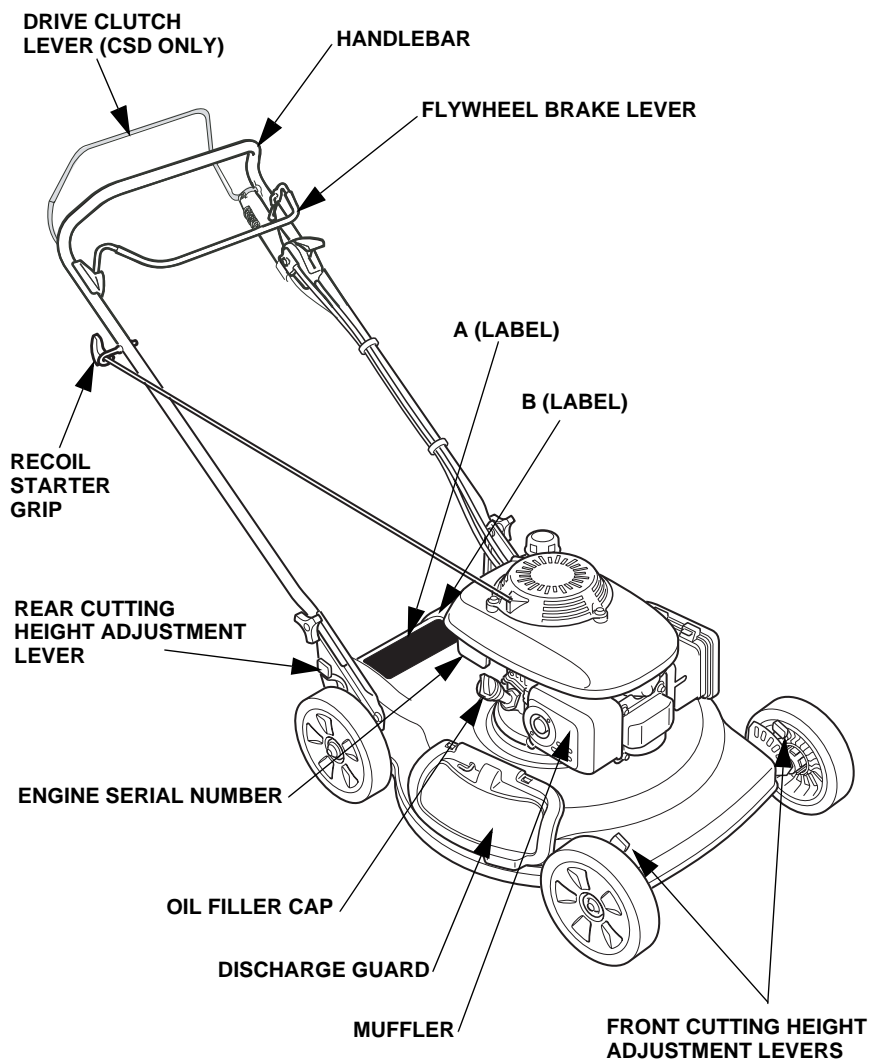
7. Serial number.

8. Model.

9. Manufacturer's name and address.

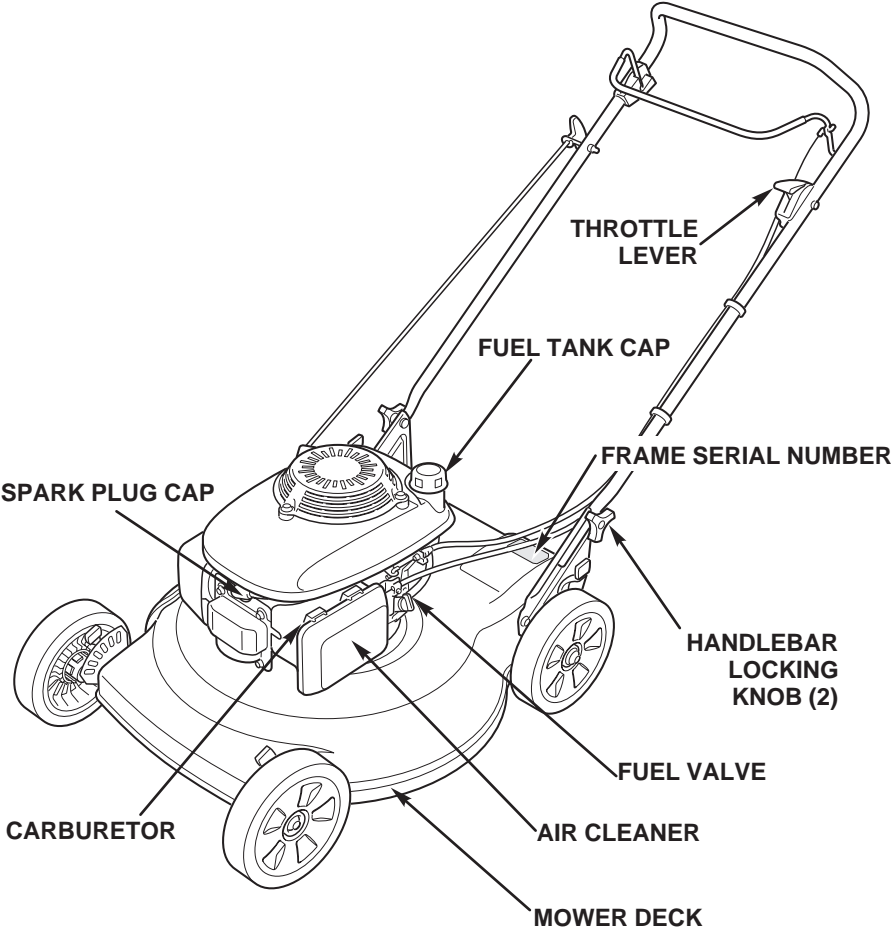
B	
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2. COMPONENT IDENTIFICATION



HRS536CPD: Manually propelled (push)
HRS536CSD: Self-propelled, single speed

2. COMPONENT IDENTIFICATION



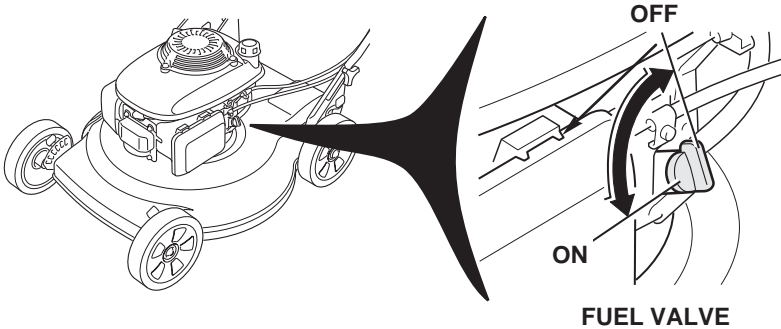
Record the frame and engine serial numbers in the space below. You will need these serial numbers when ordering parts and when making technical or warranty inquiries.

Frame serial number: MZB__ – _____
Engine serial number: GJAE – _____

DESCRIPTION OF CONTROLS

Fuel Valve

The fuel valve opens and closes the fuel passage from the fuel tank to the carburetor. The fuel valve must be ON to start and operate the mower. The fuel valve should be kept OFF when the mower is not in use.



Throttle Lever



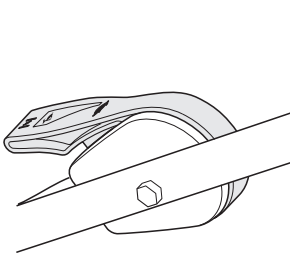
CHOKE — — For starting a cold engine.



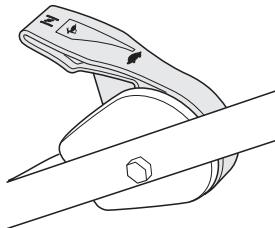
FAST — — — For restarting a warm engine and for mowing.



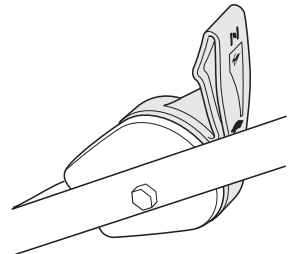
SLOW — — — For idling the engine.



CHOKE



FAST



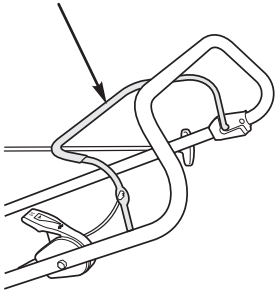
SLOW

3. CONTROLS

Flywheel Brake Lever

This lever is connected to the engine flywheel brake and the ignition switch. The engine will not start unless this lever is pulled backward.

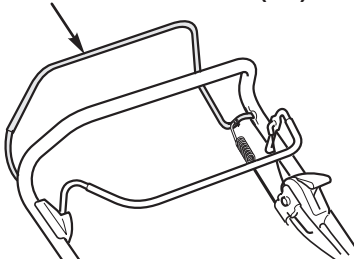
FLYWHEEL BRAKE LEVER



Drive Clutch Lever (SD)

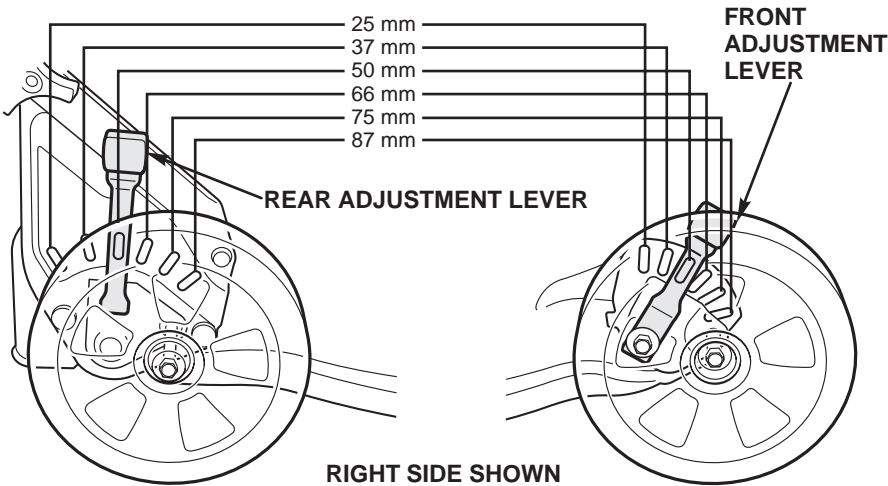
The drive clutch lever engages (push forward) and disengages (release) the transmission that drives the rear wheels. The drive clutch lever should only be engaged after the engine has been started.

DRIVE CLUTCH LEVER (SD)



Cutting Height Adjustment Levers

There are six approximate settings 25 ~ 87 mm. The adjusters move back to lower and forward to raise the mower deck. For the best overall lawn finish, each wheel should be adjusted to the same position.



4. PRE-OPERATION CHECKS

ARE YOU READY TO MOW?

Be sure to wear protective clothing. Long pants and eye protection can lower your risk of injury from thrown objects. Wear footwear that protects your feet and won't let you slip if you mow on slopes or uneven ground.

CHECK YOUR LAWN

For your safety and for the safety of others, always inspect the area before mowing.

Objects

Anything which can be picked up by the blade and thrown is a potential hazard to you and others. Look for things like stones, sticks, bones, and wire. Remove them from the mowing area.

People and Pets

People and animals near the mowing area can move into your path or into a position where they could be struck by thrown objects. Clear the area of people and pets, especially children. Their safety is your responsibility.

Lawn

Check the length and condition of the grass, so you will know what cutting height and mowing speed to use.

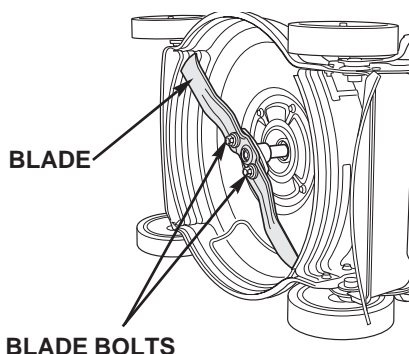
Avoid mowing wet grass. Not only will wet grass clog your mower deck and collect in clumps on the lawn, it also gives poor traction, increasing your risk of losing your footing.

4. PRE-OPERATION CHECKS

CHECK YOUR MOWER

Blade

1. Turn the fuel valve to the OFF position (see page 9).
2. Disconnect the spark plug cap from the spark plug (see page 38).
3. Tilt the mower to the right, so the carburetor side is up. This will help to prevent fuel leakage and hard starting.



4. Inspect the blade for wear and damage.

⚠ WARNING

A worn, cracked, or damaged blade can break, and pieces of the damaged blade can become dangerous projectiles.

Thrown objects can cause serious injury.

Inspect the blade regularly. Do not operate the mower with a worn or damaged blade.



NORMAL



**EXCESSIVELY
WORN**



BENT



CRACKED

A dull blade can be sharpened, but a blade that is worn out, bent, cracked, or otherwise damaged must be replaced. A worn or damaged blade can break, causing blade pieces to be thrown from the mower.

When a blade needs sharpening or replacement take the lawn mower to an authorized Honda servicing dealer. Or, if you have a torque wrench, you can remove and install the blade yourself (see pages 40).

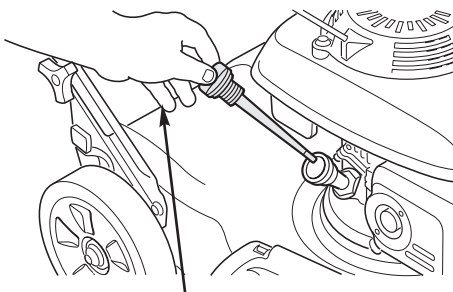
Check that the blade bolts are tight (see page 40).

4. PRE-OPERATION CHECKS

Engine Oil Level

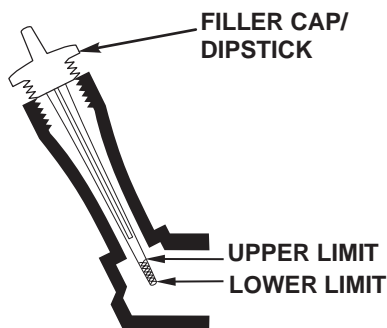
Check the engine oil level with the engine stopped and the mower on a level surface.

1. Remove the oil filler cap, and wipe the dipstick 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, add the recommended oil (see page 35) to reach the upper limit mark on the dipstick. Do not overfill.



FILLER CAP/DIPSTICK

4. After checking the engine oil level, screw in the filler cap/dipstick securely.



4. PRE-OPERATION CHECKS

Fuel

Fuel tank capacity: 0.91 ℓ

Refuel in a well-ventilated area before starting the engine. If the engine has been running, allow it to cool.

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

WARNING

Gasoline is highly flammable and explosive.

You can be burned or seriously injured when handling fuel.

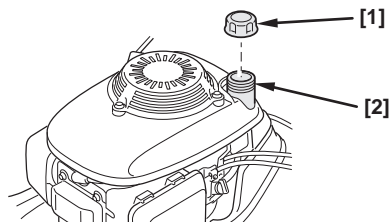
- Stop the engine and keep heat, sparks, and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

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.

Remove the tank cap [1] and check the fuel level. Refill the tank if the fuel level is low. Refuel carefully to avoid spilling fuel. Do not overfill; there should be no fuel in the filler neck [2]. After refueling, tighten the fuel tank cap securely.



Fuel Recommendations

Use unleaded gasoline with an octane rating of 86 or higher.

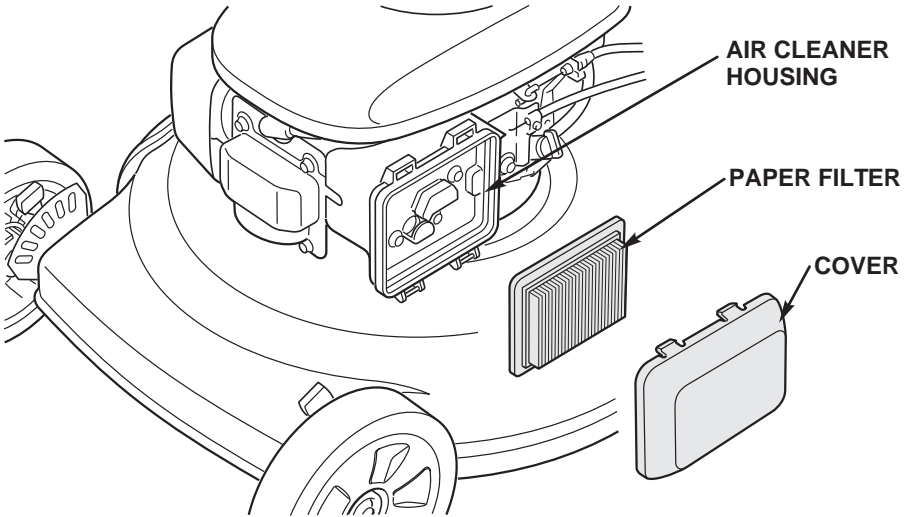
This engine is designed to operate on unleaded gasoline. Unleaded gasoline produces fewer engine and spark plug deposits and extends exhaust system life.

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

4. PRE-OPERATION CHECKS

Air Cleaner Inspection

Make sure the air filter is clean and in good condition. A dirty air filter will restrict air flow to the carburetor, reducing engine performance. Refer to page 37 for air cleaner service.

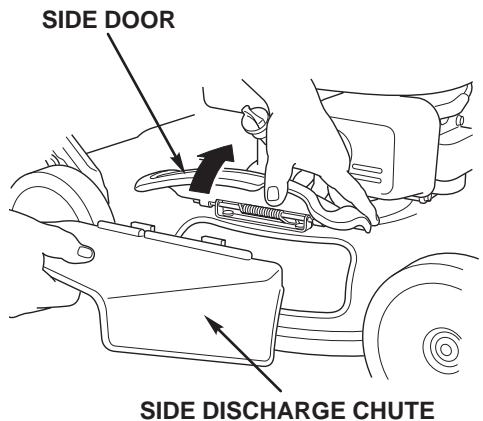


Mulching or Side Discharge

The mower can be used to mulch or side discharge grass clippings.

To mulch, make sure the side discharge chute is not installed, and the side door on the mower deck is fully closed.

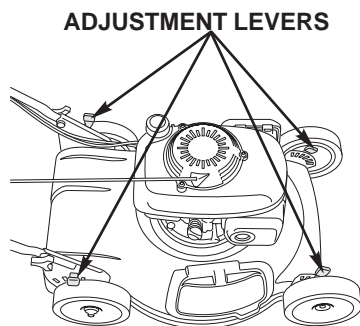
To discharge the clippings from the side door, stop the engine, lift the side door up and install the side discharge chute as shown.



4. PRE-OPERATION CHECKS

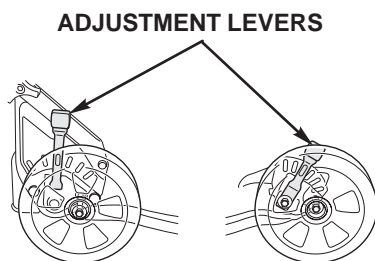
Cutting Height

Check the mower deck cutting height settings, and be sure that all four adjustment levers are set to the same cutting height position. The lowest setting is approximately 25 mm and the highest setting is 90 mm. Each position increments about 13 mm.



To adjust cutting height, pull each adjustment lever toward the wheel, and move it into another notch.

If you are not sure what cutting height to select, start with a high setting and check the appearance of the lawn after mowing a small area. Then readjust cutting height if necessary.



MOWING PRECAUTIONS

Before operating the mower for the first time, please review the *MOWER SAFETY* beginning on page 3 and the previous chapter, titled *BEFORE OPERATION*.

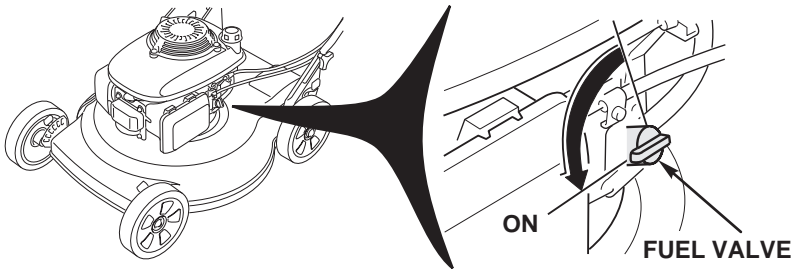
Even if you have operated other mowers, take time to become familiar with how this mower works and practice in a safe area until you build up your skills.

For your safety, avoid starting or operating the engine in an enclosed area such as a garage. Your mower's exhaust contains poisonous carbon monoxide gas which can collect rapidly in an enclosed area and cause illness or death.

STARTING THE ENGINE

The blade turns when you operate the starter. It is easiest to start the engine in a clear or mowed area where the blade can turn freely.

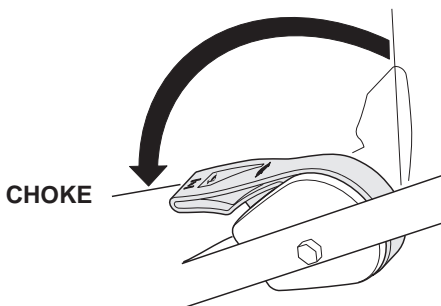
1. Turn the fuel valve to the ON position.



2. Move the throttle lever to the proper starting position.

COLD ENGINE:

Move the throttle lever to the **CHOKE** position.

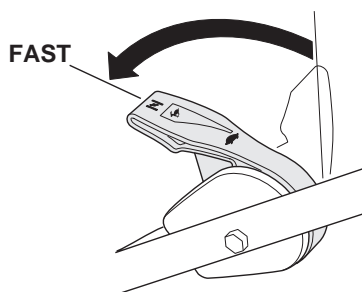


5. OPERATION

WARM ENGINE:

Move the throttle to FAST.

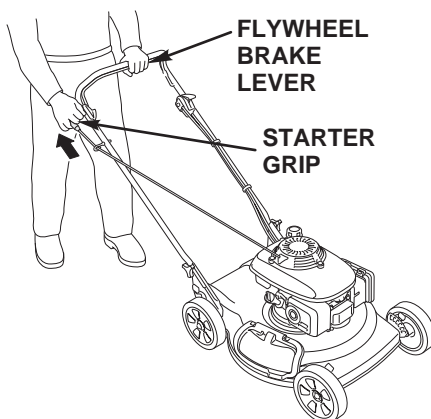
1. **SD:** Release the drive clutch lever. If the drive clutch lever is engaged, the mower will move forward when you operate the starter.
2. Pull back on the flywheel brake lever and hold it against the handlebar.



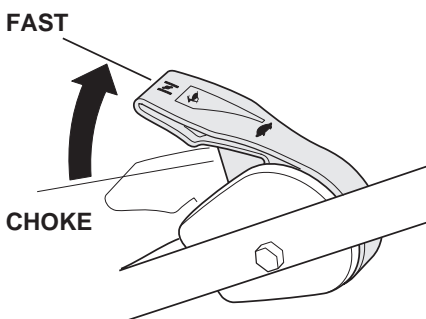
3. Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.

Keep your hands and feet away from the mower deck at all times when starting and running the engine.

Continue to hold the flywheel brake lever against the handlebar; the engine will stop if you release the lever.



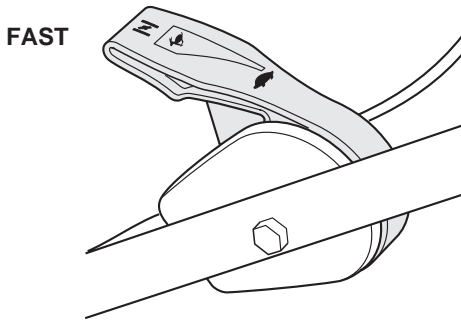
4. If the **CHOKE** position was used during starting, move the throttle lever away from the **CHOKE** position as soon as the engine warms up enough to run smoothly. Set the throttle lever at **FAST** to mow or at **SLOW** to idle.



OPERATING THE CONTROLS FOR MOWING

Throttle Lever

For best cut quality, always mow with the throttle lever in the FAST position. When the blade rotates at the preset fast speed, it creates a strong fan action that lifts and cuts grass more efficiently. Do not try to increase the preset engine speed, the blade could fracture and come apart.



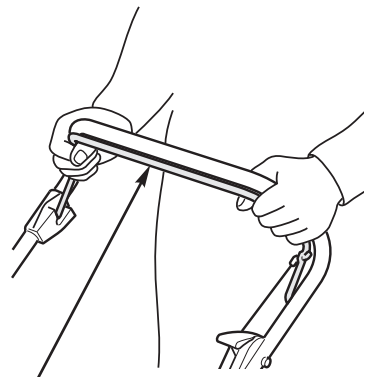
When you need to leave the mower for any reason, always turn the engine OFF by releasing the flywheel brake lever.

Flywheel Brake Lever

The lever must be pulled backward against the handlebar to start the engine. The blade starts to rotate when the lever is pushed forward against the handlebar and the recoil starter grip is pulled.

Continue to hold the lever against the handlebar to keep the engine running and the blade rotating.

Release the lever to stop the engine and stop blade rotation.



FLYWHEEL BRAKE LEVER

5. OPERATION

Drive Clutch Lever (SD)

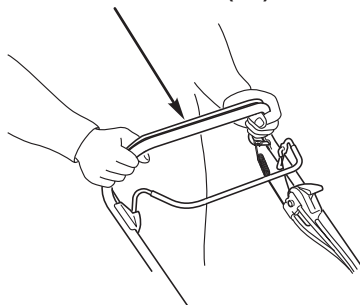
Push the drive clutch lever forward and hold it against the handlebar to propel the mower forward.

Release the drive clutch lever to stop the mower's forward movement.

Always release the drive clutch lever before starting the engine. If the drive clutch is engaged, the mower will move forward when you operate the starter.

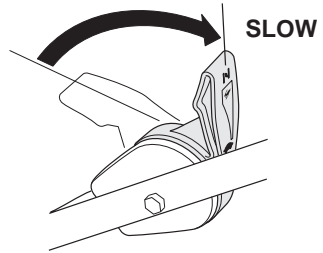
Operate the drive clutch lever with a quick and complete motion, so the drive clutch is either fully engaged or released. Hold the drive clutch lever against the handlebar during self-propelled mowing. This will help to extend the service life of the clutch mechanism.

DRIVE CLUTCH LEVER (SD)



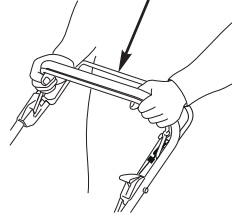
STOPPING THE ENGINE

1. Move the throttle lever to the SLOW position.



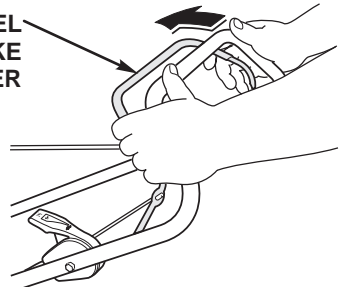
2. Release the drive clutch lever (SD).

DRIVE CLUTCH LEVER (SD)

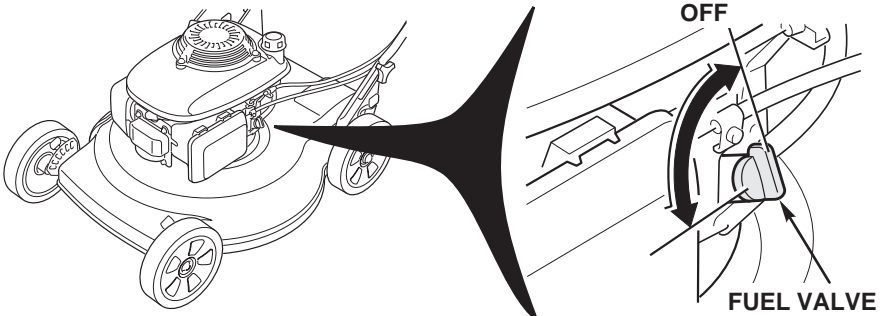


3. Release the flywheel brake lever.

**FLYWHEEL
BRAKE
LEVER**



4. When the mower is not in use, turn the fuel valve to OFF.



5. OPERATION

SAFE MOWING PRACTICES

For your safety, keep all four wheels on the ground, and be careful to avoid losing your footing and your control of the mower. Keep a firm grip on the handlebar, and walk, never run, with the mower. Be very careful when mowing uneven or rough ground.

If stuck, do not kick or shove the mower with your foot. Use the handlebar to control the mower.

⚠ WARNING

The blade is sharp and spins at high speed.

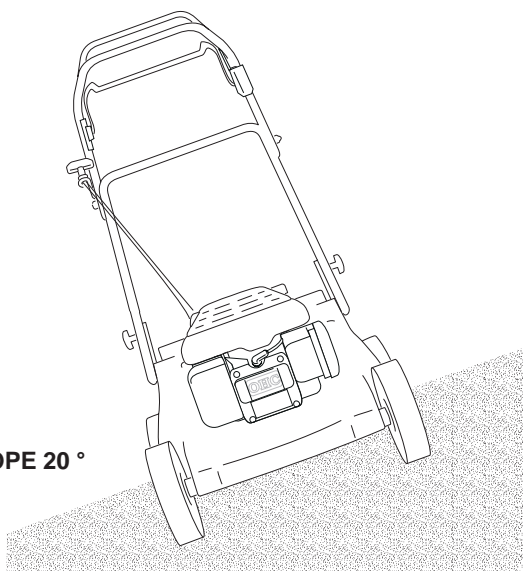
A spinning blade can cut you severely and can amputate fingers and toes.

- Wear protective footwear.
- Keep your hands and feet away from the mower deck while the engine is running.
- Stop the engine before performing any adjustment, inspection, or maintenance.

Slopes

Mow across slopes, not up and down. Avoid steep slopes (more than 20°), and be careful when changing direction. Mowing on a slope when the grass is damp or wet could cause you to slip, fall, and lose control of the mower.

MAXIMUM SLOPE 20 °



Obstacles

Use the side of the mower to cut close to large obstacles, such as fences or walls.

Release the drive clutch lever to disengage the drive when mowing around trees and other obstacles. Push the mower around obstacles for better directional control. Be careful when mowing over obstacles embedded in the lawn, such as sprinkler heads, paving, edging, etc. Avoid anything that sticks up above the surface of the lawn.

If the blade hits something, or if the mower starts to vibrate, stop the engine immediately, disconnect the spark plug cap, and check for damage (see page 12). Striking objects may damage the blade, bend the crankshaft, and/or break the mower deck or other components. Vibration usually indicates serious trouble.

WARNING

A worn, cracked, or damaged blade can break, and pieces of the damaged blade can become dangerous projectiles.

Thrown objects can cause serious injury.

Inspect the blade regularly, and do not operate the mower with a worn or damaged blade.

The *Distributor's Limited Warranty* does not cover parts damaged by accident or collision.

Gravel and Loose Objects

Gravel, loose stones, and landscaping material can be picked up by the mower and thrown many feet with enough force to cause serious personal injury and/or property damage. The best way to prevent potential injury from thrown objects is to release the flywheel brake lever to stop the blade before reaching areas with gravel, loose stones, or landscaping material.

5. OPERATION

MOWING TIPS

When to Mow

Most grasses should be mowed when they have grown $\frac{1}{2}$ to 1 inch above their recommended height.



More frequent mowing is required for mulching than for bagging. For best results, you may need to mow the lawn twice a week during the growing season.

Cutting Height

Consult a local nursery or lawn and garden center for cutting height recommendations and advice about specific types of grasses and growing conditions in your area.

If you look closely, you'll see that most grass has stems and leaves. If you cut off the leaves, you'll scalp the lawn. Let the grass recover between mowings. Your mower will work better, and your lawn will look better.



LONG ENOUGH



TOO SHORT

If your grass gets too tall, cut it once at the highest cutting height setting, then mow again in 2 or 3 days. Don't take off more than one third of total grass height in any one mowing, or brown patches may develop.

Cutting height adjustment is explained on page 10.

Cutting Width

For an even lawn finish, overlap each mowing swath by a few inches. If the grass is very tall or thick, use more overlap and a narrower mowing swath.

Blade Speed

The blade must spin very fast to cut properly. Always use the FAST throttle setting. If engine speed drops, it could mean the engine is being overloaded by the blade trying to cut too much grass. Mow a narrower swath, move the mower slower, install the discharge chute, or raise the cutting height.

Blade Sharpness

A sharp blade cuts cleanly. A dull blade tears the grass, leaving shredded ends that turn brown. When your blade doesn't cut cleanly anymore, have it sharpened or replaced.

Dry Grass

If the ground is too dry, mowing will stir up a lot of dust. Besides being unpleasant to work in, too much dust will clog the carburetor air filter. If dust is a problem, water your lawn the day before mowing. Mow when the grass is dry to your touch, but the soil is still moist.

Wet Grass

Wet grass is slippery and can make you lose your footing. Also, wet grass clippings will clog the mower deck and collect in clumps on the lawn. Always wait for wet grass to dry before mowing.

Fallen Leaves

When equipped with the optional grass bag, your mower can be used to pick up fallen leaves for disposal. If using the mower to bag large amounts of fallen leaves, and not for mowing, set the cutting height adjustment levers so the front of the mower deck is one or two settings higher than the rear.

If you want to mulch fallen leaves into your lawn, don't let the leaf cover get too deep before you begin. For best results, start mulching while grass still shows through the leaf cover. In places where fallen leaves completely cover the grass, remove the leaves by raking, or install a grass bag, so your mower can pick them up for disposal.

Clogged Mower Deck

Before clearing a clogged mower deck, stop the engine and turn the fuel valve to the OFF position. With the spark plug cap disconnected, tilt the mower so the carburetor side is up.

Clear a clogged deck with a stick, not your hands.

5. OPERATION

Mowing Patterns

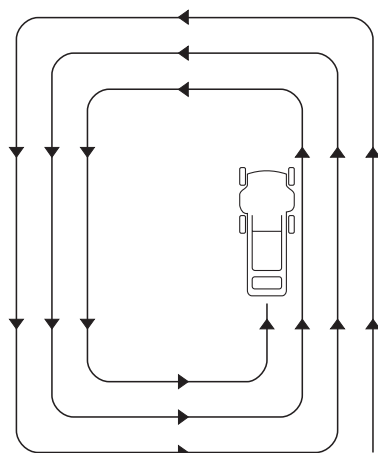
Your Honda mower will work most efficiently if you use the following mowing patterns as much as possible. Mower deck and equipment design, and the direction in which the blade rotates, cause these mowing patterns to give the best results.

Mulching

Use a counterclockwise mowing pattern. If the lawn has an irregular shape, or many obstacles, divide it into sections where you can use counterclockwise mowing patterns.

Side-Discharge Mowing

Where possible, use the same mowing pattern recommended for mulching. If the lawn has an irregular shape, or many obstacles, divide it into sections where clippings will be discharged away from uncut areas. This will prevent clippings from piling up in the path of the mower.

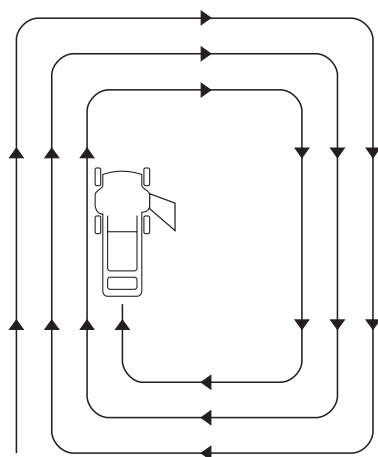


**MULCHING & SIDE
DISCHARGE PATTERN**

Bagging

(Requires optional grass bag kit)

Use a clockwise mowing pattern. This will give the best bagging performance, leaving the least amount of clippings on the lawn.



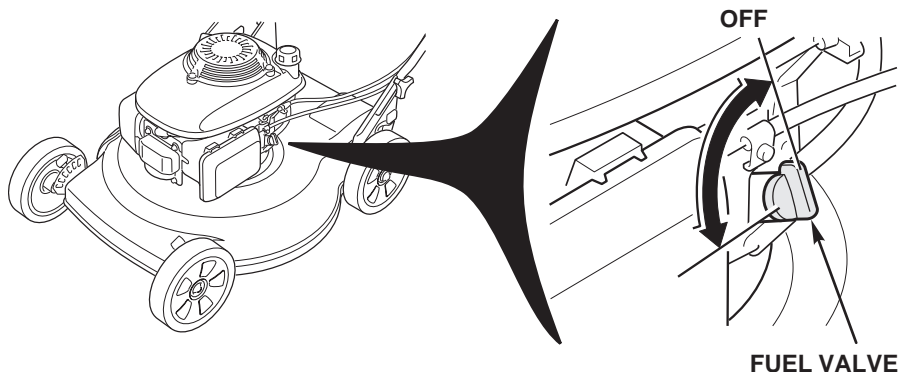
BAGGING PATTERN

6. TRANSPORTING/STORAGE

BEFORE LOADING

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

Turn the fuel valve to OFF. This will prevent carburetor flooding and reduce the possibility of fuel leakage.



If equipped, remove the grass bag.

LOADING AND UNLOADING

If a suitable loading ramp is not available, two people should lift the mower on and off the transport vehicle while holding the mower level.

Position the mower so all four wheels are on the bed of the transport vehicle. Tie the mower down with rope or straps, and block the wheels. Keep the tie-down rope or straps away from the controls, adjustment levers, cables, and the carburetor.

The handlebar can be folded so the mower will take up less space (see page 30).

6. TRANSPORTING/STORAGE

STORAGE PREPARATION

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

Cleaning

1. Wash the lawn mower, including the underside of the mower deck.

Engine

Wash the engine by hand, and be careful to prevent water from entering the air cleaner.

NOTICE

- Using a garden hose or pressure washing equipment can force water into the air cleaner. Water in the air cleaner will soak the filters and can enter the carburetor or engine, causing damage.
- Water on a hot engine can cause damage. If the engine has been running, allow it to cool for at least 1/2 hour before washing.

Mower Deck

If using a garden hose or pressure washing equipment to clean the mower deck, be careful to avoid getting water into controls and cables, or anywhere near the engine air cleaner or muffler opening.

Before washing the underside of the mower deck, be sure the fuel valve is in the OFF position. Disconnect the spark plug cap. Rest the mower on its right side, so the carburetor side is up. This will help to prevent fuel leakage and hard starting due to carburetor flooding. Wear heavy gloves to protect your hands from the blade.

2. After washing the lawn mower, wipe dry all accessible surfaces.
3. With the mower in an upright position, start the engine outdoors, and let it run until it reaches normal operating temperature to evaporate any water remaining on the engine.
4. Stop the engine and allow it to cool.
5. After the lawn mower is clean and dry, touch up any damaged paint, and coat other areas that may rust with a light film of oil. Lubricate the control cable cores with a silicone spray lubricant.

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 mower 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.

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 gasoline stabilizer that is formulated for that purpose, or you can avoid fuel deterioration problems by draining the fuel tank and carburetor.

Adding 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 turn the fuel valve to the OFF position. This turns off the fuel flow between the fuel tank and the carburetor.

6. TRANSPORTING/STORAGE

Draining the Fuel Tank and Carburetor

1. Remove the carburetor drain bolt with a 10 mm wrench, and drain the carburetor bowl fuel into an approved container.

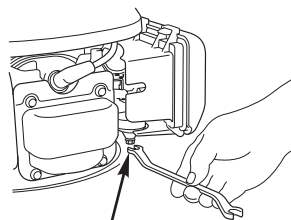
⚠ WARNING

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.

2. Turn the fuel valve ON (see page 9). This will allow fuel in the fuel tank to drain through the carburetor bowl. After the fuel is completely drained, reinstall the drain bolt.



DRAIN BOLT

Engine Oil

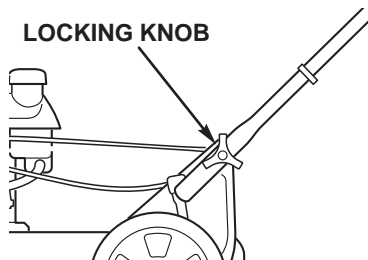
Change the engine oil (see page 35).

Engine Cylinder

Remove the spark plug (see page 38). Pour 5 ~ 10 cc of clean engine oil into the cylinder. Pull the starter rope several times to distribute the oil in the cylinder. Reinstall the spark plug. Pull the starter rope slowly until resistance is felt then return the starter grip gently. This closes the valves so moisture cannot enter.

Handlebar Folding

Remove the grass bag (if installed). Loosen the handlebar locking knobs. Press the handlebar struts to release the locating pins, then swing the handlebar forward. Don't allow the cables to be bent or pinched.



STORAGE PRECAUTIONS

If your mower 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, turn the fuel valve to OFF to reduce the possibility of fuel leakage.

Place the mower with its wheels on a level surface. Tilting can cause fuel or oil leakage.

The handlebar can be folded for compact storage (see page 30).

With the engine and exhaust system cool, cover the mower 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 mower, promoting rust and corrosion.

REMOVAL FROM STORAGE

Check your mower 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 will smoke briefly at startup. This is normal.

7. MAINTENANCE

THE IMPORTANCE OF MAINTENANCE

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

WARNING

Improper maintenance, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed.

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

To help you properly care for your mower, 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 mower under severe conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

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 this 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 an authorized Honda servicing dealer knows your mower best and is fully equipped to maintain and repair it.

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

7. MAINTENANCE

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD Perform at every indicated interval		Before Each Use	first month or 5 hours	every year or 25 hours	every 50 hours	every 100 hours	every 150 hours	See page
Blade condition and blade bolt tightness	Check	O						12
Engine oil	Check	O						35
	Change		O		O(1)			35
Air Cleaner	Check	O						37
	Clean			O(1)				37
	Replace						O(1)	
Spark plug	Clean-adjust					O		38
	Replace						O	
Spark arrester (optional equipment)	Clean-inspect					O		48
Idle speed	Check-adjust						O(2)	-
Flywheel brake operation	Inspect					O		
Flywheel brake pad	Check					O(2)		-
Throttle cable	Adjust					O(2)		-
Valve clearance	Adjust						O(2)	-
Fuel tank	Clean						O(2)	-
Fuel line	Check & replace (if needed)	Every 2 years (2)						-

- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by an authorized Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.

ENGINE MAINTENANCE

Engine Oil Change

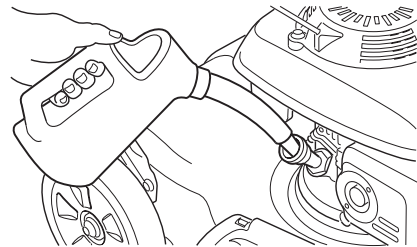
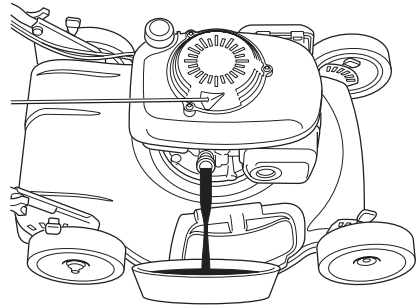
Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

1. Turn the fuel valve to OFF to reduce the possibility of fuel leakage (see page 21).
2. Wipe the oil filler area clean, then remove the oil filler cap/dipstick.
3. Place a suitable container next to the mower to catch the used oil, then tilt the mower on its right side. The used oil will drain through the filler neck. Allow the oil to drain completely.

Please dispose of used motor oil and the containers in a manner that is compatible with the environment. We suggest you take it 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. Fill with the recommended oil. Do not overfill; measure the oil level as shown on page 36.

Engine oil capacity:
0.55 ℓ



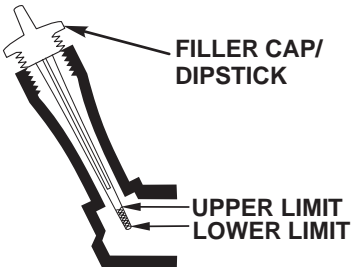
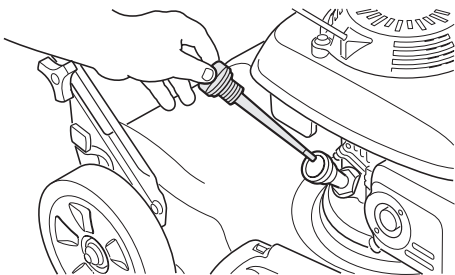
NOTICE

Using nondetergent oil can shorten the engine's service life, and using 2-stroke oil can damage the engine.

7. MAINTENANCE

5. After changing the engine oil, and before starting the engine, check the oil level with the mower on a level surface:

- a. Wipe the dipstick clean.
- b. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
- c. If the oil level is low, add oil to reach the upper limit mark on the dipstick. Do not overfill. If the engine is overfilled, the excess oil may get transferred to the air cleaner housing and air cleaner filter.



NOTICE

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

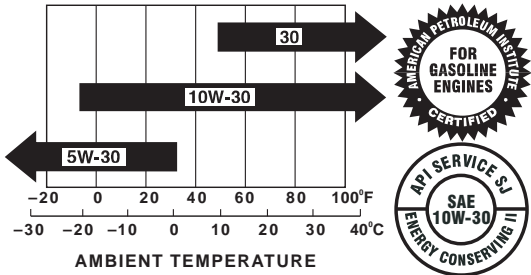
- d. Screw in the filler cap/dipstick securely.

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. Honda recommends that you use API SERVICE category SH or SJ oil with the ILSAC API certification mark displayed on the container.



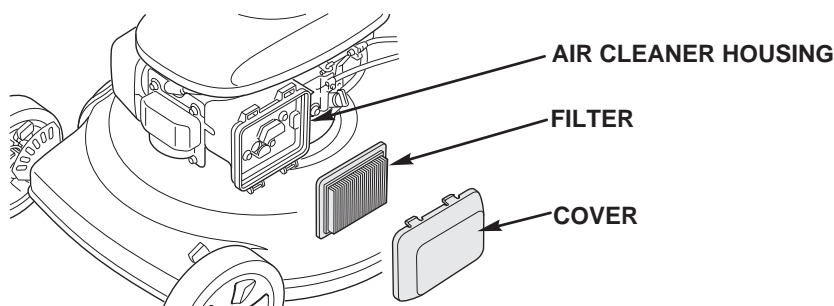
Air Cleaner Service

A dirty air filter restricts air flow to the carburetor, reducing engine performance. If you operate the mower 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 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*.

1. Press down on the cover tabs, then remove the cover. Remove the filter and inspect it; if damaged, replace the filter.



2. Clean the filter by tapping the filter several times on a hard surface to remove dirt, or blowing compressed air (not exceeding 207 kPa) through the filter from the inside. Never try to brush off dirt; brushing will force dirt into the fibers.
3. Wipe dirt from the inside of the air cleaner housing and cover, using a moist rag. Be careful to prevent dirt from entering the air duct that leads to the carburetor. Reinstall the filter and cover.

Flywheel Brake Lever Operation Inspection.

Start the engine outdoors and move the throttle to FAST. Release the flywheel brake lever; the engine should stop quickly. If it does not, take your mower to an authorized Honda servicing dealer for repair.

7. MAINTENANCE

Spark Plug Service

Refer to page 45 for replacement spark plug numbers.

NOTICE

An incorrect spark plug can cause engine damage.

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

1. Disconnect the spark plug cap and remove dirt from the area. Use a spark plug wrench to remove the spark plug.
2. Inspect the plug; replace it if the electrodes are worn, or if the insulator is cracked or chipped. Clean plug completely if you are going to reuse it.
3. Set the gap to 0.7 ~ 0.8 mm.
4. After the plug seats, tighten it as follows to seat the washer:

Old plug: $\frac{1}{8}$ to $\frac{1}{4}$ turn

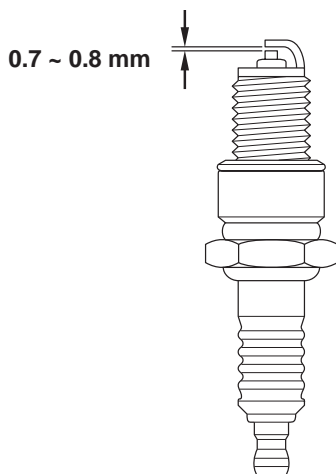
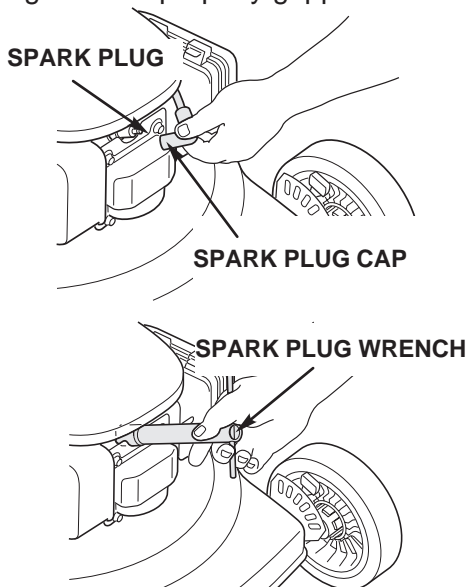
New plug: $\frac{1}{2}$ turn

NOTICE

A loose spark plug can overheat and damage the engine.

Overtightening the spark plug can damage the threads in the cylinder head.

5. Install the spark plug cap on the spark plug.



Carburetor Modification 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. High altitude performance can be improved by specific modifications to the carburetor. If you always operate your mower at altitudes above 1,524 meters, have an authorized Honda servicing dealer perform this carburetor modification. 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 1,524 meters with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have an authorized Honda servicing dealer return the carburetor to original factory specifications.

Fuel Recommendations

Use unleaded gasoline with a pump octane rating of 86 or higher. This engine is 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 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. If spark knock or pinging persists, see an authorized Honda servicing dealer.

NOTICE

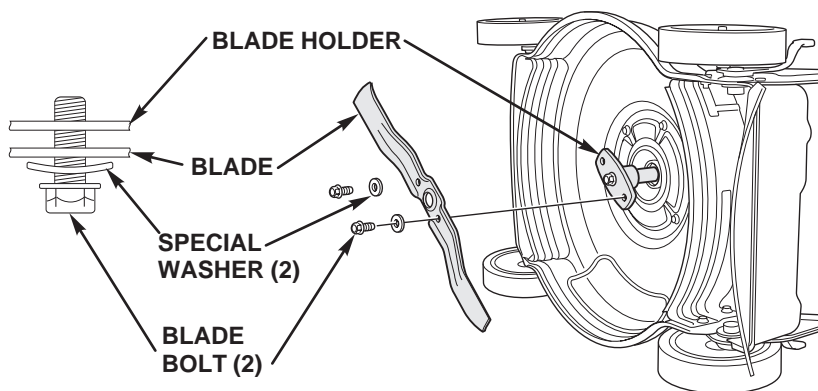
Running the engine with persistent spark knock or pinging can cause engine damage. Running the engine with persistent spark knock or pinging is misuse, and the *Distributor's Limited Warranty* does not cover parts damaged by misuse. For oxygenated fuel information refer to page 47.

7. MAINTENANCE

BLADE REMOVAL AND INSTALLATION

If you remove the blade, use a torque wrench for installation. Wear heavy gloves to protect your hands. To avoid weakening the blade, or causing imbalance or poor cutting, the blade should be sharpened by trained staff at an authorized Honda servicing dealer. If replacing the blade, use a genuine Honda replacement blade or equivalent.

1. **Removal:** Turn the fuel valve to OFF. Disconnect the spark plug cap, then tilt the mower to the right side, carburetor side up.
2. Remove the two blade bolts with a 14 mm socket. Use a wooden block to prevent the blade from turning when removing the bolts. Remove the blade from the blade holder.



3. **Installation:** Clean around the blade holder. Install the blade using the bolts and special washers exactly (concave side of the special washers toward the blade) as shown.

The blade bolts and washers are specially designed; when replacing them, use only genuine Honda parts. Tighten the bolts with a torque wrench. Use a wooden block to stop the blade from turning.

Blade bolt torque: 49 ~ 59 N·m

If you don't have a torque wrench, have an authorized Honda servicing dealer tighten the blade bolts before you use the mower. If the blade bolts are overtightened, they could break. If the blade bolts are not tightened enough, they could loosen or come out. In either case, it would be possible for the blade to fly off while you are operating the mower.

8. TROUBLESHOOTING

ENGINE PROBLEMS

Engine Will Not Start	Possible Cause	Correction
1. Check control positions.	Fuel valve OFF.	Turn fuel valve ON (p. 9).
	Throttle lever in wrong position.	Move throttle lever to CHOKE position, unless the engine is warm (p. 17).
2. Check fuel.	Out of fuel.	Refuel (p. 14).
	Bad fuel; mower stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 31). Refuel with fresh gasoline (p. 14).
3. Remove and inspect spark plug.	Spark plug faulty, fouled, or improperly gapped.	Clean, gap, or replace spark plug (p. 40).
	Spark plug wet with fuel (flooded engine).	Dry and reinstall spark plug. Start engine with throttle lever in FAST position.
4. Take mower to an authorized Honda servicing dealer, or refer to shop manual.	Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary.

Loss of Power	Possible Cause	Correction
1. Check throttle position.	Throttle not set to FAST.	Move throttle to FAST (p. 19).
2. Check grass height.	Grass too tall to cut.	Raise cutting height (p. 10), cut narrower swath (p. 24), or cut more frequently.
3. Check under mower deck.	Mower deck clogged.	Clean out mower deck (p. 25).
4. Check air filter.	Air filter clogged.	Clean or replace air filter (p. 37).
5. Check fuel.	Bad fuel; mower stored without treating or draining gasoline, or refueled with bad gasoline.	Drain fuel tank and carburetor (p. 31). Refuel with fresh gasoline (p. 14).
6. Take mower to an authorized Honda servicing dealer, or refer to shop manual.	Fuel filter clogged, carburetor malfunction, ignition malfunction, valves stuck, etc.	Replace or repair faulty components as necessary.

VIBRATION PROBLEMS

Excessive Vibration	Possible Cause	Correction
1. Check mower deck and blade.	Grass and debris lodged under mower deck.	Clean out mower deck (p. 25).
	Blade loose, bent, damaged, or unbalanced by improper sharpening.	Tighten loose blade bolts. Replace damaged blade (p. 40).
2. Take mower to an authorized Honda servicing dealer for repair.	Mechanical damage, such as a bent crankshaft.	Replace or repair faulty components as necessary.

MOWING AND BAGGING PROBLEMS

Poor Cut Quality or Poor Mowing/Bagging Performance	Possible Cause	Correction
1. Check that the throttle lever is in the FAST position.	Engine speed is too slow to cut well.	Move throttle lever to the FAST position (p. 19).
2. Reduce forward speed.	Mower is moving too fast for lawn conditions.	Release the drive clutch lever (SD) and push slower (SD & PD).
3. Check cutting height adjustment levers.	Adjustment levers set at different positions.	Set all levers at the same cutting height position (p. 10).
4. Check grass bag (if equipped).	Grass bag overfilled or clogged.	Empty the grass bag. Wash the grass bag if clogged with dirt.
5. Check mower deck and blade.	Mower deck clogged.	Clear out the mower deck (p. 25).
	Blade dull, worn, or damaged.	Sharpen or replace blade if necessary (p. 40).
	Wrong blade installed.	Install correct blade (p. 40).

9. SPECIFICATIONS

MOWER MODELS

HRS536CPD: Manually propelled
HRS536CSD: Self-propelled

DIMENSIONS, WEIGHTS, AND CAPACITIES

Length	PD: 1554 mm SD: 1621
Width (at mower deck)	585 mm
Overall Height (with cutting height set at 64 mm)	948 mm
Dry Weight	PD: 28.1 kg SD: 31.5 kg)
Cutting Width	530 mm
Approximate Cutting Height (adjustable)	25 mm, 37 mm, 50 mm, 66 mm, 75 mm, 87 mm
Fuel Tank Capacity	1.1 ℓ
Engine Oil Capacity	0.55 ℓ

ENGINE DESIGN AND PERFORMANCE

Engine Model	GCV160
Engine Type	4-stroke, overhead-cam, single-cylinder, air-cooled
Displacement	160 cc
Bore and Stroke	64 x 50 mm
Compression Ratio	8.5:1
Ignition System	Transistorized magneto
Maximum Horsepower	4.1 kW at 3,600 rpm
Maximum Torque	11.0 N·m at 2,500 rpm

TRANSMISSION DESIGN AND PERFORMANCE (SD)

Transmission Type	single speed
Ground Speed	4.5 km/h

MAINTENANCE

Fuel	Unleaded gasoline with a pump octane rating of 86 or higher	See page 39.
Engine Oil	SAE 10W-30, API SH or SJ	See page 35.
Transmission lubricant (SD)	Grease (NLGI #2)	See shop manual.
Spark Plug Type (Resistor plugs reduce interference with radio and television reception.)	Resistor: NGK - BPRES DENSO - W20EP-U	See page 38.
Maximum Governed Speed	2800 ~ 2900 rpm	See shop manual.
Throttle Cable	Adjust for proper choke operation and maximum governed speed.	See shop manual.

TUNEUP

Spark Plug Gap	0.028 ~ 0.031 in (0.7 ~ 0.8 mm)	See page 38.
Idle Speed	1,700 ± 150 rpm	See page 39.
Valve Clearance (cold)	Intake: 0.15 ± 0.02 mm Exhaust: 0.20 ± 0.02 mm	See shop manual.
Other Specifications	No other adjustments needed.	
Sound power level (according to 2000/14/EC Directives)	100 dB(A)	
Vibration test (According to project EN1033/1993, ENV25349/1993, ENV28041/1993, ISO 5347/1987 & ISO 5348/1987)	4.5 m/s ²	

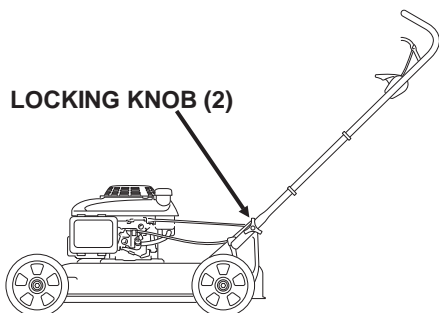
10. ASSEMBLY & PDI

Unpacking

Remove all the protective cardboard from the mower, including the piece around the handlebar.

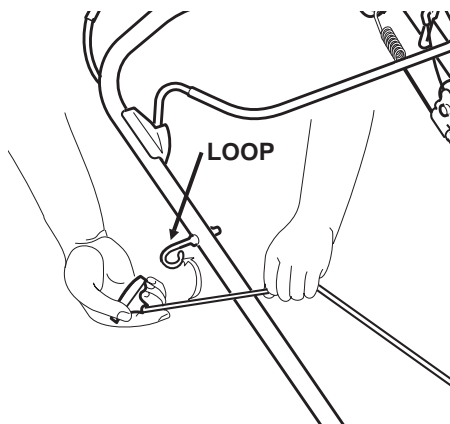
Handlebar Setup

Loosen the two knobs on the lower section of the handlebar enough so you can raise the handlebar into the mowing position. Once the handlebar is in place, tighten the knobs securely.



Install Starter Rope

Disconnect the spark plug cap. Pull the flywheel brake lever back, then pull the starter grip toward the starter rope loop. Release the lever, then press the rope into the loop. Connect the spark plug cap.



Add Oil

The mower is shipped ***WITHOUT OIL*** in the engine. Refer to page 37 for what kind of oil to use, and how to correctly add oil to the engine.

Add Fuel

See page 14 for instructions on how to add fuel.

Before Use...

All operators of the mower must read the ***MOWER SAFETY, CONTROLS, and BEFORE OPERATION*** chapters (starting on page 3) before using the mower.

OXYGENATED FUELS

Some conventional gasolines are being blended with alcohol or an ether compound. These gasolines are collectively referred to as oxygenated fuels. To meet clean air standards, some areas of the USA and Canada use oxygenated fuels to help reduce emissions. If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement. Before using an oxygenated fuel, try to confirm the fuel's contents. Some states/provinces require this information to be posted on the pump.

The following are the EPA approved percentages of oxygenates:

- ETHANOL** — (ethyl or grain alcohol) 10% by volume
You may use gasoline containing up to 10% ethanol by volume. Gasoline containing ethanol may be marketed under the name "Gasohol".
- MTBE** — (Methyl Tertiary Butyl Ether) 15% by volume
You may use gasoline containing up to 15% MTBE by volume.
- METHANOL** — (methyl or wood alcohol) 5% by volume
You may use gasoline containing up to 5% methanol by volume, as long as it also contains cosolvents and corrosion inhibitors to protect the fuel system. Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of your fuel system.

If you notice any undesirable operating symptoms, try another service station, or switch to another brand of gasoline. Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

HONDA PUBLICATIONS

Two other documents are available from your Honda dealer. There is a *Shop Manual*, which covers complete maintenance and overhaul procedures. It is intended to be used by a skilled technician. There is also a *Parts Catalog*, that provides a complete, illustrated parts lists.

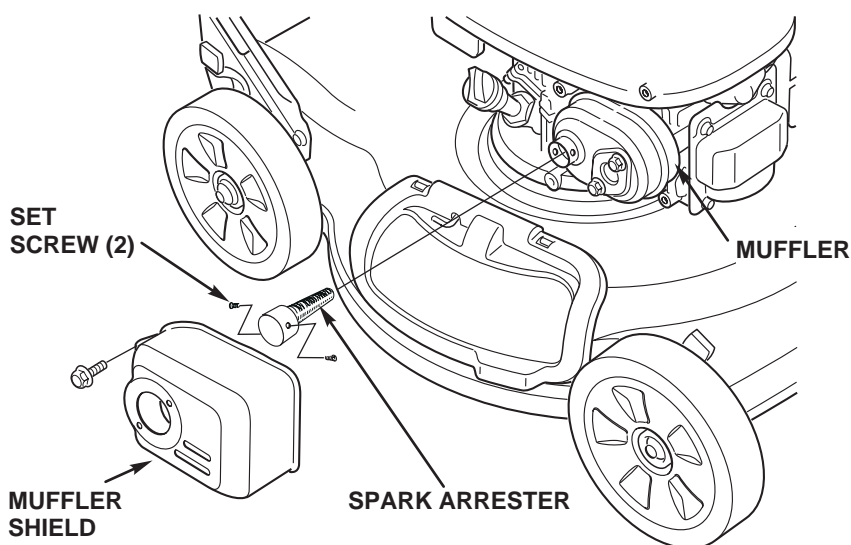
11. ADDITIONAL INFORMATION

SPARK ARRESTER SERVICE (optional equipment)

Your lawn mower engine is not factory-equipped with a spark arrester. In some areas, it is illegal to operate an engine without a spark arrester. Check local laws and regulations. An optional spark arrester is available from an authorized Honda servicing dealer.

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

1. Allow the engine to cool, then remove the bolts from the muffler shield. Remove the muffler shield.
2. Loosen the two set screws and remove the spark arrester.
3. Check for carbon deposits on the spark arrester and the exhaust port. Brush carbon deposits away. Be careful to avoid damaging the spark arrester screen.
4. Installation is the reverse of removal. Tighten all hardware securely.



HONDA

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