

HONDA

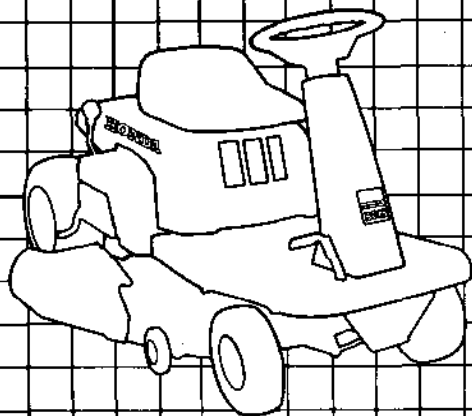
Power

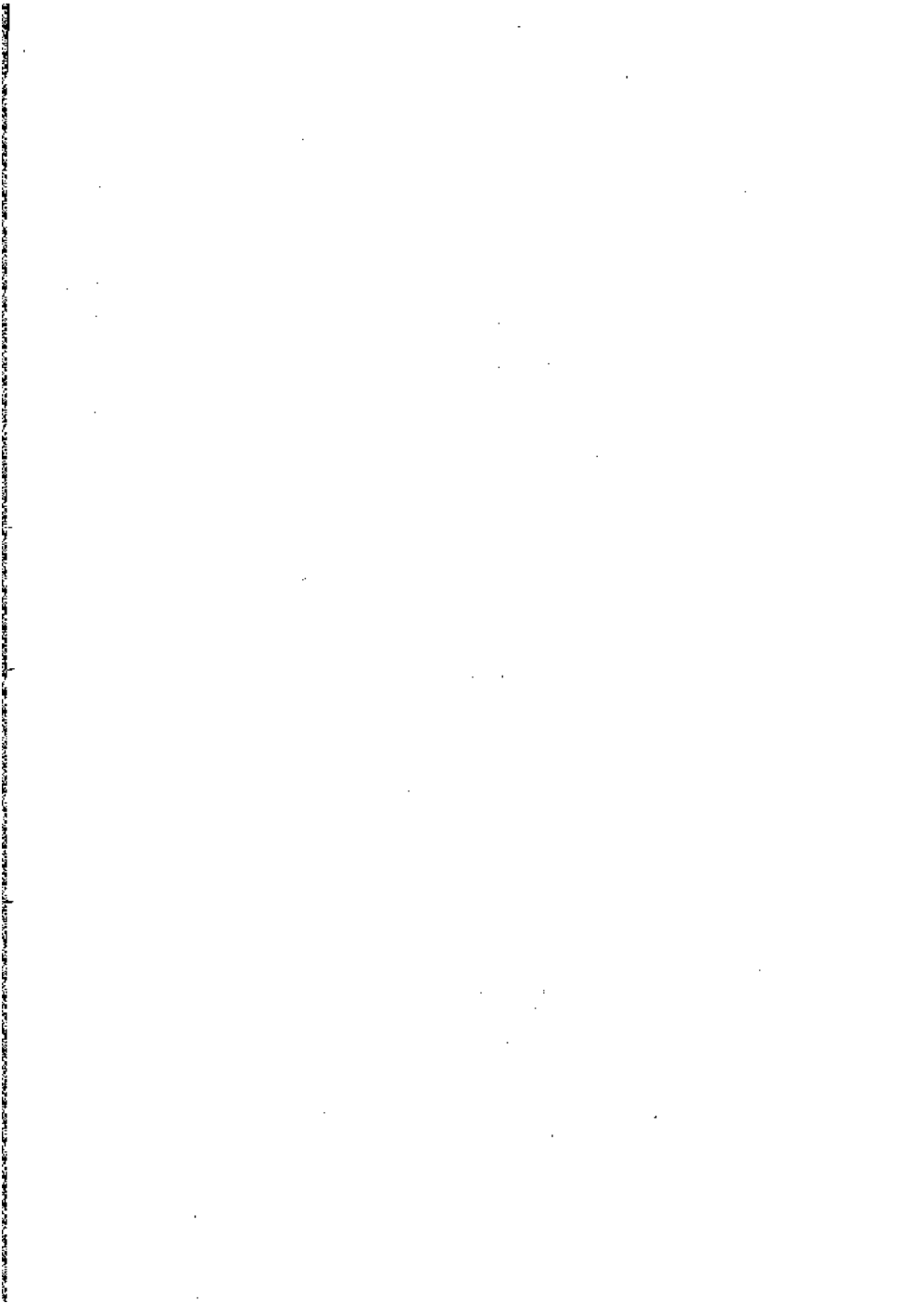
Equipment

Owner's Manual

Riding Mower

H3013H





Thank you for purchasing a Honda riding mower.

This manual describes operation and maintenance of the Honda H3013H riding mower, type SA (side discharge). All information in this publication is based on the latest product information available at the time of printing.

Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation.

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This manual is considered a permanent part of the riding mower and it must stay with the riding mower if resold.

You can purchase an optional, U.S.D.A. qualified spark arrester for this product from your authorized Honda Power Equipment dealer. Spark arresters are required in some areas; check local laws and regulations before operating this Honda product.

READ THIS OWNER'S MANUAL CAREFULLY. Pay special attention to these symbols and any instructions that follow:

▲ DANGER

—Indicates serious injury or death **WILL** result if instructions are not followed.

▲ WARNING

—Indicates a strong possibility that serious injury or death can result if instructions are not followed.

▲ CAUTION

—Indicates a possibility that minor injury may result if instructions are not followed.

IMPORTANT NOTICE

—Indicates that equipment or property damage may result if instructions are not followed.

NOTE: Gives helpful information.

Honda riding mowers are designed to give safe and dependable service if operated according to instructions. Operating this riding mower requires special effort on your part to ensure your safety and the safety of others.

▲ WARNING

Using this product for a purpose not intended may cause injury or property damage. Use only for mowing (cutting) grass, and for bagging cut grass when equipped with an optional grass catcher. Read and understand this Owner's Manual before operating the riding mower.

If a problem should arise, or if you have any questions about your riding mower, consult an authorized Honda riding mower dealer.

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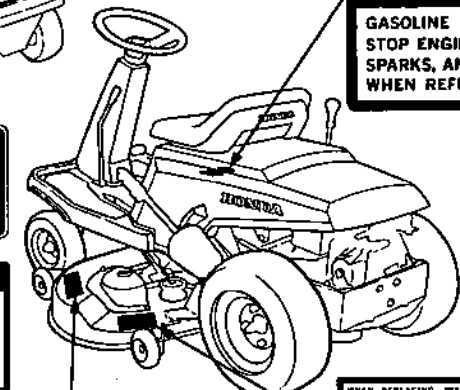
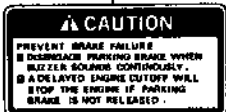
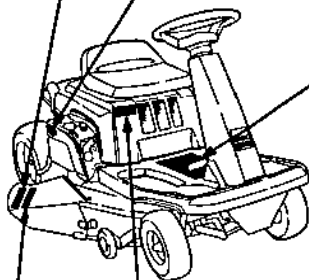
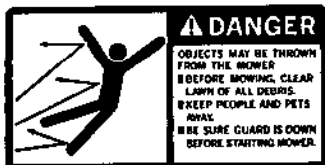
CONTENTS

1. SAFETY INFORMATION	4
2. COMPONENT IDENTIFICATION	8
3. CONTROLS	11
Engine switch	11
Throttle lever	11
Cutter deck height adjusting lever	12
Shift lever	13
Power take-off (P.T.O) lever	14
Brake pedal	14
Parking brake lever and warning buzzer	15
Transmission release lever	16
4. PRE-OPERATION CHECKS	17
COOLING AIR INTAKE	17
ENGINE OIL	18
FUEL	19
Fuel Recommendation	19
GASOLINES CONTAINING ALCOHOL	21
AIR CLEANER	22
BATTERY	23
TRANSMISSION FLUID	24
BRAKE	24
PRIMARY BELT AND BLADE BELT	25
TIRE	26
CUTTER DECK	26
BLADE	27
SAFETY SWITCH	29
SEAT ADJUSTMENT	29
5. OPERATION	30
Starting the engine	30
Mowing	33
Mowing tips	33
Starting the riding mower	35
Cutting patterns	37
Stopping on a hill	39
Uphill starting procedure	39
Stopping the engine	40
High altitude operation	41
6. TRANSPORTING	42

7. MAINTENANCE	43
MAINTENANCE SCHEDULE	44
Engine oil change	45
Air cleaner service	46
Spark plug service	47
Recommended spark plug	47
Battery service	49
Wheel removal	51
Cutter deck removal	52
Blade belt adjustment/replacement	55
Primary belt replacement	57
Blade bolt tightness/Blade replacement	58
Spark arrester maintenance	60
Fuse replacement	61
8. STORAGE	62
Removal from storage	64
9. TROUBLESHOOTING	65
10. SPECIFICATIONS	69
11. WIRING DIAGRAM	70
12. WARRANTY SERVICE	71

1. SAFETY INFORMATION

Read all safety instructions before you ride!



⚠ WARNING

OPERATOR ONLY. NO PASSENGERS.
OPERATION ON PUBLIC STREETS OR HIGHWAYS IS ILLEGAL.
MOWER CAN THROW OBJECTS:
BEFORE MOWING, CLEAR LAWN OF ALL STICKS, ROCKS, AND OTHER DEBRIS.
KEEP PEOPLE AND PETS AWAY.
AVOID TIP-OVERS:
REDUCE SPEED WHEN TURNING OR OPERATING ON SLOPES.
MAXIMUM SAFE OPERATING ANGLE IS 10 DEGREES (17% GRADE).

10 MAX.
MOWER BLADE MAY CAUSE INJURY:
STOP ENGINE BEFORE REMOVING GRASS BAG OR CLEANING DISCHARGE CHUTE.

OPERATION

STARTING ENGINE

1. MOVE PTO LEVER TO "OFF".
2. MOVE TRANSMISSION SHIFT LEVER TO "N".
3. MOVE THROTTLE LEVER TO "START".
4. TURN IGNITION KEY TO "START" AND ALLOW ENGINE TO WARM UP.
5. SET THROTTLE LEVER BETWEEN AND .

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1975-1976

OPERATING

1. APPLY THE PARKING BRAKE AND RELEASE THE FOOT BRAKE.
2. MOVE THE TRANSMISSION SHIFT LEVER TO SLOW MOWING RANGE AND RELEASE THE PARKING BRAKE.
3. THEN SLOWLY MOVE THE SHIFT LEVER TO THE DESIRED SPEED RANGE.

STOPPING ENGINE

1. MOVE PTO LEVER TO "OFF" AND TRANSMISSION SHIFT LEVER TO "N".
2. SET PARKING BRAKE.
3. TURN IGNITION KEY TO "OFF".



WHEN REPLACING, INSPECTING OR ADJUSTING THE BLADE BELT, FOLLOW PROCEDURE IN OWNER'S MANUAL.

⚠ WARNING

WEAR HEAVY GLOVES TO PROTECT YOUR HANDS. KEEP HANDS AWAY BETWEEN THE PULLEYS. THE TRANSMISSION PULLEY COULD SNAP BACK AND CAUSE SERIOUS HAND INJURY.

⚠ CAUTION

TO PREVENT DAMAGE TO THE PULLEYS, GRASP THE SHAFT END OF PULLEY FIRMLY AND RETURN THE TENSIONER ARM SLOWLY.

SAFETY INFORMATION

For your safety and the safety of others, pay special attention to these precautions:

Operator Responsibility

- Always make a **PRE-OPERATION INSPECTION** (page 17) before you operate the riding mower, you may prevent an accident or equipment damage.
- Keep the riding mower in good operating condition. Operating a riding mower in poor, or questionable condition could result in serious injury.
- Be sure all safety devices are in working order and warning labels are in place, these items are installed for your safety.
- Know how to stop the engine and blades quickly in case of emergency. Understand the use of all controls.
- Allowing anyone, to operate this riding mower without proper instruction may result in injury.
- Allowing passengers to ride on the mower or any of its attachments may cause the mower to tip over.
- Wear sturdy, full coverage footwear. Operating this riding mower barefoot, or with open toe shoes or sandals increases your risk of injury.
- Dress sensibly. Loose clothing may get caught in moving parts, increasing your risk of injury.
- Be alert. Operating this riding mower when you are tired, ill or under the influence of alcohol or drugs may result in serious injury.
- Keep all persons and pets away from the mowing area.

Child Safety

Serious injury or death can occur when children fall off the mower and are run over by the machine, or when children run or fall in the path of a mower and are run over.

- Allowing children to ride as passengers on the riding mower can be dangerous.
- Keep children indoors and supervised at all times when any outdoor power equipment is being used nearby. Young children move quickly and are attracted to the mower and the mowing activity especially if they have been given rides before.
- Never assume children will remain where you last saw them. Be alert and turn the mower off if children enter the area. Use extra care when approaching corners, shrubs, and trees that might shield children from sight.
- Children should never be allowed to operate the riding mower, even under adult supervision.

Cutting Blade Hazard

The cutting blades are sharp, and they turn at high speed. Accidental contact can cause serious injury.

- Keep your hands and feet away from the mower deck while the engine is running.
- Stop the engine, disengage the Power Take Off (P.T.O.) clutch and remove the key before inspection or maintenance of the deck or blades.
- Disconnect the spark plug cap to prevent any possibility of accidental starting. Wear heavy gloves to protect your hands from the blades when cleaning out the mower deck, or when inspecting or replacing the blades.

Thrown Object Hazard

Objects hit by the cutting blades can be thrown from the mower with great force, and may cause serious injury.

- Before mowing, clear the mowing area of sticks, stones, dog bones, and other litter and loose objects. Mow only in daylight, or in well-lit areas at night, so you can see and avoid objects in the grass.
- Before operating the mower, be sure the side discharge guard is down, or that the optional grass catcher bags and discharge chute are in place.
- Disengage the Power Take Off (P.T.O.) lever to stop the blades before crossing a gravel driveway or any other area with loose stones.
- Always inspect the mower for damage after striking a foreign object. Repair or replace any damaged parts before continued use.
- Broken pieces thrown from a worn or damaged blade can cause serious injury. Always inspect the blades before using the mower.

Fire and Burn Hazard

Gasoline is extremely flammable, and gasoline vapor can explode. Use extreme care when handling gasoline. Keep gasoline out of reach of children.

- Refuel in a well ventilated area with the engine stopped.
- Allowed the engine to cool before refueling. Fuel vapor or spilled fuel may ignite.
- The accumulation of dry grass and leaves around the engine or exhaust may ignite.
- It is illegal in some areas to operate an engine without a USDA qualified spark arrester. Periodic maintenance is required to keep it functioning as designed.

The engine and exhaust system become very hot during operation and remain hot for a while after stopping. Contact with hot engine components can cause burn injuries and can ignite some materials.

- Avoid touching a hot engine or exhaust system.
- Allow the engine to cool before performing maintenance or storing the riding mower indoors.

Carbon Monoxide Poisoning Hazard

Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust can cause loss of consciousness and may lead to death.

- If you run the engine in an area that is confined, or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust gas. To keep exhaust gas from building up, provide adequate ventilation.

Towing Hazard

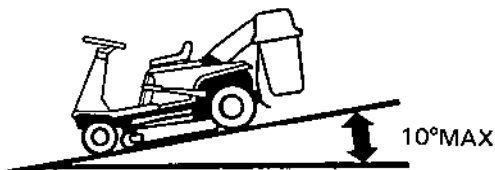
Towing vehicles such as garden carts, trailers, or other vehicles is not recommended. Towing vehicles could cause brake failure, transmission failure or loss of control.

Operation on Slopes

This riding mower is intended for use on relatively flat terrain. Operating the riding mower on slopes exceeding 10 degrees (17% grade) could cause the mower to tip over.

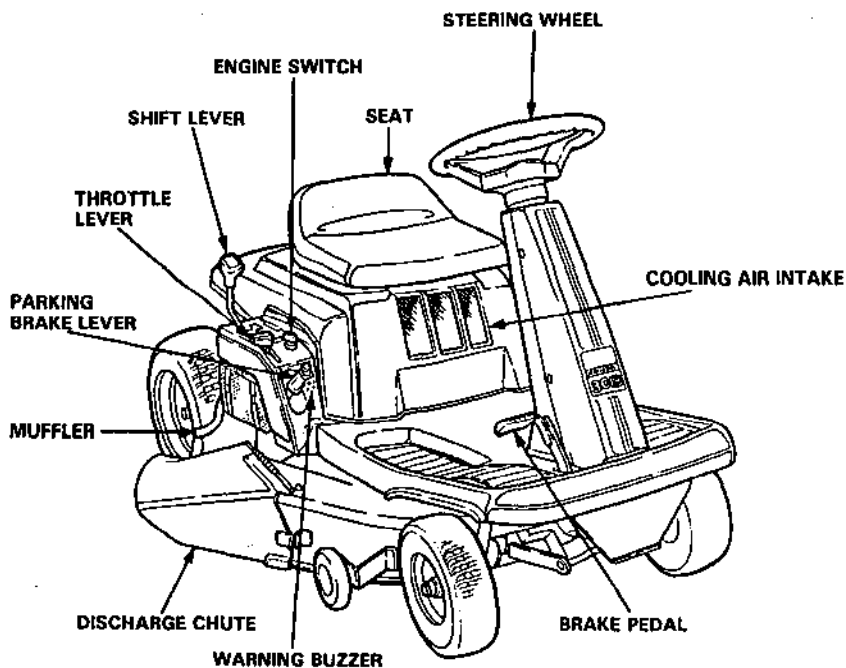
- When mowing on slopes, empty the grass bags when they are half full. The weight of full grass bags may cause the riding mower to tip over.

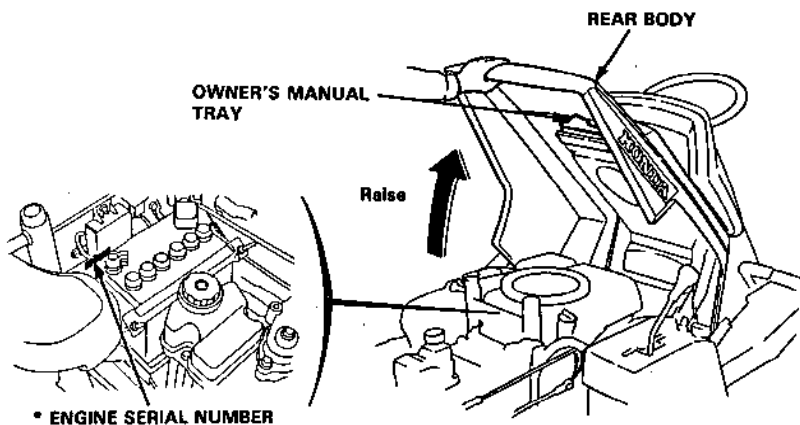
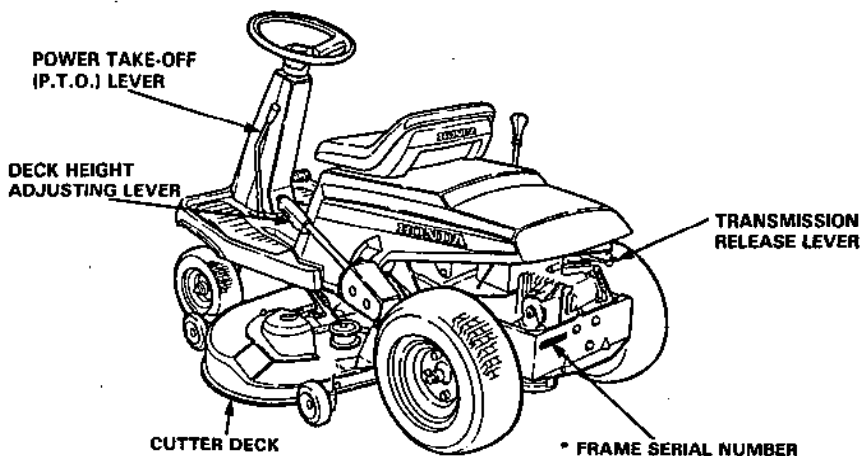
Maximum safe operating angle



MAXIMUM 10° (17% GRADE)

2. COMPONENT IDENTIFICATION



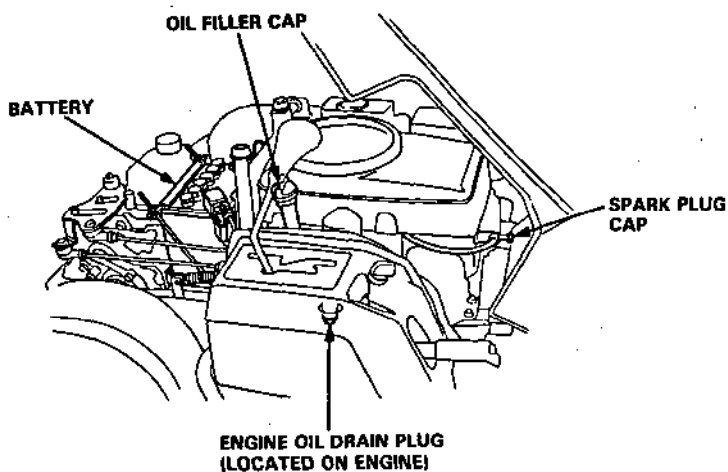
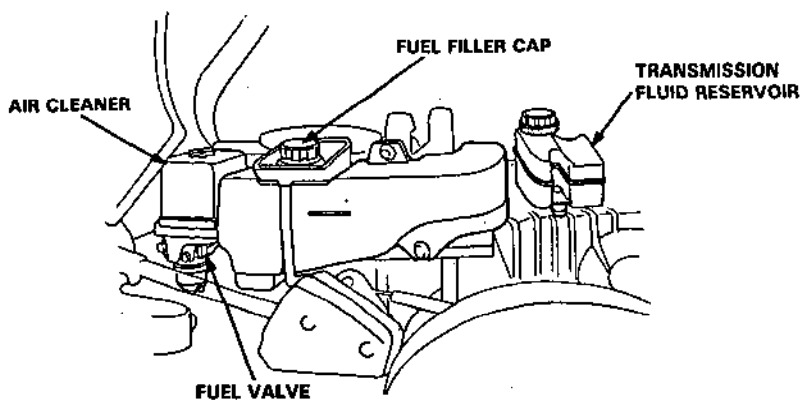


- * Record the frame and engine serial numbers for your reference. Refer to the serial numbers when ordering parts, and when making technical or warranty inquiries (see page 71).

Frame serial number: _____

Engine serial number: _____

Engine compartment

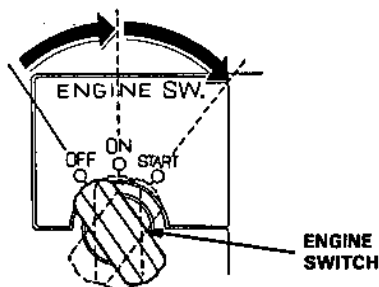


Engine switch

▲WARNING Always remove the key from the engine switch whenever the riding mower is unattended to prevent children or unauthorized persons from starting the engine.

This riding mower is equipped with an automotive type engine switch, which controls all the electrical circuits. The switch is located on the right-hand side in front of the gear shift lever.

Key positions: "START" to start the engine
"ON" to run the engine after starting
"OFF" to stop the engine.

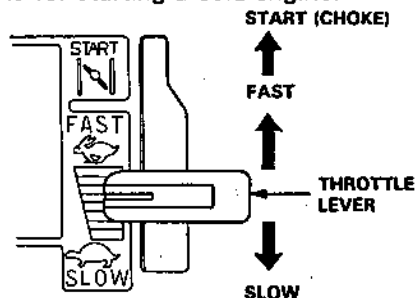


IMPORTANT NOTICE Do not leave the engine switch "ON" (key on "ON" position) when the engine is not running as the battery will discharge.

NOTE: The starter motor will not operate unless the parking brake is applied with the shift lever in NEUTRAL, the P.T.O. lever in the OFF (disengaged) position, and/or with the seat switch depressed (sitting in the operator's seat).

Throttle lever

The throttle lever controls engine speed from SLOW (idle) to FAST (max speed). START (CHOKE) is for starting a cold engine.

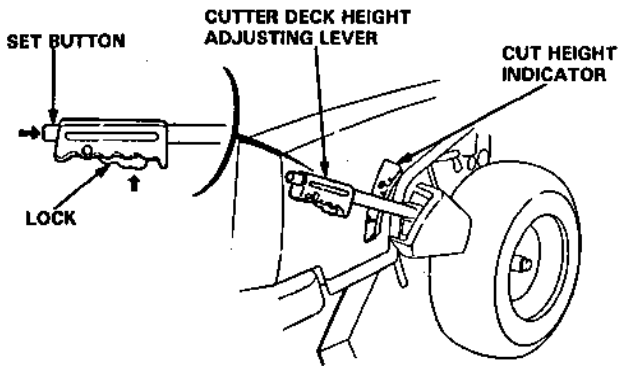


Cutter deck height adjusting lever

This lever is used to raise and lower the cutter deck. To adjust the cutting height, squeeze the handle lock and then press in and hold the set button. Raise or lower the lever until the desired cutting height appears on the indicator. At that point, release the set button and the handle lock. Be sure the handle lock returns to its normal position when released. Cutting height: 1.0, 1.5, 2.0, 2.5, 3.0, 3.5 in (Approx.)

IMPORTANT NOTICE

- To avoid damage to the cutter deck, always raise it fully when driving the riding mower to and from the mowing area; this provides maximum ground clearance.
- To avoid damaging or disabling the handle locking mechanism, never attempt to screw the adjusting lever's set button in or out.



Shift lever

Use the shift lever to change the forward/reverse speed of the riding mower and/or to shift the transmission into NEUTRAL (STOP).

To drive the riding mower forward, release the parking brake and slowly move the shift lever from NEUTRAL to forward direction (away from you). To drive in reverse, slowly move the shift lever back (toward you).

NOTE: The shift lever is interconnected with the brake pedal, the shift lever returns to NEUTRAL when the brake pedal is fully depressed bring the riding mower to a complete stop.

▲WARNING Do not operate the shift lever on a slope.

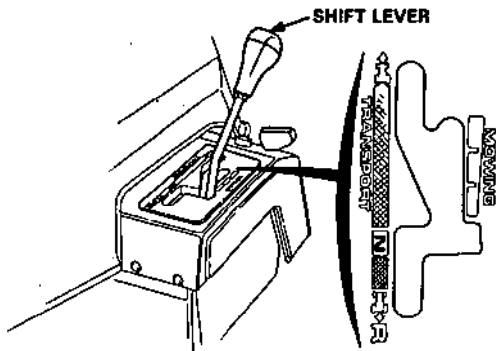
IMPORTANT NOTICE Bring the riding mower to a complete stop before shifting from a forward speed to reverse, or from reverse to a forward speed. Shifting between forward and reverse speeds while the riding mower is moving can cause transmission damage.

NOTE: The riding mower will pull away from a stop in any speed range. No shifting is necessary.

Be sure that the shift lever is in the mowing range whenever mowing.

Mowing in the transport range is not recommended; as this will affect cut quality. Transport range should only be used to drive to and from the mowing area.

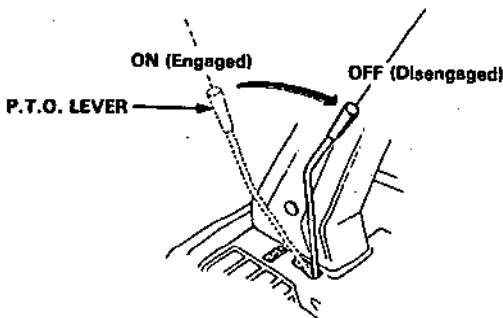
NOTE: An interlock switch prevents the engine from starting unless the shift lever is in the N (neutral) position.



Power Take-Off (P.T.O.) lever

This lever engages and disengages the power take-off clutch to drive the blades.

Lever positions: ON (Engaged)..... Blades turn
OFF (Disengaged).... Blades stop

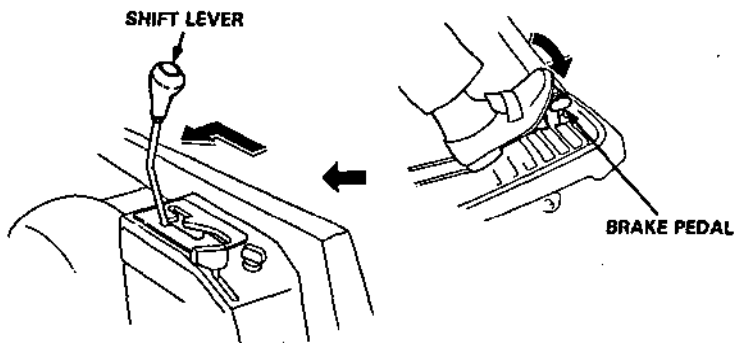


NOTE: An interlock switch prevents the engine from starting unless the P.T.O. lever is in the OFF position.

Brake pedal

The brake pedal and the shift lever are interconnected. When the brake pedal is fully depressed, the riding mower will stop and the shift lever will return to NEUTRAL. If the brake pedal is depressed half-way and then released, the riding mower will stop and then continue at a slower speed.

IMPORTANT NOTICE Driving the riding mower with the brake pedal partly depressed can damage the brake linings.



Parking brake lever and warning buzzer

This lever is used to set the brake when the riding mower is parked. Pull the lever fully up until the ratchet locks.

To set the parking brake, pull up on the parking brake lever until the set button locks in place.

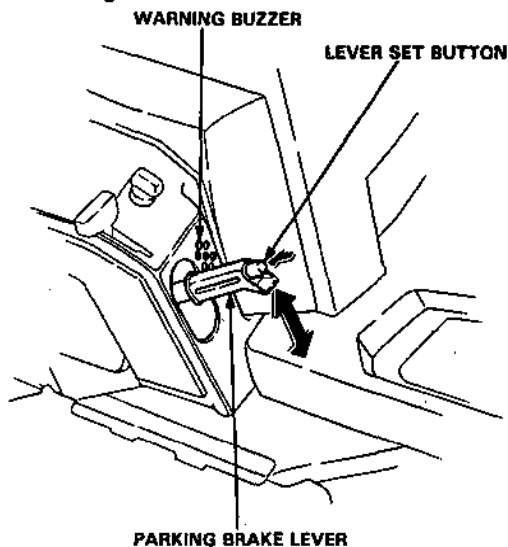
To release the parking brake, pull the lever up slightly and press the set button, lower the lever while holding in the button.

The warning buzzer will sound continuously when the following conditions are present:

Operator in the seat with the parking brake set, the engine switch "ON" and the shift lever moved from the "N" position.

To prevent operating riding mower with the parking brake set, a delayed engine cutoff is interlinked with the warning buzzer. The engine will stop within a few seconds if the parking brake is not released.

IMPORTANT NOTICE When washing the riding mower, do not spray water directly into the warning buzzer holes.



Transmission release lever

This lever is used when it becomes necessary to push or move the riding mower manually.

⚠ WARNING Operating the transmission release lever while on a slope or hill, could result in a loss of control causing serious injury or equipment damage.

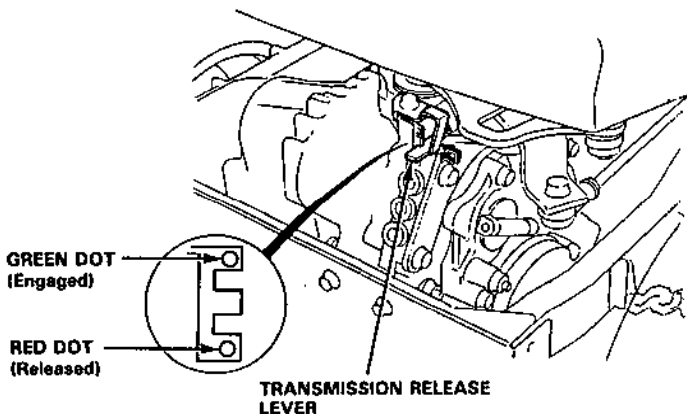
IMPORTANT NOTICE Operating the transmission release lever while the engine is running could cause transmission damage.

To operate the transmission release lever:

1. Stop the engine and apply the parking brake.
2. Place the shift lever in the NEUTRAL position.
3. Move the transmission release lever down to the lower groove (red dot) and lock it in place.
4. Release the parking brake carefully.

IMPORTANT NOTICE Towing or pushing the riding mower with another vehicle will damage the transmission.

If the riding mower becomes inoperable due to transmission failure, trailering the mower to the place of repair is recommended.



4. PRE-OPERATION CHECKS

Following the procedures below and check all of the following items before each use:

1. Park the riding mower on a level surface.
2. Place the shift lever in the neutral position and set the park brake.
3. Disconnect the spark plug cap and remove the engine switch key to prevent accidental engine start-up.

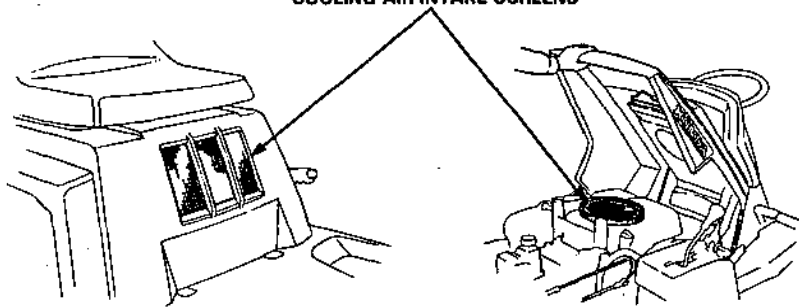
▲ WARNING If the engine is started accidentally while you are performing the pre-operation checks, moving parts may cause serious injury.

COOLING AIR INTAKE

Make sure the cooling air intake screens are clean.

IMPORTANT NOTICE If the cooling air intake screens are blocked the engine may overheat.

COOLING AIR INTAKE SCREENS



ENGINE OIL

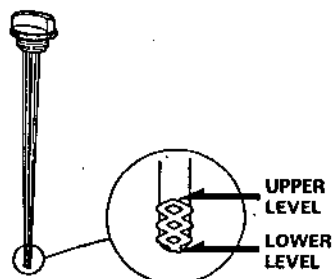
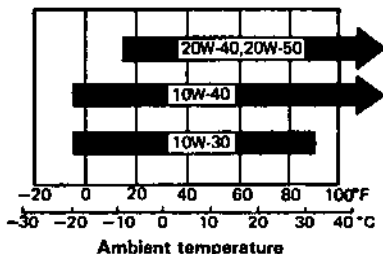
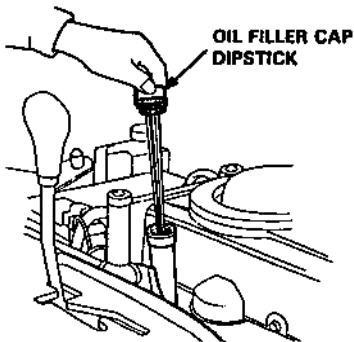
IMPORTANT NOTICE Running the engine with low oil level will cause serious engine damage.

1. Place the riding mower on a level surface.
2. Lift the rear body, wipe dust and dirt from around the oil filler cap, remove the cap and wipe the dipstick clean.
3. Insert the dipstick into the oil filler neck, but do not screw it in.
4. If the level is low, add the recommended oil to the upper mark on the dipstick.

Use high-detergent, premium quality 4-stroke engine oil, certified to meet or exceed U.S. automobile manufacturer's requirements for API Service Classification SG, SF/CC, CD.

IMPORTANT NOTICE Using nondetergent oil or 2-stroke engine oil could shorten the engine's service life.

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



FUEL

Raise the rear body and check the fuel level.

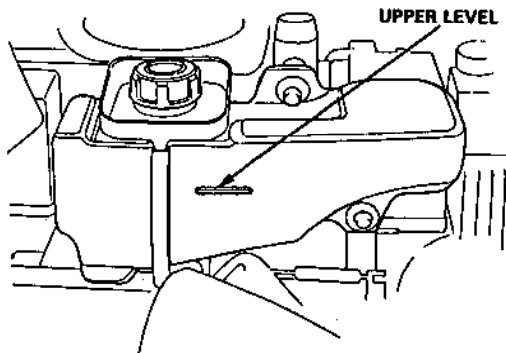
Refill the tank to the upper level mark if necessary. Do not fill the fuel tank above the UPPER level mark.

Fuel tank capacity: 2.5 l (0.66 US gal)

▲ WARNING

Gasoline is extremely flammable, and gasoline vapor can explode. Use extreme care when handling gasoline. Keep gasoline out of reach of children.

- Refuel in a well ventilated area with the engine stopped. Keep flames and sparks away, and do not smoke in the area.
- Allow the engine to cool before refueling. Fuel vapors or spilled fuel may ignite.
- Refuel carefully to avoid spilling fuel. Avoid overfilling the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the filler fuel cap securely. If any fuel was spilled, make sure the area is dry before starting the engine.
- After use, turn the fuel valve OFF, and park the riding mower on a level surface. Be sure the storage area is well ventilated, do not allow flames or sparks in the storage area.



Fuel Recommendation

Pump octane rating: 86 or higher

If "spark knock" (metallic rapping noise) or persistent "pinging" occurs at a steady engine speed under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized Honda riding mower dealer.

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

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

Occasionally you may hear light spark knock while operating under heavy loads. This is no cause for concern. It simply means your engine is operating efficiently.

We recommend unleaded fuel because it produces fewer engine and spark plug deposits and extends the exhaust system life.

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

GASOLINES CONTAINING ALCOHOL

If you decide to use a gasoline containing alcohol (gasohol), be sure its rating is at least as high as that recommended by Honda (see Fuel Recommendation on page 19). There are two types of "gasohol": one containing ethanol, and the other containing methanol.

IMPORTANT NOTICE Using gasohol that contains more than 10% ethanol, or gasoline containing methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol, can cause serious fuel system damage and poor engine performance.

Never use gasoline containing more than 5% methanol, even if it has cosolvents and corrosion inhibitors.

Honda cannot endorse the use of fuels containing methanol since evidence of their suitability is as yet incomplete.

NOTE: Fuel system damage or engine performance problems resulting from the use of fuels that contain alcohol is not covered under the warranty.

Before buying fuel from an unfamiliar station, first determine if the fuel contains alcohol; if it does, find out the type and percentage of alcohol used.

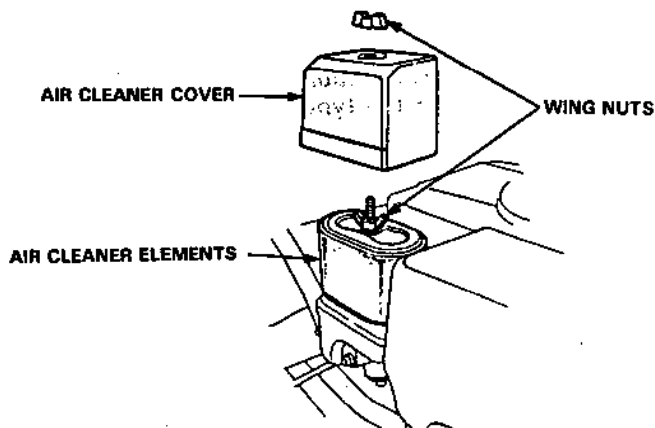
NOTE: If you notice any undesirable operating symptoms while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

AIR CLEANER

Check that the air cleaner elements are clean and in good condition. A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. A damaged air cleaner will allow dirt to enter the engine, causing rapid engine wear.

1. Raise the rear body and remove the two wing nuts to remove the air cleaner cover and air cleaner elements.
2. Inspect the air cleaner elements. Clean or replace the cleaner if necessary. If the air cleaner elements need cleaning, follow the procedure described on page 46.
3. Reinstall the air cleaner elements and air cleaner cover. Tighten the wing nuts securely.

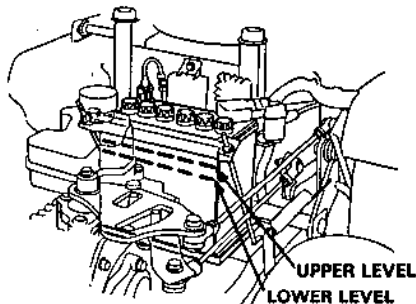
IMPORTANT NOTICE Operating the engine without an air cleaner will cause rapid engine wear.



BATTERY

Raise the rear body and check the battery electrolyte level.

The electrolyte level must be kept between the UPPER and LOWER level marks. If the electrolyte level is near the LOWER mark, remove the battery filler caps and carefully add distilled water to the upper level line (see page 49).



⚠ WARNING Batteries produce explosive gases. Flames or sparks can cause an explosion, causing serious injury or blindness. Keep flames and sparks away and provide adequate ventilation when charging.

- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.

- **POISON:** Electrolyte is poison.

ANTIDOTE

- External: Flush thoroughly with water.
- Internal: Drink large quantities of water or milk.

Follow with milk of magnesia or vegetable oil, and call a physician immediately.

- **KEEP OUT OF REACH OF CHILDREN.**

TRANSMISSION FLUID

Check the transmission fluid with the riding mower parked on level ground and the transmission at ambient temperature.

NOTE: HST fluid changes its volume with changes of temperature. The upper and lower marks are calibrated for HST fluid temperature between 32°F (0°C) and 68°F (20°C). Within this temperature range, the oil level should be between the upper and lower marks on the reservoir.

If the fluid temperature is below 32°F (0°C), the transmission fluid level may be below the lower mark on the reservoir. To measure the level, start the engine and warm the transmission fluid.

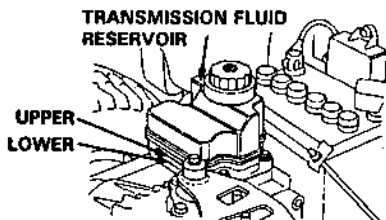
If the fluid temperature is above 68°F (20°C), the level may be above the upper mark on the reservoir. This is normal and does not indicate a problem.

Make sure the fluid level is between the upper and lower marks on the reservoir. If the level has dropped close to or below the lower mark and the fluid temperature is between 32°F (0°C) and 68°F (20°C), add transmission fluid until it reaches the upper mark. Do not overfill.

Required transmission fluid:

HONDA HYDROSTATIC TRANSMISSION FLUID ONLY

IMPORTANT NOTICE The use of any other type of hydrostatic fluid or transmission fluid will drastically reduce the transmission's performance. To avoid damaging the transmission, use only **HONDA HYDROSTATIC TRANSMISSION FLUID**.

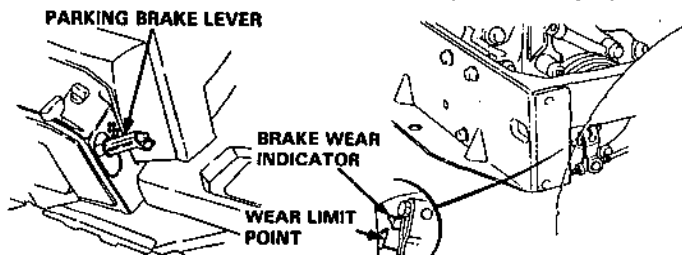


BRAKE

Inspect brake lining condition every time the riding mower is used.

Firmly set the parking brake, and then check the position of the brake wear indicator. If the indicator is near the wear limit, take the riding mower to an authorized Honda riding mower dealer for repair.

WARNING Operating the riding mower when brake linings are at or past the service limit can cause brake failure and possible injury.



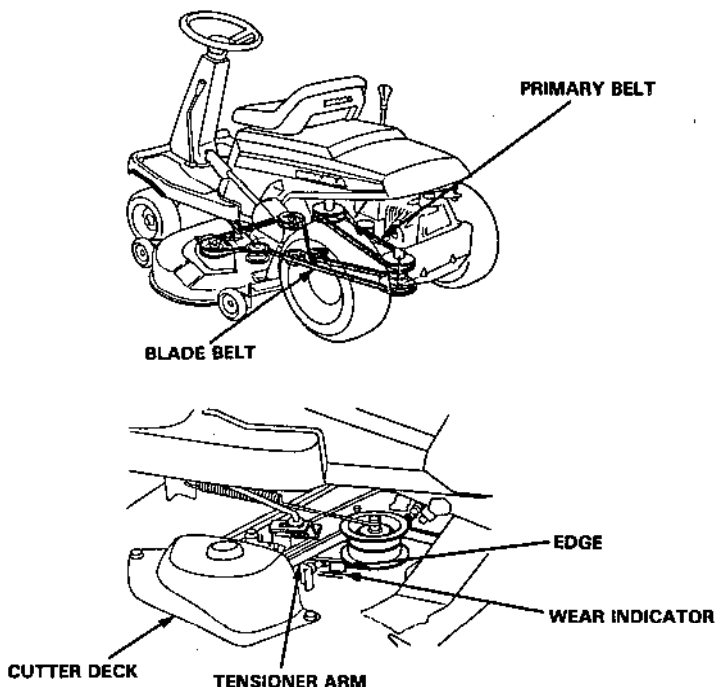
PRIMARY BELT AND BLADE BELT

■ Wear or damage

1. Move the P.T.O. lever to the OFF (Disengaged) position.
2. Lower the cutter deck as far as it will go with the cutter deck height adjusting lever.
3. Inspect both belts for wear and damage. If the belts are worn or damaged, replace them according to the instructions on pages 56 and 57.

■ Blade belt tension

1. Move the P.T.O. lever to the ON (Engaged) position.
2. Lower the cutter deck as far as it will go with the cutter deck height adjusting lever.
3. If the edge of the tensioner arm aligns with or goes past the wear indicator on the cutter deck, adjust the belt tension according to the instructions on page 55.



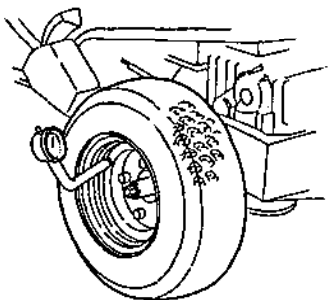
TIRES

IMPORTANT NOTICE Overinflation can cause premature tire failure. Inflate the tires to manufacturer's recommended tire pressure.

Check the tire pressure with an air pressure gauge.

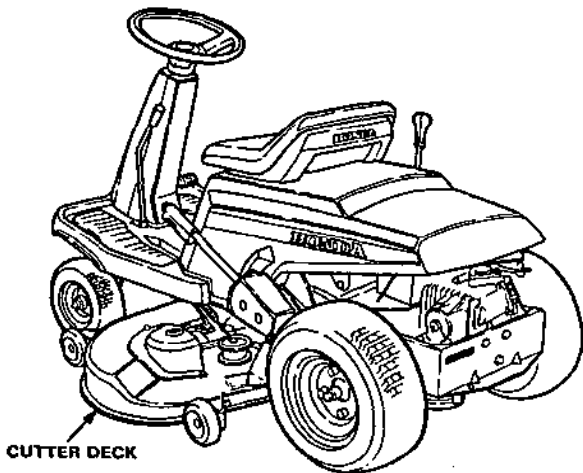
Pressure: Front.....1.0 kg/cm² (14 psi)

Rear0.7 kg/cm² (10 psi)



CUTTER DECK

Prior to using the riding mower, be sure to check that dirt, mud and grass are not built up in the cutter deck. For cleaning, refer to pages 63–64.



BLADE

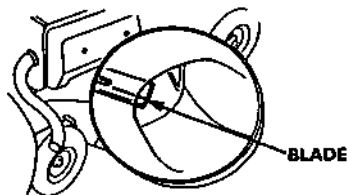
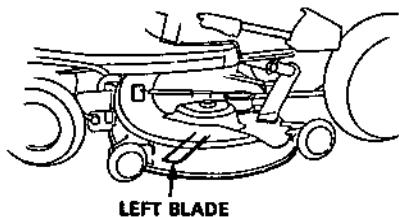
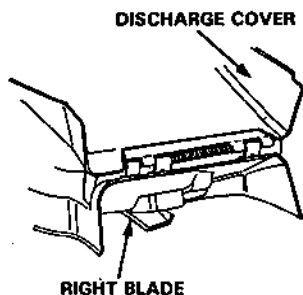
Before each use, check the cutter blades for damage or excessive wear.

▲ WARNING To avoid injury, remove the engine switch key and disconnect the spark plug cap to prevent accidental starting; wear heavy gloves to protect your hands from the cutter blades.

1. Move the P.T.O. lever to the OFF (disengaged) position, and raise the cutter deck height adjusting lever to the highest position.
2. Inspect both blades for cracks, bending, or wear. The right blade can be seen through the discharge opening on the right side of the cutter deck. The left blade can be seen under the left side of the cutter deck.

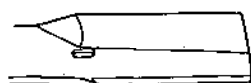
NOTE: When using the optional grass catcher kit, remove the middle chute and inspect the blade by looking through the lower chute.)

3. Turn the blade 180° and inspect the opposite side.

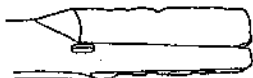


View when fitted with the grass bag (optional part)

4. If either of the blades shows signs of damage or excessive wear, remove the cutter deck, and thoroughly inspect the blades (see cutter deck removal instructions on page 52). Dull blades can be sharpened, but blades that are worn out, bent, cracked, or otherwise damaged must be replaced. If the blades need sharpening or replacement, take the cutter deck to your authorized Honda riding mower dealer. Or, if you have the proper tools, you can remove and install the blades yourself (see blade removal and installation instructions on pages 58–59).



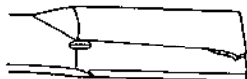
NORMAL



EXCESSIVELY
WORN



BENT



CRACKED

▲ WARNING

Broken pieces thrown from a worn or damaged blade can cause serious injury. Always inspect the blades before using the mower.

IMPORTANT NOTICE

- Use a genuine Honda replacement blades, or equivalent.
- To reduce the possibility of weakening the blades, or causing imbalance or poor cutting performance, sharpening should be performed by an authorized Honda riding mower dealer.

SAFETY SWITCH

Before performing these inspections, remove the spark plug cap.

1. P.T.O. switch inspection

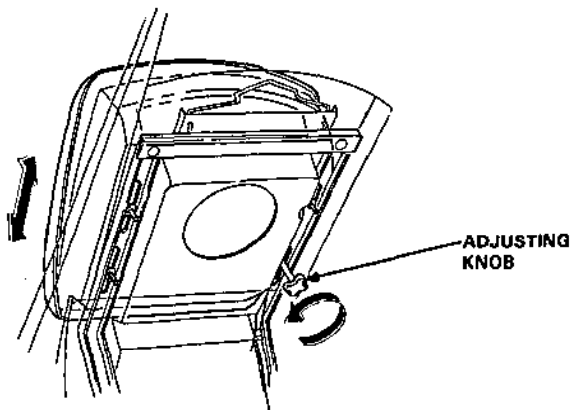
- With the shift lever in the N (Neutral) position, set the P.T.O. lever in the ON (Engaged position).
- Check that the starter motor is not started when the engine switch is turned to the START position.
- Return the P.T.O. lever to the OFF (Disengaged) position.

2. Neutral switch inspection

- With the P.T.O. lever in the OFF (Disengaged) position, set the shift lever in the mowing range.
- Check that the starter motor is not started when the engine switch is turned to the START position.
- Return the shift lever to the N (Neutral) position.

SEAT ADJUSTMENT

1. Raise the rear body.
2. Loosen the seat adjusting knob.
3. Move the seat to a position that allows you to reach all controls easily and comfortably.
4. Tighten the seat adjusting knob securely.

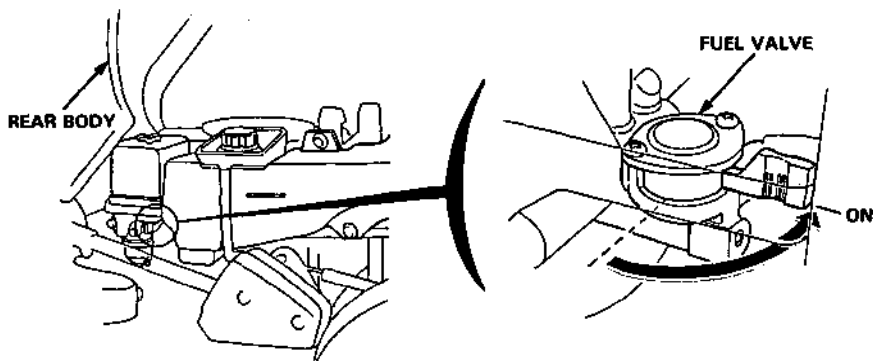


5. OPERATION

Starting the engine

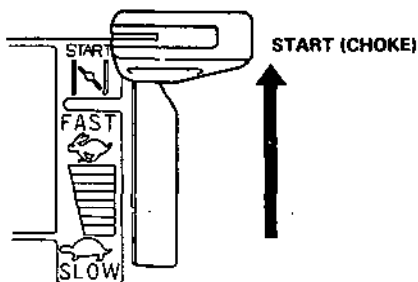
▲WARNING Exhaust gas contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death. Never run the engine in an enclosed area. Be sure to provide adequate ventilation.

1. Raise the rear body, turn the fuel valve ON and close the rear body.

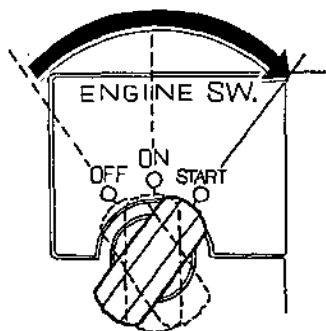


2. Sit on the seat and check that the parking brake lever is set, the transmission is in neutral and the P.T.O. lever is in the OFF (Disengaged) position.
3. Move the throttle lever to the START (CHOKE) position.

NOTE: When the engine is warm or the air temperature is high, move the throttle to SLOW.



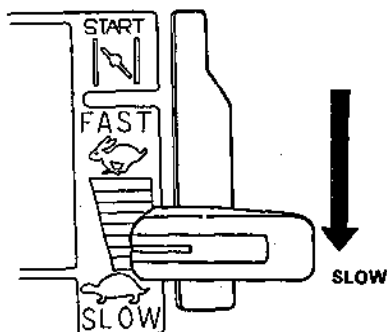
-
4. Turn the engine switch to **START**. (5 second maximum)



IMPORTANT NOTICE Using the starter motor for more than 5 seconds can damage the motor.

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

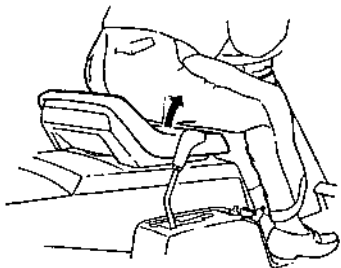
5. After the engine starts, let the engine switch return to **ON**.
6. After the engine warms up, move the throttle lever to the **SLOW** position.



- **Seat safety switch operation check**

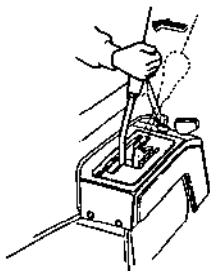
The seat safety switch automatically stops the engine if the operator's weight is off the seat when the following inter-locks are actuated.

- 1. While parked on a level surface, move the P.T.O. lever to ON (Engaged).
Rise off the seat — the engine should stop immediately.
- 2. Return the P.T.O. lever to OFF (Disengaged) and restart the engine. Release the parking brake and place the shift lever in the slow mowing range. While driving slowly, rise off the seat — the engine should stop immediately.
- 3. Move the shift lever back to NEUTRAL and set the park brake. Start the engine and release the park brake. Raise up off the seat — the engine should stop.



- **Parking brake system inspection**

- 1. Set the parking brake.
- 2. Start the engine.
- 3. Move transmission lever from right-hand position "N" (Neutral) to left-hand plate. Then make sure that the alarm buzzer starts ringing, and the engine stops after a few seconds.
- 4. Turn back the transmission lever to "N" (Neutral) position and turn engine switch to OFF.



If the inspection is abnormal, contact an authorized Honda riding mower dealer.

Mowing

▲WARNING Before operating this riding mower you should read and understand the SAFETY INSTRUCTION on pages 4–7.

IMPORTANT NOTICE

- Be aware of rocks, roots, holes and hidden hazards in the terrain. Unseen hazards may cause loss of control or damage the riding mower.
- In tall grass, first mow with the cutter deck fully raised (3 1/2'); this will help expose any hidden obstacles. When you are sure the area is completely cleared, re-mow at the desired height.
- If the riding mower should accidentally gets caught by an unseen object, (holes, roots, or rocks) do not try to ride over the obstruction or turn the steering wheel to free the mower. This will damage the steering mechanism or cutter deck.
- Operating the riding mower near the edge of a ditch or an embankment could cause the mower to tip or roll-over.
- Avoid sharp turns or sudden stops on sloping surfaces. Avoid backing down or rapid acceleration on sloping surfaces. Both of which could cause loss of control.
- Stop the engine before removing the grass bags or cleaning the discharge chute.

Mowing tips

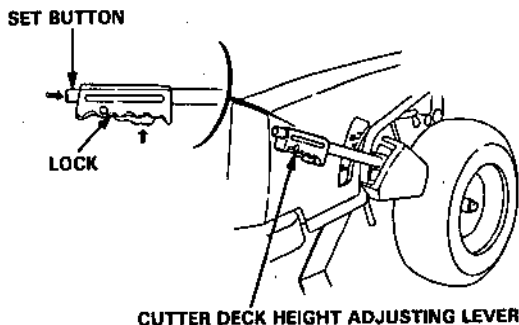
- For good mowing conditions, the grass should not be wet, but the ground should be damp to control dust.
- If dust is a problem, water the lawn the day before mowing, allowing the grass to dry while the ground remains moist.
- Always allow the grass to dry before cutting. Cutting wet grass will cause the cutter deck or the discharge to clog, resulting in poor cut quality.

-
- Always engage the P.T.O. before selecting the desired mowing speed to avoid leaving uncut grass. Engaging the P.T.O. in tall uncut grass may cause the engine to stall.
 - Mow at full throttle with the transmission in the desired mowing speed for the best cut quality and performance. Mowing in a medium or low throttle setting will affect the performance and cut quality.
 - After selecting the desired mowing speed, you should remain in that range when mowing for the best results. Avoid making rapid mowing speed changes from slow to fast when mowing, this will affect cut quality.
 - Avoid shifting to the transport range when mowing. Mowing in the transport range is not recommended, as this will affect cut quality. Transport range should only be used to drive to and from the mowing area.
 - If the lawn is thick, lush, or uneven, lower the mowing speed, raise the cutter deck and cut a narrower swath.
 - If the lawn has grown too tall, lower the mowing speed, raise the cutter deck height and mow twice (first at a high cutter deck setting, then at the desired height).
 - For a finish trim cut, lower the mowing speed and mow the lawn counterclockwise around trees, post, flower beds, sprinklers and other obstacles.
 - An adjustment of the cutter deck may be required if the grass does not cut properly. Have the cutter deck height inspected and adjusted by an authorized Honda riding mower dealer. First, verify the deck is clean and the blades are in good condition.
 - If mowing on a sloping surface, always drive up and down the face of the grade. Never turn around or drive across the face of the slope; this may cause the mower to tip over.
 - To prevent tipping or loss of control, always reduce the ground speed and exercise extreme caution when operating on slopes and uneven surfaces.

Starting the riding mower

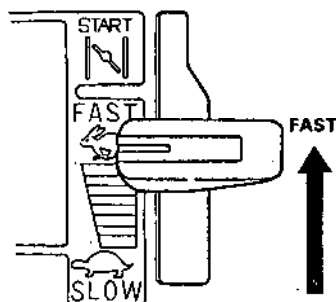
WARNING Be sure the mowing area is clear of people, pets and other obstacles before mowing.

1. Set the cutter deck height adjusting lever to the desired cutting height.



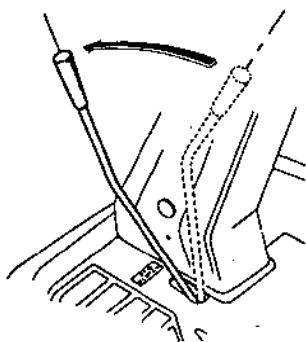
2. Move the throttle lever to the FAST position.

NOTE: For best cut quality, and performance always use full throttle. Use the shift lever to select the desired mowing speed range.



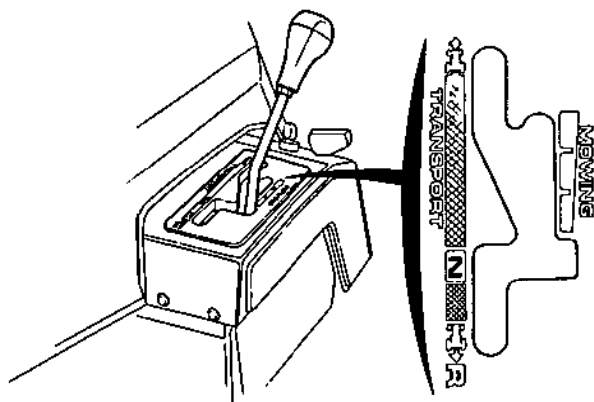
3. Move the P.T.O. lever to the ON (Engaged) position.

ON (Engaged) OFF (Disengaged)



4. Move the shift lever to select the desired mowing speed position.

IMPORTANT NOTICE When operating the riding mower on rough or uneven terrain, select a mowing speed that will give you safe ground speed while the engine is running at full throttle.

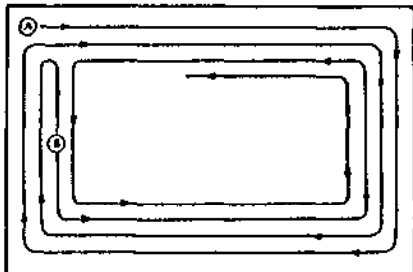


Cutting patterns

These cutting patterns are only recommended for a flat, level lawn surface.

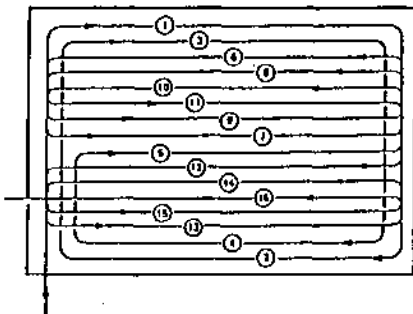
- In a small area

First make 2 or 3 turns in a clockwise direction; then turn around and continue cutting in the reverse direction.



- In a large area

The first round of cuts is the key to making a neat finish. First, make 2 or 3 turns in a clockwise direction. As you reach the center of the area, turn to the right and continue cutting in the reverse direction until you have finished the upper half of the area. Cut the grass in the remaining half in a counterclockwise direction.

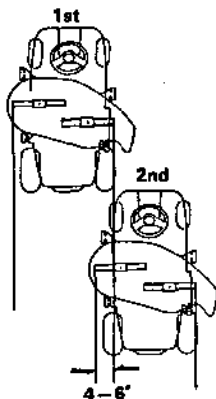


- **Mowing on unsquare areas**

If your mowing area is not square or four-sided, divide the area into several blocks so you can mow in a neat mowing pattern.

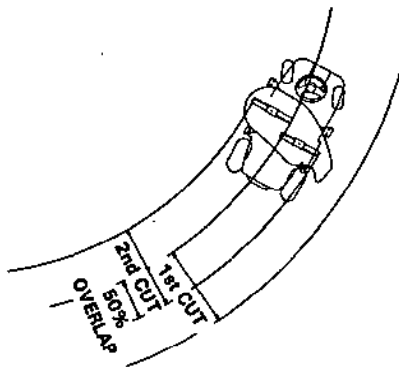
- **Overlapping in straight-a-ways**

Be sure that each mowing lane overlaps sufficiently. The recommended overlap width is between 4–6 in., or approximately the width of one of the mower's front tires.



- **Overlapping in curves and turns**

When cutting in curves and turns, shift to a slower speed and be sure to overlap the previous cut by 50%, or approximately half the width of the mower.



Stopping on a hill

If possible avoid stopping the riding mower while driving uphill. If it is necessary to stop on a hill, follow the procedures below.

1. Depress the foot the brake to the floor (shift lever returns to "N").
2. Move the P.T.O. lever to the OFF (disengaged) position.
3. Set the parking brake.

Uphill starting procedure

It is important to follow the uphill starting carefully to avoid tipping the riding mower over.

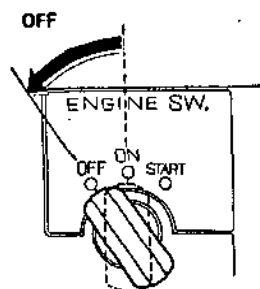
1. Release the parking brake.
2. Slowly move the shift lever to the desired speed range.

▲ WARNING

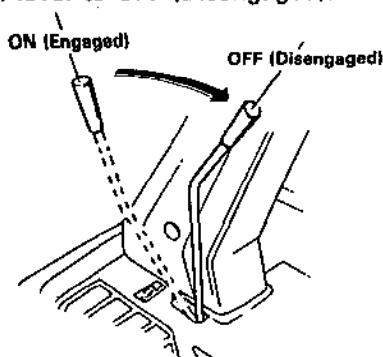
Moving the shift lever too quickly while starting uphill may cause the mower to tip over. Move the shift lever slowly.

Stopping the engine

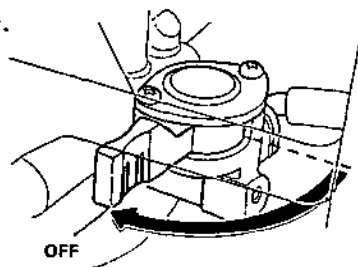
- In an emergency:
 - (1) Turn the engine switch OFF and depress the foot brake.
 - (2) Set the parking brake.



- In normal use:
 - (1) Move the P.T.O. lever to OFF (Disengaged).



- (2) Move the shift lever to the Neutral position.
- (3) Set the parking brake.
- (4) Turn the engine switch OFF.
- (5) Turn the fuel valve OFF.
- (6) Remove the engine switch key.



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 fuel mixture may also foul the spark plugs and cause hard starting.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor and readjusting the pilot screw. If you always operate the engine at altitudes higher than 6,000 feet above sea level, have an authorized Honda riding mower dealer perform this carburetor modification.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000 feet increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

When the carburetor is modified for good high altitude operation, the air/fuel mixture will be too lean at low altitude. Performance will decrease, the engine will overheat.

To avoid an excessively lean air/fuel mixture, reinstall the standard main jet and readjust the pilot screw for operation at altitudes lower than 6,000 feet above sea level.

IMPORTANT NOTICE Once a carburetor is jetted for high altitude use, operation at lower altitudes without rejetting may result in reduced performance, overheating, and serious engine damage.

6. TRANSPORTING

Transporting

The engine becomes very hot during operation and remains hot for a while after stopping. Allow the engine to cool before transporting.

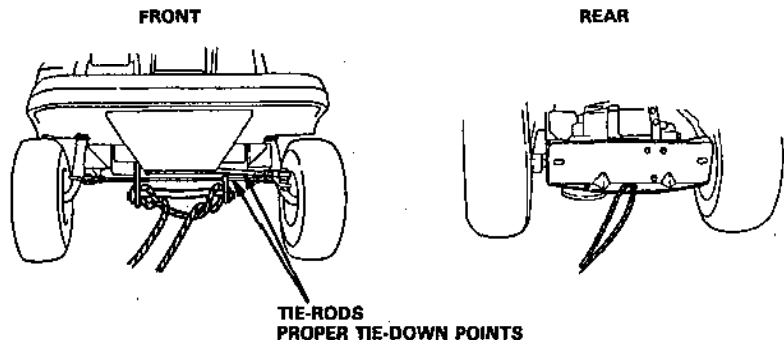
⚠ WARNING Contact with a hot engine or exhaust system can cause serious burns or fires. Let the engine cool before transporting.

Transport the riding mower on a flat level trailer or in a pickup truck. Tie down hooks should be on or near the floor.

Turn the fuel valve OFF and set the parking brake.

Tie the riding mower down securely, using the tie down points shown below.

IMPORTANT NOTICE To avoid damaging the tie-rods, be careful not to put the rope around or near them when securing the front end.



⚠ WARNING

- Spilled fuel may ignite. To avoid fuel and oil spillage, keep the riding mower level when transporting.
- Do not pull the riding mower behind another vehicle, and do not use the riding mower to push another vehicle.

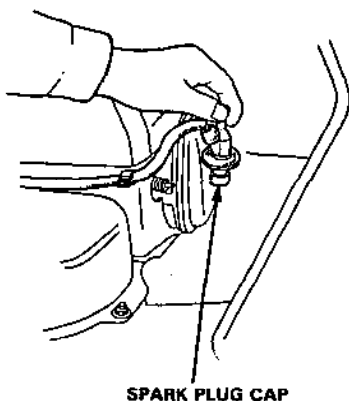
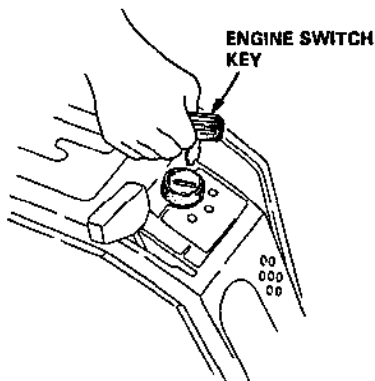
7. MAINTENANCE

Periodic maintenance and adjustment are necessary to keep the riding mower in good operating condition. Service and inspect according to the MAINTENANCE SCHEDULE.

▲ WARNING

- To avoid carbon monoxide poisoning, shut off the engine before performing any maintenance. If you run the engine in an area that is confined, or even partially enclosed, the air you breathe will contain a dangerous amount of exhaust gas. If the engine must be run for any reason, be sure the area is well-ventilated.
- To avoid serious burns, allow the engine to cool before performing maintenance.
- Shut the engine off and set the parking brake before performing any maintenance.
- To prevent accidental start-up, remove the engine switch key and disconnect the spark plug cap.
- The riding mower should be serviced by an authorized HONDA riding mower dealer unless the owner has proper tools and service data and feels he is mechanically qualified.

IMPORTANT NOTICE Use only genuine Honda parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage the riding mower.



MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD Performed at every indicated month or operating hour interval, whichever comes first.		EACH USE	FIRST 3 MONTHS OR 20 HRS (3)	EVERY 6 MONTHS OR 50 HRS (3)	EVERY YEAR OR 100 HRS (3)	EVERY 5 YEARS OR 500 HRS (3)
ITEM						
Engine oil	Check level	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean			○ (1)		
Seat switch operation	Check	○			○ (2)	
Cooling air intake	Clean	○				
Parking brake buzzer operation	Check	○		○ (2)		
Battery electrolyte	Check level	○				
	Check level and gravity			○ (2)		
Tire pressure	Check	○				
Blade belt	Check	○				
	Adjust		○	○		
Primary belt	Check	○				
Grass bag (optional part)	Clean	○				
Foot brake	Check	○				
Blade bolt tightness	Check		○ (2)	○ (2)		
Blade condition	Check	○				
Transmission oil	Check level	○				
	Change					○ (4)
Brake and clutch (fasteners tightness)	Check		○ (2)		○ (2)	
Parking brake	Check			○ (2)		
Spark plug	Check-Clean				○	
Spark arrester	Clean				○	
Drive clutch	Check-Adjust				○ (2)	
Fuel tank and filter	Clean				○ (2)	
Throttle cable	Check-Adjust				○ (2)	
Front axle	Grease				○ (2)	
Fuel line	Check (Replace if necessary)					○ (2)
Valve clearance	Check-Adjust					○ (2)
Engine fins and shroud	Clean					○ (2)

- NOTE: (1) Service the air cleaner more frequently when used in dusty areas.
 (2) These items should be serviced by an authorized Honda riding mower dealer, unless the owner has proper tools and is mechanically proficient. See the Honda Shop Manual.
 (3) For professional commercial use, log hours of operation to determine proper maintenance intervals.
 (4) Must be serviced by an authorized Honda riding mower dealer.

Engine Oil Change

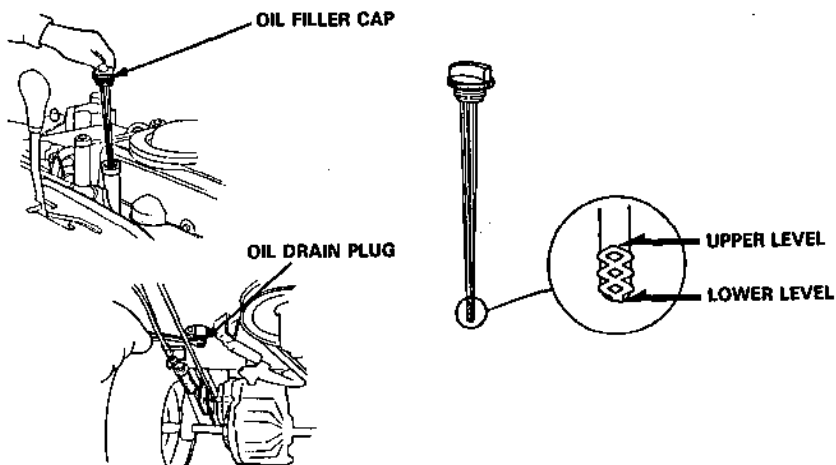
Drain the oil while the engine is warm to assure rapid and complete draining.

NOTE: Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods.

Although this is unlikely, unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

1. Remove the cutter deck (see pages 52—54)
2. Raise the rear body.
3. Remove the oil filler cap and the drain plug, and drain the oil into a suitable container.
4. Retighten the drain plug securely. Clean off the oil around the drain plug.
5. Refill to the upper level mark on the dipstick with the recommended oil (see page 18). Tighten the oil filler cap securely.

OIL CAPACITY: 1.1 l (1.2 US qt)



NOTE: Please dispose of used motor oil in a manner that doesn't harm the environment. We suggest you take it in a sealed container to your local service station for reclamation. Do not throw it in the trash or pour it on the ground or down a drain.

Air Cleaner Service

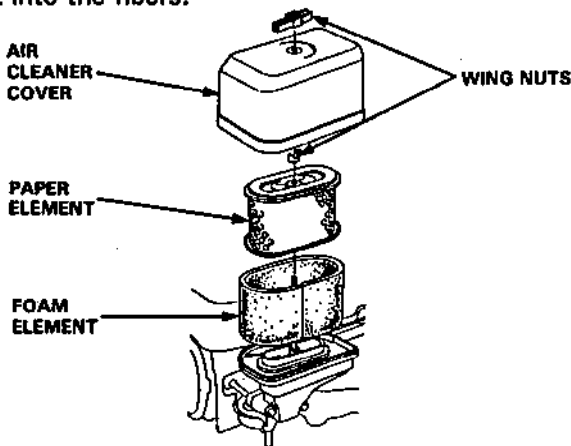
A dirty air cleaner will restrict air flow to the carburetor. If you operate the riding mower in very dusty areas, clean the air cleaner more often than specified in the MAINTENANCE SCHEDULE.

IMPORTANT NOTICE Operating the engine without the air cleaner will cause rapid engine wear.

1. Raise the rear body.
2. Remove the wing nuts and the air cleaner cover. Remove the elements and separate them. Carefully check both elements for holes or tears and replace if damaged.
3. Foam element: Clean in warm, soapy water, rinse, and dry thoroughly. Or, clean in nonflammable solvent and dry.
Dip the element in clean engine oil, then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the foam.

WARNING Using gasoline or flammable solvent to clean the filter element can cause a fire or explosion. Use only soapy water or nonflammable solvent.

4. Paper element: Tap the element several times on a hard surface to remove loose dirt, or blow compressed air through the filter from the inside. Do not exceed 30 psi. Do not try to brush off dirt. Brushing will force dirt into the fibers.



Spark Plug Service

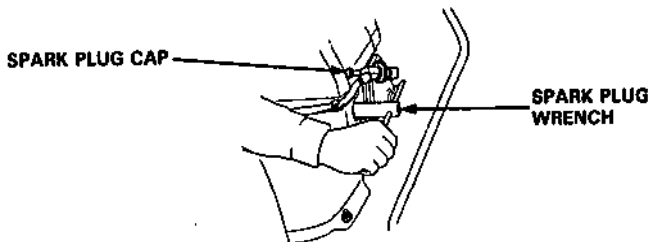
Recommended spark plug: **BPR5ES (NGK)**
W16EPR-U (ND)

⚠ WARNING Touching a hot engine or exhaust system can cause serious burns. Let the engine cool before performing maintenance.

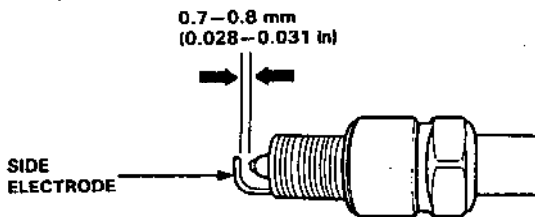
IMPORTANT NOTICE Spark plugs of the wrong heat range can cause engine damage.

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

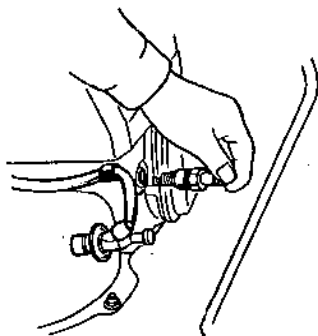
1. Raise the rear body.
2. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.
3. Remove the spark plug, using a spark plug wrench.



4. Visually inspect the spark plug. Discard the spark plug if the electrodes are worn, or if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
5. Measure the spark plug gap with a feeler gauge. The gap should be 0.7–0.8 mm (0.028–0.031 in). Correct the gap as necessary by carefully bending the side electrode.



-
6. Install the spark plug carefully, by hand, to avoid cross-threading.



7. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

IMPORTANT NOTICE Loose spark plug can get hot enough to damage the engine. Overtightening may damage the threads.

NOTE: If installing a new spark plug, tighten $1/2$ turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten $1/8$ – $1/4$ turn after the spark plug seats to compress the washer.

Battery Service

■ Refilling battery fluid

If the riding mower is operated with insufficient battery electrolyte, sulfation and battery plate damage will occur.

If rapid loss of electrolyte is experienced, or if your battery seems to be weak, causing slow starting or other electrical problems, see your authorized Honda riding mower dealer.

Raise the rear body and check the electrolyte level in each battery cell. Fill the battery with distilled water to the upper level line. Never overfill the battery.

▲ WARNING Batteries produce explosive gases. Flames or sparks can cause an explosion, causing serious injury or blindness. Keep flames and sparks away and adequate ventilation when charging.

- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through plathins, may cause severe burns. Wear a faceshield and protective clothing.
 - Keep flames and sparks away, and do not smoke in the area.
- ANTIDOTE:** If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.
- **POISON:** Electrolyte is poison.

ANTIDOTE

— External: Flush thoroughly with water.

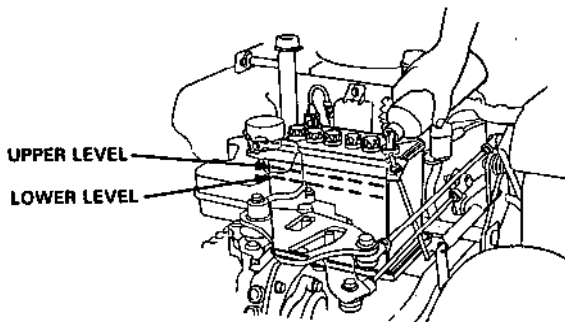
— Internal: Drink large quantities of water or milk.

Follow with milk of magnesia or vegetable oil, and call a physician immediately.

- **KEEP OUT OF REACH OF CHILDREN.**

NOTE: Use distilled water in the battery.

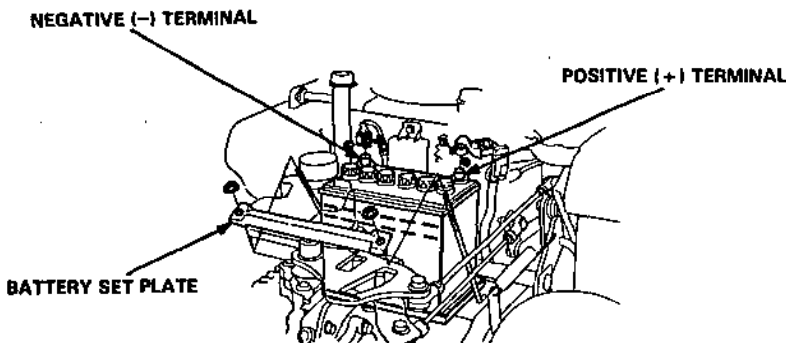
- Tap water will shorten the service life of the battery.
- Overfilling may cause electrolyte overflow and corrosion. Wash off any spilled electrolyte immediately.



■ Battery cleaning

If the battery terminals are contaminated or corroded, remove the battery and clean the terminals.

1. Remove battery set plate.
2. Disconnect the battery cable at the battery negative (-) terminal, then at the battery positive (+) terminal.



3. Remove the battery and clean the battery terminals and battery cable terminals with a wire brush or sand paper.
Clean the battery with a solution of baking soda and warm water, taking care not to get the solution or water in the battery cells. Dry the battery thoroughly.
4. Connect the battery positive (+) cable to the battery positive (+) terminal, then the battery negative (-) cable to the battery negative (-) terminal. Tighten the bolts and nuts securely.
5. Coat the battery terminals with grease.
6. Reinstall the battery set plate.

▲ CAUTION When disconnecting the battery cable, be sure to disconnect at the battery negative (-) terminal first. To connect, connect at the positive (+) terminal first, then at the negative (-) terminal. Never dis/connect the battery cable in the reverse order, or it causes a short circuit when a tool contacts the terminals.

Wheel removal

WARNING

- Do not attempt to remove a wheel unless the riding mower is on firm and level ground.
- Do not attempt to remove or replace a tire unless you have the equipment and knowledge to do so properly.

Block the wheels securely.

Front wheel

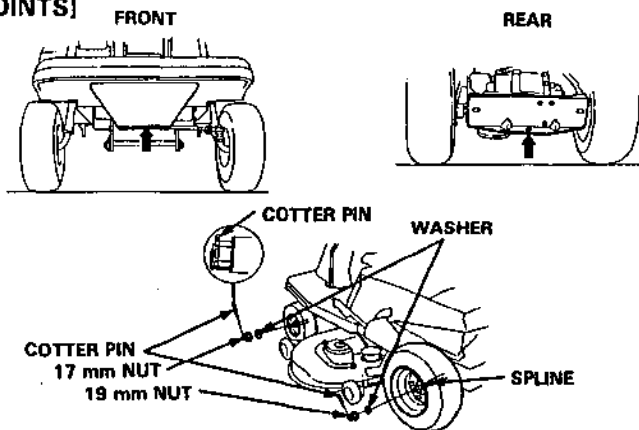
1. Remove the cotter pin and loosen the 12 mm nut one turn.
2. Jack up the front of the riding mower and remove the 12 mm nut, washer, and front wheel.
3. Install the front wheel in the reverse order of removal.
4. Tighten the 12 mm nut to the lower specified torque.
FRONT WHEEL NUT TORQUE: 5.5–6.5 kg-m (40–47 ft-lb)
5. Align the nut to the next possible cotter pin hole while tightening the nut just beyond the lower specified torque. Install a new cotter pin and bend the ends as shown.

Rear wheel

1. Remove the cotter pin and loosen the 14 mm nut one turn.
2. Jack up the rear of the riding mower and remove the 14 mm nut, washer, and rear wheel.
3. Apply a thin coat of grease to the axle (splined portion) before installing the rear wheel.
4. Install the rear wheel in the reverse order of removal.
5. Tighten the 14 mm nut to the lower specified torque.
REAR WHEEL NUT TORQUE: 5.5–6.5 kg-m (40–47 ft-lb)
6. Align the nut to the next possible cotter pin hole while tightening the nut just beyond the lower specified torque. Install a new cotter pin and bend the ends as shown.

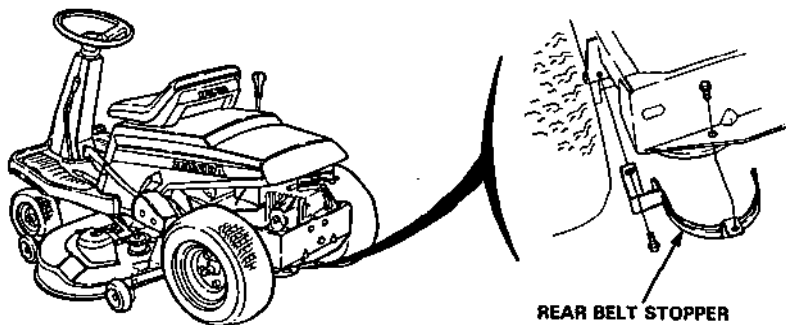
NOTE: Do not align the cotter pin holes in a position where the wheel nut torque is less than the specified torque.

[JACK POINTS]

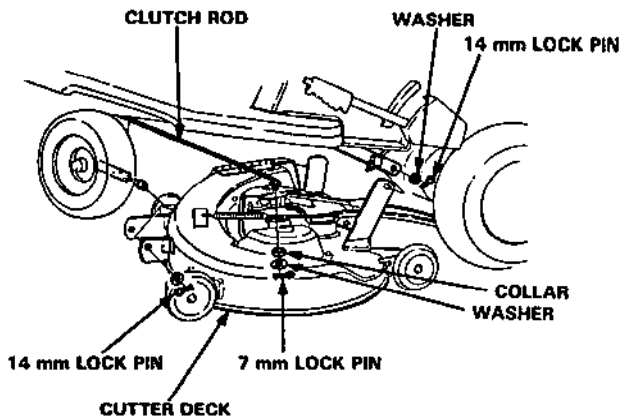


Cutter deck removal

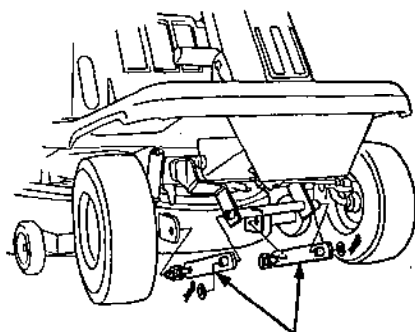
1. Position the front wheel straight ahead and lower the cutter deck.
2. Move the P.T.O. lever to OFF (disengaged), and remove the rear belt stopper.



3. Remove the lock pins, collar, and washers, then remove the P.T.O. clutch rod from the cutter deck.
4. Remove the four lock pins (two pins for right and left sides respectively) and washer from the right and left sides of the cutter deck.



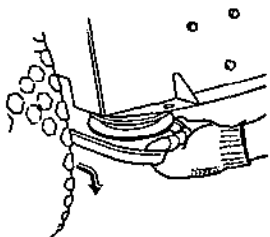
5. Remove the two lock pins and washers from the right and left front deck arms, then remove the front deck arms from the frame body (one lock pin for each front deck arm).



FRONT DECK ARMS

NOTE: Mark each front deck arm left and right to ensure proper position at reassembly. Incorrect reassembly of the front deck arms may cause uneven cutter deck height on the left and right sides.

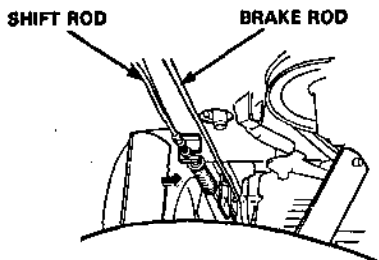
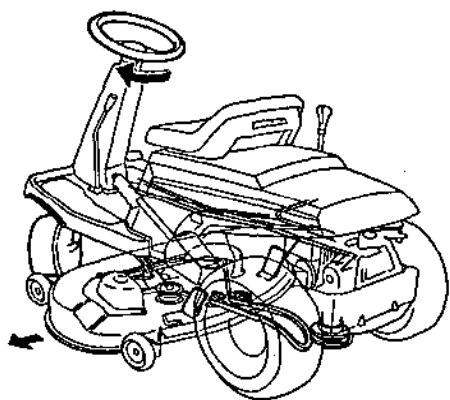
6. Remove the deck belt from the drive pulley on the underside of the transmission.



7. Disengage the cutter deck from the rear deck arms by moving it from side to side.
8. Set the deck height adjusting lever to the full up position, and turn the steering wheel all the way to the right. Remove the cutter deck from the left side.

CAUTION

- Be careful not to catch the cutter deck on the brake and shift rod.
- When the cutter deck is removed, the return spring will cause the deck height adjusting lever to snap upward when the release button is pressed. Hold the lever firmly, and carefully return it to the UPPER position after removing the deck.



Installation is the reverse order of removal.

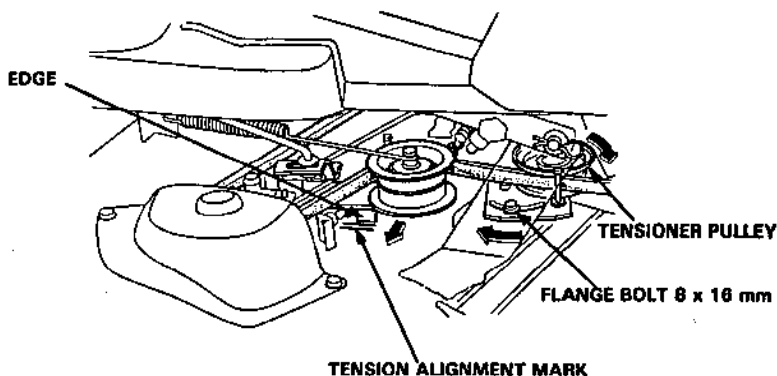
Blade belt adjustment/replacement

▲ WARNING Never attempt to change a belt while the engine is running. Remove the engine switch key from engine switch and disconnect the spark plug cap to prevent accidental start up.

▲ CAUTION Wear heavy gloves to protect your hands when replacing belts or when working with the cutter blade.

■ Adjustment

1. Set the steering wheel in the straight-ahead position.
2. Move the P.T.O. lever to the ON (Engaged) position.
3. Lower the cutter deck as far as it will go with the cutter deck height adjusting lever.
4. Loosen the 8 x 16 mm flange bolt, and pull the tensioner pulley outward until the edge of the arm aligns with the tension alignment mark on the cutter deck. Hold the tensioner pulley in place, and retighten the bolt.

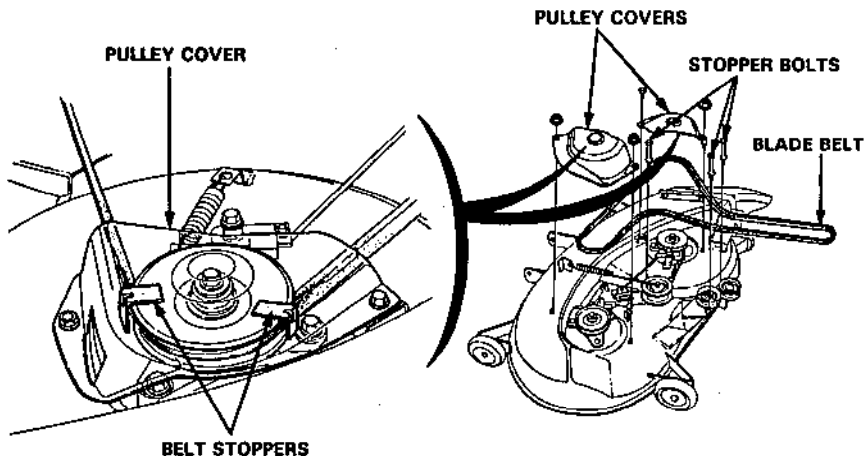


■ Replacement

1. Remove the spark plug cap from the spark plug, set the park brake, and lower the cutter deck all the way down.
2. Set the P.T.O. lever in the OFF (disengaged) position and remove the rear belt stopper.
3. Remove the belt from the drive pulley on the underside of the transmission.
4. Move the P.T.O. lever to the ON (engaged) position and remove the lock pin, collar, and washer from the P.T.O. clutch rod.
5. Remove the bolts and nuts from both pulley covers, and then remove the covers.
6. Remove the three belt stopper bolts and remove the belt.
7. Installation is the reverse order of removal with these exceptions:

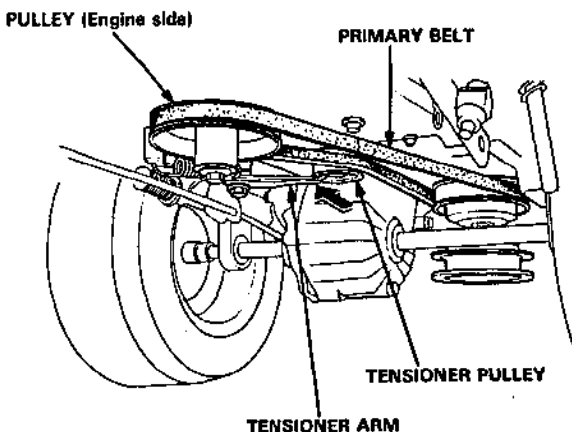
NOTE:

- The belt stoppers are installed onto the pulley covers. When installing the left and right pulley covers, pull the belt so that the belt is positioned inside the stoppers.
- Check for proper belt alignment on the pulleys.
- Check the belt adjustment. See page 55.
- Make sure the rear belt stopper is not contacting the drive pulley.



Primary belt replacement

1. Remove the cutter deck (see pages 52–54).
2. Remove the primary belt from the pulley on the belt tensioner arm while pressing out on the arm by hand. Remove the primary belt from the pulley on the engine.
3. Install a new primary belt. Install the remaining parts in the reverse order of removal.



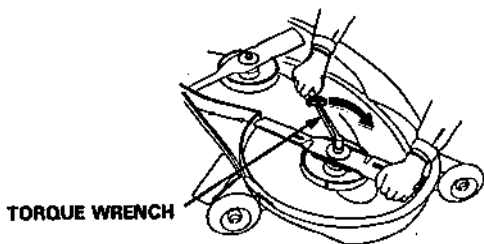
Blade bolt tightness/Blade replacement

▲WARNING To avoid severe personal injury, remove the ignition key and disconnect the spark plug cap to prevent accidental starting; wear heavy gloves to protect your hands from the cutter blade.

■Blade bolt tightness

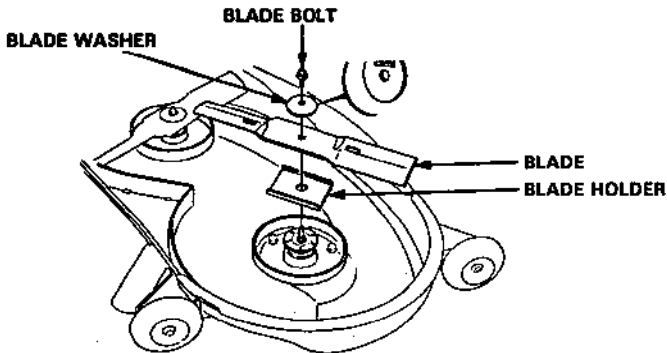
1. Remove the cutter deck from the riding mower (see pages 52–54).
2. Turn the cutter deck upside down.
3. Clean dirt and grass from the blade and the inside of the cutter deck.
4. Hold the blade firmly, and use a torque wrench to check that the blade bolt is properly tightened.

Blade bolt torque: 4.5–5.5 kg-m (32.6–39.8 ft-lb)



■Blade removal

1. Hold the blade firmly, and remove the blade bolt and the washer.
2. Remove the blade and blade holder.

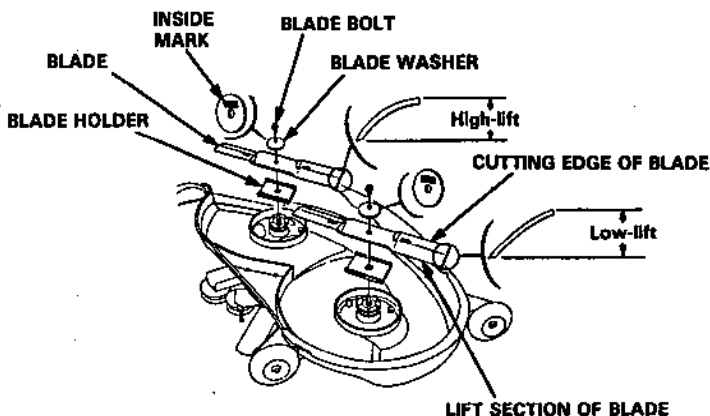


■ Blade installation

IMPORTANT NOTICE Use a genuine Honda replacement blade or equivalent.

1. Clean dirt and grass from the blade, blade holder, and the inside of the cutter deck.
2. Install the blade holder, blade, washer, and blade bolts.

NOTE: Right and left blades are not interchangeable. Be sure to install the high-lift blade on the right (discharge side) and the low-lift blade on the left sides, as shown.



Be sure the blade is properly aligned with the blade holder before tightening the blade bolt. Do not allow the blade to overlap the edge of the holder.

- Be sure to clean and lubricated the threads of the blade bolts before tightening to assure proper torque.
- Install the blades with the left section of the blade toward the cutter deck as shown.
- Install the washer with the side marked "INSIDE" facing the blade.
- The blade bolt and washer are specially designed for this application and must not be replaced with any other bolt or washer.

3. Hold the blade firmly, and tighten the blade bolt to a torque value of 4.5–5.5 kg-m (32.55–39.78 ft-lb).

Spark arrester maintenance (optional part)

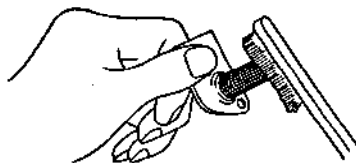
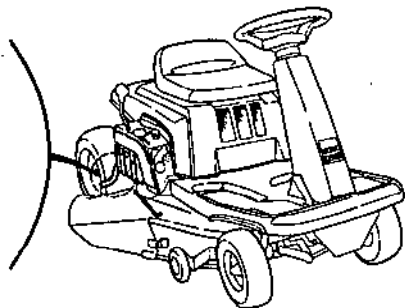
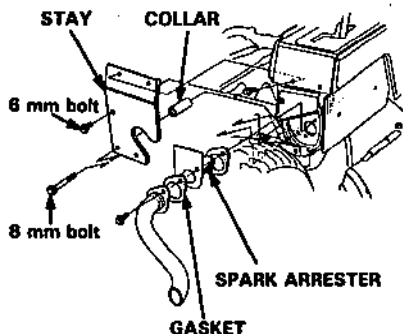
WARNING The muffler becomes very hot during operation and remains hot for a while after the engine stops. Be careful not to touch the muffler while it is hot. Allow it to cool before proceeding.

The spark arrester must be serviced every 100 hours to maintain its efficiency.

1. Remove the four 6 mm bolts and 8 mm bolt that hold the shift lever guide stay, and then remove the stay and collar.
2. Remove the two 6 mm bolts from the exhaust pipe tip. Remove the exhaust pipe tip, spark arrester and gasket (be careful not to damage the spark arrester screen).
3. Use a wire brush to remove carbon deposits from the spark arrester screen.

NOTE: Inspect the spark arrester screen for holes or tears. Replace it if it is damaged.

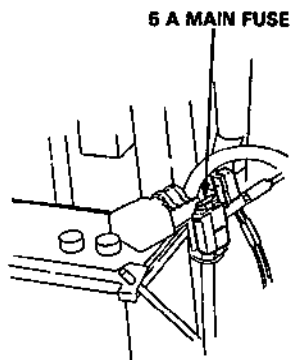
4. Reinstall all parts in the reverse order of removal.



Fuse replacement

The 5 A main fuse is located near the battery on the positive terminal. When frequent fuse failure occurs, it usually indicates a short circuit or an overload in the electrical system. See your authorized Honda riding mower dealer for repair.

To replace fuse pull the old fuse out of the clips with your finger. Push a new fuse into the clips.



IMPORTANT NOTICE

Never use fuse with a different rating from that specified.

Serious damage to the electrical system or a fire may result.

Turn the engine switch OFF and remove the key before checking or replacing fuses to prevent accidental short-circuiting.

8. STORAGE

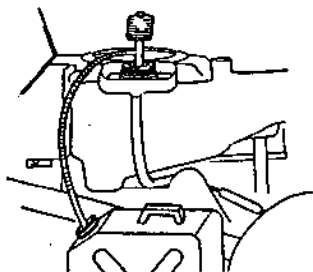
Preparation for storage

The engine becomes very hot during operation and remains hot for a while after stopping. Allow the engine to cool before storing.

WARNING Contact with a hot engine or exhaust system can cause serious burns or fires. Let the engine cool before storing.

The following steps should be taken to protect the riding mower whenever it will be stored for longer than 30 days.

1. Drain all gasoline from the fuel tank into an approved gasoline container.

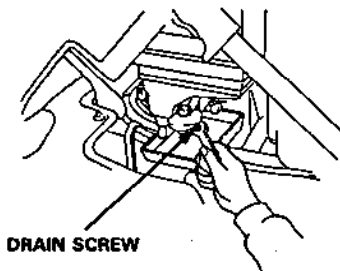


Turn the fuel valve ON, loosen the carburetor drain screw, and drain the fuel into an approved gasoline container. After draining tighten the drain screw securely.

WARNING Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Use extreme care when handling gasoline.

Keep flames and sparks away, and do not smoke in the area.

NOTE: If gasoline is not drained before storage, fuel system damage may result.



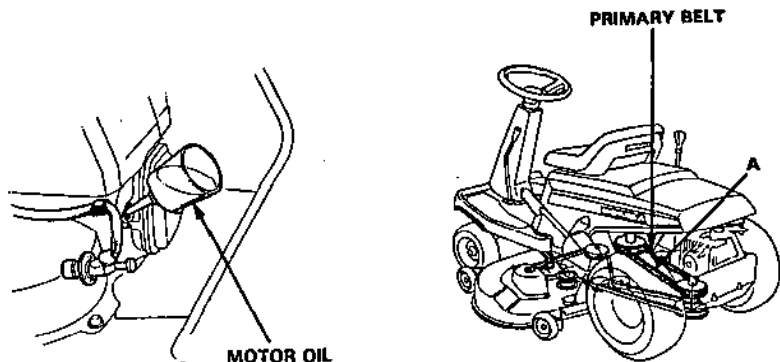
DRAIN SCREW

2. Change the engine oil (see page 45).

IMPORTANT NOTICE To avoid engine damage, do not store riding mower without engine oil in crankcase.

NOTE: If the riding mower will be stored for longer than 3 months, raise the rear body and remove the spark plug and pour three tablespoons (approximately 1 oz.) of clean motor oil into the cylinder.

Place the P.T.O. lever in the OFF position and the shift lever in the N position. With the parking brake applied, lower the cutter deck to the bottom. Reaching from the rear of the mower, grasp the primary belt at point A, and slowly pull it toward you to turn the engine. Reinstall the spark plug.



CAUTION Be sure to wear heavy gloves when pulling the primary belt. If the riding mower has been running, the engine will be very hot. Allow it to cool before proceeding.

3. Remove the battery and store in a cool, dry place. Recharge it once a month.
4. If equipped with the optional grass catcher, be sure to empty and clean the bags before storage.
5. Remove the cutter deck (see pages 52–54).
6. Turn the cutter deck upside down. Clean the underside of the deck with water, and dry thoroughly.

-
7. For longer service and greater efficiency, keep the underside of the mower housing clean and free of accumulated grass clippings by washing it down with a hose after use and/or cleaning it with a wire brush and scraper. Remove any rust and apply a rust-resistant paint. Cleaning and rust prevention are especially important before seasonal storage.
 8. Reinstall the cutter deck by reversing the removal procedure.
 9. Store the riding mower on a level surface in a dry, dust-free area with the parking brake lever set.
 10. Cover the riding mower to keep out dust.
 11. Check tire air pressure regularly during storage and inflate if necessary.

Removal from storage

1. Check the battery electrolyte level (see page 23). Fully recharge the battery, and install it in the riding mower.
2. Remove the spark plug and check that it is clean and properly gapped (see pages 47–48).
Turn the engine a few revolutions with the starter motor before reinstalling the spark plug.
3. Thread the spark plug in as far as possible by hand, then tighten it 1/8 to 1/4 turn further with the plug wrench.
4. Check the engine oil level (see page 18).
5. Fill the fuel tank, and start the engine by following the starting instructions (see pages 30–31).

NOTE: If the cylinder was coated with oil, the engine will initially smoke at start up; this is normal.

9. TROUBLESHOOTING

Engine fails to start;

1. No fuel. —————> Add fuel.
2. Shift lever in gear. —————> Position shift lever in NEUTRAL.
3. P.T.O. lever engaged. —————> Position blade (P.T.O.) lever in DISENGAGE.
4. Parking brake not set. —————> Set the parking brake.
5. Seat switch is not depressed. —————> Sit in seat.
6. Spark plug faulty or improperly gapped. —————> Regap plug or replace (see pages 47-48).
7. Spark plug wire loose or disconnected. —————> Check spark plug wire.
8. Fuel not reaching carburetor. —————> Check the position of the fuel valve (see page 30). If that's not the problem, see your authorized Honda riding mower dealer.
9. Discharged battery or loose terminal. —————> Charge battery or retighten terminal. (see page 50).
10. Blown fuse —————> Replace (see page 61).

Riding mower does not move or drives slowly with the shift lever set in the transport range.

1. Manual lever set in lower position. —————> Raise the manual lever.
2. Riding mower does not drive or drives slowly. —————> See your authorized Honda riding mower dealer.

Engine loses power;

1. Dirty air cleaner elements. —————> Clean or replace elements (see page 46).
2. Spark plug faulty or improperly gapped. —————> Regap plug or replace. (See page 47).
3. Engine overloaded. —————> Shift to lower speed.

Engine overheats;

1. Cooling air intake plugged. —————> Clean cooling air intake (see page 17).
2. Engine overloaded. —————> Shift to lower speed.
3. Low engine oil level. —————> Fill with recommended oil (see page 18).
4. Spark plug improperly gapped. —————> Regap plug or replace (see page 47).
5. Cooling fan damage —————> See your authorized Honda riding mower dealer.

Oil consumption

1. Incorrect oil viscosity —————> Use specified viscosity oil. (see page 18)
2. Oil leaks —————> Check for oil leaks from drain bolt. (see page 45)
3. Worn piston ring, etc. —————> See your authorized Honda riding mower dealer.

Erratic operation;

1. Dirty fuel. —————> See your authorized Honda riding mower dealer.
2. Dirty air cleaner elements. —————> Clean air cleaner elements. (see page 46).
3. Spark plug faulty or improperly gapped. —————> Regap plug or replace. (see page 47).

Excessive vibration;

1. Loose blade or engine mounting hardware. —————> Retighten blade bolts or engine mounting hardware.
2. Blade damaged or out of balance. —————> Replace blade.
3. Belt damaged —————> Replace belt.
4. Each pulley damaged or pulleys not aligned. —————> See your authorized Honda riding mower dealer.

Battery will not charge;

1. Dead cell in battery. —————> Replace battery.
2. Loose electrical connections or broken wire. —————> Check connections and wires.

Parking brake warning buzzer does not operate

1. Blown fuse → Replace fuse.
2. Faulty buzzer → See your authorized Honda riding mower dealer.

Steering is too heavy

1. Insufficient tire air pressure → Correct each tire air pressure. (see page 26)

Mower steers one side

1. Incorrect steering system alignments → See your authorized Honda riding mower dealer.
2. Each tire air pressure uneven. → Correct each tire air pressure. (see page 26)
3. Loose fasteners of steering system → See your authorized Honda riding mower dealer.

Uneven mowing;

1. Riding mower speed too fast → Shift to lower speed.
2. Grass accumulation inside deck. → Clean inside deck (see page 64).
3. Dull blade. → Replace blade or see your authorized Honda riding mower dealer.
4. Tires improperly inflated. → Check tire inflation (see page 26).
5. Mower not level. → Check cutter deck mounting. See your authorized Honda riding mower dealer.
6. Wrong cutter deck height. → Change to proper height.
7. Chute clogged (if equipped with optional grass bag). → Empty grass bag and chute.
8. Lawn wet → Allow to dry before cutting.

Clogged cutter deck discharge chute.

1. Wrong blade. → Use a genuine Honda blade or equivalent.
2. Deck too low. → Raise deck and adjust deck height properly.
3. Engine overloaded. → Operate at full throttle. Use lower speed range. Set cutter deck higher than desired height for first pass, then cut to desired height on second pass.
4. Wet lawn. → Mow when lawn is dry.
5. Lawn too tall → Set cutter deck higher than desired height for first pass, then cut to desired height on second pass.
6. Low engine rpm → Open throttle fully.
7. Grass bags full → Empty grass bags.
(Optional part).
8. Blades installed upside down → Check blade installation (see page 59)

Blade does not rotate or stop.

1. Blade belt worn or broken. → Replace with new belt (see page 55).
2. P.T.O. lever malfunction → See your authorized Honda riding mower dealer.

Deep cutting

1. Cutting height too low → Raise cutter deck height.
2. Turning speed fast → Lower turning speed.
3. Uneven surface → Change cutting pattern.
4. Rough and uneven surface → Adjust with height adjuster. (see page 35)

Mowing load is too heavy and lowers the mower speed.

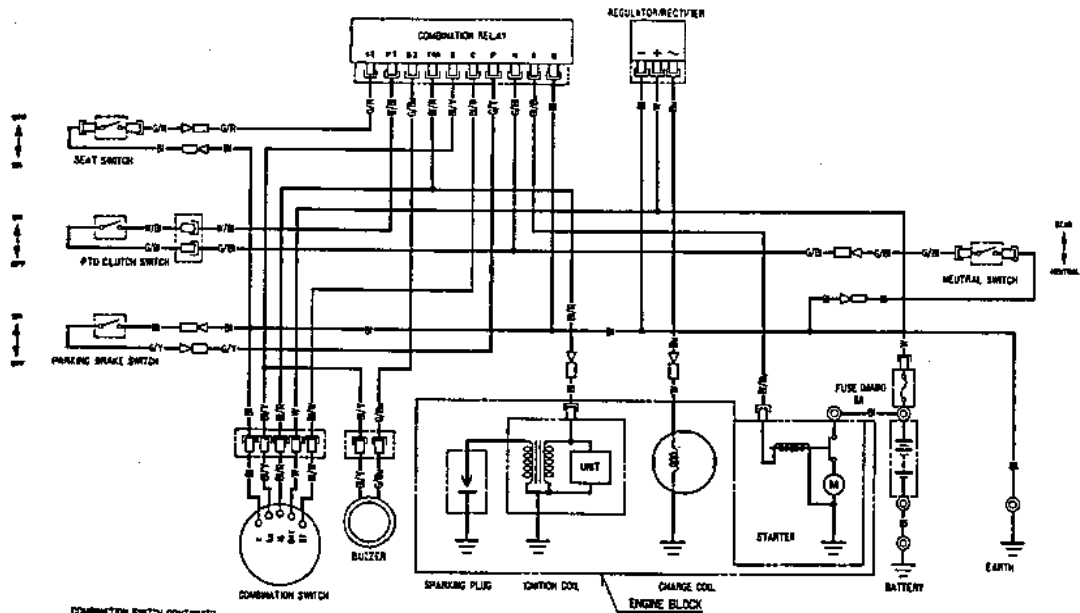
1. Low engine rpm → Open throttle fully.
2. Mower speed too fast → Lower mower speed.
3. Mower catches wood block, stone, etc. → Remove any foreign objects.

10. SPECIFICATIONS

MODEL	H3013H
Power products description code	MZAH
ENGINE	
Model	GXV390
Type	4-stroke, overhead valve, 1 cylinder
Displacement	389 cm ³ (23.7 cu in)
Bore and stroke	88 x 64 mm (3.5 x 2.5 in)
Ignition timing	20° BTDC
Ignition system	Transistorized magneto
Cooling system	Forced air
Engine oil capacity	1.1 ℓ (1.2 US qt, 1.0 Imp qt)
Spark plug	BPR5ES (NGK) W16EPR-U (ND)
FRAME	
Dimensions	
Length x Width x Height	1,550 x 1,260 x 1,000 mm (61.0 x 49.6 x 39.4 in)
Wheel tread	
Front	570 mm (22.4 in)
Rear	660 mm (26.0 in)
Wheel base	1,100 mm (43.3 in)
Cutting width	970 mm (38.0 in)
Cutting height	1, 1 ¹ / ₂ , 2, 2 ¹ / ₂ , 3, 3 ¹ / ₂
Dry weight	192 kg (423 lb)
Tire size	Front 11 x 4.00 — 5 Rear 16 x 6.50 — 8
Air pressure	Front 1.0 kg/cm ² (14 psi), Rear 0.7 kg/cm ² (10 psi)
Transmission	Oil pressure-type variable-speed transmission
Travel speed (3,300 rpm)	Mowing range: 5.3 km/h (3.3 miles/h) Transport range: 7.5 km/h (4.7 miles/h) Reverse range: 2.7 km/h (1.7 miles/h)
Fuel tank capacity	2.5 ℓ (0.66 US gal, 0.55 Imp gal)
Battery	12V22AH

NOTE: Specifications are subject to change without notice.

11. WIRING DIAGRAM



COMBINATION SWITCH CONTINUITY

	SB	E	BAT	LS	ST
OFF	○	○			
ON			○	○	
ST				○	○

B	BLACK	Bv	BROWN
Y	YELLOW	O	ORANGE
Bu	BLUE	Lb	LIGHT BLUE
C	GREEN	Lg	LIGHT GREEN
R	RED	P	PINK
W	WHITE	G	GRAY

12. WARRANTY SERVICE

Owner Satisfaction

Your satisfaction and goodwill are important to your dealer and to us. All Honda warranty details are explained in the Distributor's Limited Warranty. Normally, any problems concerning the product will be handled by your dealer's service department. If you have a warranty problem that has not been handled to your satisfaction, we suggest you take the following action:

- Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Service Manager, contact the owner of the dealership or the General Manager.
- If your problem still has not been resolved to your satisfaction, contact:

American Honda Motor Co., Inc.
P.O. Box 50
Gardena, California 90247-0805
Telephone: (213) 604-2400

We will need the following information in order to assist you:

- Your name, address, and telephone number
- Product model and serial number
- Date of Purchase
- Dealer name and address
- Nature of problem

After reviewing all the facts involved, you will be advised of what action can be taken. Please bear in mind that your problem will likely be resolved at the dealership, using the dealer's facilities, equipment, and personnel, so it is very important that your initial contact be with the dealer.

Your purchase of a Honda product is greatly appreciated by both your dealer and American Honda Motor Co., Inc. We want to assist you in every way possible to assure your complete satisfaction with your purchase.

Current customer service contact information:

United States, Puerto Rico, and U.S. Virgin Islands:

Honda Power Equipment dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write:

American Honda Motor Co., Inc.
Power Equipment Division
Customer Relations Office
4900 Marconi Drive
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 am - 7:00 pm EST

When you write or call, please provide the following information:

- Model and serial numbers
- Name of the dealer who sold the Honda power equipment to you
- Name and address of the dealer who services your equipment
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

MEMO

HONDA
HONDA MOTOR CO., LTD. TOKYO, JAPAN

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