

 **HONDA**

OWNER'S MANUAL

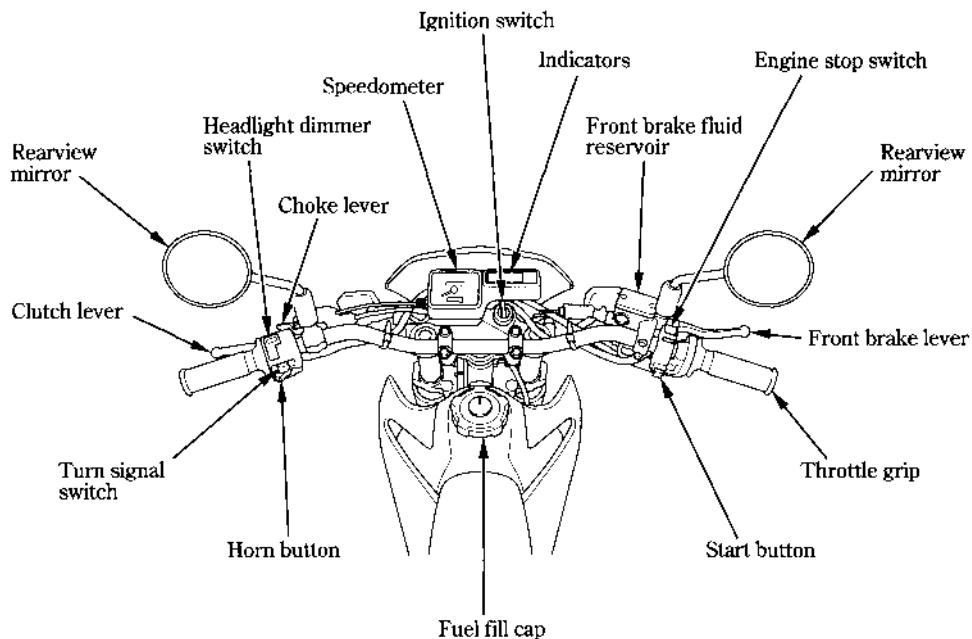


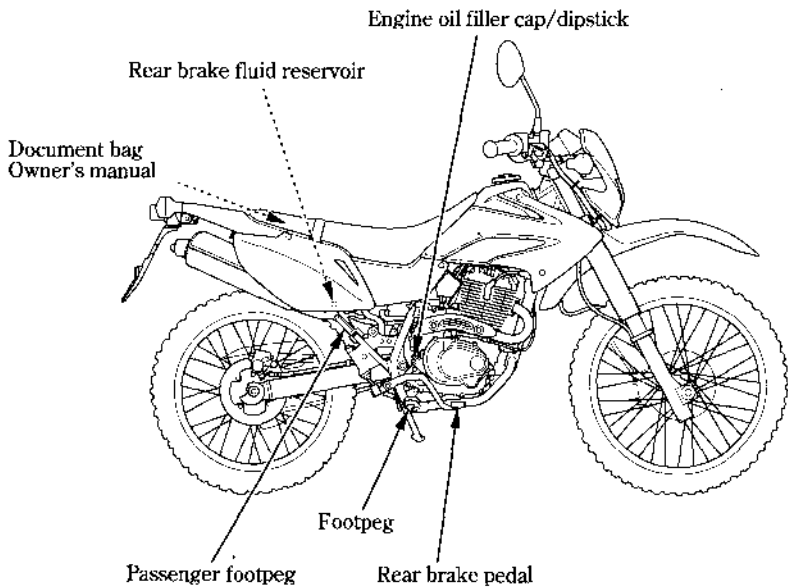
CRF230L

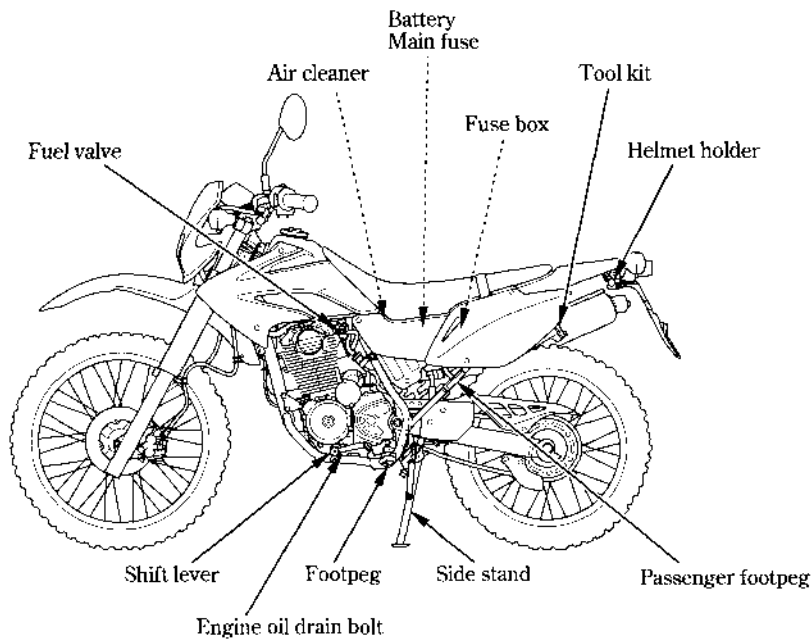
Honda CRF230L

OWNER'S MANUAL

PARTS LOCATION





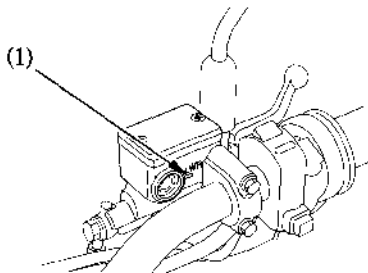


Front Brake Fluid Level:

With the motorcycle in an upright position, check the fluid level. It should be above the LWR mark (1). If the level is at or below the LWR mark, check the brake pads for wear (page 88).

Worn pads should be replaced. If the pads are not worn, have your brake system inspected for leaks.

The recommended brake fluid is Honda DOT 4 brake fluid from a sealed container, or an equivalent.



(1) LWR mark

Other Checks:

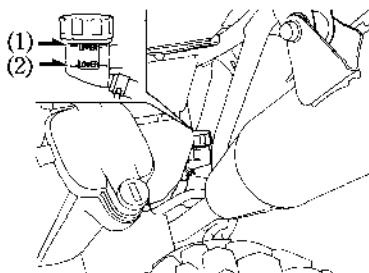
Make sure there are no fluid leaks. Check for deterioration or cracks in the hoses and fittings.

Rear Brake Fluid Level:

With the motorcycle in an upright position, check the fluid level. It should be between the UPPER (1) and LOWER (2) level marks. If the level is at or below the LOWER level mark (2), check the brake pads for wear (page 88).

Worn pads should be replaced. If the pads are not worn, have your brake system inspected for leaks.

The recommended brake fluid is Honda DOT 4 brake fluid from a sealed container, or an equivalent.



- (1) UPPER level mark
- (2) LOWER level mark

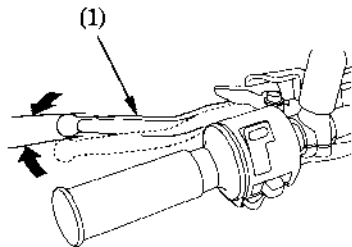
Other Checks:

Make sure there are no fluid leaks. Check for deterioration or cracks in the hoses and fittings.

CLUTCH

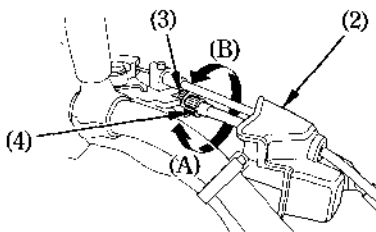
Clutch adjustment may be required if the motorcycle stalls when shifting into gear or tends to creep; or if the clutch slips, causing acceleration to lag behind engine speed. Minor adjustments can be made with the clutch cable adjuster (4) at the clutch lever (1).

Normal clutch lever freeplay is:
10–20 mm (0.4–0.8 in)



(1) Clutch lever

1. Pull back the rubber dust cover (2).
2. Loosen the lock nut (3) and turn the clutch cable adjuster. Tighten the lock nut and check the adjustment.
3. If the adjuster is threaded out near its limit or if the correct freeplay cannot be obtained, loosen the lock nut and turn in the clutch cable adjuster completely. Tighten the lock nut and install the dust cover.



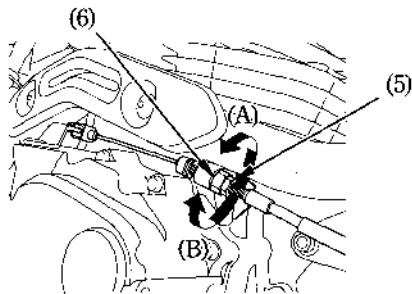
- (2) Rubber dust cover (A) Increase freeplay
(3) Lock nut (B) Decrease freeplay
(4) Clutch cable adjuster

- Loosen the lock nut (5) at the lower end of the cable. Turn the adjusting nut (6) to obtain the specified freeplay. Tighten the lock nut and check the adjustment.
- Start the engine, pull in the clutch lever and shift into gear. Make sure the engine does not stall and the motorcycle does not creep. Gradually release the clutch lever and open the throttle. The motorcycle should begin to move smoothly and accelerate gradually.

If proper adjustment cannot be obtained or the clutch does not work correctly, see your Honda dealer.

Other Checks:

Check the clutch cable for kinks or signs of wear that could cause sticking or failure. Lubricate the clutch cable with a commercially available cable lubricant to prevent premature wear and corrosion.



(5) Lock nut
(6) Adjusting nut

(A) Increase freeplay
(B) Decrease freeplay

FUEL

Fuel Valve

The three way fuel valve (1) is on the left side near the carburetor.

ON

With the fuel valve in the ON position, fuel will flow from the main fuel supply to the carburetor.

OFF

With the fuel valve in the OFF position, fuel cannot flow from the tank to the carburetor. Turn the valve OFF whenever the motorcycle is not in use.

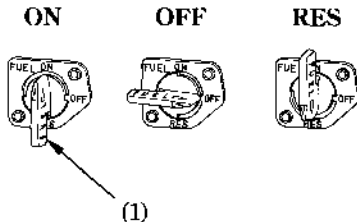
RES

With the fuel valve in the RES position, fuel will flow from the reserve fuel supply to the carburetor. Use the reserve fuel only when the main supply is gone. Refill the tank as soon as possible after switching to RES.

The reserve fuel supply is:

2.7 l (0.71 US gal , 0.59 Imp gal)

Remember to check that the fuel valve is in the ON position each time you refuel. If the valve is left in the RES position, you may run out of fuel with no reserve.



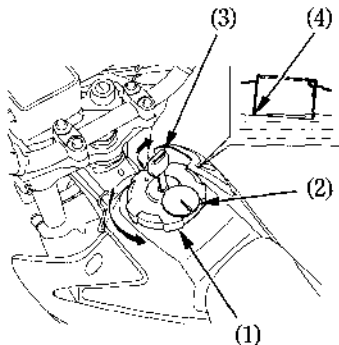
(1) Fuel valve

Fuel Tank

The fuel tank capacity including the reserve supply is:

8.7 ℓ (2.30 US gal , 1.91 Imp gal)

To open the fuel fill cap (1), open the fuel fill cap cover (2), insert the ignition key (3) and turn it clockwise and then turn the fuel fill cap counterclockwise.



- | | |
|-------------------------|------------------|
| (1) Fuel fill cap | (3) Ignition key |
| (2) Fuel fill cap cover | (4) Filler neck |

Do not overfill the tank. There should be no fuel in the filler neck (4).

After refueling, install the fuel fill cap by turning it clockwise. Turn the ignition key counterclockwise and remove it. Close the fuel fill cap cover.

⚠ WARNING

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

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

Use unleaded petrol with a research octane number of 91 or higher.

NOTICE

If “spark knock” or “pinking” occurs at a steady engine speed under normal load, change brands of petrol. If spark knock or pinking persists, consult your Honda dealer. Failure to do so is considered misuse, and damage caused by misuse is not covered by Honda’s Limited Warranty.

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

Petrol Containing Alcohol

If you decide to use a petrol containing alcohol (gasohol), be sure it's octane rating is at least as high as that recommended by Honda. There are two types of "gasohol": one containing ethanol, and the other containing methanol. Do not use petrol that contains more than 10 % ethanol. Do not use petrol containing methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol. Never use petrol containing more than 5 % methanol, even if it has cosolvents and corrosion inhibitors.

The use of petrol containing more than 10 % ethanol (or more than 5 % methanol) may:

- Damage the painting of the fuel tank.
- Damage the rubber tubes of the fuel line.
- Cause corrosion of the fuel tank.
- Cause poor drivability.

Before buying fuel from an unfamiliar station, try to find out if the fuel contains alcohol. If it does, confirm the type and percentage of alcohol used. If you notice any undesirable operating symptoms while using a petrol that contains alcohol, or one that you think contains alcohol, switch to a petrol that you know does not contain alcohol.

ENGINE OIL

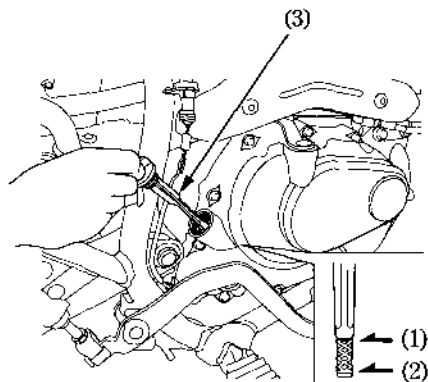
Engine Oil Level Check

Check the engine oil level each day before riding the motorcycle.

The level must be maintained between the upper (1) and lower (2) level marks on the oil filler cap/dipstick (3).

1. Start the engine and let it idle for 3–5 minutes.
2. Stop the engine and hold the motorcycle in an upright position on firm, level ground.
3. After 2–3 minutes, remove the oil filler cap/dipstick, wipe it clean, and reinsert the oil filler cap/dipstick without screwing it in. Remove the oil filler cap/dipstick. The oil level should be between the upper and lower level marks on the oil filler cap/dipstick.
4. If required, add the specified oil (see page 65) up to the upper level mark. Do not overfill.

5. Reinstall the oil filler cap/dipstick. Check for oil leaks.



- (1) Upper level mark
- (2) Lower level mark
- (3) Oil filler cap/dipstick

TYRES

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

⚠ WARNING

Using tyres 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 tyre inflation and maintenance.

Air Pressure

Properly inflated tyres provide the best combination of handling, tread life, and riding comfort. Generally, underinflated tyres wear unevenly, adversely affect handling, and are more likely to fail from being overheated. Underinflated tyres can also cause wheel damage in rocky terrain. Overinflated tyres 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 tyres are “cold” – when the motorcycle has been parked for at least three hours. If you check air pressure when your tyres are “warm” – when the motorcycle has been ridden for even a few miles – the readings will be higher than if the tyres were “cold”. This is normal, so do not let air out of the tyres to match the recommended cold air pressures given below. If you do, the tyres will be underinflated.

The recommended “cold” tyre pressures are:

Front	125 kPa (1.25 kgf/cm ² , 18 psi)
Rear	150 kPa (1.50 kgf/cm ² , 22 psi)

Inspection

Whenever you check the tyre pressures, you should also examine the tyre treads and sidewalls for wear, damage, and foreign objects:

Look for:

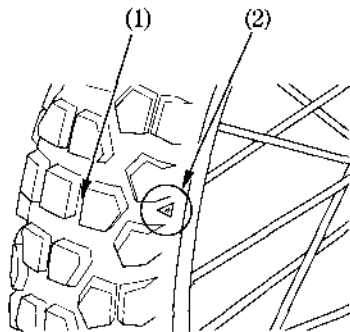
- Bumps or bulges in the side of the tyre or the tread. Replace the tyre if you find any bumps or bulges.
- Cuts, splits or cracks in the tyre. Replace the tyre if you can see fabric or cord.
- Excessive tread wear.

Also, if you hit a pothole or hard object, pull to the side of the road as soon as you can safely and carefully inspect the tyres for damage.

Tread Wear

Replace tyres before tread depth at the center of the tyre reaches the following limit:

Minimum tread depth	
Front:	3.0 mm (0.12 in)
Rear:	3.0 mm (0.12 in)



- (1) Wear indicator
- (2) Wear indicator location mark

Tube Repair and Replacement

If a tube is punctured or damaged, you should replace it as soon as possible. A tube that is repaired may not have the same reliability as a new one, and it may fail while you are riding.

If you need to make a temporary repair by patching a tube or using an aerosol sealant, ride cautiously at reduced speed and have the tube replaced before you ride again. Any time a tube is replaced, the tyre should be carefully inspected as described on page 26 .

Tyre Replacement

The tyres that came on your motorcycle were designed to match the performance capabilities of your motorcycle and provide the best combination of handling, braking, durability and comfort.

⚠ WARNING

Installing improper tyres 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 tyres recommended in this owner's manual.

The recommended tyres for your motorcycle are:

Front: 2.75-21 45P

BRIDGESTONE

TW27

Rear: 120/80-18M/C 62P

BRIDGESTONE

TW30

Type: bias-ply, tube

Whenever you replace a tyre, use one that is equivalent to the original and be sure the wheel is balanced after the new tyre is installed.

Also remember to replace the inner tube whenever you replace a tyre. The old tube will probably be stretched, and if installed in a new tyre, it could fail.

SEAT

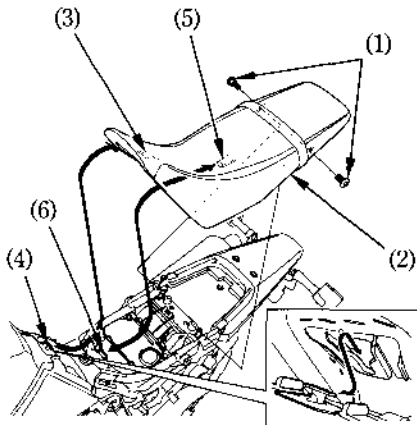
The seat must be removed for air cleaner maintenance and to access the owner's manual.

Removal:

1. Remove the right and left side covers (page 35, 36).
2. Remove the seat mounting bolts (1).
3. Remove the seat (2) by pulling up and backward.

Installation:

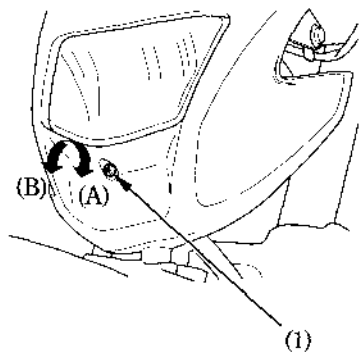
1. Insert the front recess (3) into the front prong (4) and the rear prong (5) into the rear recess (6).
2. Tighten the seat mounting bolts securely.
3. Install the both side covers.



- | | |
|-------------------------|-----------------|
| (1) Seat mounting bolts | (4) Front prong |
| (2) Seat | (5) Rear prong |
| (3) Front recess | (6) Rear recess |

HEADLIGHT AIM VERTICAL ADJUSTMENT

Vertical adjustment can be made by turning the screw (1) in or out as necessary. Obey local laws and regulations.



(1) Screw

(A) Up

(B) Down

MAINTENANCE SCHEDULE

Perform the Pre-ride Inspection (page 41) at each scheduled maintenance period.

I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY

C: CLEAN R: REPLACE A: ADJUST L: LUBRICATE

The following items require some mechanical knowledge. Certain items (particularly those marked * and **) may require more technical information and tools. Consult your Honda dealer.

- * Should be serviced by your Honda dealer, unless the owner has proper tools and service data and is mechanically qualified. Refer to the Official Honda Shop Manual.
- ** In the interest of safety, we recommend these items be serviced only by your Honda dealer.

Honda recommends that your Honda dealer should road test your motorcycle after each periodic maintenance is carried out.

- NOTES:
- (1) At higher odometer readings, repeat at the frequency interval established here.
 - (2) Service more frequently when riding in unusually wet or dusty areas.
 - (3) Service more frequently when riding in rain or at full throttle.
 - (4) Service more frequently when riding OFF-ROAD.
 - (5) Replace every 2 years, or at indicated odometer interval, whichever comes first. Replacement requires mechanical skill.

ITEM	FREQUENCY	WHICHEVER → COMES FIRST ↓ NOTE	ODOMETER READING [NOTE (1)]								Refer to Page
			× 1,000 km	1	6	12	18	24	30	36	
			× 1,000 mi	0.6	4	8	12	16	20	24	
			MONTH	6	12	18	24	30	36		
* FUEL LINE					I		I		I		
* FUEL STRAINER SCREEN				C	C	C	C	C	C	—	
* THROTTLE OPERATION					I		I		I	73	
* CHOKE OPERATION					I		I		I	—	
AIR CLEANER	NOTE (2)					R			R	62	
* SUB AIR CLEANER						R			R	—	
CRANKCASE BREATHER	NOTE (3)			C	C	C	C	C	C	64	
SPARK PLUG				I	R	I	R	I	R	71	
* VALVE CLEARANCE				I	I	I	I	I	I	—	
ENGINE OIL	NOTE (5)			R	EVERY 3,200 km (2,000 mi)				R	68	
* ENGINE OIL STRAINER SCREEN						C		C		C	68
** ENGINE OIL CENTRIFUGAL FILTER						C		C		C	—
* ENGINE IDLE SPEED				I	I	I	I	I	I	74	
* SECONDARY AIR SUPPLY SYSTEM						I		I		I	—

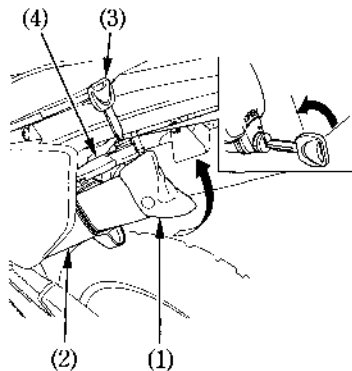
ITEM	FREQUENCY	WHICHEVER → COMES FIRST	ODOMETER READING [NOTE (1)]								Refer to Page
			× 1,000 km	1	6	12	18	24	30	36	
			× 1,000 mi	0.6	4	8	12	16	20	24	
	NOTE	MONTH									
DRIVE CHAIN		NOTE (4)	EVERY 1,000 km (600 mi) I, L								75
DRIVE CHAIN SLIDER				I	I	I	I	I	I	I	81
BRAKE FLUID		NOTE (5)		I	I	R	I	I	R		16 · 17
BRAKE PADS WEAR				I	I	I	I	I	I		88
BRAKE SYSTEM			I		I		I		I		15 · 17, 88
* BRAKELIGHT SWITCH					I		I		I		94
* HEADLIGHT AIM					I		I		I		40
CLUTCH SYSTEM			I	I	I	I	I	I	I		18
SIDE STAND					I		I		I		83
* SUSPENSION					I		I		I		82
* NUTS, BOLTS, FASTENERS		NOTE (4)	I		I		I		I		-
** WHEELS/TYRES		NOTE (4)	I	I	I	I	I	I	I		-
** STEERING HEAD BEARINGS			I		I		I		I		-

TOOL KIT

The tool kit (1) is in the tool kit compartment (2) behind the left side cover. To open the tool kit compartment, insert the ignition key (3) and turn it counterclockwise to unlock. To close the tool kit compartment, close the compartment cover (4) and turn the ignition key clockwise to lock.

Some roadside repairs, minor adjustments and parts replacement can be performed with the tools contained in the kit.

- Spark plug wrench
- 17 mm Box end wrench
- 24 mm Box end wrench
- 8 × 12 mm Open end wrench
- 10 × 14 mm Open end wrench
- Pliers
- No. 2 Phillips screwdriver
- Screwdriver handle
- No. 2 screwdriver
- Extension bar
- 5 mm Hex wrench
- 6 mm Hex wrench
- Tool bag



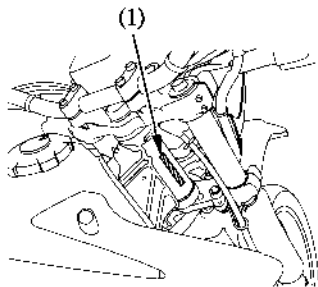
- (1) Tool kit
- (2) Tool kit compartment
- (3) Ignition key
- (4) Compartment cover

SERIAL NUMBERS

The frame and engine serial numbers are required when registering your motorcycle. They may also be required by your dealer when ordering replacement parts.

Record the numbers here for your reference.

FRAME NO. _____

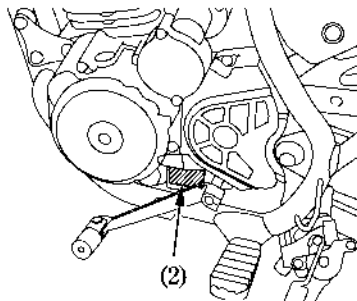


(1) Frame number

The frame number (1) is stamped on the right side of the steering head.

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

ENGINE NO. _____



(2) Engine number

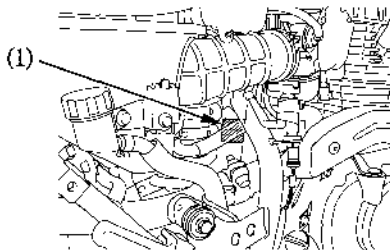
COLOUR LABEL

The colour label (1) is attached to the frame behind the right side cover (page 35).

It is helpful when ordering replacement parts. Record the colour and code here for your reference.

COLOUR _____

CODE _____



(1) Colour label

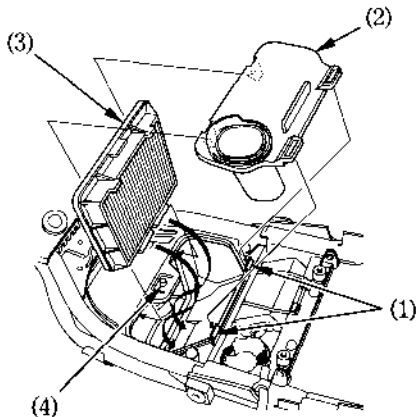
AIR CLEANER

Refer to the Safety Precautions on page 55 .

The air cleaner should be serviced at regular intervals (page 57). Service more frequently when riding in unusually wet or dusty areas.

1. Remove both side covers and the seat (page 35 , 36).
2. Release the tabs (1) and remove the air cleaner cover (2).

3. Remove the air cleaner element (3) while pulling up the hook (4).
4. Discard the air cleaner element.



- | | |
|-----------------------|-------------------------|
| (1) Tabs | (3) Air cleaner element |
| (2) Air cleaner cover | (4) Hook |

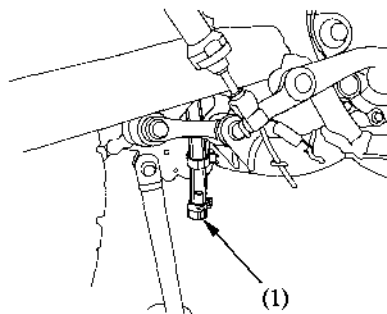
5. Install the new air cleaner element.
Use the Honda genuine air cleaner or an equivalent air cleaner specified for your model. Using the wrong Honda air cleaner or a non-Honda air cleaner which is not of equivalent quality may cause premature engine wear or performance problems.
6. Install the removed parts in the reverse order of removal.

CRANKCASE BREATHER

Refer to the Safety Precautions on page 55 .

1. Remove the crankcase breather tube plug (1).
2. Drain deposits into a suitable container.
3. Reinstall the crankcase breather tube plug.

Service more frequently if your motorcycle is ridden in the rain or often at full throttle. Service the breather if you can see deposits in the transparent section of the drain tube.



(1) Crankcase breather tube plug

ENGINE OIL

Refer to the Safety Precautions on page 55 .

Oil Recommendation

API classification	SG or higher except oils labeled as energy conserving on the circular API service label
Viscosity	SAE 10W-30
JASO T 903 standard	MA

Suggested Oil

Honda "4-STROKE MOTORCYCLE OIL" or equivalent.

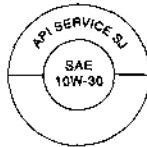
Your motorcycle does not need oil additives. Use the recommended oil.

Do not use oils with graphite or molybdenum additives. They may adversely affect clutch operation.

Do not use API SH or higher oils displaying a circular API "energy conserving" service label on the container. They may affect lubrication and clutch performance.



NOT RECOMMENDED

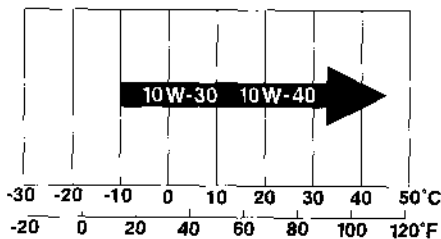


OK

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

Viscosity:

Viscosity grade of engine oil should be based on average atmospheric temperature in your riding area. The following provides a guide to the selection of the proper grade or viscosity of oil to be used at various atmospheric temperatures.

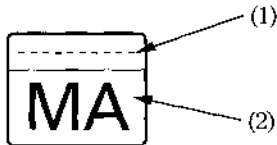


JASO T 903 standard

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.



PRODUCT MEETING JASO T 903
COMPANY GUARANTEEING THIS MA PERFORMANCE:

- (1) Code number of the sales company of the oil
- (2) Oil classification

Engine Oil

Engine oil quality is the chief factor affecting engine service life. Change the engine oil as specified in the maintenance schedule (page 57).

When running in very dusty conditions, oil changes should be performed more frequently than specified in the maintenance schedule.

Please dispose of used engine oil in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash or pour it on the ground or down a drain.

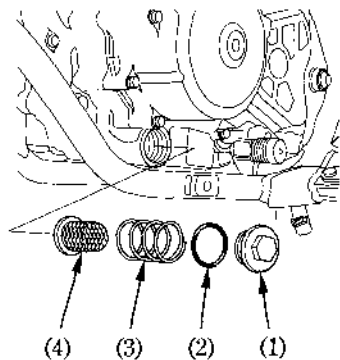
Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

Changing the oil requires a torque wrench. If you do not have it and the necessary skill, we recommend that you have your Honda dealer perform this service.

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

Change the engine oil with the engine at normal operating temperature and the motorcycle on its side stand to assure complete and rapid draining.

1. Remove the oil filler cap/dipstick from the right crankcase cover.
 2. Place a drain pan under the crankcase.
 3. Remove the oil drain bolt (1), O-ring (2), spring (3) and oil strainer screen (4).
 4. Clean the oil strainer screen.
 5. Check that the oil strainer screen, sealing rubber and drain bolt O-ring are in good condition.
 6. Install the O-ring to the oil drain bolt.
 7. Install the oil strainer screen, spring and drain bolt.
- Oil drain bolt torque:
 15 N·m (1.5 kgf·m , 11 lbf·ft)
8. Fill the crankcase with the recommended grade oil; approximately:
 1.0 ℓ (1.1 US qt , 0.9 Imp qt)



- | | |
|--------------------|-------------------------|
| (1) Oil drain bolt | (3) Spring |
| (2) O-ring | (4) Oil strainer screen |

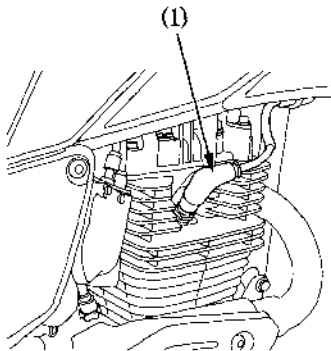
9. Install the oil filler cap/dipstick.
10. Start the engine and let it idle for 3–5 minutes.
11. 2–3 minutes after stopping the engine, check that the oil level is at the upper level mark on the oil filler cap/dipstick with the motorcycle upright on firm, level ground. Make sure there are no oil leaks.

SPARK PLUG

Refer to the Safety Precautions on page 55 .

Recommended plugs:

DPR8EA-9 (NGK) or
X24EPR-U9 (DENSO)



(1) Spark plug cap

NOTICE

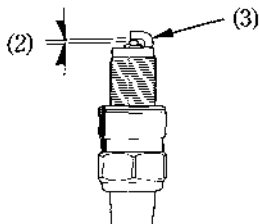
Never use a spark plug with an improper heat range. Severe engine damage could result.

1. Clean any dirt from around the spark plug base.
Disconnect the spark plug cap (1) from the spark plug.
2. Remove the spark plug using a spark plug wrench furnished in the tool kit.

3. Inspect the electrodes and center porcelain for deposits, erosion or carbon fouling. If the erosion or deposit is heavy, replace the plug. Clean a carbon or wet-fouled plug with a plug cleaner, otherwise use a wire brush.
4. Check the spark plug gap (2) using a wire-type feeler gauge. If adjustment is necessary, bend the side electrode (3) carefully.

The gap should be:

0.80–0.90 mm (0.031–0.035 in)



(2) Spark plug gap

(3) Side electrode

5. Make sure the plug washer is in good condition.
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:
 - 1/8 turn after it seats.
 - If installing a new plug, tighten it twice to prevent loosening:
 - a) First, tighten the plug:
 - NGK: 3/4 turn after it seats.
 - DENSO: 1/2 turn after it seats.
 - b) Then loosen the plug.
 - c) Next, tighten the plug again:
 - 1/8 turn after it seats.

NOTICE

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

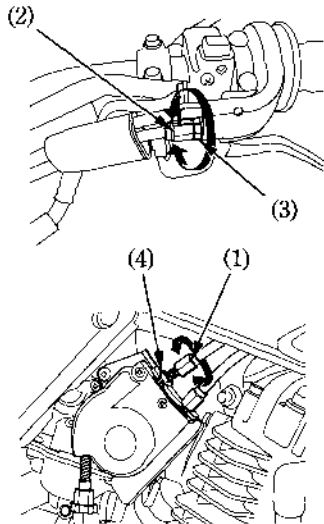
8. Reinstall the spark plug cap. Take care to avoid pinching any cables or wires.

THROTTLE OPERATION

Refer to the Safety Precautions on page 55 .

1. Check for smooth rotation of the throttle grip from the fully open to the fully closed position at both full steering positions.
2. Measure the throttle grip freeplay at the throttle grip flange.
The standard freeplay should be approximately:
2.0 – 6.0 mm (0.08 – 0.24 in)

Major freeplay adjustments, such as after replacing the throttle cables or removing the carburetor, are made with the lower adjuster (1). Minor freeplay adjustments are made with the upper adjuster (2). To adjust freeplay, loosen the lock nut (3) or (4), and turn the adjuster (1) or (2). Tighten the lock nut after adjustment. After adjustment, check again for smooth rotation of the throttle grip from the fully closed to the fully open position with the steering to the full right and left as well as straight ahead.



- (1) Lower adjuster
(2) Upper adjuster

- (3) Upper lock nut
(4) Lower lock nut

IDLE SPEED

Refer to the Safety Precautions on page 55 .

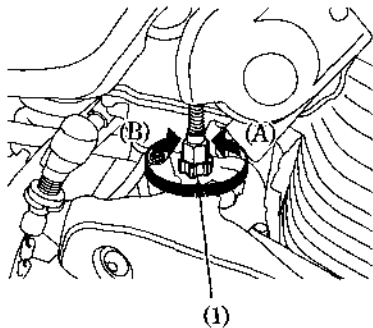
The engine must be at normal operating temperature for accurate idle speed adjustment. 10 minutes of stop-and-go riding is sufficient.

Do not attempt to compensate for faults in other systems by adjusting idle speed. See your Honda dealer for regularly scheduled carburetor adjustments.

1. Warm up the engine and hold the motorcycle upright. Shift to neutral.
2. Connect a tachometer to the engine.
3. Adjust idle speed with the throttle stop screw (1).

Idle speed (In neutral):

1,400 ± 100 min⁻¹ (rpm)



- (1) Throttle stop screw (A) Increase rpm
 (B) Decrease rpm

DRIVE CHAIN

Refer to the Safety Precautions on page 55 .

The service life of the drive chain (1) is dependent upon proper lubrication and adjustment. Poor maintenance can cause premature wear or damage to the drive chain and sprockets.

The drive chain should be checked, adjusted and lubricated as part of the Pre-ride Inspection (page 41). Under severe usage, or when the motorcycle is ridden in unusually dusty or muddy areas, more frequent maintenance will be necessary.

Inspection:

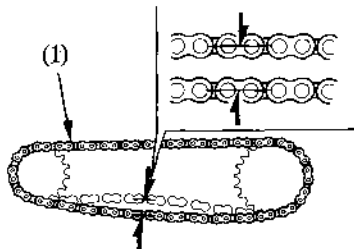
1. Turn the engine off, raise the rear wheel off the ground by placing a support under the engine, and shift the transmission into neutral.
2. Check slack in the lower drive chain run midway between the sprockets. Drive chain slack should be adjusted to allow the following vertical movement by hand:

25–35 mm (1.0–1.4 in)

3. Roll the motorcycle forward. Stop. Check the drive chain slack. Repeat this procedure several times. Drive chain slack should remain constant. If the chain is slack only in certain sections, some links are kinked and binding. Binding and kinking can frequently be eliminated by lubrication.

NOTICE

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



(1) Drive chain

4. Roll the motorcycle forward. Stop and place it on its side stand. Inspect the drive chain and sprockets for any of the following conditions:

DRIVE CHAIN

- *Damaged Rollers
- *Loose Pins
- *Dry or Rusted Links
- *Kinked or Binding Links
- *Excessive Wear
- *Improper Adjustment
- *Damaged or Missing O-rings

SPROCKETS

- *Excessively Worn Teeth
- *Broken or Damaged Teeth

A drive chain with damaged rollers, loose pins, or missing O-rings must be replaced. A chain which appears dry, or shows signs of rust, requires supplementary lubrication. Kinked or binding links should be thoroughly lubricated and worked free. If links cannot be freed, the chain must be replaced.

Damaged sprocket
Teeth

Replace

Worn sprocket
Teeth

Replace

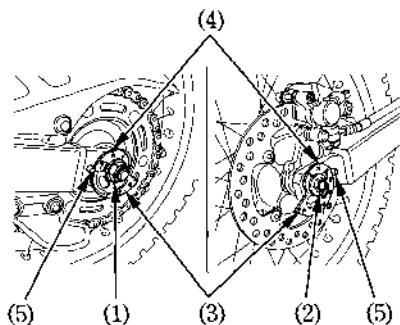


Normal sprocket Teeth

GOOD

Adjustment:

Drive chain slack should be checked and adjusted, if necessary, every 1,000 km (600 miles). When operated at sustained high speeds or under conditions of frequent rapid acceleration, the chain may require more frequent adjustment.



- | | |
|---------------------|------------------|
| (1) Rear axle nut | (4) Index marks |
| (2) Rear axle shaft | (5) Stopper pins |
| (3) Adjusters | |

If the drive chain requires adjustment, the procedure is as follows:

1. Place the motorcycle on its side stand with the transmission in neutral and the ignition switch off.
2. Loosen the rear axle nut (1) while holding the rear axle shaft (2).
3. Turn both the right and left adjusters (3) equally to increase or decrease chain slack.

Adjust the chain slack at a point midway between the drive sprocket and the driven sprocket.

After adjusting, be sure the same adjuster index marks (4) align with the stopper pins (5) on both sides of the swingarm.

Roll the motorcycle forward. Stop and place it on its side stand.

Recheck chain slack.

Chain slack should be:

25–35 mm (1.0–1.4 in)

If the drive chain slack is excessive when the rear axle is moved to the furthest limit of adjustment, the drive chain is worn and must be replaced.

4. Tighten the rear axle nut to the specified torque. Rear axle nut torque:
93 N·m (9.5 kgf·m , 69 lbf·ft)

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

5. Recheck drive chain slack.

Wear Inspection:

Check the chain wear label when adjusting the chain. If the red zone (1) on the label aligns with the stopper pin (2) on the swingarm after the chain has been adjusted to the proper slack, the chain is excessively worn and must be replaced. The proper slack is:

25 – 35 mm (1.0 – 1.4 in)

Damage to the bottom part of the frame may be caused by excessive drive chain slack of more than:

50 mm (2.0 in)

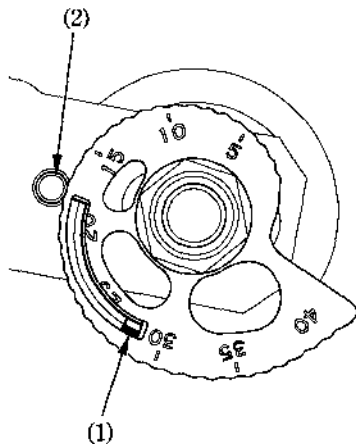
Replacement Chain:

DID520V

or

RK520MOZ9

This motorcycle has a staked master link drive chain which requires a special tool for cutting and staking. Do not use an ordinary master link with this chain. See your Honda dealer.



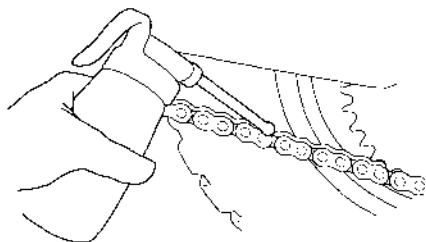
- (1) Red zone
- (2) Stopper pin

Lubrication and Cleaning:

Lubricate every 1,000 km (600 miles) or sooner if chain appears dry.

The drive chain on this motorcycle is equipped with small O-rings between the link plates. These O-rings retain grease inside the chain to improve its service life.

The O-rings in this chain can be damaged by steam cleaning, high pressure washers, and certain solvents. Clean the side surfaces of the chain with a dry cloth. Do not brush the rubber O-rings. Brushing will damage them. Wipe dry and lubricate only with SAE 80 or 90 gear oil. Commercial chain lubricants may contain solvents which could damage the rubber O-rings.

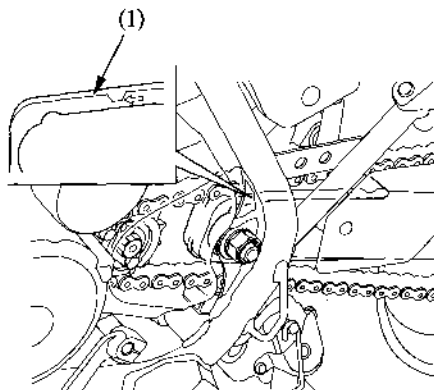


DRIVE CHAIN SLIDER

Refer to the Safety Precautions on page 55 .

Check the chain slider (1) for wear. When the thickness of the chain slider reaches the limit, the chain slider must be replaced. See your Honda dealer.

Chain slider thickness limit:
3.5 mm (0.14 in)



(1) Chain slider

FRONT AND REAR SUSPENSION INSPECTION

Refer to the Safety Precautions on page 55 .

1. Check the fork assembly by locking the front brake and pumping the fork up and down vigorously. Suspension action should be smooth and there must be no oil leakage.
2. Swingarm bearings should be checked by pushing hard against the side of the rear wheel while the motorcycle is on a support block. Freeplay indicates worn bearings.
3. Carefully inspect all front and rear suspension *fasteners for tightness.*

SIDE STAND

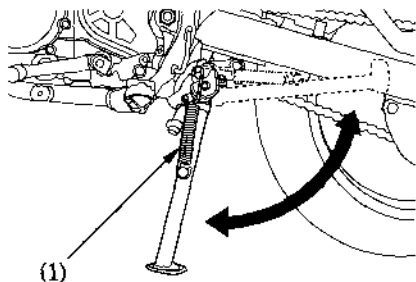
Refer to the Safety Precautions on page 55 .

Perform the following maintenance in accordance with the maintenance schedule.

Functional Check:

- Check the side stand spring (1) for damage or loss of tension and the side stand assembly for freedom of movement.
- Check the side stand ignition cut-off system:
 1. Sit astride the motorcycle; put the side stand up and the transmission in neutral.
 2. Start the engine and with the clutch lever pulled in, shift the transmission into gear.
 3. Lower the side stand. The engine should stop as you put the side stand down.

If the side stand system does not operate as described, see your Honda dealer for service.



(1) Side stand spring

WHEEL REMOVAL

Refer to the Safety Precautions on page 55 .

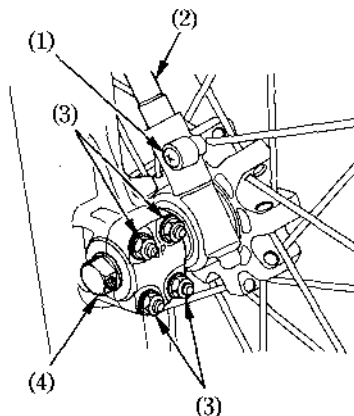
This motorcycle is equipped with a side stand only. Therefore, if front or rear wheel removal is required, it will be necessary to raise the center of the motorcycle with a jack or other firm support. If none is available, see your Honda dealer for this service.

Front Wheel Removal

1. Raise the front wheel off the ground by placing a support block under the engine.
2. Remove the speedometer cable set screw (1) and disconnect the speedometer cable (2).
3. Loosen the axle holder nuts (3).
4. Unscrew the front axle shaft (4).
Remove the wheel and side collar.

Do not depress the brake lever when the wheel is off the motorcycle. The caliper pistons will be forced out of the cylinders with subsequent loss of brake fluid. If this occurs, servicing of the brake system will be

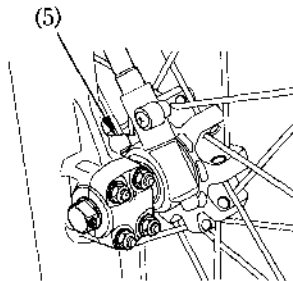
necessary. See your Honda dealer for this service.



- (1) Speedometer cable set screw
- (2) Speedometer cable
- (3) Axle holder nuts
- (4) Front axle shaft

Front Wheel Installation

1. Install the side collar into the left side wheel hub.
2. Position the wheel between the fork legs and insert the front axle shaft from the right side, through the right fork leg and wheel hub.
- Make sure that the lug (5) on the left fork leg is contacting the lug on the speedometer gear box.



(5) Lug (speedometer gearbox)

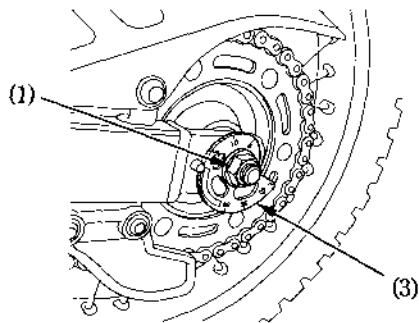
- When installing the wheel, carefully fit the brake disc between the brake pads to avoid damaging the pads.
3. Tighten the front axle shaft to the specified torque.
Front axle shaft torque:
74 N·m (7.5 kgf·m , 54 lbf·ft)
4. First tighten the upper axle holder nuts to the specified torque, then tighten the lower axle holder nuts to the same torque:
12 N·m (1.2 kgf·m , 9 lbf·ft)
5. After installing the wheel, apply the brake several times and then check if the wheel rotates freely. Recheck the wheel if the brake drags or if the wheel does not rotate freely.

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

6. Install the speedometer cable and tighten the screw securely.

Rear Wheel Removal

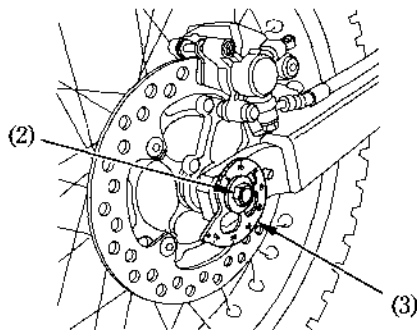
1. Raise the rear wheel off the ground by placing a support block under the engine.
2. Loosen the rear axle nut (1) while holding the rear axle shaft (2).



- (1) Rear axle nut
(2) Rear axle shaft

(3) Adjusters

3. Turn both chain adjusters (3) for providing maximum drive chain slack.
4. Move the rear wheel forward. Derail the drive chain from the driven sprocket.
5. Move the rear axle shaft back all the way to the swingarm end.
6. Remove the rear axle nut, axle washer, chain adjusters, stopper plate and pull out the rear axle shaft.



7. Remove the rear wheel and side collars.

Do not depress the brake pedal while the wheel is off the motorcycle. The caliper piston will be forced out of the cylinder with subsequent loss of brake fluid. If this occurs, servicing of the brake system will be necessary. See your Honda dealer for this service.

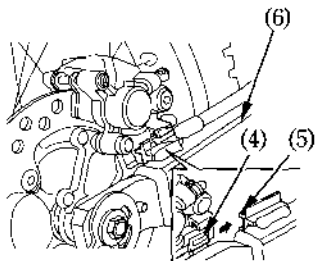
Installation:

- To install the rear wheel, reverse the removal procedure.
1. Install the side collars into the left and right side wheel hub.
 2. Make sure that the lug (4) on the brake stopper plate is located in the slot (5) in the swingarm (6).
 3. Tighten the rear axle nut to the specified torque. Rear axle nut torque:
93 N·m (9.5 kgf·m , 69 lbf·ft)
 4. Adjust the drive chain (page 77).

When installing the wheel, carefully fit the brake disc between the brake pads to avoid damaging the pads.

5. After installing the wheel, apply the brake several times and then check if the wheel rotates freely. Recheck the wheel if the brake drags or if the wheel does not rotate freely.

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



- (4) Lug
(5) Slot

- (6) Swingarm

BRAKE PAD WEAR

Refer to the Safety Precautions on page 55 .

Brake pad wear depends upon the severity of usage, the type of riding, and road conditions. (Generally, the pads will wear faster on wet and dirty roads.)

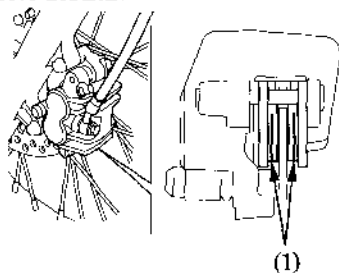
Inspect the pads at each regular maintenance interval (page 58).

Front/Rear Brake

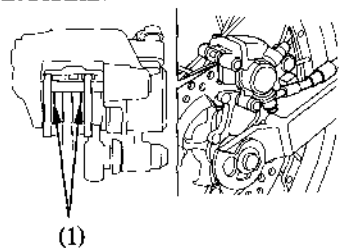
Check the cutout (1) in each pad.

If either pad is worn to the cutout, replace both pads as a set. See your Honda dealer for this service.

<FRONT BRAKE>



<REAR BRAKE>



(1) Cutout

BATTERY

Refer to the Safety Precautions on page 55 .

It is not necessary to check the battery electrolyte level or add distilled water as the battery is a maintenance-free (sealed) type. If your battery seems weak and/or is leaking electrolyte (causing hard starting or other electrical troubles), contact your Honda dealer.

NOTICE

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

⚠ 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.

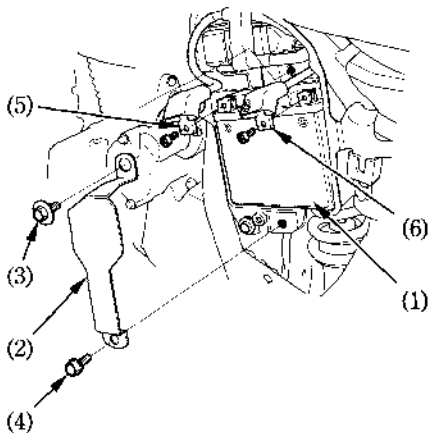
Removal:

The battery (1) is in the battery box behind the left side cover.

1. Make sure the ignition switch is OFF.
2. Remove the left side cover (page 36).
3. Remove the battery holder (2) by removing the bolt A (3) and bolt B (4).
4. Disconnect the negative (-) terminal lead (5) from the battery first, then disconnect the positive (+) terminal lead (6).
5. Pull out the battery from the battery box.

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.



- (1) Battery
- (2) Battery holder
- (3) Bolt A
- (4) Bolt B
- (5) Negative (-) terminal lead
- (6) Positive (+) terminal lead

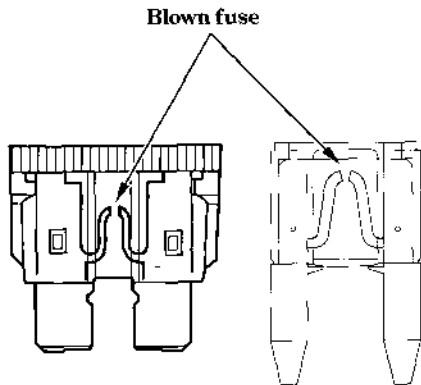
FUSE REPLACEMENT

Refer to the Safety Precautions on page 55 .

When frequent fuse failure occurs, it usually indicates a short circuit or an overload in the electrical system. See your Honda dealer for repair.

NOTICE

Never use a fuse with a different rating from that specified. Serious damage to the electrical system or a fire may result, causing a dangerous loss of lights or engine power.

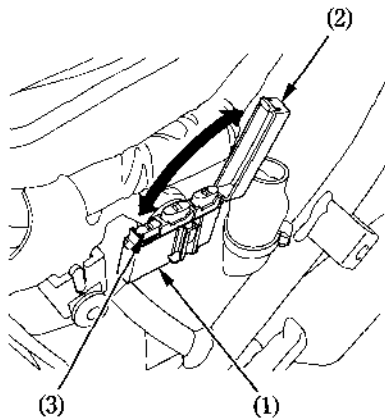


Fuse Box:

The fuse box (1) is located behind the left side cover.

The specified fuse is:
10A

1. Remove the left side cover (page 36).
2. Open the fuse box cover (2).
3. Pull out the old fuse and install a new fuse.
The spare fuse (3) is located in the fuse box.
4. Install the fuse box cover and the left side cover.



- (1) Fuse box
(2) Fuse box cover
(3) Spare fuse

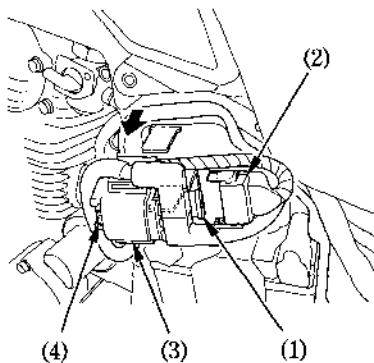
Main Fuse:

The main fuse (1) is located behind the left side cover.

The specified fuse is:

20A

1. Remove the left side cover (page 36).
2. Disconnect the wire connector (2) of the starter magnetic switch (3).
3. Pull out the fuse. If the main fuse is blown, install a new fuse.
The spare main fuse (4) is located under the starter magnetic switch.
4. Reconnect the wire connector and install the left side cover.



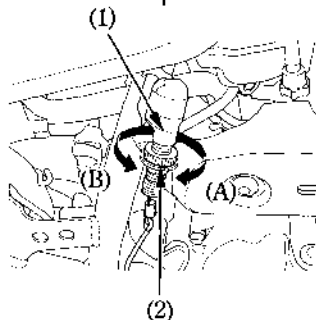
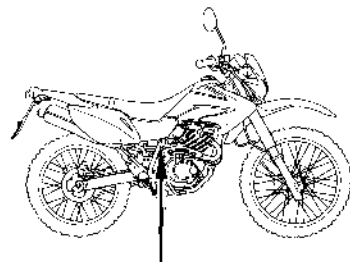
- (1) Main fuse
- (2) Wire connector
- (3) Starter magnetic switch
- (4) Spare main fuse

BRAKELIGHT SWITCH ADJUSTMENT

Refer to the Safety Precautions on page 55 .

Check the operation of the brakelight switch (1) at the right side behind the engine from time to time.

Adjustment is done by turning the adjusting nut (2). Turn the nut in the direction (A) if the switch operates too late and in direction (B) if the switch operates too soon.



(1) Brakelight switch

(2) Adjusting nut

BULB REPLACEMENT

Refer to the Safety Precautions on page 55 .

The light bulb becomes very hot while the light is ON, and remains hot for a while after it is turned OFF. Be sure to let it cool down before servicing.

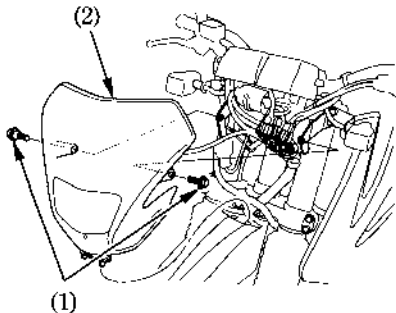
Do not put finger prints on the headlight bulb, as they may create hot spots on the bulb and cause it to break.

Wear clean gloves while replacing the bulb. If you touch the bulb with your bare hands, clean it with a cloth moistened with alcohol to prevent its early failure.

- Be sure to turn the ignition switch OFF when replacing the bulb.
- Do not use bulbs other than those specified.
- After installing a new bulb, check that the light operates properly.

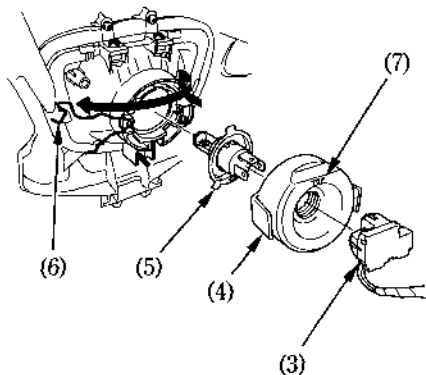
Headlight Bulb

1. Remove the mounting bolts (1) and the headlight case (2).
2. Disconnect the connector (3).
3. Remove the seat rubber (4).
4. Remove the headlight bulb (5) while pressing down on the pin (6).



- (1) Mounting bolts
(2) Headlight case

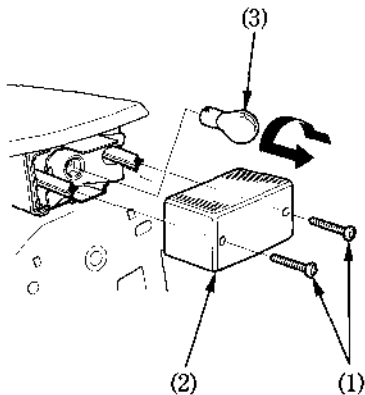
5. Install a new bulb in the reverse order of removal.
 - Install the seat rubber with its "TOP" mark (7) facing up.



- (3) Connector
(4) Seat rubber
(5) Headlight bulb
(6) Pin
(7) "TOP" mark

Brake/Tail Light Bulb

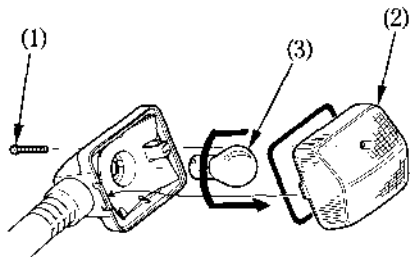
1. Remove the screws (1).
2. Remove the taillight lens (2).
3. Slightly press the bulb (3) and turn it counterclockwise.
4. Install a new bulb in the reverse order of removal.



- (1) Screws
- (2) Taillight lens
- (3) Bulb

Front/Rear Turn Signal Bulb

1. Remove the screw (1) and remove the turn signal lens (2).
2. Slightly press the bulb (3) and turn it counterclockwise.
3. Install a new bulb in the reverse order of removal.



- (1) Screw
(2) Turn signal lens

- (3) Bulb

Washing the Motorcycle

1. Rinse the motorcycle thoroughly with cool water to remove loose dirt.
2. Clean the motorcycle with a sponge or soft cloth using cool water.
Avoid directing water to muffler outlets and electrical parts.
3. Clean the plastic parts using a cloth or sponge dampened with a solution of mild detergent and water. Rub the soiled area gently rinsing it frequently with fresh water.
Take care to keep brake fluid or chemical solvents off the motorcycle.
They will damage the plastic and painted surfaces.

The inside of the headlight lens may be *clouded* immediately after washing the motorcycle. Moisture condensation inside the headlight lens will disappear gradually by lighting the headlight in high beam. Run the engine while keeping the headlight on.

4. After cleaning, rinse the motorcycle thoroughly with plenty of clean water. Strong detergent residue can corrode alloy parts.
5. Dry the motorcycle, start the engine, and let it run for several minutes.
6. Test the brakes before riding the motorcycle. Several applications may be necessary to restore normal braking performance.
7. Lubricate the drive chain immediately after washing and drying the motorcycle.

Braking efficiency may be temporarily impaired immediately after washing the motorcycle.
Anticipate longer stopping distance to avoid a possible accident.

Finishing Touches

After washing your motorcycle, consider using a commercially-available spray cleaner/polish or quality liquid or paste wax to finish the job. Use only a non-abrasive polish or wax made specifically for motorcycles or automobiles. Apply the polish or wax according to the instructions on the container.

Removing Road Salt

Road Salt used on roads during winter and salt from seawater causes rust.

Wash your motorcycle as follows after it has run through salty water or on roads treated with Road Salt.

1. Clean the motorcycle using cool water (page 100).

Do not use warm water.

This worsens the effect of the salt.

2. Dry the motorcycle and make sure the metal is protected with the wax.

STORAGE GUIDE

Extended storage, such as for winter, requires that you take certain steps to reduce the effects of deterioration from non-use of the motorcycle. In addition, necessary repairs should be made **BEFORE** storing the motorcycle; otherwise, these repairs may be forgotten by the time the motorcycle is removed from storage.

STORAGE

1. Change the engine oil.
2. Empty the fuel tank into an approved petrol container using a commercially available hand siphon or an equivalent method. Spray the inside of the tank with an aerosol rust-inhibiting oil.
Reinstall the fuel fill cap on the tank.

To assure proper performance after storage lasting more than one month, it is important to drain the carburetor.

▲ WARNING

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

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

3. To prevent rusting in the cylinder, perform the following:
 - Remove the spark plug cap from the spark plug. Using tape or string, secure the cap to any convenient plastic body part so that it is positioned away from the spark plug.
 - Remove the spark plug from the engine and store it in a safe place. Do not connect the spark plug to the spark plug cap.
 - Pour a tablespoon (15–20 cm³) of clean engine oil into the cylinder and cover the spark plug hole with a piece of cloth.
 - Crank the engine several times to distribute the oil.
 - Reinstall the spark plug and spark plug cap.
4. Remove the battery. Store in an area protected from freezing temperatures and direct sunlight.
Slow charge the battery once a month.
5. Wash and dry the motorcycle. Wax all painted surfaces. Coat chrome with rustinhibiting oil.
6. Lubricate the drive chain (page 80).
7. Inflate the tyres to their recommended pressures. Place the motorcycle on blocks to raise both tyres off the ground.
8. Cover the motorcycle (don't use plastic or other coated materials) and store in an unheated area, free of dampness with a minimum of daily temperature variation. Do not store the motorcycle in direct sunlight.

REMOVAL FROM STORAGE

1. Uncover and clean the motorcycle.
2. Change the engine oil if more than 4 months have passed since the start of storage.
3. Charge the battery as required. Install the battery.
4. Drain any excess aerosol rust-inhibiting oil from the fuel tank. Fill the fuel tank with fresh petrol.
5. Perform all Pre-ride Inspection checks (page 41).
Test ride the motorcycle at low speeds in a safe riding area away from traffic.

SPECIFICATIONS

DIMENSIONS

Overall length	2,080 mm (81.9 in)
Overall width	825 mm (32.5 in)
Overall height	1,110 mm (43.7 in)
Wheelbase	1,340 mm (52.8 in)

CAPACITIES

Engine oil	
After draining:	1.0 ℓ (1.1 US qt , 0.9 Imp qt)
After disassembly:	1.2 ℓ (1.3 US qt , 1.1 Imp qt)
Fuel tank	8.7 ℓ (2.30 US gal , 1.91 Imp gal)
Fuel reserve tank	2.7 ℓ (0.71 US gal , 0.59 Imp gal)
Passenger capacity	Operator and one passenger
Maximum weight capacity	158 kg (348 lbs)

ENGINE

Bore and stroke	65.5 × 66.2 mm (2.58 × 2.61 in)
Compression ratio	9.0 : 1
Displacement	223 cm ³ (13.6 cu-in)
Spark plug	DPR8EA-9 (NGK) or X24EPR-U9 (DENSO)
Spark plug gap	0.80-0.90 mm (0.031-0.035 in)
Valve clearance	Intake: 0.10 mm (0.004 in)
	Exhaust: 0.10 mm (0.004 in)
Idle speed	1,400 ± 100 min ⁻¹ (rpm)

CHASSIS AND SUSPENSION

Caster	26°50'
Trail	103 mm (4.1 in)
Tyre size, front	2.75 – 21 45P BRIDGESTONE TW27
Tyre size, rear	120/80 – 18M/C 62P BRIDGESTONE TW30
Tyre type	bias-ply, tube

POWER TRANSMISSION

Primary reduction	3.090
Final reduction	3.000
Gear ratio, 1st	3.083
2nd	2.062
3rd	1.450
4th	1.130
5th	0.960
6th	0.814

ELECTRICAL

Battery

12V – 6Ah

Generator

0.188 kW/5,000 min⁻¹ (rpm)

LIGHTS

Headlight

12V – 60/55W

Brake/Tail light

12V – 21/5W

Turn signal light

Front

12V – 21W

Rear

12V – 21W

Instrument light

12V – 3.4W

High beam indicator

12V – 1.7W

Turn signal indicator

12V – 3.4W

Neutral indicator

12V – 3.4W

FUSE

Main fuse

20A

Other fuses

10A