

# INTRODUCTION

Dear Honda User,

You have just purchased a HONDA lawn mower and we thank you for your confidence in us.

This manual has been written to familiarise you with your mower, to enable you to use it in the best possible conditions and to carry out its maintenance.

Our aim is to make you benefit to the full from technological advances, from new equipment and materials and from our experience. This is why we regularly make improvements to our models. Thus, the specifications and information contained in this manual may be modified without prior notice and without obligation to update it.

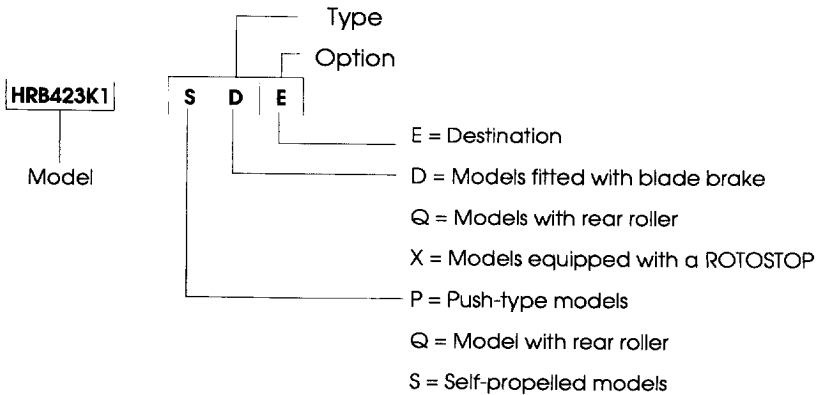
If you have a problem, or if you have any questions concerning the mower, contact your supplying dealer or approved HONDA dealer.

Keep this manual handy so you can consult it at any time. If you sell the mower be sure that the manual accompanies it.

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

No reproduction, even partial, may be made of this publication without prior written authorisation.

## DESCRIPTION OF THE COPES USED IN THIS MANUAL:

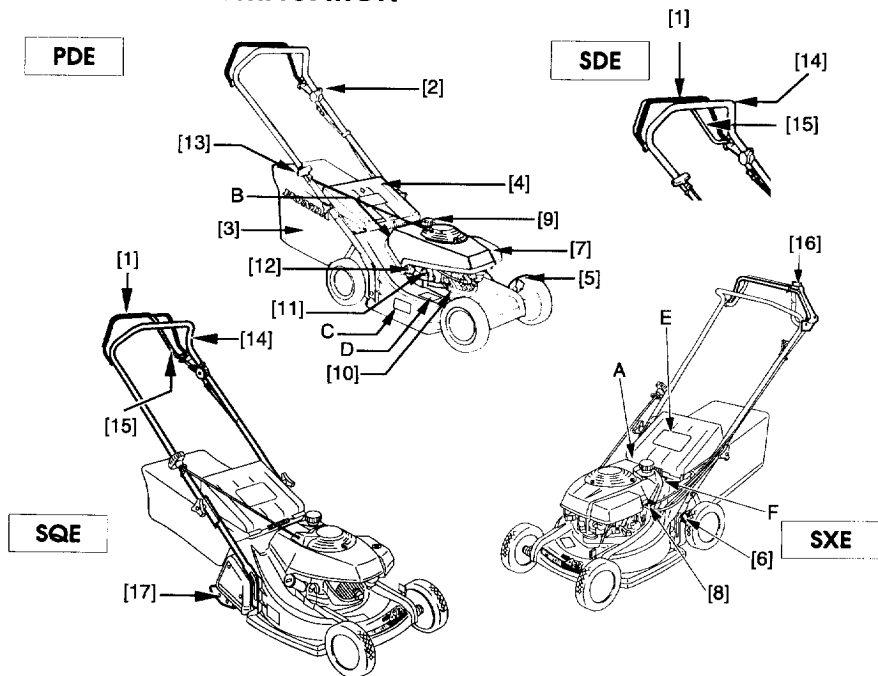


**NOTE:** the illustrations in this manual correspond to model HRB423 SDE.

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# GENERAL DESCRIPTION

## COMPONENTS IDENTIFICATION



### CONTROLS

### FUNCTIONS

1 Blade brake lever.....	<i>Stops blade rotating and engine</i>
2 Throttle lever .....	<i>Controls engine speed</i>
3 Grass bag .....	<i>Collects grass cuttings</i>
4 Discharge guard .....	<i>Prevents objects being thrown by blade</i>
5 Cutting height adjustment .....	<i>Selects desired cutting height</i>
lever (Front)	
6 Cutting height adjustment .....	<i>Selects desired cutting height</i>
lever (Rear)	
7 Air cleaner	
8 Fuel shut-off valve .....	<i>Opens/shuts off fuel supply</i>
9 Fuel tank filler cap	
10 Spark plug	
11 Muffler	
12 Oil filler cap .....	<i>Used to fill and drain oil, and to check oil level</i>
13 Starter grip .....	<i>Pull to start engine</i>
14 Handle	
15* Drive clutch lever .....	<i>Controls the transmission which drives rear wheels</i>
16* Cutter blade clutch lever (ROTOSTOP safety) .....	<i>Starts and stops the blade rotating</i>
17* Rear roller	

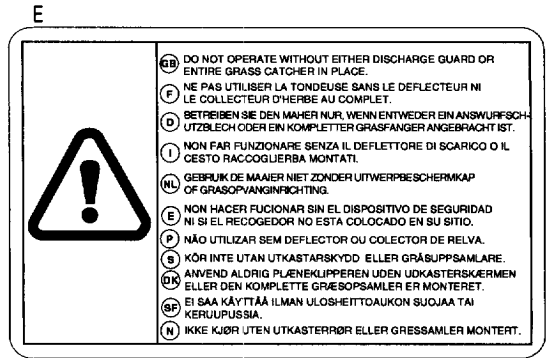
\* Where fitted

## SAFETY LABELS LOCATIONS

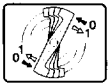
Your lawn mower must be used with care. Therefore, decals have been placed on the machine, to remind you pictorially of main precautions to take during use. Their meaning is explained below.

These decals are considered as a part of the mower. Should one become detached or unreadable, contact your HONDA dealer for its replacement.

We also strongly recommend to carefully read the safety instructions given in the next chapter of this manual.



## DESCRIPTION OF THE SYMBOLS USED IN THIS MANUAL



Models equipped with blade clutch (ROTOSTOP)



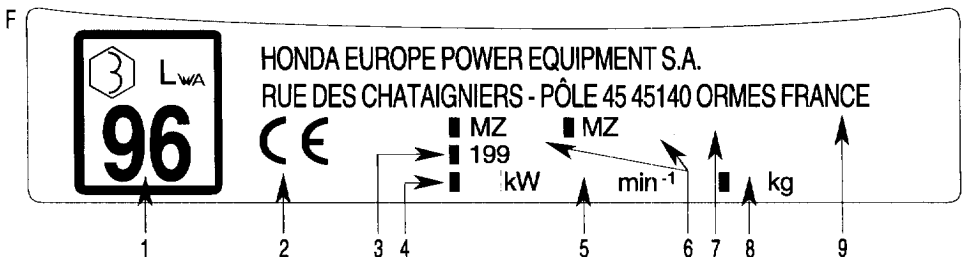
Models fitted with blade brake



Rear roller models

## IDENTIFICATION OF THE MACHINE

- Acoustic power level according to the Directive EEC/84/538.
- Conformity mark, according to the EEC/89/392 modified Directive.
- Year of manufacture.
- Nominal power in kilowatt.
- Recommended engine speed in rpm.
- Type.
- Serial number.
- Mass in kilograms.
- Name and address of the manufacturer.



# SAFETY INSTRUCTIONS

Headings preceded by the following words must be read very carefully:

## **⚠ WARNING :**

Indicates that there is danger of serious bodily injury or even death if instructions are not followed.

## **CAUTION:**

- Indicates that there is a possible risk of bodily injury or equipment damage if instructions are not followed.

**NOTE :** Source of useful information.



This sign means that you must take care during certain operations. Refer to the safety instructions on the following pages, to the point(s) indicated in the square.

## **TRAINING**

- A1** Read the instructions carefully. Be familiar with the controls and the proper use before using the equipment. Know how to stop the engine rapidly.
- A2** Use the mower for the purpose it is intended for, that is mowing and collecting grass. Any other use could be dangerous or damage the equipment.
- A3** Never allow children or people unfamiliar with these instructions to use the lawn mower. Local regulations may restrict the age of the operator.
- A4** Never mow when :
  - People, especially children or pets are nearby.
  - User is under medication or has swallowed substances known to affect judgement or reactions.
- A5** Keep in mind that the owner or user is responsible for accidents or hazards occurring to other people or their property.

## **PREPARATION**

- B1** While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing sandals.
- B2** Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine (stones, branches, wires, bones, etc...).
- B3** **WARNING - Petrol is highly flammable.**
  - Store fuel in containers specifically designed for this purpose.
  - Refuel outdoors only, before starting the engine and do not smoke while refuelling or handling fuel.
  - Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot.
  - If petrol is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated;
  - Replace all fuel tanks and container caps securely.
- B4** Replace faulty silencers.
- B5** Before use, always visually inspect the machine, especially to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.

## **OPERATION**

- C1** Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- C2** Mow only in daylight or in good artificial light.

# SAFETY INSTRUCTIONS

- C3 Avoid operating the equipment in wet grass, where feasible.
- C4 While mowing, always keep the safety distance to the blade, which is provided by the handle length.
- C5 Walk, never run. Do not let yourself be pulled by the mower.
- C6 Always be sure of your footing on slopes. Mow across the face of slopes, never up and down.
- C7 Exercise extreme caution when changing direction on slopes.
- C8 Do not mow slopes of more than 20°.
- C9 Use extreme caution when pulling the lawn mower towards you.
- C10 Stop the blade if the lawn mower has to be tilted for transportation when crossing surfaces other than grass, and when transporting the lawn mower to and from the area to be mowed.
- C11 Never operate the lawn mower with defective guards or housings, or without safety devices such as deflectors and/or grass catchers.
- C12 Do not change the engine governor settings or overspeed the engine.
- C13 Disengage all blade (models equipped with ROTOSTOP) and drive clutches (self-propelled models) before starting the engine.
- C14 Start the engine carefully according to instructions and with feet well away from the blade.
- C15 Do not tilt the lawn mower when starting the engine. Start the mower on a level surface, free of high grass or obstacle.
- C16 Keep hands and feet away from the rotating parts. Do not start the engine when standing in front of the discharge opening.
- C17 Never pick up or carry a lawn mower while the engine is running.
- C18 Stop the engine and disconnect the spark plug cap in the following cases :
  - Before any operation under the cutter housing or the discharge tunnel.
  - Before checking, cleaning or working on the lawn mower.
  - After striking a foreign object. Inspect the lawn mower for damage and make repairs before restarting and operating the lawn mower again.
  - If lawn mower starts to vibrate abnormally. Check immediately the cause of the vibration and perform the necessary repair.
- C19 Stop the engine in the following cases :
  - Whenever you leave the lawn mower unattended. For the models equipped with an electric starter, remove the switch key.
  - Before refuelling.
- C20 Stop the blade (models equipped with ROTOSTOP) or the engine in the following cases :
  - When installing or removing the grass bag.
  - Before adjusting the cutting height.
- C21 Reduce the throttle setting during engine shut-down. Turn the fuel off at the conclusion of mowing.

## MAINTENANCE AND STORAGE

- D1 Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition. Regular maintenance is an essential aid to user's safety and retaining a high level of performance.
- D2 Never store the equipment with petrol in the tank inside a building when vapours may reach an open flame, spark or high temperature source.
- D3 Allow the engine to cool before storing in any enclosure.
- D4 To reduce the fire hazard, keep the mower, especially the engine, silencer and battery compartment, the petrol storage area as well, free of grass, leaves, or excessive grease. Do not leave containers of vegetable matters in or near a building.
- D5 If the fuel tank has to be drained, this should be done outdoors, with a cold engine.
- D6 Check the grass collecting system frequently for wear or deterioration.
- D7 Do not use the machine with worn or damaged parts. Parts must be replaced, not repaired. Replace worn or damaged parts with HONDA genuine parts. Blades must always bear the mark HONDA and the reference number. Non equivalent quality parts may damage the machine and be prejudicial to your safety.
- D8 Wear thick gloves when removing or installing the blade or when cleaning the cutter housing.
- D9 Always make sure the correct balance of the blade when sharpening.

# PREPARATION AND CHECKS BEFORE USE

## **⚠ WARNING :**

To carry out this series of checks, place the mower on stable and level ground with engine stopped and spark plug cap removed.

## CHECKING FUEL LEVEL

### **⚠ WARNING :**

Do not fill the fuel tank up to the brim (there must be no fuel in the filler neck). When filling is completed, ensure that the tank filler cap is screwed fully on.

Avoid getting fuel on the skin repeatedly or for long periods and avoid breathing fuel vapours. Keep fuel away from children.

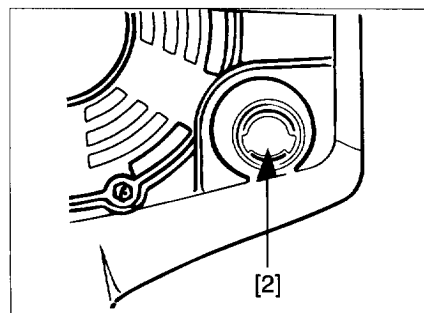
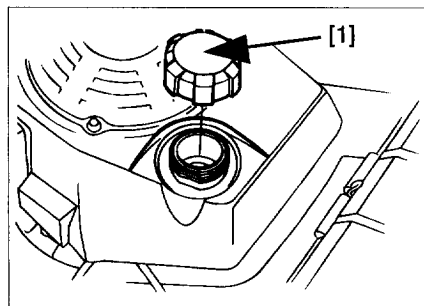
### **CAUTION:**

- Never use a gas-oil mixture.
- Do not let dirt, clippings, etc. get into the tank.
- Do not use dirty or contaminated fuel (water, dust, ...), or fuel which is too old.

To check the fuel level:

1. Remove filler cap (1) and check fuel level.
2. Fill tank if level is low. The maximum level is reached when the gas is opposite mark (2).
3. Screw filler cap (1) fully on after filling.

**NOTE:** Gas substitute products are not recommended. These may damage fuel system components.



# PREPARATION AND CHECKS BEFORE USE

## GAS CONTAINING ALCOHOL

If you intend to use gas with alcohol, ensure that its octane number is at least as high as that recommended by HONDA (86). There are two types of gas/alcohol mixtures: one contains ethanol and the other methanol. Do not use mixtures containing more than 10% ethanol, or gas containing methanol (methyl or wood alcohol), which do not contain cosolvents, or corrosion inhibitors for methanol.

In the case of a mixture containing methanol with addition of cosolvents and corrosion inhibitors, limit the proportion to 5% of methanol.

**NOTE:** The guarantee does not cover damage caused to the fuel system or engine performance problems resulting from the use of gas containing alcohol. HONDA does not give its approval to the use of fuels containing methyl alcohol since their suitability is not yet proven.

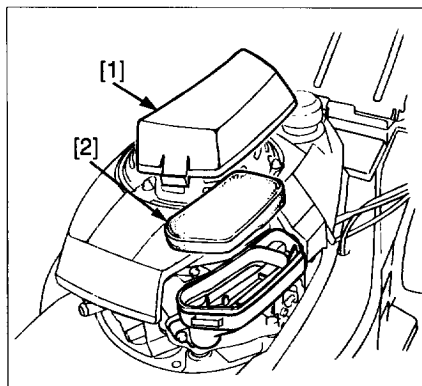
## CHECKING THE AIR CLEANER

### CAUTION:

- *Never run the engine without the air cleaner fitted since this could cause premature engine wear.*

To check the condition of the air cleaner:

1. Remove the cover (1).
2. Check the cleanliness of foam filter element (2).  
If the element is dirty, follow the maintenance procedure (see Maintenance chapter).
3. Refit the cover (1).



## CHECKING BLADE CONDITION

### CAUTION:

- *Do not tilt the mower with the carburetor facing down ; this will make the mower difficult to start later, due to engine oil blocking the air cleaner.*



SAFETY

B5

C18

D1

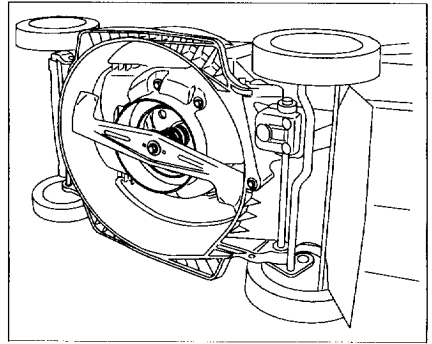
D8



# PREPARATION AND CHECKS BEFORE USE

To check blade condition:

1. Stop the engine.
2. Pull off the spark plug cap.
3. Place the mower on its side (right) so that the carburetor is facing upwards:
  - Check if the blade shows signs of wear and replace it if necessary.
  - Check that blade bolts are tight (see Maintenance chapter).
  - To replace or remove the blade, refer to the procedure described in the Maintenance chapter.

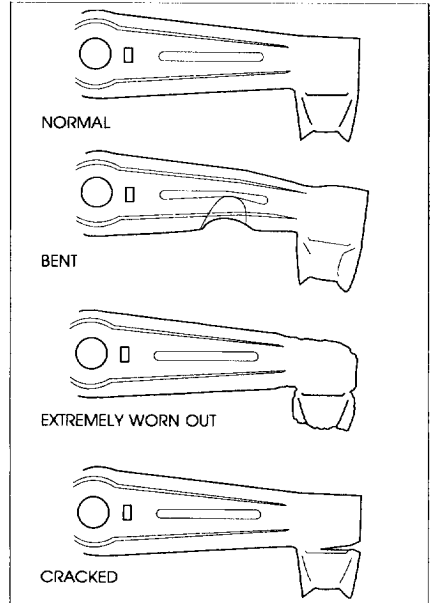


## **⚠ WARNING :**

**Never operate the mower with a worn, damaged, split or dented blade.**

**A piece of blade which breaks off and is thrown outwards can cause serious bodily injuries.**

**NOTE:** Blade wear is increased when the mower is used on sandy soils. Inspect the blade more often when the mower is used in these conditions.



## **ADJUSTING CUTTING HEIGHT**

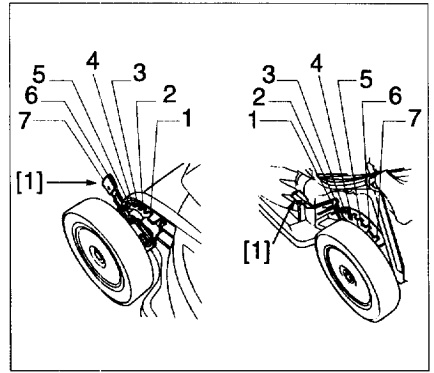
To adjust cutting height:

1. Stop the engine.
2. Pull lever (1).
3. Place the lever in the desired position. We recommend that the front and rear wheels be set to the same height.
4. Release lever.



# PREPARATION AND CHECKS BEFORE USE

The 7 cutting height settings (6 for Q and SQ types) are approximate values, the actual height of the cut grass varies with the lawn and ground condition. To choose the cutting height, check how the lawn looks after mowing a small area and adjust the cutting height where necessary.



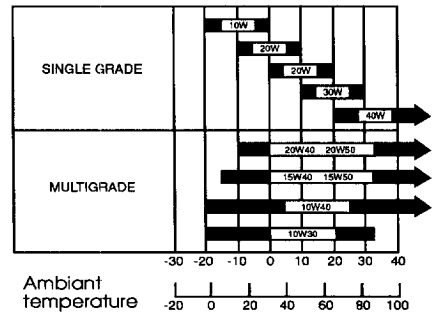
Position \ Height	Rear	1	2	3	4	5	6	7
	Front							
mm (types PD,SD,SX)		21	31	41	51	61	71	79

Position \ Height	Rear	1	2	3	4	5	
	Front	1	2	3	4	5	6
mm (types QD,SQ)		15	21	31	41	51	61

## CHECKING ENGINE OIL LEVEL

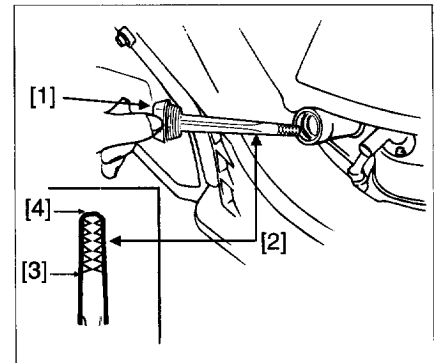
### CAUTION:

- The engine oil is an essential element which affects the performance and lifetime of the engine.
- The engine may be seriously damaged if run with insufficient oil. We recommend the use of HONDA 4-stroke oil or an equivalent quality engine oil which is highly detergent. Oil viscosity must be appropriate for the average temperature in the zone where the mower is to be used.



### To check engine oil level:

- Place the mower on level ground.
- Remove the oil filler cap (1) and wipe the dipstick (2).
- Replace the dipstick in the filler neck but do not screw it down.
- Check the level of the oil left on the dipstick. If the level is near the low level mark (4), add the recommended oil up to the high level mark (3).



# PREPARATION AND CHECKS BEFORE USE

## CHECKING THE GRASS BAG

### **⚠ WARNING :**

Before use, ensure that the bag closing device is correctly locked (discharge guard).

Even in normal use, the grass bag tends to wear. Regularly check that it is not frayed or torn. A worn out bag must be replaced. Replace a damaged bag by a HONDA bag only.

#### Bag removal:

1. Stop the engine.
2. Raise discharge guard (1), grasp handle (3) and remove bag (2) while keeping it in an upright position.

#### Bag fitting:

1. Raise the discharge guard and hook the front of the bag on the mower's attachment lugs.
2. Once the bag is fitted, the mower operates like a vacuum cleaner. It forces air into the bag which traps the grass cuttings.

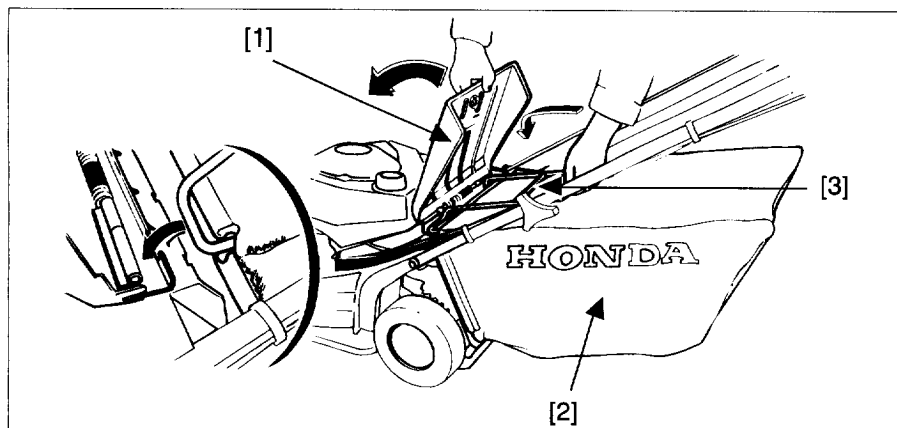


SAFETY

C11

C20

D6




# STARTING AND STOPPING THE ENGINE

## STARTING THE ENGINE

### CAUTION:

- Do not start the engine with the drive clutch lever engaged.

1. Place the fuel valve in the open position (1) 

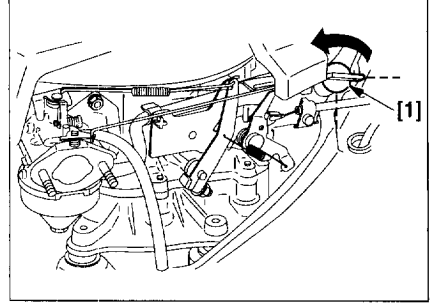


2. Place the throttle lever (2) in "CHOKE" position (A).

**NOTE:** Place the throttle lever in "FAST" position (B) when the engine is hot or the ambient temperature is high.

3. Keep the blade brake lever held firmly against the handle when starting the engine (Except SXE type).

4. Pull the starter (3) slowly until a resistance is felt ; then pull sharply.




**NOTE:** Do not let the starter (3) spring back suddenly on its own ; guide it back slowly.

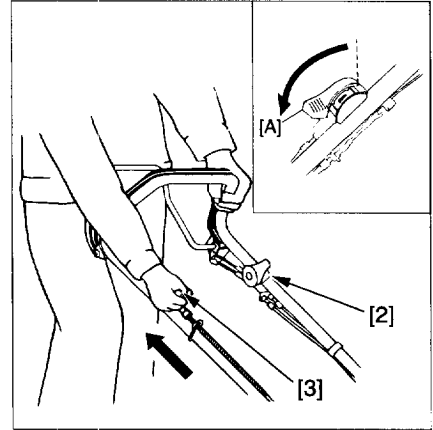
5. Once the engine has warmed up, set the throttle lever to "FAST" position (B).

(A)  **CHOKE**  
For starting a cold engine.

(B)  **FAST**  
For restarting a hot engine and for mowing.

(C)  **SLOW**  
Selects engine idling speed.

(D)  **STOP**  
Stops engine (and closes fuel inlet for SX type).



### NOTE:

- To adjust the engine speed when the mower is running, the throttle lever can be set anywhere between the "FAST" (B) and "SLOW" (C) positions. However, the best results are obtained in the "FAST" position.
- To facilitate starting, place the mower on a flat surface where the grass is not long.

# STARTING AND STOPPING THE ENGINE

## USING THE MOWER AT HIGH ALTITUDES

At high altitudes, the standard gas/air mixture in the carburetor is much too rich : this will reduce performance and increase fuel consumption.

It is possible to improve the high altitude performance by fitting the carburetor with a smaller diameter jet and by adjusting the pilot screw. If you use your mower at an altitude of more than 1800 meters above sea level, we recommend that you have these modifications made by your approved HONDA dealer.

Even with the appropriate modifications made to the carburetor, engine power will be reduced by about 3.5% for every 300 meters of altitude. However, the altitude will have a much greater effect on power if these modifications are not carried out.

### CAUTION:

- *Running the mower at an altitude less than that for which the carburetor is adjusted may cause overheating and seriously damage the engine, due to the gas/air mixture being far too weak.*

## STOPPING THE ENGINE

1. Move the throttle control to the "SLOW" position (C).
2. Release the flywheel brake lever (Except SXE type).
3. Turn off the fuel cock.

## FLOODED ENGINE

If the engine still refuses to start after several pulls on the starter, the engine may be flooded.

### To clear a flooded engine:

1. Release the blade brake lever to the position "STOP" (D).
2. Remove and dry the spark plug. When refitting the spark plug, screw it up until it is finger tight and correctly seated. Then using the plug spanner, tighten it an additional 1/8 to 1/4 turn so that the washer is correctly compressed.
3. Next, place the throttle lever in "FAST" position (B) and repeat the operations previously mentioned under the heading "Starting the engine", § 3 and 4.



(A)



(B)



(C)



(D)

## **⚠ WARNING :**

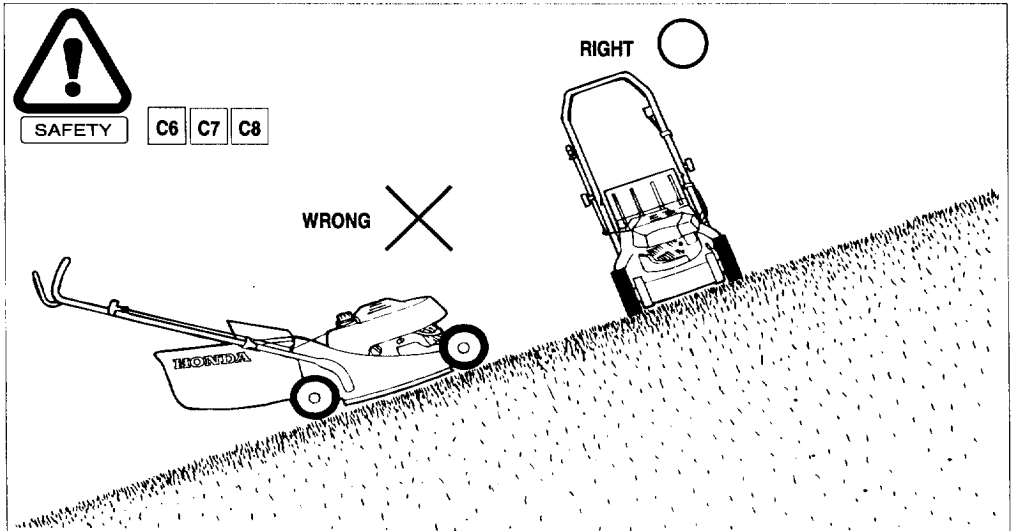
Take special care when mowing on uneven or irregular ground. The mower may tip over, thus uncovering the blade ; also, the blade may throw out objects which were previously hidden.

Keep the four wheels firmly on the ground.

Control the direction of the mower using the handle and not by exerting pressure on the blade casing with your foot.

## **CAUTION:**

- When mowing around an obstacle, be careful that the blade does not hit it. Never push the mower directly over an object.
- When mowing an uneven area, do not let yourself be pulled along by the mower. Hold the handle firmly and control its advance.



# OPERATING HINTS AND TIPS

## MOWING PROCEDURE

Read the safety instructions before starting to mow.

To mow:

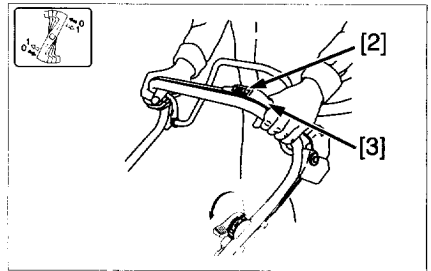
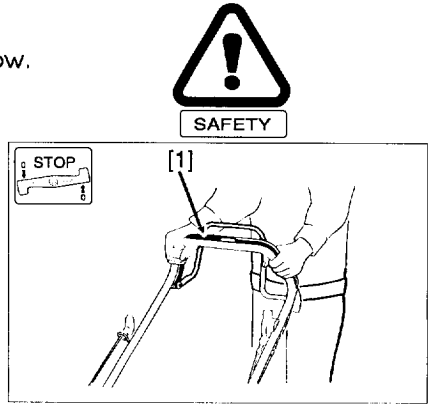
1. Place the mower in an obstacle-free area.
2. The blade brake lever (1) must be held firmly against the handle (Except SXE type).
3. Start the engine, allow it to reach its maximum temperature and rotation speed (the engine runs evenly when the accelerator lever is moved away from the "CHOKE" position).



Engage the blade : press the yellow button (2) situated on the top of the blade clutch lever (3), then at the same time push the lever forwards and hold it against the handle.

### CAUTION:

- Move the blade control lever quickly from one end of its travel to the other, so that the blade is always either fully engaged or fully disengaged. This is to avoid stalling the engine and increases the service life of the blade control mechanism.



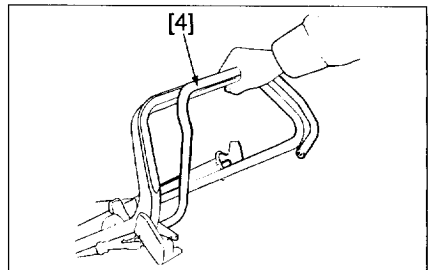
### WARNING :

Always release the blade control lever and the drive clutch lever before starting the engine. Starting is more difficult when the blade is engaged. If the clutch is engaged, the mower will move when the engine is started.

4. Engage mower forward drive when the engine has built up speed : to start the mower moving, pull the drive clutch lever (4) upwards and hold it against the handle .

### CAUTION:

- Move the drive clutch lever quickly from one end of its travel to the other, so that the clutch is always either fully engaged or fully disengaged. This avoids stalling the engine and increases the service life of the clutch mechanism.

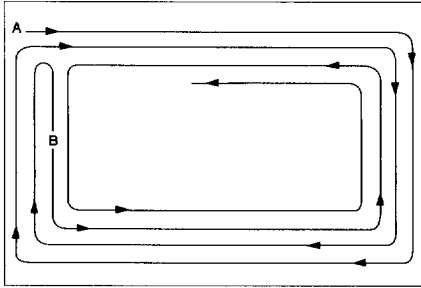


5. To stop the mower moving, release the drive clutch lever (4).
6. To stop the blade rotating, release the blade clutch control lever (models with ROTOSTOP) or the flywheel brake lever (models with flywheel brake).

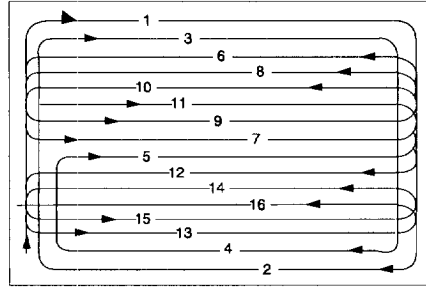
**NOTE:** For the models with flywheel brake, releasing the blade brake lever stops the blade rotating and stops the engine.

# OPERATING HINTS AND TIPS

**NOTE:** When the grass is long, it is preferable to mow in stages reducing the cutting height after each pass. This will avoid the discharge tunnel becoming blocked.



How to mow a small area



How to mow a large area

For self-propelled models, it is possible to disengage the drive clutch when mowing in confined spaces.

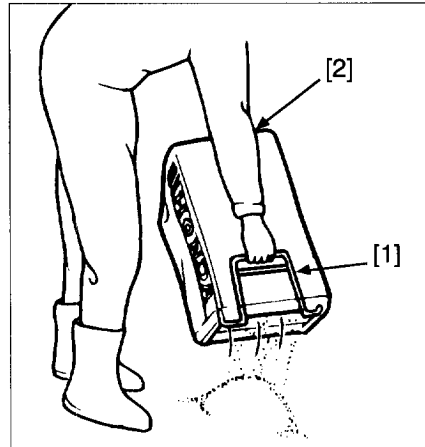
## EMPTYING THE GRASS BAG

When the grass bag becomes too full, grass collection is no longer efficient (the sound of the mower changes and the bag is no longer puffed up by the air from the blade).

1. Stop the engine.
2. Remove the grass bag (see p. 12).
3. Empty the bag:
  - Hold the bag by the metal handle (1).
  - Grasp handle (2) and shake the bag to remove the grass.

### CAUTION:

- To reduce the fire risk, never leave grass cuttings or leaves in the grass bag, or in or near buildings. Decomposing vegetable matter causes a high temperature rise.



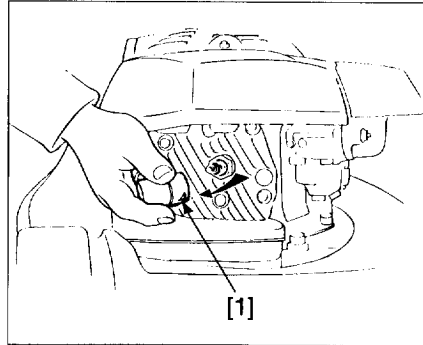


# MAINTENANCE

Regular maintenance is the guarantee of a long lifetime for your mower.

## **⚠ WARNING :**

To avoid the mower starting accidentally, pull off the spark plug cap (1) before carrying out maintenance work.



SAFETY C18 D7 D8

## **CAUTION:**

- *The engine and the muffler reach temperatures high enough to cause burns and start fires if flammable materials are to be found nearby. Allow the engine to cool down for 15 minutes before carrying out maintenance operations.*

**NOTE:** To assure a longer lifetime and more efficient operation, the underside of the mower must be kept clean and free of grass debris after use by cleaning with a brush and scraper. The mower must be cleaned thoroughly before being stored.

## MAINTENANCE SCHEDULE

<b>FREQUENCY</b> Maintenance to be carried out at the intervals indicated in months or in operating hours which ever occurs first.		Each use	After 1 month of after 20 h	Every 3 months or every 50 h	Every 6 months or every 100 h	Yearly or every 300 h
Item	Intervention					
Engine oil	Check level					
	Change					
Air cleaner	Check					
	Clean			(1)		
	Change					(1)
Grass bag	Check					
	Clean					
Blade bolt tightness and blade condition	Check					
Blade holder splines and washers	Check					
Spark plug	Check					
	Clean					
Blade brake cable	Check					
	Adjust					
Blade brake pad	Check			(2)		
Throttle cable	Check					
	Adjust					
Valve clearance	Check					(2)
	Adjust					(2)
Fuel tank	Clean					(2)
Drive belt	Check					
	Change					(2)
Fuel pipes	Check (replace if necessary)		Every 2 years (2)			
ROTOSTOP cable*	Check					
	Adjust					
ROTOSTOP*	Check		(2)		(2)	
Roller driving chain	Check				◆	
Rear roller bearing	Check (replace if necessary)					(2)◆

**NOTE:**

- (1) Increase cleaning frequency when mower is used in dusty areas.
- (2) Maintenance of these points must be carried out by a HONDA dealer unless the user has the necessary tools and mechanical experience. See HONDA Shop Manual.
- ◆ For HRB423 SQE type
- \* For HRB423 SXE type

# MAINTENANCE

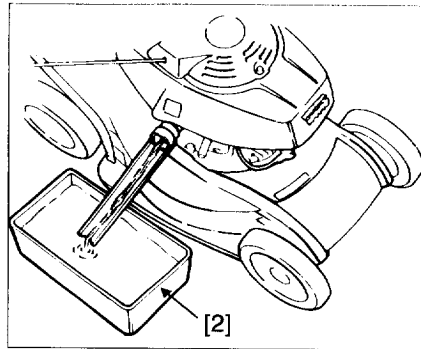
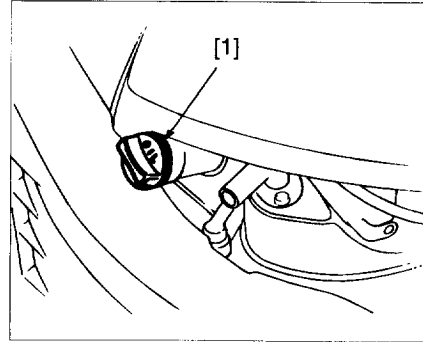
## CHANGING THE ENGINE OIL

Drain the oil while the engine is still hot, so that the oil drains quickly and completely.

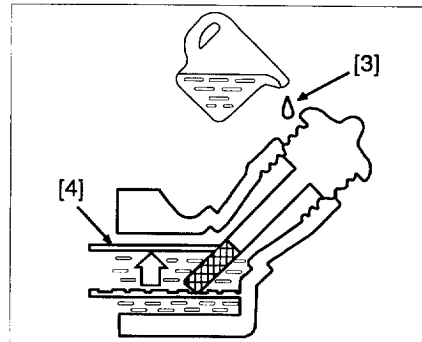
### CAUTION:

- *Used engine oil can cause skin cancer if it remains in contact with the skin for long periods. Although this is highly unlikely unless you handle used oil every day, we recommend that you wash your hands thoroughly with soap and water each time you handle used engine oil.*

1. Remove the oil filler cap (1).
2. Tip the mower on its side.
3. Place a receptacle (2) under the casing filler tube hole.
4. Return the mower to the upright position on its wheels when the casing is completely empty.
5. Fill up (3) to "high level" (4) using the recommended oil.
6. Screw the filler cap fully on to avoid the risk of leaks.



**NOTE:** The used engine oil must be disposed of in a manner which respects the environment. We recommend that you take it to a service station who will ensure that it is recycled. Never dispose of used engine oil in dustbins or pour it away on the ground, in the gutter or down the drains.



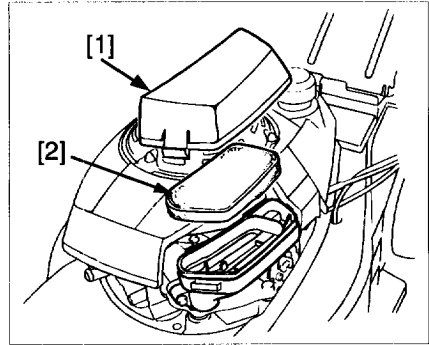
## AIR CLEANER MAINTENANCE

A dirty air cleaner will reduce the flow of air to the carburetor. To prevent the carburetor operating inefficiently, the air cleaner must be regularly maintained.

### **⚠ WARNING :**

**Never clean the air cleaner elements using gas or flammable solvents; this could cause a fire or an explosion.**

1. Remove the air cleaner cover (1). Remove the foam element (2). Carefully check that element is not holed or torn ; replace if necessary.
2. Foam element: clean in hot soapy water, rinse and allow to dry thoroughly, or clean in a non inflammable solvent and allow to dry. Soak the element in clean engine oil then squeeze to remove the excess oil. If too much oil is left in the foam, the engine will smoke during the first few starts.



# MAINTENANCE

## SPARK PLUG

Recommended plugs:

NGK : BPMR-4A

NIPPONDENSO Co., Ltd.: W14MR-U

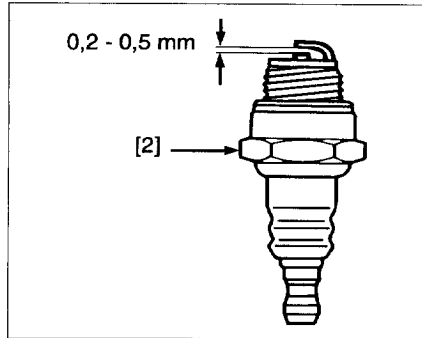
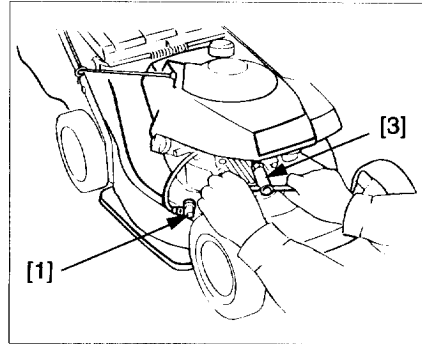
### CAUTION:

- Use only recommended spark plugs. Using spark plugs with inappropriate temperature ranges may damage the engine.

### **⚠ WARNING :**

If the engine has just been run, do not touch the muffler and the spark plug which will still be very hot.

1. Pull off spark plug cap (1) and remove spark plug (2) using a plug spanner (3).
2. Carefully inspect the spark plug. Replace the plug if there are a lot of deposits or if the insulator is cracked or broken.
3. Measure the plug gap using a set of feeler gauges; the gap must be between 0.024 and 0.028 in (0.6 and 0.7 mm). If adjustment is necessary, carefully bend the side electrode.
4. Check that the sealing washer is in good condition; then screw the plug down by hand until finger tight and correctly seated.
5. Using a plug spanner, give an additional 1/2 turn for a new spark plug, to compress the washer. If you refit the same plug, just 1/8 to 1/4 turn will do from the finger tight position.
6. Refit the spark plug cap (1).

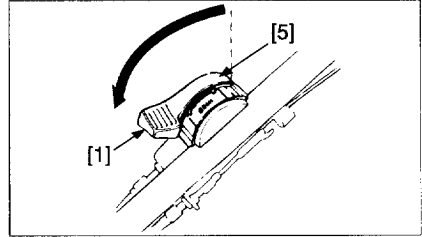
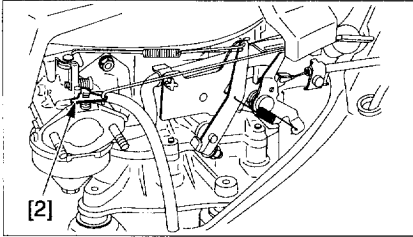


### CAUTION:

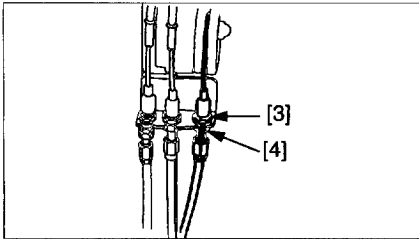
- The spark plug must be correctly tightened. A plug incorrectly screwed down can become very hot and damage the engine.

## THROTTLE CABLE ADJUSTMENT

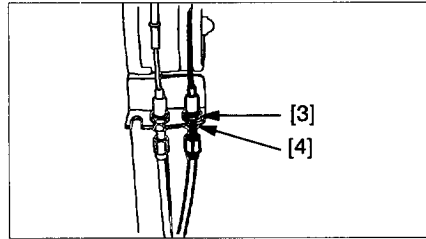
1. When the throttle lever (5) is in "CHOKE" position (1), the carburetor choke flap link (2) must move fully to the right. Push the choke flap link (2) with your finger to check that it goes fully to the right.



2. If adjustment is needed, slacken the control cable locknut (3) and move the adjuster (4) up or down, as required. Retighten the locknut and recheck the position of the carburetor choke link (2).




SD, SQ, SX Types



PD, QD Types

## CARBURETOR ADJUSTMENT

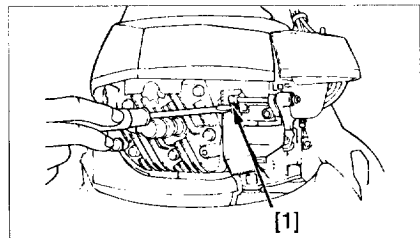
1. Start the engine in the open air and allow it to reach its normal operating temperature.
2. Place the throttle lever in "SLOW" position .
3. Screw the pilot screw (1) in or out until you reach the highest idle speed. Generally, the correct setting is found 2 3/4 turns out from the fully in position.



SAFETY

C1

C12



# MAINTENANCE

- When the pilot screw is correctly adjusted, turn the throttle stop screw (2) to obtain the specified idle speed.

**Specified idle speed:**  
**2000 ± 150 rpm**

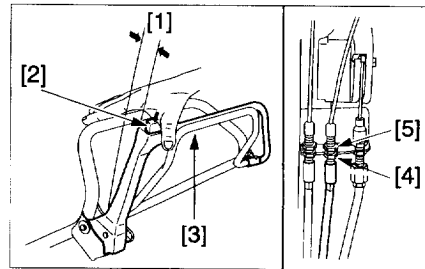
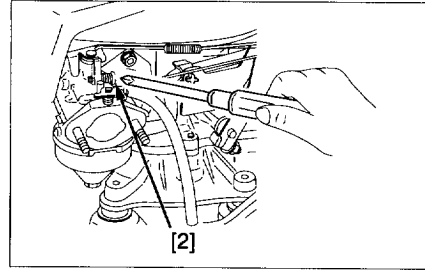


## ROTOSTOP LEVER FREE PLAY

Measure the clearance (1) at the top of the lever (3) by holding the yellow button (2) pressed in. It must be between 0.8 and 1 in. (20 and 25 mm).

If necessary:

- Undo the lock nuts (5) with a 10 mm spanner.
- Move the nuts (4) up or down as necessary.
- Retighten the locknuts and recheck the clearance.
- Start the engine outdoors and engage the blade clutch lever. Check that the blade starts to rotate when you pull the lever to the rear, and that it stops rapidly when the lever is released. If the blade does not start to rotate or stop as it should, even when the cable is correctly adjusted, the system may need to be repaired. Take the mower to an approved HONDA dealer.



## BLADE BRAKE LEVER FREE PLAY

Measure the free play (1) at the top of the lever (2). Free play must be between 0 and 0.2 in. (0 and 5 mm).

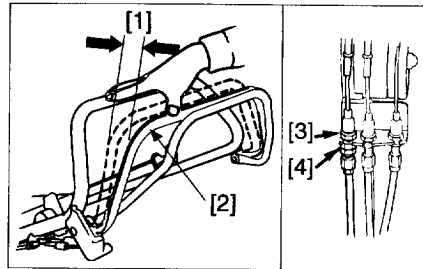
If necessary:

- Loosen locknuts (3) using a 10 mm spanner and move the adjuster (4) up or down as required.
- Retighten the locknuts and recheck the free play.
- Start the engine and release the blade brake lever. Check that the blade and the engine stop when the lever is released. If not, take the mower to an approved HONDA dealer.



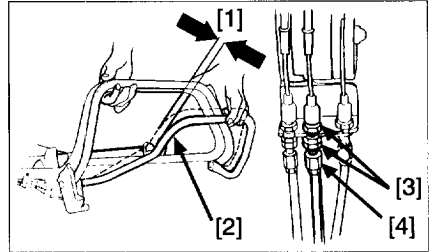
SAFETY

C16

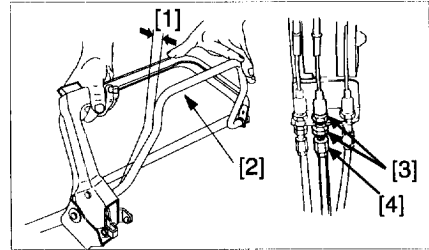


## CLUTCH CABLE ADJUSTMENT (Self-propelled models only)

1. Measure the free play (1) on the end of the lever (2) as shown ; the free play must be between 0.2 and 0.4 in. (5 and 10 mm for SD, SQ, QD, SX).
2. If adjustment is necessary, slacken the locknuts (3) and move the adjuster (4) up or down as required. Retighten the locknuts and recheck the free play.
3. Start the engine and recheck that the clutch engages and disengages correctly.



SD, SQ types



SX type

## BLADE FITTING AND REMOVAL

### BLADE REMOVAL

1. Place the throttle lever in "STOP" position.
2. Tilt the mower so that the carburetor faces upwards.

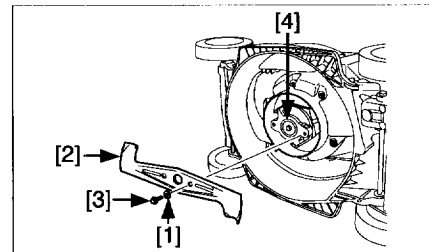
**NOTE:** Never tilt the mower so that the carburetor faces downwards; this will make starting difficult.

3. Remove the bolt (3) from the blade (2) using a 12 mm socket wrench. Use a wood block to stop the blade rotating when slackening the bolts.
4. Remove the blade (2) from the blade holder (4).

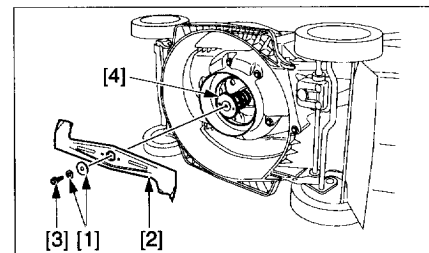


SAFETY

C18 D7 D8



SX type



PD, QD, SD, SQ types

### **⚠ WARNING :**

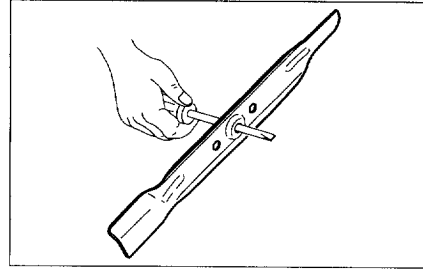
To avoid all risks of serious injury, pull off the spark plug cap to prevent the engine starting accidentally, and wear thick gloves to protect your hands from the blade.



# MAINTENANCE

## BLADE SHARPENING

1. Sharpen the blade cutting edges with a file. File the top side only. Maintain the original bevel for a fine cutting edge. File both ends evenly to maintain blade balance.
2. After sharpening, test the blade's balance using a screwdriver as shown. If either side dips slightly below the horizontal, file that side. Replace the blade if it dips excessively.



### CAUTION:

- To avoid weakening the blade, causing it to become unbalanced or getting a bad quality of cut, the blade should be sharpened by competent personnel at your HONDA dealer's.



SAFETY

D9

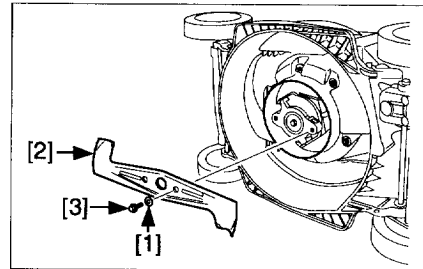
## BLADE REPLACEMENT

### CAUTION:

- Blade balance is critical to proper mower performance. Replace any blade that is damaged or out of balance.
- Use only genuine HONDA replacement blades.

## BLADE FITTING

1. Clean the dirt and grass from around the blade assembly area.
2. Fit blade (2) using bolt (3) and special washers (1) as shown. Blade bolts are specially designed for this purpose. Never use other bolts.
3. Retighten the blade bolts using a torque wrench. Use a wood block to stop the blade rotating when tightening the bolts.

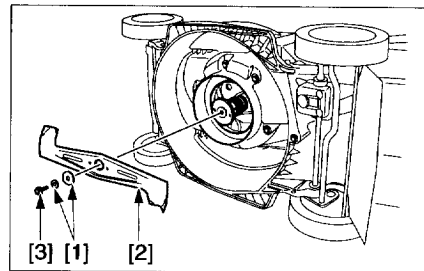


SX type

### Blade bolt tightening torque: 33 N.m

### CAUTION:

- If you do not have a torque wrench, ask your approved HONDA dealer to tighten the blade bolts for you before you use the mower.
- If the blade bolts are too tight or too slack, they may break or unscrew.



PD, QD, SD, SQ types

## GRASS BAG CLEANING AND REPLACEMENT

### BAG CLEANING

#### CAUTION:

- Washing with a high pressure water or steam jet will damage the bag.

Blocked mesh will prevent the grass from entering the bag.

To clean the bag, we recommend washing it using a water jet directed from the outside to the inside of the bag. The bag must be completely dry before being used again. If the bag is damp, it will become clogged very quickly.

#### **⚠ WARNING :**

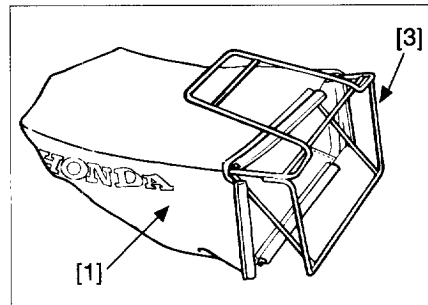
**Objects struck by the blade may be thrown through a torn or damaged grass bag. Objects thrown out by the blade can cause serious injuries. Always replace a torn or damaged grass bag.**

### BAG REPLACEMENT

The grass bag tends to wear even in normal conditions of use. Regularly check that it is not frayed or torn. Replace a damaged bag only by a genuine Honda replacement bag.

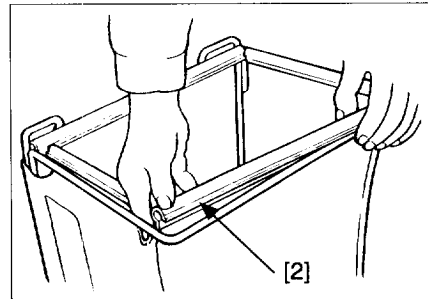


1. Detach the plastic edges (2) of the worn bag (1) and remove the bag's frame (3).
2. Insert the frame into the new bag and fit the plastic edges (3) to the frame.



#### **⚠ WARNING :**

**Before use, check that the bag closing device is correctly locked (discharge guard).**



# MAINTENANCE

## FORWARD DRIVE BELT CHECK

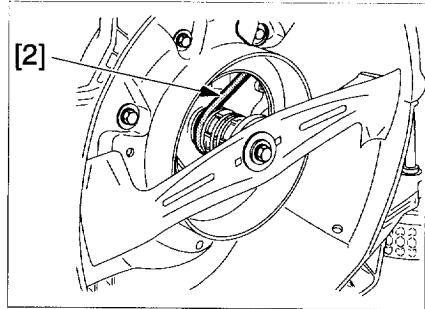
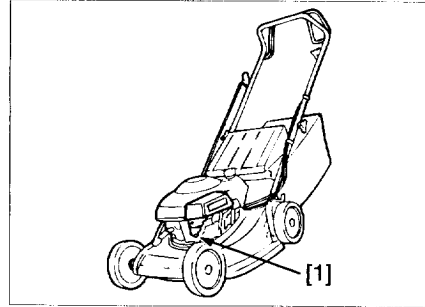
### **⚠ WARNING :**

To avoid all risks of serious injury, pull off the spark plug cap to prevent the engine starting accidentally, and wear thick gloves to protect your hands from the blade.

1. Stop the engine and place the fuel shut-off valve in "OFF" position (shut).
2. Pull off the spark plug cap.
3. Tilt the mower so that the carburetor (1) (left side of mower) is facing upwards.

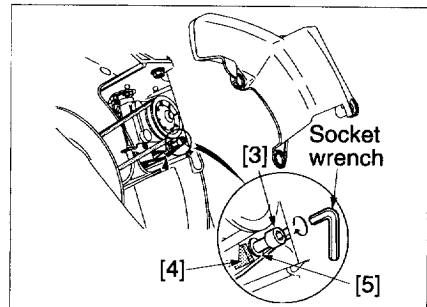
### **CAUTION:**

- Never tilt the mower so that the carburetor side is facing downwards. Fuel will spill out and the mower will be difficult to start.
4. Check that the belt (2) is not torn, cracked or showing early signs of breaking. If a replacement is necessary, take the mower to an approved HONDA dealer.



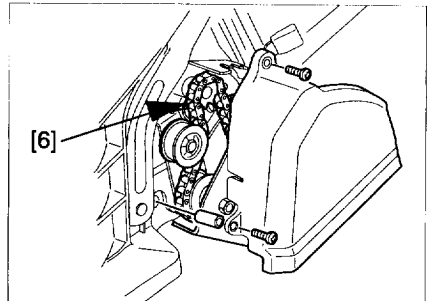
## BELT TENSION ADJUSTMENT

Move the spring by turning the socket bolt (3) until the end of spring holder (4) is on the same plane as the transmission guide boss (5).



## FINAL TRANSMISSION CHAIN

1. Clean with a brush.
2. Oil the chain (6).



SQ type

# TROUBLESHOOTING

<b>Problem</b>	<b>Probable cause</b>	<b>Page</b>
Engine does not start	1. No gas or the fuel shut-off valve is closed.	8
	2. Throttle lever is in "STOP" position.	13
	3. Spark plug cord incorrectly attached or disconnected.	22
	4. Spark plug defective or incorrect electrode gap.	22
	5. Engine flooded.	14
	6. The blade brake lever is not firmly held against the handle.	13
Starting difficult or loss of power	1. Impurities in gas tank.	-
	2. Air cleaner dirty.	21
	3. Water in gas tank and in carburetor.	-
	4. Gas tank filler cap vent and/or carburetor obstructed.	-
Uneven running	1. Spark plug defective or incorrect electrode gap.	22
	2. Air cleaner is dirty.	21
Engine overheats	1. Spark plug electrode gap incorrect.	22
	2. Air cleaner dirty.	21
	3. Engine cooling fins clogged.	-
	4. Oil level too low.	11
	5. Starter pulley clogged by grass cuttings, etc.	-
Mower vibrates excessively	1. Blade or engine bolts slack.	25
	2. Blade unbalanced.	25

# TRANSPORT

## TRANSPORTING THE MOWER

### **⚠ WARNING :**

Do not tilt the mower since this may cause fuel or oil spillage ; spilled fuel or even fuel vapours are a fire hazard.



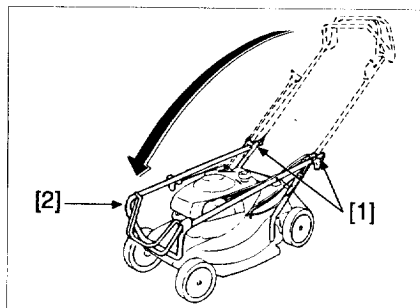
C10

To transport the mower:

1. Stop the engine.
2. Close the fuel shut-off valve.
3. Pull off the spark plug cap.

To facilitate the operation:

1. Remove the grass bag (see p. 12 and 27).
2. Loosen the handle attachment knobs (1), uncouple and fold the handle (2).

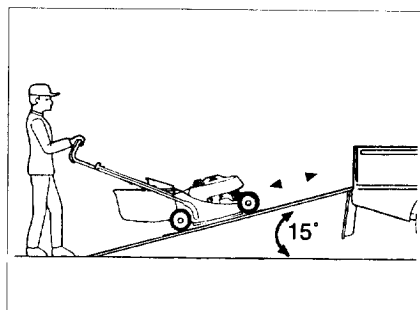


**NOTE:** After folding the handle, check that the cables are not kinked, twisted or stretched.

## LOADING THE MOWER

### **CAUTION:**

- To prevent losing control of or damaging the mower, do not use the drive system when going up or down a loading ramp.
- To prevent damaging the drive system, do not engage the clutch when the mower is rolling backwards.
- Transport the mower in normal horizontal position with its four wheels flat on the vehicle platform.
- We recommend that you use a loading ramp or that you get someone to help you load and unload the mower.
- Adjust the loading ramp so that it is inclined at an angle of less than 15°.
- When transporting the mower, immobilise it using straps and place chocks under the wheels.
- The straps must not touch the following parts of the mower : throttle lever, blade brake lever, cutting height adjustment levers, gas tank, and all the control cables.



## PREPARATIONS FOR STORING THE MOWER

Carry out the following operations to protect the mower each time it is to be stored for a period of more than 30 days.

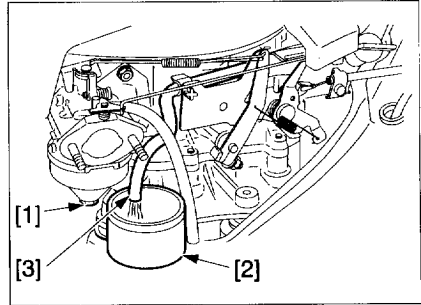


D2 D3 D4

### **⚠ WARNING :**

**Do not drain the fuel tank while the muffler is hot.**

1. Drain the fuel tank and the carburetor into a suitable receptacle (2).
  - a. Remove the fuel pipe (3) at the carburetor to drain the tank.
  - b. Remove drain plug (1) to drain carburetor and fuel tank.
  - c. Then refit the drain screw and close the fuel shut-off valve.
2. Change the engine oil (see pages 11 and 20).
3. Pull the starter slowly until a resistance is felt. This closes the valves and protects them from dust and corrosion.
4. Coat all surfaces liable to rust with a thin film of oil. Cover the mower and store it on a flat surface in a dry, dust-free place. Do not use a plastic cover since this retains dampness.



**NOTE:** if the mower is to be stored for a period of more than 3 months, remove the spark plug and pour 5 to 10 cc of clean engine oil into the cylinder (3) ; then pull the starter slowly two or three times to spread the oil.

Do not leave the mower lying on its side over long periods. This may cause difficult starting and gear oil leaks.

## USING THE MOWER AFTER A STORAGE PERIOD

1. Remove the spark plug, check that it is clean and that the electrode gap is correct. Pull the starter several times.
2. We recommend that the spark plug be screwed down as far as possible by hand until finger tight ; then use a plug spanner to tighten it by an extra 1/8 or 1/4 turn.
3. Check the level and condition of the engine oil.
4. Fill the fuel tank and start the engine.

**NOTE:** if the cylinder has been coated with oil, the engine will smoke on start-up. This is normal.

# TECHNICAL SPECIFICATIONS

MODEL		HRB423K1				
GENERAL CHARACTERISTICS		QDE	PDE	SDE	SQE	SXE
DESCRIPTION CODE		MZBC				
DIMENSIONS L x W x H	(mm)	1400 x 470 x 1000	1380 x 470 x 1000	1400 x 470 x 1000	1420 x 470 x 1000	1420 x 470 x 1030
DRY WEIGHT	(kg)	23.5		26	28	30
TREAD FRONT/REAR	(mm)	370/345	370/410		370/345	370/410
CUTTING WIDTH	(mm)	420				
CUTTING HEIGHTS SETTINGS		6 positions (15 to 61 mm)	7 positions (21 to 79 mm)		6 positions (15 to 61 mm)	7 positions (21 to 79 mm)
WHEEL DIAMETER FRONT/REAR	(mm)	180/90	180/200		180/90	180/200
GRASS BAG CAPACITY	( $\checkmark$ )	43				
SOUND PRESSURE LEVEL AT OPERATOR'S EARS (According to EEC/81/1051 Directive)		82 dB(A)				
SOUND POWER LEVEL (According to EEC/84/538 & EEC/87/252 Directives)		96 dB(A)				
VIBRATIONS TEST (According to EN1033 ENV25349/1993, ENV28041/1993, ISO5347/1987 et ISO5348/1987)		5,1 m/s <sup>2</sup>	3 m/s <sup>2</sup>		5,1 m/s <sup>2</sup>	3 m/s <sup>2</sup>
<b>ENGINE</b>						
MODEL		GV 100K2				
TYPE		4-stroke, side valve, 1 cylinder, vertical shaft				
DISPLACEMENT	(cc)	97				
BORE x STROKE	(mm)	52 x 46				
COOLING		By forced air				
LUBRICATION		By splash and spray				
COMPRESSION RATIO		5,6 : 1				
MAXIMUM POWER	(rpm)	1,9 kW at 4200				
MAXIMUM TORQUE	(rpm)	4,3 N.m at 3000				
OPERATING SPEED SETTING	(rpm)	3300 $\begin{matrix} 0 \\ -100 \end{matrix}$				
IDLE SPEED	(rpm)	2000 $\pm$ 150				
IGNITION		Transistorised magneto, 20° BTDC				
SPARK PLUG		NGK : BPMR-4A - NIPPONDENSO Co., Ltd. : W14MR-U				
ELECTRODE GAP		0,008 to 0,02 in. (0,2 to 0,5 mm)				
AIR CLEANER		Semi-dry, foam element				
RECOMMENDED FUEL		Regular or Premium gasoline, preferably unleaded				
FUEL TANK CAPACITY	( $\checkmark$ )	0,9				
FUEL CONSUMPTION	( $\checkmark$ /h)	0,35				
RUNNING TIME ON TANK OF FUEL	(h)	2,5				
RECOMMENDED OIL		SAE 10W/30 is recommended for general use at all temperatures				
ENGINE OIL CAPACITY	( $\checkmark$ )	0,4				
<b>DRIVE (where fitted)</b>						
TYPE		-	Single gear, worm and pinion			
ENGINE TO DRIVE		-	V-belt drive			
FINAL TRANSMISSION		-	Gear			
MAIN CLUTCH		-	Dual cone clutch			
NUMBER OF SPEEDS		-	1			
FORWARD SPEED		-	0,85 m/s (3 km/h)	1,0 m/s (3,6 km/h)	0,85 m/s (3 km/h)	
LUBRICATION		-	Oil			
RECOMMENDED OIL		-	15 W 40			
OIL CAPACITY		-	45 cc			