Models sold in and used in California:
The removal or modification of evaporative emission-related parts on this OHRV is illegal. Violators may be subject to civil and/or criminal penalties as provided under California and federal law.

# OWNER'S MANUAL

## 2023 CRF110F

This manual should be considered a permanent part of the motorcycle and should remain with the motorcycle when it is resold.

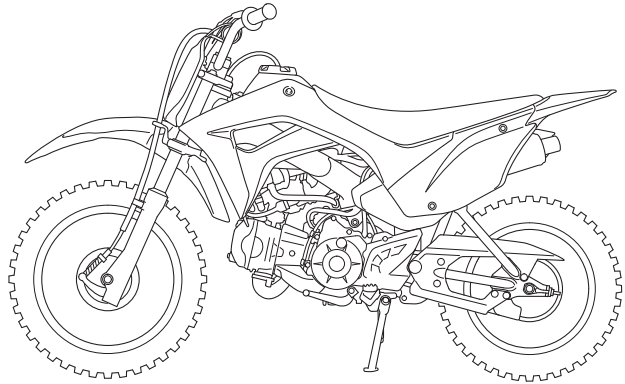
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This vehicle pictured in this owner's manual may not match your actual vehicle.

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# 2023
# Honda CRF110F
# OWNER'S MANUAL



**FOR OFF-ROAD USE ONLY**
This vehicle is designed and manufactured for off-road use only.

USA only:
It conforms to US EPA Noise Emission regulations, but does not conform to Federal Motor Vehicle Safety Standards or US EPA On Highway Exhaust Emission regulations, and operation on public streets, roads, or highways is illegal. The vehicle is equipped with a USDA qualified spark arrester. Obey local laws and regulations.

It conforms to US EPA, California, and Environment and Climate Change Canada (ECCC) emission regulations for off-road motorcycles.

# A Few Words About Safety

Your safety, and the safety of others, is very important. And operating this motorcycle safely is an important responsibility.

To help you make informed decisions about safety, we have provided operating procedures and other information on labels and in this manual. This information alerts you to potential hazards that could hurt you or others.

Of course, it is not practical or possible to warn you about all hazards associated with operating or maintaining a motorcycle. You must use your own good judgment.

You will find important safety information in a variety of forms, including:

- **Safety Labels** – on the motorcycle.
- **Safety Messages** – preceded by a safety alert symbol ⚠ and one of three signal words: **DANGER, WARNING, or CAUTION.**

These signal words mean:

**⚠ DANGER** **You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.**

**⚠ WARNING** **You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.**

**⚠ CAUTION** **You CAN be HURT if you don't follow instructions.**

- **Safety Headings** – such as Important Safety Reminders or Important Safety Precautions.
- **Safety Section** – such as Motorcycle Safety.
- **Instructions** – how to use this motorcycle correctly and safely.

This entire book is filled with important safety information – please read it carefully.

# Contents

These pages give an overview of the contents of your owner's manual. The first page of each section lists the topics covered in that section.

**Introduction**

**Motorcycle Safety ..... 1**
Important safety information, a special message for parents, precautions about loading, accessories, and modifications, and the location of safety labels.

**Operating Controls..... 13**
The location, function, and operation of the throttle, brakes, and other basic controls.

**Before Riding ..... 21**
The importance of wearing a helmet and other protective gear, plus how to make sure you and your motorcycle are ready to ride.

**Basic Operation & Riding .....27**
How to start and stop the engine, shift gears, and brake. Also, riding precautions.

**Servicing Your Honda.....39**
Why your motorcycle needs regular maintenance, what you need to know before servicing your Honda, a maintenance schedule, and instructions for specific maintenance items.

# Contents

**Tips..... 118**
How to transport and store your motorcycle, and how to be an environmentally responsible rider.

**Taking Care of the Unexpected ..... 127**
What to do if you have a flat tire, your engine won't start, etc.

**Technical Information..... 141**
ID numbers, technical specifications, and other technical facts.

**Consumer Information ..... 156**
Information on warranties and how to get Honda service manuals.

**Index..... 164**

**Quick Reference**
Handy facts about fuel, engine oil, tire sizes, and air pressures.

# Introduction

Congratulations on choosing your Honda off-road motorcycle.

When you own a Honda, you're part of a worldwide family of satisfied customers – people who appreciate Honda's reputation for building quality into every product.

Your Honda was designed as a recreational motorcycle for off-road use by one rider only. It's an ideal bike for younger, beginning riders.

Before riding, take time to get acquainted with your motorcycle and how it works. To protect your investment, we urge you to take responsibility for keeping your motorcycle well-maintained. Scheduled service is a must, of course. But it's just as important to observe the break-in guidelines and perform all the pre-ride and other periodic checks detailed in this manual.

We also recommend that you read the owner's manual before you ride. It's full of facts, instructions, safety information, and helpful tips. To make it easy to use, the manual contains a detailed list of topics at the beginning of each section and an index at the back of the book.

As you read this manual, you will find information that is preceded by a NOTICE symbol. This information is intended to help you avoid damage to your Honda, other property, or the environment.

Read the Warranties Booklet (page 159) thoroughly so you understand the coverages that protect your new Honda and are aware of your rights and responsibilities.

Whenever you ride, tread lightly. By staying on established trails and riding only in approved areas, you help protect the environment and keep off-road riding areas open for the future.

If you have any questions, or if you ever need a special service or repairs, remember that your Honda dealer knows your motorcycle best and is dedicated to your complete satisfaction.

Please report any change of address or ownership to your dealer so we will be able to contact you concerning important product information.

You may also want to visit our website at
USA: www.powersports.honda.com.
Canada: www.honda.ca.

Happy riding!

# Motorcycle Safety

This section presents some of the most important information and recommendations to help you ride your motorcycle safely. Please take a few moments to read these pages. This section also includes a special message for parents and location information for the safety labels on your motorcycle.


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Important Message to Parents .....5
Loading, Accessories & Modifications.....8
  Loading .....8
  Accessories & Modifications .....10
Safety Labels.....12

# Important Safety Information

Your motorcycle can provide many years of service and pleasure–if you take responsibility for your own safety and understand the challenges you can meet while riding.

This motorcycle has been designed for younger riders. However, not all youngsters are physically or emotionally ready to ride. Therefore, before parents allow any youngster to ride this motorcycle, we urge them to carefully read the *Important Message to Parents* beginning on page 5 and the *Parents, Youngsters and Off -Highway Motorcycles* booklet that came with the motorcycle (USA only).

There is much that you can do to protect yourself when you ride. You'll find many helpful recommendations throughout this manual. The following are a few that we consider to be most important.

**Always Wear a Helmet**
It's a proven fact: helmets significantly reduce the number and severity of head injuries. So always wear an approved motorcycle helmet. We also recommend that you wear eye protection, sturdy boots, gloves, and other protective gear (page 22).

**Never Carry a Passenger**
Your motorcycle is designed for one person only. There are no handholds, footrests, or seat for a second person–so never carry a passenger. A passenger could interfere with your ability to move around to maintain your balance and control of the motorcycle.

**Ride Off-road Only**
Your motorcycle is designed and manufactured for off-road use only. The tires are not made for pavement, and the motorcycle does not have turn signals and other features required for use on public roads. If you need to cross a paved or public road, get off and walk your motorcycle across.

**Take Time to Learn and Practice**
Developing off-road riding skills is a gradual, step-by-step process. Start by practicing at low speeds in a safe area and slowly build your skills. Personal instruction from an experienced rider can also be valuable.

If you need assistance, ask your dealer about riding groups in your area.

Also be sure to read the *Tips & Practice Guide for the Off -Highway Motorcyclist* booklet that came with your motorcycle (USA only).

**Be Alert for Off-road Hazards**
The terrain can present a variety of challenges when you ride off-road. Continually "read" the terrain for unexpected turns, drop-offs, rocks, ruts, and other hazards. Always keep your speed low enough to allow time to see and react to hazards.

**Ride within Your Limits**
Pushing limits is another major cause of motorcycle crashes. Never ride beyond your personal abilities or faster than conditions warrant. Remember that alcohol, drugs, fatigue, and inattention can significantly reduce your ability to make good judgments and ride safely.

# Important Safety Information

**Don’t Drink or Use Drugs and Ride**
Alcohol or drugs and riding don’t mix. Even one alcoholic drink can reduce your ability to respond to changing conditions, and your reaction time gets worse with every additional drink. The same is true for drug use. Don’t drink or use and ride, and don’t let your friends do it either.

**Keep Your Honda in Safe Condition**
It’s important to keep your motorcycle properly maintained and in safe riding condition. Having a breakdown can be difficult, especially if you are stranded off-road far from your base. To help avoid problems, inspect your motorcycle before every ride and perform all recommended maintenance.

# Important Message to Parents

Your child's safety is very important to Honda. That's why we urge you to read this message before you let any young person ride this motorcycle. Off-road riding can be fun. But, as with riding a bicycle, bad judgment can result in injury, and we don't want that to happen! As a parent, you can help prevent accidents by making good decisions about if, when, and how your youngster rides this motorcycle.

## Riding Readiness

The first decision you'll need to make is whether your youngster is ready to ride. Riding readiness varies widely from one person to another, and age and size are not the only factors.

PHYSICAL ABILITY is an important consideration. For example, riders must be big enough to hold the motorcycle up, get on, and comfortably sit on the seat with both feet touching the ground. They should also be able to easily reach and work the brakes, throttle, and all other controls.

ATHLETIC ABILITY is necessary for riding a motorcycle. Generally speaking, your youngster should be good at riding a bicycle before getting on a motorcycle. Can your youngster judge speeds and distances while riding a bicycle and react with proper hand and foot actions? Anyone who does not have good coordination, balance, and agility is not ready to ride this motorcycle.

(cont'd)

# Important Message to Parents

MENTAL AND EMOTIONAL MATURITY are requirements for safe riding. Does your youngster think through problems and come to logical solutions? On a bicycle, does your youngster obey safe riding rules? Be honest! Young people who take unnecessary risks, make bad judgments, and don't obey rules are not ready to ride this motorcycle.

## Instruction and Supervision

If you decide that your youngster is ready to safely operate this motorcycle, make sure both of you carefully read and understand the owner's manual before riding. Also be sure that your youngster has a helmet and other appropriate riding equipment, and always wears it when operating the vehicle or sitting on it.

GOOD INSTRUCTION is an important part of hands-on training. The teacher can either be you or another responsible adult who has experience with off-road motorcycle riding. (For help in finding a qualified instructor, talk with your dealer.) Even if you're not the main teacher, it's up to you to ensure your youngster's safety. Remember, learning to ride a motorcycle is a gradual, step-by-step process. It takes time, patience, and practice–many hours over a period of weeks or months.

To help your youngster build confidence as they're learning to ride, this Honda was delivered with a throttle limiter that limits maximum engine speed. We recommend that all beginning riders start off with the throttle limiter activated. For activation and deactivation instructions, see page 73.

# Important Message to Parents

SUPERVISION is another important obligation of parents. Even after youngsters have become skilled off-road riders, they should always ride with adult supervision. It helps to regularly remind young riders of basic safety rules and precautions. And remember, it's your responsibility to see that the motorcycle is properly maintained and kept in safe operating condition.

SAFE AND RESPONSIBLE RIDING must be an ongoing commitment – by you and your youngster. When you both put safety first, you can enjoy more peace of mind, and your youngster can enjoy more hours of safe off-road riding.

For your convenience, this CRF110F comes with an ignition switch and key. Remove the key when the motorcycle is parked to help prevent unauthorized use.

# Loading, Accessories & Modifications

Your Honda was designed as a rider-only motorcycle. It was not designed to carry a passenger or cargo. A passenger or cargo could interfere with your ability to move around to maintain your balance and control of the motorcycle.

In addition, exceeding the weight limits or carrying an unbalanced load can seriously affect your motorcycle's handling, braking, and stability. Adding accessories or making modifications that change this motorcycle's design and performance can also make it unsafe. Also, the weight of any accessories will reduce the maximum load the motorcycle can carry.

More specific information on load limits, accessories, and modifications follows.

## Loading

How much weight you put on your motorcycle, and how you load it, are important to your safety. If you decide to carry cargo, you should be aware of the following information.

**⚠ WARNING**

Overloading or carrying a passenger can cause a crash and you can be seriously hurt or killed.

Follow all load limits and other loading guidelines in this manual.

**Load Limits**
Following are the load limits for your motorcycle:

**Maximum weight capacity**
= 132 lb (60 kg)
Includes the weight of the rider and any accessories.

**Loading Guidelines**
As discussed on page 8, we recommend that you do not carry any cargo on this motorcycle. However, if you decide to carry cargo, ride at reduced speeds and follow these common-sense guidelines:

- Keep cargo small and light. Make sure it cannot easily be caught on brush or other objects, and that it does not interfere with your ability to shift position to maintain balance and stability.
- Place weight as close to the center of the motorcycle as possible.
- Do not attach large or heavy items (such as a sleeping bag or tent) to the handlebar, fork, or front fender.
- Make sure that all cargo is tied down securely.
- Never exceed the maximum weight limit.
- Check that both tires are inflated properly (page 98).

## Accessories & Modifications

Modifying your motorcycle or using non-Honda accessories can make your motorcycle unsafe.

Before you consider making any modifications or adding an accessory, be sure to read the following information.

**⚠ WARNING**

Improper accessories or modifications can cause a crash in which you can be seriously hurt or killed.

Follow all instructions in this owner's manual regarding modifications and accessories.

**Accessories**

We strongly recommend that you use only Honda Accessories that have been specifically designed or approved and tested for your motorcycle. Because Honda cannot test all other accessories, you must be personally responsible for proper selection, installation, and use of non-Honda accessories. Check with your dealer for assistance and always follow this guideline:

- Make sure the accessory does not reduce ground clearance and lean angle, limit suspension travel or steering travel, alter your riding position, or interfere with operating any controls.

**Modifications**

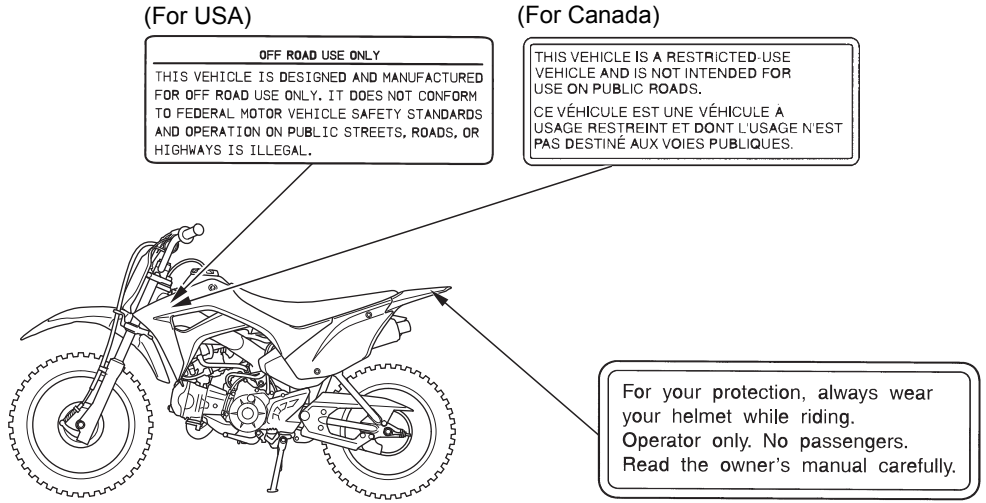
We strongly advise you not to remove any original equipment or modify your motorcycle in any way that would change its design or operation. Such changes could seriously impair your motorcycle's handling, stability, and braking, making it unsafe to ride.

We also advise you not to make any modifications or remove any equipment (such as the USDA qualified spark arrester or emission control system components) that would make the motorcycle illegal in your area.

# Safety Labels

This page shows the locations of safety labels on your motorcycle. Some labels warn you of potential hazards that could cause serious injury. Others provide important safety information. Read these labels carefully and don't remove them.

If a label comes off or becomes hard to read, contact your dealer for a replacement.

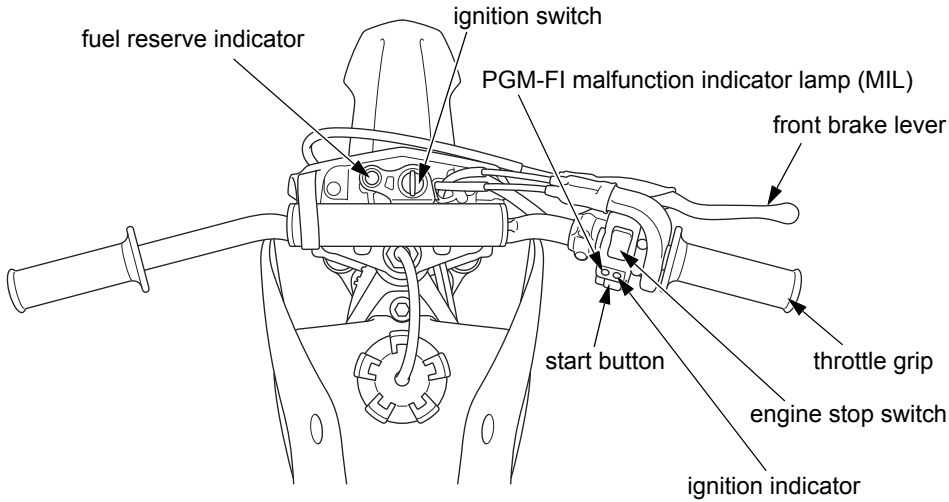


# Operating Controls

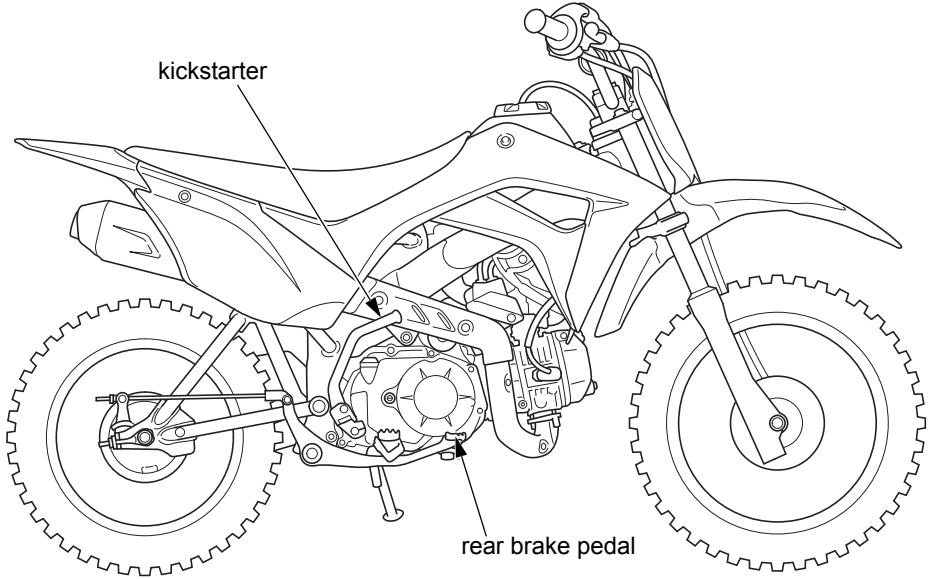
When you ride off-road, you need to operate the throttle, brakes, and other controls without stopping to look at them. Read this section carefully before you ride. It describes the location, function, and operation of all the basic controls on your motorcycle.


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Operating Controls .....17
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- Engine Stop Switch .....18
- Front Brake Lever .....18
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- Kickstarter .....19
- Side Stand .....19
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- Ignition Indicator .....20

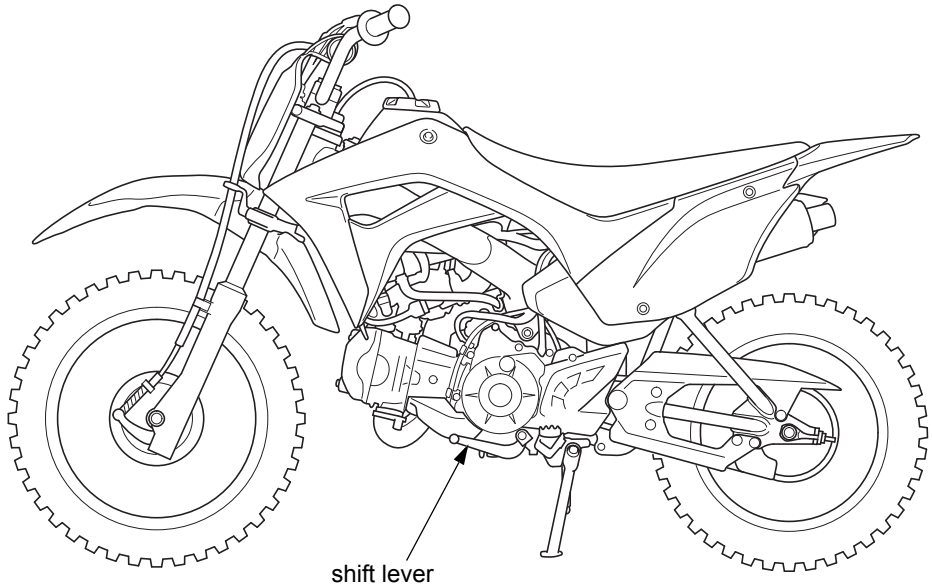
# Operation Component Locations



# Operation Component Locations



# Operation Component Locations



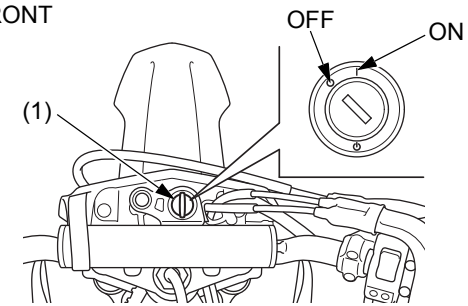
## Ignition Switch

The ignition switch (1) is used to prevent unauthorized use of the motorcycle.

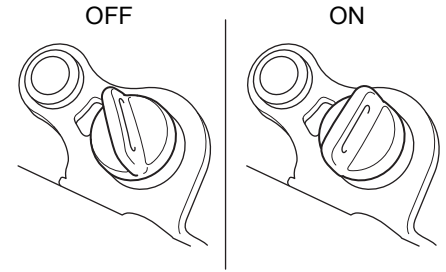
Before riding, insert the key and turn it to the right for the ❙ (ON) position.

| Key Position | Function | Key Removal |
|---|---|---|
| ○ (OFF) | The engine cannot be operated. | The key can be removed. |
| ❙ (ON) | With the engine stop switch at ○ (RUN) and the transmission in neutral, the engine can be started. | The key cannot be removed. |

After parking the motorcycle, remove the key.




(1) ignition switch



## Start Button

The start button is used for starting the engine. Pushing the button in starts the engine. See *Starting Procedure*, page 31.

When the start button is pushed, the starter motor will crank the engine.

## Engine Stop Switch

The engine stop switch can be used to turn the engine off in an emergency. To operate, turn the switch to the ⊠ (STOP) position. The switch must be in the ○ (RUN) position to start the engine.

## Front Brake Lever

The front brake lever is used to slow or stop your motorcycle. To operate, pull the lever. For information on braking techniques, see page 36.

## Throttle

The throttle controls engine rpm (speed). To increase engine rpm, rotate the grip toward you. To reduce engine rpm, rotate the grip away from you. The throttle will automatically return to the closed position (engine idle) when you remove your hand.

For throttle limiter activation and deactivation instructions, see page 73.

## Shift Lever

The shift lever is used to select the next higher or lower gear in the transmission. To operate, raise the shift lever (after closing the throttle) to engage the next higher gear or depress the shift lever to engage the next lower gear. See *Shifting Gears*, page 34.

## Rear Brake Pedal

The rear brake pedal is used to slow or stop your motorcycle. To operate, depress the pedal. For information on braking techniques, see page 36.

## Kickstarter

The kickstarter is used to start the engine. To operate, swing the kickstarter out from its stored position and depress it through its entire stroke. See *Starting Procedure*, page 31.

## Side Stand

The side stand is used to support your motorcycle while parked (page 37). To operate, use your foot to lower the stand. Before riding, raise the stand.

## PGM-FI Malfunction Indicator Lamp (MIL)

Lights when there is any abnormality in the PGM-FI (Programmed Fuel Injection) system. The indicator should also light for a few seconds and then go off when the ignition switch is turned on. If the indicator does not come on when it should, have your dealer check for problems.
If it comes on at any other time, reduce speed and take the motorcycle to your dealer as soon as possible.

## Fuel Reserve Indicator

When this indicator comes on while riding, fuel reserved in the tank is about: 0.2 US gal (0.7 ℓ) The indicator should also light for a few seconds and then go off when the ignition switch is turned on. If the indicator does not come on when it should, have your dealer check for problems.

## Ignition Indicator

When the ignition switch is turned on, the ignition indicator comes on.
If the indicator does not come on when it should, have your dealer check for problems.

# Before Riding

Before each ride, you need to make sure you and your Honda are both ready to ride. To help get you prepared, this section discusses how to evaluate your riding readiness, and how to perform the recommended pre-ride inspection of your Honda. If you're a parent, be sure you also read the *Important Message to Parents* on page 5.


Are You Ready to Ride? .....22
  Protective Apparel .....22
Is Your Motorcycle Ready to Ride? .....24
  Pre-ride Inspection .....25

# Are You Ready to Ride?

Before you ride your motorcycle for the first time, we strongly recommend that you:
- read this owner's manual
- make sure you understand all the safety messages
- know how to operate all the controls

Before each ride, we also suggest that you make sure you:
- are in good physical and mental condition
- are free of alcohol and drugs
- are wearing an approved motorcycle helmet (with chin strap tightened securely), eye protection, and other protective clothing

## Protective Apparel

For your safety, we strongly recommend that you always wear an approved motorcycle helmet, eye protection, boots, gloves, long pants, and a long-sleeved jersey, shirt, or jacket whenever you ride. Although complete protection is not possible, wearing the proper gear can reduce the chance of injury when you ride. Following are suggestions to help you choose the proper gear.

**⚠ WARNING**

Not wearing a helmet increases the chance of serious injury or death in a crash.

Be sure you always wear a helmet, eye protection and other protective apparel when you ride.

## Helmets and Eye Protection

Your helmet is your most important piece of riding gear because it offers the best protection against head injuries. A helmet should fit your head comfortably and have a chin strap that can be tightened securely.

An open-face helmet offers some protection, but a full-face helmet offers more. Regardless of the style, look for a DOT (Department of Transportation) sticker on any helmet you buy (USA only). Always wear a face shield or goggles to protect your eyes and help your vision.

## Additional Riding Gear

In addition to a helmet and eye protection, we also recommend:

- Sturdy off-road motorcycle boots to help protect your feet, ankles, and lower legs.
- Off-road motorcycle gloves to help protect your hands.
- Riding pants with knee and hip pads, a riding jersey with padded elbows, and a chest/shoulder protector.

# Is Your Motorcycle Ready to Ride?

Before each ride, it's important to inspect your motorcycle and make sure any problem you find is corrected. A pre-ride inspection is a must because off-road riding can be tough on a motorcycle and you don't want to have a breakdown far from help.

**⚠ WARNING**

Improperly maintaining this motorcycle or failing to correct a problem before riding can cause a crash in which you can be seriously hurt or killed.

Always perform a pre-ride inspection before every ride and correct any problems.

*Note to Parents:*
*If a youngster will be performing any of the following pre-ride inspection procedures, it's your responsibility to provide careful supervision and make sure they are performed safely.*

## Pre-ride Inspection

Check the following items before you get on the motorcycle:

| | |
|---|---|
| *Tires* | Use a gauge to check the air pressure. Adjust if needed. Also look for signs of damage or excessive wear (page 98). |
| *Spokes & Rims* | Make sure the spokes are tight. Also check the rims for damage (page 93). |
| *Leaks* | Look under the motorcycle for signs of leaking fluids (fuel, engine oil). |
| *Engine Oil* | Check the level and add oil if needed (page 64). |
| *Fuel* | Check the level and add fuel (page 59) if needed. Also make sure the fuel fill cap is securely fastened. |
| *Drive Chain* | Check the condition and slack. Adjust and lubricate if needed. Also check the chain slider for wear and replace if needed (page 103). |
| *Cables* | Check the cable housings for wear. Check the fittings for looseness. Replace or tighten as needed. |
| *Nuts & Bolts* | Use a wrench to make sure all accessible nuts, bolts, and fasteners are tight. |
| *Spark Plug & Cap* | Check for looseness (page 79). |

(cont'd)

# Is Your Motorcycle Ready to Ride?

Check these items after you get on the motorcycle:

*Throttle* Check the freeplay and adjust if needed. Rotate the throttle to make sure it moves smoothly without sticking, and snaps shut automatically when it is released, in all steering positions (page 72).

*Brakes* Squeeze the front brake lever and step on the rear brake pedal to check that the controls operate normally (pages 87, 89). Adjust freeplay, if necessary. (pages 87, 90).

*Indicators* Turn the ignition on and check for normal operation of the indicators (page 20).

Remember, be sure to take care of any problem you find or have your dealer correct it before you ride.

# Basic Operation & Riding

This section gives basic information on how to begin riding your motorcycle. It includes how to start and stop your engine, how to use the throttle and brakes, and what to do when you're through riding.

For more information on how to make turns, ride on hills, etc., see the *Tips & Practice Guide for the Off -Highway Motorcyclist* booklet that came with your Honda (USA only).

To protect your new engine and enjoy optimum performance and service life, refer to Break-in Guidelines (page 148).


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Flooded Engine .....32
Bank Angle Sensor Ignition Cut-off System...32
How to Stop the Engine .....33
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## Safe Riding Precautions

Before riding your motorcycle for the first time, please review the *Important Safety Information* beginning on page 2 and the previous section, titled *Before Riding*.

Even if you have ridden other motorcycles, take time to become familiar with how this motorcycle works and handles. Practice in a safe area until you build up your skills and get accustomed to your motorcycle's size and weight.

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

**⚠ WARNING**

Running the engine of your vehicle while in an enclosed or even partially enclosed area can cause a rapid buildup of toxic carbon monoxide gas.

Breathing this colorless, odorless gas can quickly cause unconsciousness and lead to death.

Only run your vehicle's engine when it is located in a well ventilated area outdoors.

Your motorcycle is not equipped with lights. Do not ride at night.

**Throttle Limiter for New Riders**

Your motorcycle came with an optional throttle stopper screw that can be installed to restrict the maximum engine speed for new riders. See page 73 for instructions on how to install this screw.

Until your youngster becomes familiar with operating the motorcycle, it is recommended to keep the transmission in first gear.

Check this screw regularly to ensure that it is properly tightened.

# Starting & Stopping the Engine

Always follow the proper starting procedure described below.

## Preparation

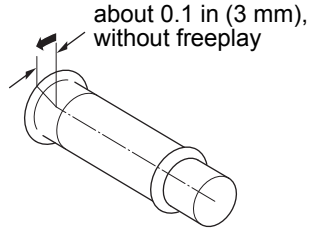
Before starting, insert the key and turn the ignition switch ❙ (ON).
Make sure that the transmission is in neutral, the engine stop switch is at ○ (RUN) and the PGM-FI malfunction indicator lamp (MIL) is off.

## Starting Procedure

This motorcycle has a fuel-injected engine. Follow the procedure indicated below.

Any Air Temperature

1. (Using the start button)
   With the throttle completely closed, press the start button.
   (Using the kickstarter)
   Lightly depress the kickstarter until resistance is felt. Then, let kickstarter return to the top of its stroke.
   With the throttle completely closed, operate the kickstarter starting from the top of the stroke, kick through to the bottom with a rapid, continuous motion.
2. If you cannot start the engine, open the throttle slightly (about 0.1 in (3 mm), without freeplay).




NOTICE

*Allowing the kickstarter to snap back freely against the pedal stop can damage the engine case.*

## Flooded Engine

If the engine fails to start after repeated attempts, it may be flooded with excess fuel. To clear a flooded engine:

Using The Start Button

1. Open the throttle fully.
2. Press the start button for 5 seconds.
3. Follow the normal engine starting procedure (page 31).

Using The Kickstarter

1. Turn the engine stop switch to ⊠ (STOP).
2. Open the throttle fully.
3. Crank the engine several times with the kickstarter.
4. Turn the engine stop switch to ○ (RUN).
5. Follow the normal engine starting procedure (page 31).

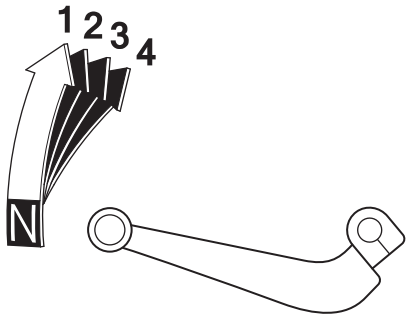
## Bank Angle Sensor Ignition Cut-off System

Your motorcycle's banking (lean angle) sensor system is designed to automatically stop the engine and fuel pump if the motorcycle is overturned.

## How to Stop the Engine

To stop the engine, shift into neutral, and turn the ignition switch to the ○ (OFF) position.

# Shifting Gears




Your motorcycle has four forward gears.

To start riding, after the engine has been warmed and the side stand raised:

1. Close the throttle and pull the front brake lever in.
2. Raise the shift lever from neutral up to first gear.
3. Release the front brake. Gradually open the throttle.
4. When you attain a moderate speed, close the throttle and raise the shift lever. After shifting, apply the throttle.
5. To continue shifting up to each higher gear, repeat step 4.
6. To shift down to a lower gear, close the throttle and depress the shift lever. After shifting, apply the throttle.

Remember to close the throttle before shifting.

NOTICE

*Improper shifting may damage the engine, transmission, and drive train.*

Learning when to shift gears comes with experience. Upshift to a higher gear or reduce throttle before engine rpm (speed) gets too high. Downshift to a lower gear before you feel the engine laboring (lugging) at low rpm.

NOTICE

*Downshifting can help slow your motorcycle, especially on downhills. However, downshifting when engine rpm is too high can cause engine damage.*

NOTICE

*To prevent transmission damage, do not coast or tow the motorcycle for long distances with the engine off.*

# Braking

To slow or stop, apply the front brake and rear brake pedal smoothly, while downshifting to match your speed. Gradually increase braking as you feel the brakes slowing your speed. For support, put your left foot down first, then your right foot when you have finished using the rear brake.

For maximum braking, close the throttle and firmly apply the brake lever and pedal controls.

Applying the brakes too hard may cause the wheels to lock and slide, reducing control of your motorcycle. If this happens, release the brake controls, steer straight ahead until you regain control, then reapply the brakes more gently.

Generally, reduce your speed or complete braking before beginning a turn. Avoid braking or closing the throttle quickly while turning. Either action may cause one or both wheels to slip. Any wheel slip will reduce your control of your motorcycle.

When riding in wet or rainy conditions, or on loose surfaces, the ability to maneuver and stop will be reduced. All of your actions should be smooth under these conditions. Rapid acceleration, braking or turning may cause loss of control. For your safety, exercise extreme caution when braking, accelerating, or turning.

When descending a long, steep grade, use engine compression braking by downshifting, with intermittent use of both brakes.

Lower the side stand to support your motorcycle. Turn the ignition switch ○ (OFF) and remove the key. Always choose a level place to park.

# Post-ride Inspection

When you return home after riding, thoroughly clean your motorcycle and remove any dirt, mud, brush, rocks or other objects you may have picked up along the way.

After cleaning, carefully inspect your motorcycle for leaks or damage.

Be sure to lubricate the drive chain (page 107) to prevent rusting.

# Servicing Your Honda

Keeping your motorcycle well maintained is absolutely essential to your safety. It's also a good way to protect your investment, get maximum performance, avoid breakdowns, and have more fun.

To help keep your motorcycle in good shape, this section includes a Maintenance Schedule for required servicing and step-by-step instructions for specific maintenance tasks. You'll also find important safety precautions, information on oils, and tips for keeping your Honda looking good.

For information about the exhaust emission and noise emission requirements of the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and Environment and Climate Change Canada (ECCC), see page 149.

For information about replacing fuses, see page 134.

An optional tool kit may be available. Check with your dealer's parts department.

USA only
**Maintenance, replacement or repair of the emission control devices and systems may be performed by any motorcycle repair establishment or individual using parts that are "certified" to EPA standards.**

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(cont'd)

# Servicing Your Honda

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# The Importance of Maintenance

A well-maintained motorcycle is essential for safe, economical, and trouble-free riding. It will also help reduce air pollution. Careful pre-ride inspections and good maintenance are especially important because your motorcycle is designed to be ridden over rough off-road terrain.

To help you properly care for your motorcycle, this section of the manual provides a Maintenance Schedule. The service intervals in this schedule are based on average riding conditions.

More frequent service is needed if you subject your motorcycle to severe use (such as competition) or ride in unusually wet or dusty areas.

Frequent servicing of the air cleaner is especially important to help you avoid a possible costly engine repair.

If your motorcycle overturns or is involved in a crash, be sure your dealer inspects all major parts, even if you are able to make some repairs.

**⚠ WARNING**

Improperly maintaining this motorcycle or failing to correct a problem before you ride can cause a crash in which you can be seriously hurt or killed.

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

(cont'd)

# The Importance of Maintenance

Remember, proper maintenance is the owner's responsibility. Be sure to inspect your motorcycle before each ride and follow the Maintenance Schedule in this section.

*Note to Parents:*
*As a parent, it's up to you to make sure that this motorcycle is properly maintained and kept in safe operating condition. For youngsters, learning how to take care of a motorcycle and perform basic maintenance can be an important part of their riding experience. However, if you allow a youngster to perform or assist in any maintenance task, such as filling the tank with gasoline, you should provide close supervision to make sure that it is performed safely.*

The maintenance section includes instructions on how to perform some important maintenance tasks. Some of the most important safety precautions follow. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

**⚠ WARNING**

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed.

Always follow the procedures and precautions in this owner's manual.

## Important Safety Precautions

- Make sure the engine is off before you begin any maintenance or repairs.
  This will help eliminate several potential hazards:

  **Carbon monoxide poisoning from engine exhaust.** Be sure there is adequate ventilation whenever you operate the engine.

  **Burns from hot motorcycle parts.** Let the engine and exhaust system cool before touching.

  **Injury from moving parts.** Do not run the engine unless instructed to do so.

(cont'd)

# Maintenance Safety

- Read the instructions before you begin, and make sure you have the tools and skills required.
- To help prevent the motorcycle from falling over, park it on a firm, level surface, using the side stand or a maintenance stand to provide support.
- To reduce the possibility of a fire or explosion, be careful when working around gasoline. Use only a non-flammable (high flash point) solvent such as kerosene–not gasoline–to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.
- Remember that your dealer knows your motorcycle best and is fully equipped to maintain and repair it. To ensure the best quality and reliability, use only new Honda Genuine Parts or their equivalents for repair and replacement. If you have the tools and skills required for additional maintenance jobs, you can purchase an official Honda Service Manual (page 157).

# Maintenance Schedule

To maintain the safety and reliability of your motorcycle, regular inspection and service is required as shown in the Maintenance Schedule that follows.

The Maintenance Schedule lists items that can be performed with basic mechanical skills and hand tools. Procedures for these items are provided in this manual.

The Maintenance Schedule also includes items that involve more extensive procedures and may require special training, tools, and equipment. Therefore, we recommend that you have your dealer perform these tasks unless you have advanced mechanical skills and the required tools. Procedures for items in this schedule are provided in a service manual available for purchase from your dealer (page 157).

Because your motorcycle does not have an odometer, service intervals in the maintenance schedules are expressed in terms of riding days as well as miles. To avoid overlooking required service, we urge you to develop a convenient way to record the number of days and/or miles you ride.

If you do not feel capable of performing a given task or need assistance, remember that your Honda dealer knows your motorcycle best and is fully equipped to maintain and repair it. If you decide to do your own maintenance, use only Honda Genuine Parts or their equivalents for repair or replacement to ensure the best quality and reliability.

(cont'd)

# Maintenance Schedule

Perform the pre-ride inspection (page 25) at each scheduled maintenance period.

Each item on the maintenance schedule requires some mechanical knowledge. Certain items (particularly those marked * and **) may require more technical information and tools. Consult your dealer.

* Should be serviced by your dealer, unless the owner has the proper tools and service data and is mechanically qualified. Refer to the official Honda Service Manual (page 157).

**In the interest of safety, we recommend these items be serviced only by your dealer.

*Summary of Maintenance Schedule Notes and Procedures:*

NOTE:

1. Service more frequently when ridden in wet or dusty conditions.

Maintenance Procedures:

I: inspect and clean, adjust, lubricate, or replace, if necessary
C: clean
A: adjust
L: lubricate
R: replace

| Items | Frequency | Whichever Comes First ⇨ | | Initial Maint. | Regular Maint. Interval | | | | Refer to page: |
|---|---|---|---|---|---|---|---|---|---|
| | | | mi | 100 | 600 | 1,200 | 1,800 | 2,400 | |
| | | | km | 150 | 1,000 | 2,000 | 3,000 | 4,000 | |
| | | Note | Month | 1 | 6 | 12 | 18 | 24 | |
| * | Fuel Line | | | | | I | | I | – |
| * * | Fuel Filter | | | | R:every 4,800 mi (8,000 km) | | | | – |
| * | Throttle Operation | | | | | I | | I | 71 |
| | Air Cleaner | Note 1 | | | C | C | C | C | 67 |
| | Crankcase Breather | | | | I | I | I | I | 70 |
| | Spark Plug | | | | I | I | I | I | 79 |
| * | Valve Clearance | | | I | I | I | I | I | 76 |
| | Engine Oil | | | R | R | R | R | R | 61 |
| * * | Engine Oil Strainer Screen | | | | | C | | C | – |
| * * | Engine Oil Centrifugal Filter | | | | | C | | C | – |
| * * | Engine Idle Speed | | | I | I | I | I | I | – |

* Should be serviced by your dealer, unless the owner has the proper tools and service data and is mechanically qualified. Refer to the official Honda Service Manual (page 157).

** In the interest of safety, we recommend these items be serviced only by your dealer.

(cont'd)

# Maintenance Schedule

| Items | Frequency | Whichever Comes First ⇨ | | Initial Maint. | Regular Maint. Interval | | | | Refer to page: |
|---|---|---|---|---|---|---|---|---|---|
| | | | mi | 100 | 600 | 1,200 | 1,800 | 2,400 | |
| | | | km | 150 | 1,000 | 2,000 | 3,000 | 4,000 | |
| | | Note | Month | 1 | 6 | 12 | 18 | 24 | |
| | Drive Chain | Note 1 | | I, L | I, L: every 300 mi (500 km) or 3 month | | | | 103 |
| | Drive Chain Slider | | | | I | I | I | I | 104 |
| | Brake Shoes Wear | | | | I | I | I | I | 91 |
| | Brake System | | | I | I | I | I | I | 87 |
| | Clutch System | | | I | I | I | I | I | 74 |
| | Side Stand | | | | | I | | I | 102 |
| * | Suspension | | | | | I | | I | 84 |
| * | Spark Arrester | | | | C: every 1,000 mi (1,600 km) or every 100 operating hours | | | | 81 |
| * | Nuts, Bolts, Fasteners | | | I | | I | | I | – |
| * * | Wheels/Tires | | | I | I | I | I | I | 93, 98 |
| * * | Steering Head Bearings | | | I | | I | | I | – |

* Should be serviced by your dealer, unless the owner has the proper tools and service data and is mechanically qualified. Refer to the official Honda Service Manual (page 157).

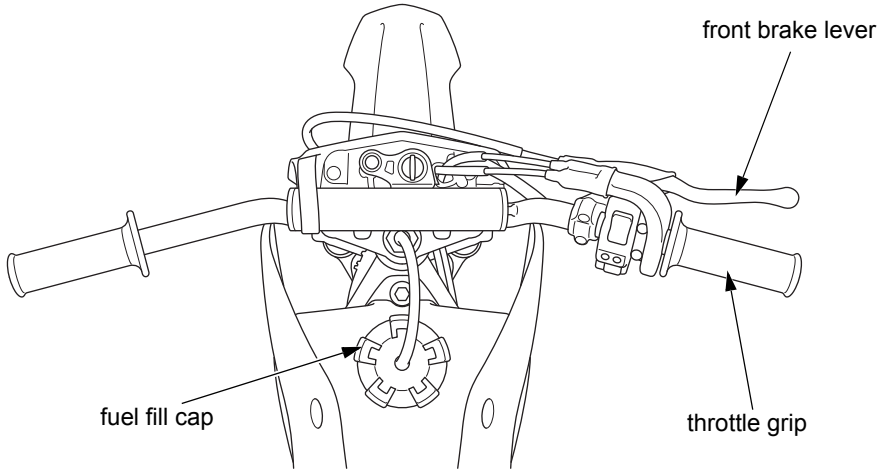
** In the interest of safety, we recommend these items be serviced only by your dealer.

# Maintenance Record

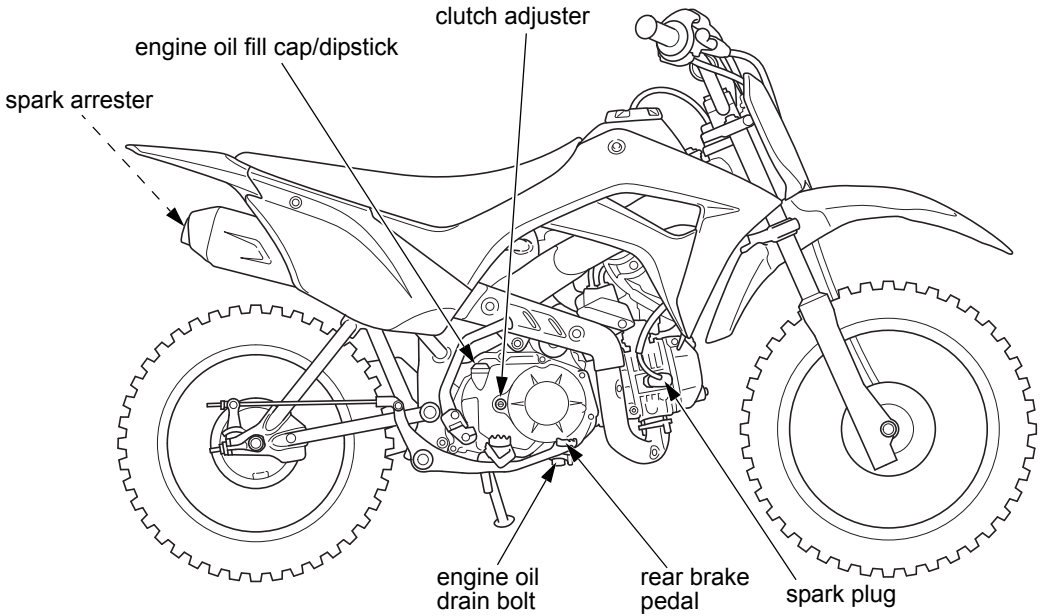
Keeping an accurate maintenance record will help ensure that your motorcycle is properly maintained. Use the space under Notes to record anything you want to remind yourself about or mention to your dealer. Of course, if you find any problem while servicing your motorcycle, be sure it is corrected as soon as possible.

| Miles (km) or Months | Date | Performed By: | Notes |
|---|---|---|---|
| 600 (1,000) or 6 | | | |
| 1,200 (2,000) or 12 | | | |
| 1,800 (3,000) or 18 | | | |
| 2,400 (4,000) or 24 | | | |
| 3,000 (5,000) or 30 | | | |
| 3,600 (6,000) or 36 | | | |
| 4,200 (7,000) or 42 | | | |
| 4,800 (8,000) or 48 | | | |
| 5,400 (9,000) or 54 | | | |

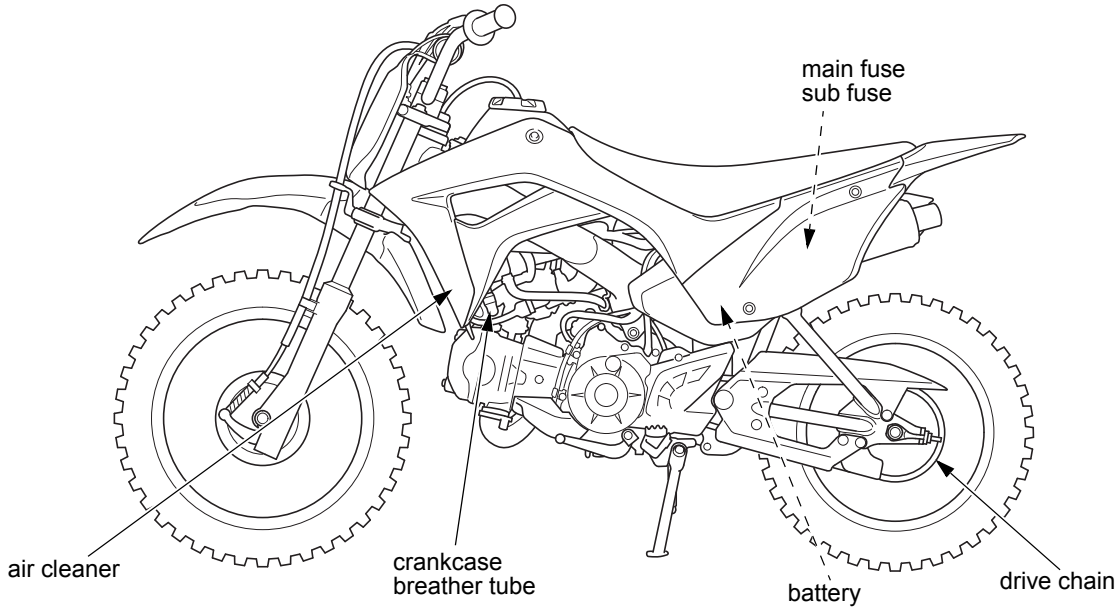
# Maintenance Component Locations



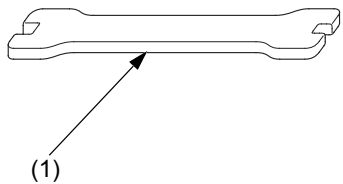
# Maintenance Component Locations



# Maintenance Component Locations



Refer to *Safety Precautions* on page 43.




(1) spoke wrench

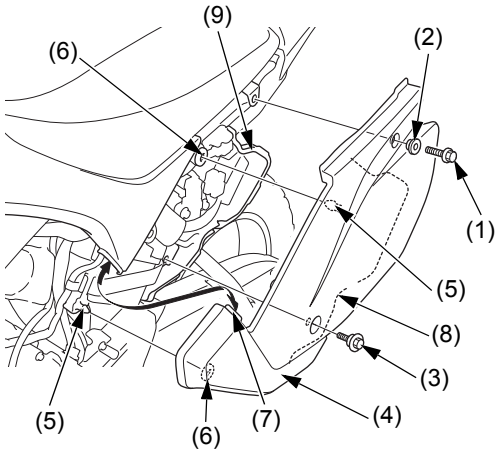
A spoke wrench is provided with your motorcycle (USA only).

You will need to provide your own tools to perform any owner maintenance other than tightening or loosening the spokes.

# Left Side Cover Removal

Refer to *Safety Precautions* on page 43.

LEFT SIDE




(1) bolt A
(2) collar
(3) bolt B
(4) side cover
(5) prongs
(6) grommets
(7) tab
(8) rid
(9) groove

Removal

1. Remove the bolt A (1), collar (2) and bolt B (3) securing side cover (4).
2. Pull the prongs (5) out of the rubber grommets (6).

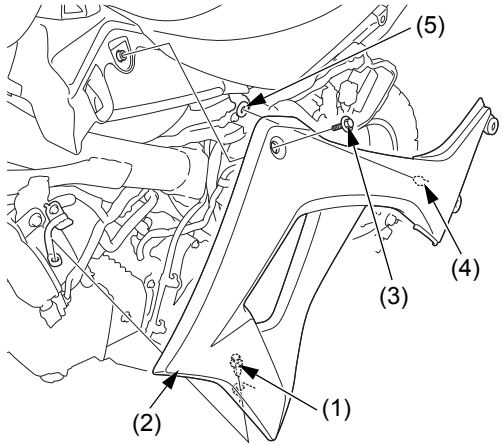
Installation

1. Attach the prongs (5) to the rubber grommets (6), aligning its tab (7) with rear lower edge of the left fuel tank shroud.
2. Align the rib (8) of the side cover with the groove (9) of the battery compartment. Press the side cover into position.
3. Install the bolt A, bolt B and collar, and tighten them.

# Left Fuel Tank Shroud Removal

Refer to *Safety Precautions* on page 43.

LEFT SIDE




(1) clip
(2) left fuel tank shroud
(3) bolt
(4) prong
(5) grommet

Removal

1. Remove the left side cover (page 54).
2. Remove the clip (1) (page 57).
3. Remove the left fuel tank shroud (2) by removing the bolt (3) and pulling the prong (4) from the grommet (5).

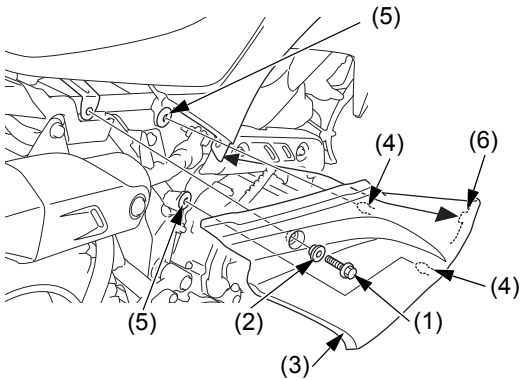
Installation

Installation is in the reverse order of removal.

# Right Side Cover Removal

Refer to *Safety Precautions* on page 43.

RIGHT SIDE




(1) bolt
(2) collar
(3) side cover
(4) prongs
(5) grommets
(6) tab

Removal

1. Remove the bolt (1) and collar (2) securing the right side cover (3).
2. Pull the right side cover prongs (4) out of the rubber grommets (5).

Installation

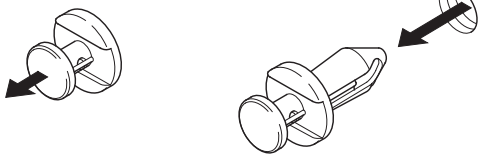
1. Attach the side cover on the rear frame, aligning its tab (6) with the rear lower edge of the right fuel tank shroud.
2. Align the side cover prongs with the rubber grommets. Press the side cover into position.
3. Install the bolt and collar, and tighten them.

# Clip Removal

*Clip removal and installation:*

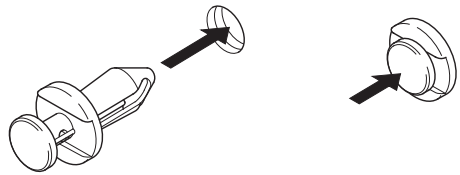
Removal
1. Pull up the center pin to release the lock.
2. Pull out the clip of the hole.

1. 2.



Installation
1. Insert the clip into the hole.
2. Press down the center pin securely to lock the clip.

1. 2.



# Fuel

Refer to *Safety Precautions* on page 43.

## Fuel Recommendation

| | |
|---|---|
| Type | unleaded |
| Pump Octane Number | 86 (or higher) |

Your engine is designed to use any unleaded gasoline that has a pump octane number of 86 or higher. Gasoline pumps at service stations normally display the pump octane number. For information on the use of oxygenated fuels, see page 154.

Use of lower octane gasoline can cause persistent “pinging” or “spark knock” (a louder rapping noise) which, if severe, can lead to engine damage. (Light pinging experienced while operating under a heavy load, such as climbing a hill, is no cause for concern.)

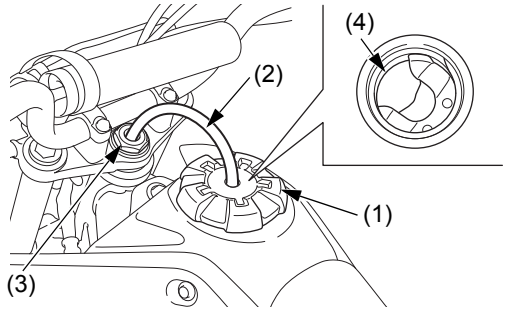
If pinging or spark knock occurs at a steady engine speed under normal load, change brands of gasoline. If pinging or spark knock persists, consult your dealer.

Use only unleaded fuel in your Honda. If you ride your Honda in a country where leaded fuel might be available, take precautions to use only unleaded fuel.

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

## Refueling Procedure

Fuel Tank Capacity:
0.98 US gal (3.7 ℓ)




(1) fuel fill cap
(2) breather tube
(3) steering stem nut
(4) lower edge of filler neck

1. To open the fuel fill cap (1), pull the breather tube (2) out of the steering stem nut (3). Turn the fuel fill cap counterclockwise and remove it.
2. Add fuel until the level reaches the lower edge of the filler neck (4). Avoid overfilling the tank. There should be no fuel in the filler neck.

**⚠ WARNING**

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

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

(cont'd)

3. After refueling, turn the fuel fill cap clockwise until it clicks.
4. Insert the breather tube in the steering stem nut.

If you replace the fuel fill cap, use a Honda Genuine replacement part or equivalent.

Refer to *Safety Precautions* on page 43.

Using the proper oil, and regularly checking, adding, and changing oil will help extend your engine's life. Even the best oil wears out. Changing oil helps get rid of dirt and deposits held in the engine. Operating the engine with old or dirty oil can damage your engine. Running the engine with insufficient oil can cause serious damage to the engine and transmission.

## Oil Recommendation

| | |
|---|---|
| API classification | SJ or higher except oils labeled as energy conserving or resource conserving on the circular API service label |
| viscosity (weight) | SAE 10W-30* |
| JASO T 903 standard | MA |
| suggested oil** | Pro Honda GN4 4-stroke oil (USA & Canada), or Honda 4-stroke oil, or an equivalent motorcycle oil |

(cont'd)

# Engine Oil

* For normal air temperatures. See next page for additional temperature/viscosity information.

**Suggested oils are equal in performance to SJ oils that are not labeled as energy conserving on the circular API service label.

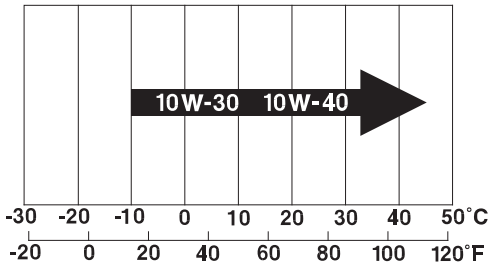
- Your motorcycle does not need oil additives. Use the recommended oil.
- Do not use oils with graphite or molybdenum additives. They may adversely affect clutch operation.
- Do not use API SJ or higher oils displaying a circular API ‘‘energy conserving’’ or “resource conserving” service label on the container. They may affect lubrication and clutch performance.




NOT RECOMMENDED RECOMMENDED

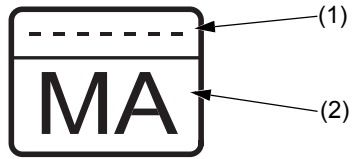
- Do not use non-detergent, vegetable, or castor based racing oils.

Other viscosities shown in the following chart may be used when the average temperature in your riding area is within the indicated range.




JASO T 903 standard

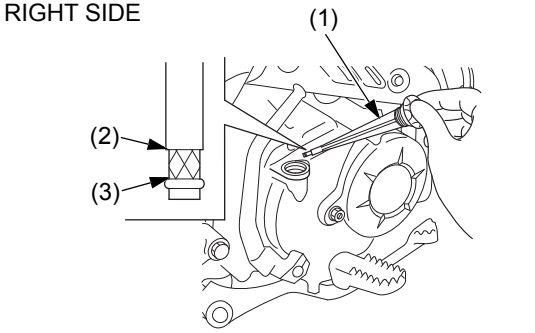
The JASO T 903 standard is an index for engine oils for 4-stroke motorcycle engines. There are two classes: MA and MB.
Oil conforming to the standard is labeled on the oil container. For example, the following label shows the MA classification.




(1) oil code
(2) oil classification

# Engine Oil

## Checking & Adding Oil

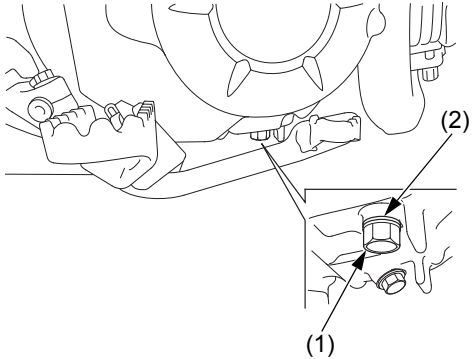



(1) oil fill cap/dipstick
(2) upper level mark
(3) lower level mark

1. Park your motorcycle on a firm, level surface.
2. Clean around the oil fill cap/dipstick (1) and nearby surfaces.
3. Start the engine and let it idle for 3-5 minutes. Stop the engine. Wait 2-3 minutes.
4. Unscrew and remove the oil fill cap/dipstick. Wipe it clean.
5. Hold the motorcycle upright.
6. Insert the oil fill cap/dipstick until it seats, but do not screw it in.
7. Remove the oil fill cap/dipstick and check the oil level.
   - If the oil is at or near the upper level mark (2), you do not have to add oil.
   - If the oil is below or near the lower level mark (3), add the recommended oil until it reaches the upper level mark. (Do not overfill.)
8. Insert the oil fill cap/dipstick and screw it in tightly.
9. Check for oil leaks.

## Changing Engine Oil

RIGHT SIDE




(1) oil drain bolt
(2) sealing washer

1. If the engine is cold, start it and let it idle for 3-5 minutes. Turn the engine off. Wait 2-3 minutes for the oil to settle.
2. Park your motorcycle on a firm, level surface.
3. Remove the oil fill cap/dipstick.
4. Place a drain pan under the crankcase.
5. Unscrew and remove the oil drain bolt (1).
6. After most of the oil is drained, gently tilt the motorcycle from side to side to drain the remaining oil.
7. Pour the drained oil into a suitable container and dispose of it in an approved manner (page 125).

**NOTICE**

*Improper disposal of drained fluids is harmful to the environment.*

(cont'd)

8. Remove the old sealing washer (2) and install a new sealing washer on the drain bolt.
9. Install the oil drain bolt and tighten to the specified torque:
   18 lbf·ft (24 N·m , 2.4 kgf·m)
10. Pour the recommended oil into the crankcase, approximately:
    1.1 US qt (1.0 ℓ)
11. Install the oil fill cap/dipstick securely.
12. Start the engine. Let it idle 3-5 minutes, then turn it off.
13. With the motorcycle held upright on level ground, check the oil level.
    If needed, add oil (page 64) until it reaches the upper level mark. (Do not overfill.)
14. Check for oil leaks.

Refer to *Safety Precautions* on page 43.

Proper air cleaner maintenance is very important for off-road vehicles. A dirty, water-soaked, worn-out, or defective air cleaner will allow dirt, dust, mud, and other impurities to pass into the engine.

Service the air cleaner more frequently if you ride in unusually wet or dusty areas. Your dealer can help you determine the correct service interval for your riding conditions.

Your motorcycle's air cleaner has very specific performance requirements. Use a new Honda Genuine air cleaner specified for your model or an air cleaner of equal quality.

NOTICE

*Using the wrong air cleaner may result in premature engine wear.*

Proper air cleaner maintenance can prevent premature engine wear or damage, expensive repairs, low engine power, poor gas mileage, and spark plug fouling.

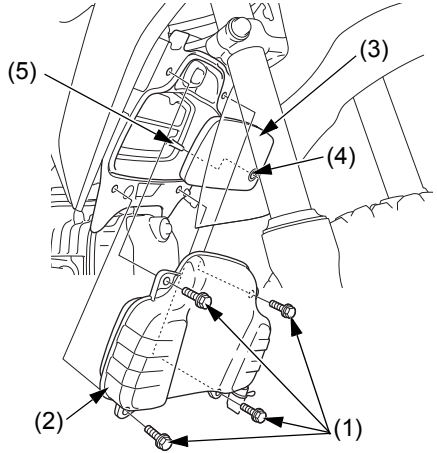
NOTICE

*Improper or lack of proper air cleaner maintenance can cause poor performance and premature engine wear.*

# Air Cleaner

## Cleaning

RIGHT SIDE




(1) bolts
(2) air cleaner housing cover
(3) air cleaner
(4) hole
(5) boss

1. Remove the bolts (1) and air cleaner housing cover (2).
2. Remove the air cleaner (3).
3. Gently wash the air cleaner in clean, non-flammable (high flash point) solvent such as kerosene–not gasoline. After cleaning, gently squeeze out the remaining solvent.
   Avoid twisting or wringing the air cleaner. This can tear the foam.
4. Inspect for tears or cracks in the foam or seams of the air cleaner. Replace the air cleaner if it is damaged.
5. Allow the air cleaner to dry thoroughly before applying oil. A wet air cleaner will not fully absorb the oil.

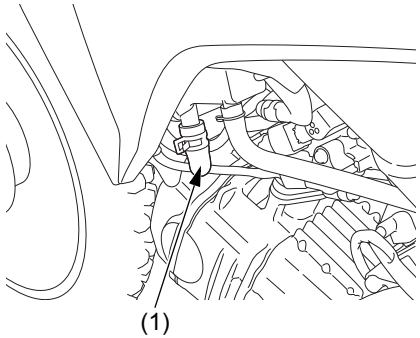
6. Pour clean Pro Honda Foam Filter Oil or equivalent (Canada: Honda Foam Filter Oil or equivalent) over the entire surface of the air cleaner. Use both hands to evenly spread the oil into the air cleaner. Gently squeeze out any excess oil. (To keep your hands dry, place the air cleaner in a clean plastic bag before spreading the oil into the air cleaner.)
7. Clean the inside of the air cleaner housing. Install the air cleaner, aligning the hole (4) of air cleaner with the boss (5) of air cleaner housing.
8. Install the air cleaner housing cover and bolts to the specified:
   1.1 lbf·ft (1.5 N·m , 0.2 kgf·m)
9. Install the left fuel tank shroud (page 55).

# Crankcase Breather

Refer to *Safety Precautions* on page 43.

Service more frequently if your motorcycle is ridden in the rain or often at full throttle.

LEFT SIDE



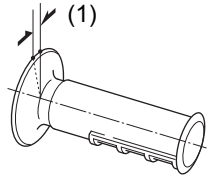

(1) crankcase breather tube

- Drain the deposits into a suitable container by pinching the crankcase breather tube (1).

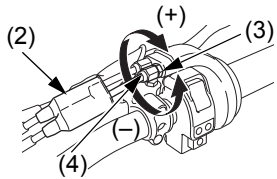
Refer to *Safety Precautions* on page 43.

## Throttle Freeplay

RIGHT SIDE




(1) freeplay




(2) rubber dust cover
(3) lock nut
(4) adjuster

(+) increase freeplay
(–) decrease freeplay

Inspection

Check freeplay (1).

Freeplay: 1/16–1/4 in (2–6 mm)

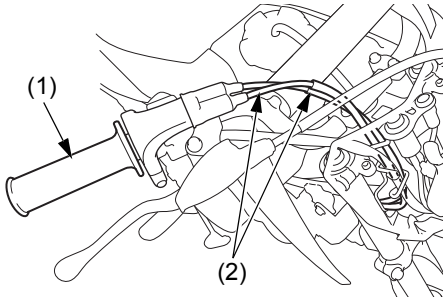
If necessary, adjust to the specified range.

Adjustment

1. Pull the rubber dust cover (2) back.
2. Loosen the lock nut (3) on the throttle cable mechanism.
3. Turn the adjuster (4).
4. Tighten the lock nut. Return the dust cover to its normal position.
5. After adjustment, check for smooth rotation of the throttle grip from fully closed to fully open in all steering positions.

If you can't get the freeplay within the specified range, contact your dealer.

## Throttle Inspection

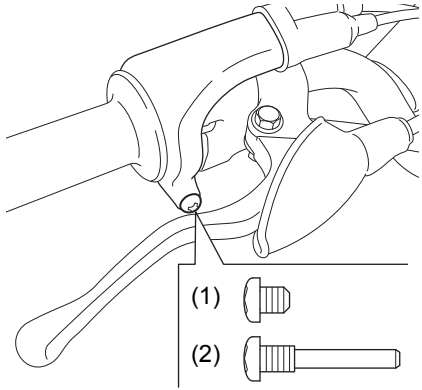



(1) throttle
(2) throttle cables

1. Check that the throttle assembly is positioned properly and the securing bolts are tight.
2. Check for smooth rotation of the throttle (1) from fully open to fully closed in all steering positions. If there is a problem, see your dealer.
3. Inspect the condition of the throttle cables (2) from the throttle grip down to the throttle body. If the cable is kinked or chafed, have it replaced.
4. Check the cables for tension or stress in all steering positions.
5. Lubricate the cable with a commercially available cable lubricant to prevent premature rust and corrosion.

## Throttle Limiter Activation

RIGHT HANDLEBAR




(1) M6 × 6 screw
(2) throttle stopper screw

You can reduce throttle grip movement.

1. Remove the M6 × 6 screw (1) from the throttle housing.
2. Replace the M6 × 6 screw with throttle stopper screw (2) provided and tighten it fully.

When the M6 × 6 screw is installed, the throttle can be fully opened.
When the throttle stopper screw is installed, the throttle opening is restricted to approximately 50% and the maximum engine speed is limited.

Do not remove the screw except when activating or deactivating the limiter.
Use only provided screws. Do not use any other screw.
Never operate the motorcycle without either the M6 × 6 screw or throttle stopper screw installed as debris can enter the housing and cause the throttle to bind.

# Clutch System

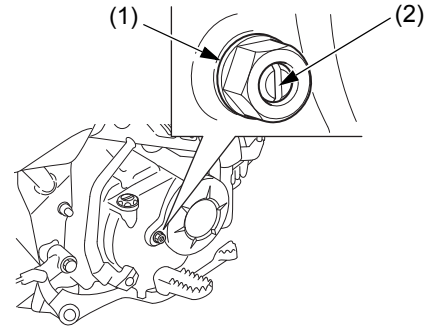
Refer to *Safety Precautions* on page 43.

## Inspection

The engine should start easily with the kickstarter without the clutch slipping. When shifting gears, the clutch operation should be smooth and light, especially when shifting into neutral.

## Adjustment

RIGHT SIDE




(1) adjuster lock nut
(2) clutch adjuster

1. Loosen the adjuster lock nut (1).
2. Turn the clutch adjuster (2) clockwise one turn; do not turn excessively.

3. Slowly turn the adjuster counterclockwise until a slight resistance is felt.
4. From this position, turn the adjuster clockwise 1/8 turn, and tighten the lock nut.
5. After adjustment, test ride the motorcycle to be certain the clutch operates properly.

If you can't get proper adjustment, or the clutch does not work properly, see your dealer.

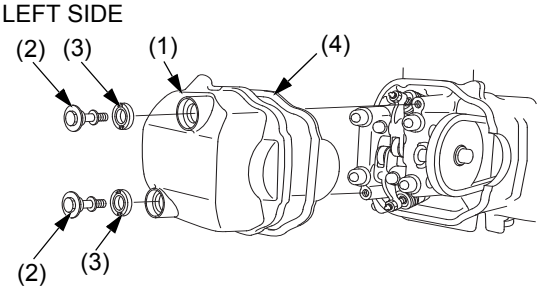
# Valve Clearance

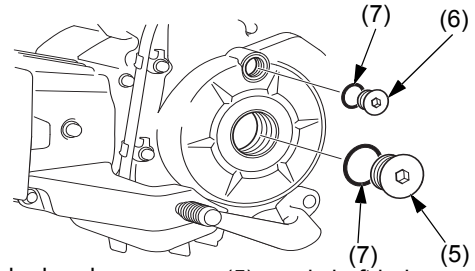
Refer to *Safety Precautions* on page 43.

Excessive valve clearance will cause noise and eventual engine damage. Little or no clearance will prevent the valve from closing and cause valve damage and power loss. Check valve clearance when the engine is cold at the intervals specified in the Maintenance Schedule.

The checking or adjusting of the clearance should be performed while the engine is cold. The clearance will change as engine temperature rises.

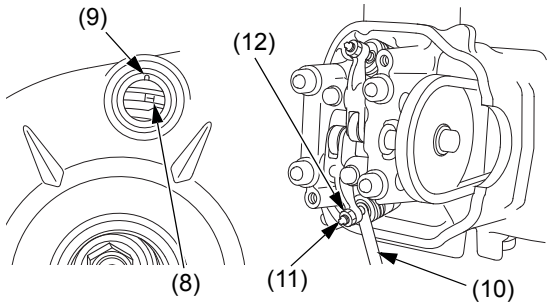
1. Remove the cylinder head cover (1) by removing the bolts (2) and mount rubbers (3).
2. Remove the cylinder head cover gasket (4).
3. Remove the crankshaft hole cap (5), timing hole cap (6) and O-rings (7).




(1) cylinder head cover
(2) bolts
(3) mount rubbers
(4) cylinder head cover gasket
(5) crankshaft hole cap
(6) timing hole cap
(7) O-rings

LEFT SIDE




(8) T mark
(9) index mark
(10) feeler gauge
(11) adjusting screw
(12) adjusting screw lock nut

4. Rotate the generator flywheel counterclockwise until the T mark (8) on the flywheel lines up with the index mark (9) on the left crankcase cover. In this position, the piston may either be on the compression or exhaust stroke.

The adjustment must be made when the piston is at the top of the compression stroke when both the intake and exhaust valves are closed. This condition can be determined by moving the rocker arms. If they are free, it is an indication that the valves are closed and that the piston is on the compression stroke. If they are tight and the valves are open, rotate the flywheel 360° and realign the T mark to the index mark.

5. Check the clearance of both valves by inserting a feeler gauge (10) between the adjusting screw (11) and the valve stem. Clearance should be:
   Intake: 0.004 ± 0.001 in
   (0.10 ± 0.02 mm)
   Exhaust: 0.006 ± 0.001 in
   (0.15 ± 0.02 mm)

(cont'd)

# Valve Clearance

6. If it is necessary to make an adjustment, loosen the adjusting screw lock nut (12) and turn the adjusting screw so there is a slight resistance when the feeler gauge is inserted.

   After completing the adjustment, tighten the adjusting screw lock nut while holding the adjusting screw to prevent it from turning. Finally, recheck the clearance to make sure that the adjustment has not been disturbed.

7. Apply oil to new O-rings.
   Install the new O-rings onto timing hole cap and crankshaft hole cap.
   Install the timing hole cap and crankshaft hole cap and tighten them.
8. Check that the mount rubbers in good condition.
   Install the mount rubbers onto the cylinder head cover with the facing the ‘‘UP’’ mark outward. Install a new gasket onto cylinder head cover. Install the cylinder head cover. Install and tighten the cylinder head cover bolts.

Refer to *Safety Precautions* on page 43.

## Spark Plug Recommendation

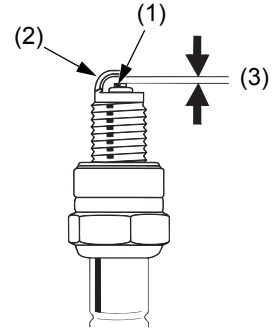
The recommended standard spark plug is satisfactory for most riding conditions.

| | |
|---|---|
| Standard | CPR6EA-9S (NGK) |

Use only the recommended type of spark plugs in the recommended heat range.

NOTICE

*Using spark plugs with an improper heat range can cause engine damage.*




(1) center electrode
(2) side electrode
(3) spark plug gap

(cont'd)

# Spark Plug

1. Clean any dirt from around the spark plug base.
2. Disconnect the spark plug cap.
3. Remove the spark plug with a plug wrench.
4. Inspect the spark plug electrodes for wear. The center electrode (1) should have square edges. The side electrode (2) should not be eroded. The insulator should not be cracked or chipped.
5. Check the spark plug gap (3), using a wire-type feeler gauge. If adjustment is necessary, bend the side electrode carefully. The gap should be:
   0.03 - 0.04 in (0.8 - 0.9 mm)
   Make sure the plug washer is in good condition.
   If you have to install a new plug, first check the gap.
6. With the plug washer attached, thread the spark plug in by hand (to prevent cross-threading).
7. Tighten the spark plug:
   - If the old plug is good:
     1/6 turn after it seats.
   - If installing a new plug, tighten it twice to prevent loosening:
     a) First, tighten the plug:
        1/4 turn after it seats.
     b) Then, loosen the plug.
     c) Next, tighten the plug again:
        1/6 turn after it seats.

NOTICE

*An improperly tightened spark plug can damage the engine. If a plug is too loose, the piston may be damaged. If a plug is too tight, the threads may be damaged.*

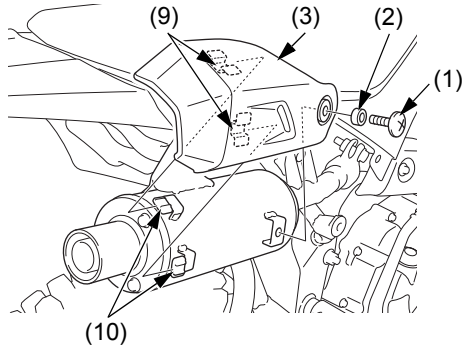
8. Reinstall the spark plug cap. Take care to avoid pinching any cables or wires.

Refer to *Safety Precautions* on page 43.

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

Regular servicing prevents carbon buildup (which can diminish engine performance) and also complies with USDA regulations for regular maintenance to assure proper function. The spark arrester prevents random sparks from the combustion process in your engine from reaching the environment.

RIGHT REAR



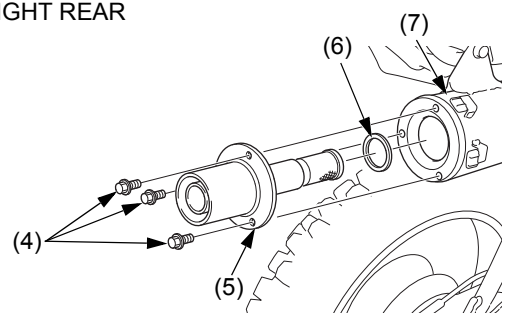

(1) muffler protector screw
(2) collar
(3) muffler protector
(9) slots
(10) tabs

1. Allow the engine and muffler to cool.
2. Remove the right side cover (page 56).
3. Remove the muffler protector screw (1), collar (2) and muffler protector (3).

(cont'd)

# Spark Arrester

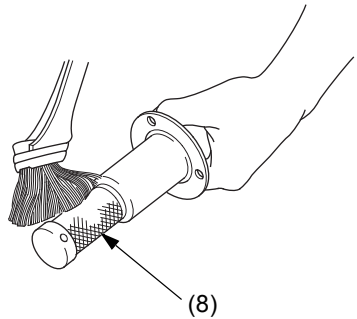
RIGHT REAR




(4) bolts
(5) spark arrester
(6) gasket
(7) muffler

4. Remove the bolts (4), the spark arrester (5), and the gasket (6) from the muffler (7).

5. Use a brush to remove carbon deposits from the spark arrester screen (8). Be careful to avoid damaging the spark arrester screen. The spark arrester must be free of breaks and holes. Replace, if necessary.




(8) spark arrester screen

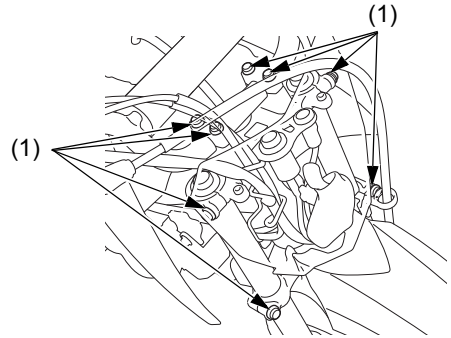
6. Install the spark arrester and the new gasket in the muffler and tighten the bolts to the specified torque:
   7 lbf·ft (10 N·m , 1.0 kgf·m)
7. Install the muffler protector, aligning slots (9) with the tabs (10) on the muffler. Install the muffler protector screw and collar and tighten the screw to the specified torque:
   6.6 lbf·ft (9 N·m , 0.9 kgf·m)
8. Install the right side cover (page 56).

# Suspension

Refer to *Safety Precautions* on page 43.

Loose, worn, or damaged suspension components may adversely affect the handling and stability of your motorcycle. If any suspension components appear worn or damaged, see your dealer for further inspection. Your dealer is qualified to determine whether or not replacement parts or repairs are needed.

## Front Suspension Inspection



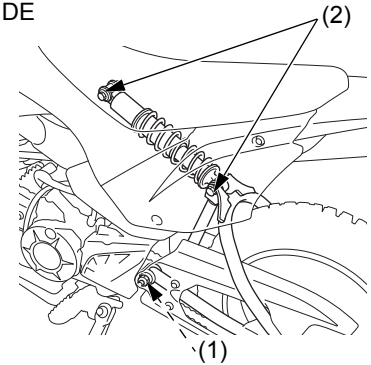

(1) mounting bolts

1. Check fork operation. Pull the front brake lever in, to lock the brake. Then, pump up and down on the fork legs several times. The suspension should function smoothly. There should be no oil leakage.

2. Check the security of all handlebar and fork mounting bolts (1). If any front suspension components appear worn or damaged, see your dealer for further inspection.

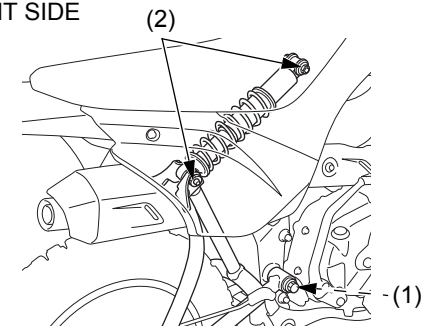
## Rear Suspension Inspection

LEFT SIDE




(1) swingarm bushing
(2) shock absorber attachment points

RIGHT SIDE




(1) swingarm bushing
(2) shock absorber attachment points

1. Place the motorcycle on a maintenance stand. Push hard against the side of the rear wheel and feel for any freeplay which indicates worn swingarm bushings (1).

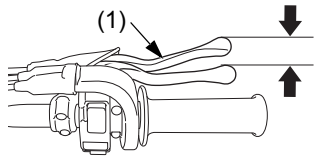
(cont'd)

2. Check that the fasteners for the shock absorber attachment points (2) are secure.
3. Check for oil leaks in the shock absorber. If any rear suspension components appear worn or damaged, see your dealer for further inspection.

Refer to *Safety Precautions* on page 43.

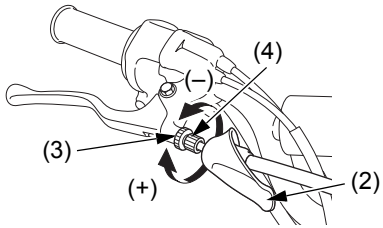
## Front Brake Lever Freeplay

RIGHT SIDE




(1) front brake lever

RIGHT SIDE




(2) rubber dust cover
(3) lock nut
(4) front brake cable adjuster
(+) increase freeplay
(–) decrease freeplay

Adjust the freeplay of the brake lever with the front wheel pointed straight ahead.

Inspection

Check freeplay by pulling in slowly on the front brake lever (1) until the brake starts to engage.

Freeplay: 3/8–13/16 in (10–20 mm)

If necessary, adjust to the specified range.

Upper Adjustment

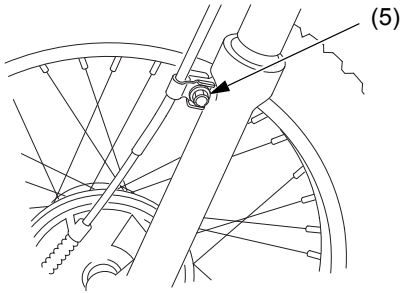
1. Pull the rubber dust cover (2) back.
2. Loosen the lock nut (3) and turn the front brake cable adjuster (4).
3. Tighten the lock nut. Return the dust cover to its normal position.
4. Apply the brake, release it, then spin the wheel and check that it rotates freely. Repeat this procedure several times.

(cont'd)

5. Check the freeplay.

*If the cable adjuster is threaded out near its limit or if the correct freeplay cannot be obtained using the cable adjuster:*

LEFT FRONT

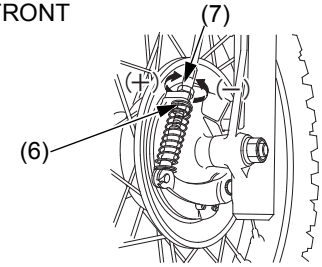



(5) cable guide bolt

Lower Adjustment

1. Loosen the lock nut and turn the cable adjuster all the way in.
2. Tighten the lock nut and return the rubber dust cover to its normal position.
3. Loosen the front brake cable guide bolt (5).
4. At the lower end of the cable, loosen the lower lock nut (6). Turn the lower adjusting nut (7) to obtain the specified freeplay. Tighten the lower lock nut.

LEFT FRONT

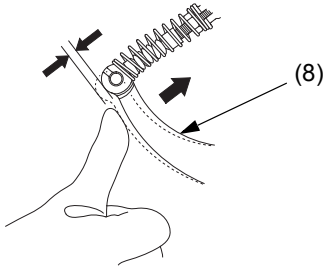



(6) lower lock nut
(7) lower adjusting nut

(+) increase freeplay
(–) decrease freeplay

5. Tighten the front brake cable guide bolt.
6. Apply the brake, release it, then spin the wheel and check that it rotates freely. Repeat this procedure several times.
7. Check the freeplay. If you cannot adjust the freeplay properly, see your dealer.

After adjustment, push the brake arm (8) to confirm that there is proper freeplay.

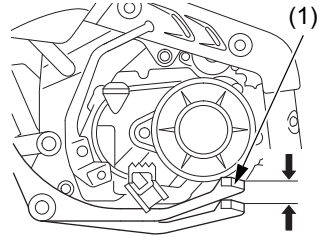



(8) brake arm

After adjustment, confirm the freeplay of the brake lever.

## Rear Brake Pedal Freeplay

RIGHT SIDE




(1) rear brake pedal

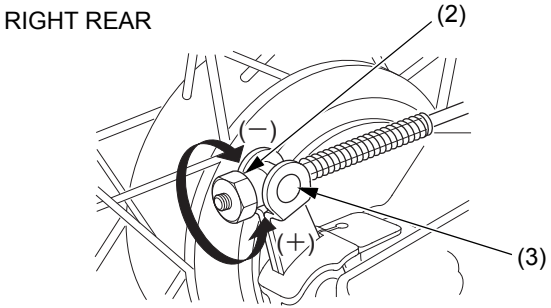
Inspection

1. Place your motorcycle on its side stand.
2. Check freeplay by slowly depressing the brake pedal (1) until the brake starts to engage.
   Freeplay: 3/8–13/16 in (10–20 mm)

If necessary, adjust to the specified range.

(cont'd)

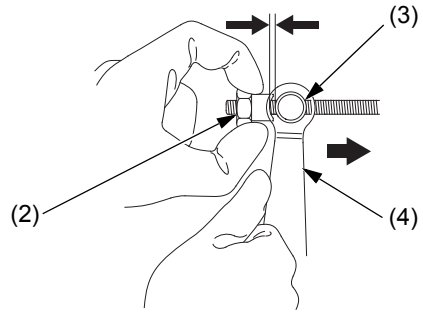
Adjustment




(2) adjusting nut
(3) brake arm pin
(+) increase freeplay
(–) decrease freeplay

1. Adjust by turning the rear brake adjusting nut (2) a half-turn at a time. Make sure the cut-out on the adjusting nut is seated on the brake arm pin (3).
2. Apply the brake, release it, and then spin the wheel and check that it rotates freely. Repeat this procedure several times.
3. Check the freeplay. If you can't adjust the freeplay properly, see your dealer.

After adjustment, push the brake arm (4) to confirm that there is a gap between the adjusting nut (2) and the brake arm pin (3).



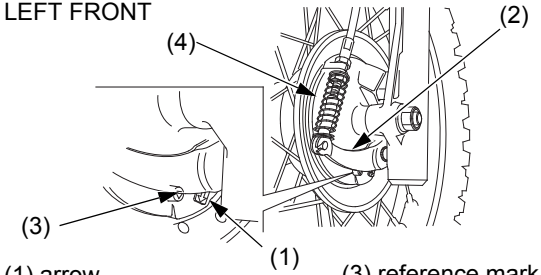

(2) adjusting nut
(3) brake arm pin
(4) brake arm

After adjustment, confirm the freeplay of the brake pedal.

## Brake Shoe Wear

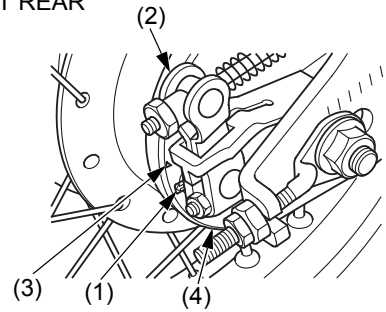
The front and rear brakes are equipped with external brake wear indicators that let you check brake wear without disassembly. Application of the brake control (lever or pedal) causes the arrow on the brake arm to move toward a reference mark on the brake panel.

LEFT FRONT




(1) arrow
(2) brake arm
(3) reference mark
(4) brake panel

RIGHT REAR




(1) arrow
(2) brake arm
(3) reference mark
(4) brake panel

1. Place your motorcycle on its side stand.
2. Apply the brake control (lever or pedal) and check the movement of the arrow (1) on the brake arm (2). Replace the brake shoes if the arrow aligns with the reference mark (3) on the brake panel (4) upon full application of the brake. If replacement is necessary, see your dealer.

## Other Inspections & Lubrication

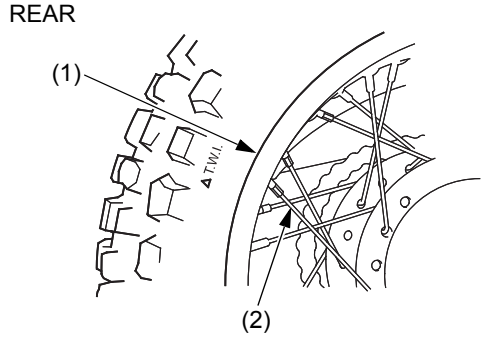
- Check that the front lever and rear pedal assemblies are positioned properly and the securing bolts are tight.
- Check the front brake cable for kinks or signs of wear that could cause sticking or failure.
- Lubricate the front brake cable with a commercially available cable lubricant to prevent premature wear and corrosion.
- Front: Make sure the brake arm, spring, and fasteners are in good condition.
- Rear: Make sure the brake rod, brake arm, spring, and fasteners are in good condition.

Refer to *Safety Precautions* on page 43.

Keeping the wheels true (round) and maintaining correct spoke tension is critical to safe motorcycle operation. During the first 100 miles (150 km), spokes will loosen more rapidly due to the initial seating of the parts. Excessively loose spokes may result in instability at high speeds and the possible loss of control. Loose spokes may also cause rim or spoke damage (not covered by warranty).

It is not necessary to remove the wheels to perform the recommended service in the Maintenance Schedule. However, information for wheel removal is provided for emergency situations.

## Wheel Rims & Spokes



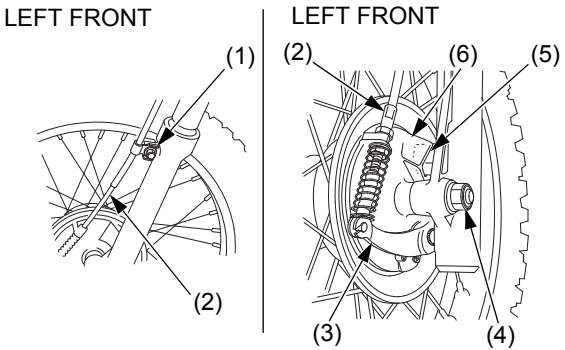

(1) wheel rim
(2) spoke

1. Inspect the wheel rims (1) and spokes (2) for damage.
2. Tighten any loose spokes.

(cont'd)

3. Rotate the wheel slowly to see if it appears to "wobble." If it does, the rim is out of round or not "true." If the wobble is noticeable, see your dealer for inspection.

## Front Wheel Removal




(1) cable guide bolt
(2) front brake cable
(3) brake arm
(4) front axle nut
(5) lug
(6) slot

Removal

1. Raise the front wheel off the ground by placing a maintenance stand or support block under the engine. Secure the rear of the motorcycle with tie-down straps.
2. Loosen the cable guide bolt (1) on the fork leg.
3. Disconnect the front brake cable (2) from the brake arm (3).
4. Remove the front axle nut (4) and front axle shaft.
5. Remove the wheel.
6. Pull the brake assembly out carefully.

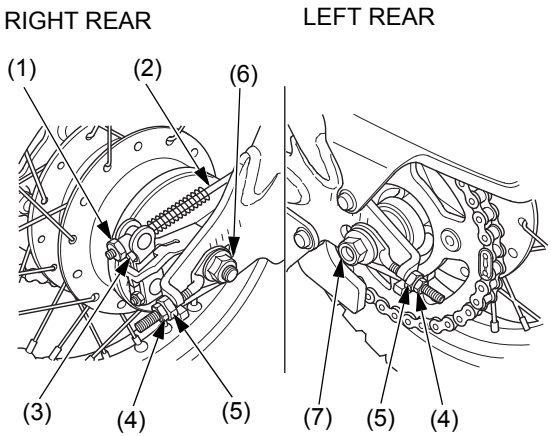
Take care to prevent getting grease, oil, or dirt on the brake shoe surfaces. This can cause poor brake performance or rapid brake shoe wear after reassembly.

Installation

1. Reverse the removal procedure. Make sure the lug (5) on the fork leg is located in the slot (6) in the brake panel.
2. Torque the front axle nut to:
   44 lbf·ft (59 N·m , 6.0 kgf·m)
3. Check front brake adjustment (page 87).

If a torque wrench was not used to install the wheel, see your dealer as soon as possible to verify proper assembly. Improper assembly may lead to loss of braking capacity.

## Rear Wheel Removal



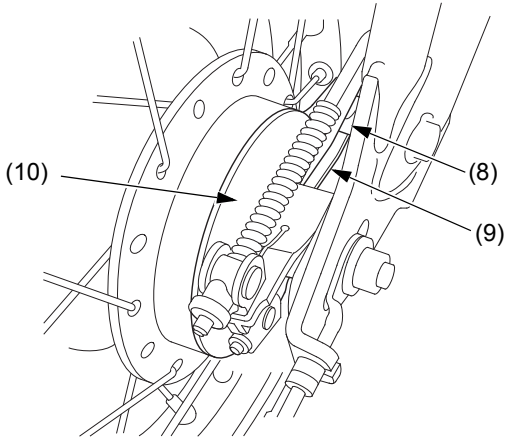

(1) adjuster
(2) brake rod
(3) brake arm
(4) lock nut
(5) adjusting nut
(6) rear axle nut
(7) rear axle shaft

Removal

1. Raise the rear wheel off the ground by placing a maintenance stand or support block under the engine. Secure the front of the motorcycle with tie-down straps.
2. Unscrew the rear brake adjuster (1). Press the rear brake pedal and disconnect the brake rod (2) from the brake arm (3).
3. Loosen the lock nut (4) and adjusting nut (5) on the chain adjuster on both sides.
4. Unscrew the rear axle nut (6). Pull the rear axle shaft (7) out. Push the wheel forward and derail the drive chain from the rear sprocket. Remove the wheel.

Take care to prevent getting grease, oil, or dirt on the brake shoe surfaces. This can cause poor brake performance or rapid brake shoe wear after reassembly.

RIGHT REAR




(8) lug
(9) slot
(10) brake panel

Installation

1. Reverse the removal procedure. Make sure the lug (8) on the swingarm is located in the slot (9) in the brake panel (10). Check that the chain adjusters are installed properly.
2. Adjust the drive chain (page 106).
3. Torque the rear axle nut to:
   47 lbf·ft (64 N·m , 6.5 kgf·m)
4. Adjust the rear brake (page 89).
5. Apply the rear brake, release it, then spin the wheel and check that it rotates freely. Repeat this procedure several times.

If a torque wrench was not used to install the wheel, see your dealer as soon as possible to verify proper assembly. Improper assembly may lead to loss of braking capacity.

# Tires & Tubes

Refer to *Safety Precautions* on page 43.

To safely operate your motorcycle, the tires must be the proper type (off-road) and size, in good condition with adequate tread, and correctly inflated.

**⚠ WARNING**

Using tires that are excessively worn or improperly inflated can cause a crash in which you can be seriously hurt or killed.

Follow all instructions in this owner's manual regarding tire inflation and maintenance.

The following pages give detailed information on how and when to check your air pressure, how to inspect your tires for wear and damage, and our recommendations on tire repair and replacement.

## Air Pressure

Properly inflated tires provide the best combination of handling, tread life, and riding comfort. Generally, underinflated tires wear unevenly, adversely affect handling, and are more likely to fail from being overheated. Underinflated tires can also cause wheel damage in rocky terrain. Overinflated tires make your motorcycle ride harshly, are more prone to damage from surface hazards, and wear unevenly.

Make sure the valve stem caps are secure. If necessary, install new caps.

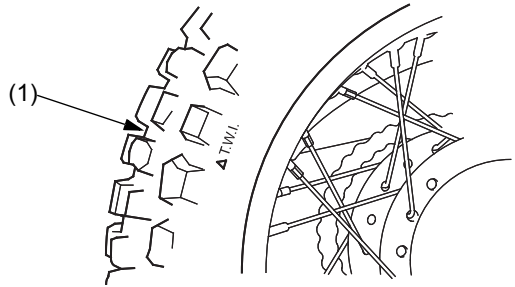
Always check air pressure when your tires are ‘‘cold.’’ If you check air pressure when your tires are ‘‘warm’’–even if your motorcycle has only been ridden for a few miles–the readings will be higher. If you let air out of warm tires to match the recommended cold pressures, the tires will be underinflated. The correct ‘‘cold’’ tire pressures are:

| | |
|---|---|
| Front | 15 psi (100 kPa , 1.00 kgf/cm$^2$) |
| Rear | 15 psi (100 kPa , 1.00 kgf/cm$^2$) |

If you decide to adjust tire pressures for a particular riding condition, make changes a little at a time.

## Inspection

A flat tire or blowout is inconvenient and may even cause a crash. Take time to inspect your tires and wheels before you ride. For more information about handling flat tires, see page 133.




(1) tire tread depth

(cont’d)

- Inspect carefully for bumps or bulges in the side of the tire or the tread. Replace any tire that has a bump or bulge.
- Look closely for cuts, slits, or cracks in the tires. Replace a tire if you can see fabric or cord.
- Check for rocks or other objects embedded in the tire or tread. Remove any objects.
- Measure tread depth (1). Replace the tire before depth at the center reaches 0.12 in (3 mm), or any time you notice a reduction in traction.
- Check the position of both valve stems. A tilted valve stem indicates the tube is slipping inside the tire or the tire is slipping on the rim. See your dealer.

## Tube Replacement

If a tube is punctured or damaged, you should replace it as soon as possible. A repaired tube may not have the same reliability as a new one, and it may fail while you are riding. For information on making a temporary repair, see page 133.

Use a replacement tube equivalent to the original.

We recommend that tubes be replaced by your dealer. Replacing a tube requires removing and reinstalling the wheel. Any time a tube is replaced, carefully inspect the tire as described on page 99.

## Tire Replacement

The tires that came on your motorcycle were designed to provide a good combination of handling, braking, durability, and comfort across a broad range of riding conditions.

**⚠ WARNING**

Installing improper tires on your motorcycle can affect handling and stability. This can cause a crash in which you can be seriously hurt or killed.

Always use the size and type of tires recommended in this owner's manual.

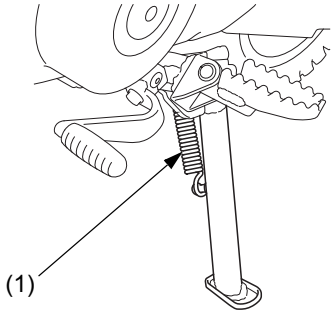
| | |
|---|---|
| Front | 70/100-14M/C 37J |
| Rear | 80/100-12 50J |
| Type | bias-ply, tube |

- Use a replacement tire equivalent to the original.
- Replace the tube any time you replace a tire. The old tube will probably be stretched and, if installed in a new tire, could fail.
- Have the wheel balanced after a new tire is installed.
- We recommend that tires be replaced by your dealer.

# Side Stand

Refer to *Safety Precautions* on page 43.

LEFT SIDE




(1) side stand spring

1. Check the side stand spring (1) for damage and loss of tension.
2. Check the side stand assembly for freedom of movement.

If the side stand is stiff or squeaky, clean the pivot area and lubricate the pivot bolt with clean engine oil.

Refer to *Safety Precautions* on page 43.

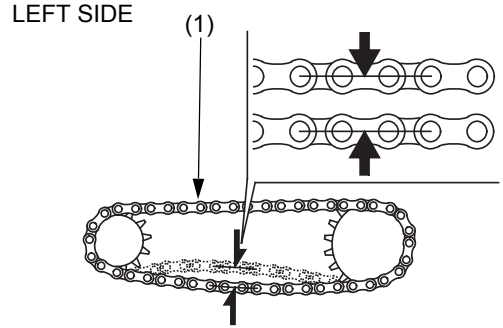
The service life of the chain depends on proper lubrication and adjustment. Poor maintenance can cause premature wear or damage to the drive chain or sprockets.

Under severe usage, or when the motorcycle is ridden in unusually dusty or muddy areas, more frequent maintenance will be necessary.

Before servicing your drive chain, turn the engine OFF, lower the side stand, and check that your transmission is in neutral.

It is not necessary to remove or replace the drive chain to perform the recommended service in the Maintenance Schedule.

## Inspection




(1) drive chain

1. Check slack in the lower drive chain (1) run midway between the sprockets. Drive chain slack should allow the following vertical movement by hand:
   3/8–13/16 in (10–20 mm)

(cont'd)

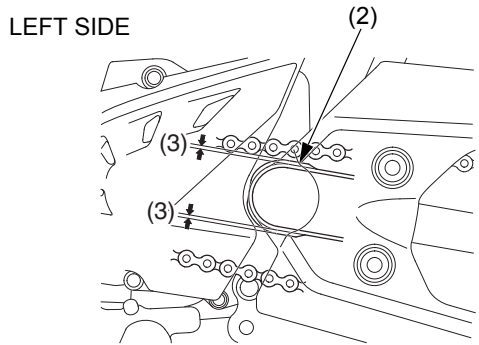
2. Check drive chain slack at several points along the chain. The slack should remain constant. If it isn't, some links may be kinked and binding. Lubricating the chain will often eliminate binding and kinking.

NOTICE

*Excessive chain slack may allow the drive chain to damage the engine cases.*

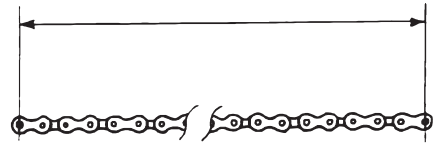
3. Inspect the drive chain for:
   - damaged rollers
   - loose pins
   - dry or rusted links
   - kinked or binding links
   - excessive wear

   Replace the drive chain (page 108) if it has damaged rollers, loose pins, or kinks that cannot be freed. Lubricate the drive chain (page 107) if it appears dry or shows signs of rust. Lubricate any kinked or binding links and work them free. Adjust chain slack if needed.
4. Check the chain slider (2) for wear. If the ridge (3) in the center of the slider is worn, have your dealer replace the chain slider.




(2) chain slider (3) ridge

5. Replace the drive chain if chain slack is excessive when the rear axle is moved to the farthest limit of adjustment. Excessive slack indicates the chain is worn beyond its service limit.
   To check the chain's service limit, remove the drive chain (page 108). Then, measure the distance between a span of 86 pins, from pin center to pin center. If the distance exceeds the service limit, the drive chain is worn out and should be replaced.

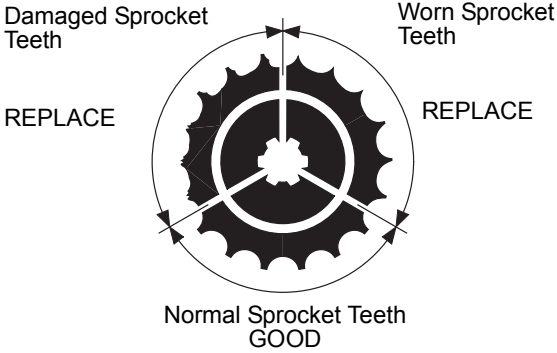


Measure a span of 86 pins

| | |
|---|---|
| New Chain: | 42.5 in (1,080 mm) |
| Service Limit: | 43.3 in (1,101 mm) |

(cont'd)

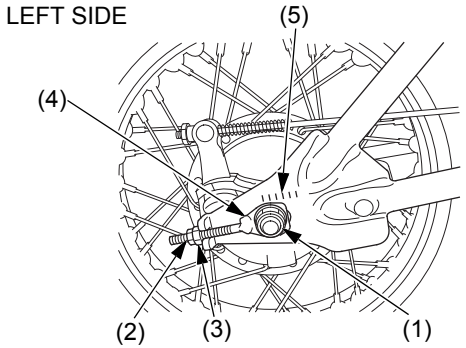
6. Inspect the front and rear sprocket teeth for excessive wear or damage. If necessary, have your dealer replace a worn sprocket.




NOTICE

*Use of a new chain with worn sprockets will cause rapid chain wear.*

## Adjustment




(1) rear axle nut
(2) lock nut
(3) adjusting nut
(4) chain adjuster
(5) graduated scale

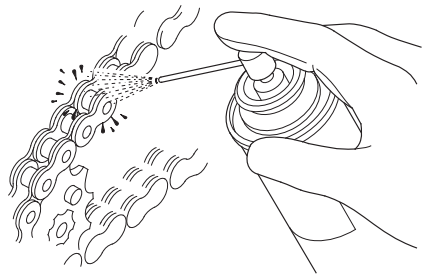
1. Loosen the rear axle nut (1).
2. Loosen the lock nuts (2) on both sides of the swingarm.

3. Turn the adjusting nuts (3) on the right and left chain adjusters an equal number of turns to increase or decrease chain slack.
4. Align the front edge of chain adjusters (4) with the graduated scales (5) on both sides of the swingarm.
5. Torque the rear axle nut to:
   47 lbf·ft (64 N·m , 6.5 kgf·m)

If a torque wrench is not used for this installation, see your dealer as soon as possible to verify proper assembly.

6. Tighten the adjusting nuts lightly. Then, while holding the adjusting nuts with a wrench, tighten the lock nuts.
7. Recheck drive chain slack.
8. Check rear brake pedal freeplay and adjust as necessary (page 89). Freeplay is affected when repositioning the rear wheel to adjust drive chain slack.

## Lubrication

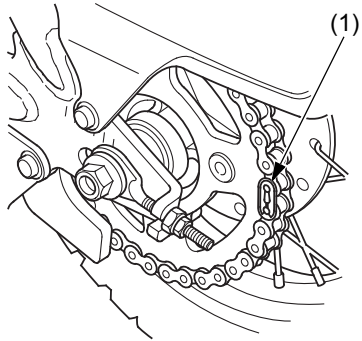


Lubricate every 300 miles (500 km) or sooner if chain appears dry.
Turn the rear wheel by hand. Saturate each chain link joint so that the lubricant penetrates between the link plates, pins, bushings, and rollers.
Recommended lubricant:
Pro Honda HP Chain Lube or equivalent

# Drive Chain

## Removal, Cleaning & Replacement

LEFT SIDE




(1) master link retaining clip

When the drive chain becomes extremely dirty, it should be removed and cleaned prior to lubrication.

1. Remove the master link retaining clip (1) with pliers. Do not bend or twist the clip. Remove the master link. Remove the drive chain.
2. Clean the drive chain with a non-flammable (high flash point) solvent such as kerosene–not gasoline–and allow it to dry.
3. Inspect the drive chain for possible wear or damage. Replace the drive chain if it has damaged rollers, loose fitting links, or otherwise appears unserviceable.
   Replacement chain:
   DID 420D-86RB

4. Inspect the sprocket teeth for wear or damage. We recommend replacing the sprocket whenever a new chain is installed.
5. Lubricate the drive chain.
6. Pass the chain over the sprockets and join the ends of the chain with the master link. For ease of assembly, hold the chain ends against adjacent rear sprocket teeth while inserting the master link. Install the master link retaining clip so that the closed end of the retaining clip will face the direction of forward wheel rotation.

**More About: Drive Chain**

- The master link is the most critical element of drive chain security. Master links are reusable, as long as they remain in excellent condition. We recommend installing a new master link retaining clip when the drive chain is reassembled.
- You may find it easier to install a new chain by connecting it to the old chain with a master link and pulling the old chain to position the new chain on the sprockets.

# Battery

Your motorcycle has a maintenance-free type battery. You do not have to check the battery electrolyte level or add distilled water as you would with a conventional-type battery.

NOTICE

*Your battery is a maintenance-free type and can be permanently damaged if the cap strip is removed.*

Electrical accessories use current from the battery, even when the ignition is ○ (OFF). Limited operation also allows the battery to discharge. If you have electrical accessories on your motorcycle or do not ride frequently, we recommend that you charge the battery frequently (*see Battery Charging*, page 114).

If you do not expect to ride your motorcycle for at least two weeks, we recommend you remove the battery, or at least disconnect the battery cables (negative cable first).

If you plan to store your motorcycle, see *Battery Storage*, page 111.

If your battery seems weak and/or is leaking electrolyte (causing slow starting or other electrical problems), see your dealer.

**WARNING:** Battery posts, terminals and related accessories contain lead and lead compounds. **Wash hands after handling.**

## Battery Storage

Refer to *Safety Precautions* on page 43.

If you plan to store your motorcycle, we recommend you remove the battery and store it where it can be charged at least every 30 days to maintain its service life.

If you do not remove the battery, we recommend disconnecting the battery cables (negative cable first).

You will get the best storage results from removing the battery and slow charging it every 30 days (see *Battery Charging*, page 114).

Before you remove the battery, be sure to read all the information that follows, as well as the information on the battery label.

**⚠ WARNING**

The battery gives off explosive hydrogen gas during normal operation.

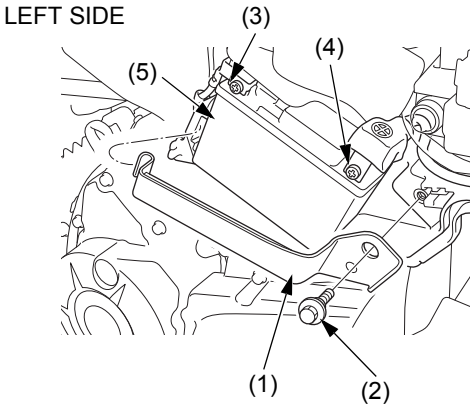
A spark or flame can cause the battery to explode with enough force to kill or seriously hurt you.

Wear protective clothing and a face shield, or have a skilled mechanic do the battery maintenance.

(cont'd)

# Battery

The battery is located in the battery compartment behind the left side cover.




(1) battery holder
(2) bolt
(3) negative (–) terminal lead
(4) positive (+) terminal lead
(5) battery

Removal

1. Make sure the ignition switch is ○ (OFF).
2. Remove the left side cover (page 54).
3. Remove the battery holder (1) by removing the bolt (2).
4. Disconnect the negative (–) terminal lead (3) from the battery first, then disconnect the positive (+) terminal lead (4).
5. Pull the battery (5) out of the battery compartment.

6. Charge the battery (see following section), unless you have been riding regularly.
7. Store your battery in an easy-to-reach location off the floor, in an area protected from freezing temperatures and direct sunlight.
8. Clean the battery box after removing the battery for storage. Dry the battery box and, if paint is missing, re-paint the area.
9. Slow charge the battery (see following section) once every 30 days.

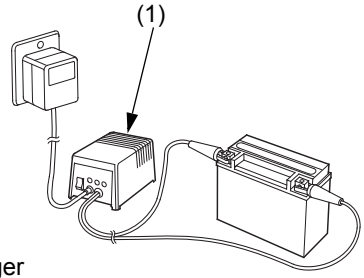
Installation

1. Reinstall in the reverse order of removal. Be sure to connect the positive (+) terminal first, then the negative (–) terminal.
2. Check all bolts and other fasteners are secure.

# Battery

## Battery Charging

Refer to *Safety Precautions* on page 43.




(1) charger

Be sure to read the information that came with your battery charger and follow the instructions on the battery. Improper charging may damage the battery.

We recommend using a charger (1) designed specifically for your Honda, which can be purchased from your dealer. These units can be left connected for long periods without risking damage to the battery. However, do not intentionally leave the charger connected longer than the time period recommended in the charger's instructions.
Avoid using an automotive-type battery charger. An automotive charger can overheat a motorcycle battery and cause permanent damage.

Refer to *Safety Precautions* on page 43.

Frequent cleaning and polishing will keep your Honda looking newer longer. Frequent cleaning also identifies you as an owner who values your motorcycle. A clean motorcycle is also easier to inspect and service.

While you're cleaning, be sure to look for damage, wear, and gasoline or oil leaks.

## General Recommendations

- To clean your motorcycle, you may use:
  – water
  – a mild, neutral detergent and water
  – a mild spray and wipe cleaner/polisher
  – a mild spray and rinse cleaner/degreaser and water
- Avoid products that contain harsh detergents or chemical solvents that could damage the metal, paint, and plastic on your motorcycle.
- If your motorcycle is still warm from recent operation, give the engine and exhaust system time to cool off.

(cont'd)

- We recommend the use of a low pressure garden hose to wash your motorcycle. High pressure washers (like those at coin-operated car washes) can damage certain parts of your motorcycle. If you use a high pressure washer, avoid spraying the following areas:

  - wheel hubs
  - muffler outlet
  - area under seat
  - engine stop switch
  - under fuel tank
  - drive chain
  - throttle body

NOTICE

*High pressure water (or air) can damage certain parts of your motorcycle.*

## Washing Your Motorcycle with a Mild Detergent

1. Rinse your motorcycle thoroughly with cool water to remove loose dirt.
2. Fill a bucket with cool water. Mix in a mild, neutral detergent, such as dish washing liquid or a product made especially for washing motorcycles or automobiles.
3. Wash your motorcycle with a sponge or a soft towel. As you wash, check for heavy grime. If necessary, use a mild cleaner/degreaser to remove the grime.
4. After washing, rinse your motorcycle thoroughly with plenty of clean water to remove any residue.

5. Dry your motorcycle with a chamois or a soft towel. Leaving water on the surface to air dry can cause dulling and water spots. As you dry, inspect for chips and scratches.
6. Lubricate the drive chain to prevent rusting.
7. Start the engine and let it idle for several minutes. The engine heat will help dry moist areas.
8. As a precaution, ride at a slow speed and apply the brakes several times. This will help dry the brakes and restore normal braking performance.

## Exhaust Pipe and Muffler Maintenance

Refer to *Safety Precautions* on page 43.

When the exhaust pipe and muffler are painted, do not use a commercially available abrasive kitchen cleaning compound. Use a neutral detergent to clean the painted surface on the exhaust pipe and muffler. If you are not sure if your exhaust pipe and muffler are painted, contact your dealer.

# Tips

Here's helpful advice on how to prepare for an off-road adventure, how to transport and store your Honda, and how to be an environmentally responsible motorcycle owner.

Preparing for a Ride .....119
Transporting Your Honda .....121
Storing Your Honda .....123
You & the Environment .....125

A safe and enjoyable ride begins with good planning and preparation. Always ride with at least one other person in case you have trouble, and let someone know where you're going and when you expect to return.

Before riding in an unfamiliar area, find out in advance if you need special permits, get maps so you can study the terrain, and talk to other riders who know the area. The Forest Service and the Bureau of Land Management (USA only), the Ministry of Natural Resources (Canada only), riding clubs, and off-road magazines are good sources of information.

## What to Take to the Riding Area

Along with your motorcycle and riding gear, you should take along some tools and supplies in case you have a problem. For some of the difficulties you might encounter, see *Taking Care of the Unexpected*, which begins on page 127.

We recommend that you always take water, food, a first aid kit, and your owner's manual. Other items you should consider loading on your truck or trailer include:

- a tool kit
- tire repair supplies and tools, tubes, and tires
- extra parts, such as a drive chain and master links, control levers, cables, and spark plugs
- wire, duct tape, and rope
- extra gasoline

# Preparing for a Ride

For safety, all refueling should be done at a gas station on the way to the riding area or at your base camp.

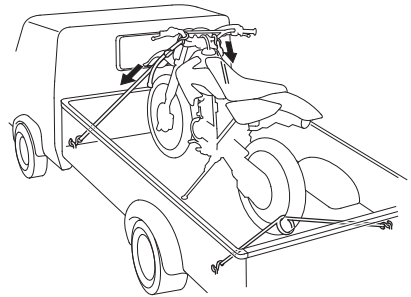
## What to Take on the Trail

What you take with you during a ride depends on the kind of terrain, how long you expect to ride, how far you might go from your base camp or help, and how experienced you or your companions are in making repairs.

If you decide to take some tools, spare parts, or other supplies on the trail, be sure you can carry them safely and know how to use them. Also, be sure to follow the loading guidelines and weight limit (page 9).

If you use a truck or motorcycle trailer to transport your Honda, we recommend that you follow these guidelines:

- Use a loading ramp.
- Secure the motorcycle in an upright position, using motorcycle tie-down straps. Avoid using rope, which can loosen and allow the motorcycle to fall over.



To secure your motorcycle, brace the front wheel against the front of the truck bed or trailer rail. Attach the lower ends of two straps to the tie-down hooks on your vehicle. Attach the upper ends of the straps to the handlebar (one on the right side, the other on the left), close to the fork.

(cont'd)

# Transporting Your Honda

Check that the tie-down straps do not contact any control cables or electrical wiring.

Tighten both straps until the front suspension is compressed about half-way. Too much pressure is unnecessary and could damage the fork seals.

Use another tie-down strap to keep the rear of the motorcycle from moving.

We recommend that you do not transport your motorcycle on its side. This can damage the motorcycle, and leaking gasoline could be a hazard.

# Storing Your Honda

If you won't be riding for an extended period, such as during the winter, thoroughly inspect your motorcycle and correct any problem before storing it. That way, needed repairs won't be forgotten and it will be easier to get your motorcycle running again.

For more information about storage, refer to the *Honda Winter Storage Guide*, available from your dealer (USA only).

We suggest you perform the following procedures to keep your motorcycle in top condition. These storage procedures will reduce the deterioration that can occur during storage.

# Storing Your Honda

## Preparation for Storage

1. Change the engine oil (page 65).
2. Fill the fuel tank. Make sure the fuel fill cap is properly installed.
3. Remove the battery and charge it fully. Store it in an area protected from freezing temperatures and direct sunlight. Slow charge the battery (page 114) once a month.
4. Wash and dry your motorcycle.
5. Lubricate the drive chain (page 107).
6. Inflate the tires to their recommended pressures (page 98).
7. Store your motorcycle in an unheated area, free of dampness, away from sunlight, with a minimum of daily temperature variation.
8. Cover your motorcycle with a porous material. Avoid using plastic or similar non-breathing, coated materials that restrict air flow and allow heat and moisture to accumulate.

## Removal from Storage

1. Uncover and clean your motorcycle.
2. If your motorcycle has been stored for more than four months–change the engine oil (page 65).
3. If your motorcycle has been stored for more than two months–drain and replace the fuel.
4. Charge the battery (page 114) as required. Install the battery.
5. Lubricate the drive chain (page 107).
6. Perform a pre-ride inspection (page 25), then test-ride your motorcycle at low speeds.

Owning and riding a motorcycle can be enjoyable, but you must do your part to protect nature. When you show respect for the land, wildlife, and other people, you also help preserve the sport of off-road riding.

Following are tips on how you can be an environmentally responsible motorcycle owner.

- **Tread Lightly.** Stay on existing roads and trails, avoid surfaces that are easily damaged, and ride only in areas approved for off-road vehicles.
- **Keep the Noise Down.** Loud motorcycles can be offensive. Ride as quietly as possible, don't remove your spark arrester, and don't modify the muffler or any other part of your air intake and exhaust systems. Such modifications not only increase noise, they also reduce engine performance and may be illegal.
- **Choose Sensible Cleaners.** Use a biodegradable detergent when you wash your motorcycle. Avoid aerosol spray cleaners that contain chlorofluorocarbons (CFCs) which damage the atmosphere's protective ozone layer. Don't throw cleaning solvents away; see the following guidelines for proper disposal.

(cont'd)

- **Recycle Wastes.** It's illegal and thoughtless to put used engine oil in the trash, down a drain, or on the ground. Used oil, gasoline, and cleaning solvents contain poisons that can hurt refuse workers and contaminate our drinking water, lakes, rivers, and oceans. Before changing your oil, make sure you have the proper containers. Put oil and other toxic wastes in separate sealed containers and take them to a recycling center. Call your local or state office of public works or environmental services to find a recycling center in your area and get instructions on how to dispose of non-recyclable wastes.

# Taking Care of the Unexpected

With all the challenges you can encounter off-road, there's a chance that sometime something may go wrong. This section gives practical advice to help you deal with a wide range of problems. Take time to read this section before you ride. Also review the tips in *Preparing for a Ride* (page 119).


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# Taking Care of the Unexpected

## General Guidelines

If something goes wrong during a ride, the first thing to do is stop as soon as you safely can. Do not continue riding if you have a flat tire, or you hear an unusual noise, or your motorcycle just doesn't feel right. If you continue riding, you could cause more damage and endanger your own safety.

After a stop, take time to assess the situation. Carefully inspect your motorcycle to identify the problem, then consider your options before you decide what to do.

If a problem is relatively minor and you have the tools, supplies, and skills to make a permanent repair, you may be able to fix it on the trail and continue riding. Or, you may be able to make a temporary repair that allows you to slowly ride back to your base where you can make a permanent repair or get help.

When a problem is more serious – or you don't have the tools, supplies, experience, or time to deal with it – you need to choose the safest way to get yourself and your motorcycle back to base. For example, if you are close enough, you (or you and another person) might be able to push it back.

Whatever the problem, the most important rules are:

- Always put personal safety first.

- If you made temporary repairs, be sure to have permanent repairs made as soon as possible.
- Do not continue riding if you are hurt or your motorcycle is not in safe riding condition.

Additional recommendations for specific problems follow.

## If Your Engine Quits or Won't Start

Proper operation and maintenance can prevent starting and engine performance problems. In many cases, the cause of the problem may be a simple operational oversight.

If you have a problem starting the engine – or experience poor engine performance – the following information may help you. If you can't correct the problem, see your dealer.

If your motorcycle won't start, listen as you press the start button. If you don't hear the starter motor turning, refer to the *Starter motor doesn't operate* symptom. If you can hear the starter motor working normally, refer to the *Starter motor works, but the engine won't start* symptom.

| SYMPTOM: **Starter motor doesn't operate.** | |
|---|---|
| POSSIBLE CAUSE | WHAT TO DO |
| ignition switch ○ (OFF) | Turn the ignition switch ❙ (ON). |
| transmission not in neutral | Shift into neutral. |
| blown fuse | Replace with a new fuse of the same rating (page 134). |
| battery lead loose | Tighten the battery lead. |
| low (or dead) battery | Charge the battery (page 114). If charging doesn't help, see your dealer. |
| faulty starter motor | If all possible causes are negative, the starter motor may be faulty. See your dealer. |

| SYMPTOM: **Starter motor works, but the engine won't start.** | |
|---|---|
| POSSIBLE CAUSE | WHAT TO DO |
| out of fuel | Fill the fuel tank. |
| flooded engine | See *Flooded* Engine (page 32). |
| loose or unconnected spark plug cap | Install the spark plug cap securely. If the engine still won't start, see your dealer. |
| loose battery cables | Tighten the battery terminal bolts. |
| weak battery | Charge the battery (page 114). If charging doesn't help, see your dealer. |

| SYMPTOM: **Engine starts, but runs poorly.** | |
|---|---|
| POSSIBLE CAUSE | WHAT TO DO |
| idles roughly, too fast, stalls | See your dealer. |
| runs erratically, misfires | See your dealer. |
| blubbers (rich fuel mixture) | See your dealer. |

(cont'd)

| SYMPTOM: **Engine starts, but runs poorly. (cont'd)** | |
|---|---|
| POSSIBLE CAUSE | WHAT TO DO |
| sooty exhaust (rich fuel mixture) | See your dealer. |
| detonates or pings under load | If applicable, switch to the recommended octane gasoline (page 58) or change your brand of gasoline. If the problem persists, see your dealer. |
| afterfires (backfires) | See your dealer. |
| pre-ignition (runs on after ignition switched OFF) | See your dealer. |

## If You Have a Flat Tire

How you handle a flat tire on the trail depends on how serious the tube or tire damage is, and what tools and supplies you have with you.

If you have a slow leak or a minor puncture, there are two ways to try making a temporary repair:

- Use an aerosol tire sealer to seal the puncture and inflate the tube. (This can be done without removing the tire or wheel.)
- Use a tube patch kit to repair the puncture. (This requires removing the tire.)

If the leak is more serious, or a temporary repair doesn't hold, the tube must be replaced. The tire will also need to be replaced if it is damaged (page 101). Replacing a tube or tire involves removing and re-installing the wheel (pages 94, 96).

If you are unable to repair a flat tire on the trail, you will need to push the motorcycle back to your base or send for help. We strongly recommend that you do not try to ride with a flat tire. The motorcycle will be hard to handle, and if the tire comes off the rim, it may lock up the wheel and cause you to crash.

**⚠ WARNING**

Riding your motorcycle with a temporary tire repair can be risky.

If the temporary repair fails, you can crash and be seriously injured or killed. If you must ride with a temporary tire repair, ride slowly and carefully until the tire is permanently repaired or replaced.

## If a Fuse Blows

All of the electrical circuits on your motorcycle have fuses to protect them from damage caused by excess current flow (short circuit or overload).

If something electrical on your motorcycle stops working, the first thing you should check for is a blown fuse.
Check fuses before looking elsewhere for another possible cause of the problem. Replace any blown fuse and check component operation.

The main fuse and sub fuse are located behind the left side cover.

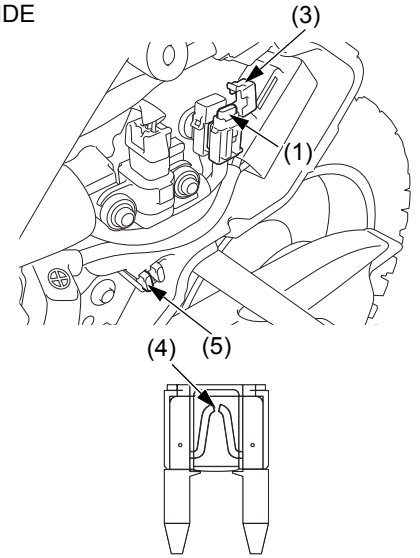
Recommended Fuses

| | |
|---|---|
| main fuse | 10 A |
| sub fuse | 5 A |

1. To prevent an accidental short circuit, turn the ignition switch ○ (OFF) before checking or replacing the fuse.
2. For access the main fuse (1) and sub fuse (2), remove the left side cover (page 54).

*Main Fuse Access:*

3. Open the fuse case (3) and pull the fuse out. If the main fuse is blown (4), install the spare main fuse (5).
4. Close the fuse case.




(1) main fuse
(3) fuse case
(4) blown fuse
(5) spare main fuse

(cont'd)

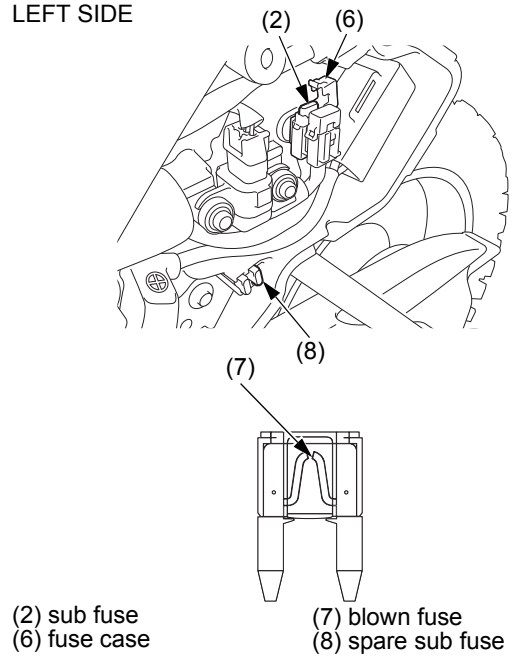
*Sub Fuse Access:*

5. Open the fuse case (6) and pull the sub fuse out. If the sub fuse is blown (7), install the spare sub fuse (8).
6. Close the fuse case.
7. Install the left side cover.

If you do not have a replacement fuse with the proper rating for the circuit, install one with a lower rating.

**NOTICE**

*Replacing a fuse with one that has a higher rating greatly increases the chance of damage to the electrical system.*



## If You Crash

Personal safety is your first priority after a crash. If you or anyone else has been injured, take time to assess the severity of the injuries and whether it is safe to continue riding. If you cannot ride safely, send someone for help. Do not ride if you will risk further injury.

If you decide that you are capable of riding safely, first evaluate the condition of your motorcycle. If the engine is still running, turn it off and look it over carefully; inspect it for fluid leaks, check the tightness of critical nuts and bolts, and secure such parts as the handlebar, control levers, brakes, and wheels.

If there is minor damage, or you are unsure about possible damage but decide to try riding the motorcycle back to your base, ride slowly and cautiously.

Sometimes, crash damage is hidden or not immediately apparent. When you get home, thoroughly check your motorcycle and correct any problems you find. Also, be sure to have your dealer check the frame and suspension after any serious crash.

# Taking Care of the Unexpected

## If You Lose Your Key

Be sure to record the key number provided with the original keys. Store the spare key and recorded key number in a safe location. You'll need this number to have a duplicate key made.

If you lose your key and aren't carrying a duplicate, either get your spare or have one made. If you don't know your key number, call the dealer where you purchased your Honda. They may have it listed in their records. If they don't, transport your motorcycle to them or the nearest dealer. The dealer will probably have to remove the ignition switch assembly to find the key number so they can make a key for you.

## If a Component Fails

The drive chain, master link, brake lever or pedal, control cables, and other components can be damaged as you ride in dense brush or over rocky terrain. Making a trailside repair depends on how serious the damage is and what tools and supplies you have with you.

- If the drive chain comes off because the master link clip gets knocked off, you may be able to put the chain back on with a new master link. However, if the chain breaks or does other damage when it comes off, you may not be able to make a trailside repair.

(cont'd)

- If any component of the front brake system is damaged, you may be able to ride carefully back to your base using the rear brake for slowing or stopping.
- If you damage a throttle cable or other critical component, your motorcycle may be unsafe to ride. Carefully assess the damage and make any repairs that you can. But if there is any doubt, it's best to be conservative and safe.

## If Your Battery Is Low (or Dead)

Jump starting is not recommended, especially if you use an automobile battery. The greater amperage of an automobile battery when the car engine is running can damage your motorcycle's electrical system.

Bump starting is also not recommended.

If you can't charge the battery or it appears unable to hold a charge, contact your dealer.

## Unstable Engine Operation Occurs Intermittently

If the fuel pump filter is clogged, unstable engine operation will occur intermittently while riding.
Even if this symptom occurs, you can continue to ride your motorcycle.
If unstable engine operation occurs even if sufficient fuel is available, have your motorcycle inspected by your dealer as soon as possible.

# Technical Information

This section contains dimensions, capacities, and other technical data, plus information on government requirements and how to break-in your motorcycle.

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# Vehicle Identification

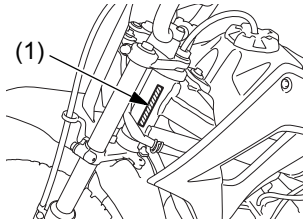
## Serial Numbers

The VIN and engine serial number are required when you register your motorcycle. They may also be required when ordering replacement parts. You may record these numbers in the *Quick Reference* section at the rear of the manual.

The VIN (1) is stamped on the left side of the steering head.

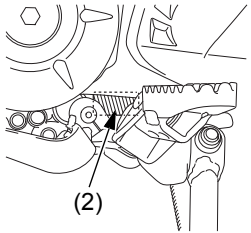
The engine number (2) is stamped on the left side of the engine.

LEFT SIDE




(1) VIN

LEFT SIDE




(2) engine number

| Dimensions | |
|---|---|
| Overall length | 60.6 in (1,540 mm) |
| Overall width | 26.6 in (675 mm) |
| Overall height | 36.4 in (925 mm) |
| Wheelbase | 41.9 in (1,065 mm) |

| Fuel & Lubricants | |
|---|---|
| Fuel tank capacity | 0.98 US gal (3.7 ℓ) including reserve |
| Fuel recommendation | unleaded gasoline, pump octane number of 86 or higher |
| Air cleaner oil | Pro Honda (USA only) or Honda (Canada only) Foam Filter Oil or equivalent |
| Engine oil capacity | after draining: 1.1 US qt (1.0 ℓ) after disassembly: 1.22 US qt (1.15 ℓ) |

(cont'd)

# Specifications

| Fuel & Lubricants | |
|---|---|
| Engine oil recommendation | API Service Classification SJ or higher except oils labeled as energy conserving or resource conserving on the circular API service label, SAE 10W-30, JASO T 903 standard MA, Pro Honda GN4 4-stroke oil (USA & Canada), or Honda 4-stroke oil, or an equivalent motorcycle oil |

| Fuel & Lubricants | |
|---|---|
| Drive chain lubricant | Recommended lubricant: Pro Honda HP Chain Lube or equivalent |

| Capacities | |
|---|---|
| Passenger capacity | operator only; no passenger |
| Maximum weight capacity | 132 lb (60 kg) |
| Cargo capacity | none |

| Engine Specifications | |
|---|---|
| Displacement | 6.6 cu-in (109 $cm^3$) |
| Bore & stroke | 1.97 × 2.19 in (50.0 × 55.6 mm) |
| Compression ratio | 9.0 : 1 |

| Engine Specifications | |
|---|---|
| Valve clearance (cold) | Intake: 0.004 ± 0.001 in (0.10 ± 0.02 mm) Exhaust: 0.006 ± 0.001 in (0.15 ± 0.02 mm) |
| Spark plug (standard) | CPR6EA-9S (NGK) |
| Spark plug gap | 0.03 - 0.04 in (0.8 - 0.9 mm) |
| Idle speed (non-adjustable) | 1,400 ± 100 rpm |

| Power Transmission | |
|---|---|
| Primary reduction | 4.058 |
| Gear ratio, 1st | 2.615 |
| 2nd | 1.555 |
| 3rd | 1.136 |
| 4th | 0.916 |
| Final reduction | 2.714 |
| Final drive | chain |

(cont'd)

# Specifications

| Power Transmission | |
|---|---|
| Drive chain freeplay | 3/8–13/16 in (10–20 mm) |
| New chain length | 42.5 in (1,080 mm) distance between a span of 86 pins |
| Used chain service limit length | 43.3 in (1,101 mm) distance between a span of 86 pins |

| Chassis & Suspension | |
|---|---|
| Caster | 24°25′ |
| Trail | 2.0 in (52 mm) |
| Tire size, front | 70/100-14M/C 37J |
| Tire size, rear | 80/100-12 50J |
| Tire type | bias-ply, tube |
| Tire pressure, front (cold) | 15 psi (100 kPa, 1.00 kgf/cm$^2$) |
| Tire pressure, rear (cold) | 15 psi (100 kPa, 1.00 kgf/cm$^2$) |
| Suspension, front | 4.33 in (110.0 mm) cushion stroke |
| | 3.9 in (100 mm) axle travel |
| Suspension, rear | 3.8 in (97 mm) axle travel |

| Electrical | |
|---|---|
| Battery | YTZ4V<br>12 V–3 Ah (10 HR) |
| Generator | 0.09 kW/5,000 rpm |

| Fuse | |
|---|---|
| Main | 10 A |
| Sub | 5 A |

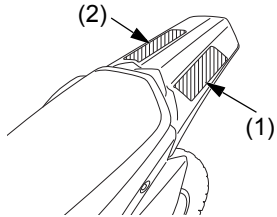
| Torque Specifications | |
|---|---|
| Engine oil drain bolt | 18 lbf·ft<br>(24 N·m, 2.4 kgf·m) |
| Air cleaner housing cover bolt | 1.1 lbf·ft<br>(1.5 N·m, 0.2 kgf·m) |
| Spark arrester bolt | 7 lbf·ft<br>(10 N·m, 1.0 kgf·m) |
| Muffler protector screw | 6.6 lbf·ft<br>(9 N·m, 0.9 kgf·m) |
| Front axle nut | 44 lbf·ft<br>(59 N·m, 6.0 kgf·m) |
| Rear axle nut | 47 lbf·ft<br>(64 N·m, 6.5 kgf·m) |

# Break-in Guidelines

Help assure your motorcycle's future reliability and performance by paying extra attention to how you ride during the first operating day or 15 miles (25 km).
During this period, avoid full-throttle starts and rapid acceleration.

**Exhaust Emission Requirements**
The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and Environment and Climate Change Canada (ECCC) require that your motorcycle comply with applicable exhaust emissions standards during its useful life, when operated and maintained according to the instructions provided.

The Vehicle Emission Control Information Label (1) (2) is attached to the rear fender.




(1) vehicle emission control information label
(2) vehicle emission control information label (Canada only)

**Noise Emission Requirements**
The EPA also requires that motorcycles built after January 1, 1983 comply with applicable noise emission standards for one year or 1,865 miles (3,000 km) after the time of sale to the ultimate purchaser, when operated and maintained according to the instructions provided. (USA only)

# Emission Control Systems

**Source of Emissions**
The combustion process produces carbon monoxide (CO), oxides of nitrogen (NOx), and hydrocarbons (HC). Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Honda Motor Co., Ltd. utilizes various systems to reduce carbon monoxide, oxides of nitrogen and hydrocarbons.

**Exhaust Emission Control System**
The exhaust emission control system includes a PGM-FI system.
No adjustment to this system should be made although periodic inspection of the components is recommended.
The exhaust emission control system is separate from the crankcase emission control system.

**Evaporative Emission Control System (USA - 50 States (meets California) only)**
An evaporative emission control system uses pressure proof fuel tank and fuel fill cap which maintains inside of the fuel tank at a high pressure to keep fuel vapor in itself while the engine is off.
Models sold in and used in California:
An add-on or modified part must be compliant with applicable ARB evaporative emission control standards. A violation of this requirement is punishable by civil and/or criminal punishment.

**Crankcase Emission Control System**
The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere.
Blow-by gas is returned to the combustion chamber through the crankcase breather hose, air cleaner and throttle body.

# Emission Control Systems

**Noise Emission Control System**

TAMPERING WITH THE NOISE CONTROL SYSTEM IS PROHIBITED: U. S. federal law prohibits, or Canadian provincial laws may prohibit the following acts or the causing thereof: (1) The removal or rendering inoperative by any person, other than for purposes of maintenance, repair or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW:

- Removal of, or puncturing the muffler, baffles, header pipes, or any other component which conducts exhaust gases.
- Removal of, or puncturing of any part of the intake system.
- Lack of proper maintenance.
- Removing or disabling any emissions compliance component, or replacing any compliance component with a non-compliant component.

**Problems that May Affect Motorcycle Emissions**

If you are aware of any of the following symptoms, have the vehicle inspected and repaired by your Honda Motorcycle Dealer:

1. Hard starting or stalling after starting
2. Rough idle
3. Misfiring or backfiring during acceleration
4. After-burning (backfiring)
5. Poor performance (driveability) and poor fuel economy

Federal regulations prohibit removing or disabling a device or element of design that may affect your engine's emission performance unless your motorcycle will be used exclusively in competition. If you modify your engine for use in sanctioned competition events, you must deface or destroy the emission control information label.

If you loan, sell, or give your competition modified motorcycle to someone else, according to applicable law, you must inform the new owner/operator in writing that the vehicle is to be used for competition only.

**Fuel Permeation Emission Control System**

This vehicle complies with the Fuel Permeation Emission Control regulations of the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and Environment and Climate Change Canada (ECCC).

The fuel tank, fuel hoses, and fuel vapor charge hoses used on this vehicle incorporate fuel permeation control technologies. Tampering with the fuel tank, fuel hoses, or fuel vapor charge hoses to reduce or defeat the effectiveness of the fuel permeation technologies is prohibited by federal regulations.

# Oxygenated Fuels

Some conventional gasolines are being blended with alcohol or an ether compound. These gasolines are collectively referred to as oxygenated fuels. To meet clean air standards, some areas of the United States and Canada use oxygenated fuels to help reduce emissions.

If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement.

Before using an oxygenated fuel, try to confirm the fuel's contents. Some states/provinces require this information to be posted on the pump.

The following percentages of oxygenates:

ETHANOL (ethyl or grain alcohol) up to 10% by volume.
You may use gasoline containing up to 10% ethanol by volume. Gasoline containing ethanol may be marketed under the name "Gasohol".

Do not use gasoline containing METHANOL (methyl alcohol).

# Oxygenated Fuels

If you notice any undesirable operating symptoms, try another service station or switch to another brand of gasoline.

Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

Oxygenated fuels can damage paint and plastic. Be careful not to spill fuel when filling the fuel tank. Wipe up any spills immediately.

NOTICE

*Oxygenated fuels can damage paint and plastic. Damage caused by spilled fuel is not covered under warranty.*

# Consumer Information

This section contains information on your warranty and how to get an official Honda service manual.

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Warranty Coverage ..... 159
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# Authorized Manuals

The Service Manual used by your authorized dealer is available from your Honda dealer or Helm, Inc. (USA only, Canada: See your dealer to order authorized manuals.)

Also available, but not necessary to service your model, is the Honda Common Service Manual, which explains basic service information for various systems on Honda motorcycles, scooters, and ATV.

The Winter Storage Guide in conjunction with the Owner's Manual and Service Manual can help you prepare your Honda motorcycle, scooter, ATV, and SxS for winter storage.

These Honda manuals are written for the professional technician. However, if you possess the proper tools, observe the safety standards, and are mechanically capable, you should find them easy to use. Special Honda tools are necessary for some procedures.

| Description |
|---|
| 2023 CRF110F Service Manual |
| Common Service Manual (61CSM00) |
| Winter Storage Guide (S9507) |
| 2023 CRF110F Owner’s Manual |

**Order online: www.helminc.com**

**Order Toll Free: 1-888-CYCLE93** (1-888-292-5393)
*(NOTE: For Credit Card Orders Only)*
Monday – Friday 8:00 AM – 6:00 PM EST

# Warranty Coverage

Your new Honda is covered by these warranties:

- Motorcycle Limited Warranty
- Emission Control System Warranty
- Noise Control Warranty (USA only)

The information of your warranty coverage is in the Honda Motorcycle Warranties Booklet that was provided to you by your Honda dealer. Please read this booklet and be aware of the responsibilities, restrictions, and exclusions which apply.
Please also keep your Honda owner's card with your Warranties Booklet.

Canada: Please refer to the Warranty Booklet posted on our website at www.honda.ca.

It is important to realize that your warranty for your Honda applies to defects in material or factory workmanship. Your warranty coverage does not apply to normal wear or deterioration associated with using the motorcycle.

Your warranty coverage will not be voided if you choose to perform your own maintenance. However, you should have the proper tools and service information and be mechanically qualified. Failures that occur due directly to improper maintenance or lack of maintenance are not covered.

Almost all of your warranty coverage can be extended through the HondaCare® Protection Plan (USA only). For more information, see your dealer.

# Warranty Service

Please remember that recommended maintenance interval servicing is not included in your warranty coverage. Additionally, your warranty does not apply to the normal wear of items (such as brakes, tires, etc.).

If you believe you have a problem with your Honda, call the service department of your dealer. Make an appointment for an inspection and diagnosis. Remember, as the owner of the motorcycle, you will be asked to authorize that inspection. Your dealer will give you the results of the inspection. If the problem is covered under warranty, your dealer will perform the warranty repairs for you.

If you have questions about warranty coverage or the nature of the repair, it is best to talk to the Service Manager of your dealer.

Sometimes, in spite of the best intentions of all concerned, a misunderstanding may occur. If you aren't satisfied with your dealer's handling of the situation, we suggest you discuss your problem with the appropriate member of the dealership's management team. If the problem has already been reviewed with the Service Manager, Parts Manager, Sales Manager, etc., contact the Owner of the dealership or their designated representative.

# Contacting Honda

Your owner's manual was written to cover most of the questions you might ask about your Honda. Any questions not answered in the owner's manual can be answered by your dealer. If they do not have the answer right away, they will get it for you.

If you have a difference of opinion with your dealer, please remember that each dealership is independently owned and operated. That's why it's important to work to resolve any differences at the dealership level.

If you wish to contact Honda directly to comment on your experiences with your Honda or with your dealer, please send your comments using one of the following methods:

USA:

POST MAIL

Powersports Customer Relations,
American Honda Motor Co., Inc.
P.O. Box 2200, Torrance, CA 90509-2200
Mailstop: 100-4W-5F

PHONE

Telephone: (866) 784-1870

ONLINE CUSTOMER SERVICE

Website: *www.powersports.honda.com/contact-us*

Canada: Honda Canada Inc., Customer Relations Dept, 180 Honda Boulevard, Markham, Ontario L6C 0H9, telephone: (888) 946-6329, facsimile: (877) 939-0909.
E-mail: honda_cr@ch.honda.com

# Contacting Honda

Please include the following information in your letter:

- name, address, and telephone number
- product model, year, and VIN
- date of purchase
- dealer name and address

We will likely ask your dealer to respond, or possibly acknowledge your comments directly.

# Your Honda Dealer

Once you purchase your new Honda, get familiar with the organization of your Honda dealer so you can utilize the full range of services available.

The service department is there to perform regular maintenance and unexpected repairs. It has the latest available service information from Honda. The service department will also handle warranty inspections and repairs.

The parts department offers Honda Genuine Parts, Pro Honda products, Honda Accessories (USA only), and Honda accessories and products (Canada only). The same quality that went into your Honda can be found in Honda Genuine replacement parts. You'll also find comparable quality in the accessories and products available from the parts department.

The sales department offers the HondaCare® Protection Plan to extend almost all of your warranty coverage (USA only).

Your dealer can inform you about competition and other riding events in your area. You'll also find that your dealer is a source of information (USA only) about safety training available in your local area.

We're sure you'll be as pleased with the service your dealer continues to provide after the sale as you are with the quality and dependability of your Honda.

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The following is a brief, but important collection of information you need to know about your Honda. You'll also find space to record important notes.

## How To Avoid Costly Repairs

Your Honda engine can be the most expensive component to repair. Proper maintenance, especially the use of the recommended fluids and filters, prevents premature wear and damage.

Frequent causes of costly engine repairs are:

- Engine oil -- insufficient quantity, improper oil.
- Air cleaner -- dirty, cleaned but not oiled, leaking because of improper installation (poor seal).

Frequent causes of costly chassis repair are:

- Chain -- A loosely adjusted chain or a chain stretched because of lack of lubrication may come off and damage an engine case or wheel hub.
- Spokes -- Loose spoke may break and damage the wheel hub or rim.

Record important information on the following page:

# Quick Reference

Record important information here:

| | |
|---|---|
| VIN | |
| Engine No. | |
| Owner's: | |
| Name | |
| Address | |
| City/State | |
| Phone | |
| Dealer's: | |
| Name | |
| Address | |
| City/State | |
| Phone | |
| Service Mgr. | |

| | |
|---|---|
| Initial Maintenance | about 100 miles (150 km) or 1 month. |
| Regular Maintenance | about every 600 miles (1,000 km) or 6 months. |
| Pre-ride Inspection | Check the following items each time before you ride (page 25): tires, spokes & rims, leaks, engine oil, fuel, drive chain, cables, nuts & bolts, spark plug & cap, throttle, and brakes. |
| Fuel/Capacity | unleaded gasoline, pump octane number of 86 or higher<br>tank: 0.98 US gal (3.7 ℓ) |
| Engine Oil/ Capacity | API Service Classification SJ or higher except oils labeled as energy conserving or resource conserving on the circular API service label, SAE 10W-30, JASO T 903 standard MA, Pro Honda GN4 4-stroke oil (USA & Canada), or Honda 4-stroke oil, or an equivalent motorcycle oil<br>after draining: 1.1 US qt (1.0 ℓ) |
| Maximum Weight Capacity | 132 lb (60 kg)<br>rider only (no passenger or cargo) and any accessories |
| Tires | Front: 70/100-14M/C 37J Rear: 80/100-12 50J<br>Type: bias-ply, tube |
| Tire Pressure (cold) | Front: 15 psi (100 kPa , 1.00 kgf/cm$^2$)<br>Rear 15 psi (100 kPa , 1.00 kgf/cm$^2$) |
| Spark Plug | CPR6EA-9S (NGK) |
| Fuse | main: 10 A sub: 5 A |

# Quick Reference

These symbols are used in Operating Controls section:

| SYMBOL | COMPONENT | SEE PAGE |
|---|---|---|
|  | ON – ignition switch | 17 |
|  | OFF – ignition switch | 17 |
|  | START button | 18 |
|  | STOP – engine stop switch | 18 |
|  | RUN – engine stop switch | 18 |
|  | PGM-FI Malfunction Indicator Lamp (MIL) | 20 |
|  | fuel reserve indicator | 20 |
|  | ignition indicator | 20 |

California Proposition 65 Warning

⚠ **WARNING**: Operating, servicing and maintaining a passenger vehicle or off-highway motor vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.
For more information go to
www.P65Warnings.ca.gov/passenger-vehicle.




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