

SERVICING YOUR LAWN MOWER

MAINTENANCE SCHEDULE

ITEM	Perform at every indicated interval	REGULAR SERVICE PERIOD						See page
		Before each use	First month or 5 hours	First 25 hours	Every 50 hours	Every 100 hours	Every 150 hours	
Blades	Inspect condition	O						35
	Check bolt torque	O						37
Grass bag	Check	O						38
Engine oil	Check	O						39
	Change		O		O (1)			40
Air cleaner	Check	O						41
	Clean			O (1)	O (1)			
	Replace filter						O	
Spark plug	Check-Adjust					O		42
	Replace						O	
Spark arrester (optional equipment)	Clean-Inspect					O		44
Valve clearance	Check-Adjust						O (2)	–
Throttle cable	Adjust					O (2)		–
Pinion gears	Grease					O (1,2)		–
Idle speed	Check-Adjust						O (2)	–
Blade control	Check operation					O		45
	Adjust cable			O		O		
Drive clutch	Adjust cable			O		O		46
Combustion chamber	Clean	After every 250 hours (2)						–
Fuel system	Clean tank						O (2)	–
	Check line	Every 2 years [replace if necessary] (2)						–
Battery (HRX217HMA only)	Charge	Before prolonged storage and at the beginning of the mowing season (3)						50

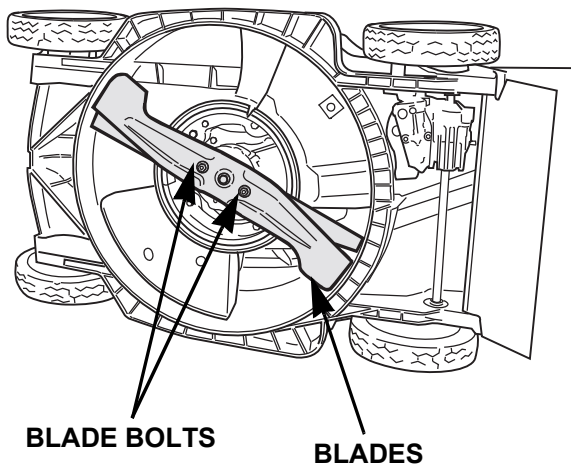
- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by an authorized Honda servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
- (3) The HRX217HMA model requires the battery to be charged for 20-24 hours before and after winter storage.

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

BLADES

Inspection

1. Move the fuel valve to the OFF position (page 8) and disconnect the spark plug cap from the spark plug (page 42).
2. Tilt the mower to the right, so the carburetor side is up. This will help to prevent fuel leakage and hard starting.
3. Inspect blades for wear and damage.



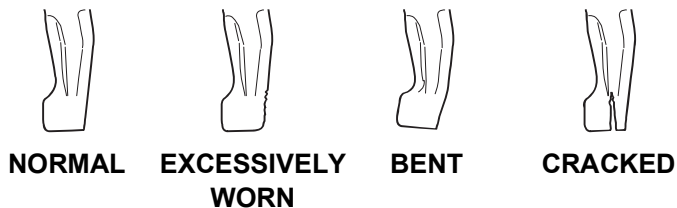
WARNING

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

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



If the blades are found to be bent, take the lawn mower to an authorized Honda servicing dealer for inspection.

4. A torque wrench must always be used when installing the blades. Check that the blade bolts are tight (page 37).

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Blade Removal and Installation

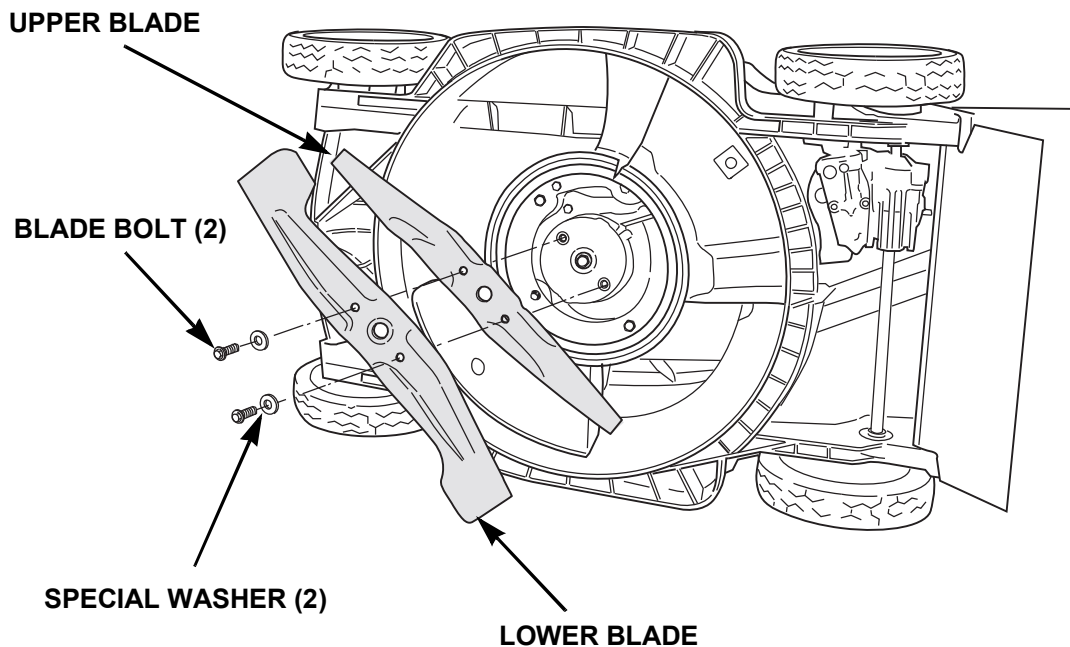
If you remove the blades for sharpening or replacement, you will need a torque wrench for installation. Wear heavy gloves to protect your hands.

BLADE SHARPENING: To avoid weakening the blades, or causing imbalance or poor cutting, the blades should be sharpened by trained staff at an authorized Honda servicing dealer.

BLADE REPLACEMENT: Use genuine Honda replacement blades or their equivalent (page 73).

Blade Removal

1. Turn the fuel valve OFF. Disconnect the spark plug cap (see page 42), then tilt the mower to the right side, so the carburetor side is up. This will help to prevent fuel leakage and hard starting due to carburetor flooding.
2. Remove the two blade bolts with a 14 mm socket wrench. Use a wooden block to prevent the blades from turning when removing the bolts. Remove the blades.



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Blade Installation

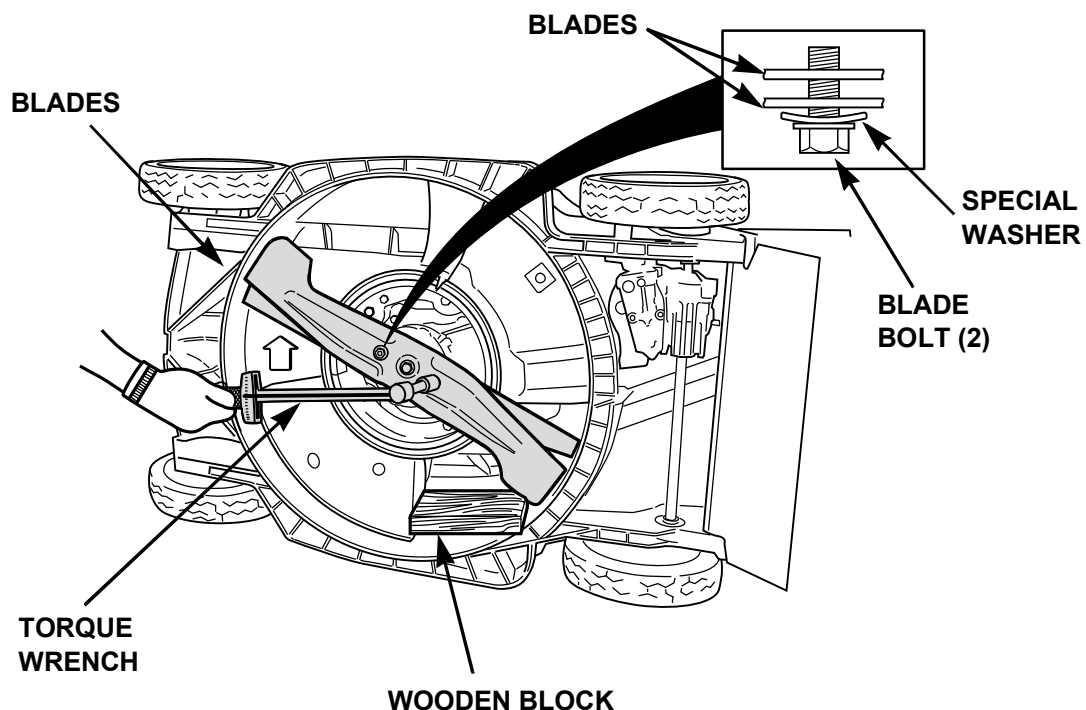
1. Clean dirt and grass from around the blade mounting area.
2. Install the blades using the two blade bolts and special washers as shown. Be sure to install the special washers with the concave side toward the blades and the convex side toward the bolts.

The blade bolts and washers are specially designed for this application. When replacing bolts and washers, use only genuine Honda replacement parts.

3. Tighten the blade bolts with a torque wrench. Use a wooden block to prevent the blades from turning when tightening the bolts.

Blade bolt torque: 36 ~ 43 ft-lb; 5.0 ~ 6.0 kg-m (49 ~ 59 N·m)

If you do not 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 blades to fly off while you are operating the mower.



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GRASS BAG CLEANING AND REPLACEMENT

Grass Bag Cleaning

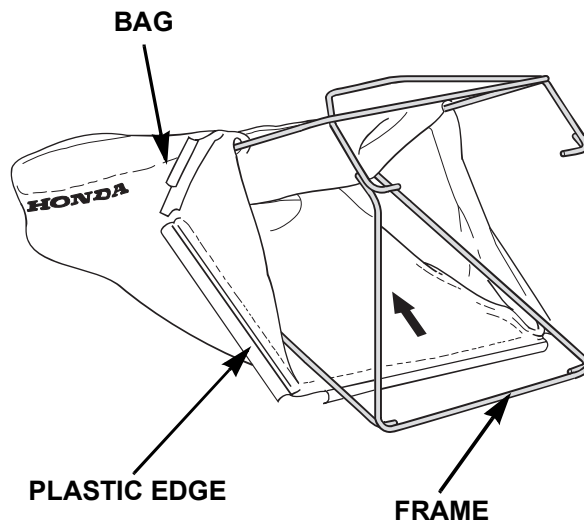
Wash the bag with a garden hose, and allow it to dry completely before use; a wet bag will clog quickly.

Grass Bag Replacement

Replace a worn or damaged bag with a Honda replacement bag or its equivalent (page 73).

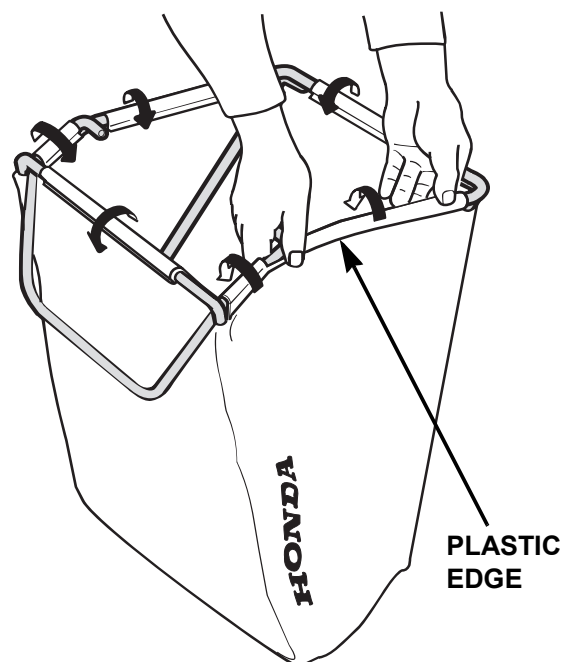
Bag Removal

1. Unclip the plastic edges of the bag from the frame.
2. Remove the bag from the frame.



Bag Installation

1. Insert the bag frame into the bag, as shown.
2. Clip the plastic edges of the bag onto the frame, as shown.

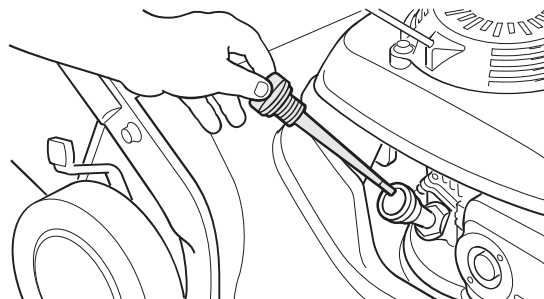


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ENGINE MAINTENANCE

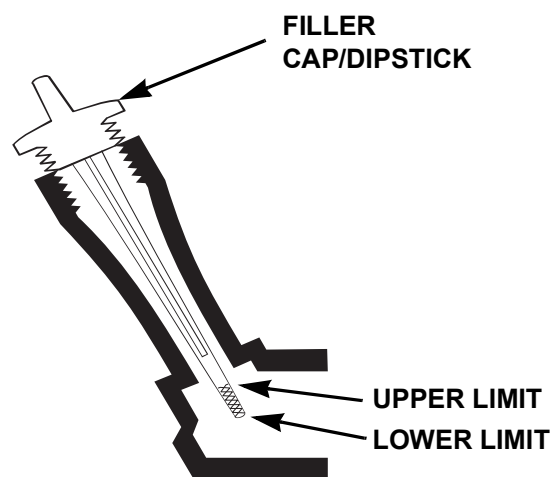
Engine Oil Level Check

1. Unscrew and remove the filler cap/dipstick and wipe it clean. Insert and remove the dipstick **without screwing it into the filler neck**. Check the oil level shown on the dipstick.
2. 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.

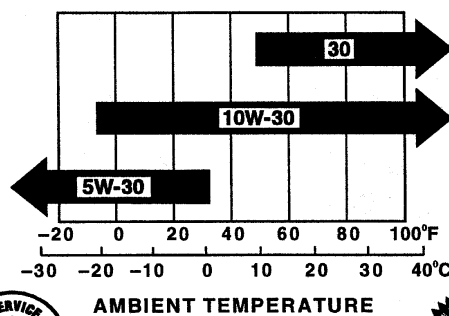


3. Screw in the filler cap/dipstick securely.

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 API SERVICE category SJ or later oil with the ILSAC “starburst” certification mark displayed on the container.

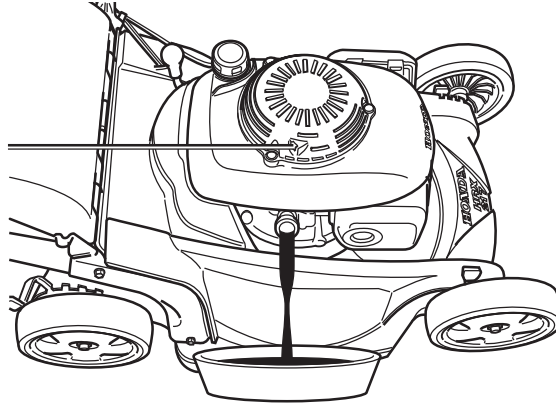
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Engine Oil Change

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

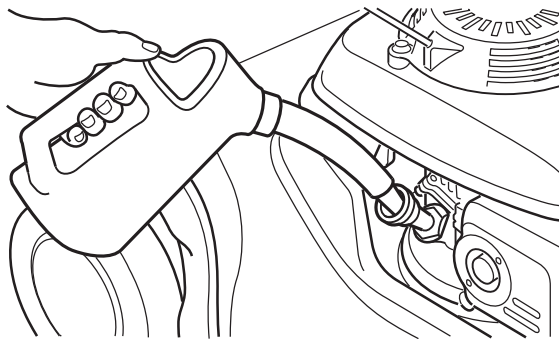
1. Turn the fuel valve OFF (page 8). This will reduce the possibility of fuel leakage.
2. Wipe the oil filler area clean, then remove the oil filler cap/dipstick.
3. Place a suitable container next to the mower to catch the used oil, then tilt the mower on its right side.

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. Allow a couple of minutes for the oil to settle in the engine, then measure the oil level as shown on page 39.



NOTICE

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

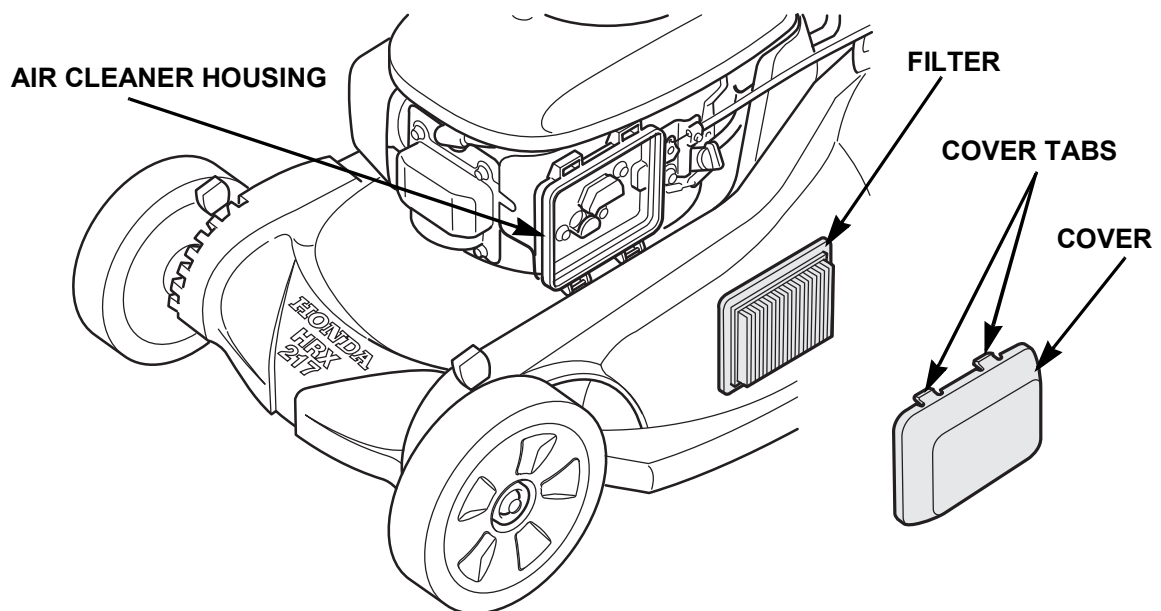
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Air Cleaner Service

A dirty air filter will restrict 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 (page 34).

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 (page 75).



1. Press down on the cover tabs and remove the cover.
2. Remove the filter from the air cleaner housing.
3. Inspect the filter, and replace it if damaged.
4. Clean the filter by tapping the filter several times on a hard surface to remove dirt, or blow compressed air (not exceeding 30 psi [207 kPa]) through the filter from the inside. Never try to brush off dirt; brushing will force dirt into the fibers.
5. 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.
6. Reinstall the filter and cover.

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Spark Plug Service

RECOMMENDED SPARK PLUGS	REGULAR	RESISTOR*
NGK	BP6ES	BPR6ES
DENSO	W20EP-U	W20EPR-U

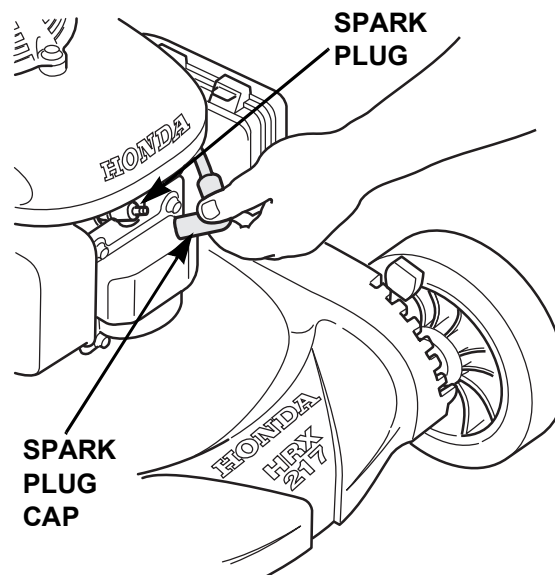
*Resistor spark plugs reduce interference with radio and TV reception.

NOTICE

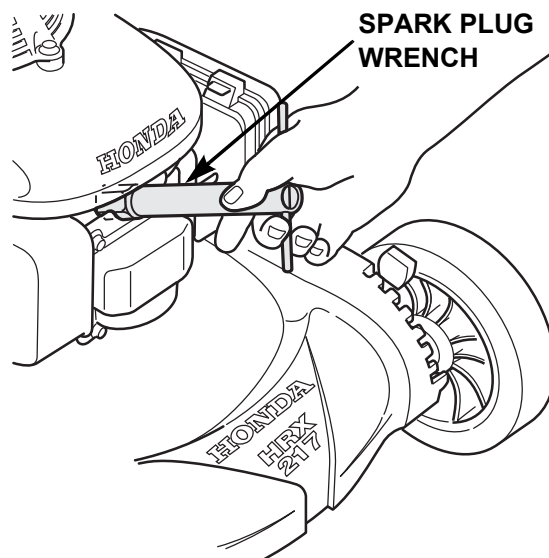
Incorrect spark plugs can cause engine damage.

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

1. Disconnect the spark plug cap and remove any dirt from around the spark plug area.

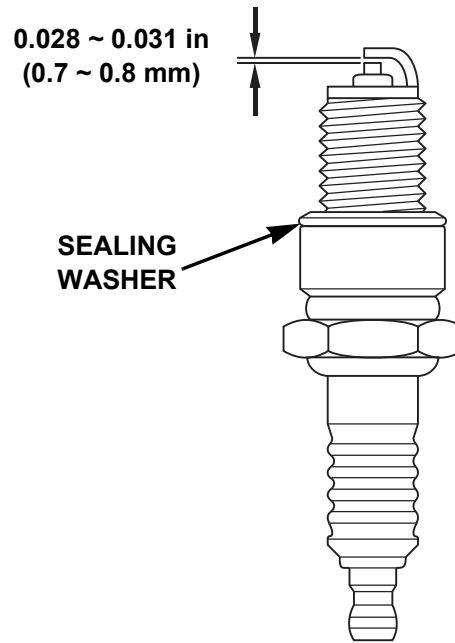


2. Remove the spark plug with a 13/16 in (21 mm) spark plug wrench.
3. Inspect the spark plug. Replace it if the electrodes are worn, or if the insulator is cracked or chipped.



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4. Measure the spark plug electrode gap with a suitable gauge. The gap should be 0.028 ~ 0.031 in (0.7 ~ 0.8 mm). Correct the gap, if necessary, by carefully bending the side electrode.
5. Install the spark plug carefully, by hand, to avoid cross-threading.
6. After the spark plug seats, tighten with a 13/16 in (21 mm) spark plug wrench to compress the washer.



If reinstalling the old spark plug, tighten 1/8 to 1/4 turn after the spark plug seats.

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

NOTICE

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

7. Install the spark plug cap on the spark plug.

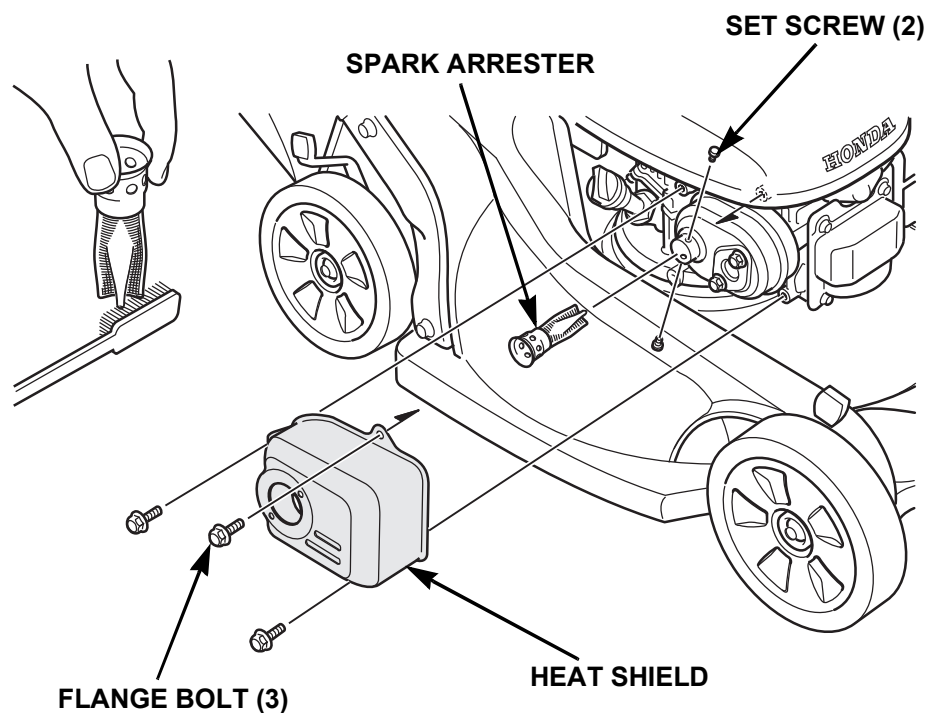
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Spark Arrester Service (optional equipment)

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 USDA approved 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 and disconnect the spark plug cap to prevent accidental starting.
2. Remove the three flange bolts and the heat shield. Remove the two set screws and the spark arrester from the muffler.
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.
5. Reconnect the spark plug cap.



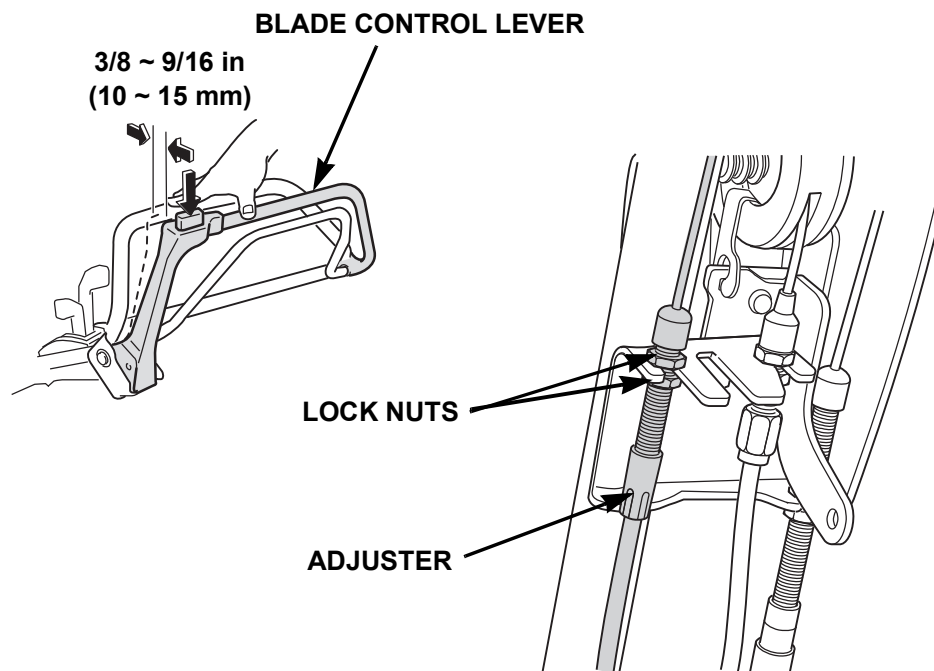
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CONTROL CABLE ADJUSTMENTS

Blade Control Lever Adjustment

1. Push the button down on the blade control lever and measure free play at the top of lever.
Free play should be $3/8 \sim 9/16$ in ($10 \sim 15$ mm). If adjustment is necessary:
2. Loosen the lock nuts with a 10 mm wrench, and move the adjuster up or down as required.
3. Tighten the lock nuts and recheck free play.
4. Start the engine outdoors. Move the throttle to FAST. Operate the blade control lever. The blades should engage when you push the lever forward and the blades should stop quickly when the lever is released.

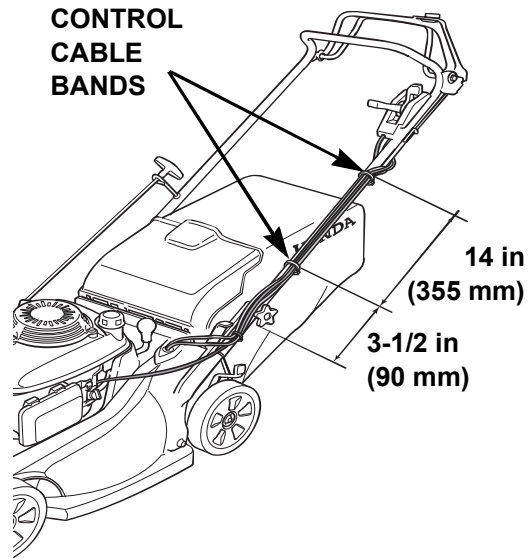
If the blades do not start or stop as it should with the correct cable adjustment, take the mower to an authorized Honda servicing dealer for repair.



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Drive Clutch Cable Adjustment

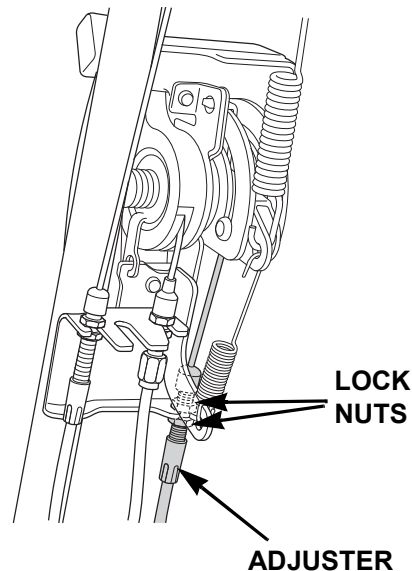
1. With the engine stopped, position the control cable bands as shown.
2. Pull the shift lever all the way back to the neutral position.
3. Start the engine and move the throttle lever to the FAST position.
4. Engage the drive clutch lever and confirm the following:
 - a. Mower does not self-propel.
 - b. Mower begins to self-propel or creeps very slowly forward when the shift lever is moved one notch forward.



If the mower does not operate as outlined above, go to step 5. If the mower does operate as outlined above, adjustment is not required.

5. Loosen the top and bottom drive clutch cable lock nuts with a 10 mm wrench. Move the adjuster up or down, as required, until the mower operates as outlined in step 4. Tighten the lock nuts.

If the mower will not operate correctly, take the mower to an authorized Honda servicing dealer.



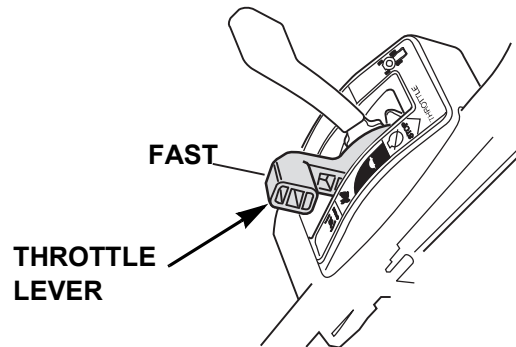
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THROTTLE CABLE INSPECTION

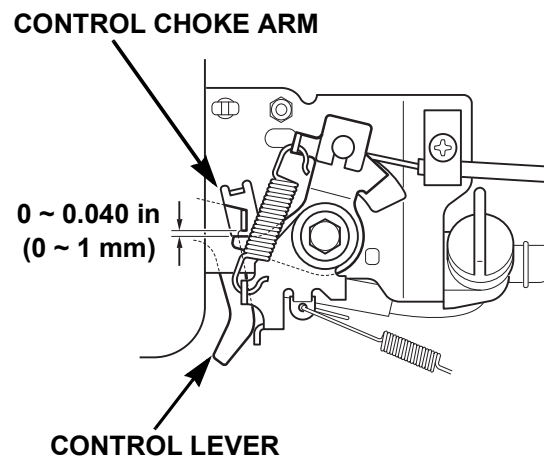
Throttle cable adjustment is necessary if the throttle lever does not operate the choke properly.

You can inspect choke operation by observing the movement of the choke arm, which is located on top of the carburetor.

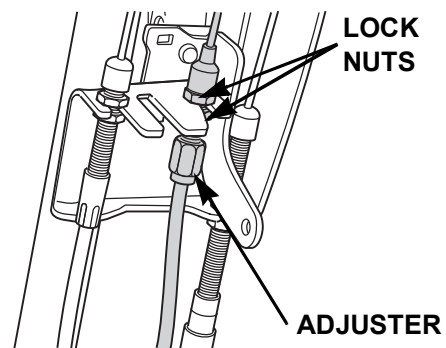
1. Move the throttle lever to the FAST position.
2. Remove the air cleaner cover (page 41).



3. Use a feeler gauge and measure the clearance between the control choke arm and the control lever. The clearance should be 0 ~ 0.040 in (0 ~ 1 mm).



4. To adjust the clearance, loosen the lock nuts with a 10 mm wrench. Move the adjuster up or down as required to obtain the proper clearance. Tighten the lock nuts.



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FUEL SYSTEM

Refueling

Fuel tank capacity: 0.29 US gal (1.1 ℓ)

If the fuel level is low, refuel in a well-ventilated area with the engine stopped. If the engine has been running, allow it to cool first.

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

WARNING

Gasoline is highly flammable and explosive.

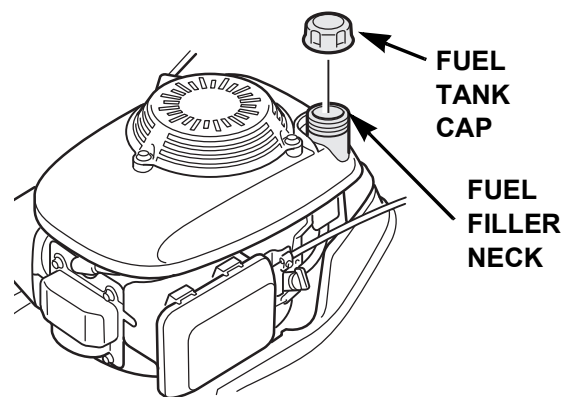
You can be burned or seriously injured when handling fuel.

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

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

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

Move at least 10 feet (3 meters) away from the fueling source and site before starting the engine.



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 by the Distributor's Limited Warranty (page 75).

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Fuel Recommendations

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

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

This is considered misuse, and the *Distributor's Limited Warranty* (page 75) does not cover parts damaged by misuse.

For oxygenated fuel information refer to page 67.